If you'd rather look like Cindy Crawford than Michael Crawford in the family album, an image-editing package could be the answer. We guide you through the range of software available to help you find the right one for you

PICTURE

Hardware requirements

The general rule with image editing is that you can't have too much RAM or hard disk space and, no matter how fast it is, your processor won't always be fast enough.

The basic minimum configuration quoted for most of the packages reviewed here is a 486DX with 16Mb of RAM and around 30Mb of hard disk space. So although you can run on a geriatric system, you will get a geriatric performance.

Apart from buying a PC with a faster processor, you can improve things by installing more RAM. When your application runs out of memory it starts using the hard disk as virtual memory, which is slower than the real thing. The trick is to make sure your machine has enough RAM so it doesn't need to do this. In professional studios it's commonplace for machines to have around 512Mb, and at home we'd recommend a minimum of 32Mb.

Sometimes there's no avoiding using the disk. In which case you need to try and maximise its performance. Run a disk defragmentation or optimisation utility regularly and, if you have a big hard drive, consider partitioning it and using one partition as a dedicated scratch disk (the part of the disk used for storing data when there's insufficient RAM). We'd also recommend at least a 4Gb drive to deal with those big images.

You can also speed up display performance by investing in a fast graphics card, again with plenty of video RAM. Go for a card with a minimum of 4Mb to get a good performance.

PERFECT

In the pre-digital age, when TV was a respiratory illness suffered by the hard of hearing, and everybody's photographs were brown, once you'd collected your snaps from the local pharmacy, you stuck them in a biscuit tin (also brown), shoved the tin under your bed and thought no more about it.

These days life is more fun. The advent of image-editing software has opened up avenues of photo manipulation that, even a few years ago, professional darkroom technicians wouldn't have believed possible. Today, the limits to what can be achieved are more likely to be defined by your own imagination than the electronic tools at your disposal.

As usual, though, there are a huge number of packages on the market and finding the one best suited to your needs can be a confusing affair. This month we explore the world of image-editing software to help you make the right choice.

Which package is for you?

The companies that create image-editing software see three distinct markets for their products. The first is professional users – photographic studios, graphic designers and publishers of magazines, books and newspapers – who demand the highest standards and are prepared

Types of graphics software

The world of computer graphics is divided into two halves – vectors and bitmaps. These two camps often go under aliases, and you'll hear talk of draw and paint, object and raster, postscript and pixels to describe the two ways in which digital images are created and manipulated.

The packages reviewed here are all bitmap editors. The images they deal with are mainly, but not always, photographs, and are made up of many thousands of tiny dots, or pixels. Each pixel has a value which describes its colour – literally painting by numbers. The dots are so small and numerous that to the human eye they merge and give the appearance of a continuous tone photographic image.

Bitmap editors provide tools to manipulate the pixels in these images. Retouching red eye, for example, involves finding the red pixels in the eye and changing their values so they become black. Brightening up a photograph would involve increasing the values of all the pixels by the same amount. If you wanted to brighten only shadow detail, only pixels below a certain value would be adjusted.

Vector graphics work by describing images in mathematical terms. A blue circle would be described in terms of its radius, a single value for the colour and co-ordinates to indicate its position on the page. Clearly vectors aren't well suited to representing photographic images, but they are more versatile, can be reproduced at any size without a loss in quality and file sizes tend to be much smaller than bitmaps. Adobe Illustrator, Corel Draw and Macromedia Freehand are all examples of vector draw applications.

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to pay almost anything. This sector is dominated by Adobe and its flagship package, Photoshop, is used by just about everyone who makes a living from publishing pictures.

With recent advances in inkjet colour printing technology, another market has developed. Home users can now scan and print their own snaps and want to be more creative. They may not have the grasp of theory and technique that the professionals do but they still want to do exciting things with their pictures. For these ambitious amateurs the industry has been launching packages aimed at guiding novices painlessly through the process of digital image editing. Kai's Photo Soap, LivePix and Adobe PhotoDeluxe all fall into the bracket of more reasonably priced products.

Lastly there are niche products. This category includes products like Kai's SuperGoo, which lets you stretch and distort your family photos to look even more horrific than the originals, and Painter Classic which emulates 'natural media' – allowing you to produce that masterpiece in oils you always knew you had in you.

The professionals

Packages at the professional end of the market put a premium on control, flexibility and productivity and, with a couple of exceptions, cost lots of money. One such exception is Paintshop Pro 5 – though it might be argued the 'Pro' tag is more of a marketing ploy than a realistic description. Version 5 now has layers – a feature without which no package can be taken seriously – selective undo, CMYK separations for commercial colour printing, vector paths and plug-in support.

Paintshop Pro offers good support for Web designers and animators too. The add-on Animation Shop application

PhotoDeluxe offers the best range of guided activities of any package on the market. The tools you need are provided as you need them on the tabbed palettes.

allows you to import frames you've created, optimise them for Web viewing and save them in Gif 89a format.

With the exception of Photoshop, most new releases at this level now provide some form of Web support. Picture Publisher 8 includes HTMP page templates, a bevelled button generator, a textured tile editor and facilities for animated Gifs. Corel Photopaint 8 offers a similar level of support for the Web, but the much cheaper Paintshop Pro is far superior.

Picture Publisher 8 offers one of the best selective undo features in its Command Centre, which records all your actions in the form of a script. Scripts can be saved and replayed, which is useful for the automation of repetitive tasks that need to be carried out on a lot of files. More importantly, you can edit to remove unwanted steps and then replay the script without them.

Adobe's version of the Command Centre, introduced in version 5.0, is the History palette. This too records your actions and displays them in an editable list palette, providing an equally effective selective undo. A History brush works in conjunction with the palette, allowing you to selectively clone from an earlier state into the current one.

Type has always been one of Photoshop's shortcomings. As with any bitmap image editor, once type is placed in the image it turns into non-editable pixels and any editing involves redoing it which can be time consuming if you've applied a lot of effects.

Photoshop 5 gets around this problem by letting you decide when to render the type into pixels – up until then it remains

Famous edits

In advertising, photo manipulation has become so commonplace that nobody bats an eyelid when they see cars flying or surfing or falling from planes. But when newspapers manipulate pictures and present them as the truth, people understandably get upset. In the past year, the press have come under fire on three notable occasions for editing reality. These were the digital enhancement of Di and Dodi's embrace, replacing John Prescott's bottle of beer with champagne, and removing an unsightly aide from behind Gordon Brown's arm at the last Budget.

In the latter case, the removal of unwanted background detail is far more easy to achieve than a reduction in the Public Sector Borrowing Requirement, by prudent use of the clone, or rubber stamp tool. The skill lies in selecting the right source area for the cloning. Trees, or anything unspecific are suitable areas to clone; in the Number 10 case a matching selection of building was cloned in. Slight feathering of the selection can help to seamlessly blend in the detail .

Replacing something, as in Prescott's bottle, can be even easier as the new object can completely cover the old one. Here you need to take care that the colour and lighting of the replacement matches the original. This can usually be achieved with the colour balancing and curves features, but in extreme cases where, say, the light is coming from the opposite direction, lighting controls could be used to reverse the direction of the highlights and shadows. Use of layers, selection masks (sometimes called alpha channels) and blend modes all help to achieve a natural-looking result with less effort.

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editable. There's also a range of layer effects filters including drop and inner shadow, glow, bevel and emboss. Once applied, the effects too are editable until the type is rendered.

Home front

For a time home users had to make do with cut-down versions of professional packages with the same, often complex, interfaces. Recently, however, developers have concentrated on providing ease of use. Adobe has been most successful and its PhotoDeluxe 2 uses tabbed cards to provide step-by-step guidance through typical photo-editing projects like colour correcting, restoration of old photos and facial retouching.

The absurdly-named Professor Franklin's Instant Photo Effects takes a similar approach. Effects categories are displayed as film canisters – click on one and a menu of options appears as a roll of film. Choosing the artistic category allows you to experiment with effects like impressionism, painting, drawing and embossing. These effects have been around for a while, what's changed is the packaging. Much more information is provided and many more of the decisions are taken by the software, often combining two or three individual processes, which makes it easier to get a good result quickly. But this approach doesn't always work well, as in the case of red eye removal.

Red eye

Image-editing suites can be used in the process of eliminating the red 'demon eye' effect you often see in photographs taken with a flash. But some suites are better equipped to deal with the process than others. Professor Franklin's touch-up tool works by painting over the offending pupils in a chosen colour with a brush. As it's the iris that is the coloured part of the eye (the pupils

should be black), there's little point in offering a colour choice and, more importantly, the method of selecting the red bits is too limited.

By contrast PhotoDeluxe's red eye removal is the business, giving good control over selection and an automated fix that works well. And there's a separate routine for colouring the correct part of the eye if that's what you want.

Livepix, Kai's Photo Soap and Picture it! also offer workable red eye removal, as well as an armoury of effects and filters with which to experiment on your snaps. Microsoft's Picture It! also offers similar options for dust and scratches, but its colour correcting facilities are very basic and it has no cloning or specialised selection tools.

Photo Soap's interface has to be seen to be believed. The tools look like the real thing – brushes, pencils and erasers litter the work space or sit neatly in boxes with moulded, ribbed lids. Buttons

glow as you approach them, and panels pop open like a Swiss army knife to reveal a multitude of additional buttons and sliders.

This isn't just mere embellishment. The interface is highly usable and in combination with the room metaphor – different rooms for different functions like the prep room, tone room, colour room, finish room – makes for a fun, as well as productive, editing environment.

Niche products

If you ever get the feeling that your application just doesn't seem to have the right tools or filters to achieve the effect you're after, you probably need to consider a niche application. Whereas all of the packages we've looked at up to now cover the basics of image enhancement,

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Picture Publisher's Command Centre provides selective undo and scripting to beat everything bar Photoshop 5's new History palette.
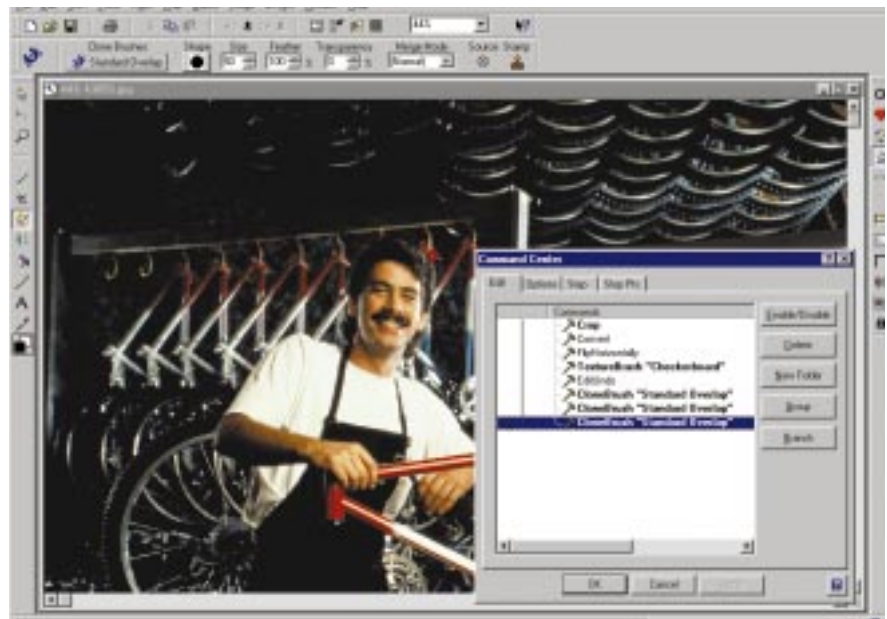
Image-editing software

Image-editing software compared

Manufacturer/ Model name	Metacreations Dabbler 2	Metacreations Kai's Photo Soap	Metacreations Kai's Super Goo	Livepix Inc Livepix 2	Metacreations Painter Classic	JASC Paintshop Pro 5
Product						
Contact	0181 358 5851	0181 358 5851	0181 358 5851	(Fax) 0121 236 1976	0181 358 5851	01295 258335
Web address	www.metacreations.com	www.metacreations.com	www.metacreations.com	www.livepix.com	www.metacreations.com	www.jasc.com
Price	£46.94	£46.94	£58.69	£39.95	£104.57	£69.95
Features						
Layers/objects	○	○	★★	★★★	★	★★★★
Special effects	★★★	★★★★	★★★★	★★	★★★★	★★★
Plug-in support	●	○	○	●	●	●
Colour correction	○	★★★★	○	★★	★★	★★
Web support	○	○	★★	★★★	★★	★★★
Animation	●	○	●	○	○	●
Cloning	★★★	★★★	★★	★★★	★★★★	★★★
PS Tablet support	●	○	○	○	●	○
Vector paths	○	○	○	○	○	○
Multiple/ Selective undo	○	○	○	○	M	S
Flashpix support	○	●	●	●	○	●
CMYK separation	○	○	○	○	● (saves in EPS -DCS format)	○
Multi-action filters	○	●	○	○	○	○
Text	★★	★	★★	★★★	★★	★★
TWAIN support	○	●	●	●	●	●
Selection tools	★★	★	★	★★	★★★	★★★
Scripting	●	○	○	○	●	○
General ratings						
Ease of use	★★★★	★★★★	★★★★	★★★★	★★★	★★★
Features	★★★	★★★★	★★★	★★★	★★★★	★★★★
Documentation	★★★	★★★★	★★★	★★★	★★★★	★★
VFM	★★★★	★★★★	★★★	★★★★	★★★	★★★★★
Overall	★★★	★★★★	★★★	★★★	★★★	★★★★
Notes				Includes Paint Alchemy Lite filters. 30-day free download		30-day free download

sometimes you need something special, something different.

For example, you'll find filters in almost every other package which will give your image a watercolour or charcoal sketch effect. But Painter Classic uses natural media – paint, brushes, canvas and other materials to recreate the look of natural painting. As well as a selection of oil and watercolour brushes you can paint onto different 'paper' textures including silk and pavement.

Dabbler is also based on natural media, and is even more accessible. It uses a sketchpad metaphor, so when you want a new drawing you just turn the page. Dabbler's strength is that it has

Paintshop Pro 5's Animation Shop is the best you'll get for moving images, as well as the cheapest.
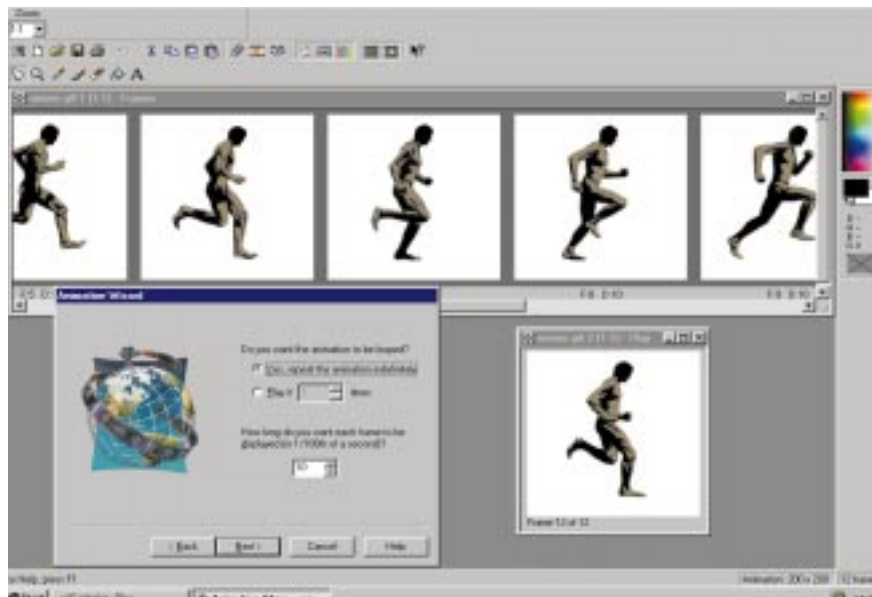
	Adobe PhotoDeluxe 2.0	Corel Photopaint 8	Adobe Photoshop 5.0	Microsoft Picture It! 2.0	Micrografx Picture Publisher 8	Streetwise Software Professor Franklin's Instant Photo Effects
	01314 516888	01703 814142	01314 516888	0345 002000	01483 747526	01752 895100
	www.adobe.com	www.corel.com	www.adobe.com	www.microsoft.com	www.micrografx.com	www.guildsoft.co.uk
	£45.00	£351.32	£763.75	£49.99	£95	£29.95
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★ = Poor ★★ = Below average ★★★ = Average ★★★★ = Good ★★★★★ = Excellent   ○ No ● Yes

superb animation facilities – you can create 'flipbook' animations and save them as QuickTime movies or AVI files. It also has excellent scripting which is put to good use to present a series of tutorials on cartoon design and animation.

SuperGoo is an application for which the word niche must have been invented. Basically it does two things. You can create funny faces by sticking together assorted facial parts from different image files, including your own. When the novelty of seeing what your mum would look like with your dad's ears, mouth and nasal hair wears a bit thin, you can take a fairly ordinary-looking portrait and turn it into something straight out of *Looney Tunes* using a suite of distortion tools and filters.

Adobe PhotoDeluxe 2.0 stands out as the package with the most to offer of all of those on test. As you'd expect from the developers of Photoshop, PhotoDeluxe 2.0 is not short on powerful features. Adobe has succeeded brilliantly in providing access to raw processing power through an easy-to-use interface. It has a good range of projects for you to follow and plenty of special effects filters with scope for more, via third party plug-ins.

And, unlike some of the home consumer packages, PhotoDeluxe 2.0 doesn't limit more ambitious users. If you feel at home with histograms and can cope with curves you can delve beneath the surface and experiment unhindered.

If you want the most powerful, feature-filled, versatile package, it has to be Photoshop 5.0. Among many other improvements, the latest version adds powerful selective undo via the History palette, better type control, and improved colour handling to its comprehensive repertoire. Paintshop Pro 5 also offers professional features, and the best Web animation tools for next-to-no money. — Ken McMahon