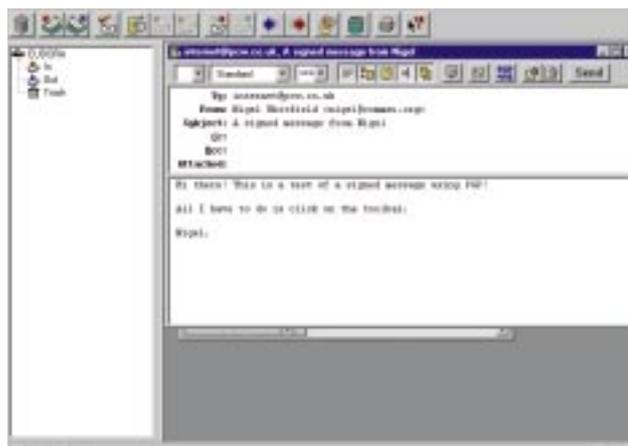# Walk like an encryption

Preserve your privacy on the net. Nigel Whitfield shows you how PGP encryption works.

Do you have anything to hide? Of course not, you're innocent. And innocent people never have secrets… or so some would have us believe when it comes to wanting to protect our privacy on the internet. There are plenty of reasons, though, for ordinary people to desire privacy. Survivors of abuse might want to discuss things without fear of being identified, some people may want to share details of their finances with a specific person but not with any 'passerby' who happens to see a message. Others might be planning a surprise, or a change of job.

One of the key tools which can be used to enhance your privacy is encryption; turning information into a scrambled form that needs a password or 'key' to unlock it.

With the usual slightly wonky logic of the lawmakers, though, proposals emanating from the Government had until recently suggested that we would have to put up with a system of 'key escrow'. What that would have meant is that you would have been allowed to use encryption to keep information private but you would have to lodge the encryption key with a trusted agency, who would have been able to hand it over to the police if a court deemed it necessary. It would have been rather like giving a security firm a copy of your house keys in case you might one day be suspected of having committed a crime.

Anyway, good sense now appears to have prevailed partly because of the realisation that real criminals would be unlikely to hand over their keys and also due to pressure from businesses which feared that not being able to encrypt data would make e-commerce slow to take off. Even France, which had banned the personal use of encryption, has now

relented. So, if the way ahead is clear legally, what does it mean to you?

What can you do with encryption? The first thing to do is visit the PGP International home page at www.pgpi.com, where you'll find links that allow you to download the latest version of Pretty Good Privacy which is one of the most widely-used encryption programs. It uses a system called 'public key cryptography'. For the uninitiated, this means you have two keys: a public key which can be given to everyone, and a private key known only to you.

When a file or message is encrypted with your public key it can only be read with the private key. And, if you send a message to someone else, you can 'sign' it with your private key. Anyone who has the public key can then check that it really was you who sent the message.

Encryption can be much more than just hiding information from prying eyes. You can use it to verify that someone is who they say they are, giving you extra security when you're doing business on the internet.

How do you get started with it? The PGP International web site has freeware programs for Windows and Macintosh users alike, as well as plenty of links to background information for those who want to find out more about the theory behind it.

PGP is one of the most widely used encryption programs

The best place to start with PGP is the documentation that comes with it. But if you're using Eudora, Outlook, Outlook Express or Exchange, you should find it fairly straightforward as there are plug-ins which allow you to access encryption from within the email program [Fig 1]. The days when using encryption meant writing a message, then running it through a program to produce the encrypted version are, thankfully, long gone.

☞ **Step one** after you've installed the program is to click the padlock icon that will appear in your Windows task bar and launch PGP Keys to create a new key for yourself. You'll be walked through the process by a wizard and you'll need a passphrase that you'll be able to easily remember without writing it down, and which other people won't be able to guess. Then the Wizard will generate your private and public key pairs for you and send them to a central server where other people will be able to retrieve them if they wish to look you up.

☞ **Using the system** is simple. With the plug-ins you will see extra buttons appear in your email program providing PGP functions. All you have to do is click on them to provide yourself with a little added security.

For example, the screen in Fig 1 shows Eudora Light. To sign a message, just click the PGP Signature button on the toolbar and choose the Send option. You'll be asked to enter your passphrase and then the message will be signed automatically for you and sent to the recipient. If they know your public key,

hands on
internet

Q On the web, I also have an email account with Yahoo!. How can I view my Yahoo! mail in Outlook Express? I know that there is Accounts on the Tools menu but don't know the server details. Can you help?

a *The simple answer to this is 'No'. There are plenty of free email services available on the web but they don't usually offer the access using POP 3 which mail programs like Outlook need to be able to pick up messages. Instead, they use dedicated programs running on the mail server, so the only way to access your messages is via a browser. Some services will allow POP3 access as a premium option for which you pay an annual subscription. If you want that flexibility it may be worth looking around for a system which offers this option, and remember that many ISPs are now providing web access to your email anyway, making the need for services like Yahoo! Mail and Hotmail less pressing.*

Q I am having to create a web page consisting of a large number of pages, each of which contains text. Is it possible to have a text file or database so that I can bring up a reference from the file which has text linked to it? Then, I would only have to add a reference of some kind to a script on each page to bring up a paragraph of text.

a *Yes, this sort of thing is fairly easy to do. In fact, one of my own web sites consists largely of pages like this which are created on-the-fly and can be accessed by a unique reference number (also see* Fig 2*). You need to write a script which could be in almost any language, even a batch file on a Windows web server, which takes the name*

of a file, opens it and then prints it out with any appropriate HTML tags you want. These could include standard page headers and footers to give a consistent look

to your site. By linking to pages with a reference such as

```
<a href="/cgi-bin✔
/getdoc?id=997">Click✔
  here for document✔
  997</a>
```

(Key: ✔ code string continues)
your script will be passed a query string with the variable id set to 997, and can then open the appropriate file. If you want to make things clever, to avoid doing much HTML coding in files yet still link them, consider writing a script that doesn't just print out the text files but also looks for

▼ **FIG 2** YOU CAN WRITE YOUR OWN SCRIPT TO ACCESS TEXT FILES AND STILL ADD BUTTONS AND LINKS TO PAGES

patterns and replaces them. For example, you could search for a string like @REF 997 and replace it with the HTML above, giving you linked pages with the minimum of effort in updating text files. Remember, though, to do this sort of thing you'll need web space that provides you with the ability to run your own scripts, which means you'll most likely have to pay for it.

An alternative is to use a product like Tango or FileMaker 4, which will allow you to use a proper database connected to a web server so you won't need to do any coding of your own, though you may find it hard to track down an ISP that offers services like FileMaker web hosting. There is a partial list at www. filemaker.com.

▼ **FIG 3** DATABASE PROGRAMS LIKE FILEMAKER CAN BE HOSTED FOR YOU, SO WITH NO PROGRAMMING IT MAKES PUBLISHING SIMPLE

they'll be able to verify that it really was sent by you.

Managing an encrypted message is just as simple; all you need to do is click the decode button that is added to

Eudora and it all works in a similar way with other supported email programs. For those that do not, or if you want to encrypt information elsewhere, you can simply copy and paste it to and from the clipboard.

Unfortunately, there is not the space available here for a complete tutorial on using Pretty Good Privacy but if you are concerned about your privacy on the internet, or if you simply want a way in which you can verify the sender of a message, then it is well worth spending the time getting to grips with the system,

even if you only use it in the simplest way. It is still not clear, though, what sort of encryption regulations we will end up with in the UK but in the meantime PGP is free and easy. So, however innocent you are, it can be a useful enhancement to your privacy and security.

PCW CONTACTS

Nigel Whitfield welcomes your feedback on the Internet column. He can be contacted by post via the PCW editorial office (address p14) or email **internet@pcw.co.uk**

Community centre

Nigel Whitfield looks beyond the web at how you can gain from personal participation.

Generally, when people talk about the net, for many of them it's simply the world wide web and perhaps email, together with the spam they receive in their mailbox. Experienced hands will know that there's much more to the internet than just the glossy multimedia bits, others may be missing out on more than they imagined.

The discussion forums on the internet are actually one of the most useful things it offers. They're not populated exclusively by the sad and the lonely as a recent late night caller to a radio station phone-in suggested — did anyone else spot the irony in this? You'll find all sorts of people talking about a wide variety of topics in the discussion groups of Usenet, on IRC channels and via email. When you hear about this in the media it's mostly the odd or the saintly: people who marry after chatting online, or someone across the other side of the world who alerts the emergency services when a regular chat partner doesn't respond.

There's more mundane stuff, too: people sharing their hints and tips, exchanging information and support. There are HIV-positive sufferers swapping information about the side effects of drugs, survivors of abuse, OS/2 users and people like the *PCW* reader who

touchingly wrote to tell us how contacts on the net have probably helped save their child's life.

If you can't find a community that feels right for you amongst the many thousands out there, you can create one yourself. Whether it's a real-time chat on IRC, a discussion on Usenet, or something more immediate via email, why not make your own space? Invite friends, or others with common interests, or talk about it on a web page and wait for people to come and join in.

You might want a social group, or some sort of support forum, or perhaps somewhere to exchange technical information between co-workers or with the net at large, or maybe it's just a convenient way to organise all your friends when you want a night out together. Each of the different types of forum you can create has different rules, and some, like IRC or Usenet, will need appropriate programs on your computer. The

◄FIG 1 SITES SUCH AS ONE1IST ALLOW YOU TO CREATE A DISCUSSION FORUM OF YOUR OWN, QUICKLY AND EASILY

simplest way to make a community of your own is to use email.

Mailing lists are something we've covered before here, and while some people think they're cumbersome and obsolete, I'd disagree: what could be simpler than providing people with a URL where they can take part, with a single address that distributes a message to all within minutes. Of course, there can be drawbacks and you're likely to have to undertake more administrative work than with other types of forum but if you want to get going quickly and easily, they can't be beaten.

If you don't want to create a mailing list, there are plenty around that might well cover some of the topics in which you're interested. Mailing list servers like one1ist.com <www.onelist.com> [Fig 1] provide a searchable directory of the lists they provide and, if you visit a search engine like Yahoo, you'll turn up plenty of mailing lists on a whole range of topics.

But if you want to create a list of your own, what do you do? You can create a simple list in some email programs, though you'll usually have to process subscriptions and removals yourself, which can be a nuisance for a large list. Or you can download software to your PC, which will give you a lot of control at the cost of a large phone bill if you want people to be able to have timely discussions. Or, you can use one of the professional list hosting services on the internet.

Some commercial ISPs, such as Direct Connection <www.dircon.net> will host a list for you although the busier it becomes the more you'll have to pay. If you want to experiment, however, you

Questions & *answers*

Q I am having problems with a form on my site. I am using the action mailto:user@somesite.com and the method 'post'. When I try to submit the form, my computer launches my turnpike email program but does not enter any of the information into the form. If I use the method 'get', the same happens but this time the information is included but after the address in the address box.

a *Unfortunately, you're not likely to get anywhere using the mailto action on your form. It works differently on different browsers — on many, it simply doesn't work at all. To process forms reliably, regardless of which web browser people are using, you need a script on your web server to submit the data. This is probably one of the most commonly asked questions, and I'll come back to it in more detail next month with full details of how to do this with some of the most popular internet providers. In the meantime, you need to contact the person hosting your web site and ask them what scripts they have available for you to use.*

Q When I connect to my ISP I have to enter my account password at the 'connect to' screen [Fig 2]. The screen contains a 'save password' box which I assume, when active, allows the password to be saved for further connections thus removing the need to continue to type it in. However, the save password box never seems to become active. How can I make the box active and save having to keep typing in my ISP user password?

a *To make the Save Password box active, you need to be logged onto Windows with a valid user name and password or to have disabled the passwords when you log into Windows. Delete the Password List files (for example nigel.pwl) from your Windows directories if you can't remember the passwords you used. Entering no user name or password for Windows will automatically disable the request at startup and you'll still be able to save your internet password.*

Q On a web site button bar, I'm using a sort of oval shape in a rectangle. The background of the image is black, like my web page, so it looks like a normal button but the hyperlink box surrounds the button with a blue rectangle. How can I get rid of them?

a *This is a simple problem to fix. You need to edit the HTML and add BORDER=0 to the HTML code for the image. For example:*

```
<A HREF="http://
www.mysite.com/"><
IMG SRC="gifs/
button1.gif" BORDER
=0></A>
```

Depending on the web editor you're using, you may be able to set the border attribute by right clicking on the image and selecting its properties. Incidentally, if you wanted a thicker border you could use a higher number and the colour will be the same as the link colour specified for the whole page.

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can start out for nothing using a free list service such as One1ist, mentioned above.

It is surprisingly simple to create a list on One1ist; you need to fill in a registration form, giving a few details about yourself, then you can decide what type of list you want — its name, whether anyone can post or, if you have to approve messages, what age group it's suitable for and what language should be used. Then click a button and you have a brand new discussion forum, waiting for people to be added.

■ **A list for PCW readers**
I've set up a list called pcw-internet, where readers of this column can exchange information with each other. It took around five minutes, and all you need to do to join is send an email to pcw-internet-subscribe@onelist.com, or visit www.onelist.com/subscribe.cgi/pcw-internet.

However, creating the list is only half the work — unless you have a list of people to add to it already. Fortunately, One1ist has a lot of useful information to tell you how to promote your list but even if you don't use their service it's worth looking at. There is, of course, no such thing as a free lunch and you'll see three line ads tacked on to the bottom of messages sent via your list. You can avoid those for around US$5 per month.

If you are still unsure about the benefits of online communities such as this, why not dip a toe in the water by joining someone else's list — even our *PCW* one if you like — to see how easy it can be to participate. If you still confine most of your net usage to looking at web sites and sending personal emails, you will find it a surprisingly simple step into a wider and more interactive internet world.

▲ **A MAILING LIST REQUIRES SOME WORK TO MANAGE BUT WITH A MODERN WEB-BASED SYSTEM, IT'S EASIER THAN YOU THINK**

PCW internet list

☞ **To join other readers** of this column in discussions and see first hand how a mailing list works, send an email to pcw-internet-subscribe @onelist.com, or visit www.onelist.com/subscribe.cgi/pcw-internet.

PCW CONTACTS

Nigel Whitfield can be contacted by post via the PCW editorial office (address p14) or email internet@pcw.co.uk

Home front

Home users could run their own web server but software reliability is lacking says Nigel Whitfield.

By the time you read this, the BT trials of ADSL will be winding down. There's even a slim chance that cable companies will have decided to launch some form of high-speed net access. So, when people at home can have a permanent connection what's to stop them running a web server on their home PC? You can stuff it with the images that will not fit in the 10Mb of free space from your provider or add extra goodies to spice up pages, such as having your own scripts running on your own computer.

There are many possibilities, as long as the small print permits. It is also most likely that if you try to do much with a typical Windows- or Mac-based system of today, you'll very likely find that

it's not up to it. You'll crash, your other work will go slowly and you'll be plagued by security problems.

I am at it again with doom and gloom. But it's a fair point. The time's not long off when it's going to be easier than ever for people to experiment creatively with

Given a permanent connection, what's to stop people running a web server on their home PC?

the power of the internet. But for that to happen, we need reliable tools.

You could, of course, always turn to Chris Bidmead's column on p245 and

find out about running Linux on the end of your net connection. But that's going a bit far for some people.

It is not much to ask, but how long can you manage to leave your computer running without having to reboot it, or sort out a program that has crashed? For many people, rebooting is a way of life. You might be able to cope with that when you are just playing games or doing odd bits of work but if you want to leave your system connected to the net all the time?… Give us a break!

There are many reasons why we deserve more reliable personal computer software than we have now. Cheap, permanent internet connections will provide us with one more. Hopefully, the popularity of the net will at last provide the software companies with an incentive to deliver.

Questions
& *answers*

Q I use mIRC to chat to people on the internet but I'm having problems sending pictures and other files to people. It worked the first time but now everyone says their system can't open a connection to me. I can still receive files without problems, though.

a *This is a common problem which is straightforward to fix. It happens because mIRC has the wrong internet address for your computer, and this address is used when it sends a message to another user to try and deliver a file. The first time you connected, mIRC will have worked out the address but with many internet providers you're allocated a different address each time*

you sign on. As a result, you no longer have the correct one in the mIRC settings and so DCC file sends don't work. To fix the problem, go to the File

◄FIG 1 **IF THE LOCAL SETTINGS ARE WRONG, YOU WON'T BE ABLE TO SEND FILES ON IRC**

menu and choose Setup. When the setup box appears click on the tab labelled 'Local info'. You'll see two boxes: one for 'Local host' and another for 'IP address'. These contain incorrect information that you

need to delete so just click in each box and delete whatever has been entered. Below that, in the section marked 'On connect always get', make sure

both boxes are ticked; the IP address box should be checked automatically when you tick 'Local Host' [Fig 1]. You will need to disconnect from IRC and then reconnect. Everything should then work fine.

Q PCW has recently been featuring ISPs but one critical point is

never mentioned in your column, or elsewhere. Some of us are still running plain DOS! Which of the Internet Providers can offer a full web service via a DOS connection? Until retirement I had a perfectly good DOS connection though a university Unix system running the Lynx browser. Now, in the hard commercial world, this is not so easy. Demon has a useful DOS dialup service (KA9Q) but it does not effectively provide web access. Former public Lynx servers no longer allow access. Surely there is some ISP prepared to offer a simple DOS dialup service providing text-only access to the web?

a *You're right that the net shouldn't be limited to people with Windows or Macintosh systems — and it's*

Questions
& *answers*

still not. But you can gain access. There is a DOS version of Lynx which should work with the Demon Internet software but a better solution is called Arachne. It's a fairly full-featured web browser from the Czech Republic which includes ftp and email clients, and also a PPP dialler. As long as you have the appropriate login information you should be able to make it work with most Internet Service Providers. Best of all, just because it runs under DOS or a compatible operating system, you don't have to be restricted to text. Arachne is a graphical browser which supports a subset of HTML 4.0 including tables, frames, forms and imagemaps, and there are also plug-ins for playing sounds and some types of video file. You can find out more about Arachne or download a copy from **www. arachne.cz**.

Q I was wondering if you could tell me whether it's possible to get a 'personalised' Error 404 page. For example, if you go to yahoo.com/randomword . htm it will come up with a yahoo page saying 'Not found, click here to search…' Is there any way to get a page like this for my web site which can return people to the home page (using meta refresh, etc) or does this require a load of additions to the server?

a *You cannot configure your own options for this if you are sharing space on an ISP's server. Typically, the error pages that are returned are set on a global basis for each web server. On some*

servers they may simply be generated on-the-fly. Other servers, though, will allow you to specify your own error pages and this is what Yahoo and other sites do. You can even specify a program to be run when an error occurs which
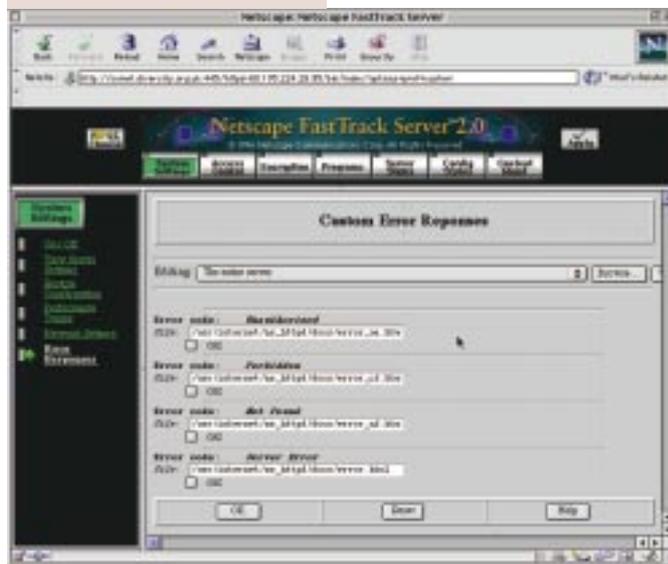
could, for instance, tailor the error page to whatever the user was trying to do, or to the type of browser they were using. Depending on the type of server on which your pages are hosted, you might be able to set something up but you'll need the assistance of the server administrator who will have to change appropriate options. For example [Fig 2] shows the Netscape FastTrack server which allows special pages to be specified for different errors. You can also have a different group of pages for a sub area on the server, such as a single user's home page. If you want this sort of facility, though, the chances are that you are going

to have to pay commercial rates for web space.

Q I have a 56Kbps V90 modem. When I download files from the internet they download at around 3.1Kbps and not at 56Kbps. I know you mentioned this in the October '98 column but I do not understand the technical details. When I bought my modem, I

was expecting much faster download rates than I am getting.

a *There are many reasons for this. The most important is that the speed quoted for any modem is only a theoretical maximum. If there is any noise, even things you can't hear, on the phone line you will have problems. Check the speed of the connection between your modem and the PC. This should be as fast as possible — ideally 115,200 bps, or more if you have a serial card which can handle it. When people report that their communications software tells them a*

connection has been made at, for example, 57,600bps it is often only the speed of the serial link to the modem that is given. To find the true speed of the modem connection you need to interrogate the modem, usually with the ATI command although options vary from one manufacturer to another. The other big problem is the speed of the rest of the internet.

As I have stated here before, the cost of a permanent connection for hosting a web server is very expensive in the UK. You will find a lot of web servers that are sitting on the end of relatively slow links — or slow links between you and a fast server. You may well have a fast connection to your ISP's modem but if there are bottlenecks elsewhere, that is going to slow everything down. You can sometimes see whether this is the case by trying to download something from elsewhere. If you can run a download at, say, 2Kbps as well as the one at 3.1Kbps, then you are probably making good use of the modem and the bottlenecks exist elsewhere.

It is an unfortunate fact that until the permanent links which people need for service web pages become cheaper, one of the biggest things you will receive from those with fast modems, ADSL, or cable internet at home is not speed but unfulfilled expectations of it.

Use and abuse

Security on the net needs improving to boost user confidence, says Nigel Whitfield.

Connect to the internet and your systems will be hacked! You'll have people breaching your security and stealing your personal data! Nothing will be safe from these destructive people bent on taking over our universe!

OK, so that's verging into B-movie territory, but there are people out there who'll try to get into your computer systems. Often it's just for the thrill of it, or your computer may be a stepping stone as they try to cover their tracks on the way to their ultimate destination. The chances of someone actually wanting to attack your system for a particular reason are probably small.

Not my problem?

Is this of no concern to people who have a PC at home? It might well be: with well-known security breaches such as Back Orifice, people can connect to your system and do a lot of damage. You might not think that's a tremendous problem if you dial up and have a different IP address assigned each time you connect — and you'd be right. But jump forward a few months, past BT's trial of ADSL (giving a few people an "always on" connection) to the time when it's more commonplace. Imagine the potential for havoc if you annoy someone at work, and they try to mess up your system for you, or you end up in the middle of someone else's flame war. There have even been cases of someone maliciously placing pornography on a system and then tipping off the police.

Most of this havoc can be avoided by following sensible security precautions

Most of it can be avoided by following sensible security precautions and keeping your system up to date with patches. It can be a time-consuming job. And things aren't always made easier by those who distribute software. A well set-up system may not be completely immune to attacks, but it's a lot more

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THE RIGHT SCRIPT

Forms keep rearing their head in messages sent to net.answers; as some rightly point out, it can be pretty simple to design a form in a graphical web-page editor, but the problems I recently covered still crop up. I've looked at some examples of how to write parts of a script, and I'd love to provide more in future. The biggest problem is, what sort of script would you like to learn about? Do you want to know how to write something in Visual Basic that will process data on a Windows system? How about using Perl under a Unix web server? There's even AppleScript, now much faster with OS 8.5. So I'd like to hear from you, about what systems your web pages run on, and what you'd like to know about running scripts on web servers. Do you want to know Perl, or should I enlist the help of the VB experts? How about good old-fashioned C? Send an email to net.answers@pcw.co.uk and I'll try to present some useful scripts over the coming months that will help you do what you really want.

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secure — and can help you find who's trying to get in, and from where. Almost every day, the logs on my firewall reveal information about who's been trying to gain access to some of my systems.

Low-key ISPs

Unauthorised access is a breach of the Computer Misuse Act, so you'd expect ISPs to take it seriously. But they don't all treat it the same. Some have responded to reports of people trying to attack systems with "This user's account has been terminated", and others with "He's been warned". Some have revealed the offender's name, offering co-operation with the comment, "We've had other complaints about him". You might consider that type of response unsatisfactory, or indeed useful to know where someone is. To an extent, I feel comfortable knowing — and I can ban all users of that particular ISP from the net services I run. Yet what's more disturbing, and will be more so as "always on" connections grow, is low ISP co-operation. Complain about a hacker, and they might

be kicked off the net. Then they'll sign up with someone else and do the same thing again. One ISP said it couldn't share information because it would be against the Data Protection Act, although it would probably be covered by the many exemptions for protection and prevention of crime. Collating logs showing a hacker's movements is time consuming. You might think you've a right to sniff around and discover if someone's web servers have security vulnerabilities, but you don't. So keeping everything safe can be a hard job.

Act accordingly

The net has grown partly because of people providing useful things free of charge. But if the result is attacks on your computers and little chance of compensation, how many will want to maintain that tradition? If ISPs really want the net to grow, they must act in a co-ordinated manner, so people taking their first steps on to the net can do so with confidence, not trepidation. Of course, everyone has to protect their own computers, but a little help — and perhaps some application of the Computer Misuse Act — would go a long way to making customers confident.

Questions & *answers*

Q I'm running a Mac with the web sharing enabled. Is there a way to see a log of who's been accessing the web pages?

a *Not if you're using MacOS 8.1 and the standard Apple Web Sharing extension. If you upgrade to MacOS 8.5 you can view a log, which is in a standard format most web analysis tools will be able to understand. To access the log, open the Web Sharing control panel and go into the Preferences [Fig 1]; from the Options tab, ensure the "Web Sharing log" check box has an X in it. To open the log, click*
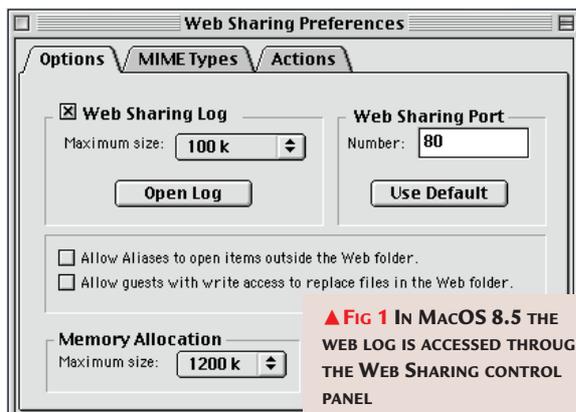
▲**FIG 1** IN MACOS 8.5 THE WEB LOG IS ACCESSED THROUGH THE WEB SHARING CONTROL PANEL

the Open Log button; you may see a message from the Finder asking you which application you want to use to view it.

Q I've downloaded version 4.0 of AOL and I'd like to know if it's possible to change the default setting of the US version of Channels to the UK version instead. If this can be done, please tell me how. If not, then let me know the next best thing.

a *The main menu and the channels screen are chosen by AOL depending on*

the version of the software you are using; you can't change the default, but you could always create a shortcut to the UK pages, which are reached via the keyword INTERNATIONAL. The best solution is to wait a while for the UK version of AOL 4, which should be out by the time you read this.

Q I've brought back from the US a new Compaq Presario 1810 portable with a built-in 56K modem. Unfortunately, the modem won't talk to BT. Any suggestions?

a *The modem should recognise dial tone, but you can find out if it doesn't by using the command ATX0,*

which will tell the modem not to listen for dial tone. It's worth turning on the speaker with the ATM1 command so you can hear what happens. The best program to do all this in is HyperTerminal [Fig 2]: tell it you're creating a direct cable connection, then type the commands shown, followed by ATH1 to take the modem off the hook — you should hear the dial tone. If you don't, then you'll need to change cables. Contact a company like TeleAdapt <www. teleadapt. com> which can supply cables that will sort out most problems like this.
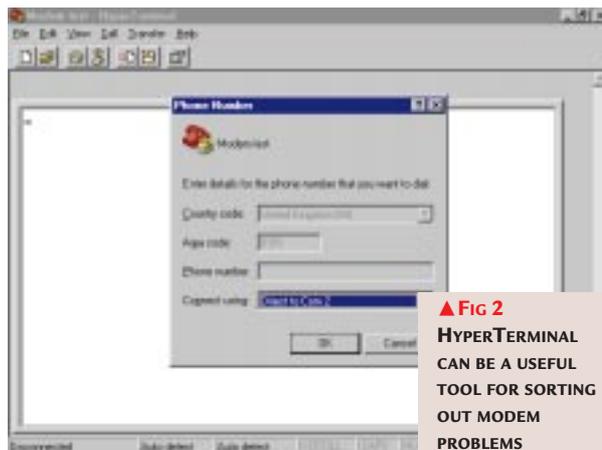
▲**FIG 2** **HYPERTERMINAL** CAN BE A USEFUL TOOL FOR SORTING OUT MODEM PROBLEMS

Q I have ugraded to Navigator 4.06 from the *PCW* CD, but every time I start Navigator, halfway through the loading screen I get a box saying 'The local configuration file specified a configuration URL but the AutoAdmin component could not be loaded. AutoAdmin is required to support remote configuration URLs. You will be unable to load any remote documents.' Navigator works perfectly after I have clicked on OK, but why does this happen?

a *This is most likely because Navigator is attempting to load details of its configuration, including which proxy servers to use, from a remote location. By doing that, system administrators can easily configure a large number of systems just by changing a single file. You need to check the preferences (on the Edit menu), and in the Advanced section you'll find options that relate to using remove configuration URLs. Make sure that none of these are selected and your problems should go away.*

Q I've created a web page on my PC, but my friend who uses a Mac says that the colours I've chosen

for the background aren't smooth — they come out with lots of little dots in them. Why is this?

a *The problem arises because you're most likely using a 256-colour display, as is your friend. You run into trouble with some colours because the Mac and the PC both have a slightly different palette of colours in 256-colour. If you choose a colour for your web page that doesn't appear on both platforms, you'll see grainy colours with flecks of other colours in them as the computer tries to get the closest match that it can. The solution is to use a web design program that allows you to pick from the common palette so that you can be sure everything will work fine whatever platform you use. You can find information about the problem on the web. One useful page, which has an online colour chart with all the values you'll need for coding your web pages, is at www.lynda.com/hex.html.*

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Fools rush in…

The net is changing fast, so tread warily, warns Nigel Whitfield, or your wallet might suffer.

During the past year there has been plenty of change on the internet, with new domains like .to, .am and .tv creeping into more URLs and the US government finally disentangling itself from the way the net is managed. Laws to keep track of personal data and to regulate spam are starting to crop up. It is becoming cheaper to get online, and, court cases or slanging matches notwithstanding, browsers are becoming simpler and more natural to use.

Sit down for a moment, and you could probably think of some of your own personal milestones for the internet over the past year. Would you include RealPlayer G2, or Dixons' FreeServe, or perhaps the iMac? Or events, rather than technology, such as the Starr Report?

We may live in interesting times, yet this is viewed as something of a curse by many people. On the internet, times are often interesting, and the pace of social and technological change is

breathtaking. As always, when it comes to technology, interesting times can be costly, too. Many people may find that out, literally to their cost, over the next year or so.

Hard on the heels of the BT Highway services which, despite the high charges, seem to be quite popular, BT has launched trials of its Interactive Network, which uses a technology called ADSL to deliver speeds of up to 2Mbps over an ordinary copper line. The present trial is limited to a small part of London, but more interesting is the cost: around £30 per month. There's no guarantee that we'll all be able to have high-speed connections to the internet *that* cheaply, but it could make for some interesting shifts in the pricing of net services.

If you were to believe the hype, then 1999, like so many other years, is also likely to be the year in which cable modems finally take off. This time it might even happen, if companies such as Cable & Wireless use digital television as a lever to deliver other services.

This is all good news, of course. However, it's also likely to be extremely annoying for those who have recently signed five-year contracts for such services as ISDN or Kilostream circuits, only to discover that something much faster is just around the corner, and at a much better price, leaving you with penalty clauses to read through while you wait for your downloads to finish. Besides the net itself, it looks as if the way in which we connect could be about to change dramatically in 1999.

What can you do? Just look. Don't rush, and, most important of all, do not commit yourself to a long-term contract. Take the plunge too quickly, and while you might be the first person on your block to connect at 128Kbps, you might also be the *last* person left connecting slowly while everyone else has moved to cable modems.

Interesting times indeed. And for the unwary, or the hasty, a wrong move could prove a costly curse.
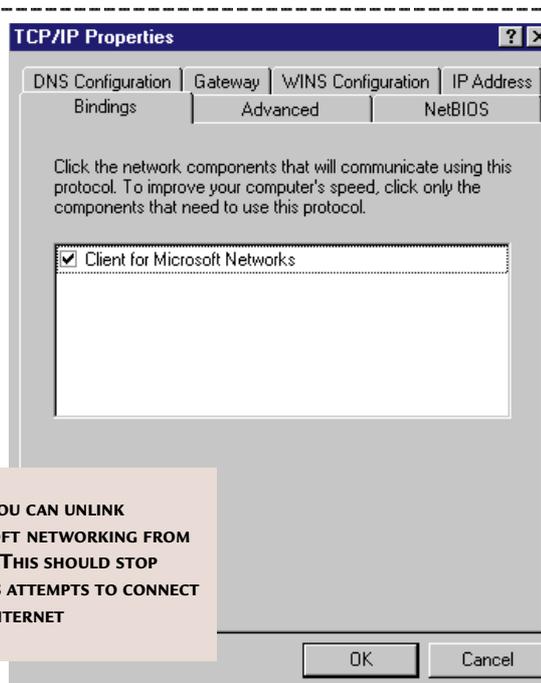
Questions & answers

Q Ever since I upgraded my MS Dial-Up to version 1.2, the "Dial-Up Connection" keeps popping up (uninvited) from time to time. I use Netscape Communicator 4.07. Is there a simple cure?

a *There are two possible causes of this. One is the Netscape Mail Watcher, a small program that checks your mailbox intermittently so you can be quickly alerted to messages. You will see this running*

because its icon appears at the bottom right of the screen, in the system tray. You can click on it with the right mouse button to close it. However, unless you have also recently installed or upgraded the browser, this is not the most likely culprit. That's more likely to be Microsoft Networking, which has a rather anti-social habit of sniffing around all the time to discover other systems to which it could connect. Although this is acceptable on a closed network, if you have a link to the rest of the world, either using Dial-Up networking or

▶FIG 1 YOU CAN UNLINK MICROSOFT NETWORKING FROM TCP/IP. THIS SHOULD STOP SPURIOUS ATTEMPTS TO CONNECT TO THE INTERNET

Questions
& answers

a router with an ISDN connection, you can end up with lots of extra connection attempts and, in the latter case, with a large phone bill since the router will be silently connecting to your ISP while you are unaware. The solution is to tell your system not to use TCP/IP for the Microsoft file and print-sharing services, and to make sure that the Dial-Up adaptor is set only to use TCP/IP. Right-click with the mouse on "Network neighbourhood" and you'll see a list of adaptors and protocols, and various configurations.

● If you want to use Microsoft Networking without TCP/IP, you'll need to make sure you have the NetBEUI protocol installed. Make sure it's linked only to the ethernet card, if you have one in your PC. Click on the TCP/IP link to the Dial-up adaptor, press the "Properties" button and select the Bindings tab [Fig 1, p245]. If Client for Microsoft Networks is listed, clear the check box next to it to stop the spurious connections.

● If you don't have a network card in your computer, the simplest solution is most likely to remove the Client for Microsoft Networks.

Q My ISP has upgraded its service to shell access to its Unix systems. I know you can set Unix systems to pretend that one page is another (e.g. index .html is really html/front/ index.html). What do you use for shell access? What other commands are available?

a First, the easy bit. Accessing a system for shell access is simple: you need a program which supports the Telnet protocol, and there is one built in to Windows, in fact. All you need to do is choose "Run" from the Start menu and type telnet shellhost.someprovider.co.uk — or whatever is the name of the system on which you have been given an account. It's enough to get you started, but it's also not a very good Telnet program, as it lacks some features and has a vt100 emulation which seems slightly at odds with what some Unix systems expect. Fortunately, there are plenty of other Telnet programs around and you should be able to find one that suits your needs. For Mac users, NCSA Telnet

You need a program which supports the Telnet protocol

will fit the bill. If you want to find out about Unix, the best thing is to refer to one of the simple text books for newcomers: something like O'Reilly's Unix in a Nutshell is a good place to start. You should also browse the back issues of PCW if you have the CD-ROM [see p308], where you'll find a brief summary of some basic Unix commands in a previous **Hands On Internet** column. Finally, on the subject of how web space interacts with Unix systems, as with most things where Unix is concerned, there's more than one way to do it. Very often, the redirection is handled in the web server itself which means you won't be able to change it. But there's a similar effect that can be gained using links,

▶**Fig 2** Hidden within Windows — the Internet Explorer Favourites

or symbolic links, which are just like the shortcuts in Windows or aliases on a Mac. You can create a link on Unix using the ln command. For instance, if I were to type the command

```
ln -s /usr/local/
src /home/nigel/src
```

a link called /home/nigel/src would be created, which would act as a directory; changing to it would actually put me in the directory /usr/local/src. The —s option makes it a symbolic link; a pointer to a file, which can be on a different disk. Omitting that option creates a hard link which is another directory entry pointing to the same file. In effect, the file has two names, rather than a name and an alias. With a hard link, the file is not deleted until you have deleted all the links to it. With a symbolic link, deleting the file at the end of the link prevents all the links from working.

Q Where are all the files for Outlook Express stored? I want to retrieve email from a backup tape. Also, where do I find the Favourites for Internet Explorer?

a Let's begin by dealing with the Favourites part of your question. Favourites are the easiest to find and you will discover them in the Windows\Favourites folder. Just restore this folder, in addition to its sub-folders, and your old Favourites should reappear [Fig 2]. Outlook and other Microsoft mail programs store messages in a mail file and a personal address book file. The former type of file has the extension .pst and may simply be called Exchange.pst. Or, it may have a name corresponding to a user profile if your system is set up with more than one profile. Your address book is in the corresponding .pab file, so you need to restore both of these from tape and then either use the Import option in your mail program, or the Inbox Setup Wizard, creating a new name and then specifying the files you recovered from tape, in place of the default.

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Culture club

Being a newcomer to the net is awkward enough without having to suffer the slings and arrows of snobbery. 'Internet elite, your time is up' says Nigel Whitfield. And, a basic guide to forms.

How long have you been using the internet? Chances are that many people who read this column have come to it fairly recently. It was, after all, only in 1994 that Demon Internet launched, providing low-cost access for many users. Prior to that, people who used the net tended to be in universities or networking companies and although access in the US was more widespread, it was still very much a tool for the educated elite. Much of that changed when AOL, still the world's largest online service, gave its users access to the net.

Paradise for some

Culture clash is just one phrase to describe the result. Yes, of course there were teething troubles: you'd expect little else when a culture that has developed over years suddenly meets a newer one, with different conventions. Of course, not everyone thought it was a good idea. Many of those who'd waxed lyrical about utopian ideas of cyberspace suddenly revealed that what they really meant was a utopia that didn't include the ordinary people who paid for access via systems like AOL. Some of this was doubtless due to the stupid doings of some AOL users, but it's a fact of life that if you have a service that anyone can join, a proportion of users will be daft (unlike a university, for instance).

What is amazing to see, however, is that despite the passage of time and the work that people like AOL have put into educating their users, the old attitudes persist. Lurk around in most newsgroups or discussion forums and you'll still see sarcastic or abusive comments about people who use particular service providers, or who are simply newcomers to the net. It was unpalatable enough when the real, old-time internet users started doing it, trying to keep their

There were once people who thought you didn't deserve to have access to the net

utopia as exclusive as Aldous Huxley's; and it's no less so when people who are relative newcomers themselves do it.

The point of the history lesson? There's no doubt that the internet can be a useful tool, and the current crop of dialup services have done a lot to make it more accessible. Yet next time you're sitting there thinking "It's only £10 a month", remember that there are many people for whom "only" and "£10" are not often used together. Many of those will undoubtedly be tempted to try out the net through the latest crop of inducements, including those from BT and Cable & Wireless which promise a rate of around a penny a minute on top of the cost of the phone call, or the completely free Dixon's Freeserve.

Whether or not those cheap services pose a real threat to the established players is something time will tell. But what's already apparent is the extent to which a number of ordinary net users don't like it, judging by the protestations in some newsgroups. And, it doesn't take much to imagine that many users will

readily tar all those with a Freeserve address or a BT Click email account in the same way as they've done to AOL users in the past.

Available to all

Before you join the bandwagon and rush, sneering, to point out the spelling mistakes of "people who can't even afford a decent ISP", stop and think. What do you want the internet to be? Should it be a resource for all, welcoming people for what they say rather than criticising them for where they post from, or would you rather cast your vote with some of the old-timers.

There will certainly be turbulent times ahead as the market reacts to cheap or free inducements, but it's best to wait and see what happens rather than proclaiming that "Dixons must not be allowed to get away with it", as some have already done. In the rush to judge, it may pay to remember that there were once people who thought you didn't *deserve* to have access to the net.

FORMS: A BASIC GUIDE
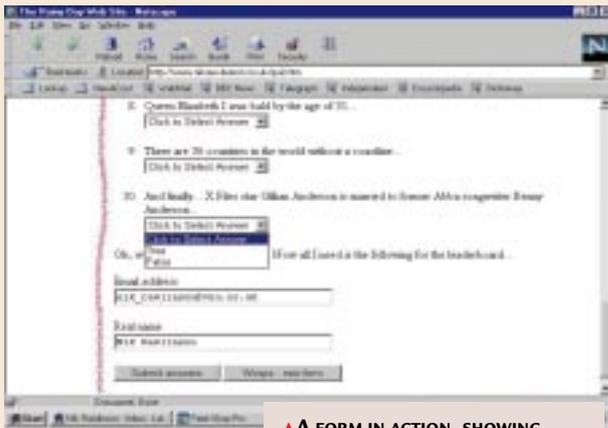
▲ **A FORM IN ACTION, SHOWING DROP-DOWN MENUS, TEXT BOXES AND BUTTONS FOR SUBMITTING AND RESETTING THE PAGE**

If you want to use forms, you need to understand a little about how HTML tags work. There are many good sites, and a previous article I wrote for *PCW* is on the web at **www.stonewall.demon.co.uk/tutor/html** which, while not very up to date, will explain the basics.

An HTML form is made up of HTML code between a <FORM> and a </FORM> tag. You can use any code within it, and each field is created with the <INPUT> tag. One of the biggest problems is that people do not correctly specify what they want to happen in the <FORM> tag. This should look like:

```
<FORM METHOD="POST" ACTION="somescript">
```

The "method" tells the browser how to send information. Use POST whenever you can. The alternative is GET, but there is a limit to how much information can be sent and it varies from system to system (it could be as little as 256 characters).

The POST action specifies the name of a script or program that will be run on the web server when the form is submitted, and this is where most people go wrong. Only a few browsers allow you to put mailto:me@myaddress.com as the action. You need to find out from your provider what scripts are supported as it will often have some for common tasks like sending mail. Don't assume that because your web design program has filled in the name of a script for the action, it's correct. It's more likely not to be. If you haven't written and uploaded a script, or your provider has not said it has one, then it won't be there.

Each field on your form is defined by an INPUT tag. For example:

```
<INPUT TYPE="TEXT" NAME="username">
```

A field could be TEXT, or PASSWORD, or CHECKBOX. You can also put VALUE="default text" to fill in a field with information that can be typed over, or to say what value should be assigned when a box is checked. NAME is the name of the variable to which you can refer in your script. Some, such as mail scripts written by your provider, will need specific variables named for things like the destination address and subject of the mail; these are often fields with the type set to "HIDDEN", which means they're not displayed on the page.

☞ **Adding "radio buttons"** is easy. Where only one of a series of choices can be selected, you simply use the same NAME for each one, like this:

```
<INPUT TYPE="radio" NAME="confirm"  →
 VALUE="yes" CHECKED>
<INPUT TYPE="radio" NAME="confirm" VALUE="no">
```

☞ **There are a few** types of field which work differently, though. First is the text area, a box into which you can type information. You add one of these to your page with code like this:

```
<TEXTAREA NAME="comments" ROWS="10" COLS="50">
Enter your comments here
</TEXTAREA>
```

☞ **To add a drop-down** list to your page, use the SELECT tag:

```
<SELECT NAME="mylist">
<OPTION VALUE="choice1">First entry
<OPTION VALUE="choice2">Second entry
<OPTION VALUE="choice3" SELECTED>Third entry
</SELECT>
```

You don't have to have an option already selected. If you don't, the drop-down list will appear to be blank when the page is first displayed.

☞ **Submit and reset** are two important types of field. These fields don't need a name: you could just enter

```
<INPUT TYPE="submit"><INPUT TYPE="reset">
```

and they'll work. The submit field creates a button that sends the form back to the web server, while the reset button clears the form as if you'd just loaded the page in your browser. You *must* have a submit button, but you don't *need* a reset one. Specifying a VALUE for either will use the text you give to label the button, so

```
<INPUT TYPE="submit" VALUE="Send in your →
order">
```

would create a button labelled "Send in your order".

☞ **A picture** can be used instead of a simple button. Most graphical browsers will let you do this. Here's how:

```
<INPUT TYPE="image" SRC="gifs/button.gif">
```

An image used like this is always assumed to be a submit button. The browser will, however, return two extra variables, X and Y, which indicate where in the picture the user clicked, so with a clever script you could use a button bar to select different options.

Remember, you can design the most beautiful form in the world but it will come to nothing if you don't have the action set to a script that's valid on the web server where your form is hosted. Whatever design program you are using, check the code for your forms afterwards, make sure that the action is right, and that all the fields are properly named.

These are the most common problems, and if you crack those, the rest is simple. For a more detailed tutorial on forms, go to **www. ncsa.uiuc.edu/SDG/ Software/Mosaic/Docs/ fill-out-forms/overview.html**.

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[**Key:** → *code continued as a single line*]

Just give us the facts

Multimedia effects on the net are OK — until they prevent you from finding information. Nigel Whitfield campaigns against multimedia froth.

Readers of a certain age might remember Darlene Love, the Ronettes and other bands produced by Phil Spector. In which case, you might also remember his trademark production technique — the "Amazing wall of sound". True afficionados of the era may even recall badges proclaiming "Back to mono". With pressure mounting on us to switch to digital broadcasting, perhaps it's only a matter of time before we start to sport badges labelled "Back to analogue" or "Keep your hands off my wireless".

Switching off

There is a serious point to all this. On one hand, stereo, digital broadcasting and similar advances are all things we will have to get used to. On the other hand, sometimes we think it's harder than it really is to do without them. Try switching off the stereo on your radio or listening to an AM radio station, and it's not really so bad after all. The same cannot necessarily be said of the internet; while there's a certain ring to "Back to V.32" it would be accompanied by a fourfold increase in your phone bill, too. And that wouldn't be progress of any kind.

It's not, of course, the users of the internet who need to be donning Spector-esque badges. With the slow connections most people have, the problems arise at the other end when a server tries to send you a huge file for an obscure plug-in and you end up spending ages just finding a contact number from a company web site.

There's a place for features and goodies on web sites. But there's a place for information, too

There's a lot to be said for simplification. I'm not recommending badges that read "Back to Mosaic" for web browsers, but it would make life so much easier if designers thought about other things besides how many graphics they can bill their client for. How many times have you visited a site, only to be greeted by a page that reads "Click here for fast version… here for slow version" or something similar? Do we really need it? Something has gone slightly wrong when people are designing web sites that begin with an apology and a link to a different version, so that the majority of home users will be able to access it at a reasonable speed. Of course, there's a place for features and goodies on web sites. But there's a place for information, too. Try visiting the Symantec web site [Fig 1] at www.symantec.com and see if you can track down information about Norton Utilities for Macintosh. You might almost imagine they no longer make the product. And, if you think the problem is bad for casual users wanting to find information, think about those who have to rely on other technologies to help them navigate (for instance, people with poor sight). Try turning off the images on a web

site or firing up a copy of Lynx, and see how easy it is to find your way through a page that just reads "image image image". Some of these problems are being addressed. There are new standards being set for HTML all the time and the latest revisions make it mandatory to include ALT tags to specify information about an image. There will still be old and badly coded pages out there, but it's a start, as is the initiative by the World Wide Web Consortium (W3C) to make the web more accessible to people with disabilities.

Time for action

Initiatives from the likes of W3C are not enough, though. When you visit a web site and cannot quickly find what you want, don't just sigh and carry on clicking. Click the link for the webmaster and tell them. When you're bombarded with multimedia just because you want to find out how to complain about something you bought, or you choose the "Text only" version of a site and find it's three months out of date, then it's time to make a fuss. Multimedia and all those other great features can make a difference to the internet. Just like multi-channel digital television. The two have something else in common: many people are telling us that they are good for their own sake. Anyone for a "Back to Information" badge?

Questions & answers

Q I want to contact people who work for certain companies but I don't know their phone numbers, postal or email addresses. Is it possible to search a company web site for a specific person's email address? These people are not listed on Bigfoot and the like, and Email Ferret is no help.

a There's no simple way to search through someone's web site, although some web editors will let you load a whole site which you can then search . But that's no use at all for a site which generates pages on-the-fly, and besides, many people won't take kindly to you doing that sort of thing.
There are two solutions.
The first is for companies to make web pages with useful information on it. The second is to see if they run an LDAP (Lightweight Directory Access Protocol) server. This is an online directory that can be queried for addresses by programs like Eudora Pro, Outlook and Netscape Messenger. You'll need to know on what machine the server is running so you can tell your email program to check it. Try obvious names such as mail.company.com, ldap.company.com and www.company.com.
Internet standards recommend an address of postmaster be valid for all mail systems, too; so, postmaster@company.com should be valid. Whether or not it's read by anyone who'll be able to help you is impossible to say. It certainly should be, but in practice that may not happen. Brute force is not recommended, but many company email systems use a straightforward way of allocating internet addresses. For example, my name might be nigel_whitfield, nigel.whitfield, nwhitfield, or nigelw. It's not foolproof, but it's worth trying. Just don't send anything embarrassing until you know you have the right address!

Q I've deleted Internet Explorer 4 from my system and installed Netscape Navigator. But now, when I try to access web pages, I get a message stating that I'm forbidden to access anything via proxy. What's happening? Do I have to re-install Explorer?

a It sounds as though there are some proxy settings configured in Netscape that are preventing you from accessing the pages you want. From the Preferences screen, click on the little arrow next to "Advanced" to expand it, and then click on "Proxies" *[Fig 2]*. Make sure it's set to "Direct connection to the Internet". If you do want to use a proxy, use the manual configuration screen and check that the settings are correct.

Q I am considering buying a PDA from the US. Aside from the obvious difference such as power adaptors and spelling, I wonder if the built-in modems in PDAs, such as the Philips Velo 500, work in the UK and Ireland? I know that the manufacturers must have the modems certified for use on each country's phone network, but if the modem is sold in an American model, does this mean it won't work on other phone networks? If the modems do work, is there any legal problem about using them in another country?

a In general, there are only so many ways a modem can do its job and phone systems are pretty similar the world over. But there are some differences. For example, the UK phone-wiring system uses a separate wire for the bell. As a result, when you use foreign modems, other phones may tinkle during dialling, or the modem may not reliably detect incoming calls. Usually, you should have no problems making the modem communicate. Legally, however, you're not allowed to connect an unapproved modem to the phone line. Your phone could be cut off or you might be fined if someone finds out. That said, many modern modems have approval in different countries, often by means of software that can configure them to meet the relevant standards.

> **Legally, you're not allowed to connect an unapproved modem to the phone line**

▲**Fig 2** If you're having problems accessing web pages, check that the proxy settings under 'Advanced' are correct

It's worth checking this before parting with your money.

Q How do I get a form's Submit button to use a CGI script? I've written it in Perl Builder and linked it to the HTML file, but clicking Submit just resets the form.

a You need to specify the action at the top of the form, not with the Submit button. The CGI script should be loaded on to your web server (PerlBuilder will simulate this for you, for testing). Define the action for a form with a line like

```
<form method="POST"
action="myscript
.cgi">
```

[all one line]. Your script may need a different name, to accord with the server on which it will be running. Some will want scripts to end with .cgi, or .pl, and others won't mind as long as it's in a particular directory and referred to as, say, /cgi-bin/myscript.

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Good times, bad times

Bugs in email software, BT's ISDN moves on (a bit), and your queries quelled. With Nigel Whitfield.

It's not often that words need to be eaten, but regular readers of this column might remember a couple of times when people have asked about the warning they've received telling them not to read messages that have a subject heading of "GOOD TIMES". Doing so, the warnings say, could cause problems for your PC.

The standard answer has always been that the only way reading an email message can cause problems on your system is by opening an executable attachment that contains a virus, or launching a document that has a macro virus in it. As you might have heard, however, thanks to the sterling effort of two of the most prominent net software companies — Microsoft and Netscape — that's no longer the case. Both have produced email software that is vulnerable to a particular type of attack, embedded not in an attachment itself, but in the tags that indicate there's an attachment to a message.

Half measures

They didn't do this on purpose — no-one sticks common programming errors into their software on purpose, although that's what some people think is at the root of this particular problem. But what both companies *are* guilty of is releasing half-finished, bloated software using magazine CDs and online downloads, to ensure that it reaches as many people as possible. Sometimes, there are useful new features in the latest web browser or email client. Java has certainly helped make some aspects of the web more usable. Dynamic HTML has promise. Depending on your personal feelings, you could view HTML email as a boon, or as an irritating infestation in your inbox. But would the world have ground to a halt if we'd had to wait a few more months for any of these features? It's unlikely. There's far more potential for damage to business

caused by sloppy programming leaving gaping security holes in mail programs, than by your boss not being able to send you email with red, underlined text in it. I'm sure the race to add more features and come out with browsers that have higher version numbers than the competition must be tremendously exciting for employees at Netscape and Microsoft, but it leaves many net users cold. Perhaps it's time more users stopped allowing themselves to be sucked into this rat-race of one-upmanship, and made their views clear? Reliable software should be a primary consideration. And if Netscape wants to survive as a player in the browser market, it might do well to concentrate on security and reliability; the ways of Microsoft are, sadly, unlikely to change.

The internet is a great tool. It's a shame that some of the best-known software companies view it chiefly as one they can use to send us beta-grade browsers in a race to score points against each other. So, next time someone offers you a new browser or email client, stop and think before installing it. Which bugs do you want on your system today?

> *The next time someone offers you a new browser or email client, stop and think before installing it*

Highs & lows

Have you been waiting for ISDN to be a reasonable proposition for home users? If so, you've probably heard about BT's Home Highway service, and by the time this issue of *PCW* hits the streets you may

also have heard about the pricing. If not, check out www.bt.com. Suffice it to say that the launch price isn't the dramatic leap towards affordable ISDN for which many people were hoping. In fact, it's not that much different from the pricing level of current ISDN services.

The significant difference is that you can also plug your existing telephones into the Home Highway box on the wall, and you'll be able to use network services such as dialling 1471 to find out who called you — though not on ISDN calls: that's still extra. From that point of view, it's a leap forward. And with a name like Home Highway, there's a better chance of BT actually realising people might have it installed in their homes — a point which previously, anyone who's ever tried to report a fault on an ISDN line and an ordinary line simultaneously, will realise is lost on BT. It's a shame that the pricing level isn't a similar leap forward on the part of BT. I would be interested to hear from any users who are thinking of switching to Home Highway.

☞ **On a more general note**, if you'd like to share your opinions on any of the aforementioned topics, please send them in. As ever, a personal response can't always be guaranteed, but feedback is always welcome. (See "*PCW* Contacts", page 254, for address details.)

BT Homehighway

Flexibility
Speed
Test Drive
Convenience

? Gamer ? Home Worker ? Family U...

A FAST AND FLEXIBLE ROUTE TO GETTING ONLINE

BT Homehighway is an exciting new product from BT designed to bring the benefits of digital technology into your home. The service is currently being trialed in limited areas of the Midlands and is expected to be launched this autumn!

It upgrades your existing phone line to allow both super fast Internet access and the use of your telephone at the same time.

Follow the roadsigns to find out why you should register now to be one of the first to get into the test lane.

▲ **BT'S HOME HIGHWAY IS A STEP TOWARDS ISDN FOR HOME USERS, BUT THE PRICING WILL STILL PUT MANY OFF**

Questions & answers

Q I have a web site, with a registration form. The important bit is as follows:

```
<FORM ACTION="mailto:someone@somewhere.co.uk" METHOD="POST">
<INPUT TYPE="hidden" NAME="Origin" VALUE="Romilly's H.F.B. Web Site">
```

Now, this works fine for many people who register — although some arrive with nothing in the text at all, and no attachment. And even at the best of times, my Eudora Light annoyingly puts the message into an attached file. I tried a test or two and it seems to work reasonably when I use Netscape as the browser, but not when I use Internet Explorer. Am I doing something wrong in my HTML? Or is there something wrong with my, and presumably other people's, IE3 setup?

a *The simple answer is that you're doing something wrong in your HTML. The "POST" action tells the browser that it should send all the contents of the form data back to the web server via the standard input channel. The action is the program that the browser will tell your server to run, and that program will receive the information input by the browser. However, your action field isn't a program on your server; it's a mailto URL instead, and only some browsers will spot that and launch an email program, because it's completely non-standard. And other browsers will be listing errors in the web server log, when the server can't find the program that the browser has asked them to run. You need to speak to the people who run your web server to find out*

what mail scripts are installed on it (most ISPs have a script that will perform this function). And if you run your own server, you'll have to find a script on the net, or roll your own. That's the only way to ensure that everyone can use the form, regardless of which browser they have.
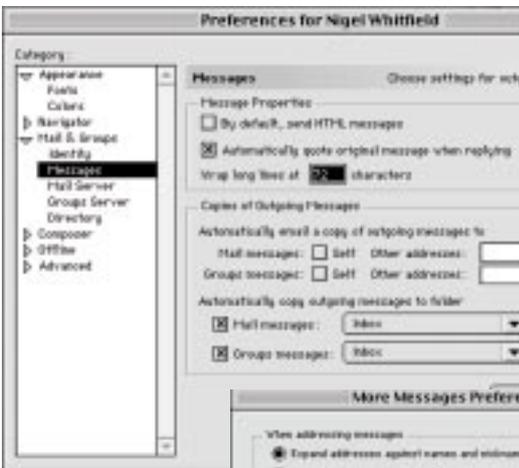
Q I've recently connected to the internet and use Outlook Express as my mail and news client. When writing mail I have the option to use plain or HTML format text. I would like to know whether the latter is readable by any email program, or does it need to be viewed with a web browser?

a *HTML email, while not quite the spawn of Satan, is one of the more irritating things to have afflicted the internet recently. While an increasing number of email programs can read HTML mail, it is by no means a majority, and a lot of people*

will see the raw HTML code in their inbox. Of course, they can save the message to a file and open it in a web browser, but frankly, I'd be more likely to delete a message than go to that trouble, and I expect most other people would, too. As a general rule of thumb, turn off features like HTML email,
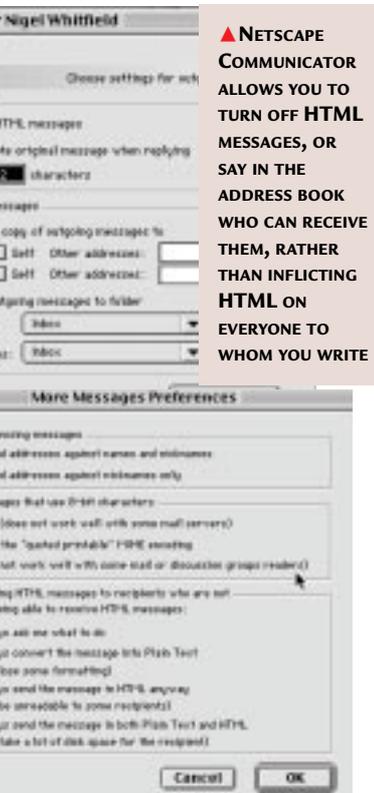
unless you know that the person to whom you're writing has a program that can understand it. Particular contempt should be reserved for those mail programs that insist on sending two copies of your messages, one in HTML and another in plain text. While this means that most people can understand the messages, it more than doubles the size. Again, turn this option off unless you want to force people to spend twice as long downloading your messages as they need to.

Some email programs allow you to specify who in your address book can receive HTML or other types of mail. If you want to communicate easily, that's certainly the best way to do it — and have the mail program send plain text to people who don't want HTML.

Q I'm using IE4.01 and have set up an FTP site with all our word documents, spreadsheets, images, etc. I also have a file viewer with a web viewing capability that will open and display all of these file types, and more. Unfortunately, clicking on the file name launches the native application within the browser. How can I have a different application association when using the browser to that used in Windows? I'm sure you used to be able to do this in IE3.02.

a *You used to be able to do this, but Explorer 4 is integrated with the operating system. Since it can be used as the desktop browser, it needs to use the same database as Windows to decide what happens when you click on an application. And this is, of course, a great leap forward and an enhancement of your user experience. But if you don't want your browser to be so tightly integrated with Windows, you'll need to revert to IE3 or install Netscape Navigator.*

▲ NETSCAPE COMMUNICATOR ALLOWS YOU TO TURN OFF HTML MESSAGES, OR SAY IN THE ADDRESS BOOK WHO CAN RECEIVE THEM, RATHER THAN INFLICTING HTML ON EVERYONE TO WHOM YOU WRITE

PCW CONTACTS

Nigel Whitfield *can be contacted by post via PCW (address, p10) or email* **internet@pcw.co.uk**
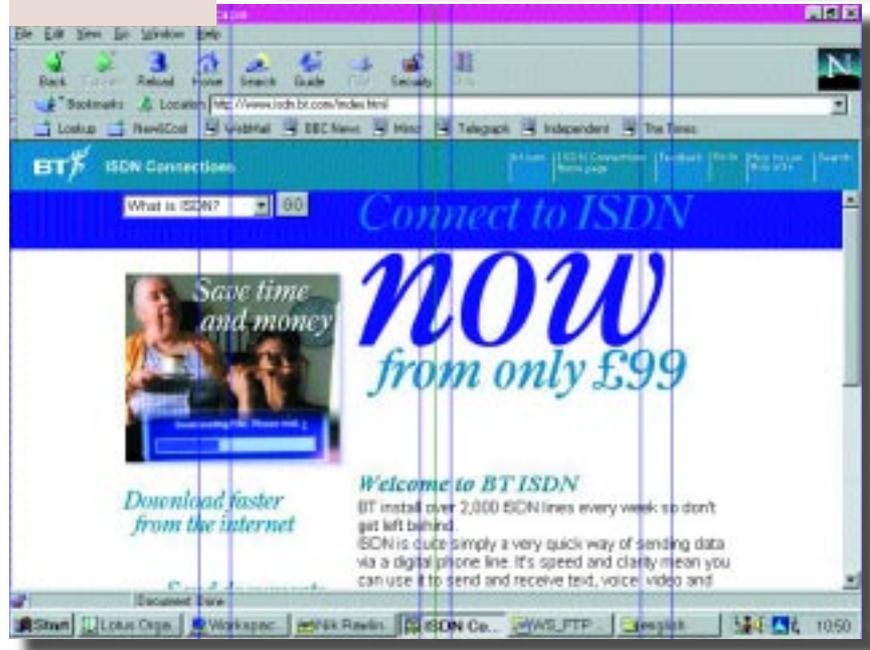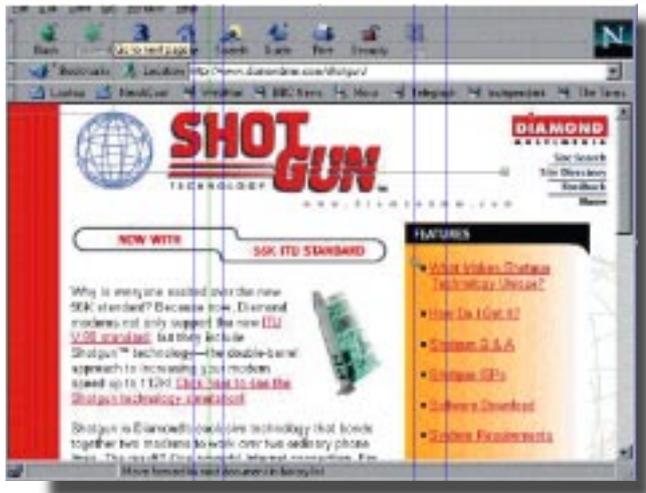
Speed ills

56K modems? Pah! They don't work at that speed. In the US, dual V.90 modems will boost your connection speed to 112Kbps. Nigel Whitfield reviews the need for speed on the net.

You may have thought a 56K modem was more than fast enough, but there are already plenty of people who are trying to push modems ever faster. If you have an ISDN line, you may be used to the concept of channel bonding, where instead of using one 64K link, you can use two and get double the speed (for the cost of two phone calls). In fact, the same trick is performed with my own internet connection. Most of the time it relies on the permanent line to my office, but when that exceeds 95 percent capacity, the ISDN comes on stream to double the link. The latest modems in the US, from the likes of Diamond, are not just V.90. They're dual V.90 with two phone leads, and use two lines to bump up the connection speed to 112Kbps. If you have a call waiting on one line, it will even dynamically disconnect one of the lines to your ISP when someone's phoning you, and reconnect afterwards. Ship a few of these to the UK, swap to a cable operator that charges you the same for two lines as BT does for one, and who needs ISDN?

GET YOUR MODEMS ON THE WEB: FROM COMPANIES LIKE SHOTGUN TECHNOLOGY ▶ OR ALTERNATIVELY HOOK UP WITH ISDN ▼

Flat on its face

For the most part, many people will find that the biggest difference they see is not in download times but in the number of trees used to print their phone bills, now with double the call costs. Okay, so you might have a 56K modem now; but how often do you see flat-out download speeds? And how often do you sit there thinking "2.8K per second isn't great, is it?" I'll bet the latter is rather more likely.

Of course, you're welcome to spend the money if you like, but think how much of what you download really is needed and how much is bloat. What about those massive graphics on web pages where a font change and plain text would do? Or huge updates to further bloat the size of your web browser? Sure, you need some of it; but what you probably need just as much is fast access to the information that's really important, whether it be games, research, or anything else. And using two phone lines, or dual-channel ISDN, isn't going to make that arrive much faster until something else happens.

It's time for internet providers (few of which make much profit out of domestic customers) to look at providing more value to their business users. Rather than tossing 5Mb more web space at people who pay a tenner a month, the needs of many might be better served if the charges levied for fixed connections were lower. A fast connection at home

ISPs should provide more value to their business customers

may be fine, but if the companies and organisations running the web servers you want to access have to pay around £500 every month for a permanent net link that only runs at 64Kbps, you will never download files quickly from them, will you? Speed does matter on the internet, but not just when you're the wrong side of a modem. If surfers have to stay online longer to see the information they want, while information providers are paying a fortune for links barely faster than a single modem, is that really sound economics for anyone concerned, including the providers? ➡

Questions
& answers

Q Can I connect to the internet without getting an ISP? As a student, I find that the phone line costs enough without the monthly charge from an ISP.

a *For most people the answer is a straightforward "no". The internet is a collection of networks, which pass information between them. An ISP operates one of those networks and, for a fee, provides access to it. But there are two avenues worth investigation. The first is a service that BT plans to launch later this year. You'll pay by the minute (no subscription) but that may prove expensive for heavy use. The second option is to find out what facilities are available where you're studying. Many universities have some form of dial-up access which can be used to connect to the net, but you'll have to contact the appropriate people and ask them if there is a service you can use.*

Q I've discovered a good (freeware) program called Catch-up. It tells you if there are any updates available for the programs you are using. It informed me that Rvplayer and Raplayer files could be updated to version 5 (I don't know where these files came from: part of Internet Explorer, I think). Anyway, I downloaded the update and ran it. It would appear to have removed Rvplayer and replaced it with realplay.exe. But the Raplayer file still exists as version 2.1. Is this program required, or, in the update from 2 to 5, has Realmedia changed both the default location and filename, thus leaving redundant files around?

a *These files are part of the Real Audio and Real Video systems which are used to enable you to hear sounds or watch videos over the net without having to first download the whole file. It uses a technique called streaming. There used to be two separate programs, one for video and another for audio, but with the latest version they've been combined into one RealPlayer, the file realplay.exe. You can safely remove Raplayer from your system.*

Q I need to identify the email address of callers to my web site, so I tried using the Server Side Include technique you talked about in your January column, but with no luck. AOL said this was a "coding" issue and outside the rules of its support line. Do I have to get my provider to switch on these SSI goodies? How do I get these environment references to show within my HTML?

a *Yes, Server Side Includes do need to be enabled on the server to achieve the effect I wrote about. However, there are some alternative solutions which can be used with browsers that support scripting and have it turned on. There are a number of variables that are set automatically in JavaScript, so if you want to find out where someone was before they came*

to your page, you need to look at the "document.referrer" variable. How you use this depends on whether you want to display to the user where they came from, or save the information for your own

purposes (likely to be more difficult). You can find plenty of examples at www.java-goodies.com, with a script to show the last site visited at www.javagoodies.com/comingfrom.html. To save the information you may need to use JavaScript to load the "document.referrer" into a hidden field on a web form, which can be posted when the user clicks on another link. But unlike using SSIs, there's no fool-proof way to

ensure you receive this information whenever

someone looks at your page, as many people may have turned scripts off for security or speed.

● **Eudora update** In the August column I mentioned using Eudora Pro for access to multiple email accounts. Thank you, Susan Lear and Tony Yates, for pointing out that you can do this with the Lite version by creating a separate directory for each user. Making a Windows shortcut gives the path to the directory as part of the

command line. You could specify the name of the INI file if you want to share folders but have different email addresses. Mac users can create copies of the Eudora Folder (System Folder) for each user, with a unique name, and start Eudora by clicking on the Settings file in the appropriate folder.

PCW CONTACTS

Nigel Whitfield *by post via PCW (address, p10) or email* **internet@pcw.co.uk**

A new direction

Nigel Whitfield explains how to perform a useful trick to make your web site easier for visitors to navigate. It's easier than you think and has a host of other uses, too.

When you're browsing the web, something you may have noticed is that when you type in a URL, the address which finally appears in your browser's location box is different.

You might, for instance, type in www. euro.apple.com/uk only to find that you're redirected to www.uk.euro.apple.com. It's a useful trick and something that's often done when people redesign their sites. Large chunks of my own site now use a similar method to enable people to find pages that used to have static URLs but are now formatted on-the-fly by a database system.

There are other tricks you can use, too. How about a guest-book page where each person is given a unique URL of their own, so that they can add information or comments and revisit them? For instance,

filling in a form could create an entry that can be accessed via the URL www.mysite. com/guests/nigel_whitfield.

Counting heads

There's one other use for this type of job: counting the number of people who have clicked on a banner to jump to another site. Rather than linking directly to a site, link to the URL that will redirect to that site and you'll have an easy way of knowing how many people have used your link, which is invaluable if you want to persuade people to pay for advertisements.

You might think that this is a tricky task, but it's easily done. All you have to do is set up an appropriate redirection. Then, accessing a URL results in the browser sending back a header that says, for

instance, Location: http://www.uk.euro. apple.com.

You can arrange for the web server to send back the location header itself, or you could create it from a script, or even arrange for a URL to be redirected into a script. For instance, in our guest-book example, you might want to redirect any URL in the /guests/ section to a guestbook script. If the script is called guestbook.cgi, then the rule might look something like this:

```
Redirect www.mysite.com/guests/*
http://www.mysite.com/guestbook.
cgi/*
```

If you have access to your web server's configuration file, that line will redirect the fake URLs that each user has been given, to the script. All your script needs to do next is to look at the PATH_INFO environment

variable, which is called $ENV{'PATH _INFO'} in Perl, or $PATH_INFO in a shell script, to work out which person's information is supposed to be displayed. That configuration rule, incidentally, should work for both the NCSA and CERN web servers and any that use the same configuration files, such as Apache.

Netscape notes

If you're using a Netscape server, go to the management pages, click on the Content Management button, then choose "URL forwarding" from the list of options and fill in the form to add a forward. For our example guestbook, you'd enter /guests/ in the first box, then www.mysite.com/ guestbook.cgi/ in the "URL prefix" box.

Tales from the script

What about doing all this from a script? It's easy. All you have to do is create a script that outputs a Location: header;. You need no other information at all (like the Content-Type: information that would be used in a script which creates pages, for instance).

The most obvious use of something like this is for a script which counts the number of times a link to another site has been clicked. Your web server doesn't do this, and unless the recipient site logs where visits come from (and tells you) you have no way of finding out.

At its simplest, turning a link to another site into a request to run a script that simply redirects the browser is all you need: if the name of the destination site is included in

the call to the script, you'll see it appear in full in your server's log file.

For instance, you could link from your page to another in the normal way, with the URL www.theirsite.com/, or use HTML like this to run a script which performs the jump and ensures that an entry appears in your log file:

```
<a href="http://www.mysite.com/
jump.cgi/http://www.theirsite.com/
>Click here</a>
```

The script which processes this is very simple. In Perl, all you'd need to do is say

```
#!/usr/local/bin/perl
#
print "Location:
$ENV{'PATH_INFO'}\n\n" ;
exit ;
```

If you want, you can add more detailed information, including your own logging, which is useful if you want to track, say, what sort of browser people are using.

Essentially, redirections is a handy tool that you can use to make it much easier for people to find their way around your web site. Don't rely on everyone always wanting to go via the front page, though. Think what your site is used for, and how people might access it. Does it make sense, for instance, to allow for people putting /sales or /support on the end of your site name? If it does, redirect those URLs to the appropriate places so that people can reach them easily.

With redirections, your web server and your scripts have the power to make your site easier to navigate. Use it!

Questions & Answers

Q **I am creating HTML forms to send their input to Perl scripts. The problem I have is that the forms behave differently, depending on which browser is used.**

The form in question has several text fields for input. Under Internet Explorer, if the user presses the Enter key, submit is activated whether all fields have been completed or not.

This is not the case under Netscape Navigator. While the user is not required to put text in every field, I do not want the form action to be executed until the user actually clicks on the submit button. Is there any way to do this without employing user-side code?

A The simple answer is that there is no way around this problem. There's no mechanism in HTML to do what you want, which is validating a form. In fact, you'll find different actions on different forms, depending on the browser. For instance, NetScape will submit a form with a single field when you press Enter.

You should also be aware that checking for empty fields may be different, depending on what browser people have used. In some cases, especially where the POST method is used to submit a form, you'll find that an empty field may have a carriage return (character 13) in it, rather than being blank. As a result, it's important to have some validation code in your script if you want to be sure that the

Questions & Answers (cont'd)

information you receive really is complete. The alternative, as you suggest, would be to use client-side code to perform validation, but that will restrict the use of your form to people with the appropriate browser and platform, which is never a good idea.

Q **I have recently upgraded my computer. On my old machine, when I connected to the internet it made various screeches and buzzing as the modem dialled, which was reassuring as I knew it was doing something. My new computer is silent when it connects. Although I have not yet had a connection difficulty, I would like to know how to enable the sound.**

A The default setting for the modem is to turn off the speaker. All you need to do is change the settings to turn the speaker on until a connection is established (Fig 1).

In Windows 95, click on the Start button, choose Control Panels, then Modems. Find your modem in the list and click on Properties. You'll see a slider control that you can use to adjust the volume of the modem's speaker: move it to the right to enable the sound.

If your modem has been installed with the "Standard modem" driver, however, you may not be able to use the slider as it will be greyed out. If that is the case, click on the Connection tab, press the button marked Advanced, and in the Extra settings box, type M1 (Fig 2) which is the most common command to tell a modem to turn the speaker on when dialling and turn it off when a connection has been successfully established.

If you're not using Windows 95, find the part of your internet software that sends commands to the modem and make sure the M1 command is included. If you see a reference to M0, that's turning the speaker off completely. The commands L0, L1 and L2 control the volume of the modem speaker.

Q **How do I create animated GIFs without a special program? I would just like to input the HTML code. And how do I insert an object telling me how many people have visited the site since a certain date? I have seen this on other sites, but have no idea how to do it.**

A The answer to your first question is simple: you *don't* create animated GIFs *without* a special program. Nevertheless, there is a way to achieve a comparable effect (which I covered in the April column) using Client-Pull: you can create a series of web pages, with sequential images, each one a little further on in the animation, and use the Refresh header to automatically load them all. Bear in mind that this will be slow and a waste of bandwidth. If you have a series of GIFs, download a program to turn them into a single animated one and upload it.

The only other option would be to use the Server Push system with a script that sequentially output the images in a single page. Again, this is a poor way of achieving a second-rate effect. With a true animated GIF, the whole file is

Fig 1 (above) Turning on the modem's speaker is simple
Fig 2 (left) Use the ATM1 command to turn the modem's speaker back on

---
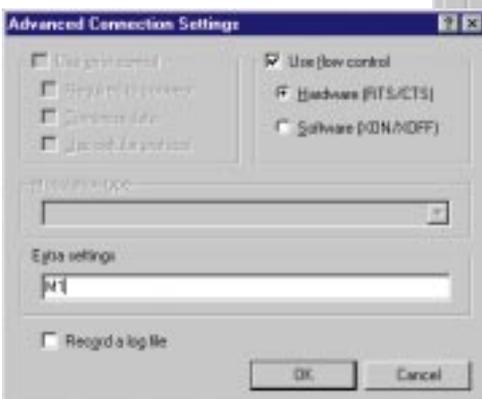
Questions & Answers (cont'd)

Fig 4 Unlike some other web-based mail services, Lycos allows access using a standard POP mail program

downloaded and then plays at the right speed. If you want to send each file separately, you'll receive very jerky results.

As for the second part of your question, inserting a counter on your web page is usually pretty simple, although the exact details depend on where your site is hosted. A counter is just a program that creates an image on-the-fly, keeping a record of the number of times it's been called and making an image based on that number. Typically, if the counter script is called "count", you would add it to your page with HTML as per Fig 3.

A The first thing to do is to make sure that you have the latest version of Psion's MessageSuite software, which can be downloaded from its web site. However, the web browser included in this software does not appear to support frames, which are used by many of the online mail services.

Thankfully, you need not worry about that. Although reading mail via the web is the usual way people access services such as LycosMail and HotMail, the Lycos system allows you to use standard mail-reading programs for an annual subscription fee of US$23.95.

By doing this, you will be able to use the Psion's own mail program to retrieve your messages using the POP3 protocol (Fig 4), which should be far more

Fig 3: Adding a counter

```
<img src="/cgi-bin/count" alt="Load images to see the counter">
```

Check out your web provider to find the name of their counter script and any options it allows. Some have a wide range of digits you can use. There are also some sites, such as www.digits.com, that provide free web counters and will tell you how you can add them to your pages, regardless of which server you're using.

Q I've been unsuccessfully trying to send and receive email with my Psion 5 organiser, using Psion's travel modem. My ISP is Microsoft Network and according to Psion tech support I can only access my email by using Microsoft's Internet Explorer (not possible on a Psion). I can surf the web OK otherwise. I also tried to use the free email service provided by Lycos, but while it's fine from my desktop PC, it won't accept input via the Psion. Is this all due to MSN? Would I have to sign up with someone else to be able to use email on my Psion?

straightforward than struggling with a web browser to read your messages. You can find more information in the Info section of the Lycos web site.

You can also access your MSN email using a POP3 mail program. To do that, you will need version 2.5 of the MSN software, since mailboxes were not accessible via POP3 prior to that version. You can request an upgrade CD by phoning 0345 002000.

Having upgraded your MSN account on your PC, you should then be able to configure the Psion's mail system to talk to the Microsoft Network POP and SMTP servers for receiving and sending mail respectively.

PCW Contact

You can write to Nigel Whitfield at *PCW* via the editorial office (address, p10) or email him at internet@pcw.co.uk.

Following orders

Why are the banks making it so hard for small businesses to benefit from online ordering and credit card sales? Nigel Whitfield expresses concern over commerce on the internet.

If you run a small company, the internet can be a great way to market your products to a wider audience. The technology is there, and with good web-site design, yours can look as attractive as the biggest outfits on the net.

There are already examples of people bringing lots more business to a small family firm, being able to sell their wares around the world. In some cases the extra trade from selling over the internet has not just made a difference to cash flow, recouping the initial investment in a web site, but has even made the difference between a business going under and staying afloat.

When you run your own firm, sometimes it is the little things that can make a difference. And one of the things that can make a tremendous difference when you

want to sell things over the internet, is to make it easy for people to send you orders.

In practical terms, this means allowing online ordering, via a secure server or some other means, like calling people back to take their credit card details. The credit or debit card is another important part of that: if someone has to send a cheque, then very often they simply will not bother. But if all they have to do is fill in a form when they decide that they want to buy something, you are more likely to end up with a sale.

Such a shame, then, that the banks don't make it very easy for people. While a small business operating from a shop or via a conventional mail order setup may well manage without credit card facilities, for internet shopping it is almost essential. You might think, given the way people

have talked for years about "microbilling" (charging small amounts for information sold electronically) that all the technology and systems would be in place to help those entrepreneurs sell their wares over the internet.

The banks take their cut

You would be wrong, in a way. Yes, you can set up as a merchant, allowing yourself to process card transactions, which help to increase your business. But you have to pay for the privilege: 5-10 percent on each transaction for credit cards, or a flat fee of about 65p for debit cards.

If you had a business and wanted to take orders over the web, would you be happy to hand over that much of your money to the bank? That is what they will

Free and easy: getting started with Perl
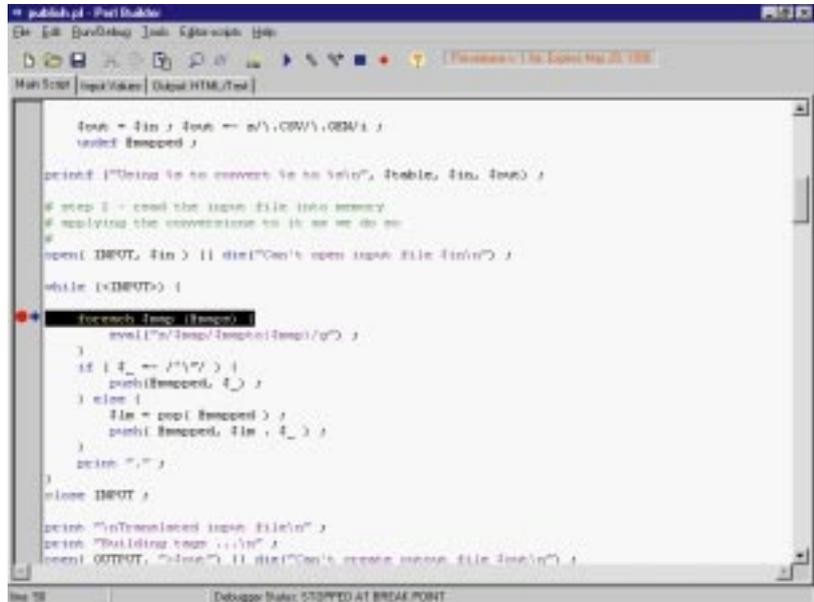
PerlBuilder is a handy tool for anyone developing web applications in Perl

I've mentioned Perl a number of times in this column; it's my language of choice for programming, especially for anything to do with the web and server scripts. Perl was originally designed to process log files and other similar material into a useful form.

Although there are other solutions, Perl has the advantage that it's free. It can be easy and quick to learn, and is available for a wide range of different platforms. Another advantage is the breadth of functions to process text, whether it comes from a file on a hard disk or from input from the web.

Many people have asked about the best way to start learning Perl. There are two books which should be considered bibles for anyone wanting to use the language (both are published by O'Reilly): *Learning Perl* is more suited to beginners, while those who can already program in other languages would do well to invest in a copy of *Programming Perl*.

The language itself is freely available and you can find many links to download sites and other useful information on the www. perl.org web site. For the Windows 95/NT version, go straight to www.activestate.com.

At your command

One of the things that puts some readers off using Perl is that even though it's a Win32 application, it still runs from the command line, requiring you to use a text editor to create your scripts and then fire up an MSDOS window to run them. And if you are trying to develop CGI scripts that process form input or create web pages on-the-fly, it can be a long and tedious process uploading them, testing them, changing and then uploading everything.

For the serious Perl developer that looks to be a thing of the past, thanks to PerlBuilder, which is almost certainly the first Integrated Development Environment for Perl. It's a fully graphical program that you can use to edit your scripts, with all the usual things you'd expect from a modern development system, like coloured highlighting and the ability to step through your script one line at a time, or run it up until a particular point.

Making a point

PerlBuilder also lets you see the value of a variable by pointing at it with the mouse. Best of all, is the support for web developers. The CGI wizard will automatically create the code to process a web form and you can simulate the input from the form within PerlBuilder, so you don't need the hassle of installing a web server on your PC. Output from your script can be viewed as text or in a web browser.

At first glance, PerlBuilder looks like a tremendous tool for developing web applications in Perl. The release version should be available soon. Evaluation copies can be downloaded from www.solutionsoft. com. The anticipated price is US$149.

expect if you are a small business wanting to jump on the credit or debit card bandwagon. And I suspect that for many people with a good idea and something they could sell over the internet, those figures make it pretty uneconomical.

Yes, you can sign up with an internet bank and hope that the punters who visit your site use the same one so they can pay you easily. But if commerce on the internet really is going to be an opportunity for everyone, instead of just a way for the big boys to take more market share, shouldn't someone be making it easier for you to take online orders, not charging you so much for the privilege?

Questions & Answers

Q I have a mail server connected to the internet via a leased line, and recently discovered that it was running very slowly. It transpired that the reason for this was hundreds of emails being sent through my server as part of a mass mailshot that someone was sending out. Is there a way to prevent this happening?

A This use of your mail server, to relay messages, is abuse. It's becoming quite common, as spammers try to cover their tracks by hijacking other mail servers to distribute emails. There are ways to prevent it happening but it depends on what sort of email system you're running, including the platform and the version of your mail software.

Some systems can be made very secure, while others are simply a gaping hole and an open invitation to people to abuse your resources. While you may not think that's too much of a problem (especially if you have a fast machine and a good net connection) you'll quickly learn the down side, because many sites have automated tools which will warn you when they receive messages that have been relayed by your site. You might even find mail from your system blacklisted.

There is an initiative on the net, the Transport Security Initiative <maps.vix. com/tsi> where there's a list of internet mail transport systems and how they can be protected from this type of abuse. It should be required reading for anyone who is running a mail server that accepts connections from the rest of the world. There's even a page you can use to check the vulnerability of your own server.

Fig 1 This site makes use of frames to provide a menu on the left — but always make sure there's an option for people without framed browsers

Q I hold a database of user information for all the winners of my web award <www.mikesworld.net/bawards/> (about 400 or so records). Of their personal details, I hold their name and their email address. Winners come from all around the world and I'm not sure which laws are applicable to me. Do I need to register under the Data Protection Act or something like that?

A The simple solution with regard to the Data Protection Act is that if you are in doubt, you should contact the office of the registrar and ask for their assistance. You will find that they are very easy to deal with, and depending on the use to which you put your database, you may qualify for an exemption — for instance, if the sole purpose is to send people information which they have agreed to receive.

If you do register, the cost is currently £75 for three years. An annual registration is due to be introduced later this year. You can contact the office of the registrar by telephoning 01625 545700, and there is a web site at www.open.gov.uk/dpr/.

Q I am looking for the HTML code that divides the screen into two sections: one on the right of the screen that does not scroll, and another, on the left, that does. I have seen this on many web pages and have looked it up in help files, but with no success. Can you help me with the code?

A What you are looking for is the code for using frames. There are lots of tutorials on the internet that will explain how to do this and also point out the problems; frames can make a site more awkward to view and take longer to download. It is also extremely poor practice to create a frame-based site that has no alternative and cannot be navigated without using the frames (Fig 1, left).

Having got the warning out of the way, the code for the front page of one of my web sites, which has a fixed panel on the left and scrolling text on the right, is shown in Fig 2 (p233). The FRAMESET command defines two columns. In this case, the first one is 130 pixels wide and the next takes up 77 percent of the screen. The other parts of the

Fig 2: My web site front page code

```
<HTML>
<HEAD><TITLE>Digital Diversity</TITLE></HEAD>
 <FRAMESET COLS="130,77%" BORDER="0" FRAMEBORDER="0" FRAMESPACING="0">
  <FRAME SRC="main-menu.html" NAME="menu" SCROLLING="NO">
  <FRAME SRC="intro.html" NAME="info">
  <NOFRAMES>
   <BODY>Put code for the non-framed version here</BODY>
  </NOFRAMES>
 </FRAMESET>
</HTML>
```

command make sure there's no border to the frame. Both are needed to ensure compatibility with NetScape and Internet Explorer.

Each FRAME command specifies which file will be loaded into the frame: main-menu.html will be loaded into the left-hand frame, and intro.html into the right-hand one. We've specified no scroll bar for the left frame. Other alternatives are YES, or AUTO to let the browser decide if there should be one.

The name option is used to allow you to say where a page should be loaded, by including the code

```
TARGET="info"
```

in a link. The file specified by the link will be loaded into the right-hand frame. The NOFRAMES section of the code can contain as much information as you like. It is essentially whatever you want displayed by people who don't have a web browser that can view frames — yes, there are still some out there.

That's the basic code. It should be easy enough to modify it for what you want, but remember to think carefully. What happens, say, if someone goes to a page within your site, bypassing the document that sets up the frames? Will there still be a way for them to get to other pages?

Q I want to be able to send email using different addresses depending on which project I'm working on. I've been using Microsoft Exchange and have added a second Internet Mail service to my configuration, with the new mailbox and other details.

Although I can receive messages from both mailboxes, when I send internet mail, it is bounced back with headers that seem to be made up of both the different addresses. What am I doing wrong?

A To be frank, you're lucky that it's working at all. The Microsoft Exchange inbox (also called Windows Messaging if you have a later version of Windows 95) is not designed to have two identical services installed at the same time. When you try to send a message, there is no way for Exchange to know which address you want to use and it's likely the settings were corrupted when you installed the second Internet Mail service.

If you want to continue using Exchange, you should create multiple profiles with one Internet Mail service configured in each. To switch between the two, you will have to close down the mail program and restart it, choosing a different profile.

To make sure this works, you will also need to change the settings in the control panels so that you are prompted for a profile each time you start up a mail program like Exchange. If that sounds like a lot of hassle, especially on a slow machine, then it is time to junk Exchange for a smaller mail program, and there are a number that will let you set up more than one internet mail account.

Eudora Pro <www.eudora.com> is a very good mail program, though you will have to pay for it (the Lite version only works with one account). A free alternative is Microsoft's own Internet Mail and News, which has support for more than one user, and all you have to do is select "Switch user" from one of the menus to access your other email account.

● *Please note: The previously published (PCW, June) URL for Forte Free Agent was wrong. It is* www.forteinc.com.

PCW Contact

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The problem with **Explorer**

Microsoft seems determined, by hook or by crook, to get Internet Explorer onto your system as your default browser. Nigel Whitfield comments, while putting other net niggles to rights.

The internet is very rapidly becoming an important part of the distribution mechanism for software, with more and more companies allowing the public to download trial software, or updates. The cynical might suggest that rather than being a means of ensuring wide beta testing and ironing out of bugs, the free betas are more likely a way to make sure your data is locked up in a new product before you have time to consider the competition.

Of course, another way of distributing software is by bundling it with other programs, and it's just that sort of practice that's causing Microsoft a certain amount of hassle, due to its attempts at bundling Internet Explorer with Windows. The excuse that it's so tightly integrated into the operating system it can't be removed, doesn't exactly work with Windows 95, since it can actually be uninstalled in a trice.

Windows 98 may be a different matter, but that's only because it's been designed that way — and I'll leave aside the curious wisdom of a company that's been trumpeting its usability research for years, only to tell us now that it's better to launch everything with a single click than a double one, via the dubious usefulness of "desktop integration".

Whether or not Microsoft will finally have to succumb and remove its browser from the operating system is still a little uncertain. But it may well have alternative plans anyway, notwithstanding the current fines being levied.

Download dramas

Have you attempted to download Microsoft internet programs from the web site? How about Outlook 98? Or maybe you've been looking at IIS 4.0 for your NT box. In both these cases you'll have found something rather disturbing: the requirement, in order to run either the web server or, for heaven's sake, a contact manager and email program, is that you have Internet Explorer 4 cluttering up your system.

If there are components, like DLLs, they can be unbundled and supplied with Outlook. If Outlook actually calls upon something other than DLLs, it's badly written. More likely, however, is that Microsoft is simply finding other ways to foist its browser on us. And in the case of Outlook 98, that meant spending time on a

32Mb download (silly me, I only had the Demon edition of IE4, and that wasn't good enough) and freeing up 120Mb of disk space to run the installer — complete with Java virtual machine, Explorer fonts and Outlook Express.

I have a permanent net link so I can just sit back and wait. But Joe Punter cannot, and even if the software is delivered on CD, do we really need this insidious infiltration of our systems by a browser that we don't even want? There's no option about it — install Outlook 98, and Explorer appears on your system.

To me, that's almost worse than having a browser coming with the OS; at least you only have to junk it once, rather than having it re-installed each time you want to try out the latest Microsoft internet application.

Perhaps this is just an aberration. Maybe Microsoft won't try this sort of expensive (it's not cheap when it makes your download 32Mb) trick on other pieces of net-aware software that it makes available on the web. But isn't it funny how when Microsoft is having problems with one way of delivering a copy of Internet Explorer, another one comes along?

Questions & Answers

Q Many of the sites I've visited have buttons that change when the mouse moves over them. How can I create this effect on my web pages?

A The effect is called a JavaScript rollover and, as the name suggests, it's done using JavaScript. I'll cover it in more detail in a future column, but for now, there's a simple solution that you may care to use. The Web Review site has a rollover generator that allows you to fill in details of the images that you want to use, and will automatically create code that you can cut and paste into your own web page to create the desired effect. You can find out more at style.webreview.com/wr/pub/98/03/13/coder/rollover.html.
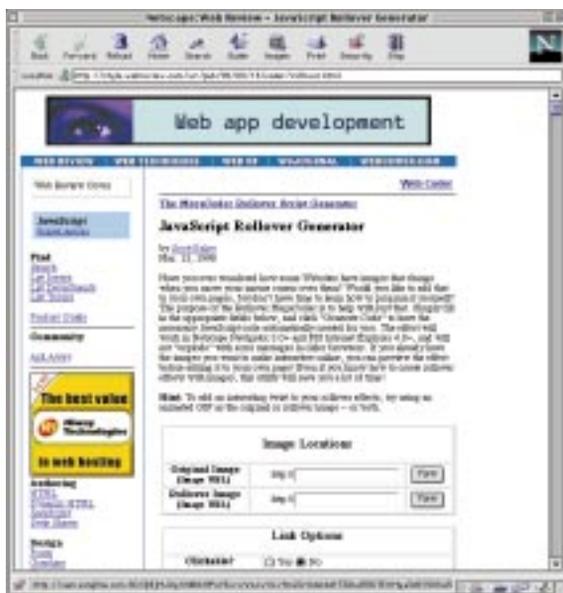

You can create a JavaScript rollover by filling in a web form then copying and pasting.

Q I use dial-up networking in Windows 95. I would find the Automatic Connection feature of IE4 (I assume this means you don't receive a window requesting a password) very useful, but it doesn't work. If I go to Internet Options, choose the Connection tab, then choose Connection settings and put in my password, then click OK, it promptly ignores it! Returning to Settings as soon as I have pressed OK reveals nothing in the Password box — no asterisks, nothing. Why?

A It's most likely that you have signed on to Windows without a password. Dial-up networking will not allow you to save the password unless you have signed on as a user with a valid password. If you clicked the Cancel button when Windows asked you for a name and password, then you'll have this problem.

There are two solutions. The first is to sign in to Windows as a user with a password each time you want to use your system — and if you share the computer with other people, you can then have a separate desktop for each user.

The alternative is to sign on with no password. If you've always been in the habit of simply pressing Cancel

Questions & Answers

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when Windows asks you for a name and password, and haven't created any users yet, then all you need to do is create a user by typing your first name, with no password. When you're asked to confirm the password, enter a blank one again, and press Enter. You won't be asked in future to sign on when you start Windows, and Dial-Up Networking should allow you to save the password.

You can empty the cache via preferences in Explorer, if you want to free up some disk space

Q My niece has asked me to print some of the images from the Titanic Movie web site. I saved the page so as to open it later in Corel Print House where I can choose only the image from the page, but the page saved as (.htm) extension without graphics. How can I save the page as an image?

A When you tell your web browser to save a page, it saves just that — the page itself. And an HTML page is simply a description of what's on the page, with references to other items held on the web server. In other words, the HTML file that you've saved doesn't actually include the pictures. It simply says: "This picture goes here on the page."

If you want to recreate the page on your hard disk, you'll need to save each image individually. How you do that depends on which browser you're using. You may have to click on the image with the right mouse button and choose Save, or hold down the mouse button on the Mac.

To recreate the page, you'll need to look at the HTML source and see where the pictures were originally stored in relation to the page itself. For instance, if all the images appear when you choose View Source with a reference like ../graphics/picture.GIF, and you've saved the file as c\html\titanic\page1.htm, then you'll need to create a directory called c\html\graphics and save all the pictures in there.

Q The cache directory in my Microsoft Explorer is gradually expanding. Will there be any adverse effects if I delete the files in the cache directory? What is it for, anyway?

A The cache directory is used to help speed up access to the web. You'll typically find that many of the things in it are graphics files, though there may be some web pages too. When something that Explorer needs to display a page is in the cache, it can be used without having to fetch it from the web site. This speeds up access, especially if you have a slow link.

For example, a web site might have a corporate logo and a button bar at the bottom of each page. By cacheing these items, they only need to be fetched once, even though they might be displayed dozens of times during your visit to the site.

You can clear the cache out simply by deleting it, but the best way is through the options in Explorer. This will also let you say how long things are kept in the cache, and how often it should check to see whether there's a more up-to-date version of the item it needs.

Q I'm looking for some old college pals, but the email directories I have gained access to through Yahoo, BigFoot etc seem to be centred on the USA. Could you please give me the location of the UK ones, assuming there are any?

A There aren't any large UK email directories that I know of. Your best bet is to check with the main directory services such as Four11 and BigFoot for people in the UK.

It's also worth checking with college alumni associations, some of which may collect email addresses for their directories. Of course, many of these will only produce addresses for people who have asked to be included.

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You may be able to track some people down, regardless of whether or not they're signed up for directories, by using the Usenet name search system to see if they've ever posted to a newsgroup.
To do that, send a message to mail-server@rtfm.mit.edu with no subject and a line in the message body that says, for example:

```
send usenet-addresses/whitfield
```

and you'll receive a list giving you addresses and dates when that address last posted to a newsgroup. Remember that you need to use a whole name: you can't just enter a part of it.

Another possibility is the simple brute-force method of typing a name into a web search engine and seeing what you come up with. One of the best ones to use for that kind of search is HotBot www.hotbot.com which can be told that what you're looking for is a name, so if you ask for Nigel Whitfield, HotBot will look for "Whitfield, Nigel".

Q I have a P120 running Windows 95. When running a check using First Aid, it throws up an error in IE 3 — "File C\WINDOWS\SYSTEM\ JGDWMIE.DLL is missing". I've tried to download this file from the web, but there are no hits. I've been using IE 3 with no apparent problems, so can I safely ignore this apparent error?

A Yes, you can. The file can be replaced, if you wish, from win95_09.cab of Windows 95, OSR2, but it's not essential for Explorer. It appears to be a DLL for viewing a type of file called "JG," from America Online, and presumably won't be called upon unless you try to view that type of content. If you don't have the OSR2 release

HotBot has a special option to use when you're searching for names on the internet

of Windows 95, then you could try re-installing Explorer.

Q When I was configuring Netscape Communicator to fetch my mail, I noticed an option for accessing messages via IMAP instead of POP. What's the difference, and why would I want to use IMAP instead?

A IMAP (the latest version is IMAP4) is a much more modern protocol than POP3, though both are, at their simplest, ways of retrieving information from a remote mailbox, like the way you collect your messages from an internet provider.

However, IMAP (Internet Message Access Protocol) provides many more features, including remote folders. In other words, you can organise your messages into folders, and still store them on the mail server. For many people that may not be an issue, since you'll only have one computer from which you want to access your mail. But for those who move around, it can be very useful indeed, since messages that have been filed on the server will be accessible from anywhere, as long as you have access to an IMAP mail program. IMAP also allows for shared folders, making it ideal for group working.

There are a number of IMAP servers available, both commercial and free, for different platforms. If you have a network in the office and want people to be able to access their mail from outside, it may be worth installing an IMAP server. At present, it's not a service that internet providers tend to offer — at least not for their standard domestic customers — so the majority of readers won't need to worry about it.

You can find out more by checking the web pages at www.imap.org.

PCW Contact

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