Mac to Basics

If you're sitting looking at that shiny new Mac you got for Christmas, wondering what's behind the smooth exterior, Chris Cain unearths its revealing features. Plus, the alliance that could be Wintel's undoing, and news of Apple's QuickDraw 3D accelerator card.

Happy New Year! I know this is the February issue, but through the power of magazine logic this is the first *Hands On* Macintosh column of 1996. This month, along with the news and views, I'll be taking a closer look at Apple's innovative QuickDraw 3D, a piece of software that could have as much impact in the graphics world as QuickTime has had on the multimedia market.
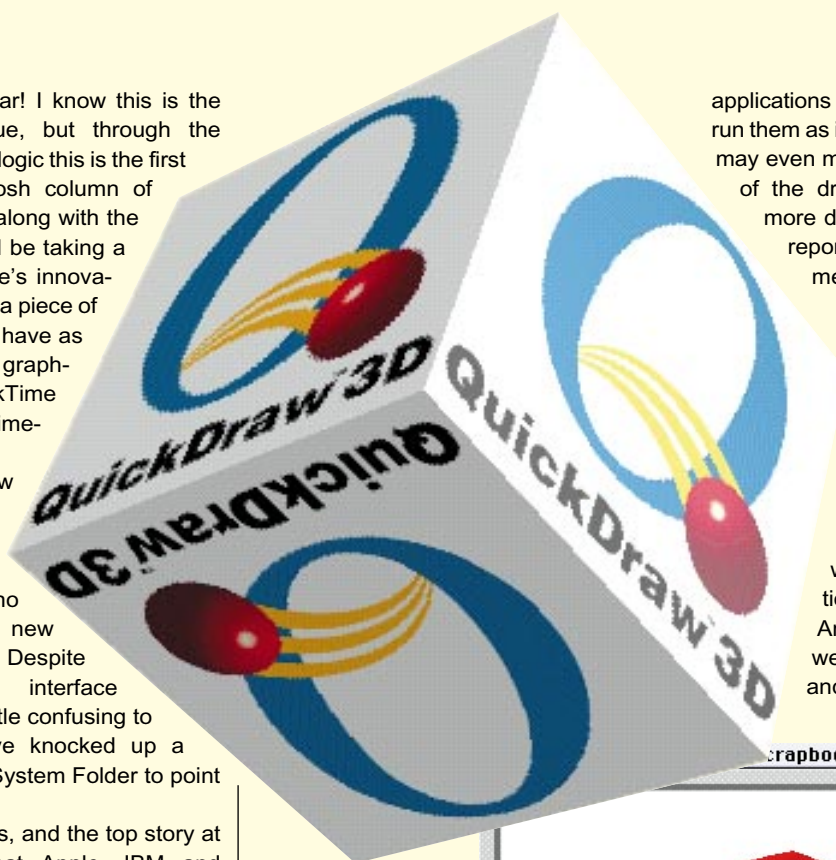
As it's the new year, I'll also be going back to basics briefly for all those people who received a lovely new Mac for Christmas. Despite it's easy-to-use interface MacOS can be a little confusing to newcomers, so I've knocked up a quick guide to the System Folder to point out what's what.

But first the news, and the top story at the moment is that Apple, IBM and Motorola have finally published the specifications for a new, open, unified personal computer architecture. Originally known as the Common Hardware Reference Platform (CHRP), the specs are now formally entitled the PowerPC Microprocessor Common Hardware Reference Platform. What a mouthful.
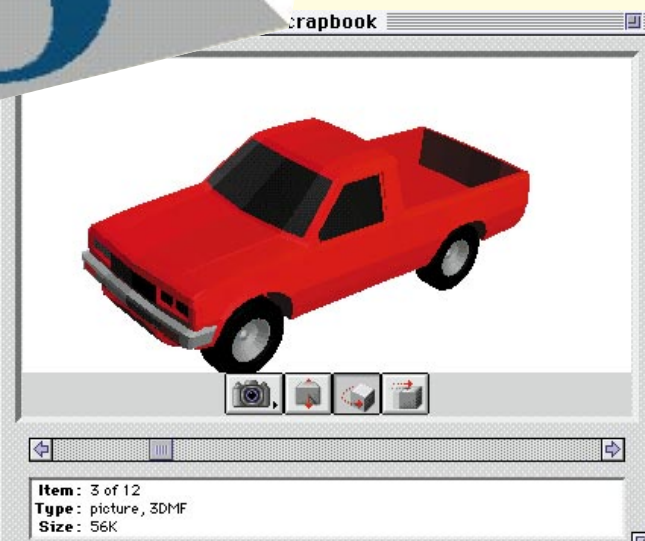
In lay terms, what this will hopefully give us is a new PowerPC-based platform that will run MacOS, Windows NT, OS/2 and just about anything else you might want to throw at it. In theory, you'll be able to take all your existing software

applications over to the new machines and run them as if they were on a PowerMac. It may even mean the beginning of the end of the dreaded WinTel alliance. For more detailed information and a full report on new CHRP developments, see this month's *Newsprint*.

Apple was making a few noises at the 1995 Apple Expo just before Christmas. The show itself was jam-packed with distributors, dealers and software houses, but it was Apple itself drawing large crowds with some great demonstrations of its new technologies. Among the more impressive were QuickDraw 3D, Copland, and a brilliant introduction to

With QuickDraw 3D installed, you can cut and paste 3D data as easily as 2D pictures and store them in the Scrapbook. The small boxes at the bottom of the screen are standard tools for rotating, zooming and moving the image

Item: 3 of 12
Type: picture, 3DMF
Size: 56K

Beating the System

If you've just got a Mac for Christmas, chances are you're having great fun but don't know exactly what's going on inside. Just for you, here's a quick guide to the all-important System Folder and its contents under System 7.5.

System Folder

The System Folder contains all the software your Mac needs to start up. When you switch on your machine, it looks for this on its internal hard disk, but you can also boot from floppy, CD or an external drive. Once it's found a working System Folder, up pops the picture of the smiling Mac. The average size of this folder can range from a single megabyte to 50Mb or more — it depends on what you have installed.

Extensions

Data inside the System Folder is split into a number of sub-folders, and one of the most important is called Extensions. Extensions are software plug-ins that add functionality to your Mac and, in most cases, are loaded into memory on startup. To add a new extension to your system, you drop it into this folder, and to remove one you take it out. This approach makes it easy to keep track of exactly what software there is on your Mac. Apple provides a horde of useful extensions with the system software, including AppleScript, AppleGuide and QuickTime. Popular third-party extensions include RAM Doubler and Speed Doubler from Connectix. The more Extensions you have, the more memory your system software will use, and the less you'll have to run applications. You can boot the Mac without loading any Extensions by holding down the Shift key on startup.

Control Panels

Control Panels are a bit like Extensions in that they add functionality to your Mac, but they also offer a level of user interactivity. Double-clicking a Control Panel will normally bring up a small window allowing you to change some system setting or other. Typical windows include Desktop Patterns, which lets you change the look of your desktop; Mouse, for setting the speed of the mouse cursor; and Extensions Manager, used to turn Extensions on and off without the need to remove them from their folder. While most Control Panels are useful, many of them can be turned off as they are either not needed for day-to-day computing, or they are completely useless — a bug in Apple's

System Software Installer can put things on your system you don't actually need. If you have a desktop machine, you can remove any Control Panels related to PowerBooks, such as PowerBook, AutoRemounter, PowerBook Display, PowerBook Setup and Trackpad.

Fonts

The Fonts folder is easy to understand — this is where all the fonts your system uses for its screen display and printing are stored.

Apple Menu Items

Extremely handy, this one. Anything placed in this folder appears as an item on the Apple Menu in the top left-hand corner of the screen, making it easy to access whatever application you're using. It's just the place to put aliases of your favourite applications, utilities or Control Panels.

Preferences

This is where Control Panels and applications store data about their current user preference settings. It's good practice to examine the contents occasionally, removing any preferences files for applications you no longer use.

Launcher Items

Items in here are aliases that appear as large icon buttons when you run Launcher. To custom your own setup, just add or remove them.

Startup Items and Shutdown Items

Again, nice and easy to understand. Any program placed in these folders will run automatically as soon as the System has finished loading, or on Shutdown.

System file, Enablers, Finder, Clipboard

These files are essential for your Mac to operate, so don't mess with them unless you know what you're doing. As you can see, the System Folder and its contents aren't that mysterious after all. Other things you may find inside include the contents of Note Pad and Mac Scrapbook.

QuickTime VR courtesy of Apple UK's Technical and Services Consultant, Peter Lunn.

The QuickDraw 3D acceleration card (as mentioned in last month's *Newsprint*) is a 7in PCI adapter that plugs into any PowerSurge Mac, and can improve its 3D performance by up to a factor of twelve. And at a price of £299, it fits nicely into both the business and mass consumer markets. I'll be looking at this card as soon as Apple can get me one.

Quick on the draw

QuickDraw 3D is Apple's attempt to implement a standard for the storage and manipulation of 3D data on the Macintosh. It's software-based and consists of

four main parts: a common file format known as 3DM, a common user interface, a geometry engine and a rendering architecture.

The file format for QuickDraw 3D is 3DMF, a cross-platform system that supports both traditional 3D data such as geometric shapes, and all the information that represents a particular view of a scene, including textures. Its aim is to allow 3D information to be shared easily between applications in much the same way as .PICT files are today. With this installed, users will be able to cut, copy and paste objects between programs as easily as 2D images.

Another step towards making 3D easier to use is to provide a common user

interface for dealing with the data. Currently, being proficient in one 3D application doesn't necessarily mean you'll be able to pick another up quickly, because the tools used are often completely different. QuickDraw 3D provides a standard set of tools that allow you to rotate, move, resize and generally manipulate objects which will be available in any application that implements it. Users will be able to move from one package to another without the need to learn a whole new interface. In many ways, it's like the QuickTime control strip which appears at the bottom of the window whenever you work with movies.

The other two main ingredients in QuickDraw 3D are the geometry engine

and the rendering architecture. The former handles the generation of basic geometric shapes such as squares, triangles, circles and polygons, while the rendering architecture deals with rendering the images on screen complete with shading and texture maps. It supports the popular OpenGL standard, and accepts plug-in third-party shading engines. This is another area where acceleration cards really get put through their paces.

QuickDraw 3D is currently only available for PowerMacs, can be downloaded from Apple's Internet support sites, and comes with some of the new PCI Macs. It's also smarter than the average system extension as it only loads into memory when required. When it does load, however, it adds around 3Mb to the memory your system software takes up.
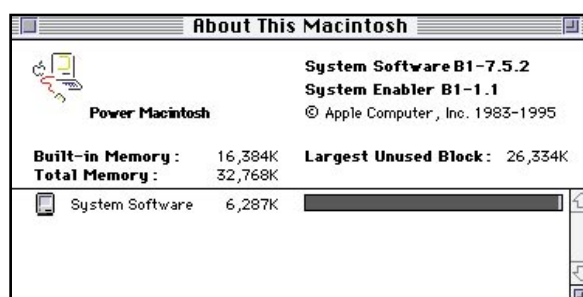
A version for Intel Pentium machines running Windows is

Utility of the Month

The February Utility of the Month award goes to Mac OS Purge, a Freeware program I recently downloaded from eWorld. It's simple, effective, runs in seconds and could save you from a nasty system crash.

Mac OS Purge works by literally purging any data left behind in your system memory when you quit an application. It's especially useful on machines with tight memory conditions, such as those running with 4Mb, where stale data can build up and eventually cause all sorts of problems. For example, if you load and then quit an application that uses QuickTime, the extension will load but may not clear itself after the application is shut down. The next program you run then has less memory to use, and if you load a few "leaky" programs, a system crash can occur.

By rights, this kind of thing is something the OS should sort out by itself. Until it does, Mac OS Purge will come in handy. It's currently on version 1.0.1, and the author, Kenji Takeuchi, can be contacted at atttak@midway.uchicago.edu.

Mac OS Purge helps clear the unused code out of your system file

Descent brings fast blasting action with the smoothest graphics ever

is the quality and smoothness of its graphical engine. Not only is it fast and fluid, but for the first time in a 3D Mac game, the texture mapping doesn't tear at the seams when the detail gets complex. The game will run full screen at 320 x 200 with pixel doubling, for a PC style display, or a sharper 640 x 480 on high-end machines. And I do mean high-end — while it runs well on a 9500, my 7500 doesn't cut it in high res. I have heard that a new version may be appearing, complete with QuickDraw 3D support, but I don't have any information at time of writing.

currently being planned, which will help drive this forward as a standard.

If QuickDraw 3D takes off, as I expect it will, we will see a whole new approach to graphics on the Mac. Be prepared for a new version of MacOS with a 3D front-end, new applications, and games that are out of this world. For more on 3D, see this month's *Horizons,* page 261

Picking up Descent

Mac gamers on the Internet will be interested to hear that a demo of Interplay's top action game, Descent, is available for downloading. Located in the demo area of the MacPlay website, it's a 7Mb intro-

duction to the PowerMac version of one of the bestselling PC games of last year.

Descent is a 3D shooting affair set in a similar style to Doom, but this time you play the pilot of a small space-mining vessel. The idea is to rescue humans left stranded in space mines that have been overrun by hostile forces. Your average everyday space cadet sort of thing.

What makes Descent stand out from other games of this type, apart from the addictive gameplay and a network option,

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Quark **http//www.quark.com**
QuickDraw 3D can be downloaded from **http://www.info.apple.com/qd3d/QD3D.HTML**
The MacPlay Demos website is at **http://www.macplay.com/website/demos/demos.html**