

Here's how

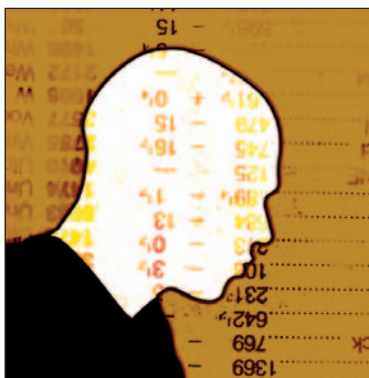
The Here's how section combines workshops, Helpline and The Advisors. We'll take you step-by-step through specific projects as well as troubleshooting readers' problems, while our independent experts report on what's new in their particular fields of computing knowledge

The Advisors

84 Make the switch to the Opera web browser urges our Internet Advisor, while Windows Advisor shows you how to childproof your PC. Our Office Advisor helps you manage your time using Outlook and our disorganised Multimedia Advisor gets his collection of images under control with the help of an asset-management program. Find out everything you need to know about bit rates with our Video Advisor's in-depth guide and create quality sites on the cheap thanks to our Web Advisor's handy hints. Rounding off the section, Roger Gann uses some Windows wizardry to set up a home network.



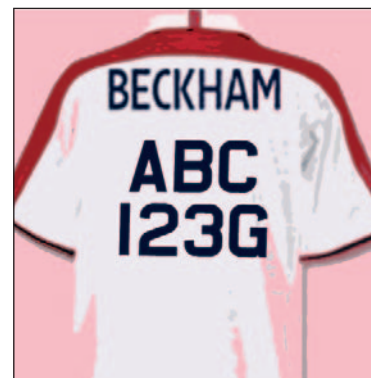
Workshops



98 We get to grips with 10 of the best web utilities, from virus protection tools to PDF makers.



108 Ensure you never lose data again by implementing a comprehensive backup routine.



114 ID fraud is a problem faced by all PC owners. We show you how to create secure passwords.

Helpline

118 Our Helpline guru just loves to solve computing crises. If you have a PC-related query, write to pcadvisor_letters@idg.com. Remember to mark your email 'Helpline' in the subject header.



Heartbreak hotel

Broadband access from your hotel room! Special offer internet price! Sounds good, so what's the catch?

Contrary to my profile at the top of this page, the truth is I don't get out much. Hardly at all, in fact, and I'm certainly no expert on hooking up to the web on the hoof (just don't tell the ed).

So my sojourn to a hotel last weekend was something of a thrill. Just me, a laptop and 40,000 words to edit, free from all distractions.

Best of all, the £45-per-night rate ('exclusive internet offer!', of course) bought me an in-room broadband connection. A home from home, as it were - or so I thought.

Now forgive me if the following reads like a rant, but I'm curious to know just how symptomatic my experiences are of the general trend.

The first snag was the ethernet cable. There should have been one in my room, but instead I had to scurry down to reception.

Once I had explained what an ethernet cable looked like and clarified that by broadband I did mean the advertised 'hi-speed internet', there followed some concerned drawer-rifling. Eventually, a stubby cable was produced.

"But I'm afraid we don't have an adapter, sir," apologised the desk clerk. "People don't return them."

What kind of adapter do I need? I wondered aloud.

"An adapter to make it fit your computer," she said.

I assured her that this was no problem because I had an ethernet card for my laptop and could use the cable as it was.



"I don't think so, sir," she replied rather doubtfully.

Back upstairs, I realised that I hadn't asked the price of the broadband access. A telephone call to reception revealed that I would be charged £7.50 for the first hour, but a further payment of £15 would get me 24-hour unlimited access. I decided to postpone the pleasure until the following morning.

Going up...

Alas the tariff had morphed overnight. "It's £7.50 for the first hour, sir," said a fresh clerk when I called reception to double-check.

"And if I stay on for two hours?" "£15, sir."

"Yes, but then I can stay connected for 24 hours?" I checked.

"Um, no. It's £7.50 per hour."

"But I was told yesterday that I could have it around the clock for £22.50," I spluttered, instantly persuading myself that £22.50 was now a bargain and not the outright extortion it seemed a minute ago.

"I'm afraid I couldn't say, sir," she replied uncertainly. "I don't think anybody's ever used it for more than an hour because of the price."

↑ You can surf the web from a hotel room - if you can get connected...

↓ Are hotels really letting guests walk off with ethernet PC cards?



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.

Well, quite. How's that for a self-fulfilling prophecy?

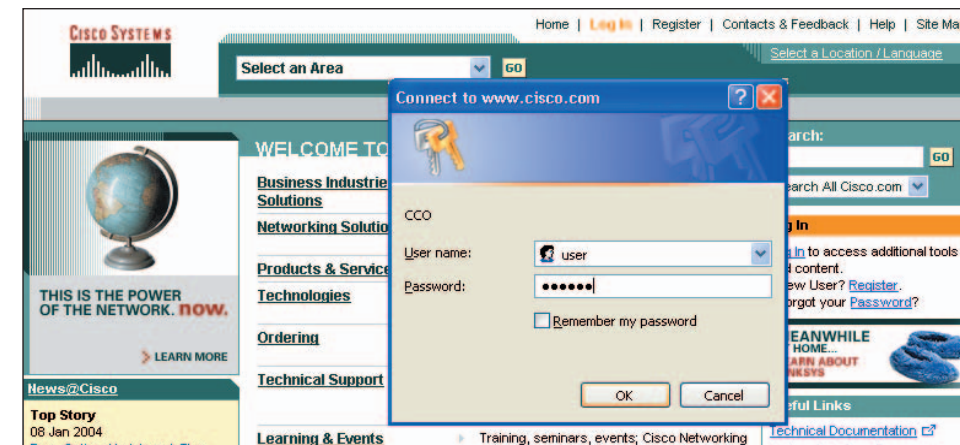
At 10.30pm that evening, I finally cracked and plugged in the cable. But could I make a connection? Could I expletive deleted. I duly called the technical support number and was connected to - I'm not making this up, I swear - a bloke on a mobile phone in a pub in Ireland.

He asked me to text him my mobile number so he could get back to me later and at 11pm he was as good as his word. After a few minutes of trial-and-error testing, mostly error, he agreed that the line was indeed dead and I wasn't a complete dunderhead. What to do?

We both brightened up when I confirmed that I had a wireless card with me.

"You'll have to go down to the lobby area to get connected," he explained, giving me a code for unbridled Wi-Fi access. "But you won't be charged, and you could always have a beer."

The man must have been a mind-reader.



↑ Cisco Systems handled my hotel's wireless hotspot

Lobby hobby

And so I ended up surfing, emailing and AIMing in the hotel bar at midnight, giggling happily to myself - the archetypal no-mates geek-boy with a laptop on his knee. Needless to say, just as I was getting into my stride enjoying the wonders of a wireless hotspot, the connection went dead and refused to resurrect.

What, then, is the moral? There are two things to learn here, I reckon. First, hotels and other businesses that market internet connectivity as a value-added service ought to train their staff in the use thereof and make the technology work. That this hotel did neither came as no surprise, but it's depressing nevertheless.

Second, I was taken aback by the staff's reaction to my queries. Could I really be the first paying guest who wanted to use a broadband internet connection?

Should I have gone for a hotel with an extra star, or is this kind of behaviour universal? And when will broadband cease to be seen as a luxury and become another standard facet of hotel life, like an in-room kettle or satellite telly?

I'd love to hear if you have had similar experiences.

Field of wireless dreams

Continuing the wireless theme, good news for you bumpkins stuck in the sticks beyond the reach of broadband. You may be aware of 'community broadband' schemes, whereby it's possible to tempt an ISP into an area that lacks an ADSL or cable service by whipping up sufficient local support to demonstrate demand.

The trouble is that service providers - understandably, given the investment required - want evidence of commitment before they'll set up

shop. That means achieving so-called 'trigger levels', which in turn means subscriber signatures on paper.

Ehotspot (www.ehotspot.co.uk) recently bucked the trend, however, and slashed trigger levels. It's banking on the theory that if you build it, they will come.

As Ehotspot chief executive John Sprank explained: "Most people are reluctant to sign up for a new service unseen. But once they know that the network is for real, and they've had the chance to try broadband, they're happy to jump aboard."

Ehotspot's 'backhaul' - the fat-pipe connection to the internet - comes via a satellite link provided by technology partner Aramiska. A Wi-Fi (IEEE 802.11b) radio signal is broadcast to the locale at large from a central 'node' and subscribers tap in to this with a rooftop receiver. As if by magic, instant wireless broadband.

Some 50 communities should be broadband-enabled by Ehotspot by the time you read this, with a further 100 in the pipeline. There's a one-off equipment installation fee of £149 with a £29.99 monthly subscription charge thereafter. ☒

Keep an eye on the children

The main reason I wanted a broadband connection in my hotel room, incidentally, was to keep tabs on life at home. My plan was to use SupervisionCam, a shareware webcam program, to upload regularly-updating images to a web page that I could view remotely in a browser.

To this end, I left my ADSL connection open, fuffed about with FTP, pointed a webcam vaguely in the direction of the children and instructed them to do lots of interesting stuff over the course of the next two days.

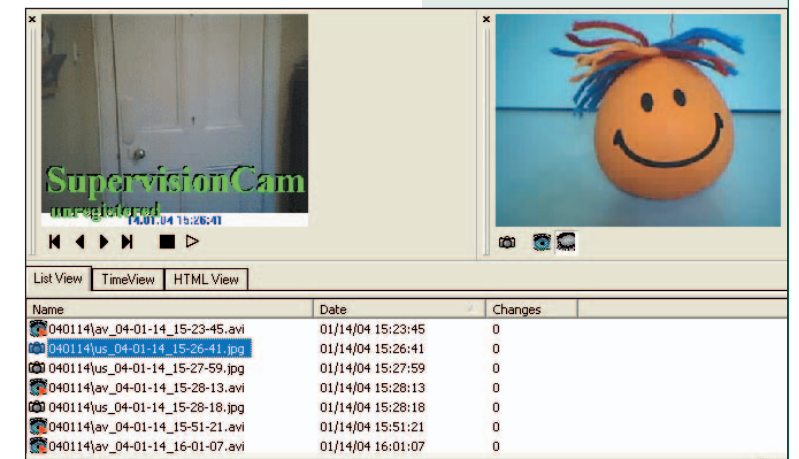
Of course, being glued to a browser for fear of missing anything is a tad debilitating. But that's where SupervisionCam's email alert feature comes in handy. The program fires off an email every time the webcam detects motion - or, to be more precise, a change in pixel configuration.

With such an early warning system at work, you should have time to fire up a browser and catch the action live, be it the kids building Bionicles, a squirrel raiding the bins or a burglar making off with your computer.

All of this, however, relies on a broadband connection, and that was the one thing I didn't have at my disposal...

SupervisionCam is free to try and \$25 (about £14) to buy.

↓ Tune in to your home while you travel, courtesy of SupervisionCam



Wi-Fi strife

Vegas recently rocked to the sound of some weird and wonderful wireless offerings at the Consumer Electronics Show. Lovely. But how practical are they?

I've just returned from the land of Elvis. Don't worry, I'm not suggesting that I have my own stairway to heaven, I'm talking about Las Vegas. Among the casinos, the circus acts and all the rest of the tat, I've been checking out the biggest show of all.

The CES (Consumer Electronics Show) is a huge deal at *Advisor* Towers. All the world's major manufacturers descend on this town in the middle of the Nevada desert to show off what they will be delivering in 2004.

The overriding theme of this year's show was Wi-Fi. Electronics companies are convinced that wireless technology will kickstart sales as they add Wi-Fi to their existing product lines.

They all have the same basic idea. Your music, films and so on are stored in a central location in your house. TVs, hi-fis and other appliances can then access all the content via Wi-Fi and play or show the files on demand.

→↓ Panasonic's AVC server will be able to send audio and video to devices in the house wirelessly and over mains cables when it arrives in 2005



The difference lies in the type of device that each manufacturer has chosen to act as the hub. Some have opted for the PC, others for a

dedicated server box. Microsoft, unsurprisingly, is going down the PC route. At the show it demonstrated its Windows Media Center Extender Technologies - that's a box which sends audio and video from a PC to a TV or Xbox to you and me.

Tremendous news for Fred and Geoff in Grimsby, proud owners of a brand new HP Media Center, but not so great for the 99 percent of us who are quite happy with our existing systems.

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.

Put your hands where we can see them

Although the law changed before Christmas, it seems that some of you are still a little confused about the new regulations on making calls while driving. I've had a couple of emails asking me to clarify the position, so here goes.

Thanks to research that showed you're four times more likely to have a mishap if you use a mobile in the car, it's now illegal to hold your phone while driving, or even while stationary in traffic. If you're caught you'll get a £30 fine, and in the future you'll receive points on your licence.

In the eyes of the law, clamping the phone between your neck and shoulder counts as holding it. But you are permitted to press the buttons on your mobile, to answer

and make a call for example, provided you don't actually handle the phone. Note that this doesn't mean it's illegal to use your phone while driving, it's just illegal to hold it.

To make a call legally, you need to use a hands-free kit. This can be one that's been specially built in to the car, a simple wire or a Bluetooth headset. Whichever method you choose, it's advisable to fix the phone into a bracket stuck on the dashboard so that you're not tempted to handle the mobile while driving, and to avoid disagreements with the police. But perhaps the best advice is to stop using the moby altogether when driving - it can't be good for your concentration now can it?



Beyond the PC

At the other end of the spectrum are companies such as Panasonic, which has a dedicated box it calls the AVC server. This can send media files over a traditional wired network, either wirelessly or, oddly, via the mains electricity in your walls.

It sounds good, but there's still some time to go until this type of device is ready for the shops. Whatever the flaws of PC-centric servers, at least they work today - after a fashion.

One intriguing idea comes from Sony, whose concept of the location-free telly envisages the average man carrying around a small portable TV with built-in Wi-Fi.

This uses Wi-Fi hotspots to link back to a base station in your house, which controls devices such as your DVD player and hard disk recorder. In theory, you can watch movies and listen to music wherever you are.

Of course you can, Mr Sony. Call me cynical (most people do) but I have a hard enough time trying to pick up email using a Wi-Fi hotspot.

The idea of watching a film on the move that's actually stored on a hard disk in my house feels just too good to be true.

But who knows? Perhaps Sony will pull a rabbit out of a hat and make this work.

Streaming or screaming?

All this talk of wireless content gets me hot and bothered. I'd really like it to work, but what fills me with doubt is that a lot of these products rely on Wi-Fi. I hate to break this to you, but Wi-Fi isn't all that it's supposed to be.

↑ Bluetooth headsets, like these from Nokia and Jabra, will help you make calls legally while driving

It's fine when you want a connection for a quick browse of the web but it's no good for streaming video. For one thing, the connection speed is too slow to support high-quality video and it's terribly prone to interference.

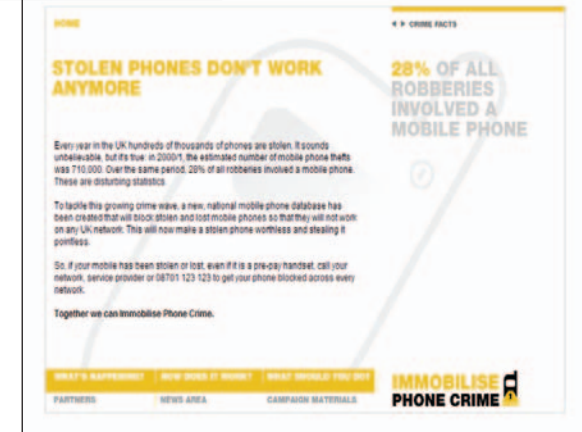
Someone I know loses his entire wireless network when he switches anything electric on. That's not good. Imagine you'd bought Wi-Fi kit and then decided to make yourself a tasty snack of beans on toast. Your other half wouldn't be pleased if your bean-feast cut short their viewing of *Love, Actually*, now would they?

Trust me - adding Wi-Fi to consumer electronics will only lead to domestic strife. Avoid it. ☒



↑ Liberty X help unveil the campaign to stop stolen phones from working. Don't they look happy about it?

→ Get all the info you need to stop your phone from working if it's stolen from www.immobilise.com



It's a steal

PC Advisor reader Margaret Thomson from Aberdeen has been a touch unfortunate.

Her mobile's been stolen and she wants to know if there is anything she can do to stop the little toerag who nicked it from using it.

Fortunately, there's no need to employ a vigilante gang to kneecap the miscreant, Margaret. Provided you report the theft to your network, all the work will be done for you.

Every mobile phone has a unique number associated with it, known as the IMEI number. Last year, a database was set up containing the IMEI numbers of all the phones known to have been stolen. This is shared by all the networks.

Every time a phone is used, the mobile operator checks the list for its IMEI. If it is stolen, nothing happens, rendering the mobile useless. This works even if the SIM card is changed.

It's not foolproof - criminal gangs have been known to come up with ways to change the IMEI number so the model can be used again - but it's better than doing nothing.

If your phone has been stolen, call your operator straight away to have your account and phone blocked for good.

If you're interested in finding out more details about the national database, head over to www.immobilise.com.

The vinyl countdown

Microsoft's DME Plus Pack is full of tools to optimise your digital media, from putting your LPs on disk to creating stunning photo slideshows

During the Christmas break, I set myself the daunting challenge of returning my desk to a state where I could actually see it, rather than a mountain of paper interspersed with a spaghetti of computer cables. Note to self: write next month's column about wireless technologies.

The task turned into one man's odyssey to tidy out his study, and in the process I stumbled upon a box of records that I hadn't listened to in years. Remember vinyl? Like a CD, only bigger, with a smaller capacity and terrible sound quality.

I know the purists among you are spitting at the page right now, but tough. Pops, hisses and crackles do not enhance my listening pleasure.

Anyway, back to the point. It just so happened that those records had some great tracks on them - although I won't embarrass myself

by telling you what they were. Being a modern kind of guy, I wanted to figure out how to get them on to my iPod.

Sure, I could have bought digitally remastered CDs, but where is the fun in that? And if we had access to a decent online music store here in the UK, I could have just bought the individual tracks.

(If anyone from Apple is reading, I'm not going to give up on this one until the iTunes Music Store fights its way beyond US borders.)

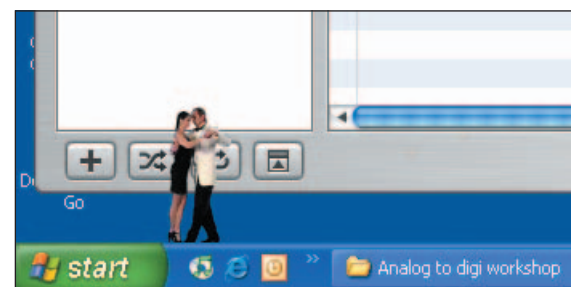
But no, I'd already bought and paid for the records once - and I had to clean a lot of cars to earn enough pocket money to afford them back in 1982 - so I was going to get my money's worth.

On the Pluses

As it happens, I had just finished writing a tutorial on this very matter for our sister publication, *Tips & Tricks*, which involved the

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↑ One fun feature in Plus Digital Media Edition is Dancers, which displays dancing characters at the bottom of your screen whenever music plays

use of a product called Plus Digital Media Edition from Microsoft.

Among its many tools is Plus Analog Recorder, which, as its name suggests, is specifically for the task in hand - getting audio from an analogue source and converting it to a file on your hard disk.

It's easy to use, with well thought-out features such as the ability to split your recording into tracks and even rudimentary filters for removing noise such as the pops and hisses I referred to earlier. Audiophiles will no doubt find these tools unsatisfactory - that is, if they want to reduce the pops and hisses at all.

There's a large selection of other, seemingly disparate tools that make up the Plus Digital Media Edition bundle. For example, Plus Alarm Clock lets you use the music in your Windows Media Player list to wake you up in the morning - assuming, of course, your computer happens to live in your bedroom.

Plus Audio Converter can work in conjunction with the analogue recorder to convert your music files into different formats.

By default the options are rather limited - you can, if you so desire, convert a WAV file to Microsoft's

Plus Audio Converter made it a breeze to take the Barry Manilow tracks - sorry, did I say Barry Manilow? I meant someone much cooler than that - I copied from my record deck and import them into my iTunes playlist

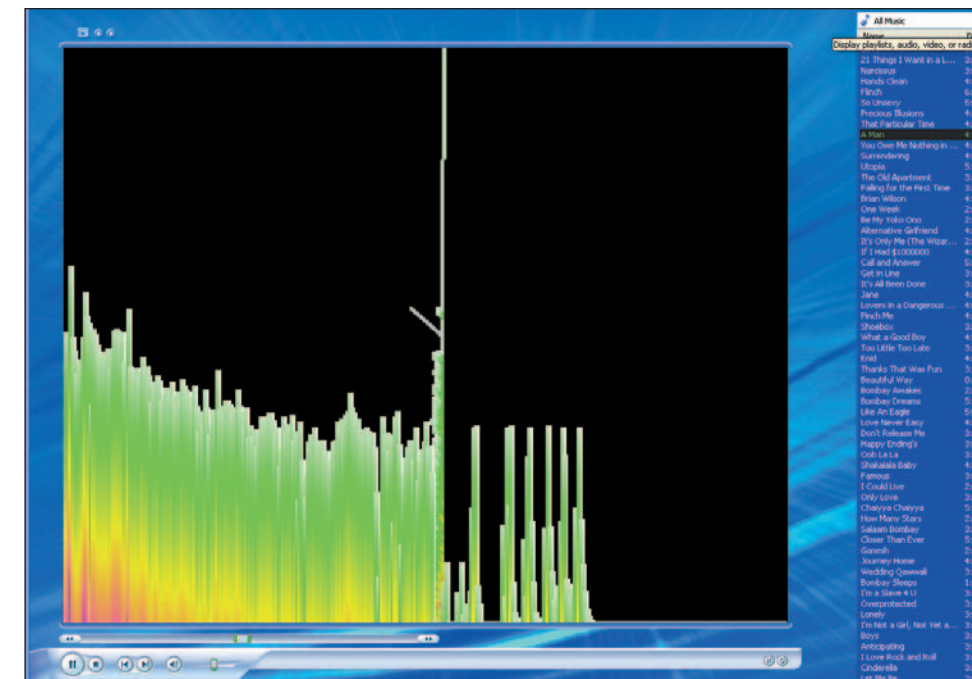
proprietary WMA or WMA (variable bit rate), or... um... WMA (lossless).

However, if you've previously installed an MP3 codec on your computer, you can also convert between WMA and MP3. This strikes me as much more useful, especially since my iPod, like most portable music players, uses the MP3 standard rather than WMA.

All mini-rants aside, Plus Audio Converter made it a breeze to take the Barry Manilow tracks - sorry, did I say Barry Manilow? I meant someone much cooler than that - I copied from my record deck and import them into my iTunes playlist.

Labelled with love

Once you've got your MP3 collection the way you want it, you can use Plus CD Label Maker. This is one of the most user-friendly tools I've seen for



creating custom labels - although to my mind you still can't beat a good old-fashioned marker pen.

There's also a nice tool called Plus Party Mode, which solves a common problem. If you want to use your extensive digital music collection as background sound for a party - a common occurrence in the Hirschhorn household - you face the problem of leaving your computer open for public access.

Party Mode lets your guests interact with your digital jukebox - select the songs they like, the visualisations they want to see and leave onscreen messages for each other - while being denied access to the rest your files.

↑ In Plus Party Mode, you don't have to worry about people accessing your files if you use your computer to provide music at a party

Plus plusses

Plus isn't just about music. Photo Story lets you create a slideshow with a voiceover. You also get a load of transitions and effects for Windows Movie Maker 2.0.

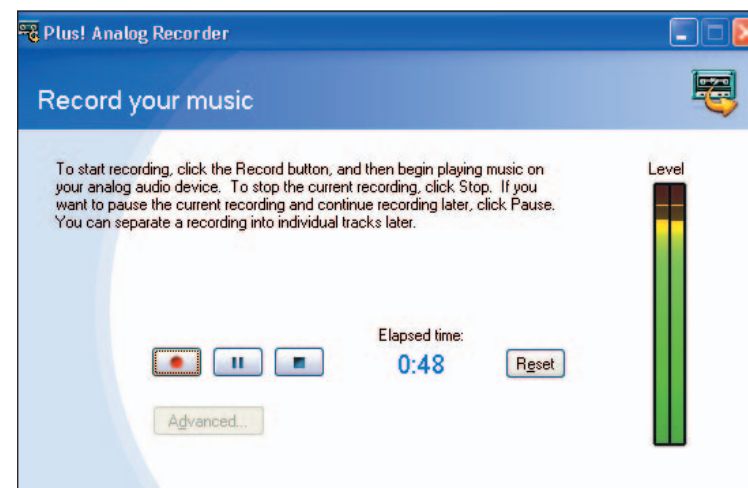
There's a utility for loading your favourite music, pictures and more on to a Pocket PC handheld, and there's a bizarre little application called Plus Dancers, which displays animated dancing characters at the bottom of your screen whenever there's music playing. I'm not sure how useful that one is, but it's fun.

Why an add-on?

Microsoft has positioned Plus as an add-on pack for Windows, with the essential tools to get the most from your digital media. I'd find it hard to argue with that. It's a useful collection, all for the measly sum of around £16.

What I find bizarre is that it's a separate product at all. Microsoft can hardly be making money from it - the value of the features bought separately would be much higher. And with the company so keen to position the PC as the centre of your digital life, it should be the case that the features you get with Plus are included as standard with Windows XP Home.

I wouldn't be at all surprised if that's exactly what happens when the much-anticipated Longhorn OS finally sees the light of day. ☑



← Plus Analog Recorder solves a problem faced by anyone who has an older record collection - how to get tapes and LPs on to a PC



← Plus Photo Story allows you to create photo slideshows with a voiceover, although it's not as elegant as some DVD creation packages

As you like it

Don't like the way Office applications insist you go about things? Well change them then - here's how to customise

One of the most irritating things about Office is the pointless variation between applications - why does the clipboard in Excel work so differently from every other app?

At last all the programs in Office have AutoRecovery settings and at least they're all under Tools, Options, Save. However, there are still subtle differences and this is not always a good thing.

All Office applications have customisable options, particularly in the area of the interface.

Cool tools

To change buttons on a toolbar, click the downward-pointing arrow at the end. You get a menu and the Add or Remove Buttons option, which has a menu for each toolbar. Changing the buttons is a simple matter of ticking and clearing the correct

checkboxes. If the result is not ideal simply choose Reset Toolbar.

If you want to remove screen clutter you don't need the ruler open all the time - simply close it with View, Ruler. When you do want it, hover your mouse in the grey line at the top of the page. The ruler will float down for you to use, then move out of your way again.

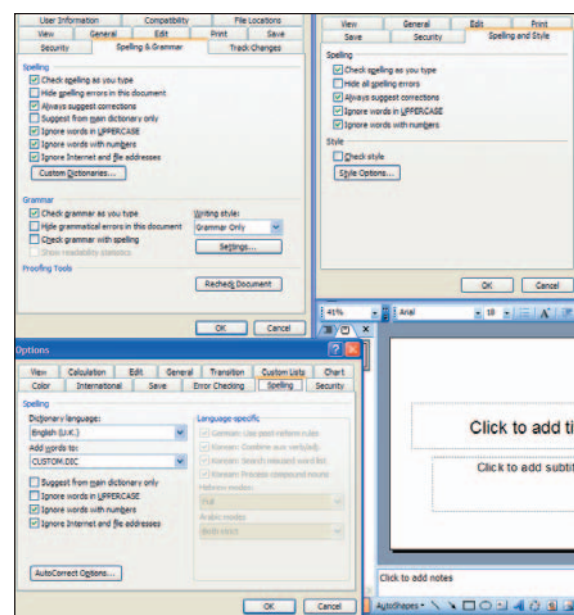
If you can't get used to looking for AutoCorrect Options on the Tools menu in Word, and on the Save tab of the Options dialog in Excel, you can use Tools, Customize to add a menu item to the Tools menu in Excel to open AutoCorrect Options directly.

Command performance

All the other programs work in a different way. In Word, the Command tab of the Customize dialog has a category that lists

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↑ The Save options are different in every Office program, so find out where they are and what to change

every command, including those on submenus and in most dialog boxes.

In PowerPoint and Excel there are no similar All Commands sections, so if you can't find what you want in one of the listed categories, you need to record a macro to open it and put that on the menu instead.

The gift of Shift

While you're in the Customize dialog, you can turn customised menus on or off. At first these only show commands you've used recently. The full menu will appear after a few seconds, but you can activate it immediately by pressing Shift before you open the menu.

Shift gives you extra options on the menus without using customised ones, such as a Close All command on the File menu in Excel and Save All and Close All in Word. Save All isn't just a timesaver. If you have to

Shift gives you extra options on the menus without using customised ones, such as a Close All command on the File menu in Excel and Save All and Close All in Word

keep resetting the language to UK English to get the right spellchecking dictionary, you need to change the language in the Normal template and force Word to save it - Save All is the easiest way to do this without editing the normal.dot file by hand.

These are commands you might want to add to the menu so you don't have to remember to press Shift.

You can also edit context menus - the ones you see when you right-click on an object or text. And it's handy to add Skip Numbering to the List context menu so you can have an entry with no number without turning the list off and on again.

To do this, choose Tools, Customize, Toolbars and tick the Shortcut Menus box - this gives you a floating toolbar of Shortcut menus grouped by the objects on which you

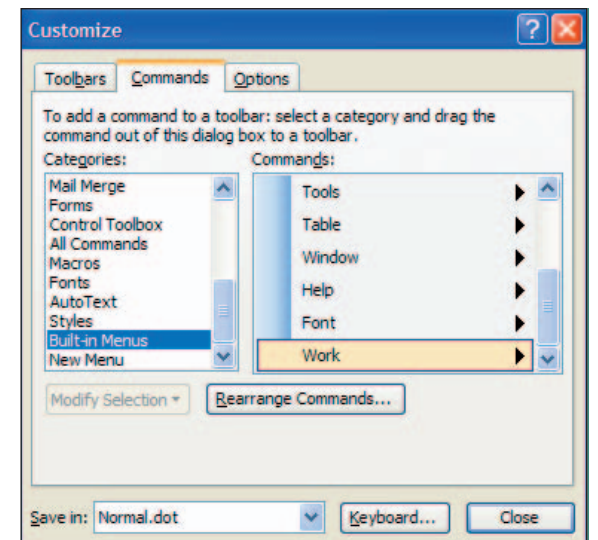
can right-click. Drag the one you want from the Commands tab into the context menu that you would like to add it to.

When you close the Customize dialog the Shortcut Menu toolbar closes - and the command should appear on the context menu the next time you use it.

My Documents my way

If you don't like the way Word insists you save your files in My Documents, you can add your own folders to the My Places bar in the Open and Save dialogs so they're always to hand. Change them in one application and they'll show up in all of them.

Use the Open dialog to navigate to the folder above the one you want so you can select it in the dialog. Then click the Tools menu and



↑ Drag the Work menu from the Commands tab of the Customize dialog into your menu bar and you can make a list of files to which you want quick access

choose Add To My Places. You'll get an extra icon in the navigation bar on the left but it's down at the bottom of the bar. Scroll down to it, right-click and choose Move Up as many times as you need.

You can only remove or rename your own shortcuts - you can't get rid of My Computer or the Desktop - but you can tidy the buttons so the folders you use the most are at the top.

If you add enough links, you'll push the standard buttons out of sight at the bottom of the list. If you have a lot of custom shortcuts in the navigation bar, right-click and choose Small Icons so you can see them without scrolling up and down all the time.

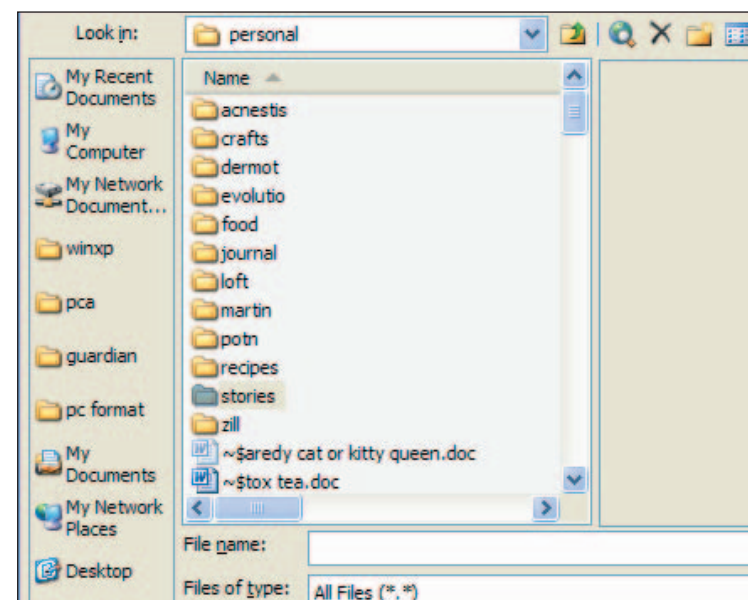
To quickly open files you need to use but have been pushed off the recent files list, add Word's hidden Work menu, which lets you have permanent links to up to nine files.

Choose Tools, Customize, Commands and find the Built-in Menus category. Drag the Work menu on to your toolbar. When you open a file, you know you'll want to get back to choose Work, Add to Work Menu.

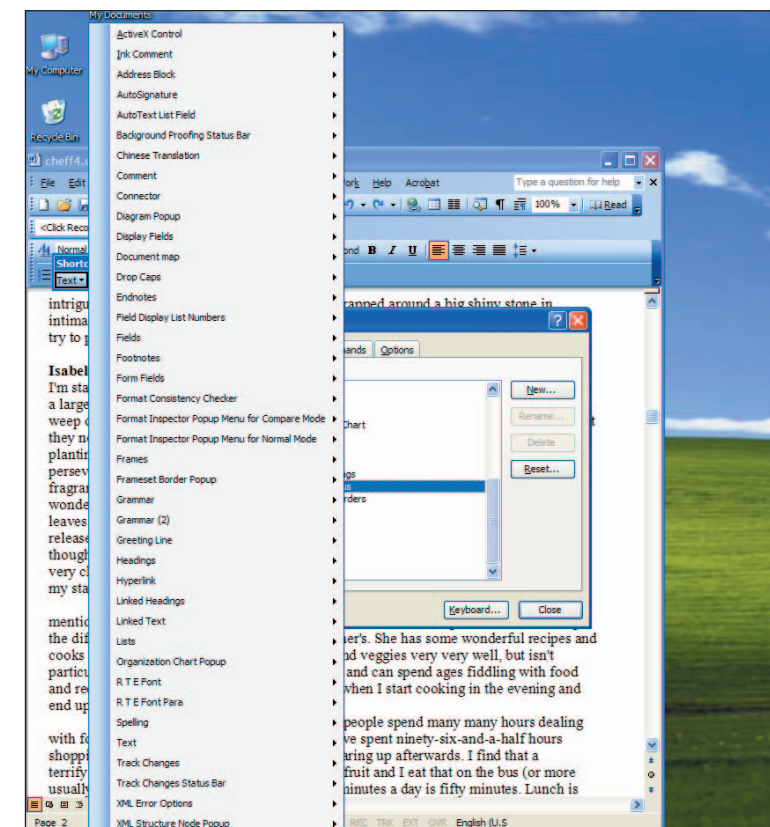
You can still only have nine files on the menu - if you add a tenth the oldest link is replaced.

You can also delete files individually. Hold down Ctrl, Alt and press dash - the cursor changes to a bold underscore and you can click on documents in the Work menu to remove them.

A well-thought-out menu can save you a lot of time rummaging for the right document. ☒



← Add your own folders to the My Places bar in the Open and Save dialog boxes



← You can customise context menus as well as the ones in the menu bar

The sharpest tool in the box

The unsharp mask is a nifty technique that gives you even more control over sharpening filters to highlight detail in your digital photos, whatever package you're using

Last Christmas was a boon for electronics retailers and may have signified a sea change in the way we buy cameras. Dixons reported massive sales of digital cameras over the festive season and Kodak has announced its intention to phase out its film camera range altogether.

Digital photography may be much more expensive than film but you can't beat it for flexibility. One big advantage of digital is that you can correct and enhance pictures before printing them out, uploading them to the web or emailing them.

In previous months we have focused on special effects and visual tricks. This month, let's look at the most common enhancement of them all - sharpening.

How it works

Readers with some digital imaging experience will know that the Sharpen command in photo-editing software is uncontrollable and often produces poor results. Basic sharpening filters accentuate an image by crystallising areas of coloured pixels at their adjacent edges. This can produce unwanted outlines, pixellation and jaggies.

A more professional and controllable result is achieved by using unsharp mask, a strangely named filter that accentuates adjacent edges by manipulating greyscale contrast in those areas. You should find the Unsharp Mask command in all decent photo-editing software.

Changing image contrast is a useful tip in itself. You can appear to sharpen images by fiddling with


contrast levels and curves, although doing so can mean a lot of work. A quicker method - and one favoured by professional photo editors - is to combine the automated contrast function of unsharp masking with hands-on manipulation of the extreme highlights (bright areas) and shadows (dark areas) in an image.

If you have a picture that needs sharpening but just doesn't seem to look right whatever you do, try the following technique.

Play with layers

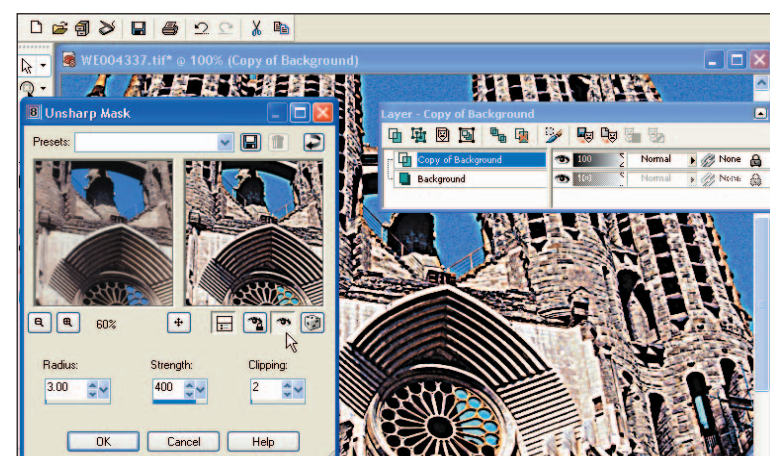
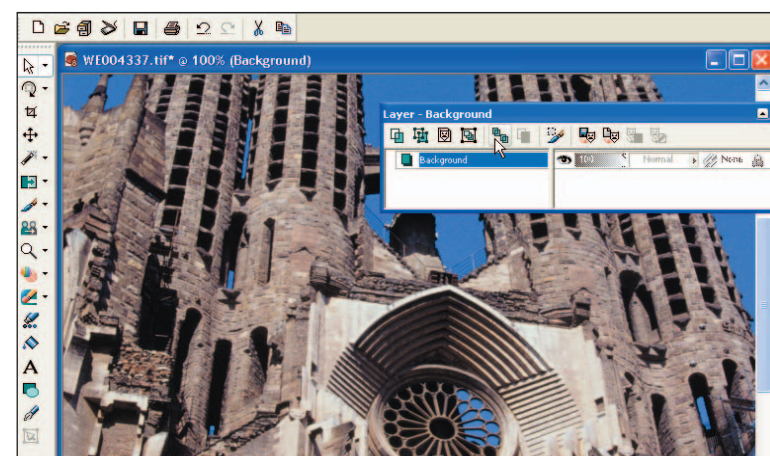
First, you will need a photo-editing app that lets you work across layers and apply transparency blending modes to them. These features are standard fare in Adobe Photoshop but you will also find them in several low-cost packages including Photoshop Elements, Paint Shop Pro and Corel Photo-Paint. The images on this page show Paint Shop Pro 8.0 in action.

Open one of your digital photos in the software then call up the layer



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➤ Open a digital image in your favourite photo-editing package and call up its Layer palette or equivalent

➔ Duplicate the image as a new layer, then apply an overly strong unsharp mask to the new layer. Remember, this is intentional

view in your program's interface. Paint Shop Pro provides a Layer palette that can be floated around your screen or docked to an edge of the program window, as you prefer.

Tap F8 on your keyboard to open it. The image will exist as a single default layer normally labelled Background, although your software might call it Layer 0 or something along those lines. Duplicate the layer. You now have two identical layers, the newer of the pair being labelled Copy of Background (or Layer 1).

Make sure this new layer is selected in the Layer palette then call up the Unsharp Mask dialog window. You will usually find it hiding among the image correction filters and effects; in Paint Shop Pro it's in the Sharpness submenu under Adjust.

Mask magic

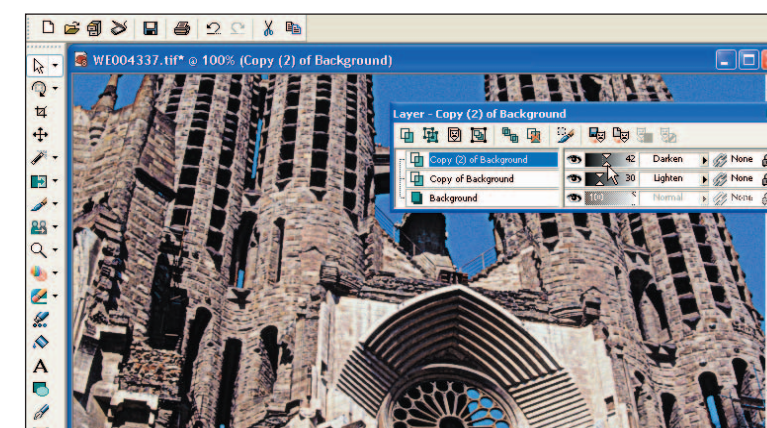
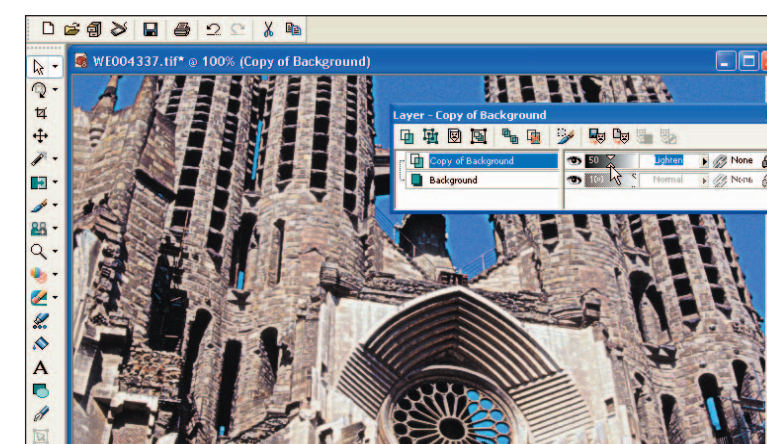
If you are trying unsharp mask for the first time, here's how it works. The Radius value refers to the number of pixels around an edge that's going to be sharpened. Unless your images are enormous, keep the number low - say, between 0.5 to 3.0.

The Strength value is the amount of contrast being applied, so a zero leaves the image unchanged while raising the value increasingly intensifies the sharpen effect. The Clipping figure sets the level of lightness before which adjacent pixels are sharpened, so keeping the value low ensures more sharpening while raising it will leave the image looking flatter.

For our purposes, all we want is a over-the-top sharpen effect. Leave the Radius and Clipping values low (or at their default values) and increase Strength as high as you like before the image begins to obliterate.

➤ Change the transparency blending mode for the unsharp masked layer from Normal to Lighten, and reduce the layer's opacity to calm the effect

➔ Duplicate the unsharp masked layer, then change its transparency blending mode from Lighten to Darken. Adjust the opacity of both new layers as necessary



Keep in mind that you are deliberately over-setting the unsharp mask effect so don't hold back. Accept the settings and dismiss the Unsharp Mask dialog window. In the Layer palette, change the current layer's transparency blending mode from Normal to Lighten. In Paint Shop Pro you can do this by clicking on Normal in the layer row and picking Lighten from the list.

Other apps present slightly different interfaces. Photoshop and Photoshop Elements put the blending pop-up above the list of layers, while Corel Photo-Paint employs the terminology If Lighter. You will notice an immediate change in the appearance of the overly sharpened image as it merges with the original Background layer.

Customise blending

Reduce the layer's opacity value to 50 percent, making it even more transparent and further decreasing the sharpness. Again, this is normally done by dragging on a slider or entering a figure in the Layer palette.

Duplicate this sharpened layer to create a third layer, which by default will be called 'Copy (2) of Background' or 'Layer 2'. This duplicate will have

the same unsharp mask effect, along with the Lighten blending mode and 50 percent opacity.

Click on the blending mode pop-up for this layer and change it from Lighten to Darken. You now have two unsharp masked layers - one whose transparency blending mode only reveals the highlight sharpening, the other whose blending mode only reveals the shadow sharpening. Both layers interact with the original Background layer so don't delete it.

You're now free to adjust the opacity sliders for the two special layers interactively to achieve the perfect result. Being able to adjust shadows and highlights separately in their sharpened form makes the process of sharpening powerful and flexible. It is much easier than juggling around with levels and curves.

This technique is recommended for nearly all digital images that need sharpening. It's especially useful when resizing a photo for use on a web page. Normally, shrinking photos creates a murky result. But these steps allow you to apply extreme sharpening without destroying the integrity of the image then resize to produce a surprisingly crisp thumbnail version. ☑

Die another day

The release of Director MX 2004 shows this key product is far from ready to go to the big shrinkwrap in the sky

At first glance, touring folk musician Dave Swarbrick and Macromedia Director don't have much in common, but they share one thing - both have had their obituaries written prematurely.

Swarbrick's 1999 death notice in *The Daily Telegraph* inaccurately reported that he had passed away in a Coventry hospital, only for him to confirm his continued existence the next day with good humour. "It's not the first time," he commented dryly, "that I have died in Coventry."

In the same vein, this column has been guilty of writing off Macromedia's flagship authoring program. But as it turns out, reports of its death have been similarly exaggerated.

January's surprise announcement of Director MX 2004 - which came only a few months after the rest of the company's product line had been updated at a stroke - shows there is life in the industry's leading multimedia program yet.

The good news is that the features introduced in MX 2004 provide evidence that Macromedia is listening to its customers.

I'm not just talking about the headline-grabbing integration with the rest of the Macromedia suite - the tiny changes are as welcome as the big amendments. You can now name sprites, making them easier to handle in script windows, and you can change the icons for your projector EXE files.

↓ Director MX 2004 has plenty of new features - but are they enough to keep it top of the multimedia heap?

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.

Going native

There's a lot else to like, too. Native DVD support, which allows you to embed DVD video into Director movies, is a vital addition. A significant majority of new PCs come with DVD drives and therefore include the codec that allows such video to be played.

But as far as I'm concerned the best development - from a value-for-money perspective at any rate - is the ability to author for Mac and Windows platforms from a single dialog box. This is crucial because many Director projects end up on dual-format multimedia CDs.

And there's been plenty of griping about the limitations of previous versions, which forced you to buy two copies of Director just to cover all your options.

Of course, there's always room for personal cross-platform gripes, although these are not particularly directed at Macromedia. I'd still love an easy way to create a dual-platform autorun routine, for example.

As I explained in an earlier column, this isn't too difficult to create on a PC outside Director (just write a plain text `autorun.inf` file to your CD's root directory and type `[autorun] open=MyFile.exe`). But on Mac OS X there's no obvious way to create autorunning CDs, and I'd love Director to handle the task for both platforms internally.

Getting Flash

There are a few more general things about Director MX 2004 to worry anyone planning to commit to the app. Ignore small, annoying lapses such as the continuing lack of Unicode

support. More importantly, many Director developers feel they are now simply an afterthought to Flash users.

One developer I spoke to moaned that his favourite program was being reduced to a grandiose Flash plug-in. He argued that there has been little improvement to Director's high-end features such as linked Director movies or its promising 3D engine.

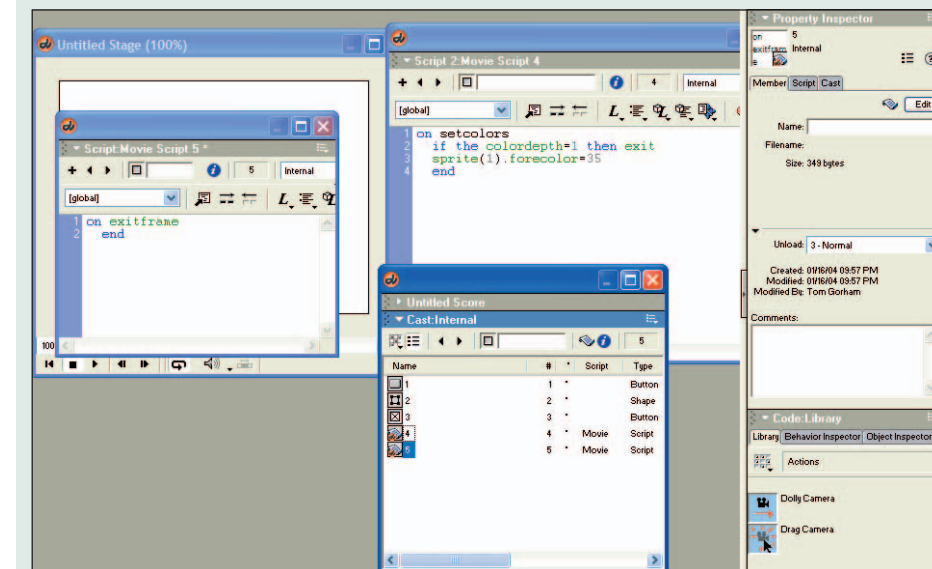
And while the adoption of JavaScript as an additional scripting language alongside Lingo will delight any web coders or those looking to transfer their skills in a tight job market, students of Lingo have instantly seen the value of their unique skills plummet.

Could Bill kill?

In this difficult balancing act, Macromedia can afford to frustrate its more ardent fans a little longer simply because there are no real high-end alternatives to Director. But that might not always be the case. The multimedia world is buzzing with the rumour that Microsoft might be developing a

Tom's top tip

Many Director users complain about the program's apparent inability to display two script windows at once. But you can quite easily display multiple script windows. Just Alt-click a script's name in the Cast window and it will open in a new window, even if another Script window is open.



'Director-killer' authoring tool of its own. This application, codenamed Sparkle, will reportedly allow users to work directly with the audio and graphical elements of Microsoft's upcoming OS, Longhorn, without the need for klutzy Director-style Xtras.

Even if the rumours about Sparkle are true, Macromedia has a lot going for it, not least the fact that Flash is almost ubiquitous. But does Director

have such a hold on high-end multimedia that a keen Microsoft couldn't overwhelm it? And while Longhorn won't be out until 2006, there's no reason why Sparkle couldn't arrive before.

Does Director MX 2004 have what it takes to stay at the cutting edge of multimedia? The next few months are going to be very interesting indeed. ☒

PowerPoint: a health warning

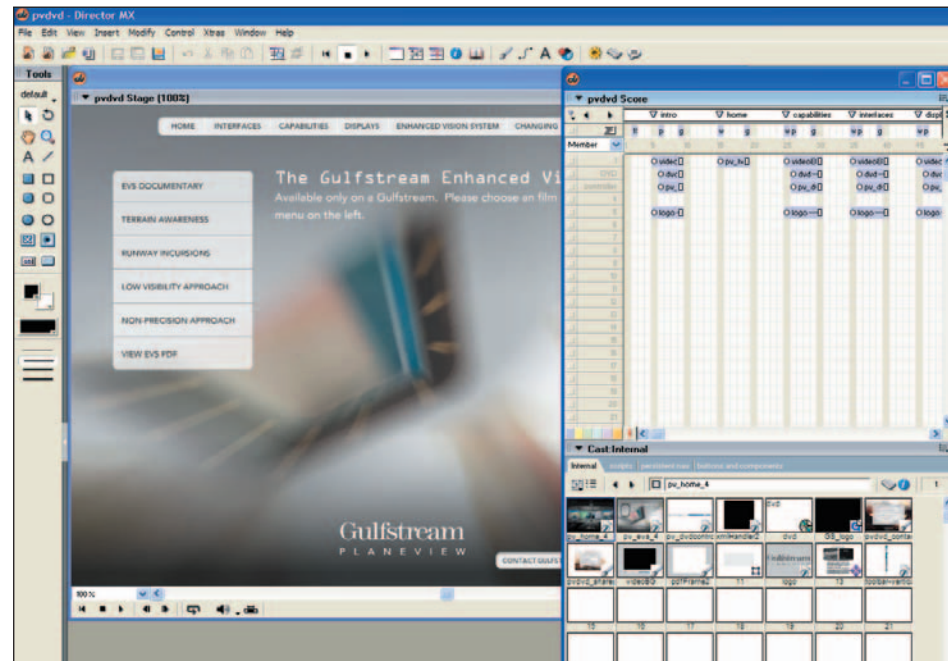
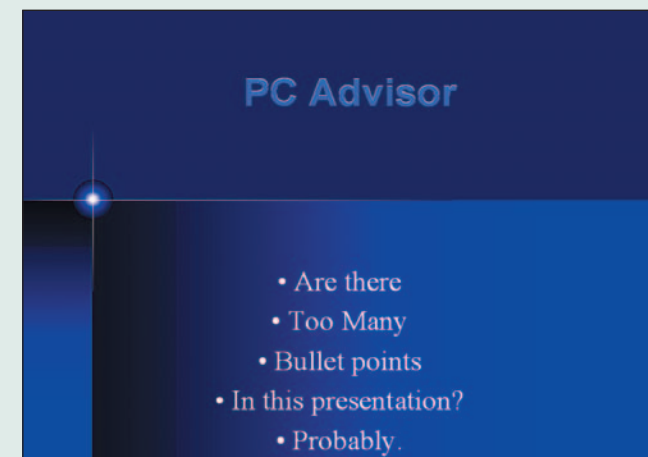
PowerPoint, Microsoft's versatile slideshow and multimedia application, has been on the receiving end of some tough press lately. Prompted by a report into last year's Columbia Space Shuttle accident, which found that Nasa had relied too much on bulletpointed PowerPoint slides when analysing the problem, thus missing the life-threatening situation the astronauts found themselves in, critics have been lining up to have a dig.

Edward Tufte (www.edwardtufte.com/tufte/powerpoint), who has a long-standing coolness towards PowerPoint, argues that the program reduces the analytical quality of presentations by weakening verbal and spatial reasoning - which in translation means he doesn't think much of it.

But he isn't alone in his criticism. One magazine recently printed a cartoon depicting a job interview in hell, with the interviewer asking: "I need someone well versed in the art of torture - do you know PowerPoint?"

It's unfair to criticise the program too heavily. As I've said before, it's a lack of imagination on behalf of the presenters that's really to blame. But these recent criticisms make a valid

point - too many bulletpoints won't necessarily fail to get the message across, but they can often cloud it.



Rule the waves

Ever sensitive to the faint whiff of confusion in the air, this month Laurence tells you how to get the most out of your old analogue videos

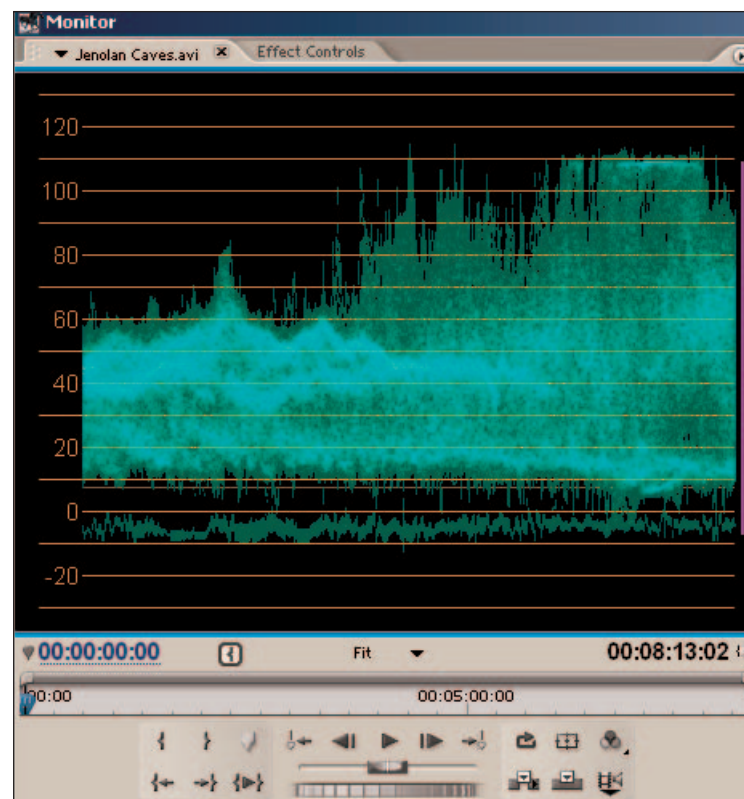
While deleting the offers of enlargement, enrichment and enrolment in my inbox, I found a number of emails from you lot on the subject of analogue video. One asked: "Why can't I buy an S-Video-to-USB cable?" That's like asking why you can't listen to CDs on your record player.

Not everyone appears to be clued up on the key difference between analogue and digital video. So this month's column is for those of you who are staring at piles of old S-VHS or Hi8 videos and wondering if they are of any use.

Video variety

Put simply, the picture information that travels down your S-Video or Composite video cables (the two common analogue options) is made up of a complex waveform where the peaks and troughs represent a wide range of values.

Composite video - which uses the yellow-headed phono cable - carries light and colour info in the same waveform, while S-Video (the four-pin DIN cable) uses separate wires and signals for each. This makes it less susceptible to interpretation errors and crosstalk.



← Analogue signals are made up of a fairly complex waveform, as shown by Premiere Pro's display function

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.

Digital video, on the other hand, is made up of zeros and ones. All it needs is a square carrier wave to get binary information down the pipe to your PC, which means the kit required to translate a digital signal is radically different from analogue.

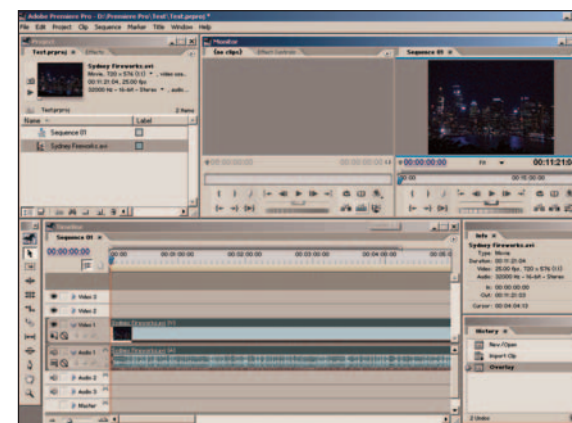
To get your analogue video wrapped up and stored on hard disk, you need to employ an ADC (analogue-to-digital converter) and a standard attachment on any video capture card equipped with analogue inputs. This translates the complex waveform from your old camcorder into the video files you need to edit with - a process called digitising.

Rubbish in - rubbish out

There are issues with analogue captures, however. Aside from the fact that you can't control the camcorder via your PC, analogue captures often come out darker than the original and with shimmering detail and flicker. Even worse, the audio track can become out of sync with the video (audio drift), particularly if you have captured a long sequence to a single file.

If your camcorder's up to it, an S-Video cable will keep image noise to a minimum while keeping captures short will help to avoid audio drift. You could also use an NLE (non-linear editor) that supports unlinked audio tracks to manually compensate.

Digitising analogue tapes won't make them any better if they look rubbish to begin with, although you may be able to clean them up. In fact, thanks to something called the Kell factor - which I'll bore you with in a later column - you may lose detail.



Which format?

Another thing that affects image quality is your choice of file format. Your options here are most likely either Mpeg-2 or DV AVI. If you're using a USB-based external capture box such as Pinnacle's MovieBox USB, you'll only have the option to capture Mpeg-2. This allows it to be used with USB 1.1 systems and massively reduces the file size of your final captures.

However - and I can't stress this enough - while Mpeg-2 makes a great storage medium, it's unsuitable for analogue captures and editing. The compression routines used by Mpeg-2 can introduce image artefacts to your video, particularly if you're using a low bit rate for your captures. Even worse, the noise you'll find on older analogue recordings makes Mpeg-2 compression less effective, adding more noise to poor video.

Mpeg-2 is also a bad format for editing. It requires a massive amount of processor power to perform basic functions, as it will often have to pull data from preceding and successive frames to build the single frame you're working on. Exporting your finished project in a different bit rate from the original capture will run yet more compression routines on an already compressed file, reducing the final quality again.

If you have a choice, use DV AVI. It may cram your hard disk faster than Niagara Falls will fill your bath, but it has a number of advantages over its compressed cousin. It's less likely to introduce video artefacts during capture, it's made up of relatively intact frames so processing effects takes less time and it transcodes to Mpeg-2 more effectively.

If you don't think you have a big enough hard disk to store your footage then bite the bullet and buy a new one. You can get a

↑ Keep analogue captures short to avoid audio drift, or use an editor with unlinked audio support to compensate for any lag

➤ Mpeg-2 is a great format for finalising your project but it's lousy for capture. So don't use it until you know you've finished your edit

➔ Most NLEs give you the choice of burning Video CDs, S-VCDs or DVDs these days. A DVD burner will let you create longer, better-looking movies

surprising amount of space these days for £100 and you can install it alongside your system disk.

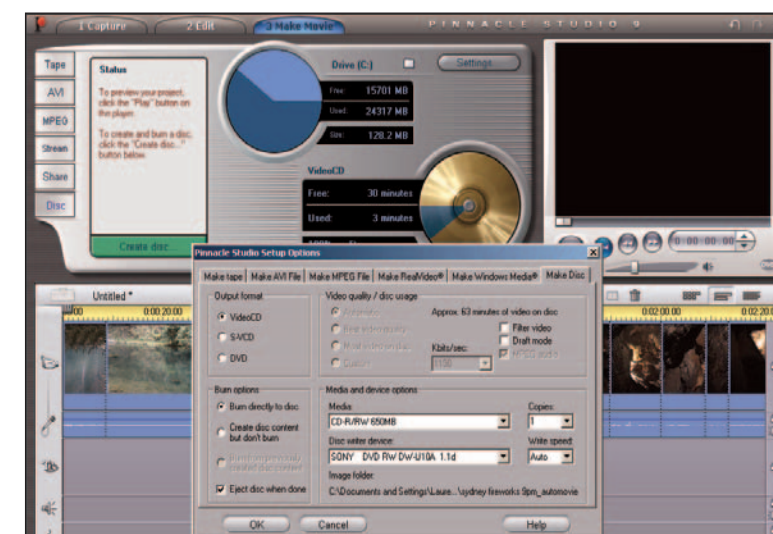
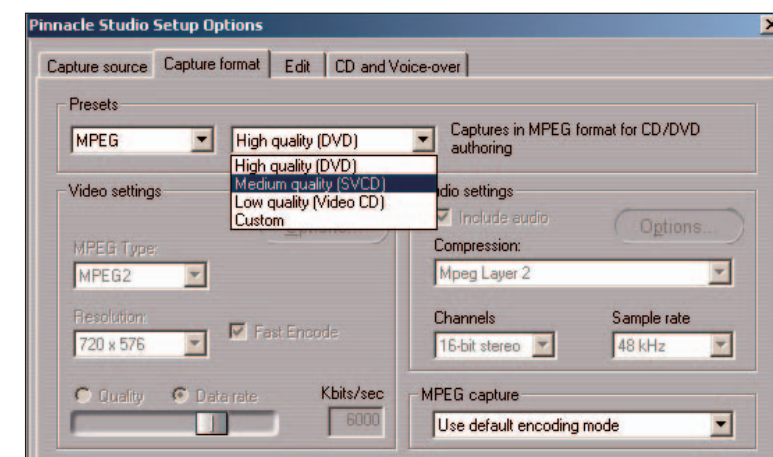
Optical options

Finally, some of you have asked me about whether there's any point in upgrading from a CD burner to a DVD, especially when the video you're working with is low grade. Unsurprisingly, my answer is yes.

Despite the fact that the effective resolution of a Super VideoCD is

about the same as the three-quarter resolution of S-VHS tapes, burning your project to DVD will put more space and a higher data-transfer rate at your disposal. This means you can fit more of your old tapes on to a single disk and can use Mpeg-2 encoding with a higher bit rate, so you're less likely to experience blockiness and image noise.

If you're uncertain which format suits you, get a dual-format drive that handles DVD-R/W and DVD+R/W. ☒



Getting your bearings

Leading browsers to your site is merely the first step. Jason considers the options for helping visitors find their way about and how to make a dynamic menu

When considering their web development options, designers often think about the look and feel of a site and neglect navigation. Yet users get frustrated very quickly if they cannot find their way around a site. Poor navigation and slow load times are more likely to deter your visitors than badly designed visuals.

We'll be looking at optimising load times for things such as graphics in future columns. If you want to ensure that visitors return to your site, however, make sure they can find information as quickly and logically as possible.

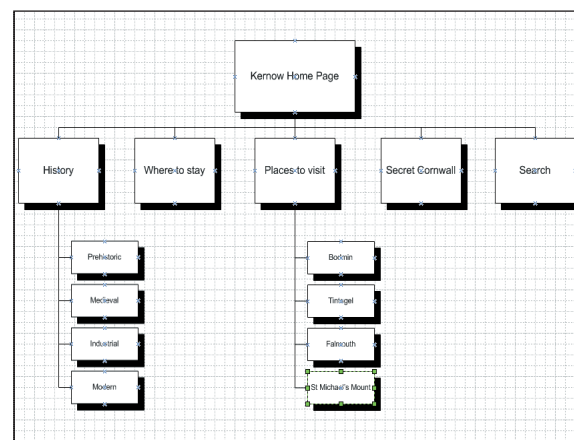
Round, round, I get around

Moving from page to page is a web fundamental. HTML isn't simply made up of text and other forms of content, but hypertext with dynamic links to other pages.

Initially this consisted of little more than text links that would pull up the required document - useful for scientists and researchers, the early adopters of the web, but dull for the rest of us. Hyperlinks that link to other media provide a better means of jumping between pages.

Designing an efficient navigation system requires you to plan the layout of your site and then decide on a stimulating visual format for your links. We'll concentrate on the latter this month but that doesn't mean the layout is less important - quite the opposite. If you have no clear structure for your site, you will almost certainly frustrate visitors by offering links in the wrong place.

The simplest way to storyboard a site is to create a tree diagram with a top level of pages cascading from the home page - for example, news, features, shop and contacts. These



↑ Charting tools such as Visio are useful when you storyboard the structure of a website

are the areas you can generally expect users to visit regularly, so there should be links to them from just about every page on your site.

Beneath this top layer are pages that will be viewed for particular information. Some people might buy books from your site, others might buy CDs or DVDs. Navigation links to these pages will probably have to be much more context-specific if you don't want to overwhelm visitors.

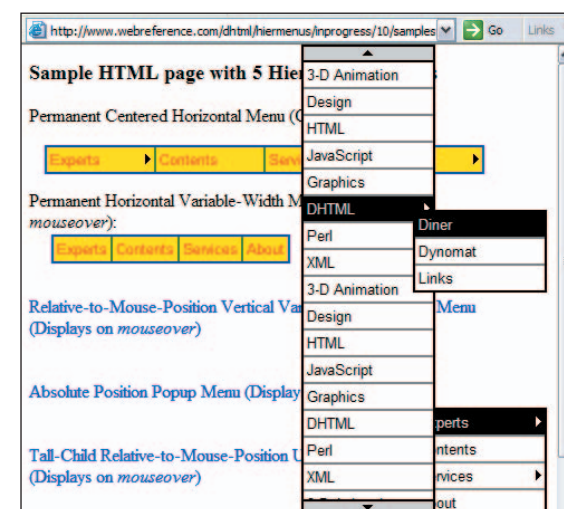
Making the connection

Once your site is mapped out, the next stage is to decide what format your navigation tools will take. The basic format is to include text links - dull but efficient. Not that such links have to be boring: modern editors such as Dreamweaver and GoLive include tools for creating quick and easy menu bars that will add a splash of colour to your page.

The next step up is JavaScript jump menus - drop-down boxes that will move to a new page when the user clicks on a menu item. Again,

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current editors make this simple enough. In Dreamweaver, for example, go to Insert, Form, Jump Menu and add the text items and URL links you want to use for your menu.

More and more sites are appearing that make use of DHTML elements (essentially JavaScript and cascading stylesheets) to create pop-up menus. If you're engaged in web development for any length of time, at some point you will be asked to create this type of navigation system.

Hand-coding dynamic menus is difficult and I would recommend an application such as Xara Menu Maker (www.xara.com), QuickMenu Pro 5.0 (www.opencube.com) or Milonic DHTML Menu (www.milonic.com). They all cost between £20 and £30 and, if you need to create a lot of

↑ Sites are increasingly using dynamic pop-up menus for more sophisticated navigation

↓ Menu Maker's interface makes creating dynamic menus simple

navigation systems, will pay for themselves quickly. Menu Maker is generally the easiest to use.

Finally, the most innovative navigation systems tend not to be HTML at all but consist of Flash or Java links. There is a drawback, though - if a visitor does not have the appropriate Flash player or Java virtual machine, he or she cannot navigate the site and will quickly lose interest. The same is true of any site that relies on scripted options such as jump or dynamic menus.

An increasing number of savvy web users switch off JavaScript, rendering your fancy pop-up menu worse than useless. In addition, navigating such systems can be difficult for visually

impaired browsers who rely on text-to-speech software. So you should also provide text-only links somewhere on the page.

Meet Menu Maker

Menu Maker employs an extremely elegant interface to simplify the creation of dynamic menus. Start the program and click on the New button to select a design. The context-sensitive options will change to allow you to adjust elements in your menus.

The Text, Color, Texture and Size buttons are fairly self-evident. They enable users to choose fonts, colours, graphic sizes and any background textures. Each screen includes a Simple and Advanced view, the latter obviously offering more features than the former.

But the real work - and the point at which Menu Maker gets complicated - lies under the Menus button. As well as viewing the Mouse Off, Mouse Over and Selected states of each menu item, the Button Properties tab is where you enter the text for each menu.

Click on the text you wish to change or the plus button to add a sub-menu, then specify a URL for each item. Menu Properties is where you add borders, animations or transparencies to your entries.

When your dynamic menu is complete, click the Save button and navigate to the folder where you want to store your images and, more importantly, the JavaScripts that power these menus. Each script is self-contained and can be pasted into your web pages or - more efficiently - linked to them using the <link> tag. ☒

Site of the month

Like many useful websites for internet developers, this month's featured site won't win any awards for its presentation - but it is simply too helpful to be passed over.

Site Navigation (www.site-navigation.net) includes links, scripts and resources for a huge number of navigation tools, including JavaScript, DHTML, Java and Flash-based programs and scripts, many of them completely free.



No place like multihome

When it comes to non-domestic networks, Internet Connection Sharing simply won't do. The answer is multiple IP addresses and a whole bunch of NICs

Connecting a PC to a fast broadband connection is a piece of cake by any standards. And, thanks to Wizards and Universal plug and play, sharing a connection with other networked PCs isn't much more difficult.

Internet Connection Sharing is fine for small home networks but doesn't really scale when it comes to larger ones. For a start, security becomes much more important - something that is largely absent from a domestic peer-to-peer network.

Often, the host PC will be a file server, probably carrying a mail and web server for good measure, not to mention a proxy server or firewall.

When you factor in these elements, the level of complexity escalates exponentially and a slightly different network approach is called for.

Is two too much?

If I may digress for a moment, I recently invested in a raft of new hardware for a PC in dire need of upgrading. Contrary to popular rumour, the tasty review kit we're showered with does actually return whence it came, so I had to put my hand in my pocket.

I decided on a new Asus motherboard, one with a model number redolent of a Windows XP product key. Naturally, this state-of-the-art design is stacked with excellent features including dual network interfaces. That's right, it has two network ports.

Now why, I can hear you asking, would anybody need two network

ports on a PC. Surely one NIC (network interface card) is plenty for all the networking chores you can think of? And to paraphrase Blackadder's puritan aunt: "Two NICs would be an extravagance!"

Card sharp

Not so, is the short answer to your imaginary question. Plenty of PCs need two (or indeed more) network interface cards and they need them for very good reasons.

I first came across this several years ago when I introduced a client to the joys of ADSL broadband. They were running Microsoft BackOffice Small Business Server (SBS) 2000 which supported six workstations.

Once the BT provisioning guy had gone away, I was left with a functioning ADSL router and a network. But as I was to find out, hooking them up wasn't merely a case of plugging in a new CAT 5 patch lead in the hub. Oh, no.

True, there is nothing technical to prevent such a quick fix. But because we were running Small Business Server 2000 we had to approach this in a slightly different manner. The new ADSL gateway had an IP address of 192.168.254.254 - a standard BT ruse - and could not be altered (well, not easily). SBS, by default, uses a 'private' IP address range of 10.0.0.x.

In this situation you could decide to change the IP address of the SBS server and all the workstations. Not only would this be a chore, though, but

ROGER GANN

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because SBS is a 'well-stuffed' bundle, too many services would require manual reconfiguration. What to do?

Move to multihome

The solution is multihoming. When your computer is on a TCP/IP-based LAN, it has an IP address that identifies it on the network.

When a PC on a LAN is also connected to the internet, it has two IP addresses - one provided by the local LAN and the other by the ISP. A PC that is physically connected to two or more different networks is referred to as multihomed.

So how does a multihomed computer know where to go when it needs to talk to another computer? The TCP/IP protocol software has a routing table, which keeps track of the various TCP/IP networks and makes sure traffic is routed to the correct machines.

As we were running a proxy server that incorporated an industrial grade firewall, it made sense to go down the multihoming route. We fitted a second network interface card to the server and allocated it an IP address in the same range as the router - that is, 192.168.254.253.

But how do you tell SBS it's now got another NIC and what to do with it? The answer is the supplied Internet Connection Wizard that comes with SBS. This takes

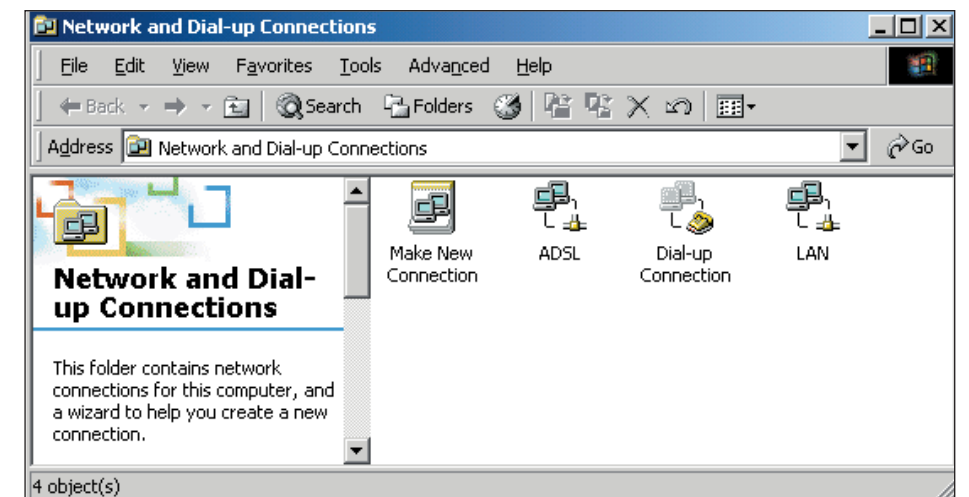
↓ Be sure to give your adapters descriptive titles. Having two NIC icons called Local Area Connection won't tell you which is which



When a PC on a LAN is also connected to the internet, it has two IP addresses. A PC that is connected to two or more different networks is referred to as multihomed

care of the fiddly configuration questions such as nominating which NIC is for the LAN, which is for the ADSL/WAN and so on.

And don't forget to tick the 'Show Icon In Notification



'Area When Connected' checkbox on the Properties page for each NIC. This puts tiny status indicators next to the system clock which flash whenever network traffic passes through.

While you're at it, give each NIC a meaningful name. Change them from Local Network Connection to LAN and WAN or something similar. That way you can tell which status icon is which.

Working in multiples

Actually, there's more to multihoming than taking care of internet security. The most common use is to bind multiple IP addresses to a single NIC, a configuration well suited to web servers because it lets a single server host multiple virtual websites. Microsoft IIS lets you do this, as do other web servers.

Prior to HTTP 1.1, multihoming required multiple IP addresses -

↑ When you add a second network adapter, another icon will appear in the Network and Dial-up Connections window

↓ The Internet Connection Wizard makes it easy to nominate which network adapter handles the LAN and WAN connections

one for each web domain - and possibly multiple network cards. However, the requirements changed when HTTP 1.1 introduced host headers, a new element for identifying websites.

Microsoft added support for host header identification from IIS 4.0. Such a scenario would also allow you to access two 'logical' networks. If you host a lot of websites, multihoming can save you the cost of renting, tracking and administering a large number of IP addresses by reducing them to a more manageable handful. It's possible to host 50 or more FrontPage-based websites on quite modest hardware.

A second type of multihoming is where two or more NICs are installed in the same server and attached to one network segment, as above. This type of installation allows you to have a different IP address/host name bound to each NIC, and maybe a different virtual web server too.

The arrangement also provides rudimentary load-balancing and can facilitate fault tolerance, since you have multiple IP addresses (and thus NICs) resolving to the same NetBios name. It would also allow one PC to connect to two 'physical' networks.

The final scenario involves installing two or more network adapters, each attached to separate network segments. This arrangement also provides fault tolerance and basic load-balancing. It allows, for example, a dedicated channel for backup data, so that it doesn't impinge on normal network traffic. ☑

