The Advisors

Welcome to The Advisors, our new monthly section. where experts help you get the most from the technology you already own, keep you up to date on soon-to-be-released products, as well as revealing a few insider secrets. We've scoured the country – from Edinburgh to Cornwall – to find the most knowledgeable people in their respective field. These guys eat, sleep and breathe technology and they're here every month to report back their findings to you. What they don't know about technology simply isn't worth knowing.

Whether it's brand-new kit that you need to know about or tips and tricks they've picked up along the way, the Advisors will keep you informed month in, month out.

But this isn't just a one-way flow of information. We welcome your input as to what you would like to see covered in the future, any useful tips or frustrations you've encountered along the way. Each Advisor has a dedicated email address but please bear in mind that, while we welcome your input, responses will be through the column rather than individually.

Will Head,
reviews editor

This month

Kicking off the section, Internet Advisor Kyle MacRae finds religion online, as well as investigating how to squeeze every last drop out of an ageing dialup connection. Mobile Advisor Jason Jenkins considers the supposed benefits of video over mobile phones and also tries out some fun, if not exactly practical, toys.

If you've ever wondered how the other half (or rather five percent live) then Windows Advisor Mike Hirshkorn gives a rundown of the differences between Mac and PC. Our Office Advisor Mary Branscombe shows you how to organise your documents using Microsoft's next Office suite.

Imaging Advisor Alistair Dabbs breaks the rules with Macromedia's Fireworks MX 2004, while Multimedia Advisor Tom Gorham puts its sister product, Flash MX 2004, through its paces. Video Advisor Laurence Grayson tries out the latest DVD camcorders and supplies some top tips to make sure your subject stays centre stage. And Audio Advisor Neil Pickles has some handy tips on the best software to make the most from your audio kit.

Rounding things off, Web Development Advisor Jason Whittaker tries out Windows Server 2003, Microsoft's latest offering for the web server market, and Network Advisor Roger Gann gets down to the nitty gritty with Universal Plug and Play.

Anyway, that's enough from me. Ladies and gentlemen, I present to you The Advisors. Enjoy.

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Divine inspiration

Can't get to the church on time? Broadband Religion is the answer. Plus, speed up your dialup connection and check out some (expensive) web space

KYLE MACRAE

Kyle MacRae has worked as a freelance journalist for six years, having abandoned a previous life in the rag trade when he discovered that IT blags were more useful than silk suits. He has authored several hardback computer manuals, regularly contributes features and reviews to computer magazines and the national press, and still gets out more than he should.
Email internet_advisor@idg.com with your comments, suggestions and tips.

As an ADSL veteran of three years, I'm heartily fed up fending calls from friends and relatives demanding to know whether they should ditch the dialup. I never know what to say. Sure, it's faster, relatively cheap and if I lost an always-on connection I'd need a month of rehab to get over my 50-a-day Google habit ("Hi, my name's Kyle and I'm feeling lucky"). But do I really need it? And do my friends? What does broadband offer that makes it a must?

Well, I bring you good news: the last day of August marked an epiphany on the web. With nary a flicker of stagefright, the pioneering Rev Alan Bain took to his pulpit in Bath and broadcast what was allegedly the world's first live online sermon (see www.broadbandreligion.co.uk).

His happy-clappy congregation cheered and whistled, readers read and singers sang and the band strummed merrily in the corner. Remarkably, the entire streaming production ran smoothly to a medium-resolution conclusion without once falling over on account of 'unprecedented demand'. (At what point, incidentally, will over-optimistic content providers accept that demand exceeding capacity on the web is tiresomely precedented and no longer an excuse?)

Anyway, all was sweetness and light for an hour or so. And as I sat there in my personal pew nursing a coffee, croissant and Sunday morning hangover, I was moved close to tears by the wonder of it all. Forget peer-to-peer file swapping and

internet telephony; broadband's elusive 'killer application' is not found in the mass market after all.

By addressing the needs of that 1.87 percent of the population who seek communal worship but for one reason or another cannot get to a church, Broadband Religion demonstrates that an overblown internet can still cater superbly to special interest groups. The devil, or angel, is in the detail; what we need now are dozens, nay hundreds, of micro-interest killer apps.

So while the internet saves your soul as you lie in bed on a Sunday morning (a bed wherein, sweet irony, you may first have lost it), let's hear some nominations for similar sites. Let no niche remain untouched. After all, the internet is a broad church.

Only then will we all sing from the same broadband hymn sheet. Spread the good word in an email, if you please. Amen.

Analogue corner

Meanwhile, hopes for faster dialup surfing are best pinned on a couple of compression technologies currently being touted by Propel (www.propel.com) and SlipStream Data (www.slipstreamdata.com).

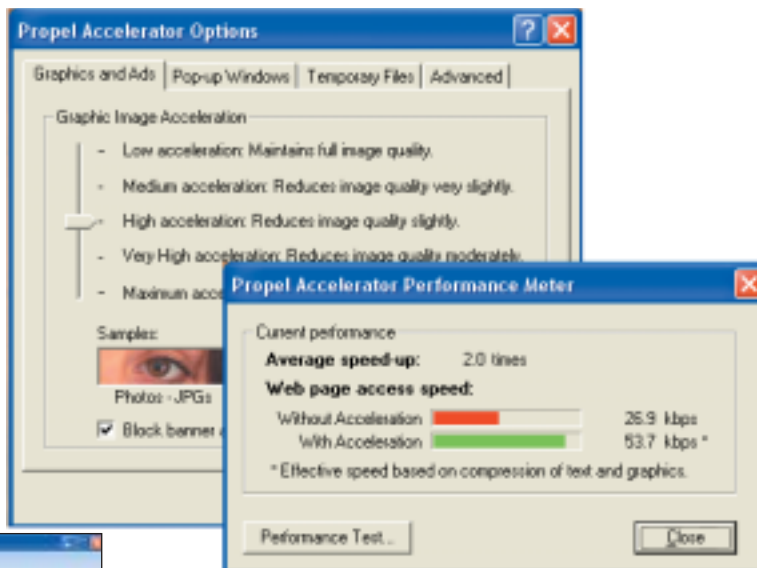↑ **High-speed hallelujahs with Reverend Bain's streaming sermon**

The standard crop of internet 'accelerator' software works by downloading web pages linked to the site currently open in a browser window. The (often forlorn) hope being that you will then click on one of the precached pages.

By contrast, compression squeezes extraneous data from web pages to make them smaller and thus faster to download in the first place. Both lossy and lossless compression is applied, which means that images are initially displayed at low resolution but text doesn't drop off the page. Proxy servers do the business before pages hit your browser.

SlipStream Data markets its product to US ISPs rather than individual punters and has yet to break through to these shores. But spokesman Ron Neumann assures us that deals with UK ISPs are nearing fruition. As an idea of what to expect, US player NetZero (www.netzero.net) charges an additional $5 (about £3.15) monthly for its SlipStream-powered 'HiSpeed' service. Expect to pay at least the same premium here.

You can sign up for Propel Accelerator immediately but it costs a hefty $7.95 (about £5) per month. There is a suck-it-and-see seven-day trial but Propel makes you register your credit card first. This puts the onus squarely on you to cancel the contract in good time or risk being charged – not, it has to be said, a marketing approach that particularly appeals.

→ Propel Accelerator lets you compromise between image quality and download speed

↑ Xdrive is still in the storage service business but web space costs a packet

→ Making connections with Netopia's Cayman

Whither the web space?

In the old pre-boom-and-bust days, companies like Xdrive (www.xdrive.com) and IDrive (now www.ibackup.com) offered stacks of free web space for backups and filesharing. This strategy proved about as sustainable as Hoover's free flights offer, of course, but now they are back in business with cough-up deals in the range of £11-13 per gigabyte per month.

With hard drives retailing at a pound per gigabyte these days, that seems particularly poor value to me – especially if you are prepared to do your own file compression, encryption, password-protection and FTP-ing. I don't care if my web folder pretends to be a dummy drive on my desktop.

I just want a healthy dollop of affordable, scalable, robust, frill-free space on a server on which to dump lots of old stuff.

For now I use a basic web hosting package from WebFusion (www.webfusion.co.uk) that gives me 600MB of web space. But at £9.95 per month it's not cheap and I'm obviously paying for hosting features that I don't need: POP email, CGI support, ASP and so on.

Backing up to CD, DVD, tape or whatever is fine and dandy but online, offsite storage is secure, accessible from anywhere and as fine a use for an under-used 256Kbps upload link as I can think of. Is there an untapped market out there?

Not so mo-dumb

Just space to mention an ADSL modem-cum-router-cum-hardware firewall from Netopia. Similar devices come free with cornflakes these days but the Cayman 3341 has an original twist in that it provides both USB and ethernet ports. The idea is that you can hook up an Xbox and PC simultaneously to the same broadband connection. Yours for £99.99 inc VAT at www.netopia. co.uk. ⊠
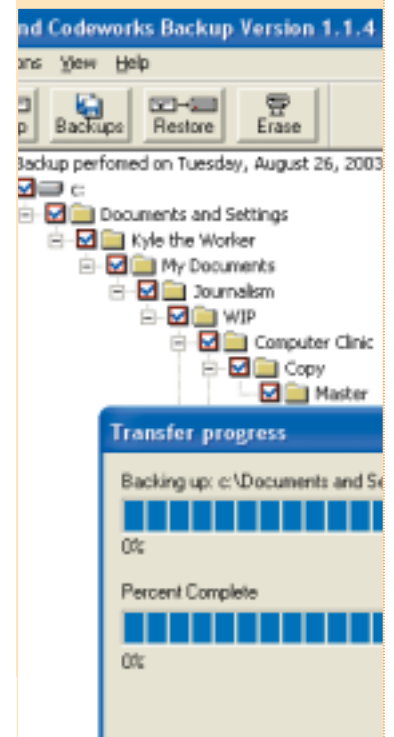
⌨ Getting your backup

This month's favourite program is Internet Backup from Island CodeWorks (www.islandcodeworks.com). It has only one function but performs it rather well, namely backing up designated files and folders on-the-fly to web space (yes, the very same web space that is so hard to come by).

You might, for instance, back up your entire My Documents folder at the outset and then run a daily incremental backup where those files that have changed in the meantime are copied afresh.

Old files are purged automatically to save space, backups can be restored in full or in part and an automated scheduling function takes the memory strain out of backups.

Truth to tell, Internet Backup lacks polish and I'm looking forward to developer Kevin Rintoul's promised new version. Even so, I wouldn't be without it. It's free to try for 30 days and $29 (about £18.35) to buy.

Backups made easy: but you will need some FTP-accessible web space first

Look who's talking

Moving on from phones that take still shots, we discuss the pros and cons of the new video handsets as well as taking a look at the latest PDAs

JASON JENKINS

Jason Jenkins is the deputy editor of *T3*, the world's best gadget magazine. If it's small and has twiddly knobs, you can guarantee he's played with it, dropped it and rated it. Email mobile_advisor@idg.com with your comments, suggestions and tips.

Welcome to this new mobile-related column. Each month we'll be taking a journey through exciting subjects such as mobile phones, PDAs, ultra-portable notebooks and Wi-Fi. I'll be sharing my knowledge and experience of the latest technologies and products with you, advising on how to get the most out of the kit you already own, and informing you on the devices you should be purchasing.

But I can only take things so far. For this column to be genuinely useful, the really interesting tips will have to come from you, dear readers. So if you've got anything to say on the subject of mobile technology, please drop me an email.

Moving pictures

I'm going to kick off with mobile video. Mobile phones with built-in cameras have been one of the big success stories of 2003, but the vast majority of handsets are restricted to taking still pics. If you're one of 155,000 people who have signed up to 3G, the fast data speed it offers means you can already shoot videos and download movie clips.

Those that have eschewed the brick-like 3G phones and stuck with a 2G network like Orange or Vodafone will get access to similar services between now and Christmas. Unfortunately, they won't be quite as glorious as some of the companies are making out.

All = four main 2G networks – Orange, Vodafone, O2 and T-Mobile –

will be offering broadly similar services over the coming months. You'll be able to use a camera phone to record video and send it to compatible handsets, as well as download video clips. You'll probably have to buy one of the new phones that will be released over the coming months if you want to take advantage of these features, although a few models such as Nokia's dreadful 3650 already has video capabilities.

Two for the price of one

Leading the pack of video handsets is Sharp's GX20, only available on the Vodafone network. This clam-shell model (that means it flips shut) has two colour screens – one where you'd expect and one on the exterior so you can show off and see who's calling when the phone is shut. The GX20 is capable of making recordings up to 100KB in size, which equates to around 20 seconds of footage.

Trouble is, Vodafone won't let you send a message that's larger than 39KB to another network. Why? Well, 2G video services take advantage of GPRS data connections that, although relatively speedy, are not as fast as 3G connections. If everyone started sending large video files to each other over a 2G network, it would collapse faster than Jordan on a boozy bender. The other networks will have similar limits.

And there's another twist. All the networks will be offering downloadable video clips. This sounds exciting in principle, but there's one big drawback – they're all rubbish. Instead of watching tomorrow's episode of *EastEnders* or David Beckham's latest goal, you'll be

eyeballing movie trailers and, if you're very, very lucky, *Monty Python's* parrot sketch.

Forgive me, but the prospect of watching a couple of Oxbridge types argue about the demise of Polly for the millionth time on a screen smaller than a cream cracker doesn't fill me with joy.

Fight for your rights

There's a reason for the abysmal quality of the clips: Digital Rights Management, or rather the lack of it. DRM controls what you can do with a file. Applied to a video clip, it means that you can't copy or forward it to anyone else unless the originator wants you to.

Currently, no-one can agree how the technology should be applied to mobile phones. There's a cross-industry working group that's, well, working on it, but it'll take between six and 12 months for their efforts to be applied to new mobiles.

Until DRM is in place on all new mobile phones, TV and film companies are going to assume that users will copy any video clips they download willy nilly. So when mobile phone networks try to secure deals to sell video content, they're asked to pay astronomical sums of cash upfront.

The mobile companies would rather give the content makers a percentage of each sale. That way, if the idea doesn't take off, they haven't lost a bucketload of money. But until copy protection in the form of DRM comes along, the film companies want to sell their content as a job lot and that means a big pot of cash. So we're stuck with old, tired comedy and movie trailers we can see just as easily on the TV.

Am I alone in finding last year's batch of PDAs duller than watching grass grow? I blame Pocket PCs – they're all virtually identical

Oh, but that's not the end of it. When everything does eventually get sorted out and DRM comes along, you'll have to buy a new handset to use the services. There'll be no way of upgrading most of the existing models.

So if downloadable video clips are unwatchable and video messaging is too short to be worth the hassle, why are the phone companies bothering at all? It all comes back to 3G. The poor mugs that buy a 2G phone for its video capabilities will be providing lots of feedback to the mobile networks, which will prove vital when they get around to launching 3G in a year or so. Of course, then they'll be expected to shell out for new models. Buyer, beware.

Pick a Pocket or two

Am I alone in finding last year's batch of PDAs duller than watching grass grow? I blame Pocket PCs – they're all virtually identical. Sony's Clie has started to become run of the mill too, but its new PEG-UX50 is amazing. With both Bluetooth and Wi-Fi built in, the £600 unit is one of the most connected PDAs around.

But it's the PEG-UX50's multimedia aspects that are most interesting. It will have a built-in digital camera, video player and bright colour screen with a high resolution of 420x320. There's even a keyboard, although I reckon it's too small for most people to type comfortably on.

Inside is Sony's own low-power processor, Handheld Engine, which

means the Clie is just a few millimetres thick. It may be too expensive for most, but I for one am looking forward to seeing more affordable versions being released with similar functionality in the future.

Find your way

Also just out is Garmin's iQue 3600. This interesting PDA is combined with a GPS direction finder – exactly the sort of thing you'd have thought someone would have come up with yonks ago. Garmin has done a pretty good job of it too.

The iQue runs Palm OS 5.0, so it's a familiar interface, and Garmin has made the most of integrating the GPS

with the PDA side of things. For example, once the GPS system has worked out the location of an address book entry it can guide you there straight away from wherever you are in the country. This PDA issues spoken instructions too, so you could use it in the car.

After using the iQue for a couple of hours, though, I found out why no-one has bothered with a device like this before. Although the battery can go for days without a recharge with the GPS turned off, it goes flat in just a couple when it's turned on. Oh, and it costs a wallet-busting £590. Still, an interesting indication of where PDAs could go in the next few years. ⊠

🔅 Fun and games

I couldn't sign off without mentioning two of the more bizarre items I've seen recently – Sony Ericsson's Bluetooth Car CAR-100 and Gameboard EGB-10. The first is a tiny toy car that you control with a Sony Ericsson mobile equipped with Bluetooth, while the latter adds a proper gamepad to its new Z600 handset to give you more control while playing games. Pointless, perhaps, but fun all the same.

Sincerest form of flattery

With Windows XP Microsoft has borrowed many ideas from Apple's Mac, resulting in a truly innovative operating system. It's just a shame about Movie Maker...

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MIKE HIRSCHKORN

Mike Hirschkorn is a freelance journalist and technical consultant who has been writing about computers for seven years. His first love was a Macintosh but he has seen sense and realised that Windows and the Mac can happily live side by side in today's cross-platform world.
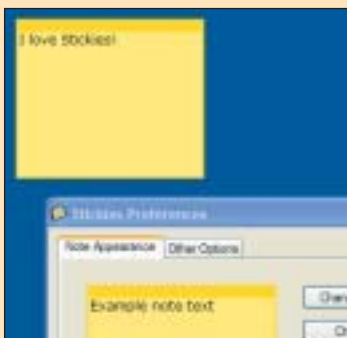Email windows_advisor@idg.com with your comments, suggestions and tips.

As a life-long Mac user (well, okay, not quite my whole life, but for at least the last 15 years), I've often been quick to deride Windows for the things it doesn't do as well as the Mac. But since the release of Windows XP two years ago I, along with many of my fellow Mac users, have grudgingly admitted that Microsoft has started doing things right.

Nobody would deny that many of the improvements to the Windows interface over the years have been borrowed wholesale from innovations originally made at Apple. But there are some features in Windows today that are as good as, or even better than, their Mac OS X equivalents.

The relationship between the two platforms has become considerably less frosty in recent years. It's now perfectly possible to run Macs in a Windows environment and vice versa. I run one of each side by side on my desk and happily share files between the two. In doing so, I've been intrigued by the differences, and more notably the similarities, between the two operating systems.

Strong contenders

One of the fundamental features in Windows since 1995 is the Start menu. This was an idea borrowed from the Mac's fully customisable Apple menu that was used to store application shortcuts and so on.

In the current generation of operating systems, Windows has clearly taken the lead. Mac OS X's Apple menu is rather impotent compared to the version in Mac OS 9.0 or earlier. It contains some useful items such as a list of recent apps and documents, as well as the Shut Down and Logout commands, but it can't be customised without the use of unsupported third-party add-ons.

Instead, application shortcuts in Mac OS X are stored in the Dock – a hybrid between the Start menu and the Taskbar. The Dock looks good and it's nice to be able to resize it, move items around and add and delete them by dragging and dropping. However, I think the Windows Taskbar is more logical and easier to understand.

Some elements of the Windows interface have never been adequately

⋮⋮ Mac-alike apps

↑ These handy notes look just like the paper version and you can customise them to suit your needs

When using my PC I miss some of the features I take for granted on the Mac. Take for example Stickies, those virtual post-its that remember everything – even if I don't. So far Microsoft has not seen fit to include anything similar, unless you're one of the three people who's bought a Tablet PC.

But fortunately it isn't hard to find shareware to add post-its to a PC's box of tricks. Type 'stickies Windows' into Google and it'll uncover a whole load of download sites. I tri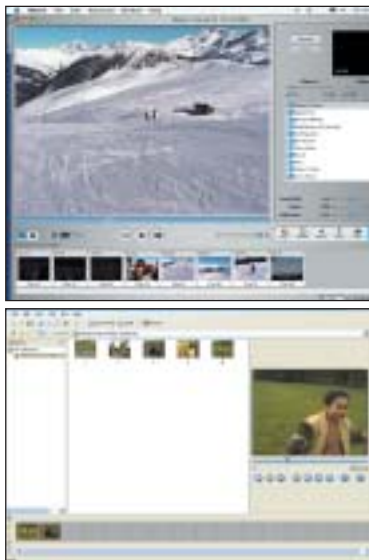ed the free download from http://finiteloop.org/~btaylor/ software/stickies and the result was a good copy of the Mac version.

I've discussed the pros and cons of the Mac's Dock compared with the Windows Start menu and Taskbar. You can emulate the Dock in Windows by downloading a free beta from www.objectdock.com.

It places all your apps, clock and any other items you want in a 'dock' that runs along the bottom of your screen. Running the cursor across the dock magnifies each icon, again just like a Mac, although it isn't quite as pretty or elegant as the original.

↑ You can recreate Mac's original Dock (above) on the PC (left) thanks to a free download

Top: Apple's iMovie is the de facto standard consumer video-editing software on the Mac. Bottom: Windows Movie Maker hasn't proved quite as popular

matched by the Mac. For example, the taskpanes that appear in most windows are a genuine aid not just aimed at novice users – they can be helpful for experienced users too. The Mac has no equivalent.

Press the right buttons

On a related note, the contextual menus that appear whenever you right-click on something in Windows have only ever been poorly executed by Apple. This is largely due to the fact that Apple still insists on single-button mice so, strictly speaking, there's no such thing as a right-click.

To access a contextual menu on a Mac, you must hold down the Control key while you click – something that requires extra thought and effort. As a result, this has never taken off among Mac users and there's never been pressure to build much functionality into contextual menus.

As it happens, Mac OS X has built-in support for multibutton mice. It's just that Apple has never provided the hardware to take advantage of it. The real irony here is that I always use a three-button mouse with my Mac and it's made by - you guessed it - Microsoft.

Make Windows look more like a Mac

Windows XP has come a long way towards mimicking the Mac GUI. But what if you want to go that little bit further and make your PC desktop look exactly like Apple's operating system?

Fortunately there is a way to express your inner-Mac mania while running Windows XP. Windows Blinds (www.stardock.com) is a free download that allows you to run a whole range of skins to disguise your desktop. You can browse and download all the skins on offer at www.wincustomize.com.

Clearly there are more than a few disgruntled Windows users desperate to make their PC more like a Mac. You can choose from the classic Mac OS right up to Panther, the forthcoming Mac OS X 10.3 that's not even available yet.

Installing the theme even makes Windows behave like a Mac. Clicking on the top right of a window emulates the Mac's Window Shade mode. And the Start menu swaps the Windows icon for a cool, aqua Apple logo under the Panther skin or a shiny red apple under the Classic skin.

→ Turn back the clock and return Windows to the good ol' days of the classic Mac OS

↑ Make your PC look just like the latest Mac

What's new, copycat?

Another area where Microsoft has learned from Apple is in bundling apps that provide added functionality above the basic operating system.

One notable example is video-editing software: Apple's success with iMovie prompted Microsoft to include Movie Maker into Windows XP. But whereas iMovie was a truly innovative product when it was first released and continues to break ground with each new version, Movie Maker is a "me too" product. I know many Windows users who use third-party video-editing software, but you'd be hard pressed to find a camcorder-owning Mac user who doesn't use iMovie.

Some Windows zealots argue that the Mac has become an irrelevance in the 21st century. You'd have thought that a platform that commands less than five percent market share wouldn't really be worth much attention. But there is definitely still a place for the Mac, if only as it serves to drive innovation in the Windows world. ⊠

← Contextual menus in Mac OS X are an underused feature, largely because Apple mice don't have a right-click button

Getting organised

Grouping, filtering, linking – these are the rules for better document management. All you have to do is set up the basics

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MARY BRANSCOMBE

Freelance writer Mary Branscombe has spent 13 years looking for the perfect office suite, along with any other tools that make it easier to turn your documents into what you really want to say. Email office_advisor@idg.com with your comments, suggestions and tips.

Any information in your documents that you didn't put there yourself is metadata – information about your information. This includes facts like the time you started the document, how many times you've saved it, who else has worked on it, how large the file is and so on.

Recently, that kind of information (if you're to believe the news reports) is dangerous and undesirable – at least if you're not keen to say exactly who added what to a document and when.

But metadata is also the key to keeping track of your documents once you have more than a handful of them. This is far easier than carefully saving all your files into folders with long and significant names that you can't even read in the File dialog box.

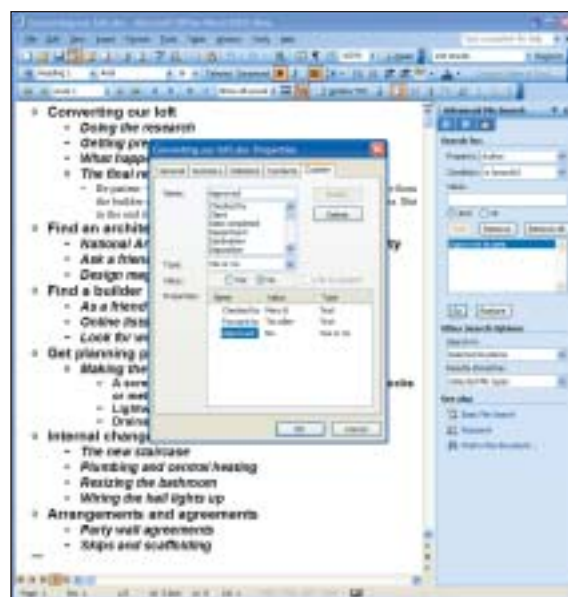Metadata gives the files you work with meaning – it's just a case of getting at it.

A better Outlook

Outlook 2003 makes the most of metadata, letting you find, group and filter messages the way you need to. For a start, it can thread messages in a conversation sensibly so that you can follow who said what in reply.

As this is based on the subject of the mails, if you change that when you reply, or you have two separate conversations both with the subject 'Important meeting', then things will get mixed up.

But the other groups that you regularly use – who the mail is to or from, how old it is, how large it is, whether it has an attachment, whether it contains certain words – all use the metadata.

This isn't a new approach – many mail programs use the headers to let you sort mail, although the groups in Outlook are both sensible and elegant. But what you won't find elsewhere is the Search Folders
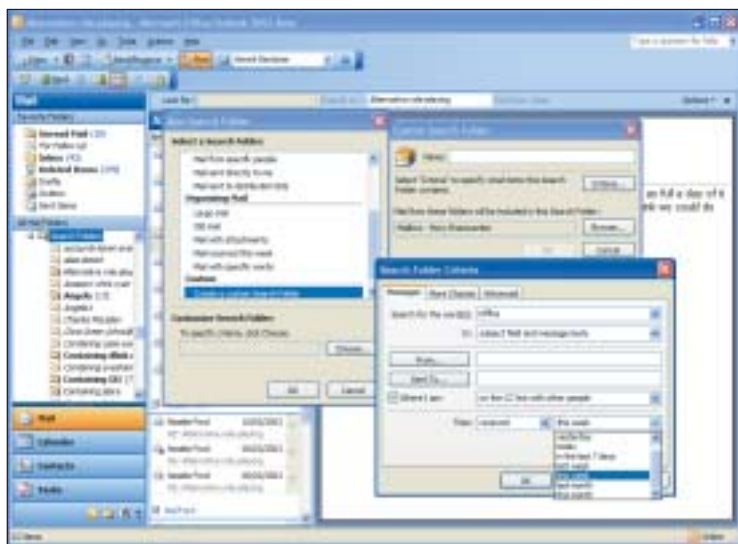

↑ Add your own document properties and you can find relevant files without trawling through folders

← Make Search Folders as simple or complex as you need to pick out the messages you are interested in

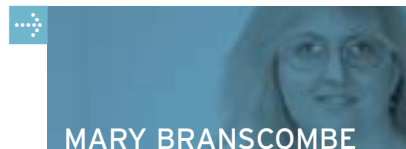that let you create multiple, virtual groups based on any criteria.

Creating a Search Folder is rather like creating a mail rule. You tell Outlook what you're looking for – all the messages from Bill Gates, any message from Microsoft.com that has an attachment, or all the messages that mention '*PC Advisor* issue 100', for example.

With a mail rule, you can only put a message in one folder. Because Search Folders are virtual, one message can be caught by as many rules as it matches. So if Bill Gates sends a PowerPoint file to celebrate the magazine's anniversary, then the same message will show up in all three searches.

That means you don't have to make putting messages with attachments into one folder – so they're easy to delete when your mailbox gets too full – more of a priority than putting all mail about a

→ **Whether it's a normal folder or a virtual Search Folder, use metadata to arrange and sort messages**

project you're working on into the same folder so it's all together when you need it.

There are some standard Search Folders that Outlook 2003 creates for you, like Unread Mail and For Follow Up. To make your own, just right-click on Search Folders in the folder window and choose New Search Folder, then pick what you want to look for and which folders you want to look in. You can also turn any standard search into a Search Folder; if you try searching the Inbox and don't get the message you want, just click on the Options drop-down in the Find Bar and choose Save Search as Search Folder.
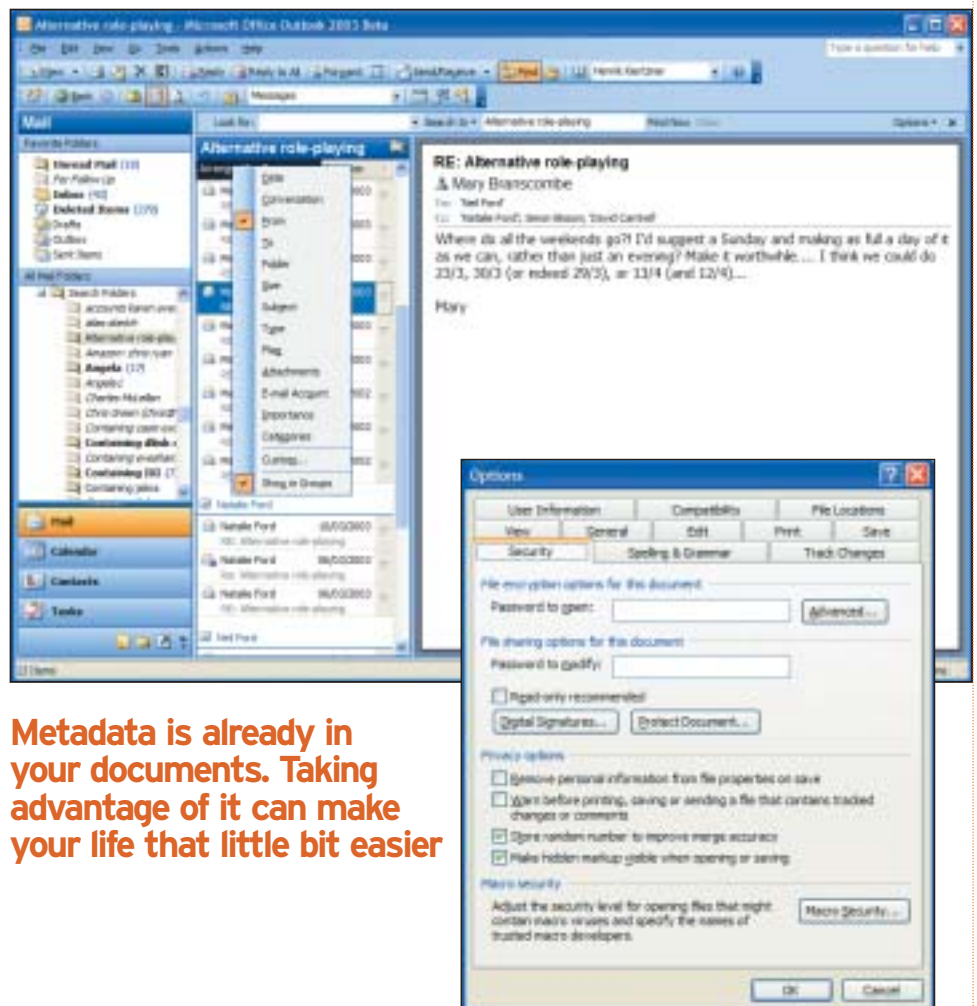
Once you create a search folder it stays active, so you get new mail in there immediately. You can quickly see all your unread mail in all the folders that your mail rules move them into, or all the messages from people you work with, whether they're sent to you or to a mailing list you read. You'll still use mail rules and the Find tool (which works inside a virtual Search Folder if you need to narrow things down), but you'll find Search Folders take the pain out of getting organised and staying on track.

Office confidential

Of course emails aren't the only documents you need to organise and Word, Excel and PowerPoint files all have metadata as well. You can use File, Properties to see what the application puts in there automatically and what can be used for navigation. Use the Custom tab to append other details you want and the Advanced File Search option in the File Search pane to retrieve matching files.

And if you're worried about any confidential data in there, you can strip it out whenever you save the file; choose Tools, Options, Security and select Remove personal information from file properties on save.

If you don't use any of the metadata but you still want to find files, you'll get better results from the

Metadata is already in your documents. Taking advantage of it can make your life that little bit easier

Basic File Search, and from the Windows XP Search, if you bite the bullet and turn on the Indexing Service in Windows XP. This creates an index that Office programs can refer to instead of searching all the files every time. Mostly this runs when your PC isn't busy with other things, but like any background maintenance it will affect performance on a slower system. Click Search options in the File Search pane inside any Office app to turn it on, then click Advanced to open the Indexing Service console.

Click the Show/Hide Console Tree button and choose Directories if you want to pick which folders to index (or to skip) as well as My Documents. By default, the service indexes Microsoft Office documents, HTML and text files, email and news. Add PDF files with Adobe's free filter from www.adobe.com/support/downloads/register.jsp?ftpID=1276.

Six degrees to organisation

Another way of getting organised is to link documents and emails together. You'll usually have several messages and files that you refer to together for a particular project. Creo's Six Degrees works with your email and office applications to show you the files and emails associated with particular people – and vice versa.

So if you pick a document, you'll get related messages and email addresses so you can keep track of the project more easily. It won't handle everything you need to organise, but you can download a demo from www.creo.com/sixdegrees/download/ and you don't need Office 2003 to use it.

Metadata is already in your documents. Taking advantage of it can make your life just that little bit easier. ⊠

↑ **Make sure your useful metadata doesn't go to anyone you wouldn't want to see it by setting the appropriate security**

Playing with Fireworks

Macromedia's latest Fireworks MX upgrade has plenty of new features. Just don't forget to revisit the old – you'll be pleasantly surprised

ALISTAIR DABBS

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Believing what you're told is a completely natural response. When you're told that Macromedia Fireworks is a web graphics package, you're inclined to take it at its word. So when a program like Fireworks gets upgraded, as it was last month, you tend to focus only on the heavily promoted new features. Because that's all they're telling you.

But that's not all there is to Fireworks and as an upgrade MX 2004 is somewhat underwhelming. So I feel the urge to reveal what the program is truly capable of, upgrade or no upgrade.

Here are a couple of tricks in Fireworks MX 2004 that you might want to try out. The first uses an option already found in earlier versions of the program; the other is based on the new AutoShapes tool – and neither have anything to do with web graphics.

Natural selection

The Selective Quality technique isn't new to Fireworks MX 2004 but has been forgotten by many users. You can specify two Jpeg compression settings in one image, allowing you to blur areas of less importance and make important areas appear sharper. It's also ideal for reducing overall file size.

To try it out, open up a high-resolution image such as a photo (not a web graphic). Using the Optimize panel, choose Jpeg format and drag the Quality slider down to 1. Switch to the Marquee tool and select one vertical half of the image.

Right-click on the image to call up a Context menu, locate the Selective Jpeg submenu and

choose the Save Selection as Jpeg Mask command. The marquee-selected area should then appear with a red mask tint overlay. It should also activate the Selective Quality option in the Optimize panel – by default this is set to 90. If not, click on the button next to Selective Quality and tick the

→ Trace around the subject matter using the Lasso tool and apply a Selective Quality mask to preserve it when increasing Jpeg compression to the rest of the image
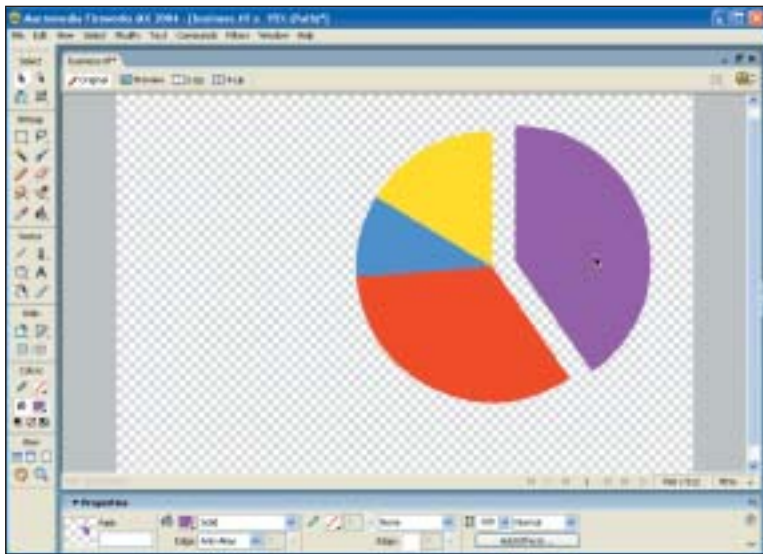
← Compare the masked (highlighted) half of the model's face with the unmasked to appreciate what Selective Jpeg is doing

Enable Selective Quality option in the Selective Jpeg Settings dialog box.

Click on the 2-Up button above the image and zoom in to an area where you can see the edge of the masked marquee. As you can see left, the masked area is preserved while everything outside the mask is Jpeg compressed.

Size matters

You may have many reasons to vary the compression setting when preparing web graphics, but you might also want to simply reduce a high-res image's file size for storage and backup purposes.

← Having selected a slice of your pie with an Alt-click, simply click and drag on the slice to 'explode' it away from the centre

Taking the same photo, use the Lasso tool to trace around the important subject matter – in our case, the model in the foreground. Repeat the earlier steps to turn that selection into a Selective Quality mask. You can now increase the overall Jpeg compression by decreasing the Quality value in the Optimize panel safe in the knowledge that only unimportant background areas will suffer (see left).

In our example, exporting the entire original image to Jpeg reduced the file size from its original 4MB to 2MB. By applying a Selective Quality mask, we were able to increase compression to the already-blurry background areas without affecting the detailed foreground model, reducing file size to under 300KB.

Pie in the sky

Fireworks' new AutoShapes are vector drawing tools with built-in adjustable functions. Let's try out the new Pie tool.

Start off by opening a photo image for use as a backdrop then use the Pie tool to draw a large circle slightly off-centre. This automatically creates a vector layer for the pie. Hide the bitmap layer behind it by clicking on its eye icon in the Layers panel. Alt-drag on the edge handles of the pie to create four slices of unequal size. Alt-click on a slice to select it and fill it with a Solid colour using the Properties

panel. Repeat this for each slice, giving each a different colour.

Now Alt-click on the largest slice to select it. Release the Alt key then click and drag that slice away from the pie centre. This produces an 'exploded' slice as shown above. You may see a warning message that says editing AutoShapes like this can produce unpredictable results, but just ignore it.

Click anywhere else on the pie to select the entire shape. Right-click on it to call up a Context menu, go down to the Transform submenu and choose the Skew command. Click and drag on the bottom righthand corner handle to apply a basic perspective envelope to the pie, then drag on the

centre bottom handle to skew it a little. If you want, click near any corner handle outside the shape's bounding box and drag in order to rotate the shape as well. Double-click on the pie to fix the transformation.
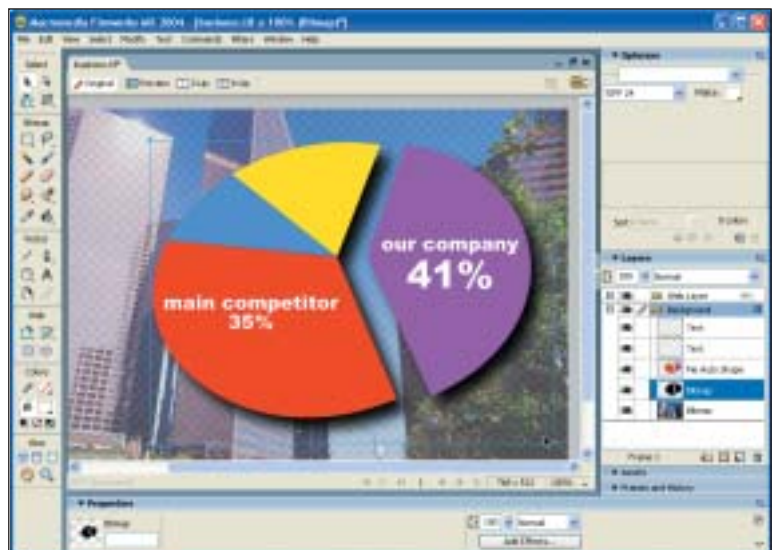
Put in the shade

With the pie still selected, press Ctrl, Alt, D to make an instant duplicate of the shape. Fill this duplicate with black using the Properties panel. Drag it slightly further away from the original in a south-easterly direction (or use the Down and Right cursor keys to do it incrementally). Press Ctrl, Down to send the duplicate behind. You have now created a basic drop shadow.

Right-click on the black pie to call up the Context menu again and choose the Flatten Selection command (or type Ctrl, Alt, Shift, Z). This converts the black pie shape to a transparent bitmap layer. Go to the Filters menu and pick Gaussian Blur from the Blurs submenu. In the Gaussian Blur dialog box, add a tick next to Preview and use the slider to adjust the blur strength. You now have a soft drop shadow (shown below).

To finish off, unhide the background bitmap layer (your photo) and reduce its opacity in the Layers panel so that the pie chart stands out more. Add some legend text and you're done. Try this next time you're asked to produce a company report. ⊠

→ A duplicate of the pie – filled with black, flattened to a bitmap layer and blurred – makes an effective soft drop shadow in double-quick time

Multimedia in a Flash

Two-dimensional multimedia is just so 90s. Flash MX 2004 means any interactive element can be rendered in 3D, complete with real-time effects

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TOM GORHAM

Tom Gorham is a technology journalist and author who has been enthusing about multimedia and design for more than a decade, even when nobody was taking any notice. Originally based in London, he now lives in Edinburgh. Email multimedia_advisor @idg.com with your comments, suggestions and tips.

What exactly is multimedia? If you dipped a toe in the computing world when multimedia-enabled PCs arrived in the early 1990s, the term will be inexorably linked with clunky single-speed CD-ROM drives and thumbnail-sized QuickTime movies.

But multimedia has matured over the last decade. It now has a home in every aspect of our computing life. Its impact on the internet has been enormous. A site that doesn't include audio, video or interactive navigational elements is now seen as a rarity.

But multimedia has also affected non-web life. We wouldn't think of delivering a presentation from a set of notes any more. When used well, graphics and video can make the dullest presentation sparkle. Even newspapers are adopting multimedia to enhance their appeal, with *The Sunday Times* offering a monthly CD-ROM to go with its weighty broadsheet.

A director overshadowed

For a long time you could bet that anyone claiming to be a multimedia author would also be a proud owner of Macromedia's Director. This venerable application has evolved into an unparalleled tool for developing multimedia projects and even bestselling games.

But despite Director's power, its coveted place in the authoring market has been overshadowed by sister product Flash MX. The reason is obvious: thanks to the internet and embedded Flash players, Flash is almost ubiquitous. There are thought to be 515 million Flash

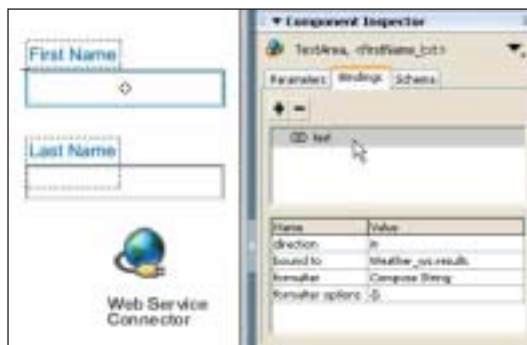players installed worldwide, although it isn't clear who's counting them.

Seen alongside Flash's frantic evolution, Director's sedentary development is painful to watch. As yet there's no sign of Director MX 2004 and, while Macromedia assures me Director is still in development and sales are going well, Flash is definitely the future.

New and improved

Even at its most basic, the latest version of Flash, MX 2004, is an undoubted improvement on its predecessor. There's a neat new Flash Player detection feature, an effects tool that adds blurs and drop shadows to Flash movies

↑ Flash MX 2004 Pro has some powerful data-binding tools

↓ Web services in a flash

without scripting, as well as predefined behaviours for navigation and media control.

Like rival web-authoring tool Adobe LiveMotion, you can extend the program's authoring environment by writing your own commands and tools in the JavaScript API (application programming interface). Expect a third party to develop prebuilt solutions soon.

Flash MX 2004 now comes in two flavours and that's where it gets interesting. In addition to the Standard edition, Flash offers a Professional version that adds some tasty extras. Cynics may remember that Macromedia once tried the same 'dual version' trick with Dreamweaver and its big brother UltraDev, but has since recanted.

If you're serious about multimedia, though, you'll have to swallow your pride and fork out the extra for the Professional edition, as that's where most of Flash MX 2004's goodies are hidden.

In addition to providing emulation templates so you can test your Flash results on a wide range of devices, Flash Professional includes two killer features. First, it lets you edit ActionScript 2.0 – an upgrade to Flash's built-in scripting language that turns it into a powerful programming environment in its own right. Second, you can now link to XML-based internet applications that provide info and services such as weather reports.

Although you can write your own services, you'll find many prebuilt examples at sites such as www.xmethods.org. The possibilities thrown up by web services are fascinating. For example, it should be

possible to create a small graphical application that constantly updates stock market data on your desktop.

Multimedia on the move

With ActionScript 2.0 and web service interaction, Flash is becoming a versatile one-stop programming environment that can be easily deployed across a number of desktop and mobile platforms, including Pocket PCs, Palm PDAs, mobile phones and TV set-top boxes.

And that throws up the question: will developers be tempted to go all the way and use Flash to create standalone applications? Well, it isn't quite ready to do this yet.

Admittedly Flash can export movies as standalone 'projector' files that can be played back on any PC. To do this, simply export your video as a Shockwave (SWF) file and open it in the Shockwave standalone player. Select File, Publish Settings,
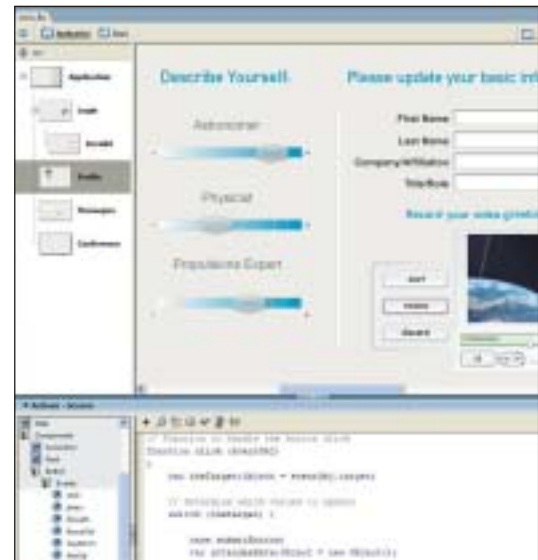
Windows Projector and an executable file incorporating a pared-down Flash player will be created.

It's versatile but not particularly flexible or professional looking. Menu control is limited and the result will always look Flash-generated. Flash can't even create a simple application such as a screensaver by itself.
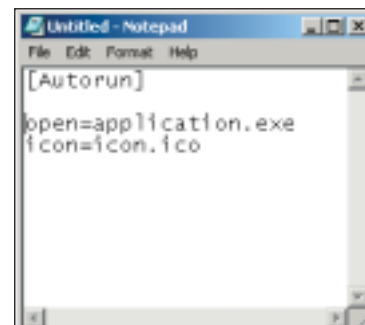
Fortunately there are a number of third-party tools to enhance Flash projector files. Download the trial version of Jugglor (www.flashjester.com) as this adds flair to projector files and masks their inheritance. Another option worth looking at is Flash Studio Pro (www.multidmedia.com). It can't match Jugglor's svelte files or speedy playback, but it does offer extensive additions to ActionScript. Even better, it's free for non-commercial use.

Get thinking

Obviously Flash isn't the only multimedia game in town. I hope to cover more applications in coming months, from Director to PowerPoint, so feel free to suggest some of your own. ☒

⊡ Get your CDs to autorun

Most CD-based multimedia projects automatically launch when inserted into a PC's CD-ROM drive. It's a nice touch of professionalism that can be easily replicated by anyone delivering their own projects.

Windows' Autorun feature is triggered by placing an INF file, autorun.inf, in the CD's root directory. To create the file, open Windows Notepad and type the following, replacing 'application' with the name of the program you wish to launch and icon with:

```
[Autorun]
open=application.exe
icon=icon.ico
```

The 'open=' entry shows the path and filename of the application to be launched when a disc is inserted and the 'icon=' entry lets you specify your own icon for the CD-ROM drive in Windows Explorer.

Eight Mile? Eight centimetre, actually

Digital video needs to be made more accessible and easier to use. Three technical giants think the DVD camcorder is the solution. But are they right?

LAURENCE GRAYSON

More at home behind the camera than in front of it, Laurence is a freelance writer and producer who has been using and reviewing digital video equipment for longer than he'd freely admit. For some reason, he gets invited to a lot of weddings.
Email video_advisor@idg.com with your comments, suggestions and tips.

Apparently you lot aren't using your digital camcorders properly. This is the gospel according to Sony, so it must be true.

While attending a recent press conference it was announced that, according to market research figures, over 90 percent of you never watch the footage that you've shot with your digital camcorder more than once. And even then, you plug the thing directly into your TV and press Play.

At least, I think it was over 90 percent. I may have been picking the raisins out of my complimentary Danish pastry at this point.

And the answer...

It's no surprise, then, that Sony, Hitachi and Panasonic have all come to the conclusion that digital video needs to be made more accessible and easier to use. Good news for all of us. However, they believe that the answer lies in the hands of the DVD camcorder. Personally, I'm not so sure.

It's certainly true that the 8cm DVD format has its advantages. But you've got to ask whether these outweigh the drawbacks, which are equally numerous. The immediate benefit is that the disks can be dropped straight into your (reasonably contemporary) DVD player for instant viewing. Unless, of course, you're recording to 8cm DVD-RAM, which drastically limits player compatibility.

It's great that your clips are all recorded individually. And being able to jump to the footage you want by selecting a thumbnail is a joy compared to constantly cueing and reviewing magnetic tape.

Equally welcome is the quieter transport, so you're less likely to come across that irritating high-pitched whirring on your footage. Some cameras will even let you perform basic clip-assembly edits without the need for a PC, although some MiniDV camcorders can do this too.

These are all good things. But what about the rest of it?

...maybe not

Let's start with off-the-shelf appeal. An 8cm DVD is just that – 8cm. For this reason alone, a DVD camcorder is never going to be beautifully compact. The batteries are large and you'll usually find that there's a fiddly disk caddy to deal with – hardly ideal if you're as ham-fisted as I am. They can also be slow off the blocks, leaving you counting the seconds as the camera preps for recording and that special moment slips by.

But the real limitation lies in storage space. Ignoring the double-sided DVD-RAM (which requires taking out and flipping over) an 8cm DVD-R only holds 1.4GB. If you're frowning right now and thinking that this sounds like a lot, remember that you can get around 13GB on a single MiniDV tape.

The Mpeg-2 compression used by these camcorders is much more efficient than the simple Intraframe compression used by DV25 (the 25Mbps standard used by MiniDV). However, it still limits you to a best data rate of 6Mbps at CBR (constant bit rate) to squeeze half an hour on to one disk.

Unlike software encoders, which aren't in any great rush and can even go over their figures twice, the DVDCam only gets the one pass – and a real-time pass at that. I've seen the results and, frankly, they're nowhere near as good as even the most basic of MiniDV recordings.

This is especially true when your subject is dark, detailed or moving around a lot – or worse, all three. Try and squeeze a whole hour's worth on to one side and you start shedding image resolution, which compounds the issue further.

But the real nail in the coffin as far as I'm concerned is the difficulty involved in editing this footage. Because there's less data in an Mpeg-2 stream, your PC has to cross-reference preceding and successive frames to build a complete picture. This makes anything other than the most basic

↑ **What you see is not what you get. The dark border around the outside of this image shows just how much of the frame you don't see when you play it back on a TV**

edit a nightmare of calculations and protracted rendering – heaven knows this can take long enough with raw DV.

As a regular video editor, I understand that I'm not part of the target demographic for DVDCams. I can't really afford one for starters and I shudder at the thought of shelling out £6 a pop for half-hour media. But I can't shake the feeling that this is a step backwards for digital video. Convenient and accessible? For playback, perhaps. For anything else, I think not.

Loop the loop

A question that I'm often asked is 'How come you're so tall?'. But on the subject of video it's usually

'How come I lose the edges of my video when I play it back on my TV?'.

The answer lies in the way that television works. When you capture the footage from your camcorder it's at a resolution of 720x576 pixels, which corresponds to the size of a single frame of PAL video (the broadcast standard used in the UK). Your editing software shows you the frame in its entirety which is useful but also a little misleading.

Unlike your computer monitor, which sensibly starts drawing the screen from the top left corner and ends up at the bottom right corner, your TV starts at a point beyond the edge of the screen and enthusiastically keeps on going right past the boundaries of the viewable area. This is called

overscan and it can be a royal pain in the proverbials.

Many editing applications offer guidemarks on the preview to indicate 'safe' areas so you can position titles and overlays accordingly, but the best solution is to use a preview monitor. It needn't be anything swanky – a portable telly will do. And the good news is that you needn't go rushing out to buy a video board with analogue outputs to connect one to your PC.

A lot of current NLE (non-linear editing) applications will output their previews to your camcorder via the FireWire cable. If yours does this, you're in luck. Connect your camcorder to the PC's FireWire port and then hook up your TV to the analogue output of your camcorder. Then simply let its DAC (digital-to-analogue) converter do the signal conversion for you.

You may need to invest in a Scart input adapter if your TV doesn't have any direct S-Video or composite inputs, but this shouldn't cost more than a fiver if it didn't already come with your camcorder.

Not only will this arrangement let you see just how much of your edit will be visible during TV playback, it'll also let you perform more accurate colour corrections as you'll be able to see the end result on the intended playback platform. ⊠

← **Get a better idea of how your project will look. Hook your PC up to your camcorder's FireWire port (requires DV-in capability) and your TV to its analogue output**

NEIL PICKLES

Neil Pickles is a qualified sound engineer who has worked in the audio industry and the IT press since he left school. He now works as a freelancer in Clapham with his excessive CD collection and some headphones. Email audio_advisor@idg.com with your comments, suggestions and tips.

The best music software in the world... ever!

Forget the VMAs, MOBOs and the Mercury Award. Here's our definitive list of the best music and audio packages around. Drum roll please...

Like a flash car, simply owning some posh music software and hardware doesn't automatically make you special; it's what you do with it that counts.

This column is here to help you make the most of your PC's audio capabilities and, should you wish, have you producing your own songs, as well as organising and playing your music collection in the best way possible.

But in order to get to that halcyon muso level you need the right kit. Here, it's your software that will make the difference. Pretty much any PC sound card produced in the last 18 months (and even the occasional onboard sound chip, in particular nVidia's Soundstorm chip on its nForce2 boards) is more than good enough to be starting with.

Sadly, some of the best things in a music lover's life aren't free and some of these packages stretch up to £560. However, what you get is a miniature studio inside your PC; the software really is that powerful.

But you don't always need to spend money. There are some fantastic free downloads available, as well as some useful trial versions. All the products listed here have short-term trial downloads on their respective sites. Hitsquad.com also gives a comprehensive list of all music software downloads as well as user ratings.
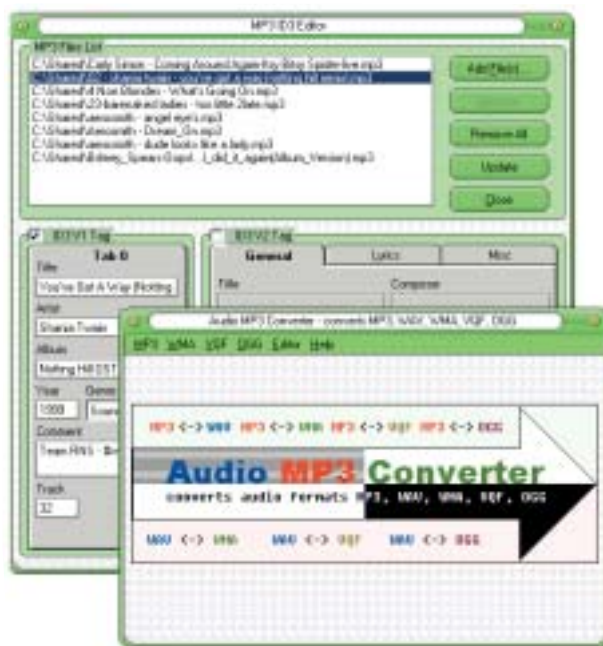
High-end sequencer package

With the absorption of Emagic into Apple's empire and therefore the loss of Logic for Windows PCs, Cakewalk's latest version of its sequencing software, Sonar2, easily takes the crown as the best professional tool. You can even switch from an old version of Logic to Sonar at a substantial discount.

The interface is frankly genial, providing all the information on each tune in the trackbar itself and giving access to all the major functions.

Cubase fans may balk at Sonar, claiming it has fewer plug-ins and a less professional feel. But Sonar is not only significantly cheaper at £250 (the latest version of Cubase retails for £560), it also supports VST and DXi plug-ins, giving you a good range of effects and tweaks. See www.cakewalk.com for more info.

⬇ **Audio MP3 Converter: this nippy tool converts the most popular audio formats from one to another**

Beginner sequencer package

Most packages under £40 are often regarded as toys and meant to played with as such. Music Creator 2003 (www.cakewalk.com), on the other hand, positively brims with professional features. If I was the boss at Cakewalk, I'd charge a hell of a lot more for it.
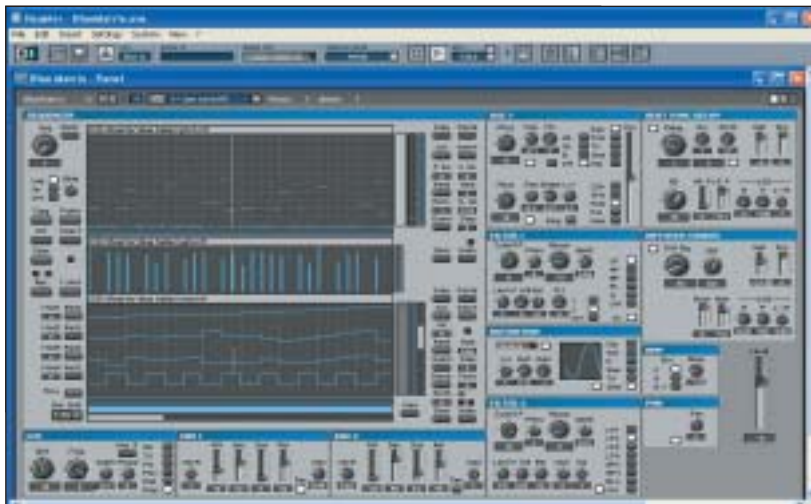
A slimmed down version of Sonar, Music Creator 2003 lacks the plug-in compatibility of its big brother but uses a very similar interface. And even if you've never dabbled before, there are plenty of tutorials to guide you.

All-round music creator

Without a doubt, Propellerheads Reason 2.0 (www.propellerheads.se) tops all and sundry when it comes to effectively recreating a studio on your PC. It also injects the most fun into the process that I've ever experienced.

Its sequencers, samplers and effects boxes are powerful yet easy to use. They are also authentically represented and arranged on a rackmount – just like in a studio. You even have to jump around the back and wire the kit up yourself.

This makes for a very logical way of operating – if you're not sure what is adding reverb to what, just pop around the back and see what wire connects what. It may cost nearly £300, but it's every penny well spent if you want to get going straight away with all the required features.

Despite my love for the underdog, Microsoft's Windows Media Player is the undisputed winner of this category

↑ Reaktor 4.0: design and build your own instruments, samplers, effects and sound design tools

Media player

There's no need to spend any of your hard-earned cash on a media player. As far as I'm concerned, MP3 organisers like Pyro and MyMP3 really aren't worth the money. Despite my love for the underdog, Microsoft's Windows Media Player is the undisputed winner in this category. No other player currently provides better all-round codec support, while the simplistic interface means it's incredibly easy to use.

Being a Microsoft product, it can also handily integrate itself into XP's Taskbar, giving you basic controls at your fingertips. However, WMP does have a major downfall: it's far slower to use than the competition. Nullsoft's Winamp is the next best thing should the snail's pace rattle you.

Synthesiser

Although at times frighteningly complex and occasionally tedious to work with, Reaktor 4.0 (www.native-instruments.com) goes for £350, but is a synth fan's wet dream in a box.

Its real advantage is its flexibility. Reaktor 4.0 uses a modular interface, meaning a synthesiser or sampler can be broken down into pieces and be rebuilt exactly how you want it, rather than be lumbered with the template designs. That said, even the templates are excellent. And should you not

want to delve too deep, you can still produce some professional results.

Encoder

Whether you want to convert a homemade track to MP3 to listen on the train, or you've bought a track off the net that's so heavily encrypted it won't work on your iPod, having a fast, flexible encoder/decoder is a must.

A $20 download fee may seem a lot to pay, but Audio MP3 Converter (www.audio-converter.com) is the only comprehensive tool on the web at the moment. It can convert MP3, WAV and WMA files into each other and to some formats even I haven't heard of. It's also pretty nippy.

Restoration tool

Ever wanted to convert your old LP stash into crisp, new CDs? Or perhaps you want to store favourite classic tunes on your hard disk? Well, the real trick is in the recording process. I will cover the how tos and wherefores in a later column, but good software is also vital.

The best one I've used is Pinnacle's Clean Plus 4.0 (www.pinnaclesys.com), costing around £50. Not only does it provide you with a pre-amp to record from LP to hard disk, it also produces the most effective results from a sub-£100 product. One downfall is the interface – it's a little tricky to master. ☒

↓ Pinnacle Clean Plus gets rid of audio hiss and crackle

Are you really being served?

Security and reliability should top any server's features list. Microsoft's IIS 6.0 offers performance and a competitive price too, making it a surefire hit

JASON WHITTAKER

Jason Whittaker has been a contributor to *PC Advisor* since the first issue and is also the author of a number of books on IT and new media, including *Web Production for Writers and Journalists* and *The Cyberspace Handbook.* He teaches and consults on web design and new media in the south west. Email web_development _advisor@idg.com with your comments, suggestions and tips.

Welcome to the first web development column, which will take a look at new releases and innovations aimed at helping web designers and managers get the most from their sites. Each month we'll also consider some of the most important factors affecting developers in terms of planning for, creating and deploying a site.

Windows Server 2003

One of the most important developments in recent months is the release of Windows 2003 Server (previously referred to as .Net Server). Even if you generally avoid the Microsoft way for web development, you can be sure that any sizable company or ISP that you are working with is either implementing – or planning to implement – some form of Windows Server.

In contrast to the desktop, where Internet Explorer reins supreme, Microsoft has had a tougher time selling its web serving applications compared to Unix and Linux installations. The company has kept plugging away, however, and has been making steady progress since the release of IIS (Internet Information Server) 3.0 with NT 4.0.

Windows Server 2003, however, represents a real leap in terms of potential. Microsoft is slowly shifting the efforts of small and medium enterprises towards web applications. There is by no means enough space here to cover all aspects of the new server but all developers should consider investing in the Web Edition. This version represents the most

economical way to get hold of the most important relevant parts: IIS 6.0, ASP.Net and XML Web Services.

What's new?

As you would expect, Microsoft has made a number of claims for Windows Server 2003, including enhanced reliability, performance and scalability, as well as security.

The company has been criticised considerably in the past for not paying enough attention to security, but this has changed significantly with the latest release. IIS 6.0 is locked down by default, only serving static pages when first installed until the administrator explicitly configures it to serve up web pages.

To improve reliability, application pools and requests to applications are isolated from each other and core web server operations as part of improved fault tolerance via a new kernel for IIS 6.0, HTTP.sys. Essentially, the aim is to ensure

→ With the imminent release of Dreamweaver MX, Macromedia is about to strengthen its hold on the web development market

↑ Microsoft is not the only way: MySQL with PHP is a popular way to build dynamic sites

that if one application or service fails, it will not bring down other parts of the web server.

For Windows Server 2003 in general, there are a number of improvements in terms of scalability and performance, configuring multiple processors. However, this is extremely limited for the Web Edition, being restricted to two processors as well a maximum 2GB of RAM.

Serving you right

IIS 6.0 is almost certainly going to be a huge hit for Microsoft. What is really impressive is its potential – via XML Web Services and ASP.Net – to transform all kinds of information in an organisation into web-based apps that can be interrogated and queried from a browser.

There will, however, be one snag for many potential users. Smaller companies may not have much need for Active Directory services (only partially implemented under the Web Edition). But it does feel as though Microsoft has deliberately slashed the abilities of the Web Edition to provide

⊞ Options for your site

As well as taking a look at new resources for web developers, we'll be exploring some of the best options in terms of planning for a site. The following, each of which will be explored in more detail in future issues, is by no means an exhaustive list of available choices, but these are the most commonly used.

• **Static HTML** Generally the simplest approach, and still the most commonly employed for anything other than corporate sites, is to create 'vanilla' HTML pages. Any ISP will support these (including those that provide free space), although once static sites increase in size they can be more difficult to maintain than dynamic ones.
• **Windows Server** An umbrella term for a wide range of applications – Microsoft's SQL Server and ASP or ASP.Net, as well as IIS 6.0 – the Microsoft way is becoming increasingly popular with commercial and corporate servers. Advantages include integration with other Windows products and some real improvements in core technologies already covered in this column. However, it is expensive compared to alternative dynamic approaches.
• **PHP and MySQL** Perhaps the most commonly used tools for dynamic sites, PHP and MySQL are free and work together extremely well. While both are fairly complex technologies, there are plenty of tools available online to help you get started.
• **ColdFusion** This app has been used for years to develop database driven sites, including *PC Advisor's* site. With its recent acquisition by Macromedia, Studio MX is a truly sophisticated web development kit. It's more expensive than open source alternatives, but is a real competitor to both these and IIS 6.0.

→ Even if you are not planning to use Microsoft's new web server, plenty of ISPs are lining up to participate

a competitively priced server. Support for virtual private networks is only partially realised in this version, there is no Internet Authentication Service and no firewall.

Finally, restricting a server to 2GB of RAM will be extremely irritating. It is clear that Microsoft intends to push users towards the other (more expensive) editions, but the contest over server platforms will take much longer than that for the desktop browser. For more information on Windows Server 2003 Web Edition, visit www.microsoft.com/windowsserver2003.

Dreamweaver MX 2004
Much more recent news is the announcement by Macromedia that it is about to release an updated version of its popular web-editing software, Dreamweaver MX 2004, which should be available by the time you read this.

Dreamweaver was immensely successful from its first incarnation but the MX release was a revelation, combining Dreamweaver's excellent design and management features with web application development tools. These were previously sold separately by Macromedia as UltraDev.

Macromedia was probably forced to do this, particularly after Adobe released similar features as part of GoLive 5.0. But the simple fact is that if you were serious about designing web applications you needed Dreamweaver MX (or, better still, Studio MX, incorporating Flash and Fireworks).

The latest MX 2004 version does not look like such a dramatic upgrade, concentrating on some minor usability features such as cross-browser validation and integration with Office products. More substantial (and certainly Macromedia is touting this much more actively) is a revision of Dreamweaver's CSS support to enable more flexible design. We will be looking at some features of Dreamweaver in more detail next month, but for further information go to www.macromedia.com/go/dmx2004.

Next month we'll start with the basics: why a static HTML site need not be second best. ⊠

← Faced with increasing criticism over the security of previous servers, IIS 6.0 can be locked down as never before

Plug it and see

Instant messengers will know the pain of trying to stream audio and video files via a network. Universal plug and play is the answer to our prayers

⇢

ROGER GANN

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Email network_advisor@idg.com with your comments, suggestions and tips.

E ach month I'll be looking at small networks and how to get them working the way you want them to. Please feel free to email me with any particular networking topics that are causing you grief – I'll do my best to answer them. Let's kick off with something meaty to show we mean business – universal plug and play or UPnP.

If you're as big an instant messenger user as I am you'll know how addictive it can be, particularly the IM bells and whistles such as audio and video streaming not to mention sending files or sharing applications.

But the more exotic features can abruptly stop working if your networking setup is a little more sophisticated. For example, if you use an ADSL router or firewall these can put the kibosh on your IM client's audio and video streaming capabilities, put an end to online gaming and make remote control an impossibility.

Gateway to hell

The reason why routers break the more exotic functionality of IM clients can be summed up in one acronym – NAT. Short for Network Address Translation, NAT allows scarce IP addresses to be duplicated.

Normally, IP addresses have to be unique. But it's okay if 'private' IP addresses in the 10.x.x.x and 192.168.x.x ranges are 'hidden' behind an internet-facing device (typically a gateway) with a unique IP address. It's then left to the gateway to work out where all

the external network traffic should be directed internally, a process called Network Address Translation. And it's this translation process that breaks the close 'one-to-one' relationship demanded by IM clients. It also causes untold grief for remote control apps and networked games.

The problem with firewalls is much simpler. By their very nature they're designed to stop a wide range of internet traffic. And that's precisely what they're doing when they 'break' audio and video streaming.

Now it is possible to configure firewalls to permit audio and video streaming. But the huge number of ports that typically have to be opened up significantly reduces security and so make this solution a non-starter. The ability to 'traverse' NAT is a much thornier problem and almost impossible to overcome.

The number of home broadband users that want to network their high-speed connection behind a gateway is growing exponentially. And when the next generation of Direct Play-enabled games arrives, the requirement for UPnP/NAT traversal gateway devices will increase.

↑ **UPnP will alert you when it discovers new hardware equipment. Here, it's found my Netgear ADSL router**

Get a fix

The solution to this headache is UPnP, which will automatically open and close ports on an as-needed basis. More importantly, it also allows NAT traversal, where an external IP address and port can be similarly mapped to an internal IP address and port. With UPnP-enabled applications (such as Windows Messenger) and UPnP-enabled home gateways, there's absolutely no configuration or intervention needed. It just works.

UPnP is an architecture built in to Windows XP (and Me). It supports peer-to-peer, plug-and-play functionality for network devices. Just as plug-and-play hardware devices become selfconfiguring under Windows, UPnP devices can autoconfigure network addressing, announce their presence on a network subnet and enable the exchange of descriptions device and service descriptions. It's designed to support zero-configuration, 'invisible' networking and automatic discovery for a wide range of device categories.

Thanks to UPnP, you don't have to be a rocket scientist to get audio and video streaming working across your internet gateway. With UPnP a device can dynamically join a network, obtain an IP address, convey its capabilities and learn about the presence and capabilities of other devices. This is true zero-configuration networking.

An example of the power of UPnP: you might expect Windows XP's Internet Connection Sharing (which is a router/gateway) and Internet Connection Firewall to interfere with
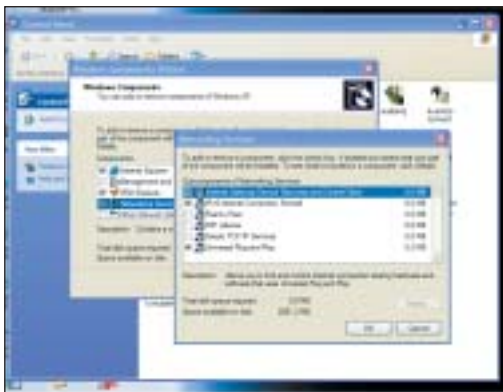
⊞ Alerts and notifications

Three things happen when an internet gateway device is found using the UPnP Discovery process.
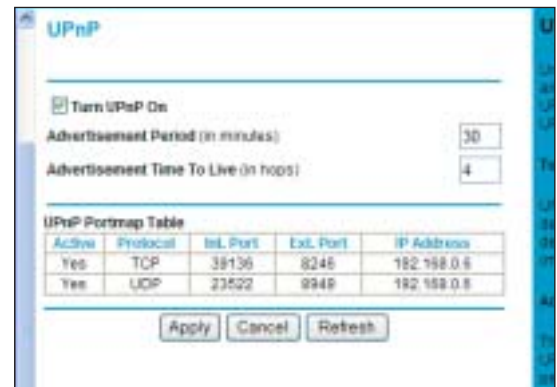
1. An icon is displayed in the System Notification Area indicating that a new UPnP device has been discovered.
2. An icon labelled as an Internet Gateway device also appears in the Network Connections folder. Depending upon what services are implemented in the device, this icon allows you to bring up the control interface of that device.
3. An icon sometimes also appears in My Network Places.

When you right-click the internet gateway, a pop-up menu allows you to enable/disable the connection, view its status or display the Internet Connection Properties. Clicking the Settings button in this dialog box opens the Advanced Settings option where the open ports and services currently running are displayed.

After a period of inactivity, these ports should automatically be closed and will disappear from the services list. Highlighting and clicking Delete will remove them from the list of available ports immediately.

← Check that UPnP is turned on in Networking Services, part of Windows Components. And don't forget to tick the Internet Gateway Discovery and Control Client option

↑ You may need to update the firmware in your router or firewall kit in order to make it UPnP-compatible. I had to do this for my Netgear DG814 router. As you can see, UPnP is now enabled on it

the full working of Windows Messenger. The reason they don't is that they natively support UPnP.

Get turned on by UPnP

For UPnP to work it has to be present in all your hardware and software that faces the internet. So for most users this will mean that their ADSL router and OS must support UPnP. As stated earlier, Windows Me and XP supports it while 2000 doesn't. If you used the Windows XP client floppy to configure Internet Connection Sharing on a Windows 98 machine then that will have UPnP support.

UPnP is installed but not turned on under Windows XP. To enable it, open Add/Remove Programs in Control Panel and click Add/Remove Windows Components. In the Components list, select the Networking Services checkbox and then click Details. Make sure the Universal Plug and Play checkbox is selected. Click ok as necessary. There's no need to reboot.

Windows detects existing UPnP devices as well as new ones when they are added. In both cases an indicator is displayed in the System Tray to alert you when devices are detected. Under UPnP, when a user 'plugs' a device into the network, it will configure itself, acquire a TCP/IP address and use a discovery protocol based on the HTTP to announce its presence on the network to other devices.

You can control a UPnP device by double-clicking its icon or view its properties by right-clicking the icon and then choosing Properties. If you open a device from My Network Places, it takes you to the web user interface for that device.

With gateway hardware, the situation is less clear. Until recently, many vendors hadn't shipped firmware that supported UPnP. But if you have kit made by the likes of Netgear, Linksys, D-Link or Draytek (or indeed any kit that's less than two years old) you should be able to download new firmware from the vendor's site and upgrade your router or firewall. Once you've installed the new firmware, look for a UPnP menu option and be sure to turn it on. ⊠

↓ Here you can see that UPnP has dynamically opened two ports for Windows Messenger. After a period of inactivity, it'll automatically close them