Dangerous liaisons

Beware of those following you on the internet and don't get too friendly with strange emails, says Tim Nott. Plus, how to speed up Paint and replace the squiggle on the Explorer toolbar.

Last month I warned that clearing the contents of your Internet Explorer History and Temporary Internet Files folders doesn't cover your tracks. If you examine the folders with good old File Manager (Start/ Run Winfile.exe) you'll still find a load of .DAT files remaining. Load these into a text editor and you'll find they contain details of sites you've visited and searches you've made.

Microsoft has now come clean on this. In an article entitled "Ten Ways to Configure Internet Explorer for the Enterprise User" in the May edition of *Microsoft Technet*, Bryan Pfaffenberger says: "It isn't much fun to think about, but somebody snooping around on your system could learn a great deal about what you've been up to. Suppose, for example, you've gone off to lunch, left your door open and your PC running. Anyone who walks in could learn a lot about where you've been online, just by looking in the folder where Internet Explorer caches the pages you've downloaded.

"Users can delete these files, but that's not a bullet-proof solution. Unbeknown to most Internet Explorer users, the program keeps an exact byte-by-byte record of where they've been online. This record is stored in .DAT files located in the Temporary Internet Files folder. Amazingly, these files also include an exact byte transcription of everything you've uploaded and everything you've downloaded, right back to the time you installed the program.

"Here's the rub. Unlike files stored in Internet Explorer's cache, you can't delete these .DAT files. Try it — you'll be denied access. By copying these files and inspecting them with a binary decoder, a knowledgeable intruder could reconstruct your user's every move going back months,

even years. If you're worried about snooping, the best defence is to install a bullet-proof, password-based authentication program on your computers." This shows commendable candour on Microsoft's part but perhaps a poor grasp of reality.

The following are my own observations. Firstly, you can't see these files in Explorer, even with the Show All Files option enabled. Secondly, you don't need a binary decoder — you can see the URLs and search criteria in WordPad, for example. And thirdly, the sentence "Amazingly enough… back to the time you installed the program" would appear to be utter nonsense unless Microsoft has discovered a new, infinitely recursive compression algorithm.

Fourthly, you can delete these files. And here's how. First start Internet Explorer, clear the History folder (View/ Options/ Navigation/ Clear History) and the Temporary Internet Files (View/ Options/ Advanced/ Settings /Empty Folder). Close Internet Explorer and run File Manager. Expand the Windows folder, making sure that under View/By file type… you have Name set to *.* and everything else ticked. You'll see two .DAT files in each of the following six folders: Cookies, History, and Tempor~1\Cache1 to Cache4. And, true enough, you won't be able to delete them at this stage or load them into WordPad. You should, however, be able to drag copies onto the desktop and load them from there, if you're curious.

Restart Windows, restart File Manager and you'll find you will be able to delete all the .DAT files and all the information hidden in them. Since you're doing this from File Manager, they will bypass the Recycle Bin. If you're really, really, paranoid, note that it is still possible for someone to recover this
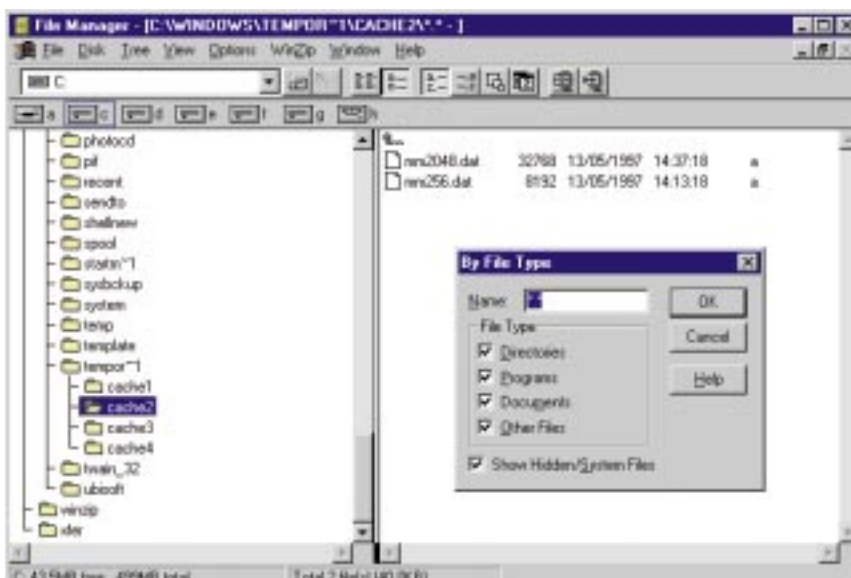
It may be old, but it tells the truth…

data from your hard disk using the DOS undelete utility or a disk sector editor until it is overwritten by new data.

Health warning

If you use email, you've doubtless received one of those "public service" messages that go something like: "If you receive an email named 'Penpal Greetings' DELETE IT WITHOUT READING IT. It contains a dangerous Trojan Horse virus which will infect the boot sector of your hard drive and will destroy all data. It is a self-replicating virus which, once read, automatically forwards itself to all of the addresses in your mailbox! DON'T READ IT!"

Variations on the warning mention "Good Times" and "Make Money Fast" in the message title, and they are all untrue. You can no more catch a virus from an email text message than you can get pregnant — especially if you are male! So, if you receive (as I did) the following email, you can safely ignore it: "The CIA issued the following warning this morning. There is a computer virus that is being sent across the internet. If you receive an email message with the subject line 'Free Money', DO NOT read the message. DELETE it immediately, UNPLUG your computer, then BURN IT to ASHES in a government-approved toxic waste disposal INCINERATOR.

"Once a computer is infected, it will be TOO LATE. Your computer will begin to emit a vile ODOR. Then it will secrete a foul, milky DISCHARGE. Verily, it shall SCREECH with the tortured, monitor-shattering SCREAM of 1,000 hell-scorched souls, drawing unwanted attention to your cubicle from co-workers and supervisors alike. After violently ripping itself from the wall, your computer will punch through your office window as it STREAKS into the night, HOWLING like a BANSHEE. Once free, it will spend the rest of its days TORTURING household PETS and MOCKING the POPE. Some filthy, disgusting miscreant…some no-good, low-down, good-for-nothing DIRTY SNAKE, in twisted pursuit of their own sadistic dreams, is sending this virus across the net via an email entitled 'Free Money'. What is so terrifying about this virus is that you do not even have to open the email for it to activate. In fact, you do not even need to RECEIVE the email. You do not even need to OWN a COMPUTER. 'Free Money' can infect even minor HOUSEHOLD APPLIANCES. How it does this with straight ASCII code is, frankly, a

matter of some debate…but BELIEVE YOU US, if this weren't a SERIOUS situation, we wouldn't be discussing it in ALL CAPS."

Beware of geeks bearing gifs

All right, quieten down now. There is a serious side to this, too. Although reading a plain text message can't harm your computer, running (or in some cases, loading) an attached file can. At the simplest level, a DOS batch file (*.BAT) can contain a variety of simple but effective methods of trashing your hard disk.

Data files, like Microsoft Word and Lotus WordPro documents, can contain macros that wreak similar havoc. You'd be mad to run an EXE file of doubtful provenance and I'm sure there are others. If you use something like WinZip, you can see the contents of a ZIP file before unzipping it (although the contents may be harmful) and as far as I know graphics files are harmless.

Think carefully before opening any kind of attachment. Some kind, anonymous donor sends you a free screensaver? Don't touch it with a barge pole. Why? Well, try this: copy (say) Freecell.exe to the desktop, rename it Penguin.scr. Double-click on it. It still runs Freecell, right? So any executable could be masquerading as a screensaver (SCR) file, including those that really make your PC SCREECH with the tortured, monitor-shattering SCREAM of hell-scorched souls etc. For this and other reasons, can I ask readers to please not send me encoded mail attachments of any kind, without prior arrangement.

Watching Paint dry

Nigel Wilson had a problem with the Windows Paint accessory. "*For some reason, the program takes an entire minute and 45 seconds to load up, and a mind-numbing two minutes and 15 seconds to exit. I've defragged my hard drive, and approached Paint from three directions — the Desktop, the Start Menu and through the 'My Computer' route — all to no effect.*"

He didn't mention, but I suspect also found, that Paint runs like a tortoise on tranquillisers in between starting and shutdown. Almost certainly the problem is one of default image size. Paint manages memory like, well, I forget what, but it is very bad at it. Start Paint, go to the Image/Attributes dialog and change the height and width to something fairly low (I use 150 x 150 pixels). Close Paint and you will find this setting is saved as the

How to slow your PC right down... Knock a zero off to speed it up again

default new image size.

Paint will load and exit more speedily.

Temp trouble

It takes all sorts, including a reader who shall remain nameless. His problem was: "*My Temp folder keeps filling up with files. Most of them seem to start with a tilde (~) and have the extension .TMP. It won't let me delete the most recent ones, and if I leave it for a few days I end up with hundreds of the things.*"

Yes, well. I'm sure we've all asked even dafter questions. I certainly have. So here's a straight answer. This is what your Temp folder is for. Many applications create temporary files — for printing, autosaving, undoing and so on. Usually these files will be deleted when the application is closed and, understandably, Windows won't let you delete them while they are in use. If the application, or Windows, crashes, then it can leave them behind. The same thing can happen if you switch off the computer without first shutting down as, I suspect, my correspondent had been doing. In any case, it doesn't hurt to have an occasional look in the Temp folder and delete anything whose date and time is prior to the last booting of the PC.

Department of incredibly obscure tips

■ You know that rather pointless squiggle on the toolbar of Internet Explorer? Well, the former editor of a well-known technology magazine wanted to know how to replace it with a bitmap of his own choosing. The tricky bit was finding out how and where in the registry the information was stored. The key HKEY_CURRENT_USER\Software\Microsoft\Internet Explorer\Toolbar looked promising but made no mention of the background bitmap. I then had the bright idea of turning off the background bitmap from Internet Explorer's View/Options. And there it was in the registry; a new string value, BackBitmap = "". Stick a path and file name of a .BMP between the quotes, and there you are. The bitmap will be tiled or

Make Internet Explorer more pretty with a fern or two

cropped to fit the space available.

■ Did you know that you can drag files into DOS windows? If you have EDIT.COM installed in your Windows\Command folder, try opening a DOS session, typing Edit (with the space) and dragging a text file from any folder, or the desktop. You'll see the file name and path appear on the command line: press enter and the file itself will appear in the DOS text editor. It saves a lot of typing when using things like the FC command to compare the contents of two files. Something I do a lot when footling about trying to track registry changes with "before" and "after" exported versions.

It also works with folders: try DIR and drag. You can perform similar tricks with the Run command on the start menu dragging files and folders into the Open box. If you want to use resident DOS commands, such as DIR, you need to type COMMAND /K before the command itself.

Gilding the lily

It's gratifying to come up with a tip and have readers improve on it. At least it means they are reading my column! Daren Chandisingh read the hint about selectively deleting file types from the Documents menu [*PCW July*] and made the following observation that you don't need to enclose the file names in double quotes.

DEL C:\WINDOWS \RECENT*.GIF.LNK will delete all the shortcuts to GIF files in the Start Menu Documents folder. He points out that although you can't run this command from Autoexec.bat, you can create a file called Winstart.bat and put it there: it will be run automatically when Windows starts. You are right on both counts, Daren. Thanks.

Peter McGarvey, who starred in April's column, has a different way of muting the PC sound when the phone rings. He writes: "*I have three computers, three keyboards,

three mice, two monitors, two printers, a set of speakers, many CDs and sod-all space. I have a piece of wood which I place on the arms of my chair. On top of this goes the keyboard of the computer I'm currently using, and the mouse. To get out of my chair I stand, turn 180 degrees and place the board back on the arms of the chair. I turn around again and step over the mountains of kipple that have accumulated since I sat down, avoid the odd cat and wander off.

"*My computer's speakers are the best in the house so I use them to listen to music while I lounge on the bed to read the latest issue of PCW. If the phone rings I have to stop my computer from making so much noise. Getting to the volume control is a bit of a problem when I'm heading for the phone so I used to try to hit mute with my mouse. This is actually a very difficult thing to do when your monitor is situated about a foot behind you, under your right armpit — try using your mouse after turning it 180 degrees and you'll see what I mean.*

"*When I thought about it, it wasn't the computer's sound that was the problem, it was the CD. So I worked out how to pause the CD from a hotkey. A shortcut with the target C:\WINDOWS\FLEXICD.EXE /resume and the shortcut key CTRL + ALT + P (which also corresponds to Alt Gr + P). I can hit it with my right hand as I move it towards the phone. When I've finished on the phone I hit it again and my music continues.*"

You need FlexiCD from the MS Power Toys to do this. As far as I'm aware there is no equivalent method using the standard Windows CD player. If you don't want to download or install the whole Power Toys caboodle, I've included FlexiCD on this month's PCW CD-ROM. It's a neat little improvement on the Audio CD player that sits in the system tray, and it's freeware.

PCW Contact

Email **Tim Nott** at Win95@pcw.co.uk or write to him c/o the usual *PCW* postal address.

FAT chance

Well actually, yes, there is a very big chance of clawing back some disk space using FAT16 and 32, or the Drivespace utility. Tim Nott shows you how it's done. And, Crapola, anyone?

Last month we solved the mystery of the apparent disparity between disk size, total file size and free space. To recap, it's all down to cluster size: the minimum chunk of hard-disk space that can be allocated to a file.

The original release of Windows 95, like Windows 3 and DOS, uses a 16-bit File Allocation Table (FAT16, for short). The FAT is a list of every file, or part of a file, that exists on the disk, together with its physical location on the disk.

Although Explorer shows files and folders laid out in a logical structure, the underlying arrangement of physical data isn't. Files are created wherever there is room, and a single file may be split over several locations. The FAT acts as an address book: the Aardvarks might be listed next to the Aaronsons in the book, but it's unlikely they will be neighbours. The 16 bits refers to the space available to record each location, and this is where the limitation arises.

16 bits equals two bytes, which can only address 65,536 (256 x 256) locations. *Ergo*, on a disk of 256Mb or less, each location, or cluster, has to be 256 x 1,024 x 1,024 / 65,536, or 4Kb in size. Each time


you double the disk size, you double the cluster size, so a disk containing between 1Gb and 2Gb (1,024 - 2,048Mb) uses 32Kb clusters.

All this dates back to the time when a 20Mb hard disk was regarded as unthinkably vast. No-one was ever going to need more than 640Kb of memory, and the year 2000 was never going to arrive.

It's further complicated by absolute limits. FAT16 can't deal with more than 2Gb or, on older hardware, 512Mb. But to get back to the question we left hanging last month: what can be done to claw back some of the wasted disk space?

Use DIR /V from DOS to compare file size and disk space allocated

A fatter FAT
The Windows 95 OEM Service Release 2 (OSR2) which came out late last year, uses FAT32 which is, as you may already have guessed, a 32-bit File Allocation Table. In theory, and if I've got my arithmetic right, this is capable of addressing 4,294,967,296 (256 x 256 x 256 x 256) locations, which would give a cluster size of 512 bytes on a 2Gb disk. The minimum physical cluster possible on a hard disk is also 512 bytes. In practice, this would mean a FAT bigger than the data itself, so the minimum cluster size is set at 4Kb on disks up to 8Gb in size.

Although this is far more efficient in terms of storing small files such as shortcuts, there are drawbacks. First, there's the effect on performance. As we saw earlier, a file larger than one cluster can be physically split between different disk locations. This increases the time taken to read or write the file to disk, as the heads scoot about the surface looking for the next bit. The larger the file, the greater the hit on performance, and with very large files (hundreds of megabytes) even Microsoft concurs that FAT16 is faster.

The other drawback is that FAT32 isn't compatible with DOS 6.22, Windows 3.x and Windows NT. So you can't dual-boot, for example, between Windows 95 running FAT32 and Windows 3.x. For this reason, OSR2 isn't available as an upgrade: you have to buy a new PC, hence the OEM

Bugwatch

If, like me, you subscribe to CIX and use the Ameol2 offline reader, beware. If you've configured this to be your default mail application, click on a "Mail to…" link on a web page or in any application that supports mail links, then Ameol2 will be launched with a new message window open and the address filled in. All fine and dandy, unless you already have Ameol2 running, in which case a second instance is launched. With two (or more) Ameols working on the same database of messages, things will become rapidly confused. David Nicol found that "*…at about this point, I got a message from Ameol to the effect that it was having trouble opening a folder and offering to delete it: I let Ameol go ahead and delete the folder and… oh dear, all my emails vanished.*" Luckily, David had a backup. I had a similar experience but fortunately noticed that there were two Ameol2 buttons on the taskbar, so declined the kind offer to delete any folders before closing the second instance.
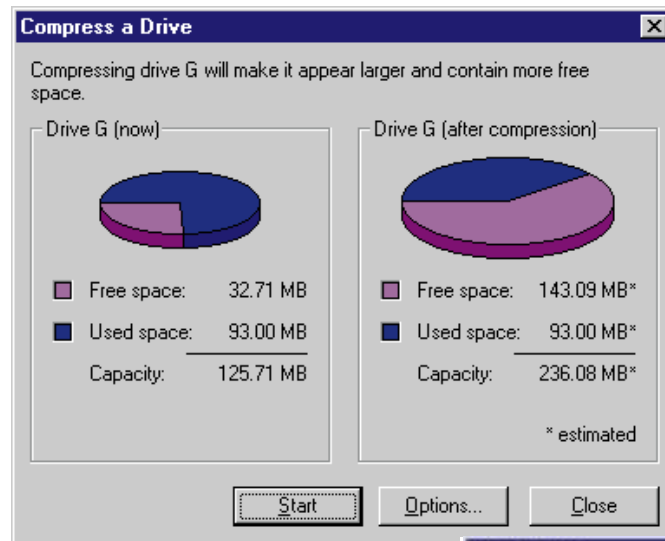
(Original Equipment Manufacturer) tag.

The next way to save cluster space is by partitioning. I've been using the word "drive" rather loosely, but there's a difference between a physical drive and a logical drive. For example, I've got two hard disks in my PC: I can open the box, then see and touch them if I've really got nothing better to do. However, Explorer shows I've got drives C, D, E, F and G, in addition to the floppy A and the CD-ROM H. Of these, C, E, F and G are all partitions of the same 1.7Gb disk. DOS and Windows treat these as separate drives; hence, as each is under 512Mb, I get away with 8Kb clusters.

The standard way of achieving this is by using the DOS utility, FDISK, to create primary and secondary partitions. It is quite simple to use (you follow a series of prompts) but the problem is that it destroys all data on the hard disk. So unless you're starting from scratch with a new hard disk, it means backing up all your data and applications.

In practice you'll probably have to reinstall all the applications from scratch, as they will no longer fit onto (logical) drive C, and all shortcuts, registry entries and so on will no longer be correct. This is a dreary prospect, and if you reckon it's worth £50 or so not to have do this, there's an application called Partition Magic which will create or resize partitions, including those for OS/2 and Windows NTFS, without

destroying data. I haven't actually tried it but I have heard good reports. (See "PCW Contacts", p**???**.)

Spaced out
Yet another way is to use the Drivespace utility that comes with Windows 95. This has the tremendous advantage of being free, and easy to set up. Go to "Accessories/ System Tools" from the start menu, and you should find it. If not, launch C:\WINDOWS\DRVSPACE from the Start Button "Run" command. You'll see a list of all your floppy and hard drives (or partitions).

It works rather like ZIP, in that it creates a single file on the partition that serves as a container for all files and folders. By compressing and decompressing the files as they are read from, and written to, the disk, it claims to save around 50 percent of disk real-estate. The program warns you that it could take several hours to compress the drive and you should back up data first.

Having created a compressed partition, it's completely transparent; it just appears as another drive. You can hide the "host" drive if you want to and adjust the compression level. Astute readers will notice that even without any compression, there's still a substantial saving, as the One Big File is never going to leave more than one unfilled cluster.

The real worry is security: if the One Big File gets corrupted, you're in One Big Heap of trouble. In mitigation, however, I would say that although I'm in the rare state of having enough hard disk space at present, I've used various brands of disk compression over seven years, and only once had a major disaster, which was probably my fault. In further mitigation, I'd say that you don't have to compress everything. You can keep irreplaceable data on an uncompressed partition.

Whose computer is this anyhow?
In the May edition of this column, we discussed how to change the user name and company of your PC, either by editing the registry or by using the "real man" method of a disk sector editor. That takes care of the "Help/About" box, but there's more, as Rick Mason kindly pointed out.

If you've bought a PC with Windows 95 pre-installed, you might well have more information in Control Panel System Properties. Typically, there will be a logo, the make and model of the PC and a helpful-looking button titled "Support Information". If you don't have this, but would like to or, like Rick, you bought your PC from the late, unlamented Escom and would rather forget about this, here's what to do. First, forget the Registry, as this is all in an old-fashioned .INI file. Then, find, or create with Notepad, a file in Windows\System, called OEMINFO.INI. Use your imagination and good taste to edit it accordingly — anything to the right of the equals sign is up to you:

```
[general]
Manufacturer=Crapola Corporation
Model=The Cheapest
[Support Information]
Line1=At that price you have to
be joking
Line2=Figure it out for yourself
Line3=You can have up to ten lines
of this
```

And now for the classy logo. Create a .BMP file in Paint or the bitmappy application of your choice. According to

Copying an entire floppy disk

Rick: "*The maximum size is 180 (w) x 114 (h) pixels. BMPs do not have built-in transparency, like GIFs, but in this case transparency seems to be set by the colour of the second pixel from the left on the bottom row of the image.*" If you don't want to make your own, Rick continues: "*Take a look at* www.geocities.com/TelevisionCity /3981/crap_pcs.htm *to see the logo I use: it's a fictional company from BBC2's Red Dwarf, as should be obvious from the rest of the site.*"

Thank you, Rick. I am now the proud possessor of a Crapola and only have to right-click "My Computer" and choose "Properties" to be reminded of this.

Tiresome tildas…
In May's column we also considered a way of changing the default DOS short filename, so it truncated non-ambiguous filenames rather than using the ~n ending.

Alex Nicholls warns: "*I did this a long time ago and also (manually) changed the short name of the 'Program Files' folder from 'PROGRA~1' to 'PROGRAMF'. It turns out that a lot of installation programs from Microsoft (notably Internet Explorer) insist not only on installing into Program Files, but work with the short form, in the PROGRA~1 version. So does the link from NotePad to call WordPad to edit a large file (although this can be adjusted in the registry). So the change can cause trouble and I find myself wishing I hadn't done it.*"

Iconoclasm
Alex Slack's icons have gone all funny… no, don't laugh, commiserate. "*I was fiddling with virtual desktops when I found all my icons had been turned duller,*" writes Alex. "*For example, white had turned to light grey and dark grey had turned to dark red, but it didn't affect any other Windows graphics. So far I've tried changing resolutions and colour depths, reinstalling the drivers which came with the card and the Windows default drivers, fiddling with colour spines and gamma correction, but the problem remains. Even stranger is that icons that were put in after the problem, are fine.*"

There is a simple cure for this. You certainly shouldn't have to reinstall any drivers or fiddle with colour spines (whatever they may be). If you've got TweakUI installed in Control Panel, then there's a "Repair" tab with a button to mend it. If you haven't got TweakUI (and you really should — it's part of the Powertoys collection and features regularly on our cover-mounted CD), open the Windows folder and delete the file named Shelliconcache. This file keeps all the icons used in one place to speed performance, and Windows will rebuild it in the fullness of time.

A luvverly bunch

…of bananas, pretzels, clusters, unfeasibly large fonts, loud music and phones. Tim Nott has something useful to say about the lot of 'em, fixing and tipping all over the place.

Philip Dodd has asked, "*Can you suggest a way of instantly muting the audio, via the keyboard? The problem with clicking the loudspeaker symbol on the taskbar to get the volume control displayed, and then clicking the mute box, is that it takes a few seconds to accomplish, by which time the phone could have stopped ringing.*"

You must have some rather impatient callers, Philip, but this problem has never occurred to me before as I have my sound card plugged into a tuner/amplifier because sometimes I like to listen to the radio. The phones sit on top of this so I've perfected the technique of turning down the volume knob and picking up the phone in one fluid movement! But this is a challenge, so I've squandered some time researching the undocumented command line switches for the volume control.

The first thing is to know what you are looking for. In this case, the filename of the volume control: it's SNDVOL32.EXE and lives in the WINDOWS folder (Fig 1). There isn't, as far as I can tell, any direct way of getting this to mute the sound on launch, but running this with the /s switch produces a compact form of the multi-slider window. The /t switch produces the same minimal single-slider and mute box as a single click on the speaker icon in the system tray.

So, create a shortcut on the desktop, with the target

```
C:\WINDOWS\SNDVOL32.EXE /t
```

and a suitable shortcut key — I've used Control + F12. To mute the sound, hit the shortcut key followed by M (another M will toggle it back on again). Although the
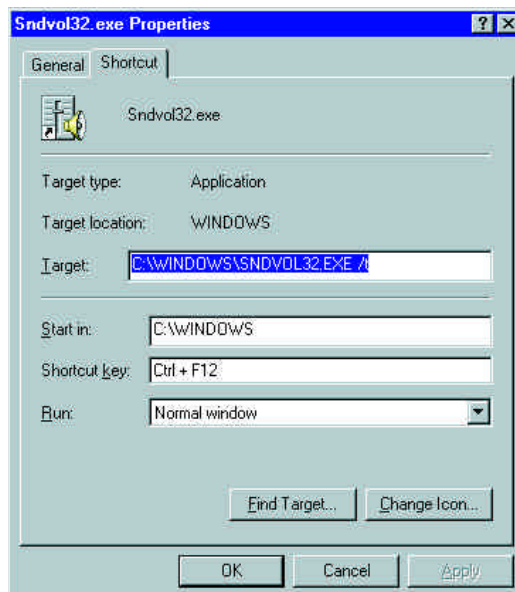

Fig 1 Shortcut for the tiny volume control

minimal volume control doesn't have a close button, clicking anywhere off it, or pressing Alt + F4, closes it.

The great Explorer
Further to the tip on getting Explorer to start without any drives expanded by using

```
C:\WINDOWS\EXPLORER.EXE /n,/e,/
select,C:\
```

as the shortcut command *(PCW April)*, Ray Daniels and Mike Davis complained that they can't find a way to make this work when opening Explorer by right-clicking on the Start button, so is there a way around this? Sorry guys, no. The whole idea of the "Explore" and "Open" menu options on the Start button is to jump straight to the "Start Menu" folder so that you can organise the shortcuts therein and the folders below. It isn't intended to be a general-purpose launcher for Explorer. But as you've got it

open, you can create a shortcut to Explorer, as shown earlier, in the top Start Menu level. And that's still only two clicks away.

One-stop restart
In January we did the tip on how to close down Windows without the "Shut Down Windows" confirmation dialog. For those of you who missed it, the trick is to create a shortcut to

```
C:\WINDOWS\RUNDLL32.EXE user.
exe,ExitWindows
```

This bypasses the confirmation, but will still prompt you to save any open files.

Since then, several of you have asked whether it's possible to restart in a similar manner. Well, it's not *really* similar, but Ralph (*no surname*) offers this tip. Create a batch file with the single line:

```
@EXIT
```

Save it as, say, RESTART.BAT, anywhere you like. Create a shortcut to it on the Desktop or anywhere else that's easily accessible. Right-click the shortcut, choose "Properties" and go to the "Program" tab. Tick the "Close on Exit" option, click on the "Advanced" button and tick the "MS-DOS mode" box. Untick the "Warn before" box. And that's it.

It took me a little while to figure it out, but what it does is the same as the "Restart in MS-DOS mode" option from the "Shut Down" menu; as normal, you still get prompted to save any open files. As soon as it has done this, it runs the DOS "EXIT" command which in turn restarts Windows. Very ingenious, but I would warn you that when I tried this, with Exchange running, my PC ground to a halt and I could only restart by turning it off. So, you might say, nothing

Fig 2 Paint magic — "just like that"

new there. When I tried it again, it was OK. So, I'd advise treating this with caution: make sure you have nothing unsaved until you've tried this out a few times, especially with any messaging services open.

Icons, folders and unfeasibly large fonts
"How," asks Michael Lucas, *"can I change the icons of folders on my desktop? With Windows 3.1 I had a thing called Icon Do-It, which let me change the Program Manager group icons. I'd like to do a similar trick to make my desktop folders more distinctive."*

Well, you can change the default icon with an icon-management tool like Microangelo (or by rummaging in the registry) but it's still "one size fits all"; you won't get distinctive icons for each folder. The only way to achieve this is to move all the folders elsewhere, then create shortcuts to each one on the desktop. Then you'll be able to change the icons individually from the properties sheets of each shortcut.

If you don't see what you want in SHELL32.DLL, the default choice, use the browse button to get to either a standalone .ICO file or another collection. There are some good ones in PIFMGR.DLL.

Andrew Romer was messing about, as one does, with display settings. Running at 1,600 x 1,200 *"…made the desktop items rather small, so I was trying to see what happens when you change the font size. Recklessly, I increased it five-fold and the window became so huge that I could not access the portion of Screen Properties which changes the font size back. I had to restore Windows from a backup. Is there a way of moving the window up and down using the keyboard?"*

Yes, there is, and it's the same as in Windows 3.1. Pressing Alt + Spacebar produces the window menu, the same as clicking on the icon at the left of the title bar.

get a rabbit into a hat? You're allowed to use whatever clipart you can find and Windows Paint (Fig 2).

First, catch your rabbit and the rest of the clipart in bitmap format. I cheated here by raiding the clipart gallery in Corel Xara, resizing the four images to suit and taking screenshots of them, which I pasted into a blank 800 x 600 Paint file.

Make sure the background colour is set to white, by right-clicking on the white swatch in the colour palette, and pick the rectangular selection tool. You'll see two rather meaningless-looking icons appear in the tray below the painting tools. Make sure the bottom one is selected, as this means that selections can be pasted "transparently" (in other words, the underlying colours show through any part of the clip that's in the background colour).

Draw a rectangle around the pretzel, and Control + drag it down to the bottom of the screen, to make a copy. Click anywhere outside the selection to paste it into place.

Repeat with the banana, Control + dragging it on top of the pretzel. Now pick the freeform selection tool, again making sure the transparency option is on. This is the bit that takes a little skill. Drag around the centre of the original pretzel to capture the area that will sit on top of the banana. Control + drag this into place, so it aligns seamlessly with the rest of the pretzel. The rabbit was done in a similar way, pasted transparently over a copy of the hat, then a copy of part of the hat pasted over the lot. Fairly pointless, but rather cool, I think.

Be selective
Every so often someone asks if there's a way to filter the contents of the "Recent Documents" list automatically.

So far, we've only been able to clear the entire list, either by right-clicking on the Taskbar and going to "Properties/ Start Menu Programs" and pressing the "Clear" button, or getting TweakUI (or a batch file) to do it on startup. Although I've yet to find a way to stop files getting on the list to start with, I have discovered the next best thing — selective deletion by file type.

If you open a DOS box and go to the Windows\ Recent directory (Fig 3), DIR will get you a list of the contents. Note that there are more files here than actually appear on the "Documents" menu. Also note that the long filename format, on the right of the listing, takes the format "my document.doc.lnk" or "picture.gif.lnk". So if you want to get rid of all the links to .GIF files, for instance, type into the DOS box (be sure to include the double quotes):

```
del "*.gif.lnk"
```

Repeat for any other extensions you might want to remove. You could automate this with a batch file on startup or close-down, but it won't work from AUTOEXEC.BAT; Windows has to load before long filenames are recognised.

Bugwatch
Although Win95 applications are supposed to include a de-installation routine, bitter experience has taught us that this doesn't always work. And, of course, Windows 3.1 applications installed under Win95 aren't able to register for de-installation either. Quarterdeck's Cleansweep 95 (v.2) has an "Install Monitor" feature that records changes to your hard disk, system files and registry. I used it a lot until one day I noticed that it wasn't recording changes to the registry. I was sure it used to, so I double-checked some old logs and, sure enough, it did, once upon a time. The culprit appears to be Internet Explorer 3, which, according
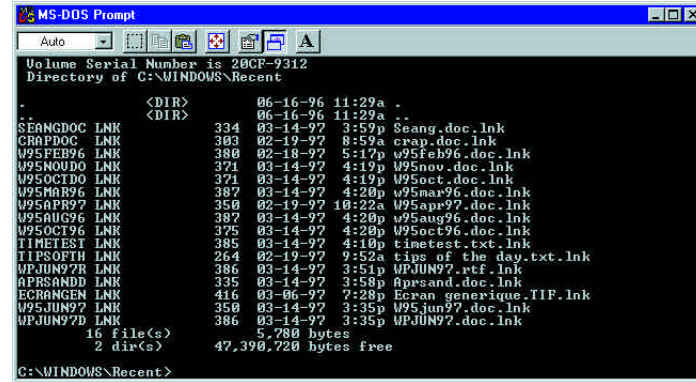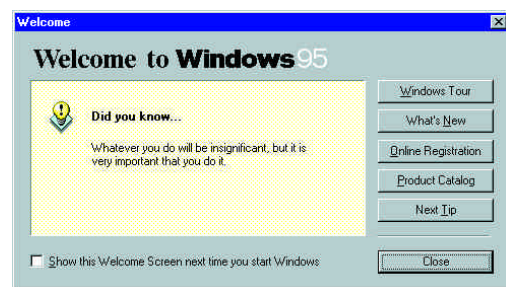

Fig 3 The DOS names of all those recent document shortcuts

size. On a 1.6Gb partition, disk space is allocated in units of 32Kb. Any file under this will occupy a full 32Kb cluster. Lots of tiny files are, therefore, extremely wasteful of disk space. But

to Quarterdeck, "Updates the files ADVAPI32.DLL and OLEAUT32.DLL in the Windows\System directory. These updates cause the problems with Install Monitor. To work around this problem, replace ADVAPI32.DLL and OLESAUT32.DLL with older versions of these files. *Note: You will be unable to use Internet Explorer 3.0 if you do this."* Hey, what a great workaround! The cure, apparently, is to "Download and install the latest IE 3.0 patches from Microsoft's web site". Microsoft makes no mention of Cleansweep on the Explorer site, except to say that version 3 can cause problems installing Office 97. Nor does Quarterdeck explicitly state that version 3 solves the DLL conflict problem. Which makes the honours (or rather the lack of them) about even.

Cluster's last stand
Simon Roberts has a 1.6Gb drive and noticed that it backed up 719Mb or thereabouts. But if he right-clicks on C:\ and looks at the "Properties" in Explorer, he sees used disk space of 1.14Gb and free disk space of 371Mb. On the other hand, if he goes to the right pane, selects all in C:\ and right-clicks Properties, he gets a total size of 719Mb again. So where is the other 400Mb? It's not in the recycle bin, and he has tried defragmenting and a thorough scandisk.

There are two things to realise here. First, any report on the free space on drive C:\ has to be taken with a pinch of salt as the swap file (the part of the hard disk used as "Virtual Memory") is constantly changing. Open C:\Windows and find Win386.swp. It will probably be the biggest file there, so click on the top of the "Size" column in "Details" view to bring it to the top. Now do something like starting another application. Go back to C:\Windows and hit F5 to re-read the disk. Watch the figure change.

Having said that, the thing that's largely responsible for the missing space is cluster

400Mb? Surely not *that* wasteful. Well, I couldn't believe it either, until I used the "Find…" command to winkle out all files on my own 1.6Gb drive under 4Kb. Find gave up when it reached 10,000. So, at 28Kb wasted for each, that would account for 280Mb.

Were one to iterate the exercise for progressively larger file sizes, a total of 400Mb doesn't seem unreasonable. See next month's thrilling episode for some solutions to this problem.

Pretzel logic
How do you thread a banana through a pretzel? How do you

"Tip of the Day"

From Mahatma Gandhi, courtesy of Andrew Stratford

Quickies

- Double-clicking in the title bar toggles full-screen/windowed view: i.e. it replicates a single click on the middle of the right-hand group of buttons on the title bar.
- Right-clicking on the title bar brings up the same menu as a left click on the icon at the left of the title bar (or Alt + spacebar).
- Lost the volume control on the Taskbar? This should do the trick: Control Panel/Multimedia — Audio tab. Tick the box that says "Show volume control on taskbar".
- If your NUMLOCK key refuses to start enabled despite the settings in the BIOS or CONFIG.SYS, add a key named "Keyboard" to the registry branch: **HKEY_CURRENT_ USER\ Control Panel\ Microsoft Input Devices.** Add a string value named "NumLock" to the key and set this to "ON".
- If you're faxing from a word processor (or other application) use the "Print to" rather than the "Send to" fax option. It's more reliable and less hassle.
- You can detach the WordPad toolbars or the toolbar and colour palette in Paint and move them anywhere.
- It's not new, yet few people know that any Notepad file with .LOG as the first line will automatically add the date and time to the end of the file each time it's opened.

PCW Contact

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Name that PC

Fed up with being called "A. User"? Been working for "My Company" too long? You need REGEDIT. Tim Nott shows you how to change the user name and company on your computer.

This month, a friend asked me how she could change her name. Not the one her parents had given her, but the one her computer dealer had branded, seemingly permanently, into her new PC. It's what you see in the "Help/About…" boxes, and forms the basis for all sorts of things such as installing new software or creating templates, so it's a comfort to get it the way you want it. By a happy coincidence, in an attempt at self-improvement, I'd been reading the column of the illustrious sci-fi author and PC guru, Jerry Pournelle, who had been tackling this very thing. You may think *I'm* mad, but this guy is barking. He has a fine, robust style: phrases such as "…the new Orchid Fahrenheit Video 3D board. That sucker screams" are bounced around the column. He also doesn't shirk danger or excitement. "Cyrus, still running, fell about three feet to the floor. The bezels popped off the front, and the CPU-Cool chip fan I'd attached to the Barracuda hard drive hung out the front looking for all the world like an eyeball popped out of its socket." (Cyrus is a computer, I think.) What really amazed me was his scornful attitude to some of our best-loved Windows utilities. Okay, I admit to defaming the Great British Car Industry by comparing one of its most successful products with Poledit, but you should hear what Mr P says about Poledit's dear brother, Reg.

So, he wanted to change the user name and company on his PC, as the person who configured his new hard disk had

What's in a name: the problem…

…and how to fix it
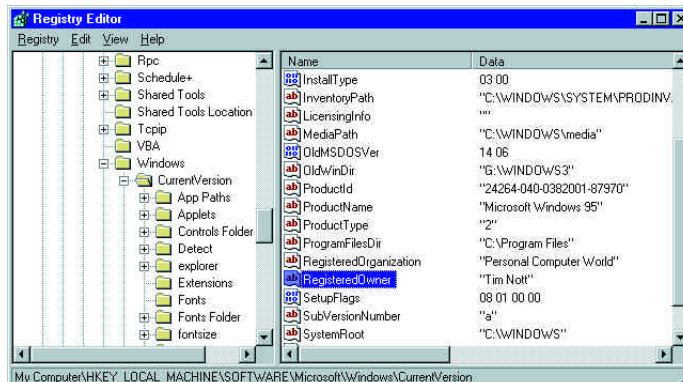
misspelled both. "The books say that a program called REGEDIT.EXE comes with Win 95… all the books warn you to be extremely careful. I tried it a couple of times, but I wasn't sure what I was doing so I never saved any changes I made. However, it became clear that what I wanted was in a hexadecimal file called SYSTEM.DAT." Uh-oh, Jerry. You don't save changes: they change dynamically. It gets better. Having made two backups of SYSTEM.DAT, he "attacked that file with the Norton Disk Editor. It turned out to be easy enough to find the hexadecimal equivalent of the word

'Mazgne'. A bit of study showed how the user and company names are stored, including what is used to terminate the string: it's an 01 followed by blanks. I looked up the hexadecimal equivalents of the English letters I wanted, used Disk Editor to fix my name and spell Magazine properly, terminated the strings with 01, and all's well." I won't bore you with the rest, but if you want chapter and verse, then I suggest you point your webby thing at byte.com/art/9701/sec14/art1.htm.

Anyway, I'm inspired by this no-nonsense macho stance and in future I'm going to write this column using EDLIN. For all those of you who've bought machines from box-shifters and are forever known as "A. User" of "My Company" but are too wimpish to deploy a disk sector editor, fire up that Regedit sucker and mosey on down to HKEY_LOCAL_MACHINE\ SOFTWARE\ Microsoft\ Windows\ CurrentVersion. Look for the two keys Registered Owner and Registered Organization: double-click on each to change.

Waltzing ma tilde

Every file on your disk has two names. One is the name that you see in folders, and the other is the one you'll see in DOS or File Manager. If you want to see both at once, open a DOS box and type "DIR /P" (the /P switch stops the listing scrolling off the screen). You'll see the Windows 95 long file name on the right and the DOS-compatible one on the left. If the Windows 95 extension is more than three letters — e.g. .HTML, the

DOS extension — it will be truncated to three, .HTM. If the name itself is more than eight letters, it will be truncated to six, followed by a tilde (~) and a number; the number increments for each file with the same six first letters.

You can change this behaviour so that the full eight first letters are shown, so Tyrannosaurus.txt appears as Tyrannos.txt, not Tyrann~1.txt. Start Regedit and go to

```
HKEY_LOCAL_MACHINE\ System\
CurrentControlSet\ control\
FileSystem
```

You should see an entry entitled "Win31FileSystem" in the right-hand pane. If you don't, search the Registry for that text. Right-click anywhere in the right pane, and select "New/Binary value". Type NameNumericTail over the "New Value #1" default and hit enter. Double-click on the new value and type 00 in the box. Close Regedit and reboot.

Note that this only applies to new files; it won't update existing ones as their short names are already created. Also, if you create more than one file with the same first eight letters, subsequent ones will revert to the six + tilde + number format.

Sound advice

When God didn't make little green applets, he didn't make them much greener than the Sound Recorder. Its most annoying feature is that you can only record very short clips: depending on the quality (which you can select from File/Properties) this varies between six and 60 seconds on my machine. Although you may well have better recording software bundled with the sound card, there is a way around this limitation. Hit the record button and wait until it reaches the end. Don't bother actually recording anything at this stage, this is just preparation. Hit the record button again: it will have a little shuffle around, then record another slice. Repeat until the number of seconds shown in the "Length" panel is enough for your needs. Then rewind to the

Breaking the sound barrier

beginning and do the real recording. Warning: you can produce some very big files this way, and they might break up on playback if you don't make as much memory free as possible. The Media Player seems to cope better with playback than the Sound Recorder. Thank you, Peter Darton, for that tip.

Recent files and recalcitrant colours

Two queries this month on the "Documents Menu". Dave Smith was having problems getting the Windows 3.1 versions of Lotus 1-2-3 (.wk4) and WordPro (.lwp) files to appear on this, the list of the last fifteen files worked on. The problem is that 16-bit programs can't add their files to the MRU (most recently used) list. This, at least, is the word according to Microsoft. But Dave goes on to say that this does work with old Ami Pro (.sam) files, and also with any 1-2-3 files that are opened from a shortcut on the desktop. I can't reproduce this strange situation, so I throw it open to the floor.

Tim Parkinson has the opposite problem: "How can I exclude filetypes from the Documents Menu? I don't really want

gifs and jpegs excluding the latest Word documents or text files I've opened." Sorry, Tim, and others who have mentioned this, you can't. Not unless you use a 16-bit program for editing bitmaps, anyway.

Noel Gallagher (no, not that one) had a little problem with his desktop settings. No matter what he changed the fonts and colours to, in Control Panel Display, every time he started, they reverted to Windows Standard. Noel did once have m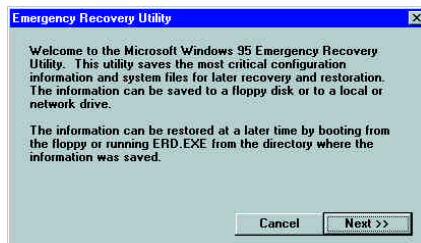ultiple users enabled, but not any more. This sounds very much as if someone has been playing with the System Policy Editor, and the cure is to load the latter again (Poledit), go to :File/Open Registry… double-click on the Local User Icon, and expand the branch named "Desktop". Clear any check marks by "Wallpaper" or "Colour scheme", and close the property sheet. Unlike Regedit, Poledit doesn't save changes automatically, so "File/Save" before you close Poledit.

David Nichol wanted to know how to convert a fax to a normal bitmap format. Faxes are stored in one big mailbox file, and although you can export them as individual .AWD files, I don't know of any software (apart from the Exchange Fax Viewer) that will read this. The trick is, while viewing the fax, to click on the "Select" button, drag out the area of the fax you want, then "Edit/Copy" or just "Edit/Copy Page". You can then paste this into any bitmap editor, though Windows Paint tends to choke on hi-res full pages.
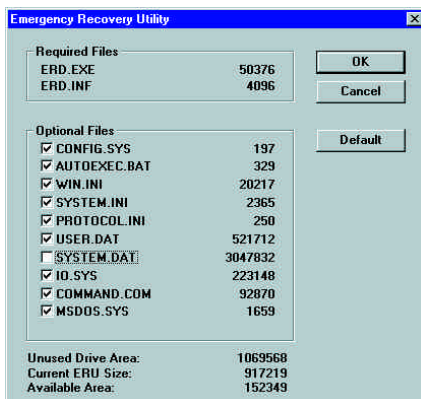

The ultimate Windows 95 survival disk?

Not quite. There isn't room…

PaintShop power users only
Here's a clever tip for PaintShop Pro 4 users, sent in by Tim Bailey. It let users browse pictures by right-clicking on a folder.
1. In Regedit, go to

```
HKEY_CLASSES_ROOT\ Directory\
Shell
```

2. Right-click on this and add a new key, called "Browse Pictures".
3. Right-click on this new key and add another new key called "Command".
4. In the right pane, double-click the "Default" entry and edit it to read

```
drive:\path\psp.exe /BROWSE %1
```
replacing "drive" and "path" to suit. (PaintShop 3 users should use drive:\path\pspbrowse.exe %1.)

Safe keeping
I've lost count of the times I've written "but first, back up the Registry". What's worse is that I've just noticed that this month's column has already offered three Registry tweaks and none of them contained the magic words. So, before you try them, BUTR. But how? The simple way is to make copies of SYSTEM.DAT and USER.DAT, which live in your Windows folder, to a safe place — for argument's sake, C:\Safe. Note that these files have the System, Read-only and Hidden attributes set, so to restore them you'll need to boot to DOS (press F8 at boot and choose Safe Mode Command Prompt) and do the following.

```
CD C:\Windows
attrib -h -r -s system.dat
attrib -h -r -s user.dat
copy c:\safe\system.dat
c:\windows\system.dat
copy c:\safe\user.dat
 c:\windows\user.dat
attrib +h +r +s system.dat
attrib +h +r +s user.dat
```

There's also the Configuration Backup utility. It's located on the CD-ROM at Other\Misc\Cfgback, and lets you keep up to nine Registry backups in compressed form. However, you have to be running Windows to restore the Registry from these, which is a bit of a challenge if it won't load due to a corrupt Registry.

Digging further into the Windows CD-ROM (Other\Misc\Eru) reveals the rather more useful Emergency Recovery Utility. If you copy this folder to your hard disk and run ERU.EXE, you get the chance to back up not just the Registry files themselves (SYSTEM and USER.DAT) but various other essentials, such as CONFIG.SYS, AUTOEXEC.BAT and various .INI files — you can choose which. By default, these get backed up to a bootable floppy disk — i.e. one that has had the system files copied on to it. In the event of catastrophe, restarting the PC with the disk in the drive will magically restore everything. There's a snag to this, however. After creating a boot disk, there is only about 1Mb left on a standard floppy. So when I tried this, it couldn't copy my SYSTEM.DAT file which somehow, behind my back, had grown to over three megabytes.

Fortunately, you can save the back-ups to a folder anywhere on your hard disk: ERU will copy the files, plus the program that restores them, ERD.EXE, to this folder. Let's say you choose C:\ERD as the folder. Restoring is then a little more complicated than from floppy. First, *don't* try to restore from within Windows. Either boot from a start-up floppy, or hit F8 during normal boot and choose "Safe Mode Command Prompt Only". Then change to the directory (CD C:\ERD) where you saved the files, and run ERD.EXE. Once the restoration is finished, you'll see a triumphant message. Reboot in the normal way; if you just booted from a floppy, make sure you remove it first.

Quick Explorer tips

1. If you want to select nearly all the files in a folder, highlight the ones you don't want, and Edit/Invert selection.
2. If you hold down the Shift key when double-clicking a folder in folder view, that folder will open in Explorer (i.e. two-paned) view.
3. Often, you want to make a safe copy of a file in the same folder, prior to messing around with the original. In Windows 3.1 File Manager this was simple — and still is if you run Winfile.exe in Windows 95. You highlight the file, hit F8, and then type in the new name. There's no direct equivalent in Windows 95, but if you right drag and drop a file in the same folder, then choose "Copy here", you'll get a copy of the file, named, appropriately enough, "Copy of xxx".
4. To open Explorer with all drives showing but not expanded, create a shortcut with the command line Explorer.exe /e, /select, C:\.
5. Clicking on a heading in "Details" view orders the files by that category. Clicking again reverses the order.

Cycling to work

Tim Nott explains the technique known as colour cycling, which you can use to "animate" your startup screen. And the History folder: web skeletons in your cupboard… revealed.

We've dealt before with changing the Windows start-up screen, but just to recap, the trick is to create a 256-colour .BMP file, 320 (w) x 400 pixels (h), and save it as "LOGO.SYS" in the root directory of the disk from which you boot (normally C:\). This doesn't change anything permanently; if you delete it, the default screen, embedded somewhere in the innards of Windows, will return. But what has hitherto eluded us, is how to achieve the animation: those jolly blue flashing bars at the bottom of the screen that keep us amused while Windows is loading. Now, thanks to the efforts of Jason Ozin, who wins a book or record token for his pains, all can be told.

What you see isn't, strictly speaking, animation. It's a technique known as colour cycling. In a 256-colour bitmap, also known as an "indexed" image, each pixel is stored as a one-byte number that refers to a place in a palette of 256 colours. The palette, stored in the same file, is optimised for the image: a clouds-and-sky scene would have lots of shades of blue and white; an autumn-trees scene lots of shades of red and brown. This, incidentally, is why you sometimes see bizarre colour changes when viewing multiple images on a 256-colour display: the altered image is being displayed in the palette of another image.

Each colour in the palette is stored in three bits corresponding to 256 values each of red, blue and green. Colour cycling scrolls some or all of the values in the palette, so each pixel cycles through the range available. If the graduations are subtle, this gives the illusion of a flowing "plasma" effect, as seen in the Chromazone screensaver *(Hands On Win3.1, Sept 1996)*.

To create a cycling image you'll need a

bitmap editor. You can use something like Corel Photopaint or Adobe Photoshop if you want to be posh, but I used Paintshop Pro (Fig 2); there was a trial version on February's CD-ROM. It has the advantage

Fig 1 (above) Enabling animation with a hex editor
Fig 2 (left) Editing the palette in Paintshop…
Fig 3 (below) …but it's easier to export it to Notepad

of being cheaper, easier to use and (a killer feature in this case) being able to import or export a palette as a plain text file.

You can use Windows Paint, but you won't have much control over what's animated as you won't be able to edit the palette. You'll need a hex editor and a sturdy anorak. For the former, I used Hexedit (Fig 1): it's old but simple to use and there's a copy on our CD-ROM in Hedit.ZIP.

Catch your bitmap (preferably in 16 million colours) and resize or crop it to 640 x 400. Although the final image will be half as wide, it's actually stretched to this size when displayed, so you'll be working in WYSIWYG mode. Do everything you want (like adding anti-aliased text that won't
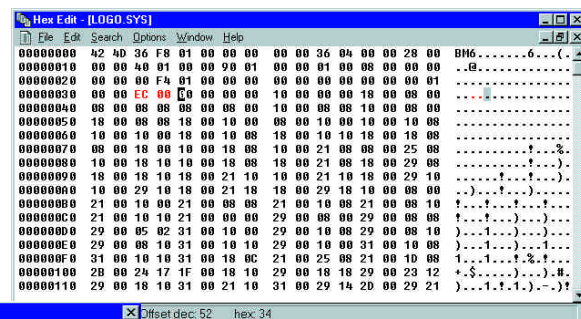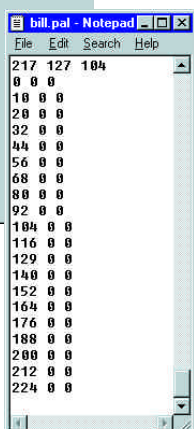
show the "staircase" effect) while in this mode. Reduce the colours to 236. In Paintshop, you can do this by going to Colours/Decrease Colour Depth/X Colours. Select Nearest Colour and deselect Include Windows Colours. This will leave 20 spare colours for your animation.

If you then go to Colours/Edit Palette you should see that the last 20 colours are all black and have values of 0,0,0. Double-click on one of these and you'll be able to edit it, either by dragging the sliders or entering red, green and blue values in the boxes. This is the tedious bit, as you must make sure that none of the new colours have already been used. There is an easier way: save the palette, from the Colours menu, and you'll find you can load this file into Notepad (Fig 3); you'll see a three-line header, followed by a line for each of the 256 colours in the form (for example, 256 0 0 is bright red). The last 20 should all be 0 0 0. I wanted some shades
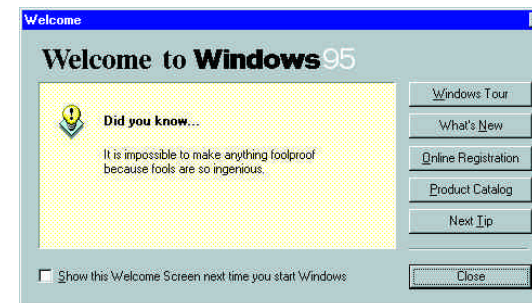
of red going to black, so I edited these to read 0 0 0, 10 0 0, 20 0 0 going up in steps to 228 0 0. Make sure none of the colours are already in the file. If it's a photo this will be unlikely, but if so, skip around them with a slightly different value. Save the file and with the original image open in Paintshop, load the altered palette. Using only the 20 new colours, create the bits you want to animate (double-click on the foreground and background swatches to choose).

I wanted to create a shaded circle effect but you can't use shaded fills in 256-colour mode. The workaround is to create a new file in 16 million colours, create the shaded fill using the same start and finish colours (by double-clicking the swatches and typing in the RGB values), then use the elliptical selection tool to copy and paste into the original file. When you're happy with everything, resize the image to 320 x 400 (Image/Resize), making sure that Maintain Aspect Ratio is unticked. Save the file as a .BMP (Windows RGB encoded).

Copy the file to C:\ and rename it to LOGO.SYS. Load it into the hex editor and go to byte 00000032. Change the value to EC (the hex equivalent of 236) which will mark the start of the cycling part of the palette. Change the following byte to 00 or 01: the former cycles through the colours and jumps back to the beginning, the latter cycles up and back down again, smoothly.

Save, exit and restart the computer: your new animated start-up screen should greet you. To give you some idea of what can be done, I've included two I made earlier on our CD-ROM (in Logos.ZIP). Bill.sys uses the red shaded circle effect mentioned earlier, as well as some static text that changes colour. Psyched.sys is a slightly doctored screen grab from Chromazone; in this case the cycling starts at hex 85. Copy either to C:\ and rename it LOGO.SYS.

Loony Bin

Following the exposé of the Recycle Bin *(November 1996)*, Matthew Connor wrote to tell me that his Bin had recently

Fig 4 Thank you, Peter McGarvey

developed strange properties:
1. *"Double-clicking the desktop icon reveals nothing: 0 objects, 0 bytes.*
2. *"DOS says there are 313 files in c:\recycled.*
3. *"Choosing File, Empty Recycle Bin elicits 'Are you sure you want to delete these 1041 items?'*
4. *"With the Recycle Bin window open, a newly deleted item will appear in the Bin, but not after it's closed and re-opened. The number of files in 2 and 3 above are both increased by 1."*

The most likely causes are that one or both of two hidden files in c:\recycled has been damaged, or that someone has moved files to C:\recycled using File Manager or DOS. Although the Bin

Sod's law

It's tip of the day time again. For those of you who haven't been following the saga, the communal goal is to create a set of suitably amusing replacements for the Windows "Tips of the Day".

Stephen Oman offered a generous selection including "Programming is an art form that fights back". Dave Ives came up with three including the oldie-but-goodie: "It doesn't matter who you vote for, the government always gets in". But star of the month is Peter McGarvey, whose example graces our screenshot (Fig 4, above).

His covering letter was even better: "Once upon a time I wrote a program, in C, to display a short piece of amusement, at random, from a large text file of amusements every time my computer started. This program was written for MS-DOS, the greatest operating system in the universe. All my friends saw this program and asked for a copy.

"However, the next greatest operating system in the universe, Windows 3, soon appeared. I wrote a program, in C++, to display a short piece of amusement at random from a large text file of amusements every time Windows started. All my friends saw this program and asked for a copy.

"However, the next greatest operating system in the universe, Windows 95, soon appeared. Alas, the program written in C++ started to misbehave and all my friends started to complain. To placate them I hacked the Windows registry using a subset (180 out of 2,000+) of the large text file of amusements to rewrite the built-in 'Microsoft Tips of the Day'.

"The next greatest operating system in the universe, Windows NT 4.0, has just appeared. However, all my friends, and Bill Gates, can sod off."

appears as a single entity, you get a Recycled folder on each hard drive or partition (Fig 5).

If you look at C;\recycled in File Manager (Run winfile.exe with View/All Files ticked and View/By File Type… everything ticked) you'll see a number of files named Dcn.* where "c" is the drive letter, "n" is a number and "*" the extension of the original file.

There should be two other files with the "hidden" flag set (i.e. an "h" in the right-hand column) named "Info" and "Desktop.ini". (There may also be Dcn.* files with the "h" attribute set, but this isn't important.) The Info file maps the Dcn numbers to the original file name. If it's damaged, nothing may show in the bin. Try deleting it. According to Microsoft it should be recreated when you start Windows, although this didn't work for me.

Alternatively, it may mean one or more of the recycled files themselves are damaged. If this is the case, Microsoft recommends you create a copy of the Recycled\Desktop.ini file in another folder, then delete the entire contents of the Recycled folder. Next, restore the Desktop.ini file to the Recycled folder and repeat the process for each drive or partition.

Note that doing this permanently deletes all files in the Recycle Bin.

Grovel

■ Stephan Freeman asks, re February's Hands On: "Does audio data really take up 10Mb/sec? So a one-minute long recording is 600Mb, and 72 minutes is 43.2Gb? Sorry, I had to point it out — I couldn't resist it." Thank you, Stephan. That should, of course, have been 10Mb/minute.

■ Concerning my comparison of Poledit with a well-known all-British motor vehicle, Jack Dobson complained: "Having just spent £9,000 on a new Reliant Robin, I am less than pleased at your sneering remarks. For me, it spoilt an otherwise good article." Sorry, Jack. I'll add the Reliant Robin to my list of politically incorrect subjects for humour.

History lesson

Those of you using Internet Explorer 3 will have noticed that Windows maintains a History folder, listing the URLs of recently-visited sites. This is in addition to the Temporary Internet Files folder that caches the web pages and graphics themselves. Like the Recycle Bin, Fonts and others, these are special folders: if you open them in File Manager, you'll again see a file called Desktop.ini. You'll notice, too, that things are not as they seem: under DOS or File Manager, the Temporary folder contains four sub-directories and the History folder contains, apart from Desktop.ini, just two files; MM256.DAT and MM2048.DAT. The former makes sense as it's more efficient to store and retrieve lots of small files in this way, rather than all in one directory. The latter makes sense as it saves disk space: if several hundred links were stored as individual files, each would take a "cluster" of hard disk space (on a 1Gb partition, that's 16Kb each).

Dig into the View/Options of Internet Explorer and you'll find you can empty both these folders. Or can you? Having cleared the History folder, you'll still find the two DAT files in File Manager. Load these into a text editor and you'll discover details of all the URLs and searches you thought you'd deleted. I'm not sure whether this is a gross breach of personal privacy or a heaven-sent tool for supervisors to crack down on unauthorised web browsing. But I think we should have been told.

Quick tips and clever tricks

■ Following January's tip for shutting down the computer without the confirmation dialog, Nick Mortimer and Tariq Atchia wanted to know if this shortcut could be modified to restart Windows. I have to confess that I haven't been able to find out, although it would seem likely. However, there is a quick way to log on as a different user. Press the Window key + L. If you

haven't got a Windows 95 enhanced keyboard, then you can use the Key Remap utility in Kernel Toys (on February's CD-ROM) to make the right-hand Ctrl and Alt keys behave as if they were the Window and Menu keys. Thank you, Ed Scrase.

■ Martin Short wrote: "In Win3.1 programs running under Win95, the drive letter heads the directory tree in Save As… This can be frustrating if I want to save some work on the desktop. Is there a way to modernise these trees?" In a word, no. Windows 3.1 applications use the old, common Open/Save dialog which maps folders directly to the DOS directory structure. This can't cope with the peculiarities of Win95, such as having C:\Windows\Desktop as a container for other drives.

■ Kev Baldry asks: "When opening Explorer, drive C: is always shown expanded. If I wish to browse, say, my CD-ROM on D: I have to scroll up drive C's listing until I can contract it. Is there a way to display all the drives just as their icons and not expanded when starting Explorer?" Yes, there is. Open the Start Menu folder, find the Explorer shortcut and right-click on it. Select Properties, go to the Shortcut tab and change the Target to read

```
C:\WINDOWS\EXPLORER.EXE /n./e./
select,C:\
```

■ Steve Luby writes: "When 32-bit programs lock up in Win95, I usually press Ctrl-Alt-Del which brings up the Close Program dialog box. Instead of proceeding to press the End Task button to terminate the program, just wait three or four seconds and press Cancel. For some reason this seems to purge the affected memory area and in a couple of seconds you are returned to your application, complete with all the data input up to the moment of lockup. I have tried this with several applications (most often with Word 95) and it seems to work very well most of the time." Word 95 locking up, Steve? Surely not! I've yet to try this, but it sounds like it's worth a go.

■ A quickie, from Peter Smith — I thought we'd had this before, but it seems not: "I have just realised that with Internet Explorer installed you can connect to web sites via the Run command on the Start menu. This led me also to find that you can put internet shortcuts onto the start menu as well."

Do it to **music**

Go beyond Control Panel/Sounds and add your favourite .WAVs on a per-program basis. Tim Nott shows you how to do it without third-party help. Plus, a surprise trip to the future.

Back in the days of Windows 3.0, I had a shareware toy called "Whoop-it-up". It went beyond the capabilities of the Control Panel/Sounds feature in that it enabled you to assign sounds not only to overall system events (Open, Close, Maximise, etc) but also on a per-program basis. It offered hours of entertainment and displacement activity. You could have your word processor opening with a few bars of Buddy Holly's "Words of Love", or watch CorelDraw crash to a clip of Murray Walker saying "Oh my goodness, he's spun off… again!" Anyway, the good news is that you can do it all in Windows 95 without any third-party help. It does involve a little registry editing, so back up SYSTEM and USER.DAT first.

Fire up Regedit, and boldly go to
`HKEY CURRENT USER\AppEvents\`
`Schemes\Apps.`

Under this, you'll see a key for ".Default" but there may be others. With "Apps" selected, right-click and pick "New Key". Type in the name of the program you want to add; that's the filename of the executable, without extension or path (e.g. "Notepad" or "Excel"). Highlight it and create new "Event" keys below it (e.g. "Open"). A list of the possible keys, and what they do, is in Fig 1.

Continue adding program and event keys until you're bored but don't assign any values to them. Close Regedit. Open Control Panel/Sounds. All your new applications and events will be sitting there, waiting for sounds to be assigned. Browse away to your favourite .WAV files.

What's app, Doc?
Q. Julian Toler has a mysterious file named "~oleapp.doc" which appears in C:\TEMP. He says it *"is strange because I have 'SET*
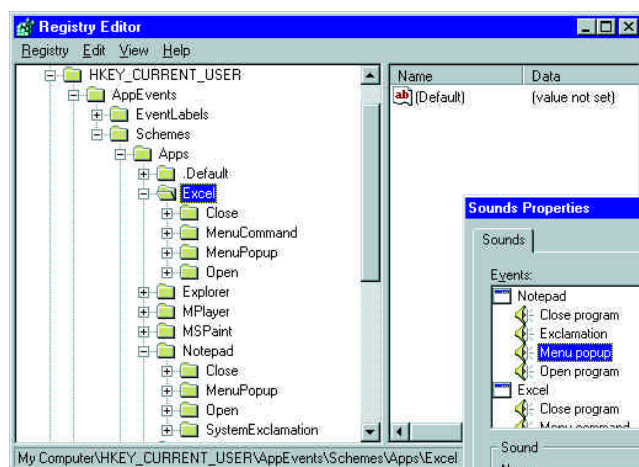
Add programs and events via Regedit (left) **then find them in Control Panel to assign sounds** (below)
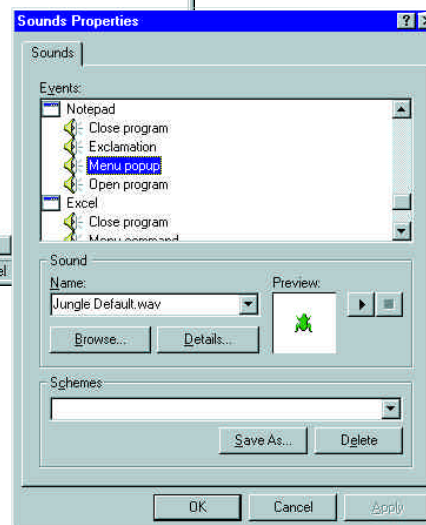
TEMP=C:\WIN95\TEMP' in my AUTOEXEC.BAT. It appears immediately after boot-up, with a size of 1,536 bytes, and is not write-protected. I usually delete it manually if I spot it, and have a line in my AUTOEXEC.BAT which does the same, but like a bad penny it keeps on turning up."
A. Relax, Julian, for this is mostly harmless. The official Microsoft explanation is that if you have Office Fast Start loading in your StartUp folder, and a folder named TEMP in the root of the hard disk, "Fast Start creates the file in order to test OLE calls. Fast Start does not create the file if the temporary folder is set to a path other than the one at the root level." Which latter doesn't quite ring true with your experience, or mine: even with the TEMP environmental variable set elsewhere, it still gets created. Incidentally, you don't need an explicit SET TEMP = line in AUTOEXEC.BAT. It automatically gets set to the TEMP folder in the Windows folder. If you remove the entry and type "SET" from a DOS box, you'll see what I mean.
Q. *"How can I run a screensaver on demand?"* asks David Garrett. *"I have seen*

an undocumented tip referring to 'live' corners of the screen, but I've never managed to get it to work."
A. Me neither. It seems you need the Plus! pack installed and System Agent running. A method which will work, however, is to drag a shortcut from the screensaver (*.SCR) file to the Desktop (or wherever). Double-click to start saving. Right-click to fiddle with the settings. You'll have to go via Control Panel to enable or change a password but once you've set this up it works for all .SCR shortcuts. Without the password, no-one can get back into Windows except by switching off the machine.

Once they've done this, and probably lost your unsaved data, left your machine full of TMP files and generally messed things up, then it's simple enough to disable

Fig 1 Sound event keys

AppGPFault	Application GPF error
Close	Close program
Maximise	Maximise program
MenuCommand	Select from a menu
MenuPopup	Menu drop
Minimise	Minimise program
Open	Start program
RestoreDown	Restore from maximised
RestoreUp	Restore from minimised
SystemAsterisk	Asterisk message
SystemExclamation	Exclamation mark message
SystemHand	Stop sign message
SystemQuestion	Question mark message

password protection on screensavers. Just go into Control Panel/Display/Screensaver and untick the box. Changing the password is simple, too, as you don't need to know the old one. (There is a known bug which causes passwords with more than 19 characters to hang, but that shouldn't be a problem for any but the obsessive.)
Q. Clive Tomkin was wondering where all his disk space had gone, until he *"found a huge file in C:\Exchange named Mailbox.pst"*.
A. This, as he correctly guessed, is the Exchange database containing all incoming and outgoing mail messages, including faxes which, as they are essentially bitmaps, can be large. So go through your Inbox and Sent Items, delete everything you don't want to keep, and you'll find that Mailbox.pst has remained the same. This is because Exchange doesn't delete or send the items to the Recycle Bin; it simply flags them as "deleted items" and shows them in the pseudo-folder of that name.

Clive was wise to this, of course, so promptly deleted the entire contents of "Deleted Items" and they disappeared. A quick check on Mailbox.pst showed that the file size was… exactly the same. It seems as if Exchange just doesn't want to let those old messages and faxes go. The answer is to go to Tools/Services in Exchange (or right-click on the Inbox icon, Properties/Services) and highlight "Personal Folders". Click the "Properties" button and in the ensuing dialogue, click "Compact now". Intuitive, I don't think.

Top tips of the month
An encouraging response this month to my request for readers' suggestions to replace Windows' "Tips of the day": a

bumper email from Neil Jarvis included *"Avoid tumbling off the cliff of triteness into the black abyss of over-used metaphors"* and *"Who is General Failure? And why is he reading my drive C:?"*. Adrian Sutton's selection included this fine quote from Douglas Adams; *"The secret of flying is to throw yourself at the ground, and miss."* Do keep them coming.

A hex on it — and other tips
■ Some applications store information in the registry in hexadecimal format. Usually this is used to encode things like user preferences or toolbar settings, but some applications use it to store things normally expressed in plain text (e.g. file locations). I'm too ignorant to fathom why this should be desirable, let alone necessary, but suffice it to say, according to Regedit, WordPerfect stores its templates at 66 3a 5c 43 6f 72 65… (Fig 2). Not very helpful. But if you double-click on the entry, the dialogue box provides a translation; in this case f:\Corel\Office7\Template. Note that you can edit in either format, by clicking in the appropriate section.
■ To display the size of a folder and all nested folders, right-click the folder, select "Properties" and (if there's a lot below) wait.
■ It isn't compulsory to have all shortcuts branching off the "Programs" item in the Start menu. Right-click the start button and select "Open". Right-click in the "Start Menu" and select "New". Create a new shortcut and this will appear at the top level of the start menu: create a new folder, and any shortcuts created within will branch straight off the top level.
■ The tip (Hands On, October) for getting a permanent record of your hardware settings from the "Print" button of Control Panel/System/Device Manager has been enhanced by Howard Anderson, who complains that there's no way to get all this
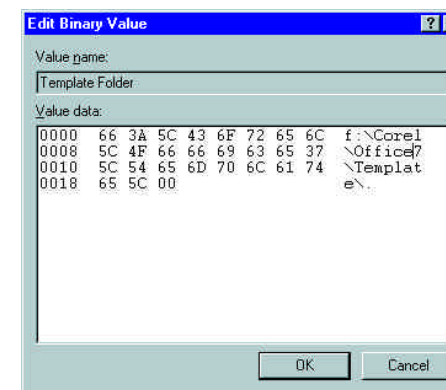
Fig 2 What the hex? Regedit provides a translation

info on-screen. His workaround is to "Print to HTML", using the driver that comes with Power Toys, to view the file in his web browser. Do not forget the old standby of installing the "Generic/Text Only" printer driver and printing to file — this produces plain text.

■ Further developments in Graham Slope's query about how to get Startup shortcuts to load in the desired order (Hands On, January). Malcolm Burch reckons they execute in the order they appear in the DOS directory and the secret is to move them all to another folder, then move them back in the desired order. Doing a DIR from an MS-DOS prompt should list them in the order they will execute. I've tried it, and it seems to work, but I've noticed that slow-loading apps tend to get "leap-frogged" by faster-loading ones. And this also applies to my solution of using a batch file. So hats off again to Alex Nichol, who pointed out that you can use the "/ W" switch with the DOS "START" command. This waits until the called program has loaded (or finished doing whatever it does) before returning control to the batch file.

■ This tip may also solve Rab Steven's query on CIX. He wanted to *"run a couple of utilities, just before the computer is shut down (file tidies and the like). It's easy to get the beast to do it at start-up, but how do I get it to do something automatically at shutdown?"* Bearing in mind January's tip about exiting Windows without the confirmation dialogue, the following batch file should do the trick, where THIS and THAT are the utilities concerned:

```
START /W THIS.EXE <parameters>
START /W THAT.EXE <parameters>
C:\WINDOWS\RUNDLL32.EXE
 user.exe,ExitWindows
```

■ Here's another tip from Alex Nichol (which takes him into the realms of CD/book token winners). Sending files to a printer in Win95 usually involves launching an associated application, if only to add word wrap. But there is sometimes a need to send a file directly to the printer, say as a print image or PostScript code. Launching the application is time consuming and may not even be available. You can do it with the COPY command in a DOS box, but this tip automates the business. With NotePad make a small file containing only

```
COPY %1 LPT1:
```

and save it in the Windows folder as PRINTIT.BAT. Now right-drag this to the Desktop, and choose "Make Shortcut".

Back to the future — strange days indeed

There I was, having just finished a feature minutes ahead of my deadline, when I opened the folder, selected the .DOC file, the .XLS feature table and sundry .GIF screenshots. I right-clicked and selected "Add to Zip": WinZip duly fired up, barfed, and fell over. I eventually managed to Zip the files using raw PKZip from a DOS window and went to start Ameol (the off-line reader for CIX) so that I could send the zipped files to *PCW*. Ameol duly fired up, barfed, and fell over.

In the end, I managed to transmit the file using Hyperterminal, two tin cans and a piece of wet string, but something was obviously VERY WRONG. Having tried a few obvious things such as rebooting, virus checking, running ScanDisk and going out for a few beers, the problem remained. Just by chance I happened to waft the pointer over the Taskbar clock — and up popped the date. The day and the month were as expected but somehow I was in year 2096.

Now, I've dozed off at my desk before, but this was ridiculous. Strangely enough,

2096 looked and felt very much like 1996. So, taking into account this weight of empirical evidence, I reset the computer's date and all my problems disappeared. Well, almost, because I still had loads of files with 2096 creation and modification dates. Loading them into the relevant application and resaving them cured this for some, but not all. And there were rather a lot of them.

Somewhere, a little bell rang, and I restarted ScanDisk, blew the cobwebs off the "Advanced" button, and there it was: a "Check for invalid dates and times" option waiting to be ticked. This found even more invalid dates in files and folders, including places like the "Fonts" folder that "Find File..." doesn't. And it seems to have mended them.

As to what caused this great leap forward remains a mystery. Fellow sufferers blame everything from a particular Compaq BIOS (which I don't have) to rogue software, of which I have lots. Anyway, should strange things start to happen on your PC, *check the date*.

Name it, say, "Copy to Printer". Right-click Properties/Program and add "%1" (including the double quotes) to Cmd Line. It should read C:\Windows\PRINTIT.BAT "%1". Set it to run minimised and tick "Close on Exit". You can also change the icon to something appropriate, like the printer icon in Shell32.dll. Dropping any file onto this icon will copy it "raw" to the printer. Note, though, that text files may or may not have hard returns in them; if they don't, they will still need to go via Notepad or WordPad to add word wrap.

Error messages

Thank you, Colin Green, for pointing out that the new Microsoft Mouse Wheel (Hands On*, January) also works in Help. Thanks, also, to Robert Bruce for pointing out that *"The registry Hearts cheat key lurks in …/Windows/Applets/Hearts and not in …/Windows/Hearts as stated."* Alex Nichol pointed out that my problem with not getting "MORE" to work (Hands On, December) is because I didn't have the DOS keyboard driver loaded. Honestly, I did know that once... You need both

```
COUNTRY 044,850,C:\WIN95\
COMMAND\COUNTRY.SYS
```

in CONFIG.SYS, and

```
KEYB UK
```

in AUTOEXEC.BAT. You can put this directly into the "batch file" pane of the DOS Prompt shortcut.

Relax…

Let all troublesome thoughts, such as getting any work done, float away as you listen to Syntrillium's Wind Chimes (WC1SETUP.EXE on this month's cover-mounted CD-ROM, or available from www.syntrillium.com). This uses the MIDI capabilities of your sound card to generate more or less random tunes. You can choose the instrument and any one of 64 preset scales. You can control the number of chimes, the distance between them and even the variation in the wind speed. And if this all sounds far too complicated, there are over 40 predefined schemes. Two things you must try are: running your fingers (well, your mouse pointer) through the chimes at the top right of the control dialogue, and running two or more instances of Wind Chimes. It's quite the most delightful thing I've had on my hard disk for a long time, and so relaxing that… I really don't… think… I can write another… Zzzzzzz.

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Secure in the knowledge

Psst! Want to know the secret of making folders invisible? Lend an ear to what Tim Nott has to say. Plus, making a PC jukebox and entering a new time zone.

Not long ago, we looked at ways of securing a standalone PC from the ravages of multiple users, with System Policies. Many readers have had difficulty getting this to work. Others complain of settings "migrating" between users or getting lost, and how alarmingly easy it is to crack the system. There is a general consensus that Poledit is a fairly horrible utility, with the power of a Reliant Robin and a front-end to match. In my opinion, the biggest failing of Windows 95 is that you can't secure drives or folders.

So let's welcome Magic Folders. This makes any folders you choose, and all the files therein, invisible to others. They can't be deleted, viewed, modified, or run. For all practical purposes (unless you have the password) they don't exist. Install Magic Folders, and you're prompted for a master account password and to make a key floppy disk, which will save your bacon should you forget your password. You can have up to five (or possibly ten, but the documentation is inconsistent on this) other accounts, but only the master can create new accounts or uninstall Magic Folders. The master account, however, can't see other users' private folders unless they uninstall Magic Folders.

It has its drawbacks, the principal one being that it relies on entries in AUTOEXEC.BAT and SYSTEM.INI. The help file suggest you rename the program so that other users don't know Magic Folders is running, or put multiple references to differently-named copies in autoexec.bat (it will only load once but hackers would need to remove every reference). All of which is rather pathetic, but anyway… Another drawback is that you can't use it to stop

Fig 1 Desert island discs — stick your favourite CD tracks in a folder

others meddling with system files. It won't let you hide the Windows or System folders, because then Windows won't be able to find itself, if you see what I mean. The other big problem I found was that you only get one chance to make the key disk. Sod's law prevailed and although the install program reported this as successful, the disk was corrupt to the point of crashing Windows. So I had to uninstall and reinstall to make another. Had I forgotten my password I would have been in deep doody, and would have had to undertake the scary business of editing autoexec.bat and system.ini.

It also works with Windows 3.1, but don't use Chkdsk or you risk losing invisible folders. Use Scandisk instead. If you're using third-party disk fixing utilities, you should keep them in an invisible folder so they can only be run when all folders are visible. It's shareware, so registration is $29. I cut my 30-day evaluation period to one, but maybe you'll like it better than I did. It's on the CD-ROM in MFD.ZIP. Treat it with caution and read all the documentation.

Now here's a funny thing…
If you're fascinated, as I am, by things that are fairly useless, but which no-one intended you to do anyway, read on.
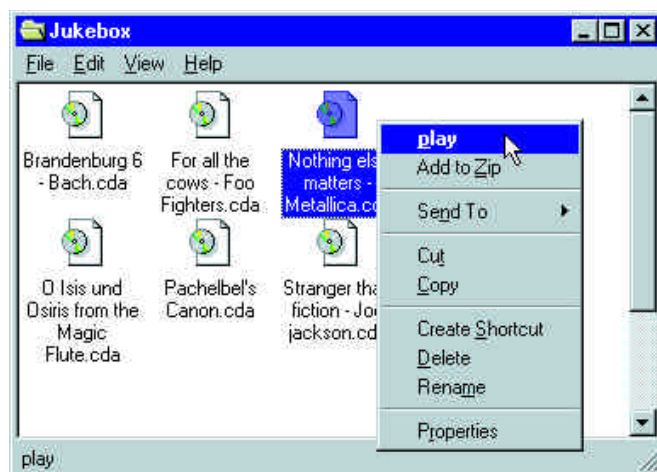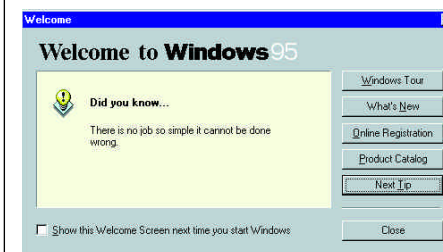

Geoffrey Solomon asked why, when you look at an audio CD in Explorer, all the tracks are 44 bytes long. By a strange coincidence, the same batch of email produced a similar query from Oliver Couzens. I had to admit that even I had never been so perverse as to Explore a music disk, but promptly did so. And they're right. Moreover, all the files seem to have been created on 1/1/95, regardless of whether you're playing Mozart or Metallica.

Geoffrey continues: "*If you try to copy a track to the desktop you only get a shortcut (except it's not really a shortcut) to the track on the CD. I say it's not a proper shortcut because it has no arrow in the bottom-left corner and displaying its properties doesn't give a shortcut's properties. Yet if you activate it with no disc inserted, you are prompted for one. What is the purpose of this? Would a real audio track on computer take up too much space?*"

Well, first bear in mind that audio CD predates CD-ROM, and the designers of the technology weren't really intending

listeners to hack into them with a PC. But Geoffrey is right; despite the wonders of modern data compression, you can't get three minutes of audio into 44 bytes (the .CDA files you see are pointers, or shortcuts) to the actual audio data. And the data itself is huge. If you consider that an audio CD can hold about one hour of music, and a CD-ROM 650Mb of data, then this roughly equates to 10Mb/sec.

What do you want to hear today?
Enough of the boring technical stuff, for here comes my latest invention, the Windows 95 Jukebox (Fig 1).

Create a new folder. I wanted to call mine "What do you want to hear today?" (© Tim Nott Enterprises) but as we all know, you can't have question marks in file or folder names.

Stick your favourite music CD in the drive, open the CD in Explorer, and drag the track you want into the new folder. Rename it from, say, "Track03.cda" to something meaningful like "O Isis und Osiris from the Magic Flute" or "For all the Cows by the Foo Fighters", but keep the .CDA extension. Repeat for other tracks and other CDs.

Keeping the pile of CDs to hand, double-click on a title in the jukebox folder. If the correct CD isn't in the drive you'll get a message telling you to rectify this. I find it adds considerably to the effect if you make whirring noises and jerky arm movements as you load and unload the disks. Once the correct disk is inserted, a double-click will take you straight to the track.

You might find yourself in an argument with the Autoplay feature; if you click too soon it will switch to track one after a few seconds of the chosen track. So either let it start first, or hold down Shift when you load the disk to prevent it Autoplaying.

If nothing happens and you do not get an icon of a CD-on-a-sheet-of-paper for each track, it's probably because you don't have a registry entry for .CDA files. Go to the View/Options/File Types dialogue from the folder and look for "CD Audio Track". If it's not there, you can create it from the "New Type" button.

"Description of Type" should be "CD Audio Track" and "Associated Extension" should be .CDA. Click "New" under actions, and type "Play" in the "Action" box and

`c:\windows\cdplayer.exe -play`

in the "Application used…" box (modify the path if you don't keep cdplayer.exe in c:\windows).

Finally, when you copy the .CDA files, make sure you really do copy them. If you create a Shortcut, this will play the corresponding track (if it exists) on the currently-loaded CD. OK, it's not a very good jukebox, as it continues playing the following tracks and you can't stack up a playlist. But I'm working on it.

Spring forward, fall down?
In Autumn 1995, I was delighted to find that Windows 95 not only knew about putting the clock back, but got it right. Similarly, it sprung forward at the right moment in Spring last year.

Last Autumn, though, it got it wrong. France moved the change date to coincide with the UK. Of course, nobody told *me*, and such is my unshakeable faith in Win95 that I believed it right up until the moment my children turned up an hour late for school the following day. Other European countries have changed, too, thanks to the charismatic Euro-force of John Major.

Nigel Hinton emailed me from Italy with the same problem. Although it's no great hardship to reset the clock manually, it was

A handful of quickies

■ Simon Grant wrote: "*I've tried to create a folder called 'CON' and Win 95 told me that it 'Cannot create or rename file. Filename is invalid or too long'. Any ideas what this may be?*"

Yes, "CON" is a reserved word in Windows and DOS. Reserved words are names for system devices. If you open a DOS session and type "COPY MYFILE.TXT CON:" it will output the file to the screen. Other reserved words include LPTn (the printer ports), COMn (the serial ports) and NUL (nothing — *see the next tip*).

Windows won't let you use any of these for a file or folder name, but you get a variety of misleading error messages.

■ Richard Ansdell has a tip for your autoexec.bat:

Blinded by science? Right-click any button for an explanation

"*Putting* '> NUL' *at the end of any line which outputs to the screen stops the flickering back and forth between the Win95 startup screen and autoexec messages during bootup. This redirects the output to nowhere. It doesn't work every time, though. The line which invokes my Dr Solomon's virus protector won't go quietly.*"

Well, quite. If you have a virus protector you want to know what it's saying. Turning off "Display the full MS-DOS path in the title bar" from a folder "View/Options/View" box will make Taskbar buttons far more legible as only the final folder name is shown. If you right-click on any button in the Windows Calculator a one-line menu appears: "What's this?" Click for a short explanation of the function.

■ Andy Thilo remembers reading that you can have Control Panel and Printers as cascading sub-menus on the Start Menu, but he can't find the article in which it was originally mentioned… and strangely enough, nor can I. It's much easier to do this with Powertoys, but if you want to do it the hard way, create new folders in the Start Menu folder named:

```
Control Panel.{21EC2020-3AEA-1069-A2DD-
08002B30309D}
Printers.{2227A280-3AEA-1069-A2DE-08002B30309D}
```

The bit before the dot is the text that will appear on the menu, the weird stuff afterwards is the CLSID of the relevant folder as listed under HKEY_CLASSES_ROOT in the registry.

---

a good excuse to ferret around the registry in an effort to put things right.

There are two lots of settings. The first, which hang out at:

```
HKEY LOCAL MACHINE\SOFTWARE\
Microsoft\ Windows\ CurrentVersion
\ Time Zones
```

show a list of settings for each time zone in the world. These reflect the choices you get in Control Panel/ Date/Time /Time Zone.

The second lot, at:

```
HKEY LOCAL MACHINE\ System\
CurrentControlSet\ control
\ TimeZoneInformation
```

contains the settings corresponding to the zone you have chosen. Details of the change dates are held in the TZI key for the former, and the slightly more informative StandardStart and DaylightStart keys for the latter. Unfortunately, the values of all of these keys are long hexadecimal strings. Although it looked possible that 0A (ten in hex) might signify October, I really didn't want to mess with that stuff.

Fortunately, there's an easier way. Control Panel only lets you change the zone and switch daylight saving adjustment on or off (you can't change the dates). The Microsoft Kernel Toys, which are like a dull relative of Power Toys, will rectify this with a Time Zone Editor (Fig 2). In addition, you get a Control Panel add-on for remapping the shift, control, alt, caps lock and (if you have it) Windows keys, although I don't really know why you'd want to do this. But I do find it useful to disable the Caps Lock key which I OFTEN HIT BY ACCIDENT. There's a tool to train the MS-DOS configuration Wizard and a thing called WinTop that shows exactly what processes are running through your, er, processor.

More power-anorak stuff comes in the form of CONVMEM.VXD, which "tracks the amount of memory allocated by virtual device drivers (VxDs) in conventional memory" …and as we all know: "Normally, all this memory is reported against the VMM32 device rather than being broken down". Anyway, Kernel Toys is free and on this month's *PCW* CD-ROM (as KRNLTOYS.EXE) or it can be downloaded from the Microsoft web site. The file is self-extracting, so create a new folder, move KRNLTOYS.EXE into it, run it, and find the README.TXT file.

Le Phoneday fun

France recently had the equivalent of our "Phoneday", when all of us with eight-digit phone numbers were upgraded to ten digits and the code for dialling out changed from 19 to 00. So I spent a few hours changing everything in my address book — sorry, contact management database — dial-up settings and Word templates. All was well, or so I thought, until I wanted to send a fax to the UK. It still dialled 19, not 00. It wouldn't even let me enter the 00 manually. Ha! I thought: open the registry and search for "19". Not a good idea. Do you realise how many times those digits appear next to each other?

I will draw a veil over the next hour or so, but at the end of this I was doing a fairly accurate recitation of the opening dialogue from the film, "Four Weddings and a Funeral". I had also discovered that the dial-out-of-country number wasn't stored in the registry — Oh no!

I eventually found good, old-fashioned TELEPHON.INI except this doesn't contain the number either. But it does contain a reference to a table that is, would you believe, hard-coded into TAPI.DLL. So I did what I should have done in the first place and searched France Télécom's web site.

This led to Microsoft and a tiny 6Kb file named MAJTAPI.INF. Having downloaded and right-clicked on this, it added a [CountryOverrides] section to TELEPHON.INI fixing the problem not just for France but for countries ranging from Azerbaijan to the Wallis and Futuna islands.

The **wheel** thing

Not a creature was stirring, not even a mouse — or even that funny little wheel thing on Tim Nott's new Microsoft Mouse. Many happy hours were spent when he finally sussed it out.

I was very excited this month to receive a sample of the new Microsoft Mouse. This is the one that looks very much like the last. It's vaguely kidney-shaped but with a third thingy to twiddle — part-button, part-wheel, it sits between the two existing buttons.

Somewhat perplexed that the far end of the lead terminated in a PS2 (I think that's what it's called) plug rather than the screw-on 9-pin job that we know and love, I dug an adaptor out of the pocket of an old anorak and fired up the PC.

When Windows got to the bit when its internal checking orders "All those with mice take one step forward", I got the error message "Where do you think you're going, Mr Nott?" or words to that effect. Several changes of adaptor later, it was the same old story. Maybe, I thought, if I install the software first… (and no, I didn't RTFM as there was no FM to R — we press wallahs don't get that kind of cosseting). But still no joy, so I carried on with my distinctly shabby-looking Mouse Mark 2 and explored all the new Intellimouse goodies on offer apart from the wheel.

This brightened up the day considerably (it was about one o'clock), because I discovered all the labour-saving devices I'd missed since Windows 3.1 days. "Which way is up" is a clear winner. I'm left-handed and although, paradoxically, the asymmetrical MS mouse fits nicely in my left hand and I'm now well accustomed to using my middle digit as the main clicking appendage, I do tend to hold the thing slightly (well, very) skew-whiff.

Likewise, it's great to have "snap-to" back again — the trick that automatically moves the pointer to the default button of a dialogue box. And let's not forget the thing that causes the mouse pointer to disappear from one side of the screen and reappear on the other. Not much of an aid to productivity, but a superb practical joke.

The next stop was the brand new automatic lightup, as I call it. Waft the pointer over an icon or title bar, and it automatically grabs the focus without having to click. Cool, but for some strange reason often much slower than clicking normally. If you wish, you can also slow the pointer

Fig 1 New Intellimouse goodies. All but the wheel work with older mice

down automatically over icons and buttons, so I whacked this into gear as well.

Now, having watched someone with motor neurone disease struggle bravely and patiently to position the pointer exactly on a button or icon, I can appreciate the value of this. But it does strike me that Microsoft has gone a little over the top in the degree of the effect. At the slowest speed, it's rather like running across a field and suddenly putting your foot into a deep pit of mud. There you are, mousing away, when suddenly you grind to an abrupt halt. After picking the mouse up and scrabbling it repeatedly across the desk, rather like launching a toy car, the pointer will suddenly take off and whizz across the screen.

There's a happy end to the story, because the proper adaptor arrived and I was at last able to use the new mouse, complete with wheel. This does all sorts of wonderful scrolling, panning and zooming things. And very lovely it is too. But it only works in Explorer, Internet Explorer, and Office 97. The latter was still in beta at the time of writing, and although exciting and fascinating in its own right, wasn't yet at the stage where I'd forsake my existing software to use it for daily work. So, human nature being what it is, I spent many happy hours wheeling around Internet Explorer, then switching to the word processor and twiddling away ineffectually before realising for the umpteenth time "Oh, silly me, it doesn't work here, does it?"

Got those old MSDOS compatibility blues again…

But enough of my problems; how about yours? The "compatibility mode" problem continues to maintain a high chart placing.
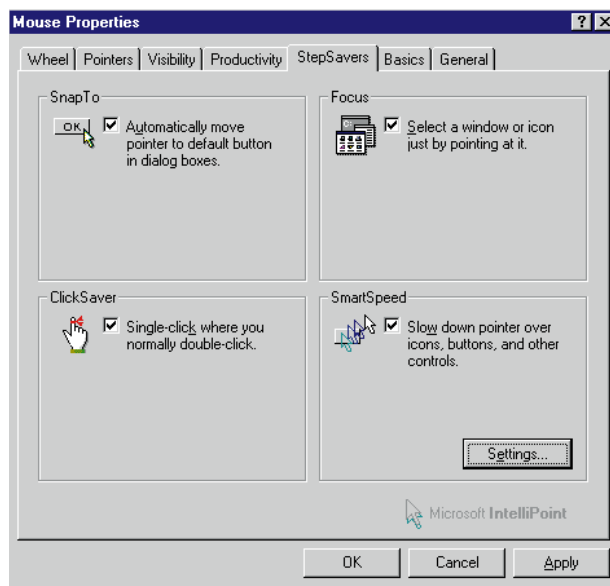
A handful of quickies

■ Notepad is fussy about extension names that haven't been registered as Notepad files. Save a file, say, as MYPROG.BAS and you'll find you've actually saved MYPROG.BAS.TXT. Using the "View/Options/File Types" dialogue to register, say, .BAS or .SCR as Notepad files is one way around this, but you might well want to preserve the existing association in order (in these examples) to run Basic listings or scripts. The way around this is to save the file as "MYPROG.BAS", with double quotes around it, which avoids the gratuitous .TXT on the end.
■ Tom Fitzgerald wants to know how to change the "Tips of the day". Start Regedit, search for "Tips" and keeping hitting F3 till you see the tips in the right-hand pane. Double-click on the number of the tip you wish to change and an edit box appears. Speaking of which, thanks also to Nicholas Metcalfe, who sent a complete set of tips culled from Twin Peaks, and Mark Harrop with a set of seventies aphorisms from Brian Eno and Peter Schmidt. Now, that's what I call obsession. But no more themed collections, please, be they Douglas Adams, Star Trek (especially not) or Coronation Street.

Fig 2 Thank you, Robert Winstanley, for this "Tip of the Day of the Month"

■Alternative tips are still trickling in, but I need more, so get your imagination and/or plagiarisation going. For a pointer to the sort of thing I'm after, see Fig 2 for a very fine "Tip of the Month", stolen from Robert Winstanley's email signature.
■ You can cheat at Hearts in Windows 95, too (see the Windows 3.1 column on page 273 for the full story). Open the Registry and go to Hkey_Current_User/ Software/ Microsoft/ Windows/ CurrentVersion/ Hearts. Right-click in the right pane and create a new string value with the name ZB and the value 42. As with 3.1, Ctrl+Alt+Shift+F12 will then reveal your opponents' hands. You can also change the default names by adding string values for p1name, p2name and p3name.
■ Are you sure you want to: shut down the computer?; restart the computer?; restart the computer in MSDOS mode?; close all programs and log on as a different user?; get rid of this annoying confirmation? If your wish is the lattermost, create the following shortcut on the Desktop, Start Menu or folder of your choice. The command line should read RUNDLL32.EXE user.exe,ExitWindows. Note there is no space after the comma or in ExitWindows. You'll get the usual prompts asking if you want to save any open, changed, files. If so, you can cancel the command, too. Apart from that, you're out. Finished. Shut down without further ado.

Fig 3 A quick getaway from Windows

To briefly recap, this is the one where, seemingly out of the blue, your hard disk performance declines drastically and Control Panel/System/Device Manager shows that your disk controllers have been demoted to "MSDOS compatibility mode".

Mark Hewitt had this problem when installing Windows on an old-ish Elonex P90. Phil Kelly, of Elonex support, pinpointed the problem instantly and precisely. The Neptune motherboard does not support Plug and Play (P&P). But Win95 installs it anyway. Solution? Remove P&P

from Device Manager, restart the PC, then manually "Add new hardware", select PCI Bus. Restart again and all should be well.

David Ingham had a similar problem after assembling his own PC. This time it was an unnamed hero at Microsoft tech support who stayed behind for 30 minutes after close of play to establish that the combination of Award BIOS and Windows 95 PCI-IDE drivers was the problem. New drivers from the motherboard supplier cured the problem. Robert Winstanley upgraded from 3.11, experienced the same

problem and tracked it to SYSTEM.INI. So look for DEVICE= lines that refer to files with the .386 extension. These are "legacy" devices from 16-bit days and can cause compatibility mode (and other) problems. Try commenting the line out by preceding it with a semicolon.

Order! Order!

Grahame Slope came up with an interesting challenge: "*How can I get the shortcuts in my StartUp folder to execute in a particular order?*" I really tried on this one. It seems to make no difference how, or in which order, the icons are displayed. Nor does the alphabetical order seem to matter. At one point, I thought I'd cracked it with the creation dates of the shortcuts but this, too, was a red herring. Stranger still, restarting the PC would sometimes load the applications in a different order. Then I remembered the other way: the load= and run= lines in WIN.INI. In conventional wisdom, the first runs a program minimised, the second in a normal window, and the trick is to leave a space between each item. For example:

```
run=notepad.exe charmap.exe
calc.exe
```

This actually worked, at least initially, but it must have been a fluke as re-ordering the same items or adding more didn't run them in the order specified.

Then of course, there's the other, other way, which is far more high-tech and involves editing the Registry to add new string values to:

```
HKEY_LOCAL_MACHINE\ SOFTWARE\
 Microsoft\ Windows\
 CurrentVersion\ Run
```

So I went there, did that, and needn't have bothered. Sure, the programs ran, but not in any perceivable or consistent order. So moving on to the other, other, other

Bugwatch

Remember the Windows 3.x Calculator bug? Well, you'll be delighted to learn that Windows 95 has one all of its own. Switch to scientific view, and multiply 0.57 by 100. If you don't get 57, that isn't a bug, that's you. Now press the INT key. What this should do is return the integer part of a number — that is, everything to the left of the decimal point. Whoops! Yes, I get 56 as well, with 0.58 and 0.28 giving similar results. There may well be others. In each case the Inverse INT function, which should return all to the right of the decimal point, gives 1. So at least there's some kind of method to the madness.

A glimpse of Christmas stocking

As I write this, the sun is shining and the window (strictly non-™) is wide open. The trees are turning gold and there's a faint smell of woodsmoke from the first log fires of the season. At the top of my page it says "January issue, 1997" so it must be Christmas. And you thought Windows 95 was confusing. Anyway, in accordance with the time-honoured tradition believed to date back to at least 1995, here is my Christmas wish-list.

But first, did last year's wishes come true? These all concerned various tedious aspects of the Windows 95 interface. One wish was that Microsoft Office would take a leaf out of Microsoft Windows' book and put the filename before the application. In fact, I've beefed about this at great length so I won't bore you further, except to say that the beta of Office 97 I saw still doesn't do this but adds the refinement (at least in Word) of putting your name between the application and file name. Just in case you forget it, I guess.

Tiled Windows in Office Binder didn't happen either, and nor did the ability to add files such as Notepad or Paint to a binder. Another wish was to reinstate the JPEG and GIF Quickviewers that appeared in the betas of Win95 but not in the final cut. A little progress here — you can get an enhanced Quickview (for money) or view them in Internet Explorer (free). My last wish was "Please give me the patience and understanding to get to grips with the way Windows 95 saves settings". A little progress here, too: the free Tweak UI gizmo has an option for globally enabling or disabling "save settings", so at least you can stop all the folders you left open from opening again. But it's far too little, too late: saving general and particular folder settings is still largely a matter of guesswork and pot luck whether a folder opens in list view, icon view, with or without the toolbar, and so on. So let's put that as this year's number one.

This year, I wish…
1. Let's have explicit folder menu options for "Save this folder settings" and "Save these settings for all folders below this one". And nipping the inherent contradictions in the bud, the latter will produce a confirmation dialogue if this includes a previously-saved "one-off". And while we're about it, a separate setting for re-opening (or not) folders, which were open when you quit.
2. Let's have a totally easy and effective way of securing a standalone PC. This, after all, is the age of the family computer. We need to be able to restrict access not just to applications and settings but to folders, too.
3. And can someone explain to me what I have to do to persuade the PCW cover-mounted CD that I already have the Acrobat viewer installed and working?
4. Returning almost to where I started; a patch to make the new mouse wheel work in all applications.

way, I remembered that you can start a Windows program from a DOS prompt. I must admit, I'd never appreciated why you might want to: even if you don't have a shortcut for the program, it's quicker to launch it from the "Run…" command. But it figures that if you can start a Windows program from the DOS prompt, then you should be able to do it from a batch file.

With trembling fingers I put together a batch file in Notepad, each line launching a different Windows application. I created a shortcut to this file in the StartUp folder, and, just to be flash, edited the properties of the shortcut to close the DOS window on exit. I restarted Windows for the umpteenth time that day. And guess what? It works. Certainly, it's slow and kludgy, but preliminary testing shows that the batch commands are processed in the order listed. Obviously the department of obfuscation and bloody-mindedness slipped up there.

While I'm winning, I'll pass on the following ancillary tips. If you want the batch file to open a folder, or an associated file, use the "Start" command. And if long file or folder names are involved, enclose them in double quotes. Here's an example:

```
c:\windows\calc.exe
"c:\Paint Shop 4\psp.exe"
c:\windows\notepad.exe
c:\windows\charmap.exe
start "c:\Program Files"
start c:\bootlog.txt
```

This starts the Calculator, then Paintshop, Notepad and the Character Map, opens the Program Files folder and opens bootlog.txt in Notepad.

■ By the way, Chris Marriott's SkyMap, mentioned in my *Windows 3.1* column, is on this month's CD-ROM in 32-bit flavour as well, in the same Zipfile: Skymap.zip. Happy stargazing and a happy Christmas, to y'all!

Tasty morsels

Tim Nott reveals his sources and serves up some choice cuts of information about .CAB files, MS Knowledge Base and the Recycle Bin.

Roger Castle-Smith, of Milton Keynes wrote me a very long letter showing that there is, after all, something to do there in the evenings, if only write to *PCW!*

One point he raised is that he "rather suspects that I might have access to useful sources of information which are not available to us lesser morsels!" Unless this is a clever pun about bytes that has gone over my head, I presume he means "mortals", but I rather like "morsels" so I'll pinch it.

Journalists have a traditional obligation to protect their sources but I'm happy to come clean on mine. First, there's the stuff that all we morsels have, if we possess the Windows 95 CD-ROM. The resource kit help file (Win95rk.hlp) is mainly geared towards system administrators, with whole sections on topics such as Deployment Planning Basics, but there's a great deal of information on Windows architecture and the finer technical points.

At the risk of stating the obvious, you should also find 17 text files installed in your Windows folder. These cover everything from mice to memory managers, and there's an especially fine file called Tips.txt — so now you know where I get them from. If, by chance, these files aren't installed on your PC, you can find them on disk three of the floppy set or win95_03.cab on the CD.

Call me a cab
This gives me a good excuse to go off on a tangent. What is a CAB file and how do you get things out of it? Cabinet (.CAB) files are simply a bunch of other files compressed into a single entity, rather like a ZIP. They are stored on the CD-ROM or floppy disks. If you got Windows pre-installed on a PC

with no disks, the dealer should have copied the CABs to the hard disk. Just to complicate matters, the floppies are in Distribution Media Format (DMF), which means they can hold more than the standard 1.44 Mb, and they can't be copied by normal means. Each floppy may contain one or more .CAB files and others. And .CAB files can be split across floppies.

The easiest way to see the contents of a Cabinet and to extract files from them, is to use the Cabview utility that comes with Powertoys. With this installed you can right-click on a .CAB file, view and extract the contents as if it were a normal folder. For those who don't have Powertoys, or prefer the standing-up-in-a-hammock way of life, there should be a tool named EXTRACT.EXE in the Windows\ -Command folder. If not, it's on disk one, or in the CD-ROM Win95 folder and can be copied normally. It's a DOS application and if you run it without any parameters you'll get instructions. I will draw your attention to a couple of rather cool features.

If you know the name of the file you want but not which .CAB it's in, the /A switch will search the .CABs starting with that specified. This works on floppies, too, and you are prompted to insert disks until the file is found. The

/D switch, with a .CAB but no file specified, will list the contents of the Cabinet.

You can also use the /D switch with the /A switch to find but not extract a file. There's a catch here, as even after it's found the file it searches the rest of the CABs so the "hit" can scroll out of the DOS box as can the listing produced by /D alone. There's no switch to page the results and the old tricks of redirecting the results to MORE.COM, or sending them to a file don't seem to work. (*See the first tip in the panel on page 262 for a partial work-around*).

Anyway, let's get back to sources of information. There are many online sources of information and discussion. I have little to do with most of them as there aren't enough hours in the day. The one notable exception is the Windows_95 conference on CIX which, besides being a great place for gossip and argument, has some of the country's finest 32-bit minds poised to solve each other's problems. The sheer number of members means that even the most obscure problems are likely to find resonance. Someone there will have BTDTGTTS (been there, done that and got the T-shirt). For simpler problem solving, don't overlook the obvious. The first resort is on the Start Menu. Select Help and check out the Troubleshooting sections.

Sound advice
The one big "morsel" that I do get is Microsoft Technet. This is a subscription-only monthly issue of three (or four) CDs containing everything you could conceivably want to know about Microsoft and its
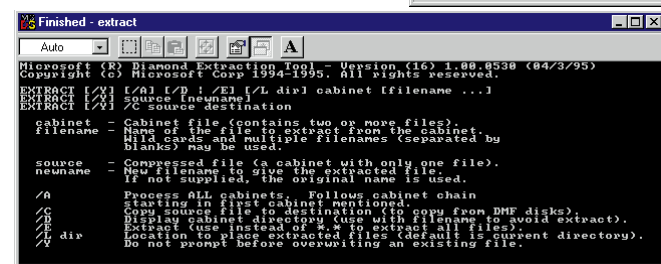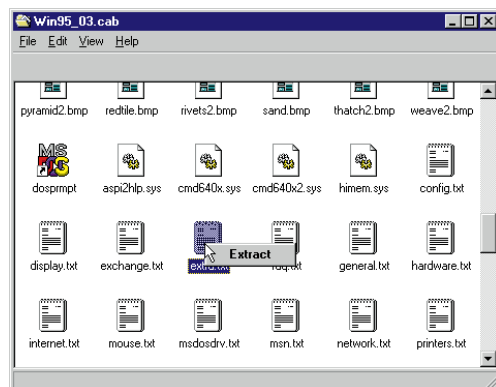
(Above) It looks like a normal folder but it's Cabview excavating a .CAB file the easy way…
(Left) …and for those who prefer the hard way: Extract.exe

products, including Bill Gates' syndicated press homilies to the world at large.

The gold standard, however, is the Microsoft Knowledge Base, which is full of problem reports, tips and general answers to one's prayers. And it's all searchable. For example (to go off on yet another tangent), I received an email message a few minutes ago from Nicholas Hill.

He wrote: *"I have no soundcard in my PC (and I don't really want one) but the inbuilt speaker doesn't feature either. The sound options in Control Panel are greyed out and there doesn't seem to be any speaker driver on the CD. Am I missing out on something?"*

Bunging this month's Technet CD in the drive, I ran a search for "speaker" and "Windows 95". Soon, I was able to reply that a speaker driver isn't included with Windows 95 but that the file SPEAK.EXE is available from Microsoft's web site.

Before you all rush off looking for it, it's the same as the Windows 3.1 speaker driver and has been around since 1992. It's on our cover-mounted CD this month (see *Hands On Windows 3.1* for details). Returning from the tangent, the Technet subscription price is £249 per year but lesser morsels can search the MS Knowledgebase online. Go to www.microsoft.com and click on "Support".

Raising the dead
Roger Castle-Smith had a lot of useful advice on the Recycle Bin and deleting files, most of which we covered in last month's column, written before I received his letter. He did reveal some interesting problems about undeleting — a subject about which I was flippant.

As I stated last month, the DOS or File Manager delete commands bypass the bin, as does Shift + Delete. To recover a file deleted in this way, you first need to make sure you have the necessary tools, as the MS-DOS "Undelete" command is not installed by default.

If you've got the CD-ROM of Windows 95, then go to the OTHER\OLDMSDOS folder. Although you can copy the files piecemeal, there's a batch file (INTSUPP.BAT) that does it for you. Run this from a DOS prompt, or the Start button "Run…" command. If you don't want the files installed to the default destinations of C:\WINDOWs and C:\WINDOWS\ COMMAND, type the preferred path after INTSUPP.BAT. This will restore all your old
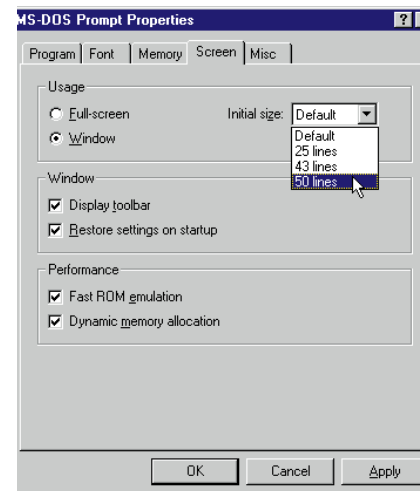
Take 50 lines and get more into a DOS box

favourites such as MEMMAKER.EXE, QBASIC.EXE and, more germane to the subject in hand, UNDELETE.EXE. Restart your computer as instructed.

Ideally, you should do all this before the need arises, then you won't risk overwriting the files you wanted to undelete. Lesser "morsels" who don't have the CD can get the files from www.microsoft.com/windows /software/cdextras.htm.

To undelete a file, first restart the computer in MS-DOS mode. Change to the directory from whence the files were deleted and type LOCK x: (where x: is the relevant drive). This, logically enough, unlocks the drive so you can then run UNDELETE. You can then tap through the list of deleted files and see if, by some remote chance, the file you want is available for undeletion.

Sod's law prevails here, so you'll probably find that whereas the files you deleted weeks ago are still available, the "starting cluster" of the file you want has already been overwritten when Windows shuts down. When you have finished, type UNLOCK to lock the drive again, and restart the PC.

If the file was deleted from the Recycle Bin, then you have a whole load more problems. For a start, you need to go to the "Recycled" directory on the relevant drive — the Windows Recycle Bin doesn't exist as a DOS entity. As Roger points out, the DOS names for files in the Recycle Bin don't correspond to the originals. If you use the DIR command, or File Manager in the "Recycled" directory, you'll see a list of names in the format DCnn.EXT, where nn is a number and .EXT the original extension. And these DC… filenames are what you'll

Take five tips

1. DOS boxes
You can get more lines in a DOS box by going to "Properties" in the System (top left icon) menu, or the button that looks like a hand holding a document. Switch to the "Screen" tab and choose the number of lines from the "Initial size" box. Windows will save this setting and use it next time the DOS application is run.

2. Copying files
Oh for the days of File Manager when you could copy and rename at the same time by pressing F8 — highly useful for making a backup, in the same folder, of a file you're about to tamper with. After having fought the system for months I discovered Windows 95 does just this, but even more easily. If you right-drag, right-button copy then paste, or select Control C, Control V, you'll end up with "Original.ext" and "Copy of Original.ext". Additional pastes will give you "Copy (2)…", "Copy (3)…" and so on.

3. More pasting
You can paste complex commands, say from a help file, straight into the Run command. You can also drop files into the Run… box. This can save a lot of typing. For example, if you want to compare two files with the DOS FC command, type FC in the Run… box then drag and drop in each of the two files. The entire path name appears as if by magic, suitably enclosed in quotes if it's a long file name.

4. Policy Editor
If you found (*Hands On Windows 95*, September) that clicking on the book symbols does nothing, make sure that you're using the right template. This should be ADMIN.ADM in Windows/Inf. You'll find the original in the same folder on the CD as POLEDIT.EXE. You can set the template from the Poledit Options Menu.

5. Tip of the day
For an instant "tip of the day" fix, stick a shortcut to Welcome.exe on your desktop.
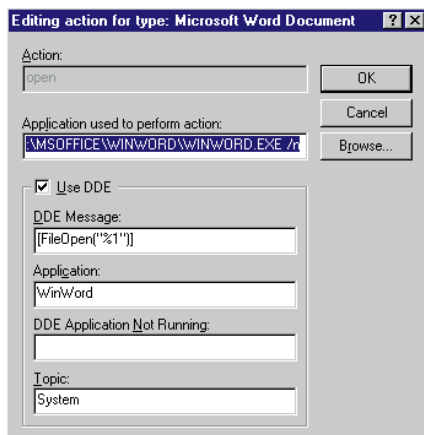
The quotes stop Windows choking on filenames with spaces

---

you're looking for. Even then your troubles aren't over. When the file is restored (*hint: use some letter other than "D" at the "first letter" prompt*), it won't miraculously appear back in the Bin. Oh no, that would be too easy. You'll have to find it from DOS or File Manager, and copy it somewhere else. Really the whole business doesn't bear thinking about, but if you're really desperate, I hope this helps.

Lost copy
Back to Roger, who seems to have taken over this column and earned himself a book token to help while away those long, Milton Keynsian evenings. He also asks why Microsoft Works (and Word, for that matter) have seemingly unusable "Copy" and "Cut" commands on the right-click menu.

With Notepad or WordPad, if you highlight some text and then right-click anywhere in the window, you get the Copy and Cut options. With Word and Works the selection disappears and the options are greyed-out. The answer is that it's not impossible to copy the selection, it's just one of those loveable Microsoft inconsistencies.

In Word (I'll confess I haven't tried this in the Works word-processor but I imagine it's similar) right-clicking outside the selection

see from the Undelete command. You can get some clue from the file size, date and extension but there will usually be many deleted files thrown up by undelete.

However, if you've only just deleted a file from the bin without emptying it completely there may be some further, rather slender, hope. Start File Manager (WINFILE from the Run… command) and make sure that "View hidden/system files" is checked in the "View/By file type" options. Open the "Recycled" directory and you should see a file named "Info". Drag this into Notepad and you'll see the original filenames, listed in order of the numbers. Using inspired guesswork, you should be able to correlate the missing number with the missing filename. Then you can do the whole restart in MS-DOS mode, lock, undelete, unlock rigmarole and have some idea of what

moves the insertion point, just as left-clicking does. Hence, the selection is lost and there is nothing to copy or cut. Right-click inside the selection (note that the margins alongside more than one line, count as inside) and the "Copy" and "Cut" commands remain available. To complicate matters, if you hold down the right button, you get the drag-and-drop cursor, exactly as you do with the right button, so keep the click short and sweet.

Quote, unquote
Another mystery is when long file names stop working properly. I've noticed this with Word (the suspected culprit was a macro virus detector) but it can happen with other applications as well. What I mean is that if you double-click on a file (or shortcut) called, say, C:\MYFILES\PERSONAL\ LETTER TO MY AUNT.DOC you get an error message that Word cannot open C:\MYFILES\PERSONAL\LETTER.

There's a Help button which offers some totally irrelevant advice and an "OK" button. Click the latter and you'll get a similar error message, this time referring to C:\MYFILES\PERSONAL\TO.DOC. OK this and the message repeats for "MY" and "AUNT". Then, just to be really perverse, the file usually opens. If you have long folder names as well, it will extend the barfing process through these.

The explanation for this is the way in which Windows 95 and DOS handle long file names. DOS doesn't like spaces: it treats them as delimiters. The cure is to go to "View/Options/File Types" and scroll to the offending entry. Click "Edit", select "Open" from the list of actions and click "Edit" once more. Under "Application used to perform action", you'll generally see something like C:\WHATEVER\WHATEVER. EXE %1. The %1 is rather like a batch file parameter: it passes the filename to the application. If you enclose this bit in double quotes so the line reads C:\WHATEVER\ -WHATEVER.EXE "%1", the entire filename will be passed along instead of "breaking" at the spaces. Note that in DDE-aware applications (like Word or Excel), the "Use DDE" box will be ticked and the %1 will appear in the "DDE Message" box, but the same double-quote technique applies.

Where you **bin?**

Hanging around the Recycle Bin, probably, wondering what on earth it's for. Tim Nott takes the lid off this enticing little mystery. He takes some Notes as well, and gets FAT.

Many people seem confused about that fine bit of desktop furniture called the Recycle Bin. The following dialogue should help. For added effect, read it in a variety of silly voices.

Q. What is the Bin and how does it work?
A. It's a holding area for deleted files. When you send a file to the Bin, it stays there until you empty the Bin or…

Q. So my hard disk is filling up with stuff I don't want?
A. If I can finish... or the Bin is full, when items get permanently flushed on a first-in first-out basis. You can control the size of the Bin as a percentage of disk space, either globally or on a per-drive basis, from the Recycle Bin properties dialogue.

Q. Can I empty just some of the contents?
A. Certainly — open the Bin, select the files you want removed and delete them. The quickest way of clearing the entire contents is to right-click and "Empty" on the Bin icon.

Q. As in real life, I keep missing the Bin. I end up copying, moving or creating shortcuts on the Desktop instead of dropping the files cleanly in the Bin.
A. Just because you can drag items on to the Bin icon, it doesn't mean you have to. It's much easier to right-click on the file(s) and pick "Delete" or select them and press "Delete" on the keyboard. If you really want to drag and drop, open the Bin first to give yourself a bigger target.

Q. Why did Microsoft put the Bin on the Desktop? And how can I get rid of it? Or even rename it to something less twee?
A. Good question. It can be hidden with the System Policy Editor (see September's column) or TweakUI (see October's column). If you don't have either of these, and feel brave enough, then back up the

Registry and run Regedit. Go to:
`HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\explorer\Desktop\NameSpace`

Depending on your setup, you'll see several keys below this, one of which is
`{645FF040-5081-101B-9F08-00AA002F954E}`

Deleting this key will remove the Recycle Bin icon from your Desktop. The problem with these methods is that you have to dig into Explorer to access it, and it will (misleadingly) report that it "belongs" to the current drive or partition, if you have more than one. If you want to rename it, back up the Registry, run Regedit and go to:
`HKEY_CLASSES_ROOT\CLSID\{645FF040-5081-101B-9F08-00AA002F954E}`

Double click on "default" in the right-hand pane and change the name in the dialogue box that appears.

Q. I have several Recycle Bins — one on each disk partition and one on the Desktop. Can I delete the redundant ones? If so, which?
A. The Desktop Bin is a "special" folder that shows everything in the Bin. The actual files themselves are stored on a per-drive basis in folders named "Recycled". These all appear to have the same contents from Explorer, but if you use File Manager

The (renamed) Recycle Bin properties. You can limit the size overall or on a per-drive basis
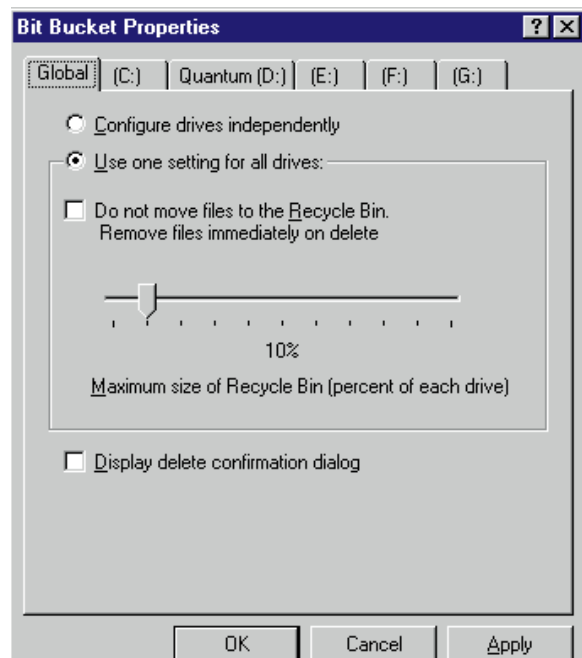
you can see what is really going on: as well as the deleted files (which have cryptic names), an "Info" file records the original name and path for each file. So leave them all alone.

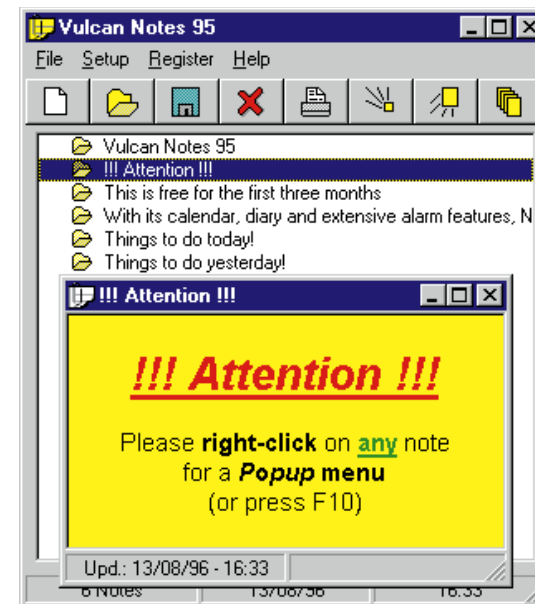*Q. How do I retrieve something from the Bin?*
A. If you've just deleted it, right-click in any folder, or the Desktop, and choose "Undo delete". Open the Bin, right-click on the wanted file and select "Restore" to put it back where it was. You can drag files out of the Bin to any open folder, or the Desktop.

Q. I don't make mistakes. If I want to delete something, I want it really deleted and I want it to stay deleted. How?
A. Four ways. If you Shift + Delete a file, it bypasses the Bin and goes straight to oblivion. Alternatively, right click on the Bin, select "Properties" and check the "Do not move files to the Recycle Bin. Remove files

immediately on delete" box, which makes this the default. Using DOS or File Manager to delete files also bypasses the Bin.

Q. As I said, I know what I'm doing, and get very annoyed when Windows asks me for confirmation on delete. How do I stop this?
A. You can turn off "Display delete confirmation dialogue" from Properties, but this only applies to sending items to the Bin. If you bypass the Bin, as above, or empty some or all of its contents, you're stuck with the confirmation dialogue. There's one rather curious exception to this. A single .EXE or .COM file is deleted without further ado.

Q. Er, how do I undelete something that has been bypassed or deleted from the Bin?
A. You close down Windows and restart in single MSDOS mode. You use the Lock, Undelete, and Unlock commands. You run a risk of losing Long File Names, but this is the least of your worries, as you also run a risk of shutting yourself out of Windows and screwing up your system drastically. But then, as you said, you don't make mistakes. For further reading see Clive Akass' column on page 34 of *PCW* March 1996. And in a dictionary, check "hubris" and "nemesis".

Nota bene

One thing I find myself doing a lot is making notes. Bits and pieces from email and the internet; details of commissions and deadlines, ideas, reminders, shopping lists — you name it, I scribble it. In the puppy-love stage of my relationship with Windows 95, I took a shine to the way you could create a new text file on the Desktop from the right mouse-button menu. This infatuation did not last. It takes three clicks

Vulcan's main window, with a sample note inset

to create the file, two to be able to rename it and two more clicks to open it. By which time, I've forgotten what it was I was going to type or paste in.

Moving on, I then found it much simpler, although less exciting, to have a shortcut to Notepad on the Desktop, with the properties set to "Start in…" my C:\WINDOWS\DESKTOP folder. A double-click to create, and a "File/Save As…" to name it, with the destination already set to the Desktop. This worked fine for a while, until I found I either had to excavate below various windows to find the various Notepad icons, or confine my word processing and other activities to the right-hand three inches of the screen.

Plan C saw a radical departure. I created a new folder on the Desktop called, with unashamed explicitness, "Notes". Doubtless I shall hear from Lotus' solicitors, but I like to live dangerously. I could have created the folder elsewhere and put a shortcut with the icon of my choice on the Desktop, but I decided to save that little treat for another day. I then redirected the Notepad shortcut "Start In" to here, set the Notes folder view to "List" and moved all the Notepad files into it. With this stroke, I reached the long-sought objective of just one row of icons on the Desktop.

There are, of course, better ways to manage this. Over the years, several electronic versions of sticky yellow (I'm not allowed to use the P-word for legal reasons) notes have appeared. And I think I've tried most of them. Winpost was my favourite for years, but its author, Higgy Higashyma, took a job with Microsoft and ceased developing it further. In April, I mentioned another product, which had two rather crippling limitations. You can only have one note, and its unauthorised use of the P-word means I'm not allowed to mention it.

So, I've been looking at two newish shareware note products. In the red corner, weighing in at 291Kb, from Colorado, USA, comes Vulcan Notes 95 (Vn95.zip on our CD-ROM). In the blue corner, all the way from Chester, England, comes the latest version of John Rennie's Notez, a wiry 151Kb under the name of Ntz324.zip.

Notez main window with the calendar and diary inset

Vulcan is simple enough to use. The "master" window contains a list of your notes. You can have up to 100 and each one takes its title from the first non-blank line in the note. Above the list are buttons for creating new notes, opening an existing text or RTF file into a new note (the original is left), saving, printing, deleting, and showing or hiding all notes. You can also do all these things, and more, by right-clicking on any open note. The whole thing consists of just one executable, and each note is saved as a separate file. You can "alarm" notes to serve as reminders, and they are automatically saved when you quit.

The USP (unique selling point) is that notes can be formatted much as a word-processed document, with alignment, font, colour, bullets and so on. The file format is a subset of Rich Text Format (RTF), but unlike the latter doesn't support things such as graphics or multiple columns, so perhaps we should call it Comfortably-off Text Format. There's a facility to search (and replace) text in all notes. The note with the searched string is brought "on-top" with the string highlighted. Unfortunately, this doesn't work on minimised or closed notes.

Like Vulcan, NoteZ, apart from its data and help files, consists of one .EXE, but it does add its .INI file to your Windows folder. It starts to get complex, as when you first start the program, three windows appear. A calendar, diary and a list of notes. This, and the lack of status bar or pop-up hints, sent me scrambling for the Help file, but I soon had everything under control.

NoteZ's USP is the way notes can be organised into folders — the samples include a rather mouth-watering collection of Italian recipes — and with its calendar, diary and extensive alarm features, NoteZ has more leanings to a personal organiser. Like Vulcan, it stores notes in RTF, and will open and save RTF files. Although the formatting facilities aren't quite as extensive, you can mix fonts in a note. There's a

search (but no replace) feature where notes containing the search string are highlighted in the list. You can open them all at once, but the strings themselves aren't highlighted.

NoteZ sticks an icon in the system tray: double-clicking creates a new note, and a right-click offers further options. Another touch I liked very much is the way you can drag and drop text between notes and other applications, which is something you can't do in Vulcan. Dislikes? There are no "Tooltips" on the buttons and there's no quick way of hiding all notes.

So there you have it. On the one hand elegant simplicity, on the other, feature-packed complexity. It's a question of personality, I reckon, as to which you prefer. Try the picnic test. Do you take along a bulky Swiss Army knife to cover all eventualities? Or do you prefer the bare necessities of a sharp blade and a corkscrew in a slim, sculpted handle?

Chewing the FAT

This autumn will see the release of FAT32 as part of OEM versions of Windows 95 — that is, installations that are pre-installed on new PCs. So what is it, and how does it affect us? The original FAT (File Allocation Table) dates from 1977 and was originally designed for storing data on floppy disks. Since then it has been fattened up to include hard disks, but it has several limitations which FAT32 seeks to overcome.

Two problems with the existing FAT concern large hard disks. First, FAT will only support disks up to 2Gb — a gigabyte being either 1000 or 1024Mb, depending on whether you're buying or selling. Secondly, FAT stores small files very inefficiently: each one takes up a "cluster", which is the smallest unit the FAT can allocate. The larger the disk, the larger the cluster size. A 250Mb disk uses 4096 bytes per cluster, and a gigabyte-plus disk uses 32768 bytes. Which means an 800-byte shortcut is rattling around like a pea in a cabin trunk. The partial solution to this problem is to partition the disk into smaller,

"logical" drives, or use disk compression software that packs everything into one big file. Or, depending on your point of view, one big disaster-waiting-to-happen.

FAT32 supports partitions up to two terabytes. Yes, I had to look it up as well, but a terabyte is a mega-megabytes, which will probably be just enough for Windows and Office 2005. Cluster size is down, with a sub-8Gb partition using 4096-byte clusters. Other good news is that it is more robust, working from a backup copy of the table, and there is no limit on the number of entries in the root directory. It also allows dynamic resizing of partitions without data loss, but this won't be available in this release. (To go off at a slight tangent, there is a commercial utility called Partition Magic which does just this with a normal FAT.) The bad news is that you won't be able to dual-boot. Only Windows 95 supports FAT32, not Windows 3.1 or previous DOS versions.

Windows NT users have had these advantages for some time, with NTFS, which allows compression and password-protection on a per-file basis. So why didn't Microsoft offer this as the way forward for 95 users? The official answer is that it "Would have precluded the use of many MS-DOS mode games and applications."

This seems a patronising message. The platform for business users is NT Work-station, at about £250 a seat. Windows 95, at about £60, is just for game players and home users. The fact that it's the SoHo and family users who need built-in security to stop children or colleagues messing with their files, remains to be addressed.

At the double, left click

Let's have a happy ending this month, with a great little tip from Richard Ansdell of Coventry. In Explorer or any other window with column headings, move the cursor to a join in the column headings so that the cursor changes into a two-headed arrow. Instead of dragging, if you double left-click, the column expands or contracts to fit the widest entry.

Boot fetish

Tim Nott does battle with bootups yet again, and "MSDOS Compatibility Mode" strikes a chord with readers. Some new Powertoys have a calming influence.

Charles Kirk read July's Windows 3.1 Hands On column, and wants to know if there is a similar method in Windows 95 for choosing whether to boot into DOS or Windows 95. "I find the F8 key option tedious. If my concentration lapses and I miss the moment, I end up in Windows 95 which does not like being interrupted and takes an age to load. When running an application in MSDOS mode, rather than a windowed DOS session, Windows restarts when the program is closed. I then have a long wait before I can switch off. I am not a patient man."

There are several things you can do, which involve editing the file MSDOS.SYS. This resides in the root of your boot drive and, unlike its DOS predecessors, is a plain text file. It is hidden and read-only, so open C:, go to View/Options/View and select "Show all files". Right click on MSDOS.SYS, choose "Properties" and uncheck the "Hidden" and "Read only" options. Then open it with Notepad. You'll see a section headed Options, to which you can add the following line:

`BootDelay=n`

where n is the number of seconds allowed to hit the F8 key after the "Starting Windows 95…" message appears. The default is 2. A better way is to add

`BootMenu=1`

which will always give you the boot options menu without having to press F8.

`BootMenuDefault=n`

chooses the default action if no key is pressed. This corresponds to the numbering of the menu items, and

`BootMenuDelay=n`

gives the number of seconds before that action is taken. It defaults to 30.

`BootGUI=0`

Use this without any of the options to stay with the C:\ prompt (equivalent to choosing "6. Command prompt only" on the menu). You can then do your MSDOS business, and either just switch off the PC or type "WIN" to load Windows. Remember to reset the properties of MSDOS.SYS to hidden, read-only after editing.

As a postscript, thanks very much to Ryan of London E14, who sent some tips on the boot menu, including the following invaluable information. "Normal: Start up Windows normally. Logged: I don't know what it does but it took a long time to start up Windows…". Empirically impeccable, Ryan, if a little lacking in hard information. What it does is create a file called BOOTLOG.TXT, recording the loading of all Windows' devices and drivers.

Compatibility blues

My woes in *PCW* (June 1996) ("If at first you don't succeed....give up") struck chords with several readers whose systems had also started running in "MSDOS compatibility mode". This slows disk access down and seems to happen for no apparent reason. Control Panel/System/Performance reports that you have an "unknown driver" in CONFIG.SYS or AUTOEXEC.BAT, even if you don't have either of those two files. Despite virus-checking and attempting to re-install the affected devices, I couldn't make this go away and ended up reinstalling Windows. It seems to be a "your mileage may vary" problem. There are a

variety of answers, not all of which work for all users.

Someone who signs his or herself GrantsV mailed-in one solution: "I too have had the frequent joys of running in MSDOS Compatibility Mode when I install my backup HDD alongside my ordinary HDD, and load Win95. I have solved this little, if very irritating, Win95 bug. Remove your hard disk controllers from Device Manager, then 'Add New Hardware' and hey presto."

I tried that at the time but it didn't work for me. David Mulvaney had the problem on his home and work machines. "I thought it may be something due to the boot sector, so I replaced the hard disk master boot record using the FDISK/MBR command (you need DOS 5 or later), then from my Windows 95 Startup disk used the SYS command (A:> SYS C:) to replace the DOS boot sector." I haven't tried this, as the problem hasn't returned, but be careful with the FDISK command as you can destroy all the data on your hard disk. The /MBR switch isn't documented in the DOS help, but according to the MS Knowledge Base it "should not be used if the disk was partitioned using Storage Dimensions' SpeedStor utility with the /Bootall option, or more than 4 partitions exist or certain dual-boot programs are in use."

Simon Pomeroy got the problem when plugging in a removable hard disk and had to re-install Windows. Mike Turner-Sterling also had this happen after installing an Etherlink card. "To cut a long story short, Microsoft says this is a hardware problem. I have had an engineer on-site three times and, although we can recreate the problem with ease, we cannot cure it."

David Beattie of Gravesend also had the problem. He renamed AUTOEXEC.BAT and CONFIG.SYS so they would not be processed. Having rebooted, everything still worked but he was still in MSDOS compatibility mode. Next time he shut down and rebooted, lo and behold, he was back at optimal performance. "For no particular reason I thought I'd put AUTOEXEC.BAT and CONFIG.SYS back to normal and the

machine still ran at optimal performance."

The Knowledge Base has quite a lot to say on the subject of MSDOS compatibility mode, including a reference to "Unknown hooker MBRINT13". It goes on to explain that you may find a clue in a file named IOS.LOG, situated in the Windows folder, or by pressing F8 at boot and choosing to create a BOOTLOG.TXT file. It doesn't go much of the way to explain why this should happen out of the blue, when there are no CONFIG or AUTOEXEC conflicts and no new hardware.

In my case, where no new hardware or disk changing was involved, the virus theory looks the most likely, despite the lack of alarms from the usually reliable McAfee. Fraser Smith had the same problem and wrote that "Thunderbyte, S&S and McAfee failed to detect a virus, yet Norton came up with WelcomeB. It just goes to show that virus checkers are not infallible."

I did come up with a quick fix for the situation where anti-virus software fails, as in Fraser's case, yet an unknown 16-bit TSR/driver has apparently been loaded before Windows 95. All you need is a bootable floppy disk. Copy SYS.COM to this floppy and set write-protect on. In the event of something tampering with your BOOT sector, booting from the floppy and running SYS C: from the prompt will replace the offending boot sector." That would seem to be supported by David Mulvaney's experience, although it's worth trying SYS on its own before the more scary

FDISK/MBR stuff. In the meantime, beware of "unknown hookers" bearing viruses.

Powertoys revisited

I think I'm starting to get the hang of this desktop thing. Apart from the shortcuts that Windows installs there, I find I tend to use it for temporary things like shortcuts to folders and documents I'm working on, screenshots, copies of email messages, to-do lists and so on.

Like junk on my real desk, it tends to pile up, and the thing that I really find annoying is that the icon I want is always buried beneath a stack of windows. Even though I've got an enhanced keyboard, where the Windows + M keys will minimise everything (you can do this on a normal keyboard with Ctrl + Esc, Esc, Alt + M), I've never really got into the habit of doing this, or right-clicking on the Taskbar and selecting "Minimize all Windows".

Although it's attractively ruthless, like sweeping the contents of a real desk on to the floor, it's often similarly counter-productive. If you want to drag an icon into an open folder or application, you either have to restore the minimised destination and then move it out of the way, or drag the icon to its taskbar button, wait for it to open while still holding down the mouse button, then drag it back up. If you let go of the mouse button, you have to start again. One answer is to have a shortcut to the desktop. You can put this in the Startup folder so you can access the desktop folder from one

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All you ever wanted to know...

Just to make a change from things going wrong, here's a tip for when everything is gong absolutely swimmingly. Open the System icon in Control Panel and select the Device Manager tab. Click on the Print button. You'll get a choice of a System Summary with or without details of all devices and drivers. The former runs to two pages, the latter to nine on my PC, though real power-users claim thirteen or more. Keep this somewhere safe and it should save much messing around should you get any hardware conflicts. Thanks to Andrew Katz for that advice.
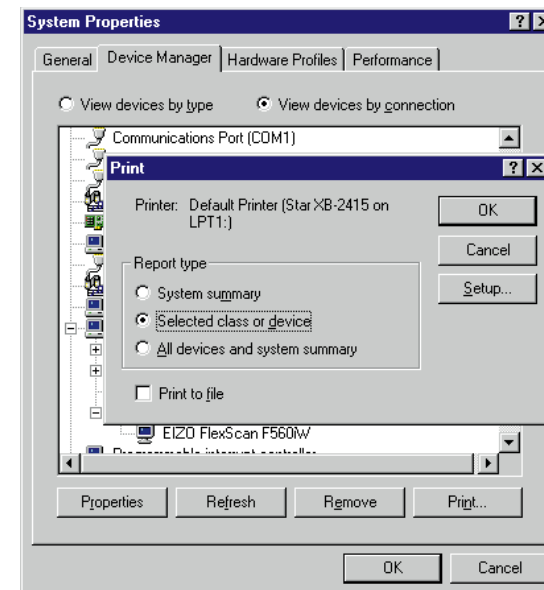
Print those hardware settings now, while it's all working

click on the Taskbar.

The snag with this is that it reveals the difference between the physical folder, c:\windows\desktop, and the metaphysical desktop entity that sits at the top of the tree containing c:\windows\desktop and all the stuff like My Computer and the Recycle Bin. In other words, the latter aren't shown in the folder. You can create shortcuts to them, but then you'll find that the metaphysical Desktop has both the "real" My Computer and Recycle Bin and the shortcuts as well. What a mess!

Enter the latest issue of Powertoys. If you missed out on previous versions, Powertoys is a collection of unofficial Microsoft add-ons and utilities. They are free, they're on this month's CD and pack an amazing amount into the quarter-megabyte file. The installation can be a little confusing, so copy PWRTY4_7.EXE to a temporary folder and run it. It's an MSDOS (ho ho) self-extracting file, and will expand into .INF, .EXE and other files. Somewhere in that lot will be README.TXT, so do. You can then right-click on INSTALL.INF (if you have the folder View/Options/View/Hide MSDOS file extensions checked you'll just see INSTALL) and select Install. If it starts moaning that it can't find files or asking for disks, it's probably because your temporary folder has a long filename. It is rather daft, but that's Microsoft and ours is not to reason why, so rename it to an eight-letter or shorter one.

Once installed, restart Windows and you'll find a whole lot of new goodies to play with. You can also install them piecemeal as each Powertoy has its own .INF file. However, it's probably easier to install everything and then remove anything you don't need from Control Panel/Add-Remove Programs.

There's a lot here and as such I'm going to leave things like the round clock, the enhanced CD Autoplay gizmo, the truly wonderful Quickres and the truly horrible Xmouse as an exercise for the reader, and concentrate on the real goodies. Getting back to what I was banging on about earlier, you'll find a new shortcut in your Startup folder called Deskmenu. This produces a corresponding icon in the System Tray. If you click on this, you'll see a menu of everything on the desktop.

Next stop is Control Panel to check out the latest version of TweakUI. I covered this back in February, but briefly it allows you to do all sorts of things that usually involve some heavy Registry editing. You can
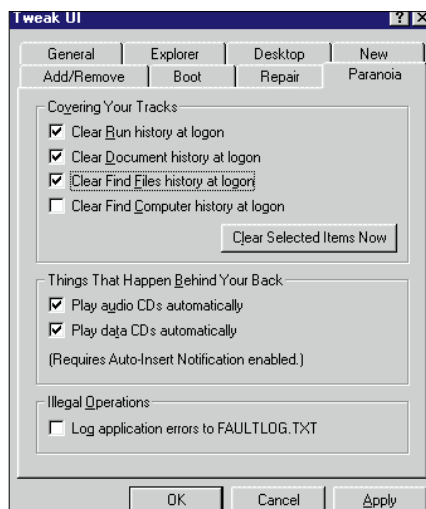
Cover your tracks with the latest TweakUI

customise desktop icons, remove arrows from shortcuts, set boot options, disable "save settings" so that you don't start a new session by re-opening all the folders that you hadn't shut when you last closed down, and much more. Check out the Help file which you can reach from the "Tips" button on the "General" tab.

This version also brings some new stuff.

There's a "Repair" tab for mending icons, the font folder, associations and system files, and there's also a wonderful section entitled "Paranoia". This is the answer to Stephen Hollis' query in August's column, as you can clear the contents of the Recent Documents list, the Run list, and the Find list either on a one-shot basis or automatically at logon.

Then there are all sorts of new right-click enhancements. You can "Send To…" various flavours of email and the command line, and copy the path of a file to the clipboard. You can see the contents of a folder as a menu without opening it, although this doesn't always seem to work, and start an MSDOS session in any folder. There's a System Tray to change your dialling location, and a driver to print to an HTML file from any application (you have to install this by right-clicking on HTML.INF).

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Tips, what tips?

Getting back to more serious matters. Where are your "Tips of the Day"? The response so far has been bitterly disappointing, with just one contributor. Fortunately, Ian Hogg, who describes himself as a writer, student and bon vivant, displayed a rare generosity of spirit with 48 tips. Well, Terry Pratchett's spirit, to be precise, as Ian is not so much a Pratchett fan as a complete ventilation and air-processing solution. All the quotes were either from Mr Pratchett's books, the man himself, or the alt.fan.pratchett Usenet

newsgroup. A couple of the best include: "Luck is my middle name," said Rincewind, indistinctly. "Mind you, my first name is Bad." And: "This isn't life in the fast lane, it's life in the oncoming traffic."

Thanks, Ian, and if you could let us have a few tips on how you can combine being a student and a bon vivant without Resource Conflicts, I'm sure the readers would be glad to know. As for the rest of you, send me your tips, and later in the year I'll compile a complete Registry set for the cover CD.
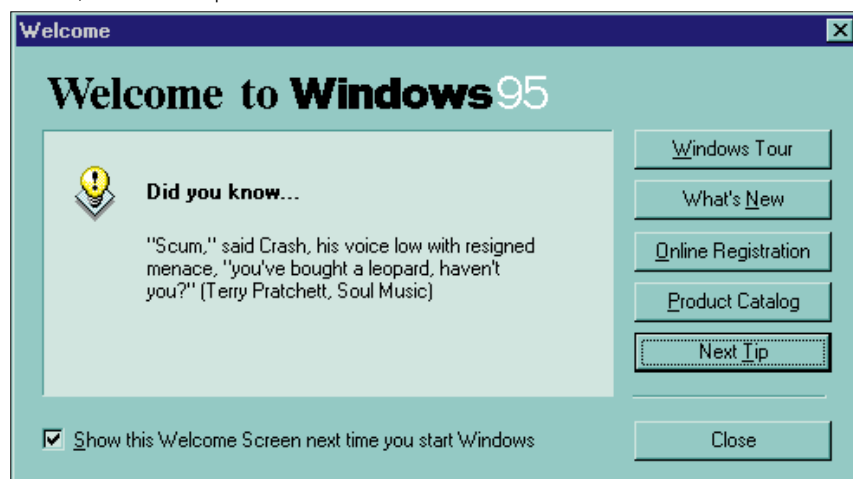
Nice one, Terry. Well spotted, Ian. Shame about the colour scheme.

Protect and **survive**

Tim Nott tightens up security in Windows 95 without the aid of deadlocks and dobermans.

There must be many readers who have the responsibility for more than one user on the same standalone PC. Whether you're an employer, an administrator, a parent, or like reader Robin Malton, a teacher, there's the perennial problem of preventing the user from "customising" the settings in ways that screw things up for other users.

As Robin states: "*Most IT teachers have developed strategies for locking their pupils out of areas of Windows 3.1. Now we have got to start all over again with Windows 95. We are about to buy up to 20 standalone machines and the thought of all the chaos which will be created, intentionally or otherwise, by unrestrained use of Settings for Task Bar and Control Panel, let alone the freedom of My Computer, is causing grey hairs.*"

Windows 3.1 has some fairly minimal locks; notably the restrictions that can be made to Program Manager and Control Panel by editing the .INI files. Windows 95 is no Fort Knox (for real security, you'd use NT Server) but it does go a fair bit further.

First, a brief word on User Profiles and System Policies. User Profiles are basically those bits of the Registry that are stored in USER.DAT. On a network, these can be used in two ways. Firstly, System Policies can be set up to give mandatory profiles to users (or groups of users), with restrictions to stop them altering various aspects of their system. The obvious advantages of this are the savings in training and support costs. Secondly, profiles can be made "portable", which means roving users can log on from anywhere on the network and fire up their own desktop. In these cases, policies and profiles are stored on the server.

Fortunately, networks are not my brief. However, the same tools can be used on a standalone PC to give different users various settings or levels of access. You might, for example, share a PC with a colleague who works a different shift, but still want to keep your own desktop settings. Or you might, like Robin Malton, want to prevent reckless or mischievous meddling.

A matter of policy

It's a lot more complicated and confusing than the pre-95 editing of plain-text .INI files and, as you've probably already guessed, involves the Registry. The usual warnings about backing up USER.DAT and SYSTEM.DAT apply here in spades. It's extremely easy to foul things up, lock yourself out of the system and seriously damage your mental health. It's also appallingly documented, but after consulting the Windows 95 resource kit, the Microsoft Technet, with a bit of inspired guesswork and a lot of trial and error, I think I've just about got the drop on it.

The good news is that Microsoft has provided a specific tool for the job, the System Policy editor. This is on the Windows 95 CD. Use Control Panel/Add-Remove/Windows Setup/Have Disk then browse the CD to

`\ADMIN\APPTOOLS\POLEDIT\`

to install it. As the helpfile isn't much help, have a look for

`\ADMIN\RESKIT\HELPFILE\WIN95RK.HLP`

as well. This is the Windows 95 resource kit, which contains a mine of useful information in a helpfile. If you installed from floppies, or had Windows 95 pre-installed on a PC, then the files are available from Microsoft (see *PCW Contacts*, page 250).

Having installed the Policy Editor, the next step is to enable User Profiles. From Control Panel/Passwords, select "Users can customise…". Make sure the two options below are also ticked, then restart the computer. You'll be prompted for a user name and password. This user is going to be *you* — the System Administrator and Master of the Universe — so choose wisely. You'll be asked if you want to retain your settings between sessions. You do.

You'll find that things have changed somewhat. In the Windows folder, you'll find a new folder called Profiles. Inside this will be a single folder corresponding to your user name. Inside that will be your own personal registry files: USER.DAT and USER.DA0 (the backup), and three other personal folders: Desktop, Briefcase and Recent. You might also find that some of the files, folders and shortcuts that were on the desktop have disappeared. Don't panic, they can still be found in the Windows\Desktop folder. You'll also find that the close-down dialogue has sprouted an extra option: "Close all programs and log on as a different user".

The installation of Poledit should have copied a file called ADMIN.ADM to the WINDOWS\INF folder. If not, or if you installed Poledit by hand, you'll have to copy this from the CD. Once POLEDIT is installed and running you may get prompted to choose a template: if so, browse to WINDOWS\INF to find ADMIN.ADM; if not, check that this file is the one cited in the "Options/Template" menu. If you can't find the INF folder, then select "View/Options/View" from any open folder and tick "Show all files".

Open the "File" menu and choose "Load Registry". You'll see two items appear in the main window: "Local User" and "Local Computer". Double-clicking on either of these produces a new window that looks rather like a Helpfile contents with an expanding tree of book icons.

Network?… What network?

Now it starts to get hairy, as even the Resource Kit leaves you on your own. The correlation between system policies and user profiles is a nebulous thing and, at least on a standalone PC, gives the impression that the groups of programmers responsible didn't like each other very much.

The first thing to do is alert the Registry to the fact that not only are there different users, but that system policies are in effect. In other words, Windows has to look for a policy file on startup. Open "Local Computer" and double-click the "Networks" book. Yes, I know you're not on a network, but remember I mentioned the words "complicated" and "confusing" earlier. Double-click the "Update" book, then tick "Remote Update". In the panel below, choose "Manual (use specific path)" in the "Update Mode" box and type in a path below that. Using the defaults, this would be

`C:\WINDOWS\CONFIG.POL.`

OK the dialogue, then save and close the Registry.

Now open a new file in the Policy Editor. Again you'll see the same items, but this time you'll be able to add new users from the "Edit" menu. Add one with exactly the same name you logged in with. Click on yourself and you'll see five "books": Control Panel, Desktop, Network, Shell and System. These all expand into a series of check boxes which can be in one of three states. Ticked means the policy is in force or, if it isn't, will be put into force next time that user logs on with the Registry amended to suit. Clear means the policy isn't in force, or will be removed from the Registry at the next log-on. Greyed means that the status quo will be preserved. Nothing will be added to, or removed from, the Registry.

In general, it's better to grey than to clear. For a start, clearing can remove settings you may not want removed. Secondly, as greyed settings are ignored, processing the registry is much faster. Some settings, such as the "Update" in the last paragraph, have an extra panel below.

To get the hang of this, experiment with your own ID and something harmless. All user policies should be grey to start with, so go to "Desktop/Wallpaper", tick the box and choose a wallpaper file from the list. Obviously, choose something different from the current one. Save the Policy file with the name you specified earlier (C:\WINDOWS\CONFIG.POL) and close down Windows. If you log on as yourself again, you'll see your wallpaper has changed to that specified in the policy. You can change it back, assuming you haven't restricted Control Panel access, but only on a per-session basis. Clearing the box, in this case, means you'll always start without any wallpaper. Greying the box means that the Control Panel wallpaper settings function as normal and are saved between sessions.

Once you've got the hang of this, you can begin restricting the Default User. All new users will be based on these settings. If you expand the tree, you'll see that the Control Panel section can restrict various levels of access to the Display, Network, Passwords, Printers and System. All are adequately explained in the sub-options so I won't go into much more detail. You'd probably want to enable all the restrictions in the System section, for instance, and also at least keep users away from the Display/Settings page. Somewhat strangely, you can't protect other sections, so users are free to screw up their fonts, multimedia and other settings.

School uniform

The Desktop section lets you set mandatory wallpaper and colour schemes, if you're into the "regulation issue" look. The Network section, which is about file and printer sharing, needn't concern us. Moving on, the Shell section gets more interesting. First, you can decide whether users can
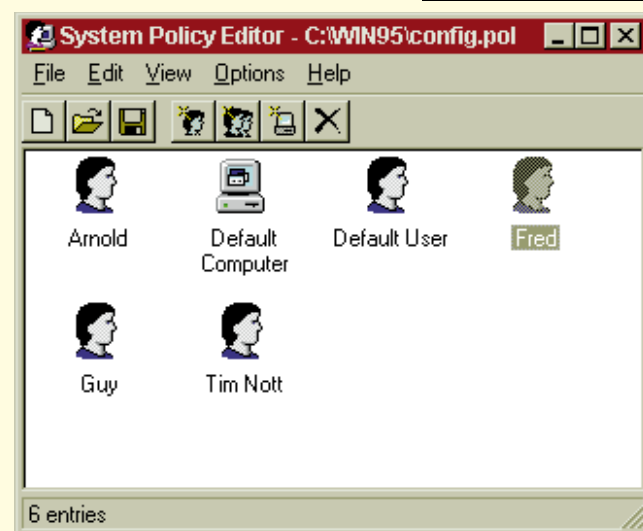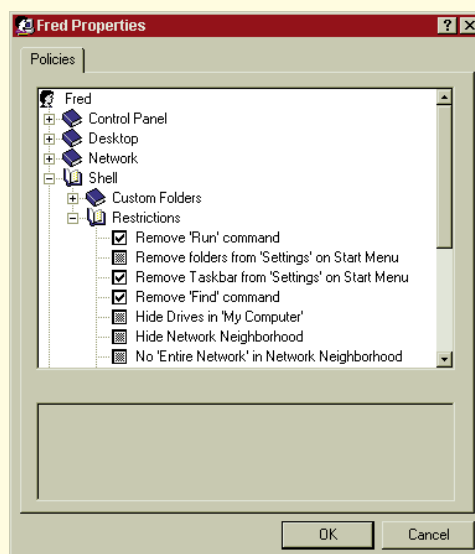
Above
Restricting Fred's access…

Left
Defining different users in the System Policy Editor

have their own custom folders for the Start menu and Desktop. In a classroom situation you might not want this, but two people sharing a PC probably would.

The next bit is where it gets interesting for wannabe System Stalins. Under Shell/Restrictions is plenty of privilege waiting to be taken away. You can disable the "Run" and "Find" and "Settings" commands from the Start Menu, remove drives from "My Computer" or even everything from the desktop. There's a "Don't save settings" option which is extremely useful as it means that users can't leave a mess of open folders for the next person; and finally, there's an option to disable the Shut Down command. This latter is a very bad idea as the only way to exit Windows is by resetting the computer. This, as many Windows 95 users have found to their cost, is an open invitation to the gremlins of chaos to invade the machine.

Under the next "System" section you can disable both normal and single-mode DOS sessions as well as Registry editing tools. It is rather misleading as it doesn't disable Poledit, only Regedit, so you might want to make sure the former isn't left on the hard disk of the PC. The final, and most restrictive, setting is to "Only run allowed Windows applications". The bad news here is that you have to type in a list of each application by hand; you can't browse or select. However, having done this once you can, of course, copy the policy file across a classroom full of machines.

Having set up restrictions for the Default User, do check that you haven't inadvertently restricted yourself. I have a strong suspicion that some settings "migrate" but I haven't yet caught them in the act. Save the policy file, exit Poledit and exit Windows. You should now find that when any new users log in with a new name and a password, they will inherit the default user restrictions.

Plugging the hole

With multiple users enabled, as I said earlier, you get a password prompt on logging in, with the default name of the last user. Although you'd obviously want a password for the system administrator, passwords are not obligatory. You could have "Class 5A" as a user with a blank password. There is, however, just one teeny-weeny snagette. If you hit the "Cancel" button, everything reverts to where we came in. The desktop goes back to how it was before multiple users were enabled, and all restrictions are lifted.

If you log back on as yourself, run Regedit and open HKEY_USERS, you'll
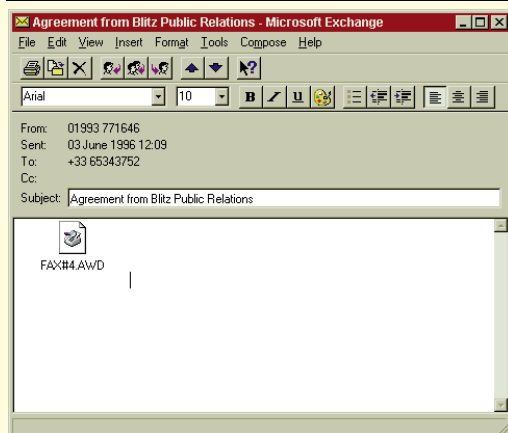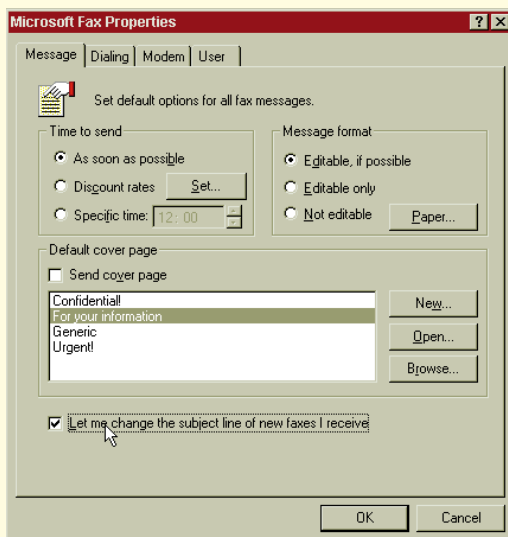
Top *Enabling this setting…*
…lets you give meaningful descriptions to incoming faxes **(above)**

see two branches: one with your name and another named .Default. The latter retains the original settings and is used when the "Cancel" button is pressed during log-on. So just do this: restart Windows, hit "Cancel" and run Regedit again. You'll see just .Default in HKEY_USERS. Close Regedit, run Poledit and open the Registry. Now apply the same restrictions to the Registry as you did to the default user in CONFIG.POL. You'll then find the Cancel button leads to the same restricted environment as the default user log-in. If you want to restrict all users to the same degree, you can skip all the above except for the previous paragraph. Bear in mind, however, that you want to leave yourself a way in to the system.

It's still by no means perfect. There are more holes in it than in the Swiss Emmental cheese mountain. There's no way to password-protect folders or partitions, which means that as long as users can open one folder, they have access to the entire PC. Even with all restrictions in place and just Notepad.exe in the list of permitted programs, it's a trivial matter to open Explorer from the File/Open dialogue.

Another big nuisance item is that anyone can create a new user ID and insist on having their settings saved, which can lead to a proliferation of unwanted individual folders, even though the Custom folders options are cleared for Default User.

A couple of further safeguards you might like to consider are setting BootKeys=0 in MSDOS.SYS so the user cannot use the function keys to stop Win95 loading at startup. You might also like to disable floppy disk-booting from the PC's CMOS settings, and password-protect the CMOS itself. This process will vary, so you'll need to consult the hardware manual.

What the fax?

And now for something completely different and far less brain-damaging. In July's column I had a good moan about Exchange, but recently I've actually managed to discover something I like.

Looking through the faxes in my Inbox I was struck by the fact that in the "From" column was the number of the caller. If the caller hadn't set their fax machine or software to give this information, then it stated "Unknown fax machine". The "Subject" field didn't actually tell me anything more. It either showed that this was a fax from the number in the adjoining column or, if this was unknown, simply "Fax".

Rather a waste of time and space I thought, until, browsing the Inbox menus, I came across the following well-buried secret. From the "Tools" menu, go to "Microsoft Fax Tools/Options". Or, if you prefer the scenic route, go "Tools/Options/Microsoft Fax" and click the "Properties" button. Either way, you get a four-page dialogue for "Microsoft Fax Properties". And there, on the "Message" page, is a tick box for "Let me change the subject line of new faxes I receive". Which says it all really. Now, when you double-click on a fax in the Inbox, instead of going straight to the viewer, you're in the fax editing window with the fax file shown as an icon. Double-clicking on the icon launches the viewer, but the bit I like is that you can now alter the "Subject" field to read something sensible and informative. ■

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The readers **write**…

Tim Nott reviews and passes on your tips and suggestions for CD track list editing and Registry editing to change default folder icons.

We've received a record amount of feedback and tips by post and email in the past few weeks, so this month's column is largely written by you, the readers.

But first, a quick and easy request from Stephen Hollis, who wanted to know: *"Whether it is possible to stop documents from going into the Documents folder on the Start menu. I sometimes have some very private files that I would rather people didn't see."* The short answer as far as I am aware is that you can't stop them, but there are several ways of removing them.

Open the Recent folder in Windows, and you'll see all the shortcuts that appear in the Documents list — you can delete the ones you don't want to appear. If you have multiple users enabled on a machine then each will have his or her list under Windows/Profiles/ Name/Documents. You can also clear the lot by right-clicking on the Taskbar, then selecting Properties/Start Menu/Clear. Note that an independent list is kept in the Registry, at: `HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\RecentDocs`

This isn't deleted by either of these actions and although listed in hex, it wouldn't take much detective work to identify the files involved.

Play on...

As you probably know, the Windows CD player will play audio CDs automatically, given the chance. Alternatively, you can launch the CD player manually. In either case, you have the option of selecting tracks and arranging them into a playlist. If you want to be really tedious, you can even play the same track several times over.

What I only realised recently (and thanks to Paul Sutton for pointing this out) is that you can edit the title and track list. If you pick Edit play list from the Disc menu, you can fill in the artist and title. Click on one of the tracks in the right-hand list and you'll be able to edit the text in the box below it before clicking the Set Name button to add it to the list. (Note that there's a limit on the length of a track name — if you're trying to catalogue Pink Floyd's "Umma Gumma" you're going to run aground halfway through "Several species of small furry animals gathered together in a cave and grooving with a Pict").

The clever bit is that Windows saves this information, along with the serial number of the CD. So when you next stick Mozart or Metallica into the drive, the title, artist and track list appear automatically.

Windows stores all data as plain text in an old fashioned .INI file —CDPLAYER.INI in the main Windows folder. As Paul points

Windows remembers your CD collection — if you make the effort to type it in

out, it's a good idea to back up this file to floppy, especially if you've typed in the details of a large music collection. And, appropriately enough, Paul wins a record token for his efforts.
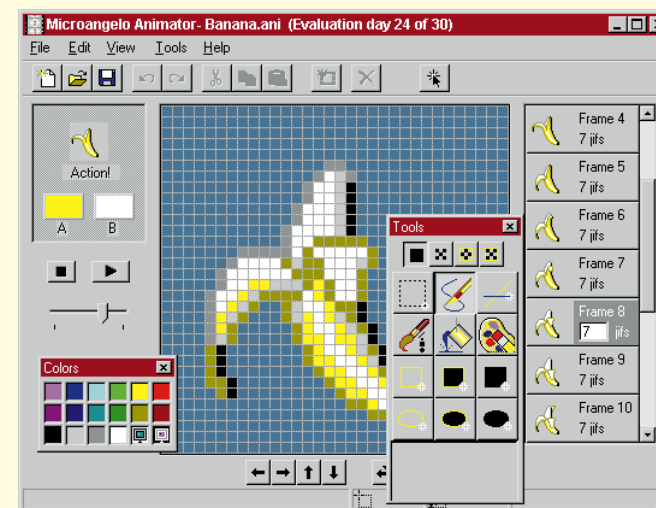
Icon time

It's time for those irrepressible little fellows again, if you're not all heartily sick of them.

First, many thanks to Mike Peschka, Henry Bevan, Harry Genery, Stephen Taylor, Keith McKay, Jason Ozin, Hoi Lam, Deborah Pate, Stanley Keymer (Finland), Wim Mattaar (Holland) and everyone else who wrote in telling me about the Microangelo icon editor.

Special thanks to Jez Page and Craig Lewin for pointing out that it was on our January issue's cover-mounted CD. Extra special thanks to Gerald McMullen for sending me a whole stack of stuff on floppy disk, including Microangelo version 1 (wake up, Gerald, that's last year's model!), Iconmaster, lots of animated cursors and 13,000 icons, including (nudge, nudge) some X-Rated specimens. Say no more.

For those few readers who didn't write in and haven't heard about Microangelo, the package consists of five modules. The Studio is a straightforward icon editor with tool and colour palettes. It has some nice touches, such as being able to paint in transparent or inverse colour: the first blends in to the colour of the background; the second always contrasts with the background. The Animator lets you create animated cursors using similar tools, frame-by-frame. Each frame can be separately timed by specifying a duration in "jifs" (about 1/60th of a second) — and the cursor "hot-spot" assigned to any part of the image.

The Librarian lets you group individual icons into "libraries" — single files with the .ICL extension. You can also extract icons from .EXE and .DLLs to add to your own library. The great advantage of libraries is the amount of disk space you can save; I've mentioned the cluster factor before, so will just note that 100 icons at 766

CD Player: Disc Settings

Drive: \Device\CdRom0 <F:>
Artist: Red Hot Chili Peppers
Title: Freaky Styley

Play List:
Jungle Man
Nevermind
Freaky Styley
Catholic School Girls ...
Lovin' and Touchin'
Battle Ship
The Brothers Cup
Sex Rap
Yertle the Tertle

<- Add
Remove ->
Clear All
Reset

Available Tracks:
Jungle Man
Hollywood
American Ghost Dan...
If you want me to sta...
Nevermind
Freaky Styley
Blackeyed Blonde
The Brothers Cup
Battle Ship
Lovin' and Touchin'

Track 14: Yertle the Tertle   Set Name

OK   Cancel

bytes each, stored on a partition greater than 512Mb, will take up 1.6Mb. The same icons in a library take up around 80Kb.

Next, the browser lets you look anywhere for icons and cursors. A nice touch is that the number of icons in a library, .DLL or .EXE, is listed and from here you can open the Librarian or edit individual icons.

Finally, there's the Engineer. This lets you change all the system icons and cursors, including the parts (such as folder icons) that other means can't reach. Microangelo is shareware with registration costing a rather hefty $59. As it's been updated since its *PCW* debut, we've included it on this month's CD-ROM. You can also find it at http:\\www.impactsoft.com or the Windows/Files_32 topic on CIX.

Microangelo's Animator for wannabee cursor-Spielbergs

Microangelo Animator- Banana.ani (Evaluation day 24 of 30)
File Edit View Tools Help

Action!
A   B

Tools
Colors

Frame 4 7 jifs
Frame 5 7 jifs
Frame 6 7 jifs
Frame 7 7 jifs
Frame 8 7 jifs
Frame 9 7 jifs
Frame 10 7 jifs

Bolder folders

Many also wrote in answer to the challenge that I offered up on in April's column — how to change the default folder icons. This, as I remarked at the time, doesn't seem to work using Explorer's View/Options/File Types. Craig Lewin, Jason Ozin, Torstein Olsten from Norway and various others all pointed out that you have to edit the Registry. Specifically the entry:
`HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\explorer\Shell Icons`

Jason Ozin correctly points out that you won't have this key unless you've installed the Plus! pack or some other software, such as Microangelo, that adds it for you. But that doesn't stop you adding it yourself. Go down the Regedit tree, as above, until you get to Explorer. Highlight it and choose New Key from the Edit menu, and name in place the key Shell Icons. Highlight this key and choose New String Value. Name this with the number 3. Double click on the 3 and a dialogue box will appear. In the
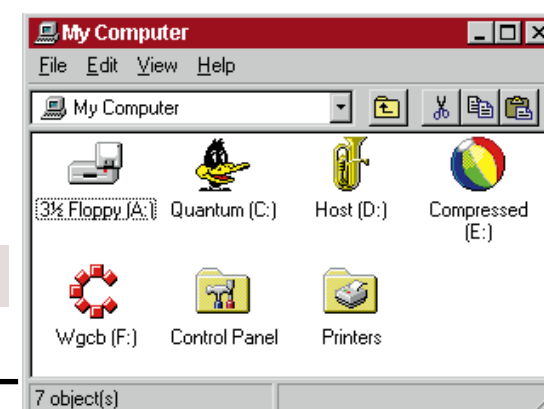
Drive away

My favourite trick this month comes from Garan Jenkin in Jersey. Once more we're back with icons, but this time there's no registry hacking involved, and this tip makes a rather fine complement to the folder icon trick. You may have noticed that when you stick an Autorun-enabled CD-ROM in the drive, it usually has its own custom drive icon in Explorer or the My Computer folder. You can exploit this capability for other drives by creating a file named AUTORUN.INF in the root of each partition. This file should contain two lines:

    [autorun]
    icon=filename,number

The filename and number conventions are the same as

the registry tip above — if you don't specify a number, the first one in the file (number 0) will be used. You can use a different AUTORUN.INF for each partition to get a different icon. I can't get it to work with floppy disks, but you may have more luck.

My Computer
File Edit View Help
My Computer

3½ Floppy (A:)   Quantum (C:)   Host (D:)   Compressed (E:)

Wgcb (F:)   Control Panel   Printers

7 object(s)

Autorun those drive icons

2 6 4
PERSONAL COMPUTER WORLD
AUGUST 1996

2 6 5
PERSONAL COMPUTER WORLD
AUGUST 1996
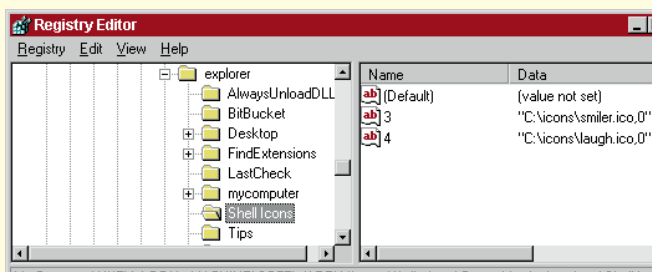
Left *Hitting the metal — editing the folder icons in the registry…*

Below, left *…and look — it can be done!*
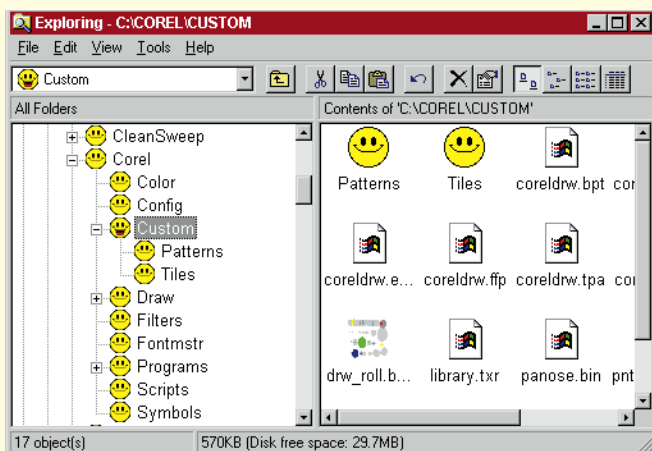
Value Data field type the filename of the icon in the format filename, number, where filename is the complete path to the icon file — which can be an .ICO, .EXE or .DLL. If the file contains more than one icon, then "number" selects the one you want, starting at zero.

For example, if you want the tree icon in SHELL32.DLL this should read:

```
C:\windows\system\shell32.dll,41
```

This will set the closed folder icon. Repeat with a New String Value named 4 and specify another icon. This will be the open folder icon. Close Regedit, and you'll probably find nothing happens, even if you restart Windows. You need to jump-start the changes, and only Craig Lewin included this information.

While the cat's away…

I've had several reports that Windows starts with the Number Lock off, i.e. the numeric keypad mimics the arrow keys rather than producing numbers, no matter what is set in CONFIG.SYS or the PC BIOS settings. This, it seems, is a problem with the Intelli-point mouse driver. I haven't been able to reproduce this problem myself, but the following, taken from the MS Knowledge Base, may help. You need to add a key named "Keyboard" to the following registry branch:

```
HKEY_CURRENT_USER\Control
Panel\Microsoft Input Devices
```

Add a string value named "NumLock" to the key, and set the string value to "ON". As I mentioned, I can't vouch for this personally, but thanks to Alan Budden for passing it on.

was, and click OK. Finally, to get the new Open Folder icon to appear in the title bar of folder windows and on the taskbar, you need to restart Windows.

Your open and closed folder icons should now be permanently changed to the new choice — in theory, at least. I did mine with Microangelo, and Windows changed them back shortly after. I've now redone them by hand, and all seems well. But who can tell what tomorrow may bring?

Robert Parr was less than impressed by my way of getting a directory listing to file using the Send To command and a batch file. He says: *"Instead of using the Send To menu as you describe, how about having 'Contents' as one of the options when you right click on a folder?"* Well, I liked my version because firstly, it didn't involve any Registry editing and secondly, it doesn't add to the top level of the right-mouse menu, which in my case is already rather overcrowded. But I have to admit Robert's method is rather classy, so here it is. As always, make sure you back up the Registry before editing it.

Open the Registry Editor and go to

```
HKEY_CLASSES_ROOT\Directory\shell
```

Add a new key called "contents" into shell, and give it a default value of "&Contents". Next, add a key called "command" into "contents", and give it a default value of "c:\windows\contents.bat %1". Then close Regedit and use Notepad to create the following batch file:

```
@echo off
dir %1% /o > c:\windows\contents.txt
notepad c:\windows\contents.txt
```

Go to Control Panel Display (or right-click Properties on the Desktop) and pick the Appear-ance tab. Scroll through the list of items until you see Icon. Change the icon size, click on Apply and you should see the changes take effect. You can then change the icon size back to whatever it

Save this in the Windows folder as "contents.bat". Right-clicking on a folder and selecting Contents will now open Notepad and display an alphabetically sorted list of files contained in that folder which can be printed, or preserved by saving under a new name.

If you don't want to edit the Registry, you can do this via the File Types tab of Explorer/View/Options. Scroll down to File Folder, click on Edit, then click New in the next dialogue box. In the following box type "Contents" under Action and "c:\windows\contents.bat %1" under Application Used.

What's in a name?

To return to another long-running saga, Deborah Pate wrote concerning my moan about applications that put their name, rather than the filename, first in the title bar or task bar button: *"Microsoft now recommends that programs should put the filename first in the title bar, and Windows 95 programs like Notepad are well-behaved. I presume Office 95 programs are, too. Unfortunately earlier versions aren't…"* Well, that was my original point — Office 95 programs don't put the filename first, but this shouldn't prove an insurmountable problem for Deborah, who describes the following wonderful piece of hackery.

"It is possible to fix this with the aid of a hex editor. Once you've found the place in the program where the title bar legend is kept, you can simply replace the first character with a null. This means the program name doesn't show in the title bar or taskbar. The difficult (well, tedious) bit is finding the right place in the right file, but here are the ones I've managed to track down:
- *Word 6.0: the second occurrence of 'Microsoft Word' in the file WWINTL.DLL.*
- *Excel 5.0: the seventh occurrence of 'Microsoft Excel' in EXCEL.EXE.*
- *Corel Draw 5.0: the second occurrence of 'CorelDRAW!' in CORELDRW.EXE."*

Far be it from me to encourage such wanton vandalism, which probably breaks the terms of your licence agreement and makes ineradicable stains on your best anorak, but it would be shirking my duty not to investigate this. And besides, it sounded fun. So having backed up everything in sight and checked my life assurance, I tried this with Word 6.0 and Excel 5.0 and it worked a treat. A book token is on its way, Deborah. ■

Gone, but not forgotten…

Inefficient uninstallation leaves rubbish behind: Tim Nott provides a cure. And for a bit of R&R, he goes quackers with a kludge for an icon editor.

All applications that bear the Windows 95 logo should come with an uninstallation routine but in my experience it doesn't always work.

Beta software seems particularly susceptible to a half-baked uninstall. One application I looked at recently required an hour of manual deletion and registry pruning to clear up all its droppings.

I take this sort of thing rather personally. If the companies involved are hoping for the goodwill of beta testers and reviewers with a product that may be unfinished and unstable, then they could at least have the courtesy to make sure that the victims have a reliable means of getting rid of it all.

Three common problems seem to be: leaving items in the start menu, leaving registered file types, and leaving items in the uninstall menu itself. The first is easy to cure — open the Start menu (right click on the Start button) and delete the relevant folders and/or shortcuts.

Curing the second involves a visit to the "View/Options/File Types" dialogue from any Explorer or Folder window *(Fig 1)*. Scroll down until you see the offending entry, highlight it, and hit the "Remove" button. Before you start congratulating yourself on a job well done, open WIN.INI and check for corresponding entries in the [Extensions] section; if these exist, delete them as well, otherwise the Registry may add them again next time you start Windows.

Getting items that have been removed off the "Uninstall" list that you see from Control Panel "Add/Remove Programs" involves editing the Registry, but it is very straightforward. Having backed up the registry, run Regedit and go to

`HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall`

Click on the plus sign and you'll see a number of folder icons (called "keys") in the left-hand pane. Each of these should have three corresponding entries in the right-hand pane.

The first should be empty. The second shows the name of the application as shown in the "Add/Remove…" list, which may not be the same as the name of the key. The third shows the command to uninstall the application. Delete the entire key and the entry in "Add/Remove…" will disappear. Note that unlike editing WIN.INI, you don't need to explicitly save the Registry after editing.

Joining the association

While we're in the area, what if an application has stomped all over an existing association? Let's say you have a bitmap editor, with which files such as .TIF, .JPG and .TGA are associated. You install "Mega-Paint for Windows Demo Version" from a cover disk and this grabs the association, so that double-clicking on these no longer activates your original editor, even after you've got rid of MegaPaint and removed its entry, or entries, from the "File Types" list.

Sometimes you'll find that the original program will "mend" its associations. If not, and you don't want the trouble of re-installing it, you'll have to create a new file type. The easy way is to double-click on the file and when the "Open With" dialogue appears, type in a description — this is what will appear in the "File Types" list and the Explorer "Type" column. Make sure the "Always use this program…" box is ticked and choose a program from the list.

You might notice that certain file types, in particular those of bitmap editors which can normally handle a variety of formats, have more than one extension associated with them. The neat thing about this is that all these extensions will appear with the same "Type" in Explorer. Both .BMP and .PCX files, for example, default to the type "Bitmap Image" which opens with Paint, but you can't edit or add to this list directly and it doesn't seem possible to specify multiple extensions in a new file type.

Often, this may not be a problem — it's quite useful to have Log or Ini files retain a separate identity from Text files, even though they open with Notepad. At other times, you might want to class ASC files, say, as Text files rather than giving them a separate type. This has the added advantage that any other right-button commands (e.g. "Print") are already set up for you. If you want to create a new multiple extension file type, then create the type with the first extension and close the dialogue. If you want to add to an existing file type, then skip that bit and go straight to Reged-it, having carried out the usual precautionary backup.

For the sake of this example, let's say you want to add .ASC files to the type "Text Documents". First, you need to find the middleman, the internal name used by Windows to specify the type. If you look in HKEY_CLASSES_ROOT, which is where all this stuff is stored, you won't see a key for "Text Documents". If you search for it, you'll find it in the right-hand pane, corresponding to a key entitled "txtfile". That's the middleman.

You'll notice that there are two sorts of entries in HKEY_CLASSES_ROOT: extensions, preceded by a full-stop, and the "middlemen" to which the former point. Check the
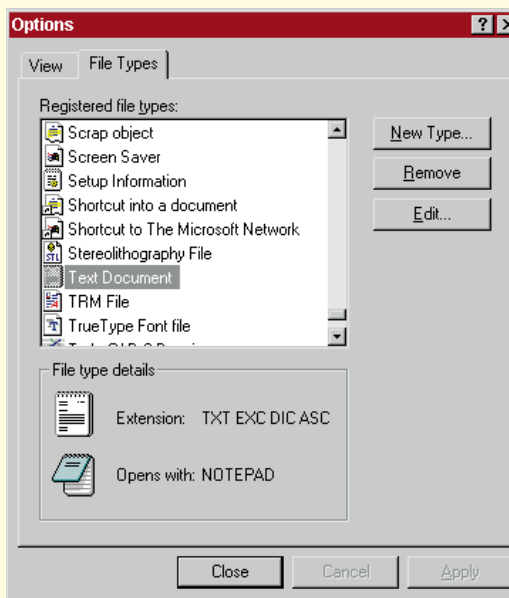

Fig 1 *One file type, several extensions; but how is it done?*

.txt entry and you'll find this points to "txtfile". So all you need to do is add an extension key. Make sure you have HKEY_CLASSES_ROOT selected and expanded, and "Edit/New/Key".

This is just like creating a folder, so type the name ".asc" (without the quotes but with the full-stop) in the space provided. It won't be in the correct position in the list, but don't worry. With ".asc" still selected, double-click on the "(Default)" entry in the right-hand pane and enter "txtfile" (without the quotes) in the "Value Data" box. And that's it. Close Regedit, and you'll find that "Text Documents" now includes "ASC".

Exchange and barf

You may have noticed a singular lack of discussion about Microsoft Exchange in this column. This is because most of the time I try not to think about it.

My PC isn't networked and I use CIX for email. I use the MS Fax driver straight from the word processor for sending faxes, but I'm stuck with Exchange for receiving them. It's slow to load and for some bizarre reason it can take a while for a received fax to show up in the in-basket. What on earth is it *doing* all that time? Up until recently, I thought the dumbest bit of behaviour was the way failed outgoing

In the April issue, we looked at a cluster of utilities that sit in the "System Tray" or "Notification Area" — that recessed bit of the Taskbar at the other end to the Start button.

I've now discovered a rather neat application that lets you add your own shortcuts to the Tray. Stick Brian McCarty's TrayIcon in your Startup folder, and you can have one-click access to your favourite applications. Setting it up doesn't brim with user friendliness — you can't preview icons, for example — but it's simple and it works. You don't have to register it, but Brian would appreciate $5 if you find it useful. It's on our free, cover-mounted CD-ROM under Trayicon.zip.
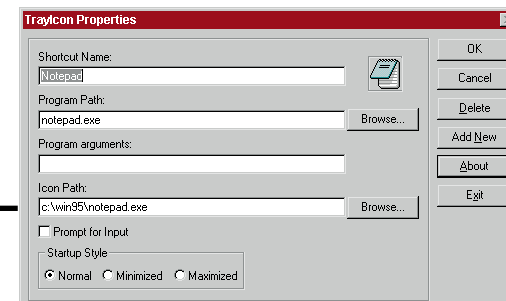

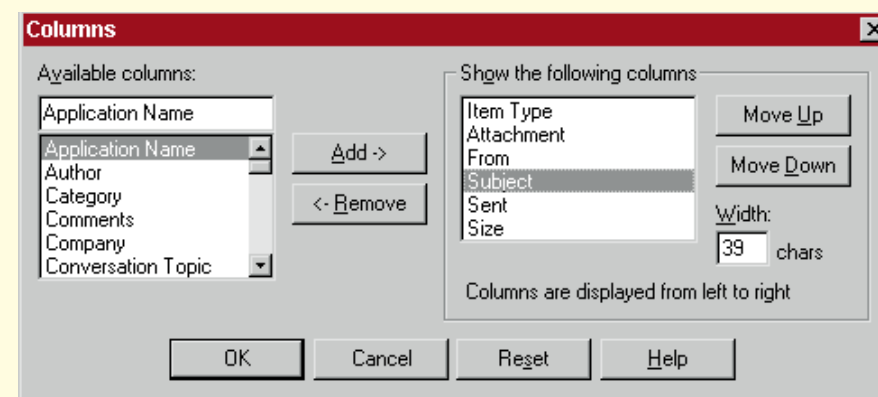**Fig 3** *Add your favourite applications to the system tray*

faxes sit proudly displayed in your "Sent Items" folder as if nothing were amiss. You have to look in your "Inbox" to discover a message from the "System Administrator" that the fax was "Undeliverable".

I've since discovered another equally daft touch. Do not trust the "Received" column — it tells lies. You know that annoying message you get when you've viewed a fax?: "Do you want to save changes to this item?" I couldn't really see what changes I could have made and thought it might be a distant cousin of the Notepad bug, that asks this when you've turned on word wrap but doesn't actually do anything. But I was wrong.

Just out of curiosity I answered "Yes" the other day and was pleased to discover that a fax I'd had to turn upside down was saved that way. Excellent, except that the "Received" date had also changed to that of the save. Call me pedantic, but I did rather expect this column to record the original time and date that the item had landed on my machine, rather than that when I last looked at it.

There is, you'll be relieved to hear, a Way Round This: with the "Inbox" open, go

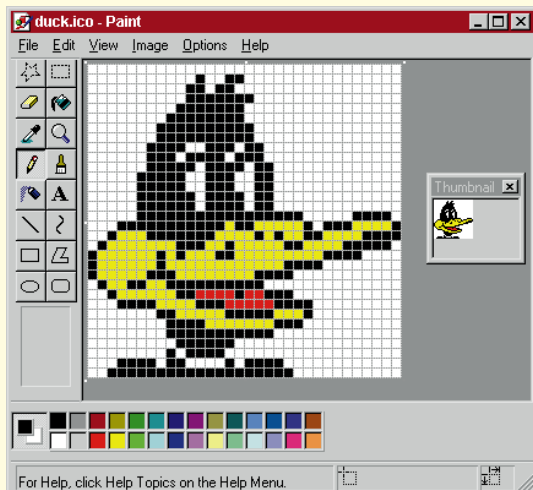**Fig 2** *Customise Exchange with different columns for each folder*

duck.ico - Paint

File Edit View Image Options Help

For Help, click Help Topics on the Help Menu.

to "View/Columns". My goodness, there's a lot of stuff here you never knew you needed, so when you've had a good play with it all, remove the "Received" column from the right-hand pane and add the "Sent" column instead — this doesn't appear to change. You can jiggle the order of the columns with the "Move Up" and "Move Down" buttons, but don't bother with the width: it's much easier to do this by dragging the joins in the column headers themselves.

The fax viewer itself is a rather strange beast. On my system, at least, new faxes seem to default to an unreadable 25 percent view. The trick here is to avoid the pre-set zoom levels and set the view to "Fit Width", either from the Zoom menu or the toolbar button. This seems to avoid the peculiar effect of the sheet "jumping sideways" when you move between pages.

Turn on "Thumbnails" from the "View" menu or toolbar and make sure "Edit/Drag" or the "Hand" button is selected. This way, you can avoid the scroll bars and page up/down buttons completely — it's much easier to navigate between pages with the thumbnails, and on the same page with the "Hand" tool — you just drag the page around.

Just to show I'm fair, there's something I do like about Exchange — the little arrow on the column headings that shows you how they're sorted. Now, if they could make it a little more visible, the programmers could offer it to those who created Explorer. In return, the Explorer programmers could offer the "one click on the heading" to reverse the order, instead of the "right-click/menu" seen in Exchange.

Quacking good icons

A while ago, I was bemoaning the lack of a decent icon editor for Windows 95. I'm pleased to report that I've now found one, from a rather unexpected source. It's free and you don't even have to download it or install it from the cover disk.

Open Paint. Yes, the Mspaint.exe that you get with Windows. Go to "Image/Attributes…" and set the height and width to 32 of those things Microsoft calls "Pels" but which everyone else calls "Pixels". Go

to "View/Zoom/Custom…" and pick "800%". From "View/Zoom" again, turn on the grid and the thumbnail view and design away.

Now here comes the incredibly cool bit: the top left pixel sets the "transparent" colour; i.e. any part of the icon that's the same colour, as this will change to that of the current background.

When your tiny masterpiece is finished, save it with the extension .ICO. It's not a Paint option so you'll either have to type it in or rename the file once saved. What you have then is not a true icon (.ICO) file, it's still a .BMP. But it looks like an icon, it walks like an icon, and if you attach it to a suitable sound-clip, will even quack like an icon. In fact, you don't even have to save it with the .ICO extension because if you pick "All files" from the "Type" box when browsing for an icon, Windows will be happy with any .BMP file. It will even resize it if it's not 32 x 32 pixels, though the result isn't usually very good.

This is all part of the same trick as displaying Paint icons as miniatures of the images that appeared in the January issue column *(Fig 4)*. However, it does make browsing far easier, and you'll also find that saving as, or renaming to, *.ICO automatically displays the file as an icon without having to hack the Registry.

So how do you get around the problem of not being able to open "real" .ICO files, or those embedded in another file? Brace yourselves: though I say it myself, this is a kludge little short of brilliant.

First, you need the icon you want to edit displayed full size in a folder. Resize the folder window so that not much more than the icon you want is visible. Alternatively, open the icon browser dialogue and browse/scroll till you see what you want. Grab a "screenshot" to the Clipboard by pressing Alt + Print Screen.

Create a new file in Paint, as before, with the image attributes set to 32 x 32 pixels. Paste the screenshot into Paint and you'll be informed that the image on the Clipboard is larger than the bitmap and asked whether you want the latter enlarged. You don't.

After you've pasted, you'll notice that you can drag the oversize image around until the bit you want is centred in the Paint editing area. Select another tool, and bingo — you've caught the little blighter and can edit and save it. ■

Take six...

1. Any application	You can open any registered file from the generic "File/Open…" and "Save As…" dialogues. With Notepad, for example, select "All files (*.*)" from the "Type" list and right-click, then "Open" the one you want — let's say it's a .BMP. Unlike a double-click or pressing the "Open" button, this will load the file into a new instance of Paint.
2. Word 7	To get a list of every Word command, go to "Tools/Macro" and select "Word Commands". Scroll down to "ListCommands" and run it. You'll end up with a table showing commands, keystrokes and modifier keys.
3. "Run…" command	Windows remembers the last 26 things that you've "Run" from the "Start" Button. Click on the arrow beside the input box to see a scrolling list.
4. Media Player	Double-clicking on the title bar toggles between hiding and showing the full "set of controls".
5. More Multimedia	If you "Open" rather than "Play" a media clip from the right-button menu, the "player doesn't close when the clip is finished".
6. Paint icons	We covered this in the January issue but I've had so much email from those who missed it, here it is again: open the Registry, and go to "HKEY_CLASSES_ROOT/Paint.Picture/DefaultIcon, then double click on "Default" in the "Name" column. Change the "Value Data" to "%1" without the quotes. Paint file icons will then appear as miniatures of the file.

Words of **warning**

Is there anybody there? Messages from beyond, an unhelpful ABC, and rides with the unknown driver all conspire to confuse a curious Tim Nott.

I've used Word for Windows since version one, and a noticeable change is the steady increase in the file size over the years; not only of the program but of its documents, too. When I upgraded from version 2.0 to 6.0, the Hands On Windows column upgraded itself from 17Kb to 24Kb, although the number of words remained the same.

Although versions six and seven ostensibly have the same file format, the latter adds a further 2Kb to the file. Curious to know what, exactly, added value was in those extra kilobytes, I opened a Word 7 file in Notepad. As expected, there was a load of binary header information, followed by the text itself, followed by more gobbledygook, followed by some more text on the subject of modem initialisation strings, which I didn't remember writing and which certainly wasn't visible when loaded into Word.

Perhaps, I thought, I'd been messing around with "hidden" text or something. Or perhaps I'd had a crash and the file had somehow got corrupted. But opening a few more files in Notepad revealed more "mes-

sages from beyond", most of which (but not all) I was able to track down to my offline mail reader. Curiouser and curiouser: was there something seriously wrong with my hard disk? Scandisk didn't seem to think so.

All became clear when Microsoft announced the "Service Pack 1", a minor update to Windows 95. This is mainly concerned with network and printing (and indeed, networked printing) issues, so I hadn't got round to downloading the

1.25Mb file. However, the readme file contains the following little gem.

"The Windows 95 OLE 32 update addresses file-management behaviour in Microsoft Word, Microsoft Excel, and Microsoft PowerPoint® for Windows 95. Because of the way these applications use OLE for file storage, files created by these applications might contain extraneous data from previously deleted files. This data is not visible while you use the applications. However, when such a document file is viewed by using Windows Notepad (for example), it might be possible to see pieces of information from the previously deleted files."

In case you didn't know, when you delete a file from disk by using the DOS delete command or emptying the recycle bin, you don't actually delete the data at that time. Instead, you mark that area of the disk as unoccupied so subsequent data can overwrite the "deleted" file. What these Microsoft applications are doing is grabbing a section of disk space without cleaning the previous data from it, which may then be preserved in the new file. Obviously, files you regularly delete (in my case, email and conference messages) stand a good chance of turning up again.

The Readme continues: "This could

Get a Liff

In last September's column (written when Windows 95 was still in beta) I shared with you the secret of how to customise the "Tips of the Day". To recap: run Regedit (having first backed up your System.dat and User.dat) and go to HKEY_LOCAL_MACHINE/SOFTWARE/Microsoft/CurrentVersion/Windows/Explorer/Tips. Alternatively (or if for some reason it's elsewhere), run Edit/Find... on "Tips" and keep hitting F3 until you see a list of the tips in the right-hand pane. Double-click on the number next to each message and you'll get a dialogue box where you can edit the "Value data" — in this case the tip.

Reader Peter Bryant has taken this not just a step but a whole new dimension further. He has created a .REG file containing entries from Douglas Adams and John Lloyd's book, *The Meaning of Liff*. For those of you who never visit bookshops or other people's lavatories, this is a list of strange-sounding but real place-names with implausible definitions. Example: "Stoke Poges (n) — The tapping movements of an index finger on glass made by a person futilely attempting to communicate with either a tropical fish or a post office clerk."

Though I would dearly love to share this with you in its entirety, there are a few small problems. Firstly, Peter's .REG file runs to 80Kb — when I double-clicked on it to add it to the Registry (yes, damn right I backed up first!) Windows complained it was unable to import the file. In fact, it had imported most of it but there is, according to my usual reliable sources, a 64Kb limit to a registry key. Secondly, the "tip of the day" selection mechanism seems to be capable of handling only 53 entries; the rest get ignored. Thirdly, there is the rather awkward but interesting concept of copyright. Nevertheless, many marks for effort, Peter.
● *Perhaps other readers would like to share their own favourite tips of the day? I'll include the funniest printable ones in a future column.*

One reader's way of brightening his day

Is that a Vault in your pocket or are you just organised to see me?

Despite not being able to include "Liff" (see adjacent panel, "Get a Liff") on this month's cover-mounted CD-ROM, I'm not going to leave you empty-handed. If you've ever used a decent word processor, you'll know what an outliner is. If you haven't, it's a device to help you order your thoughts into a hierarchy of headings, sub-headings and body text. You can then expand or collapse a branch, or the whole outline, rather like an Explorer tree.

Pocket-Sized Software has produced Vault, a Windows 95 (and NT) outliner. There are two panes, with the outline "tree" on the left and the text for the highlighted item on the right. If a branch of the tree has sub-headings, then it appears as a book — bottom levels appear as a sheet. It has all sorts of clever touches for adding and rearranging items, and has a hook into the Windows phone dialler. The sample file doesn't really do it justice as there all sorts of things you could do here to create to-do lists, address books and so on. The real attraction is that you can mix and match all kinds of information. It doesn't, alas, support OLE so you can't include spreadsheet tables or pictures, but apart from that is an excellent little application. It's shareware, registration is $15 from Pocket-Sized Software in the US (see our contacts panel, page 268). I don't have an email, FTP or Web address but it's on this month's CD-ROM as Vlt32.zip.

Get organised with Pocket-Sized Vault
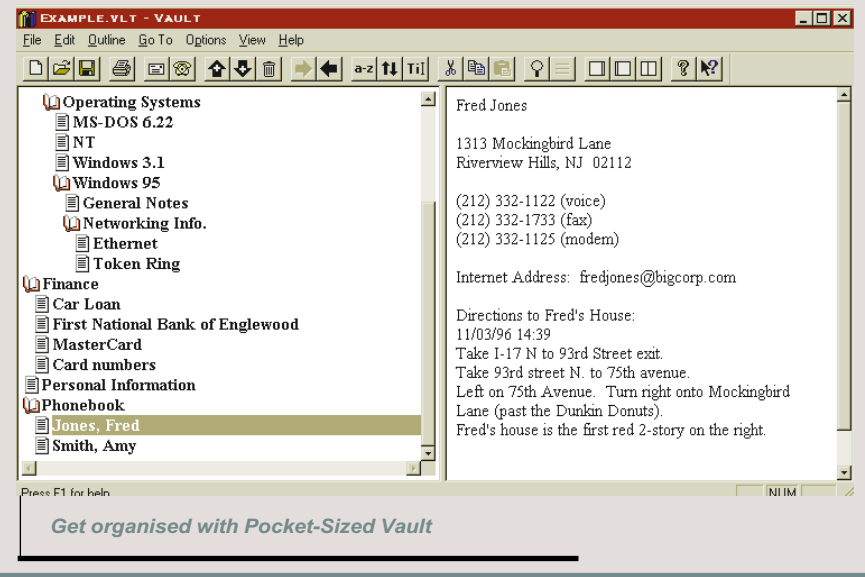
pose information security or privacy concerns if you distribute electronic versions of files created using these applications." They aren't kidding. Have you just had second thoughts and deleted that angry resignation letter you wrote, but never sent, to your boss, calling him/her every name under the sun? It could survive and turn up in the most unexpected places, such as your Excel departmental budget projections. Likewise, your deleted (or so you thought) list of dodgy Web sites, the novel you've been writing in the firm's time and any other dark secrets you might be harbouring. Or, if you're emailing files as binary attachments, you could be freely distributing your company's deepest secrets.

At the time of writing, the Service Pack was available free from Microsoft's Web site (www.microsoft.com/windows) but by the time you read this it should be available on disk from Microsoft UK. This doesn't happen under Windows NT but can happen under 3.1 — you need to

contact Microsoft to get the "c" releases of Word 6.0, Excel 5.0 or PowerPoint 4.0 if you don't already have them.

Capital offence

Long filenames — don't you just love them? My particular *bête noire* is the way Word 7 defaults to giving a file the name of the first line in the template. So, every month, I start this column anew from a template that begins "Hands on Windows 95 column for PCW".

I type in the month, and save. It doesn't make any difference whether I add the month at the beginning or the end of the line, the document name is kindly filled in for me with the plain, undated "Hands on Windows 95 column for PCW". I've also found that long filenames have another practical limitation: if you name a file "Letter to Aunt Edith dated April 1996 thanking her for the very nice socks.DOC", you need a lot of screen real estate to see the title in list or details view — though it's rather clever the way in

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Cunning curves and clever tricks

● Returning to those "Tips of the Day" for a moment (see "Get a Liff"), if you unticked the "Show this Welcome Screen next time you start Windows" in a moment of exasperation, and now have a nostalgic urge to see those tips again, you can get at them from the Help command on the start menu: double-click on the "Tips & Tricks" book icon, then "Tips of the Day", then "Viewing the Welcome screen". A new "Windows Help" window opens: on this, is a button marked "Click to open the Welcome screen" — which it does.

● In the March issue column, I mentioned that you can no longer perform the equivalent of the old "mystery INI file" trick with the registry. With Windows 3.1, any mysterious .INI file cluttering up your Windows directory could be moved to a safe place off the path and if nothing complained, or it wasn't recreated, then it probably belonged to an application that was no longer installed and thus could be safely deleted.

If you read last June's *Hands On Windows* column, the name Jason Ozin may ring a bell. He is the creator of that essential Windows 3.1 utility Inst-All, which records changes made to the Windows and System directories, and WIN and System.ini, when you install software.

This time, he points out that I'm wrong. Faced with a mysterious branch in the registry, "you can use the 'Export Registry File…' option on the 'Registry' Menu of RegEdit and then select 'Selected Branch'. By default, this will save the selected branch (prior to you deleting it) as an REG extension which can be double clicked to add it once again to the registry at a later stage."

● If you somehow managed to avoid March '96 and last September's columns you might not be aware that the "Send To" folder is one of the most useful folders on your machine, as any shortcuts in there will be added to the right-mouse "Send To" sub-menu. Hence you can send any file to another folder or application regardless of its extension or association.

If your JPEG files are registered to a heavyweight slow-loading image processor, then you can bypass this by sending them to something like Paintshop instead of the default "Open". Or you can send any file to Notepad, and so on. The only problem is that it's a bit of a hassle to set up — you have to open the 'Send To' folder, then the folder containing the application, and drag a shortcut from the latter to the former. Richard Ansell came out with an idea so brilliantly

obvious that I didn't understand it at first, which is why it has been lying unreported on my desk for several months.

From Explorer, right-drag the "Send To" folder on to the desktop and "Create shortcut here". Then, right-drag it back into the "Send To" folder and chose "Move". Rename it "This menu". Subsequently, any program file on which you right-click and send to "This menu" will have a permanent shortcut added to the menu.

One drawback is: don't try this with folders.It will copy or move the entire folder and its contents, so it's probably best used as a temporary measure to set up "Send To" shortcuts.

● Here's a tip for those trying to sort out modem problems. Windows 3.1 Terminal was just that: you could run the program and start typing command strings straight to the modem — ATZ, for example, to reset it, and ATDT 1234 to tone-dial 1234. With the new Windows Hyperterminal, this seems impossible as it asks you for a name and phone number before it will let you start. In fact, it isn't. The trick is to choose an icon and give the session a name, just to play along, then when the "Phone Number" dialogue appears go straight to the bottom box — "Connect using". Click on the arrow and select "Direct to COM 2" (or whichever port your modem resides at). You can then type away in Hayes-speak and converse directly with your modem.

Whisper sweet nothings to your modem in Hayes-speak
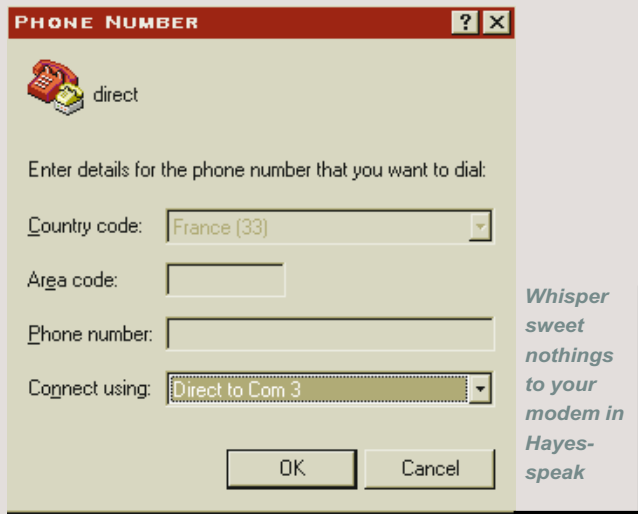
which other icons get out of the way in large or small icon view.

Another annoyance is the way folders are capitalised, or not. You can create a folder called "abc", "Abc" or even "ABc", but not, it would appear, "ABC". It seems this is because it isn't a long filename as far as Explorer is concerned. "ABCDE-FGHIJ", however, will display in all-capitals as it's over the eight-character limit. Curiously, if you do try to create or rename a folder "ABC", the "long" filename will appear as you intended from the DOS "DIR" command, even though it's short. If you see what I mean.

If at first you don't succeed… give up

This month, I had the joyful task of re-installing Windows 95. One day, Windows suddenly decided that from that moment on, it no longer liked my PCI-bus Opti hard disk controller and would be running the File

System in "MSDOS compatibility mode", which is the long way of saying "slow": so slow, in fact, that it couldn't read the "Microsoft Sound" off the hard disk at start-up without pausing for breath in the middle.

So I rounded up the usual suspects. Virus? Mr McAffee, he said "No". More-over, booting back to Windows 3.1, whose 32-bit file access tends to fall sick at the slightest suggestion of a boot-sector snif-fle, showed this was in excellent health. The Windows 95 Control Panel/System/Device Manager pinned the blame squarely on my startup files. There was an "unknown driver" in Config.sys or Autoexec.bat lousing things up.

This was rather mystifying news, as I didn't have a Config.sys or an Autoexec.bat. Rebooting with saved and known-to-be-good versions of the Registry and System.ini didn't help. Neither did making a Boot log and replacing the files shown to "fail" in Bootlog.txt. Nor did

attempting to remove the defective con-troller from the Device Manager: Windows would lock solid. After scandisking, defrag-ging and various other rituals I gave up and reinstalled Windows (and all my appli-cations) from scratch. I'm pleased to say that the file system is back to its full 32-bit glory, and clearing the accumulated dross of the last few months means not only do I have acres of hard disk space, but Win-dows now goes like a train once more. I'm still mystified as to what happened, how-ever, and why it should take a complete re-installation to repair it. ■

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