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WELCOME

The year is at an end – and what a year it's been! *Computer Arts* has changed editors, redesigned its interior and celebrated its hundredth issue in style. We've also given you some great free gifts in 2004: the Graduate Showcase, a shiny new 2005 calendar for your wall, a full copy of *Bryce 4* and *Vue D'Esprit*, a handy Adobe tips guide and a free Adobe DVD.

Although we've been really spoiling you, the industry hasn't fared so well financially. So this month, our deputy editor Dom Hall has been looking forward to what's in store for us all next year. Find out what he discovered, good and bad, on page 20.

On the CD, you'll find the latest demo version of *3ds max 7*. This is a major release and a hefty download, too, so it's convenient to have it on CD for you to try out our full tutorial on page 104. We've also given you a full version of screen-recorder *Camtasia*.

And, as always, our experts are on hand to reveal the latest tips and tricks in our extensive tutorials section, starting on page 53. There really is no better magazine than *Computer Arts*, which is why we're the best-selling creative mag, across the globe.

GILLIAN CARSON SENIOR EDITOR
gillian.carson@futurenet.co.uk

ILLUSTRATION IN THE MAG

JASPER GOODALL

Jasper's brief was to show off the power of *Photoshop*'s eye-catching spot colour effects. He rose to the challenge with this richly coloured, decadent yet funky illustration, created using both traditional india ink and digital techniques.
INFO: www.jaspergoodall.com

DEREK LEA

Derek makes the most of *Photoshop*'s powerful New Spot Channel.
INFO: www.dereklea.com

ROB CHIU

This gritty collage by Rob brings to life the trembling splendour of Super 8 footage.
INFO: www.theronin.co.uk

ANTHONY ROBINSON

The iconic style of the 1972 Munich Olympics revisited.
INFO: www.anthonyrobinson.com

TWELVE:TEN

A suitably energetic twelve:ten illo adds zest to our overview of design industry trends in 2004.
INFO: www.twelveten.com

BEN MINERS

Ben applies 2D to 3D using special spray-can effects.
INFO: www.graphikboutique.com

SCOTT HANSEN

Scott pares objects down to geometric shapes for this month's Group Test illo.
INFO: www.iso50.com

RUKKIT KUANHAWATE

Rukkit's piece evokes the tension between creativity and the skills required to realise it.
INFO: www.boreddesign.com

ANTHONY LESTER

This elegant 3D visualisation comes courtesy of *3ds max*.
INFO: www.visual-eyes-media.co.uk

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REVIEWS

WHAT'S HOT AND WHAT'S NOT?

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Enjoy pre-press tools and improved performance from this PDF stalwart

P78 **PRINTDEVIZOR 1.0**
Test your metallic inks and gloss finishes with this accomplished 3D simulator

P80 **VIDEO TOASTER 4**
A complete TV studio with post-production thrown in – but will your system run it?

P81 **COLOUR LASERJET 2550N**
HP's seductive kit offers great colour reproduction, but running costs are high

P82 **FOLDUP! 3D 1.5**
The ideal way to visualise packaging without having to dig out the scalpel

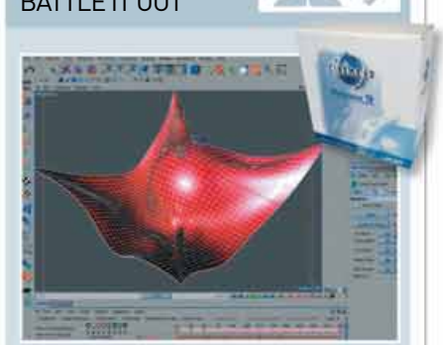
P83 **PERFECTION 2580 PHOTO**
35mm film is a breeze to scan with Epson's smartly designed hardware. It's keenly priced, too

P84 **LACIE 40GB USB 2.0**
Durable and hard-working, LaCie's latest easy-to-use hard drive weighs just 200g

P87 **BOOKS**
Coffee-table guides to *Photoshop* calligraphy, DIY design, and more

GROUP TEST

FIVE TOP PRODUCTS BATTLE IT OUT



P88 **3D ANIMATION SOFTWARE**
Model, animate, render! We pit five industry leaders against each other. On test are *Maya*, *3ds max*, *Cinema 4D*, *LightWave* and *Softimage*. Read it here!

TUTORIALS

LEARN THESE GREAT TECHNIQUES

P40 **SPRAY-CAN EFFECTS**
Blend 2D and 3D more creatively using *Cinema 4D* and *Photoshop*

P54 **DUOTONE & POSTERIZE**
Add grace and motion to your work by mastering these *Photoshop* features

P60 **SLIDER WEB GAME**
Create a sliding tile puzzle game on the web with the help of *SWiSHmax*

P64 **SUPER 8 TO VIDEO**
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"Without a client involved, creative can get done really quickly," says Jim Coudal, co-founder of Coudal Partners

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Campbell's Soup Can: How Andy Warhol turned the humble tin into a work of art and a 20th-century icon

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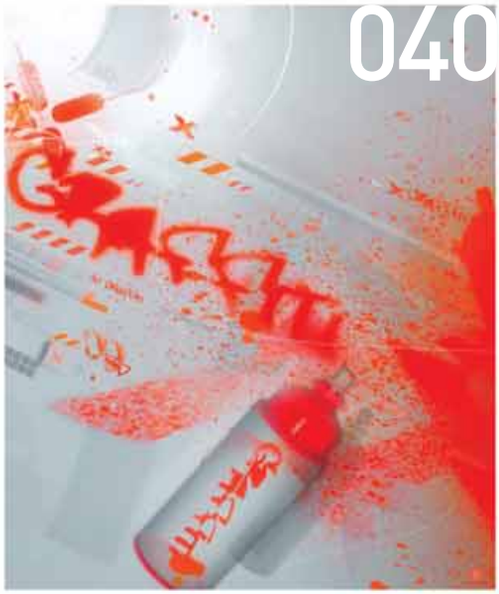
Professional training: Pinpoint your weak spots, find the right course, check their credentials – and learn!

P114 **CURRICULUM VITAE**
Raoul Deleo: Manga, The Designers Republic and early black and white Disney cartoons inspire Dutch visual artist Deleo to do his very best



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COMPUTER arts contents

ON THE CD

THIS ISSUE'S SOFTWARE & RESOURCES

3DS MAX 7 (PC)
Check out all the exciting features in the latest version, then turn to page 104 for our 3D house-building how-to

CAMTASIA 3 (PC)
Record on-screen activity with this full app

PRINTDEVIZOR LITE (MAC+PC)
Visualise special print finishes with ease

FOLDUP! 3D (MAC+PC)
See how your package designs look in 3D. Comes with an impressive auto-folding feature

SWISHMAX (PC)
Versatile *Flash* app – see page 60

AVIDFREE DV (MAC+PC)
Use this trial DV editing pack to transfer and edit your home movies – turn to page 64

See page 102 for further details...

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DUOTONE & POSTERIZE

Recreate the Swiss style of the 1972 Munich Olympics with our slick *Photoshop* techniques

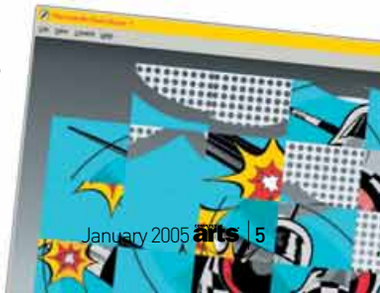
PAGE 25 →

SPOT COLOURS

Create foils, fluorescents, metallics and more with *Photoshop*'s New Spot Channel command

PAGE 60 →

PUZZLING STUFF
Use *SWiSHmax* to fashion this online game



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EXPOSURE

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1

LIANE WILCHER
LOCATION London
JOB Set designer and illustrator
CONTACT 020 7803 9889
SOFTWARE *Photoshop*

Liane Wilcher has a Bachelor of Interior design from the University of Technology, Sydney, and a degree in Set and Costume Design from the National Institute of Dramatic Art.

Having worked in theatre for four years she decided to concentrate on designing for corporate events but now works on a freelance basis, designing and visualising sets for various production companies.

Illustration has been a hobby for Wilcher since she got her first computer about seven years ago and she has been experimenting with different styles and techniques ever since. During her spare time she enjoys illustrating a broad range of subjects from architecture through to caricatures.

"My illustrations are drawn freehand with a Wacom pen and tablet in *Photoshop*. I like to keep a raw, hand-drawn look," she says.

For the London scenes shown here, Wilcher goes out and about taking digital photographs of famous scenes from different angles. She can then compose a 3D distorted view to give her work added depth and perspective.

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To find out more about this section, please go to **www.computerarts.co.uk/gallery/**

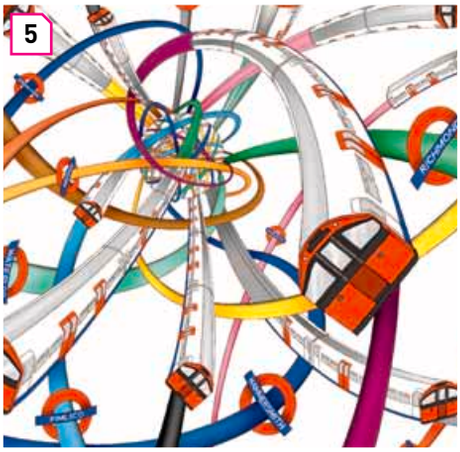
1. **Big Ben**
2. **City Hall**
3. **The Wheel**
4. **Tower of London**
5. **The Tube**
6. **Tower Bridge**
7. **Trafalgar Square**

"For the London images shown here, I visited all the sites and took digital photos of the architecture. I then used the photos as a reference to construct a collage of each building.

From there I took a blank document – sketching in *Photoshop* using a Wacom pen and tablet until I was happy with the proportions and distortions.

I come from an interior design/theatre background, so I try to use my spacial awareness to create a 3D effect giving a sense of depth and distance to a 2D illustration. From there I start working on the detail and stylisation – slowly correcting the line work. Once I have achieved the correct outline I then select fill-in colours and blends to complete the piece.

All of these images are currently available as greetings cards and my recent image of St Paul's has been used on the cover of *London Illustrated News*."



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VICKY WOODGATE
LOCATION London
JOB Illustrator
CONTACT vickywoodgate@mac.com
SOFTWARE *Illustrator 10*

1. Marital Bliss "My artwork is vector based and drawn straight onto the screen using a graphics pad. This is a self-promotional piece showing the joys of togetherness. I try to give my characters personality and movement."

2. Airport "I actually sketched these people while they waited for a rollercoaster ride at a theme park, but I then went on to use them as part of a brief that involved holiday travel."

3. The Holiday Maker "For this piece I wanted to create a larger than life character, close up for an article on holiday makers in Spain. I have a keen interest in people in every walk of life and try to inject as much humour as I can into my work."

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ALBERTO EZZY
LOCATION Belgium
JOB Freelance graphic designer
CONTACT www.albertoezzy.be
SOFTWARE Adobe *Creative Suite*, *3ds max* and *Finalrender*

1. Beer "Duvel beer is one of my favourites. I had a glass and bottle on my desk and decided to create a 3D scene of it to test my glass material and the caustics and HDRI features of *Finalrender*. I'm especially happy with the caustics (patterns created on the table by light passing through glass)."

2. Glasses "I always use a real image of an environment as a "spherical environment map" in *3ds max*. The image is then reflected in every object in the scene and gives a much more realistic effect."

3. Terrace "The textures for this illustration of my terrace are made with my Nikon D70 digital SLR. I really like the mood of this image, which is created by the "light projector maps" of trees and the reflection in the glass."

GET EXPOSED

Send your work to us, along with an explanation of your techniques and software, the titles of each piece, your website details and email address. Images should be sent as PC or Mac TIFF or JPEG files, on CD or DVD. A hard copy is also a great help. We will endeavour to return all entries that provide an SAE. All contributions are submitted on the basis of a non-exclusive worldwide licence to publish, both in print and electronically.
Post hi-res files for print to:
Exposure, *Computer Arts*,
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LETTERS

Write to us at ca.mail@futurenet.co.uk
or join us online at forum.computerarts.co.uk

STAR LETTER: AN ISSUE OF PORNOGRAPHY

I've just received the latest issue of *Computer Arts*. Yours is a no-nonsense publication that, for me, is very functional in teaching what can be achieved using (above all things) *Photoshop*. However, I'm concerned about your Christmas issue's cover image. To be frank, I'm not happy with it at all! I think your use of such a pornographic image is cheap, demeaning and uncalled for. It lowers the standard of what is otherwise a very good publication down to the level of a "lad's mag". I understand that, on the magazine rack in WH Smith, *Computer Arts* may seem lost amid a sea of other such cheap cover images. However, I don't think that this is enough of a justification to follow suit.

No, I don't like it at all! And if I had not been a subscriber, I would have definitely given this edition a miss in protest. Let's get the covers back up to the usual standard and beyond, and leave out the cheap shots.

Christopher Icha

Computer Arts:
Thanks for your feedback, Christopher. We knew that it would provoke a reaction, because it's certainly different from the covers of the past. But you'll be pleased to hear that we did have some debate in the office as to whether or not to use it. After much to-ing and fro-ing, however, we concluded that the image was excellent in its own right – a beautiful and artistic representation of the female form, with a fantasy, sc-fi spin to it, that would appeal directly to a large percentage of our readership.

We don't see the image as being pornographic. Yes, it's sexy; yes, it's appealing to men (the majority of our readers *are* men), but more than that it's technically brilliant and perfectly portrays good use of metallic effects. We don't plan to use "sexy" images on our covers from now on. We just couldn't pass up this opportunity to use such a stunning piece of artwork. Hope you enjoyed the issue anyway.

PRIZE: free training at Space, London

As the Star Letter winner, you can choose a day's training at Space. Co-founded by Bridget Riley, Space is one of the largest visual arts resources in the Capital, and offers a variety of courses ranging from *Photoshop* and *Final Cut Pro* to how to sell your work, tax and self-employment, and marketing strategies for designers.

Space also has a large range of high-end equipment including video-editing facilities, technical support staff and exhibition spaces. For more information, go to: **www.spacestudios.org.uk**

[space]

CA FORUM COMPETITION WINNER

Yet again this month, we laid down the gauntlet for our forum members with a challenging and creative competition. This time, the brief was to design a movie poster, with the prize a copy of the excellent tome *Moving Pixels*, published by Thames & Hudson. As usual, the standard of entries was high, but we all agreed that there was one clear winner – Thomas Geurink from Holland, who came up with this witty little poster for a car chase compilation movie that reminded us of Seventies cop shows *The Professionals* and *The Sweeney*. Keep an eye on forum.computerarts.co.uk for more competitions.

G5 ALTERNATIVE

I've just read your Apple G5 dual 2GHz review in issue 103, and interesting reading it is, too – especially the price! So just a thought for all us non-Apple users: how about a review of the new Sun Java Workstations W1100z and W2100z?

They come in single and dual Opteron formats and, from what I can gather, would give the G5 a run for its money at a cheaper price. The high-end version of the

IT'S A DESIGNER'S LIFE...

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You can buy Brad Guigar's new book, *The Everything Cartooning Book*, at www.everythingcartooning.com

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W2100z costs a pretty competitive £5,900, but you can also "Go Large" and spend a whopping eight grand or so on more RAM (up to 16GB), disk space, extra monitors, etc. As for operating systems, unfortunately it doesn't have the pretty interface of OSX, but it ships with Solaris, Linux or Windows.

I would love to see a review of this on your website. It would even up the balance nicely, don't you think? Plus, I'd love to see how it fares against the G5.

Pete Edwards

Computer Arts:
Thanks for the letter, Pete – are you sure you don't work for Sun? We always try to strike a good balance in the reviews section between Mac kit and other platforms. Indeed, we have a comprehensive workstation group test coming up over the next few issues, which may well include one of the Sun products you mention. Thanks for the tip, though.

ANIMATION ADVICE

A friend of mine recently had a neat idea for a series, a sitcom-type venture that would slowly build up with characters as each episode passes. He's initially looking to pitch the project as a kind of animated affair, a cross between *The Simpsons* and *2DTV*, but different!

What would be the best way to approach this type of animation? My initial thoughts would be to use *Flash*, but I have no idea where to start. Also, distribution would be something else to consider, as either web or DVD production would be required. Any advice?

Wook, forum member

Computer Arts:
Probably the first thing you should do is create a short "pilot" episode (successful TV series often start out in this way). *Flash* would be fine for this. Other, more powerful apps dedicated to broadcast animation, such as *Toon Boom*, are available, but *Flash* is a good cheap option. Once you've polished off your pilot, get it published on a website and send it to big film portal websites (like www.ifilm.com or www.atomfilms.com).

It's not unheard of for big broadcast companies to notice these kinds of animations. The movie *Undercover Brother* started off as a web cartoon, for instance – and obviously the success of *The Blair Witch Project* owed much to the filmmakers' self-promotion online.

BRYCE ON THE MAC

Unfortunately, there were problems with the installer for *Bryce 4* on last month's cover disc. For information on how to fix the problem, visit www.computerarts.co.uk.

NEXT ISSUE IN computer arts

PHOTOSHOP • IILLUSTRATOR • FLASH • 3D ANIMATION

→ **DESIGNER TOOLKIT** (WORTH $1,548)
Enjoy these royalty-free illustrations, motion graphics and video tutorials

→ **FULL SOFTWARE: COMIXWARE 1.2** (WORTH $40)
Essential software for anyone who wants to bring their artwork to life

→ **DESIGNER TALK**
Ad director John Robertson talks about how he got started in animation and his work on the recent "paint-by-numbers" Gordon's gin commercial

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ESSENTIAL SOFTWARE
• Full software, plus the very best designer toolkit around

LATEST REVIEWS
• All the latest software and hardware reviewed and rated by our expert testers

HEAD TO HEAD
• We pitch five top-flight products against each other in a gruelling battle to find out which is best, so you don't have to

DESIGNERS IN PROFILE
• The biggest and best creatives in the industry tell you how they make a successful living from design

READERS' SHOWCASE
• New designers from all over the world show off their work in the ever-popular Exposure

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• Hundreds of handy tips, tricks and special techniques from our in-house experts

All contents are subject to change

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ONLINE HEAVEN

THIS MONTH'S ROUND-UP OF THE GREAT AND GOOD ONLINE

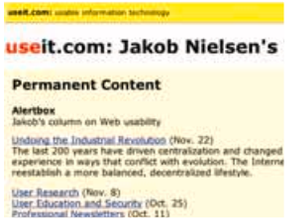
AGENT PROVOCATEUR
www.agentprovocateur.com
Agent Provocateur offers more than just titillation for schoolboys. There's some impressive *Flash* loveliness on display, too, enabling you to browse its sumptuous lingerie collection with ease. One for the boys and the girls – for very different reasons!

DUB MAGAZINE
www.dubmagazine.com
Those of you expecting roots and culture from Dub will be disappointed. This is, in fact, a site that celebrates the automotive excesses of Missy Elliot, Fifty Cent and others. But those fans of "tricked-out rides" will enjoy this suitably blingin' website, we think.

FERRIS PLOCK
www.ferrisplock.com
San Francisco-based illustrator Ferris Plock shows off his striking wares. We particularly like the "Catholic girls with knives" gallery, so check it out. Plus, send Plock $2 and he'll even send you some stickers. Excellent.

I AM NAS
www.iamnas.com
Shy and retiring hip-hop artiste Nasir "nas" Jones' website opens with a recreation of the Last Supper to coincide with the release of his album *Street's Disciple*. Despite such delusions of grandeur, this is an undeniably slick-looking site.

PLASTIC KID
www.plastickid.dk
Jakob Printzla creates fab, messy, stencil graffiti murals. A gallery of photos gives you an idea of how he works, showing a piece from start to finish. "New site soon" says the home page. We hope he can top this one.



USEIT
www.useit.com
Celebrated *Flash*-hater Jakob Nielsen's website might not be pretty (in fact, we think it's awful), but it has some good advice on how to improve your website's navigation and design.

Mac Expo

EXHIBITION Mac faithful flock to north London to pay homage to iPod and iMac, while the fur flies at a Quark vs Adobe show-down

Crowds flocking to this year's Mac Expo were palpably buzzing with excitement for all things Apple – enjoying the media spotlight now bathing their favourite platform.

And they weren't disappointed. Although not using the event to make any surprise product announcements Apple created an inevitable roadblock around its imposing stand by showing off the new iPod Photo, U2 iPod and currently in-demand iMac, although sadly, rumours of a satellite–linked keynote from Steve Jobs came to nothing.

Also attracting a capacity crowd was a hotly contested product head-to-head between Adobe and Quark, designed to give both companies a chance to hammer home the excellence of their rival products.

With Quark evangelist Shellie Hall in one corner and Adobe's IT development manager Chris Kitchener in the other, both sides traded blows over multiple undos, hanging punctuation and language extensions in front of a crowd mainly made up of Quark users.

By the time the showdown opened up to the audience, Quark was on the back foot, attempting to answer increasingly heated questions from users over sticking points such as lack of support for Unicode, scepticism over upgrades and a lack of backwards-compatibility – the last accompanied by vociferous accusations that the company was not "living in the real world".

Neither company emerged a clear winner, although the intense passion and loyalty of Quark users was readily apparent, despite Adobe's efficient PR attack.

Elsewhere, Epson, Konica-Minolta, HP and Sony pushed low to high-end Mac-compatible printers, monitors and peripherals, and all were keen to underline a strong commitment to the creative sector and its large and loyal band of Mac users.

Rick Spiller, product marketing manager at HP's recently established Mac-Connect group, which actively develops links between the two companies and aims to increase sales of HP's printing and imaging products among Mac-using graphics professionals, said his company was looking to tap into Apple's powerful brand.

"It has a small market share, but it's influential, especially in the creative market, and that's a good place for us to start," he said. **INFO** **www.mac-expo.co.uk**

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D&AD expands design awards

AWARDS Coveted design gongs cast a wider net with interactive push

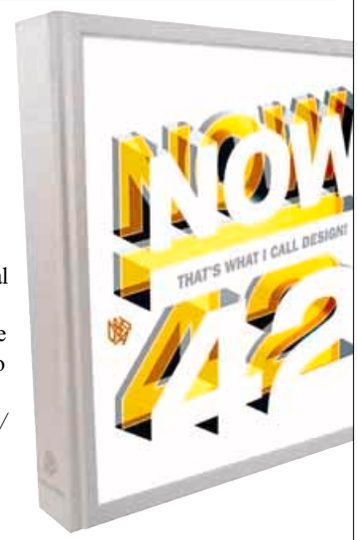
In recognition of the growing influence digital design has over the wider creative community, educational charity Design and Art Direction (D&AD) has extended the scope of its annual awards by adding three new categories for online advertising, viral advertising and interactive TV.

"We're doing a huge push on interactive and digital this year – it's a really significant move for D&AD and a sign of the times for the industry," a spokeswoman told us.

With a jury drawing on the expertise of big names such as The Viral Factory's Ed Robinson, Tim Molloy of the Science Museum and Morag Myerscough of Studio Myerscough, the 2005 competition to win a coveted yellow pencil and a spot in the next D&AD annual looks set to be as hard fought as ever. Closing date for entries is 4 February 2005.

Meanwhile, the 2004 D&AD annual has now been published, packed with info on award winners from around the world and titled – in cheeky homage to the never-ending chart compilation CDs – *Now That's What I Call Design/ Advertising 42*.

INFO **www.dandad.org**



Paradise regained

ANIMATION *After Effects* short airs at London Film Festival

UK-based animator Gael Dennis, graduate of Channel 4 and the National Museum for Photography Film and Television's Animator in Residence scheme, has just finished the first round of screenings of her latest short – *City of Paradise*. The Passion Pictures-backed film is the tale of a Japanese girl's arrival in London and discovery of a mysterious secret underground city.

Following successful airings at the London Film Festival, the six-minute work – created using Adobe *After Effects*, *Photoshop* and *Premiere Pro* – was also shown on Channel 4 and will be featured in forthcoming festivals.

INFO **www.passion-pictures.com**

JPEG2000 ADOPTION

TECHNOLOGY Industry get-together reveals progress on image-compression standard

The great and the good of the digital imaging world has gathered in Connecticut to report on work-in-progress over adoption and implementation of the JPEG2000 image format.

Based on state-of-the-art wavelet development, the flexible standard should spell good news for web/graphic designers and digital photographers, and help anyone involved in digital media asset management.

Among speakers at the US symposium – which outlined new elements of the standard – was Simon Cope, chief software architect at JPEG2000 developer ER Mapper, who showed off a 1-terabyte image compressed using the technology.

Also under discussion were recent patent infringement lawsuits involving ER Mapper and LizardTech, which recently lost a case to prove the company's development work with JPEG2000 infringed one of its patents.

INFO **www.jpeg.org/jpeg2000**

THE MONTH IN BRIEF

Our review of the past four weeks, plus what 3D animation software users have been up to instead of getting out more

GOOD MONTH

Mac culture We've always known Apple pretty much owns the hearts and minds of the creative sector, but the PC industry seems to have finally cottoned on. Hewlett Packard's Mac-Connect group is now actively looking for growth in the imaging-heavy Mac market.

Dutch digital snappers Researchers in Holland have succeeded in creating the largest digital panoramic photo in the world. The 2.5 billion pixel image of Delft was built by stitching together 600 single snaps, and if printed out would be 2.5m high and 6m long. If only we could call Norris McWhirter!

Monotype Agfa has sold its Monotype font business to a management buy-out team for $169m. The new owners promise to put the group – home to the *Times New Roman* and *Gill Sans* typefaces – in a "stronger position". Enter our competition on page 59.

BAD MONTH

Pixar and Disney The rocky relationship between the animation powerhouse and global entertainment giant looks like turning critical after reports that Disney is to proceed with a project to make *Toy Story 3* in its own purpose-built animation facility – against the wishes of Pixar founder Steve Jobs.

Video RIP The decision by UK electronic retail giant Dixons to stop selling VHS video recorders has sounded the death knell for the once-dominant recordable format.

AND FINALLY

If I had a real girlfriend... Male users of 3D animation packages have given full rein to their imaginations in the world's first virtual beauty contest – Miss Digital World. The world's leading 3D artists have been creating virtual models to parade down an online catwalk. Hmm... do they need to get out more?

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SOFTWARE

DESIGN
FREE QUARK HELP
The latest chapter in Quark's ongoing process of re-invention sees the company dropping all support charges for its English-speaking customer base. "We are serious about our commitment to our customers – by offering free support we're offering another tangible and positive benefit of being a Quark customer," said Manoque Wirz-Grutter, company vice president of operations. UK Quark customers can call 0080 01787 8275 during standard business hours to access the service.
www.quark.co.uk

CAD
OS X SUPPORT AT FORM•Z
Trickily-named CAD expert auto.des.sys has released version 5.0 of its *form•Z* modelling application. Incorporating elements of the beta-release-only 4.5, the new iteration has a wide range of updated features and for the first time supports Mac OS X. Pricing for release 5.0 has yet to be finalised.
www.formz.com

3D
THREE-DIMENSIONAL PHOTOS
RealViz has released a Mac version of its *Image Modeller 4.0* – a software application that enables you to create 3D scenes using 2D digital photographs. New features in the latest release include a 3D/2D integration tool, UV mapping editor and the ability to export *QuickTime* VR Object movies. Available for £840.
www.realviz.com

DIGITAL MANAGEMENT
UNFROZEN ASSETS
Asset management software group Extensis has updated its *Portfolio 7* app to offer new and updated SQL connect modules for Microsoft SQL, Microsoft MSDE, MySQL and Oracle databases. Additionally, the free update to *Portfolio 7* includes file format support for MPEG-2 and MPEG-4; as well as an updated filter for digital camera Raw images and the recently announced Adobe DNG format. *Portfolio 7* should cost £129.99 with a single NetPublish licence.
www.extensis.com

WEB EDITING
CHEAP MACROMEDIA ALTERNATIVE
Namo Interactive's Macromedia-challenging web design, set-up and editing suite, *WebEditor*, has been upgraded to version 6.0. It's capable of automatically creating a website through its Site Wizard feature and includes screen capture, bitmap editing, animation, vector-based drawing and bulletin-board features. The whole package is available for £70 through re-publisher Phoenix Software.
www.phoenixglobalsoftware.co.uk

From little acorns

ANIMATION Industry-sponsored animators roll sleeves up

HP and Alias's SE3D project to nurture home-grown animation talent has shifted up a gear after the seven artists chosen by judges to make the short films began work in earnest. The projects – including Screenburn's *Little Angel* (the adventures of a baby demon wrongly delivered by a stork to heaven rather than the fiery pits), Dan Lane's *Two Fellas* and The Box's *Getting Out* (pictured left) – are on schedule for an April completion deadline in time for the Animated Encounters festival in Bristol.
INFO www.animated-encounters.org

Adobe beefs up Acrobat

SOFTWARE New version extends workgroup capability of PDFs

Adobe has updated its *Acrobat* software family with the release of version 7 – a range of desktop applications the company says extends the reach of *Acrobat* "far beyond" converting documents to PDFs.

Major changes include an extended range of electronic reviews, so now you can include any number of people in a document review process and, using free bundled *Reader 7.0* software, add comments and provide feedback.

Adobe has also improved integration with *LiveCycle* and included *LiveCycle Designer* to help you create XML and PDF forms. *Acrobat 7.0 Professional* will be available by the end of 2004 and cost around £395. See page 76 of this issue for a full product review.
INFO www.adobe.co.uk

LEARNING CURVE

Short and long-term training across the UK

SILICON BEACH
BRIGHTON
With courses aimed at both beginners and professionals, Silicon Beach provides a wide range of design and 3D training, from public access to bespoke sessions delivered at clients' premises.
Dreamweaver, 24-25 January, £395
Fireworks, 27-28 January, £395
URL www.siliconbeachtraining.co.uk

ESCAPE STUDIOS
LONDON
Leading west-London training centre specialising in 3D computer animation and 2D visual effects skills. Escape is currently moving from its Westbourne Park base up the road to Shepherds Bush. **Maya Level 1**, two weeks, starting from 17 January, £1,899. **Digital Compositing Comprehensive**, six weeks, starting from 10 January, £4,799.
URL www.escapestudios.co.uk

METRO NEW MEDIA LONDON
Accredited Discreet training house offering courses in web design, 3D animation, graphic design, video and multimedia. Metro offers an extensive programme to small classes and also runs evening and weekend courses. **Introduction to 3ds max 6**, 12-14 January, £650. **Introduction to Director MX 2004**, 27-28 Jan, £475.
URL www.metronewmedia.com

DESIGN COMPUTER TRAINING
BIRMINGHAM
One-to-one and small group computer training. Specialising in Adobe *Photoshop* training and training for professional web design, image editing and DTP. Courses cover *Photoshop* (image-editing and design for beginners) and basic web design and preparation. One-day courses start from £380, three days from £1,050.
URL www.combined.f9.co.uk/computer

CARSON WORKSHOPS
LONDON
One-day intensive practical workshop on building enterprise-level, database-driven websites, focusing on PHP, Apache and MySQL. Taught by industry experts Mike Buzzard and Chris Lea from Newstoday.
How to build a professional database-driven website, 19 February, £395.
URL www.carsonworkshops.com

QA TRAINING
SCOTLAND
With classrooms in Glasgow and Edinburgh, as well as other locations throughout the UK, QA offers professional courses to both companies and individuals.
Web technologies overview
21 January, £310.
Developing XML web services
24-26 January, £1,060
URL www.qa.com

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Aardman helps BBC combust

TV Combined live action and animation sees viewers flocking to BBC Digital

Aardman Animation has taken the wraps off some new promotional films for the BBC aimed at attracting more viewers to its digital channels. The 60 and 40-second spots break new ground for the animation powerhouse by mixing 3D models with projected film.

"Initially, the models were sculpted and textured in both *LightWave* and *Maya*, and then animated in *LightWave*. The backgrounds were a combination of layered 3D scenes built in *LightWave* with artwork imported and matched up from *Photoshop* files," explains director Steve Harding-Hill. "For the static shots, the layered artwork was taken directly from *Photoshop* and composited in *combustion*."

INFO www.aardman.org

MAXimum impact

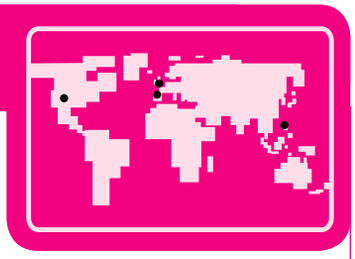
AWARDS Macromedia recognises web design excellence

In a flurry of industry back slapping, Macromedia has dished out its annual MAX awards for the most effective use of its technology over the last 12 months. Winners include New York-based Digitas for its recent American Express web-marketing hit (webisodes featuring comedian Jerry Seinfeld and Superman), AKQA's stunning nikespeed.com site and the Lightmaker Group's official JK Rowling site. Winners and finalists were selected by an expert team of Macromedia judges, based on design and development, and the value for money and return gained by the client.

INFO www.macromedia.com/macromedia/events/max/max_awards

GLOBAL EVENTS

Our round-up of design events worldwide



WHAT'S GOOD?
ARTS CENTRE, HONG KONG
8-11 January 2005, HK$1,200 (£180)
Peter Saville, Amsterdam's Droog Design and Tokyo-based Yugop are among the star speakers at this lofty art and design conference, which sets out to explore "creation, perception, sensitivity, conscience, meaning and taste".
URL www.whats-good.com

TOCA ME EVENT AND WORKSHOP
MUNICH, GERMANY
15–16 January 2005, 270 euros
Pioneering graffiti and graphic design team scien and klor (of French crew 123klan) host a workshop demonstrating the genesis of a work from a first sketch through digital design to a live graffiti piece.
URL http://event.toca-me.com/files/index.html

PHOTOSHOP WORLD
LAS VEGAS, USA
8-10 March 2005, $149-$499
Massive global *Photoshop* exhibition and conference focusing on training – with 60 conference sessions for photographers, designers and video editors – and keynote talks from senior Adobe staff and partners.
URL www.photoshopworld.com

ADOBE LIVE
LONDON, UK
26-27 May 2005
Following last year's successful event, Adobe will be setting up camp in the Business Design Centre, Islington, for another two days of training, speakers and break-out sessions for the budding creative professional.
URL www.adobe.co.uk

ONEDOTZERO9 FESTIVAL
ICA, LONDON, UK
27 May–5 June 2005
The onedotzero team returns to London for its ninth annual festival of digital moving images and a feast of music video, motion graphics, architecture, fashion, computer gaming, Japanese animation, live performance and club visuals. Deadline for submissions to the event is Friday 25 February, 2005.
URL www.onedotzero.com

HARDWARE

STORAGE
FLIP YOUR LID

Portable storage specialist Amacom has launched bigger and more powerful versions of its Flip2Disk and IODisk products, both with a capacity of 100GB.

Aimed at heavy-use video and music fans, the smartly designed devices are easily portable, can be plugged straight into your PC – but sadly not your Mac – and are smaller (and healthier) than a packet of fags. The cost? £245 and £197, respectively.
www.amacom-tech.com

NETWORKING
IT'S GOOD TO SHARE

TROY, the German group that specialises in kit which enables small offices to easily share devices such as printers made for wireless and traditional networks, has announced three brand new product releases – PocketBasic, Winconnect II and EtherWind Plus. All three products will enable you to share single or multiple printing devices. Full pricing has yet to be announced.
www.troygroup.de

SLRS
END-OF-YEAR DEAL

Canon is running a couple of end-of-year promotions for its EOS 300D Digital SLR camera and online image-sharing portal. The first offers customers the chance to snap up a 300D with £100 cashback; the second, the chance to claim a free 256MB Compact Flash card when you buy the 300D and register for the Canon iMAGE GATEWAY. The offer is valid until 31 January 2005. For more information, see the Canon website.
www.cig.canon-europe.com

PRINTERS
LEXMARKS THE SPOT

Boldly claiming to advance colour laser printing technology, Lexmark's trio of new products – the C760, C762 and X762e multi-function printers – all aim to offer high-performance printing coupled with great quality. The new hardware features 25ppm speeds and 4,800 CQ resolution. Prices? The x762e tops the bill at a whopping £4,599, with the C762 coming in at £1,049 and the C760 at £779.
www.lexmark.co.uk

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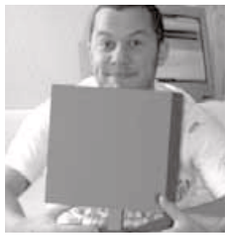

DESIGNER TALK

Ben Dawkins

We talk to the director of the recent Orange text messaging campaign and Sony's latest PlayStation 2 advert, about his creative process, attracting big name clients – and his penchant for classic Disney animation

Computer Arts: All of your work seems to involve superimposing 3D onto real video. How do you go about doing this?
Ben Dawkins: With lower budget jobs, music videos, for example, I tend to do everything myself using *LightWave*, *After Effects* and *Photoshop*. The PlayStation 2 and Orange ads were both done in post houses. They use *boujou* to track handheld camera movements and *Maya* for the 3D. Everything is them composited using *Flame*.

CA: What are your influences?
BD: I grew up in front of home computers – Spectrums, ZX 20s and Amigas. The basic idea for Bogdan came from them. I took flat 2D block graphics and re-invented them to work in a 3D environment. I love seeing people interact with puppets, both digital and physical, and this particular idea worked really well using the technique. I don't like it when CG looks too good. It's better when it looks a little rough around the edges.

> "I basically had an idea in my head to make a video that looked like a Disney movie... It's not very Nick Cave, which I think is the reason it worked so well"

CA: The 3D models are shaded simply and contrast highly with the video. Why?
BD: The stork in the PlayStation 2 commercial had to look real, so I designed it in a way that would make it look as if robots actually do exist. Both the Orange and Bogdan (music video) pieces have objects that are meant to look out of place in the real world. They're both textured using basic colours, but are still rendered to look as though they fit in with the surrounding environments.

CA: What did the PlayStation 2 advert involve?
BD: A creative script came to me with four lines of text on it. A stork needed to crash through a window and deliver a baby PlayStation 2. I designed the stork in a day, which went down a treat with the creatives, as well as Sony. We shot the live action in a house in North London. The stork design was sent to Framestore CFC, who developed the stork further. During this time, we shot the glass breaking in a studio against bluescreen. All of the elements were then brought together in *Flame* and composited.

CA: First and foremost, what are you? A 3D artist/animator or a director?
BD: I like to think that I'm a director first. I love the creative process, storyboarding and scripting. With pop videos, you have to be on top of these processes because no-one else will do it for you. Commercials are different; most of the initial work is done by an agency team. I like doing one as much as the other.

MAIN IMAGES: Ben Dawkins' striking 3D encompasses retro-text (Orange, far left), model work (PS2, middle) and animation (Nick Cave's music video, far right).

BELOW: *Tron*-like slabs of 3D colour pulsate in Block Party's music vid.

CA: How did you manage to get work with such high-profile clients as Orange and Sony?
BD: My reel is different from anything else out there, I'm told. It's unique and funny at the same time. People remember things that make them laugh.

CA: Do you have any more big projects lined up?
BD: I'm currently finishing a music video for Nick Cave and the Bad Seeds, which is looking great.

CA: How did you get started in the business?
BD: I started making commercials for the music industry. Lots of motion graphics layered on top of simple 30-second edits. I got to work with lots of great bands and make a lot of contacts. Before that, I worked as a print/web designer for three years.

CA: Tell us about the recent Nick Cave video.
BD: I had an idea in my head to make a video that looked like a Disney movie – I mentioned *Mary Poppins* and *Bedknobs and Broomsticks* in the treatment. It's not very Nick Cave, which I think is the reason it worked so well. All the background stills where made using digital photos I took on Hampstead Heath. Bit of *Photoshop* and Bob's ya uncle. CG animation was then added and rendered using a cel-shader plug-in. This made it look more traditional. Everything was comped using a mixture of *After Effects* and *Flame*. I did everything myself in just four weeks.

INFO Check out more of Ben's work at www.bendawkins.pwp.blueyonder.co.uk/promo.html and www.hellolove.tv.

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Expert Solutions for Publishing.

It's not hard to see why Apple is firmly established as the platform of choice across the print and publishing industry.

There's the legendary ease of use, reliability and speed of Mac OS X. The blazing power performance of the Power Mac G5 and PowerBook G4. The breakthrough rack-optimised servers, Xserve and Xserve RAID. And with the launch of Apple Cinema Displays, including a 30-inch flat panel high resolution display, Apple brings yet another innovative, ground-breaking tool to the world of print and publishing.

Apple Solution Experts can help you maximise the power and potential of Apple products and the hundreds of new applications porting over to the Mac platform. We're a network of technical experts with a proven track record in print and publishing each delivering innovative and unique solutions to optimise your set up – saving you money, reducing wastage and maximising usage of your assets.

To find out more, call your nearest Apple Solution Expert or go to www.apple.com/uk/solutionexperts

Solution Expert	Location	Tel. No.	Solution Expert	Location	Tel. No.
TypeMaker Ltd[1]	Birmingham	0121 604 1234	Colourgen Ltd[6]	Maidenhead	01628 588 700
Grafx Digital Technologies Ltd[1]	Cheltenham	01242 704330	Granthams[6]	Preston	01772 250207
Perfect Colours Ltd[1]	London SE11	020 7820 0333	Drag & Drop Ltd[7]	Basildon	01268 779648
Target Colour Ltd[1]	London E14	020 7872 5846	Niche Publishing Systems[7]	Cheltenham	01242 224556
The Colour Collective[1]	Wolverhampton	01902 833800	Automatrix PLC[7]	London N5	020 7354 7500
Neil Barstow Consulting[2]	Hove	01273 774704	Storepoint International Ltd[8]	Kingston-upon-Thames	020 8614 4944
ION Technologies[3]	Belfast	02890 455911	Clockwork Creative Technology Ltd[8]	Leeds	01132 436054
AO International[3]	Glasgow	01355 266686	Rapid Group Plc[9]	Fleet	01252 788222
Reaction Data Management Ltd[3]	Poole	01202 657174	Colourbyte Europe Ltd[10]	Hemel Hemstead	01442 262626
Silicon Systems Ltd[3]	Wokingham	01183 776 060	Turning Point Technologies Ltd[10]	London EC1M	020 7837 2840
Iridius Design[4]	Daventry	01327 257373	WorkStation Support Solutions PLC[10]	London SW8	020 7582 9999
Etipsnticks[4]	Shepperton	07866 557322	Square Group Ltd[10]	London WC1A	020 7692 6626
Mark Edwards Print & Publishing Consultancy[5]	Leicester	01530 261346	NCS Plc[10]	Newcastle-upon-Tyne	01661 803000
Indd Training[5]	London SW12	07967 372699	Positive Focus[10]	Shepperton	01932 253225
CS Systems[5]	Manchester	0161 872 0921	Openshaw Ltd[10]	Todmorden	01706 812672

[1]Colour Management Specialist. [2]Colour Calibration Specialist. [3]Content Management Specialist. [4]Design and Photography Consultant. [5]Design and Print Consultant.
[6]Display and Signage Specialist. [7]Editorial Solutions Specialist. [8]FileMaker and AppleScript Specialist. [9]Photography and Imaging Specialist. [10]Prepress Workflow Specialist.

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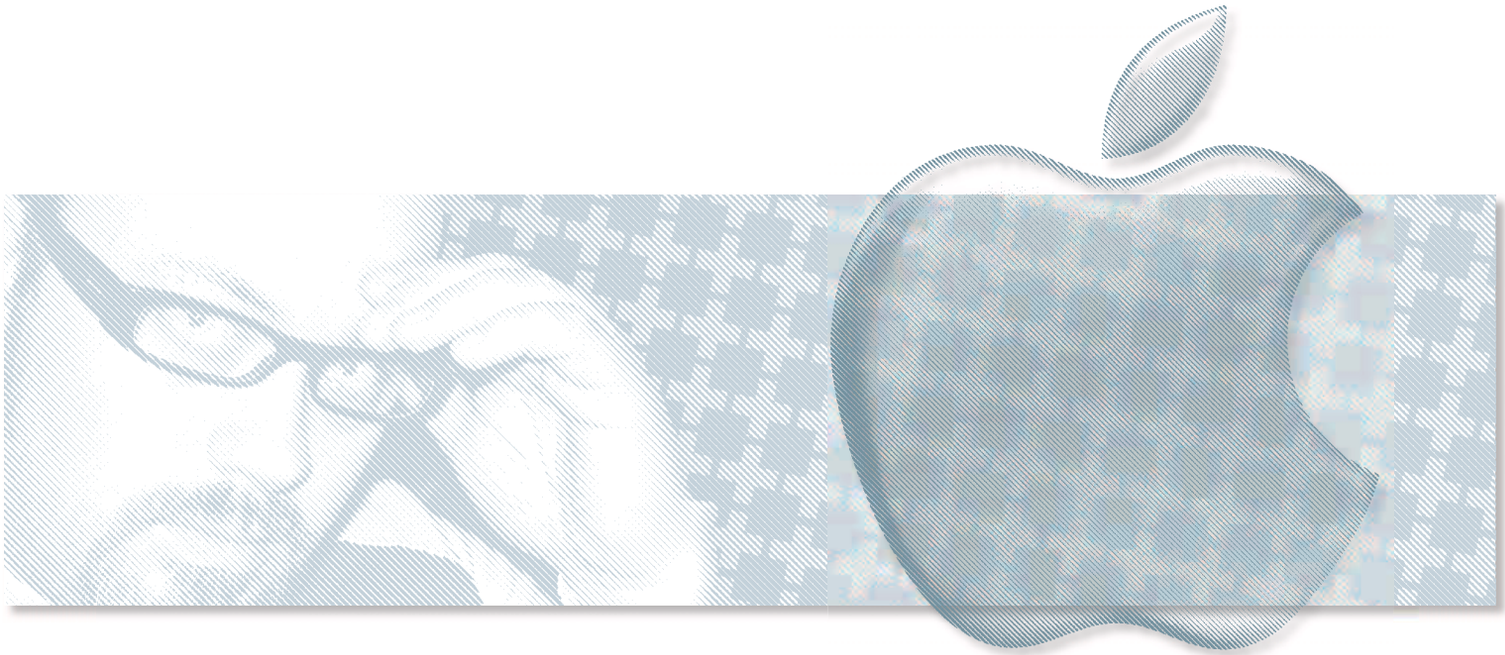

OPINION

Mac fanatic

Self-confessed Mac fan Jason Arber immerses himself in the ultimate in Apple worship – and discovers he's not quite as dedicated as he thought

I'm a Mac user, and proud of it. I've used Macs for over 15 years and generally consider the Mac OS to be the best around. I'll mock Windows users, despite my grudging admiration for certain aspects of Microsoft's XP operating system, and will admit that elements of the continually delayed Longhorn look pretty interesting.

In short, I'm probably like most Mac users – happy to work in an environment that's free of the debilitating viruses and blue screens of death that plague our less fortunate Windows users.

But I'm no Mac zealot, the kind of fanatic who engages in vicious debates concerning the merits of Apple over Windows or Linux. I don't burst into tears when Steve Jobs goes into hospital, and I'm not the sort of person who waits 24 hours in the rain to be the first in line at the Apple Store opening. Or am I?

The opening of Apple's first European store in London last month gave me a rare opportunity to test my mettle, to see what kind of Mac user I really was. I thought to myself, in the interests of journalism, I'll embed myself among the Mac loons who wait to be the first through the door.

And so, after work on the evening of Friday 19 November 2004, I made my way to Regent Street. The massive double glass doors of the new store beckoned and a scattering of folk peered inside. None of them looked like they had any intention of staying the night and it occurred to me that I might be first in the queue! Obviously, I reasoned, since nobody was queuing, there was something different about the European mentality, some sense of reality that prevented us from acting like Apple fans across the Atlantic.

> "British Apple fans, it would seem, are just as fanatical as our American brethren"

One look around the corner, however, proved me wrong. British Apple fans, it seems, are just as mad as our American brethren – there were already 20 or 30 encampments with tents and sleeping bags stretching down Princes Street. They all looked prepared for a mountain trek, apart from two head-banging mad men who jumped around playing air guitar to their iPods…

It was very cold, the kind of cold that makes you think twice about sleeping on the street. So, realising there was no chance of being first in the queue, I thought, "Bugger this" and went home.

Early next morning, I followed the queue back down Princes Street, around Hanover Square, down and back up George Street until I reached the end somewhere around Brook Street. The police later put the number of people waiting at around 5,000.

So I randomly interviewed some of them. It soon became clear that there was a hardcore of people towards the front who had braved the London winter. The majority had turned up between 6.30am and 9.30am. But first in the queue was an American named Stormy from Dallas, Texas, who'd escaped the rubber room to camp out since Thursday!

As the grand opening crawled closer, a party atmosphere took hold, helped by the store staff, who travelled the line whooping and clapping. After chanting, "Five minutes to go! Five minutes to go!", they cut the ribbon and the queue surged forwards…

I didn't actually make it inside the store until the Monday – being one of the first 100 people to enter the store didn't appeal in the cold. But for most, it seems, we're not so very different from folk in the US when it comes to turning an Apple Store opening into an event bordering on the religious.

PC users may outnumber Mac users by over 95 per cent, but if Microsoft ever opened a new store of its own, it would never be able to stage anything like this. So chalk one up to the crazy Apple asylum escapees. arts

FORUMS

Do you have any tales from the Apple store opening? Post your stories at http://forum.computerarts.co.uk.

Jason Arber is designer and co-founder of www.pixelsurgeon.com. Email your thoughts on the UK's attitude to Apple to jason@pixelsurgeon.com.

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ILLUSTRATION: twelve:ten

IN DEPTH

What's in store for 2005?

It's hardly been a vintage 12 months, and much of the creative industry will be glad to see the back of 2004. But what's around the corner? And what will you need to do to keep yourself ahead in 2005? WORDS BY DOM HALL

Admittedly, the design industry has pulled itself up by its trainer laces since the dot.com bust but it turns out that 2004 was a pretty shocking year financially too. Turnover in the UK commercial design sector fell by 26 per cent over 2003, average fees slipped by 13 per cent, we saw a wave of redundancies –and a worrying trend towards agencies of all sizes competing on price rather than ideas.

The good news? While such findings (collated from information supplied by 1,600 UK design agencies to trade association the British Design Initiative for its annual survey) certainly make depressing reading, those working at the sharp end of the design industry believe they can see light at the end of the tunnel.

"Things have to get better because they certainly can't get any worse," says Maxine Horn, chief executive of the British Design Initiative (BDI). "This slump has been driven by a number of things over the last three years, such as the dot.com crash and business confidence after 9/11, but people haven't re-built their confidence. They're stuck in a price war and haven't recovered."

While this may seem bad enough, Horn also points to recent research carried out by Remedy Brand Consultants into comparative hourly fees charged by different types of businesses during 2004. This, she believes, shows that the value placed on creative and design work is disappearing from the radar.

"Remedy found a freelance designer charges around £35 to £50 an hour and a design agency £65, while a hairdresser charges £70 to £200 for a cut and colour," Horn continues. "So it appears that a hairdressing salon can earn more for a service, the results of which may last two months, than a design consultancy creating products, trademarks and branding that could potentially last a lifetime."

If the BDI's findings are true – note that the survey only accounts for the experiences of part of the wider industry – things will need to change in 2005. But is it really time to switch off your computer and start thinking about a new career?

FORUMS

Visit http://forum.computerarts.co.uk to share your views on this topic and more with other CA readers.

TIME FOR A CHANGE

Stephen Gray, managing director at digital design group Stickee, believes not. He says business levels for his company have actually been good during 2004, but that it has been harder to win. He says clients are no longer willing to throw money into a project without some guarantee of a tangible return. If they are spending money on a website, they're less likely to be pleased with a straight-ahead online presence.

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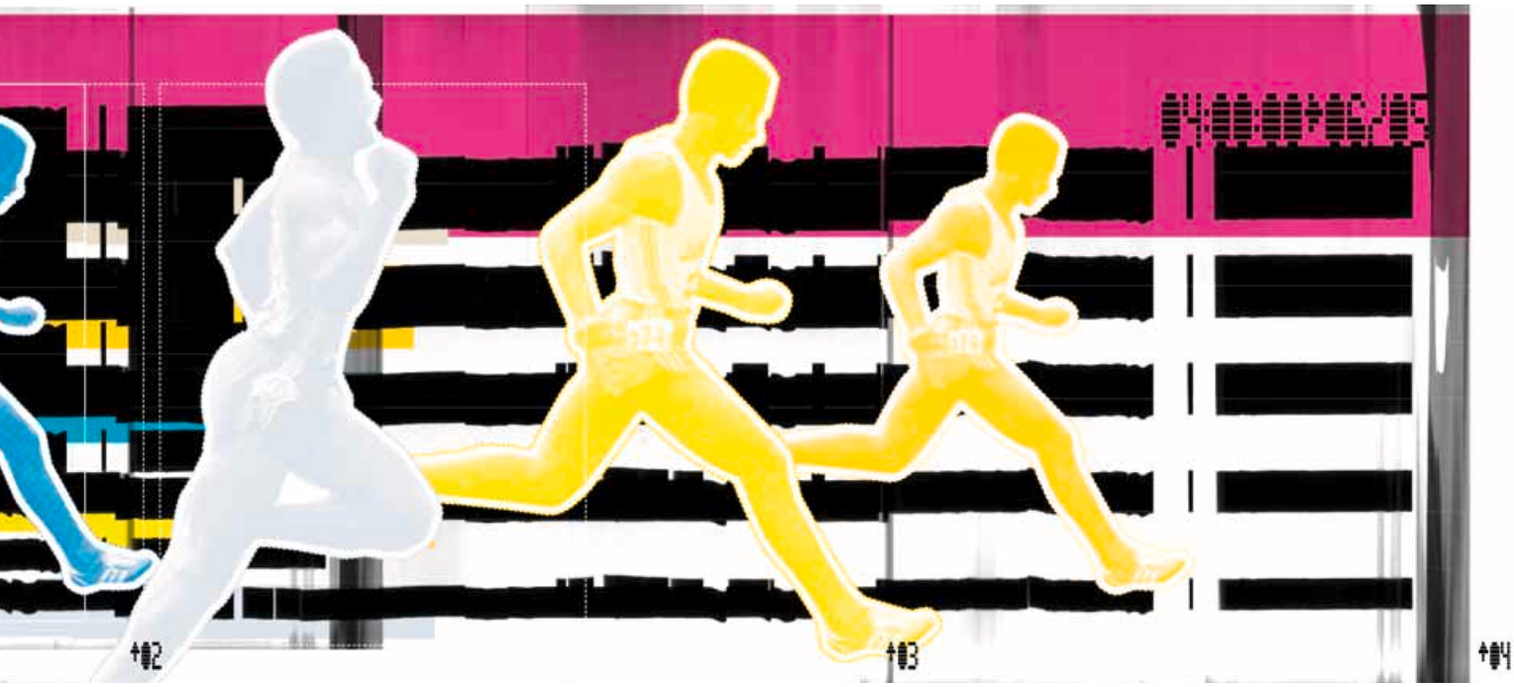

Now they want to know exactly what the site is likely to produce for them.

"Although client spending has increased, expectations have become much higher," says Gray. "It's simply not enough to provide an amazingly creative solution to a brief, since marketing and business issues have to be addressed as well."

This is a trend echoed by others in the industry. The boardroom suits who had their fingers painfully burnt during the dot.com boom three or four years ago are older and wiser, and taking a greater interest in creative spending than ever before. With this likely to intensify over the next year, will creative freedom and innovative risk-taking design step into the firing line?

"In the long run, the industry will still have to fight for creative freedom. It won't be handed out on a plate"

Despite the spending slowdown, for The Ronin's Rob Chiu clients have been able to trust their designers more in creative terms during 2004 and are transferring that trust into more open commissions, especially some of the bigger names.

"I think clients are starting to see things a bit better now and aren't as set in their ways as they were five years ago," says Chiu. "There's a lot more creative work coming out of the big-name brands such as Nike and Diesel. This has a knock-on effect and means smaller companies want to look similar," he continues.

But for others – including Ian Anderson at The Designers Republic – in the long run, creative freedom is something the industry will still have to fight for. It's unlikely to be top priority in any corporate commission during 2005.

"Creative freedom is there, but only if we take it. I don't see control being handed out on a plate in the current climate," he admits.

INTEGRATED WEBSITES

Another trend for 2005, according to Chris Hassell, new media director at web design agency DS.Emotion, will be the increasing importance of the role digital and interactive design agencies play in the mainstream marketing and advertising industries.

As the creative engine behind a number of high-profile brand websites, such as the hugely successful deodorant line Lynx, Hassell believes traditional advertising agencies will be forced to sit up and take notice during the next 12 months.

"Websites are becoming more integral, especially within youth brands and band websites. Digital agencies will get a lot more respect," he says.

But no matter what happens to creative commissions in 2005, the basic look and feel of design will – as ever – have to move forward. One of the big trends during 2004 was a move away from slick and homogenised computer graphics to a more handcrafted, personalised aesthetic. It placed importance on the skills of design, such as illustration, rather than simple software.

Danny Franzreb from Taobot believes this movement will gather pace over the coming year. "I saw lots of people drawing sketchy black and white characters over their designs and I'd say the hand-drawn style is still rising and will be big in 2005," he says.

"We're still moving away from the clean technological, hi-tech and little pixel font style we saw in 2002, although I guess we might witness a little revival, mixed with original hand-drawn illustrations and more vivid colours."

But whatever happens during 2005, it'll be worth remembering that, as Maxine Horn says, things have to get better. arts

INFO

www.britishdesign.co.uk/newlook/d10.html
www.stickee.co.uk
www.theronin.co.uk
www.thedesignersrepublic.com
www.dsemotion.com
www.taobot.com

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TYPE DESIGNERS UNITE TO HELP CHILDREN IN INDIA

Cabinet

abcdefghijklm

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INFO

Web: The charity pack featuring *Cabinet* (and 31 other fonts by various type designers) is distributed exclusively through the Building Letters website.
Price: £25
Info: For more information on Building Letters and its recent fund raising and charity work, please visit www.buildingletters.org

FONT DESIGNER

Building Letters

Impressive designer collective reveals a stylish font from its latest charity project

Cabinet is a striking yet simple serif font designed exclusively by an anonymous typographer for the Building Letters latest fund-raising venture. The Building Letters pack consists of a CD-ROM, complete with 32 fonts, a specially designed magazine and two posters by Eboy and Emigre. The fonts disk samples work by some of the world's top designers, among them Bruno Maag, Max Kisman, Stefan Hattenbach, Rian Hughes, Miles Newlyn and Swifty.

The magazine features an essay by Neville Brody, an interview with Emigre's John Downer, plus a pictorial tour of India with Dutch designers Underware.

Building Letters hopes to repeat the success of last year's issue, which raised money to help orphans in Africa. This issue aims to fund building projects in India and assist orphans in Uganda. arts

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COVER ILLUSTRATION

DESIGNER

NAME: **JASPER GOODALL**
LOCATION: **BRIGHTON, UK**
URL: **WWW.JASPERGOODALL.COM**

HOW WAS IT DONE?

Using his own reference materials, Jasper created a composite figure from a group of photos. "I have a very large image library that I have collected over time," he explains. "Because there are so many images in that library I can create a figure doing pretty much anything. The figure featured here is made up of a montage of different images; an arm from here and a leg from there. I added the clothes at a later stage."

Jasper made extensive use of *Photoshop*'s Threshold Adjustment layer to define areas of black, and preferred to draw paths manually for absolute control rather than use an application such as *Streamline*. The background cloud and rainbow figures were then created in *Illustrator*.

The resulting print was then india inked by hand and reimported for colouring in *Photoshop*. "Using the red at about 98 per cent opacity gave a pretty convincing felt-tip pen effect," he says. "Occasionally, I use a real felt-tip pen – usually in grey, so I can dictate the colour electronically. Scanned felt-tips can look weird when reproduced in print."

We asked Jasper to produce an illo with a separate channel that we could use to introduce a spot colour (in this case, Pantone 810C). In this month's cover tutorial, Derek Lea shows you how to achieve such an effect in *Photoshop*.

TURN OVER TO GET STARTED WITH THE TUTORIAL...

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SALON DE THÉ

COVER FEATURE

SPOT COLOURS IN PHOTOSHOP

Whether it's foil, fluorescents, metallics or a specific pantone colour you're after, *Photoshop* has everything you'll need to incorporate spot colour effects. Derek Lea shows you how

If you direct your attention to *Photoshop*'s Channels palette, you'll notice a menu option entitled New Spot Channel. This menu item is your gateway to surpassing the possibilities of printing with CMYK. The spot channel creates a unique way to add an extra ink to the existing CMYK ink mix within your image file. You'll need another plate on press, and your costs will be increased, but you will also have unearthed a world of possibilities to make your printed images stand out.

So why use a fifth colour? Because it gives you the opportunity to create some really original effects – from areas of spot varnish as seen on the covers of past issues of *Computer Arts*, to metallic ink or foil effects that simply cannot be achieved via a CMYK mix (to match the Pantone colour of your client's logo, for example).

Whatever your reasons, the process is the same. The secret to success is to understand how *Photoshop* treats this channel in relation to the rest of the file and how to work properly within it.

So once you've decided to tread the uncertain waters of five-colour printing, it is essential that you communicate with your printers as well as those who are ripping your page layout files to film or plates. The bottom line is that you must run your ideas by those who are handling the technical aspects of your job before you start. They know what can and can't be done. They'll be handling the chokes and spreads. They'll advise you on your limitations when it comes to graduated colour and tell you if you need to knock out underlying inks yourself or send the files to them instead. Open the lines of communication and make sure that they stay open.

Whether you create this image or use it as a reference for adding spot colour effects to your own, this tutorial will explain all you need to know about the process of creating and working with a spot colour channel in *Photoshop CS*.

Illustration by Derek Lea
www.dereklea.com

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PHOTOSHOP

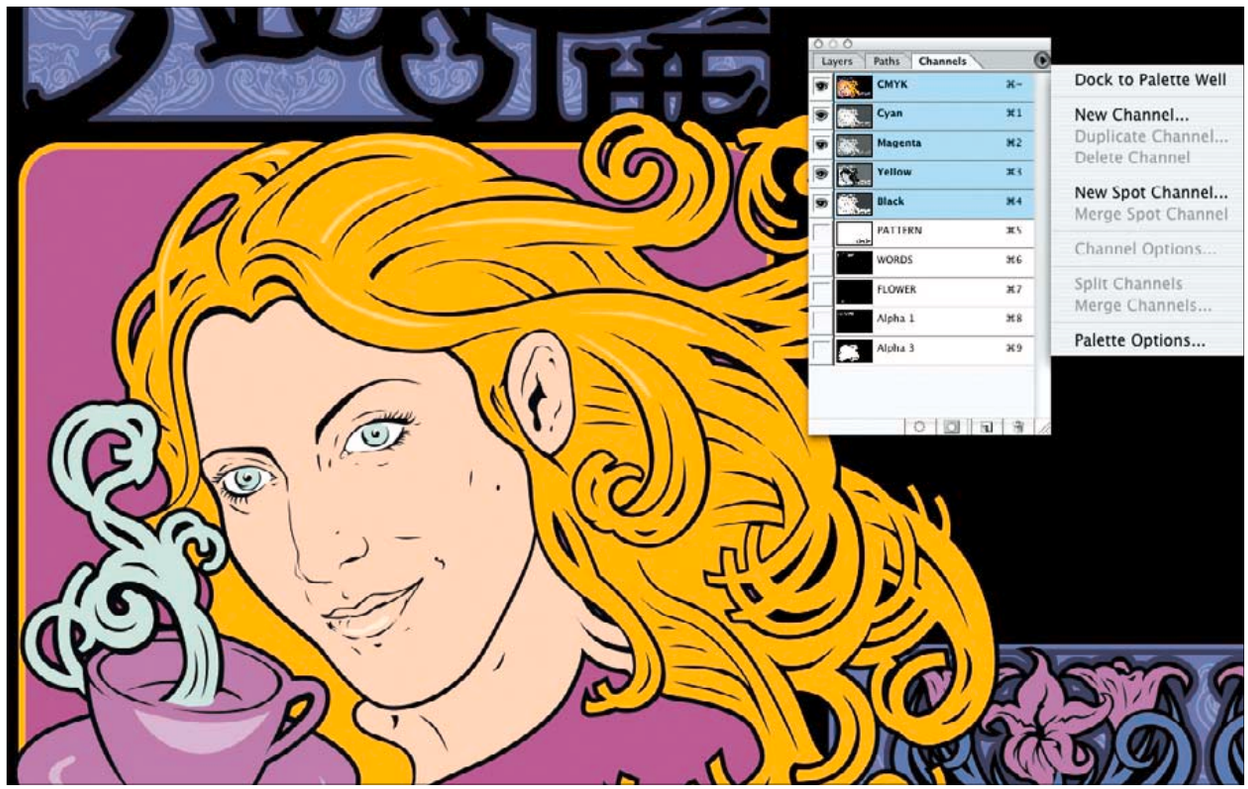
CREATE A FIFTH COLOUR

ON THE CD

DOWNLOAD
Click here to download the files you need to complete this tutorial

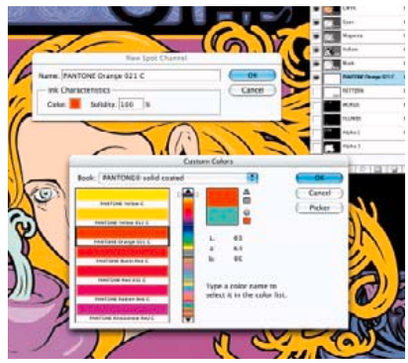
TIME LENGTH
4.5 hours

INFO
Derek Lea is an award-winning digital artist and published author based in Toronto, Canada. His work includes disciplines as varied as traditional illustration, photography, 3D modelling, vector art, and of course, *Photoshop*. To view more of his work, visit www.dereklea.com.



1 Open up the fifthcolour.psd file from the cover disc. You'll notice that the file in its original state is a bit lacking, but bear in mind that it has been designed to incorporate a fifth colour as part of its final appearance. Direct your attention to the Channels palette menu.

2 Choose New Spot Channel from the Palette menu to add a fifth colour channel to your image. The New Spot Channel box will open up. Click on the colour swatch to open up the Custom Colours box. The Book menu allows you to choose from a list of colour systems.



3 It doesn't really matter which colour system you choose, or the colour you specify for that matter. A spot channel can become any colour you desire when you go to press. This process is more about display within *Photoshop*. So choose Orange 021C from the Pantone solid coated book.

4 Leave the Solidity setting at 100 per cent. Like the colour swatch, this is for display purposes only and will not affect your colour separations. Because we are using solid Orange 021C as the fifth colour, a Solidity setting of 100 per cent will give a reasonably accurate preview on screen.

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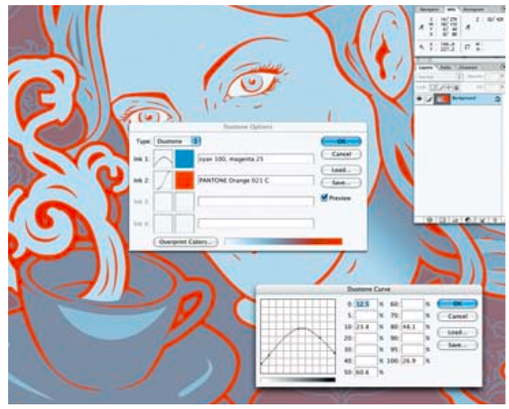
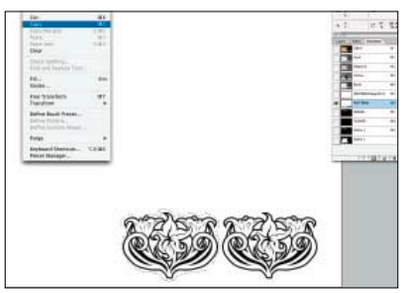
DUOTONE IMAGES



There is another way to incorporate a spot colour into your images in *Photoshop*. This involves starting out with a greyscale image and converting it to a duotone image. Here, you can see that we've created a greyscale version of the illustration and then chosen Image→Mode→Duotone.

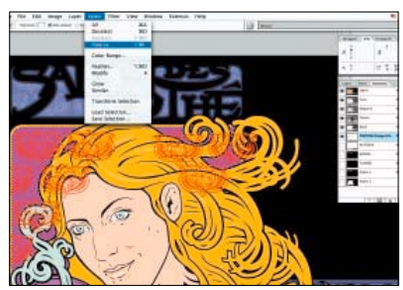
First we created an ink made up of a mix of 100 per cent Cyan, 25 per cent Magenta, 0 per cent Yellow, and 0 per cent Black. The second ink contains the same Pantone Orange 021C used throughout this tutorial. In essence, this has now become a four-colour image that contains a spot colour.

The main difference is the way the colours are blended. The CMYK mix is treated as a single colour, as is the Pantone spot colour. Each colour has a duotone curve that can be altered to control the way that the inks mix. Using this method applies the spot colour as a tint throughout the entire image.

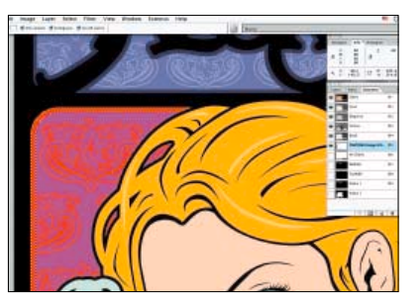


5 You will notice a new spot channel, named after your chosen colour swatch, appear in the Channels palette. Select the alpha channel entitled Pattern in the Channels palette. Now use the Lasso tool to draw a rough selection around one of the pattern components and Copy it.

6 Select your spot colour channel in the Channels palette and then Paste. Enable the visibility of the CMYK channels to preview the first fifth colour element against the image. Use Free-Transform to re-size and position the selected area. Alt/Option-drag the selected area to create a number of duplicates in the channel.



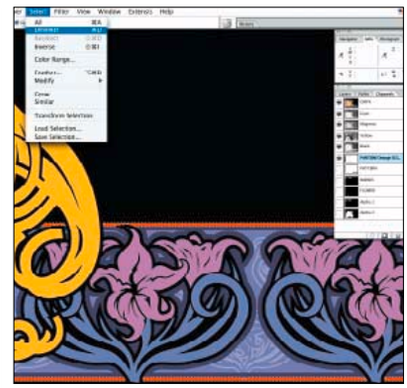
7 Deselect and then choose any layer in the Layers palette. This will select the CMYK composite channel instead of your spot colour. Use the Magic Wand tool with Use All Layers enabled to select the purple background areas. Invert the selection and choose your spot channel in the Channels palette.



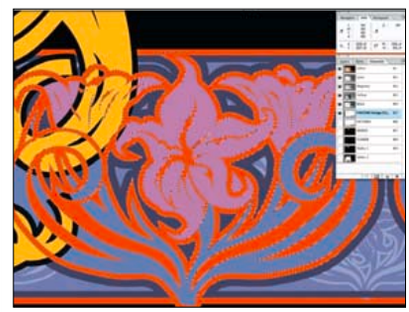
8 Delete the selected areas in your spot channel and deselect. Again, select any layer in the Layers palette. Next, use the Magic Wand to select the border that surrounds the main box. Return to your spot channel and fill the selected areas with black. Solid black equals 100 per cent Opacity for your spot channel.

MERGING A SPOT CHANNEL

If you decide you'd like to create a CMYK representation of your five-colour image, select the spot colour channel in the Channels palette and select Merge Spot Channel from the Channels palette menu. This will convert the channel to CMYK and merge it with the other channels, discarding the spot channel and flattening any layers in the file. The resulting CMYK colour won't exactly match the custom colour, as CMYK inks are not capable of the same range of colour.



9 Deselect and return to any layer in the Layers palette. Use the Magic Wand to select the outer purple border areas from the box at the lower right of the image. Return to your spot colour channel in the Channels palette. Again, fill your selection with solid black and then deselect.



10 Select your spot colour channel and Control/Command-click on the Alpha Channel icon entitled Pattern to generate a selection from the channel contents. Invert the selection and fill it with black in your Spot Colour Channel. You will notice that unwanted areas of fifth colour still overlap the hair.

11 Deselect and then Control/Command-click the icon for Alpha 3 in the Channels palette. Fill the area within your spot channel with solid white and deselect. Switch off the visibility of the CMYK channels for a moment and you'll notice that your spot channel looks just like other alpha channels.

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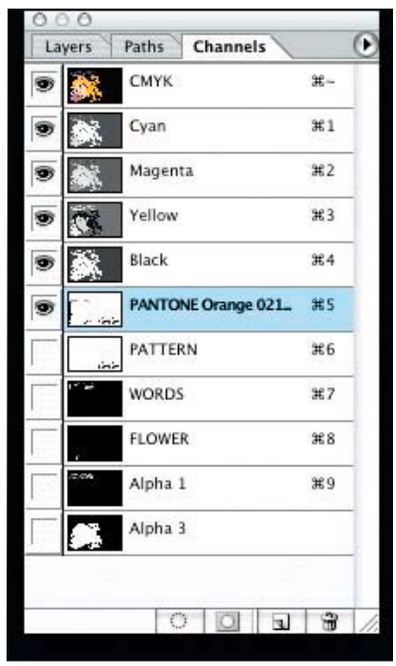
PHOTOSHOP

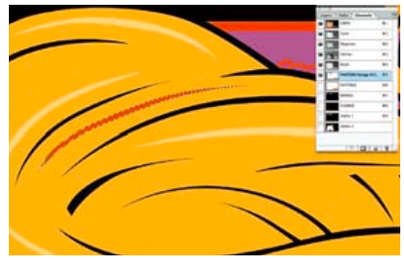
12 Wherever the black exists in the spot channel, you'll notice that it is displayed by your specified colour when you enable the visibility of the CMYK composite channel. In the Layers palette, try switching off a couple of layers and see what happens.



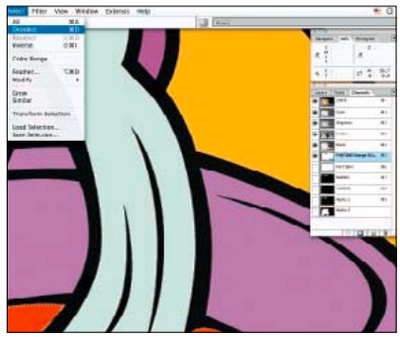
13 Switching off layers has absolutely no effect on your spot colour channel. Note that what you do to your layers within your image is entirely independent of what you do within your spot channel and vice versa. The spot channel co-exists in the *Photoshop* workspace along side your colour and alpha channels.

14 Control/Command-click the Alpha Channel icon entitled Words in the Channels palette. With the selection active, select your spot colour channel, fill the selected area with solid black and deselect. Now select the Pen tool from the toolbox – you'll need to create some new areas to fill with the spot colour.

15 Draw a closed path in the teacup to create an area where the surface of the liquid would appear. Don't be too fussy about where the area overlaps the black lines; you can fix that in a moment. Generate a selection from your completed path and return to the Layers palette.



17 Zoom in on an area of her hair. Use the Pen tool to draw a closed path that resembles a thin highlight, similar to the highlights that already exist in the image. Generate a selection from the closed path and fill the selected area with black within your spot channel.



16 Hold down the Control/Command key and the Alt/Option key and click on the layer icon entitled Main Outlines in the Layers palette. This will subtract the contents of the Main Outlines layer from your current selection. In the spot channel, fill the selection with black and then deselect.

18 Deselect and use the Pen tool to draw a number of similar closed path components on appropriate areas of the hair throughout the image. Generate a selection from the path and again fill the selected area with 100 per cent black within the spot colour channel. Deselect.

CONVERTING AN ALPHA CHANNEL

It is possible to convert an existing alpha channel into a spot colour channel within your file. Double-click a Channel icon or select a channel and choose Channel Options from the Channels palette menu. Select Spot Channel from the Colour Indicates options. You can also alter the colour and solidity within the Channel Options. The parts of the alpha channel that contain greyscale values will be converted to corresponding spot colour values.

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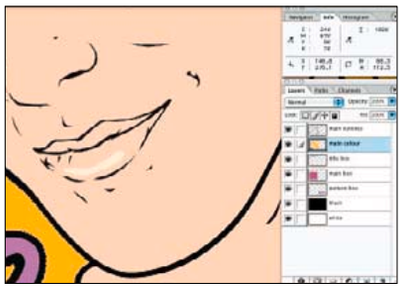
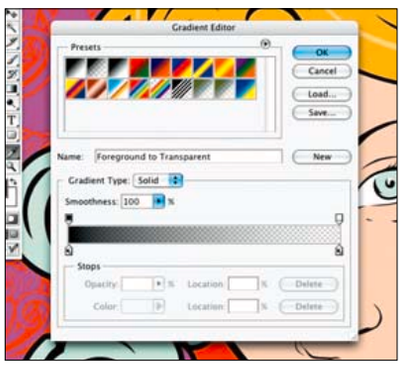


19 Select the Magic Wand tool and click on any layer in the Layers palette to create selections from within the CMYK composite channel instead of your spot colour channel. Use the Magic Wand tool to select the solid areas of her hair next to the teacup.



20 Fill the selected areas with black inside your spot colour channel and deselect. Select any layer and use the Magic Wand tool to select the neck area. With the Gradient tool, specify a black foreground colour and choose Foreground to Transparent.

21 Select your spot colour channel from the Channels palette and use the Gradient tool, with the Linear option enabled, to draw a black-to-transparent gradient within the selected area. Deselect and choose the Pen tool from the toolbox.

22 Look for areas of hair that will lend themselves to this effect and use the Pen tool to draw some closed path components in those areas. Generate a selection from the path and subtract the contents of the Main Outlines layer from your selected area as before.

ABOUT SOLIDITY

When you create a spot colour channel, a couple of things will affect how the channel is displayed as an ink against the CMYK composite channels – Colour and Solidity.

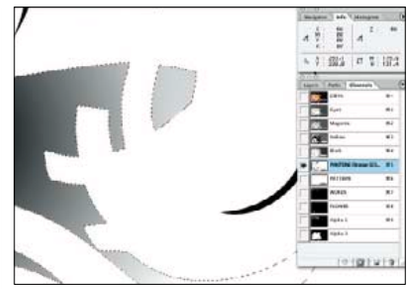
At first this value may seem a lot like an Opacity value, but it's not. The actual density of the ink in the spot channel is not affected by the Solidity value. It affects the on-screen preview only as well as any composite print outs, but varying this value will have no effect on colour separations.

Using a high solidity value of around 100 per cent will simulate the look of an opaque ink. However, in cases when your spot colour channel is going to be used as a varnish, it may be useful to use a very low Solidity setting to aid a more accurate preview. As this image reveals, on the left we used a Solidity setting, but on the right the Solidity was reduced to 20 per cent, allowing us to preview the imagery that shows through the spot channel.

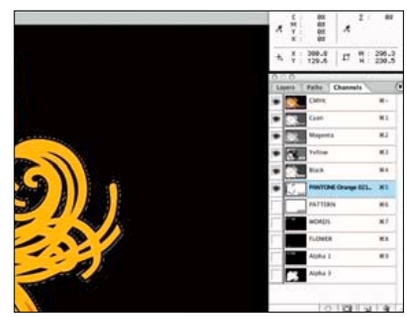
PRESERVE YOUR SPOT CHANNELS

Photoshop image files are usually imported into applications such as *QuarkXPress*, *InDesign*, or Adobe *Pagemaker* to be placed within your layout file. But in order for a file containing a spot colour channel to be compatible, you must first save it in a DCS 2.0 file format.

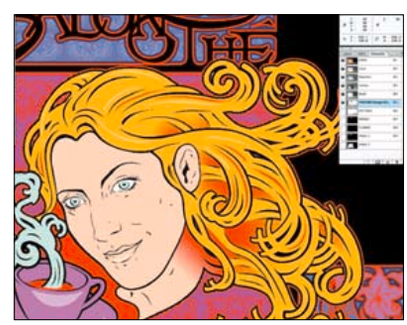
The DCS 2.0 format will preserve the spot channel within your file and is supported by the aforementioned applications. But remember that when saving your files in DCS 2.0 format you'll need to deselect the Include Halftone Screen and Include Transfer Function options.



23 Use the Gradient tool with the Radial option enabled to create a series of gradients within your selected areas inside of your spot colour channel. Disable the visibility of the CMYK composite channel momentarily and have a look at your gradients within the spot channel.



24 You should start to understand the relationship between the percentages of black in the spot colour channel and their visual representation by the coloured preview against the composite CMYK. Enable the visibility of the CMYK composite channel and Control/Command-click the Layer icon for the alpha channel entitled Alpha 3.



25 Select your spot channel in the Channels palette, choose Edit→Stroke from the menu and add a large black stroke outside of the selected area. At this point, you're essentially finished, but there is an unused channel containing a flower shape if you want to embellish the image further with layer and spot-channel content. arts

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Jim Coudal (above left) and his team of six colleagues who, despite their huge workload, always have time for pizza.

COUDAL PARTNERS

We talk to Jim Coudal, the brains behind Coudal Partners, about the company's personal attack on Bush, how to build a successful business, and break even, in 15 days, and why, if you're looking to waste time, Coudal is a great place to do it...

WORDS BY ED RICKETTS
PHOTOGRAPHY BY BRIAN ULRICH

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COUDAL PARTNERS

A limited-edition poster for Coudal's Summer Reading series, by Jay Ryan of The Bird Machine in Chicago (www.thebirdmachine.com).

It's two days after the US Presidential election, and Coudal Partners' own small attempt at influencing the outcome almost paid off. Rather than placing hectoring or impassioned pleas on their website, the forthright design studio created lowercasetees, a spin-off business selling T-shirts for kids. Two text designs were available: one proclaiming, "Mommy wants a new President", and the other, "I wouldn't vote for Bush if I were you."

"The funny thing is, we've actually sold a bunch of them in the last two days," says Jim Coudal, Coudal's affable founder. "We produced a lot more of the Mommy T-shirts as, fortunately or unfortunately, depending on how you look at it, the Mommy message is still valid to a large part of the US."

While it may not be unusual for this "fairly traditional small design firm in Chicago" to launch a clothing design site, the political messages have caused a stir – as has the business, which went from idea to end product in just over two weeks.

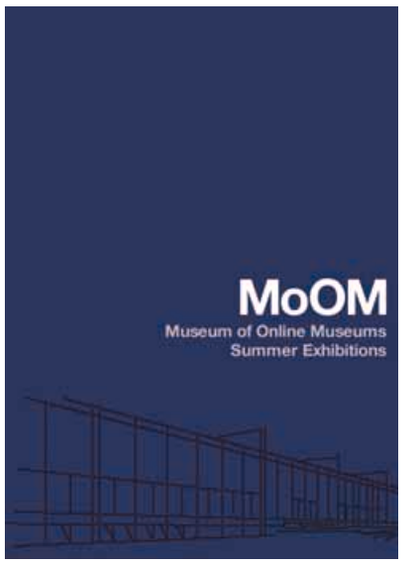
"We made a conscious effort about 18 months ago to find ways to take greater control over our creative output," says Coudal. "So last summer, we started Jewelboxing, to produce great-looking packaging for CDs and DVDs. That was one of the first examples of what we wanted to do."

A simple but effective idea, Jewelboxing gives designers and artists the chance to produce professional-looking CD/DVD cases. Coudal couples high-quality cases with precise design templates for every component, and sells both as a package.

"What's interesting is that the entire marketing plan for that was defined by us," Coudal explains. "We built it for us; we needed those cases for a project we were doing, and developed the entire thing with us in mind.

"Lowercasetees came more from the political situation in America. My wife came up with the idea at dinner, in fact, and then my seven-year-old daughter said that she'd like a shirt saying, 'I won't vote for Bush, I can't, but I wouldn't if I were you.' This was only a month before the

"We had the idea, the shirts produced, the site built and everything sorted in about 15 days. Two weeks later, we broke even"



Poster for the Museum of Online Museums, one of the most popular sections on Coudal's website – and updated quarterly.

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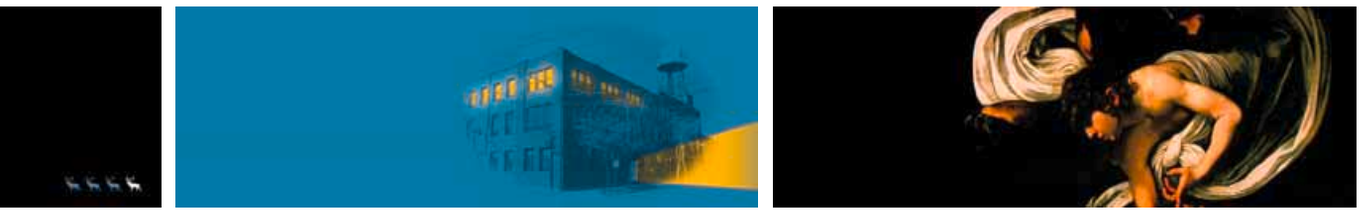


LEFT: Recent "cover art" from the Coudal site has featured a Jewelboxing promo, a Crash Ballet compo, a job opening at the company and an image from a client installation.

election, so we had the idea, the shirts produced, the site built, the IP issues and everything sorted in about 15 days. Two weeks later, we broke even."

Predictably, lowercasetees attracted its share of negative feedback. "Some people, mostly Conservatives, have criticised us for putting a political message on a child, but my boy Spencer's mommy does want a new President, and my daughter Isobel wouldn't vote for Bush, so there's no exploitation at all there."

Although it launched at a fortuitous time, lowercasetees isn't a flash in the pan. Coudal intends to grow the brand in the same way as Jewelboxing: "We're using the attention from the political shirts as a way to build an ongoing brand for kids. If you search Google for kids' T-shirts you can click from now until next Tuesday before you find something you'd even put your kid in. It's a bunch of crap."

But 15 days? Really? "We worked hard on it. We had one person on the identity of the company, another on the shirt designs, another building the site, and another interfacing with a firm called Threadless, who are good friends of ours, to handle the quick production of the shirts. Then there was someone jockeying a spreadsheet to make sure we weren't making a terribly expensive mistake. We used PayPal for transactional stuff, because we didn't have time to do our own," says Coudal.

"I'm not sure we could have been successful if we had started it cold – if we didn't already have a built-in audience for Coudal Partners. So, yeah, it was a busy week. But without a client involved, creative can get done really quickly."

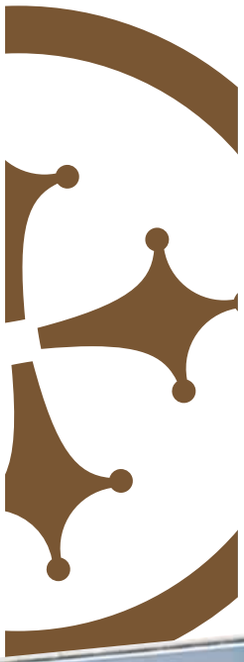
If you build it, they will come

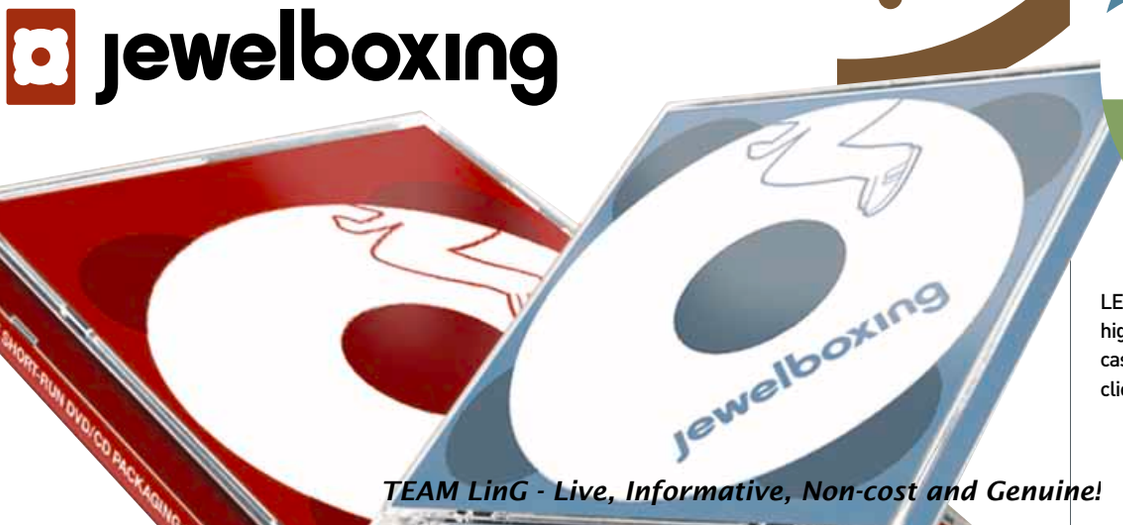
Coudal's not boasting about the company's built-in audience – the website regularly pulls in 10,000 hits a day, and more on Fridays. The site looks more like a community portal than a design firm: there are blogs, discussions of Stanley Kubrick, book recommendations, photography submissions, short films... Indeed, just about everything but a standard portfolio.

"You have to do a little work to find out what we do," admits Coudal. "That was intentional from the beginning in 1999. We do great work and we love to show off our portfolio, but our experience is that assignments are given based on the dynamic between the people involved first, and the actual work you've done for other people second.

"So we've built our site as a way for a potential client to see what we're

RIGHT: Various logos and identities by Coudal Partners (from top to bottom): The United Center, Champps Sports Bars and Restaurants; Chicago Bus Tour Company, Papagus Greek Taverna and the Lost Dunes Golf Club.





LEFT: Created out of Coudal's own need for high-quality, custom-designed CD and DVD cases, Jewelboxing is now Coudal's biggest client and a thriving business in its own right.

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COUDAL PARTNERS

RIGHT: "For ten years, we've created a custom holiday hot sauce and the packaging to go with it for our friends and clients," reveals Coudal founder Jim Coudal. "The brand is Whoa!"

all about as people. Someone here once said: if you're chatting up a girl in a bar, the first thing you don't talk about is the other girls you've dated. And that's how we feel about the portfolio."

When the website launched, says Coudal, the company was trying to figure out the internet just like every else. Even before blogging became a recognised term, everyone on the team would post links and thoughts on an ad hoc basis.

"We saw the traffic patterns of our site go north all the time, so we thought, 'Well, that's interesting.' It's like that phrase from *Field of Dreams*: if you build it, they will come," says Coudal. "Our whole thing is to turn that on its head and say, 'Well, if they come, we will build it.' We built the audience before we even knew what we wanted to do, and the site easily pays for itself. We have a unique policy for ads: we won't take an ad from an advertiser whose product we haven't paid for and used ourselves."

The Astros baseball team home jersey: "We designed the mark, the business materials, collateral and the uniforms," says Jim Coudal.

Identifying the "real" work

Coudal seems almost as modest about the company's "real" work as he is the website, casually tossing out the names of some huge projects. Roughly a third of their time is spent developing brand names, company names and identities. A third is advertising: "We do TV commercials, websites, print ads, all that sort of stuff, especially in sports." And the other third is indefinable, involving projects such as Jewelboxing, lowercasetees, and so forth. "Jewelboxing is now our biggest client, which is interesting," says Coudal. One recent triumph is the naming and entire identity for a new fast-casual restaurant chain called Go Roma. "It's really high-end, quality food, it's growing fast, it's a major brand and a huge project for us. We're involved on a work-for-hire basis and also in a small participation in the success of the project."

To Coudal, the company's work for the Tom Peters Company is a perfect example of how building a community can lead to better results. Tom Peters is a well-known business guru in the States, yet the website wasn't performing as well as expected. "We immediately turned them into a portal and a blog. Their traffic went up fivefold. Tom's very popular, but they didn't realise that all they needed was to have him personally post to the site."

Coudal Partners has also just rebuilt a network of sites for Fox in Chicago, while rebranding and renaming "a big

> "My seven-year-old daughter said that she'd like a T-shirt saying, 'I won't vote for Bush, I can't, but I wouldn't if I were you'"

lowercase tee

One of the designs from the infamous lowercasetees brand/shop, which went from idea to fully-fledged business in 15 days. The shop is currently dormant, but will eventually be a spin-off site – www.lowercasetee.com

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COUDAL PARTNERS

SPONTANEOUS CRASHING

TO COUDAL, JUST ABOUT EVERYTHING IS A SOURCE OF INSPIRATION, NO MATTER HOW ODD...

Despite only having a team of seven, Coudal Partners always seems to have time for ad hoc ideas, despite major client work and a sprawling portal to continually update. Yet another idea that sprang from nowhere was the Crash Ballet competition.

"NASA released footage of these tests they did crashing planes," explains Jim Coudal. "No-one was hurt of course. It was all crash test dummies. It's beautiful, in a horrific sort of way, and we started just screwing around – cutting the footage to music. That was at 11 o'clock in the morning – and by one o'clock in the afternoon we'd announced a competition, asking people to do the same, with a deadline of the end of the next day."

Gratifyingly enough, the team received dozens of entries from people who had stayed up all night to edit their work. "There was a monstrous amount of traffic, because the web is like that," says Coudal. "I guess the moral of the story is that people like explosions... But also as a meme, as an idea, it went from our site to the world in ten hours.

"Did that do anything for us? Well, it increased our page views for that month exponentially, but in the long run it probably also sold some Jewelboxes, because that's how we branded it. When you have your own brand that is targeted to people who read your site, you can always get it to sponsor you."

Chicago biz media company, which we can't talk about." Actually, there's a lot Coudal can't talk about: "Lately we're being brought in early in a product's development," he explains. "Sometimes, no-one else knows we're doing it, we hand over the creative, and we walk away never knowing what happened to it."

Thank God it's Friday

Lowercasetees isn't the first project to have made Coudal Partners "instantly" famous. That project occurred a few years ago when the studio unleashed the concept of *Photoshop Tennis* on the world. It's simple enough: two designers send an image back and forth, adding one layer for each turn, each trying to outdo the other. Games can last for hours, and the winner emerges when everyone's had enough. It's frenetic, demanding, sometimes cruel and huge fun to watch as the image develops.

So, Jim, when's it coming back? "I'm not at liberty to tell you that..." he says mock-ominously. "That was a catalyst to our success on the web. When that was at its peak, we were doing 35,000 people for a match on Friday. I think it will come back."

But why on earth was it so popular? And why hadn't anyone thought of it before? "It captured people's imagination. We hired witty smartasses to write commentary in real time, which added a whole other layer. Also, as designers, we all work in our quiet little offices and do work for our quiet little clients, and have small victories here and there. We compete with each other in broad, general ways, in terms of businesses, but we never compete as individuals.

"And, more importantly, it was scheduled on Friday afternoon, and no-one schedules anything on the web… It's guaranteed that if and when *Photoshop Tennis* comes back, it'll be on Friday afternoons – because, frankly, no-one's working anyway."

"It's always Friday afternoon, all around the world. People have decided, 'Well, that's all I've got for this week'." Coudal pauses, then adds wryly: "After all, if you're looking to go online and waste time, Coudal is a very good place to do it." arts

> "The winner in *Photoshop Tennis* emerges when everyone's had enough. It's frenetic, sometimes cruel, and huge fun to watch"

Coudal's website is more like a portal or a magazine, with regular sections on books, photography, and inspirational material – even stuff about design.

COUDAL PARTNERS Q&A

Name: Jim Coudal
Role: Writer/designer
Inspired by: My colleagues
Favourite designers/illustrators: Josef Müller-Brockman, Mies and Stanley Kubrick. I guess I lean towards the cold and dispassionate.
Best website: www.0015.org

Name: Ryan Sievert
Role: Jewelboxer/design grunt
Inspired by: Independent musicians, designers, artists and companies worldwide for proving that you can follow your muse and still pay the rent.
Favourite designers/illustrators: Andy Mueller
Best website: www.pitchforkmedia.com

Name: Susan Everett
Role: Designer
Inspired by: Objects and bits of lettering or illustration done by people who did not mean them to be critically viewed. I like the handmade and surprising nature of these things.
Favourite designers/illustrators: Eric Gill, Frank Gehry, Hannah Hoch, Neville Brody and Paul Rand, to name a few.
Best website: www.google.com

COMPANY INFO

Contact Coudal Partners by calling +1 312 243 1107, visiting www.coudal.com or emailing info@coudal.com. For more info on Jewelboxing and lowercasetees, visit www.jewelboxing.com or www.lowercasetees.com.

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CINEMA 4D & PHOTOSHOP

SPRAY-CAN EFFECTS

2D and 3D images work well together, but only if they're mixed correctly. So take a different approach to your 3D illustration by mixing up original elements with *Photoshop* layers and *Cinema 4D*. Ben Miners shows you how

DOWNLOAD

DOWNLOAD
Click here to download the files you need to complete this tutorial

TIME LENGTH
25 hours

INFO
Ben Miners is a professional freelance designer and creative based in Leicester who has designed and illustrated for Sony, Sega and Mattel. To see more of his work visit www.graphikboutique.com.

By mixing 2D and 3D elements, it's possible to create an image that is so complex it's virtually impossible to work out which program has been used to create it. The beauty of this technique is that no image will ever be the same. You can add original artwork and interesting layers that will give your work instant originality.

This tutorial will explain, step by step, how to create 2D spray-can effects and stencils, which will then be transferred into *Cinema 4D* as a background for a 3D composition. Only then will *Photoshop* be used to add the all-important finishing touches.

We will demonstrate how some of the more traditional methods of image making can be used within a 3D program – in this case, *Cinema 4D* – and you'll learn how to successfully combine 2D with 3D to create unique designs and textures. Used correctly, 2D and 3D elements compliment each other brilliantly, and the results are always far more interesting than an ordinary glossy render.

So to start with, we'll take a look at how best to go about creating spray-can effects and stencils by hand and then the process of photographing and transferring them into a *Cinema 4D* scene. From there you'll be shown how to make the most of lighting, textures, layering and how best to build up a range of 3D elements in the 3D space.

Finally, you'll use *Photoshop* to mix elements, create layers and add colour to your image using the program's extensive blending options. I hope this new approach and range of techniques will show you how to produce original, modern effects throughout your 3D illustration work.

Illustration and tutorial by Ben Miners
www.graphikboutique.com

1 I try to continually create textures to use across a range of projects. That way, I always have a constant supply of images to use at any time. Here, I've created a texture by building up acrylic and spray paint on foam board. This texture will be used later on in this tutorial and is included on the cover CD.

2 Once you have experimented with spray paint techniques, create some text and print it off. Next, cut out the text to create a stencil. By spraying around the text, you'll be able to create a silhouette effect, too. Experiment a little, as sometimes the mistakes you make create excellent effects.

3 Create more than one stencil effect as then you'll have more choice once you start working in *Cinema 4D* and *Photoshop*. The image above shows the use of the spray stencil effect on one of the special characters of a custom font. These characters can be used to create abstract effects and shapes.

4 Once you are happy with your stencils and spray-can effects, photograph them or scan them in. Using a digital camera can save time, but make sure the camera has a good close-up lens and that you take a high-res picture. You could also enhance this image in *Photoshop* before you start. Two graffiti textures have been included on the cover CD.

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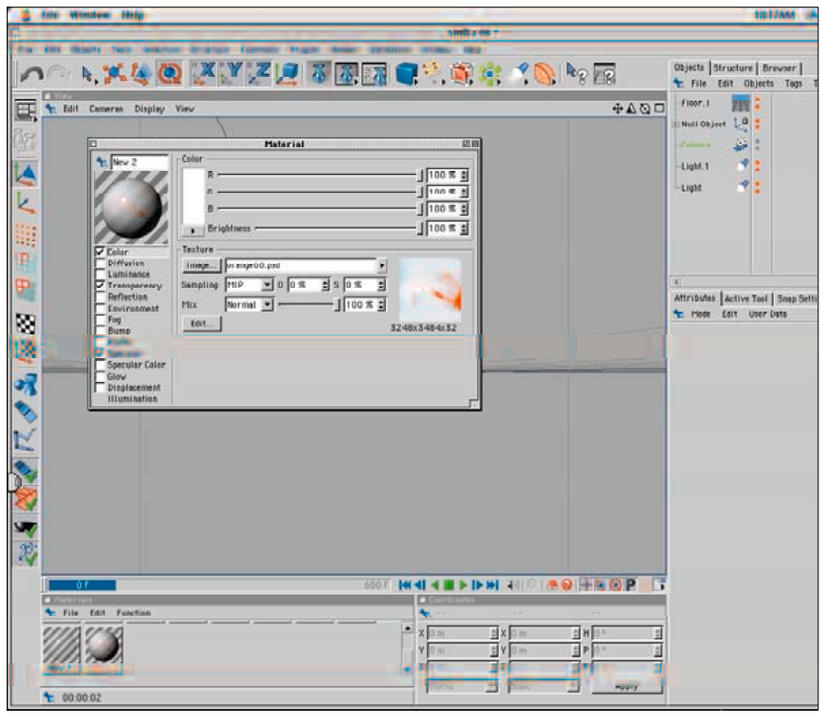
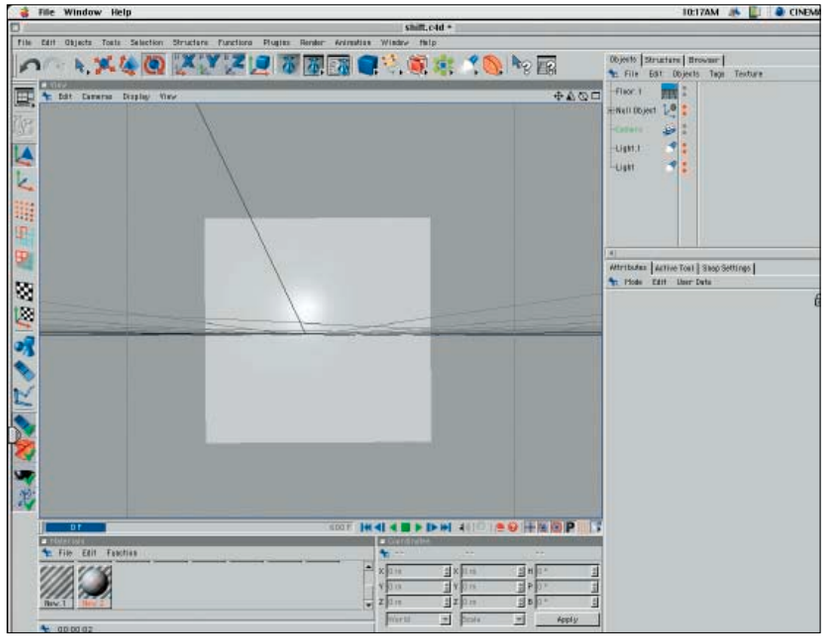
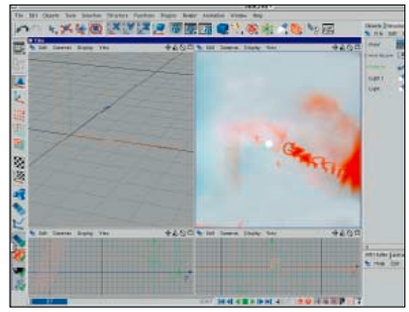
CINEMA 4D & PHOTOSHOP



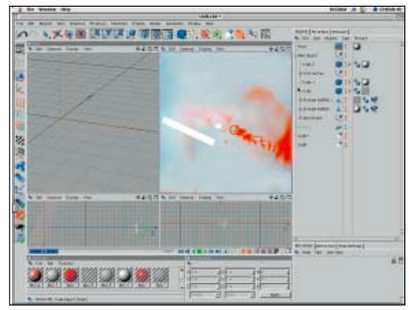
5 Open *Cinema 4D*. Choose File→NewMaterial and double click on the new material. A window will appear, which will allow you to add a new texture. Click on the Colour box on the left of the interface and then click on Image to locate your new texture file. Use a Specular light (see 3dgraffiti.c4d on the cover CD) to add reflection and set the Transparency at 70 per cent.



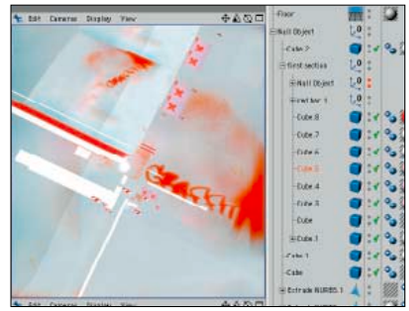
6 *Cinema 4D* has a tool called Floor, which is located with the lights and cameras at the top on the *C4D* interface. Click on Floor and a 3D floor will be added to your scene. This plane will act as a background/wall when you rotate it to a frontal view.



7 Assign one of your background textures to the floor plane, by dragging it into the scene. Set Texture Mapping to Frontal Projection. This will form your background. Don't just use the Background tool, as it won't be possible to change its position or angle.



8 Now you can start to build up the 3D elements. Create a simple rectangular plane by clicking on the Objects menu at the top of the interface. You can assign various textures to this plane if you wish, but here it has been left white. Make sure that as you add objects to the scene, you place them in front of this floor – unless the floor is transparent, the objects won't be seen. Try adding textures and transparencies to the shapes.



9 Add a few of the textures you made earlier to existing and new planes using the techniques you used in steps 7 and 8. It is important that you concentrate on building a strong composition. Use the angles and composition of the spray-can texture as a guide. Play around with the scale and depth of field to strengthen your composition.

YOUR MATERIALS

To get the best results from your spray-can effects it's important to use the best materials. Foam board is perfect for applying all kinds of paint as it has a gloss surface and does not absorb the paint. Spray paint applied to some other surfaces looks dull and the vibrancy of the colours does not show through. Car spray paints work well and always maintain a strong colour. It's also worth remembering that you don't need to buy hundreds of paints as you can change the paint colours to anything you want once in *Photoshop*.

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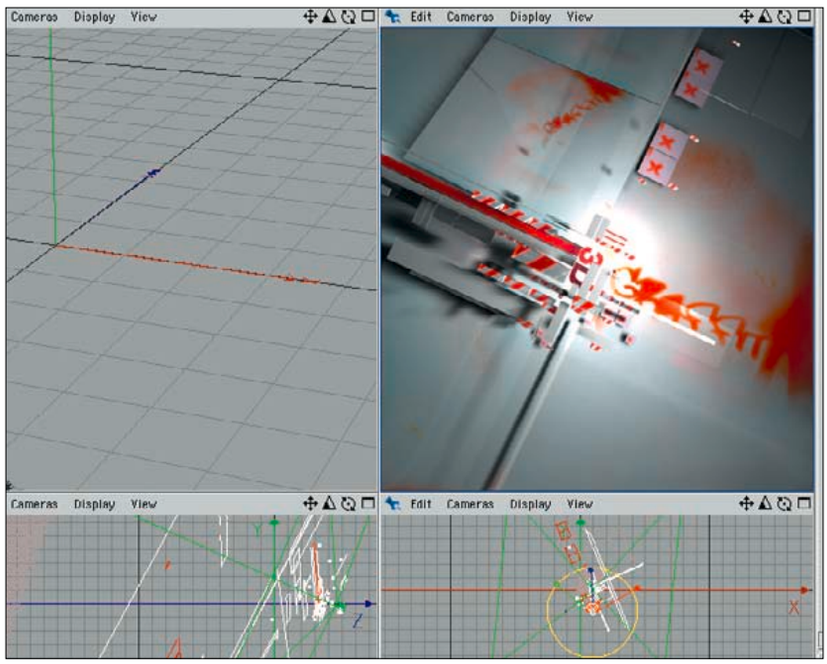
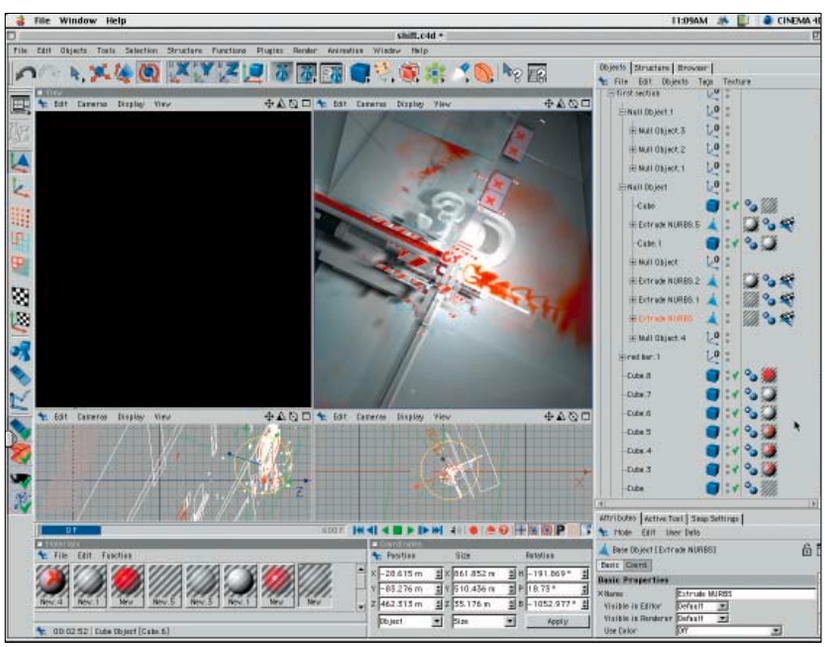


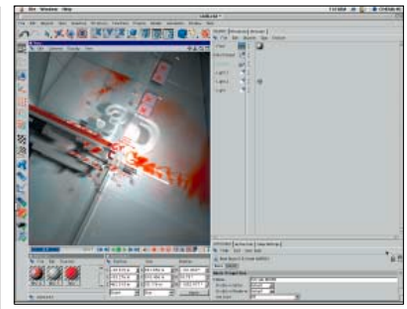
10 You can now start to add new light sources. Lighting is the key to successful 3D work. Add the main lights to the centre position (see 3dgraffiti.c4d for more details). Position a few smaller lights throughout the composition. You'll notice that interesting shadows will now be cast upon the background wall. You may want to try changing the colours of these shadows, too.



11 You can now place a main 3D element. Here, I have used added a virtually transparent texture to some 3D type. Position the element, found within the 3dgraffiti.c4d file, in the spot where the main light source hits so that it absorbs the main focal light. Don't worry if the light isn't perfect as you can enhance the colours in *Photoshop*. Double-click on the lights and enter a Shadow Map of 500x500 to enhance the render.

LIGHTEN UP

If you are unfamiliar with *Cinema 4D* and struggle to get the correct lighting, go and buy a well-lit model from www.turbosquid.com. Here you will find a range of 3D models, created by professionals, for a range of 3D apps. It's worth buying a model and placing your own 3D object into the scene, removing the original and working out how your new object has now been lit.



12 Once you have confirmed the render settings, render the whole image out for use in *Photoshop*. It is possible to add further texture and spray-can effects to the background in *Photoshop* if you wish, as long as the main part is created in *Cinema 4D*. Just make sure that you avoid the extra elements appearing as if they've been stuck on.

13 Bring in some of the stencils you made earlier and add them to a new layer. Drag the files into the composition and erase any unwanted parts with the Erase tool. Double click on one of the layers in the Layers palette toolbox and adjust the Layer Blending options to merge the image layers. Use the Darken blending option to make the image look like part of the layer underneath it.

14 Slowly start to build up the layers. This layer set was also created using the Darken blending option. Often, I'll have used every blending option in *Photoshop* by the time I've finished a piece. The more you experiment with Blending Modes, the more interesting results you will achieve.

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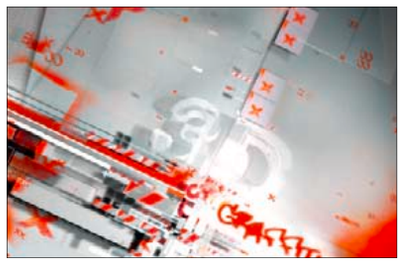
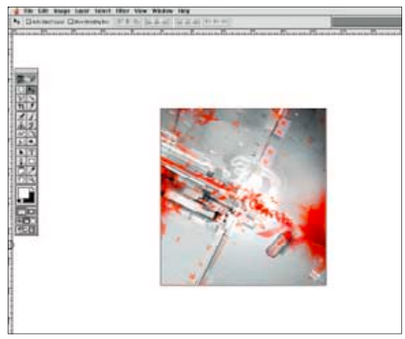
CINEMA 4D & PHOTOSHOP



15 Using the same techniques, you can now start to build more layers into your image. By adding new elements to the image, you can really start to add depth to your composition. Examples of these layers can be found within the 3dgraffiti.psd file on the cover CD.

16 Here, I used a scan of sprayed lines of spray paint on foam board to create lines of paint splatter. This was then placed in the middle-right of the composition. You can use any texture you like here, but, once again, use the Darken Light option to merge it subtley into the composition.

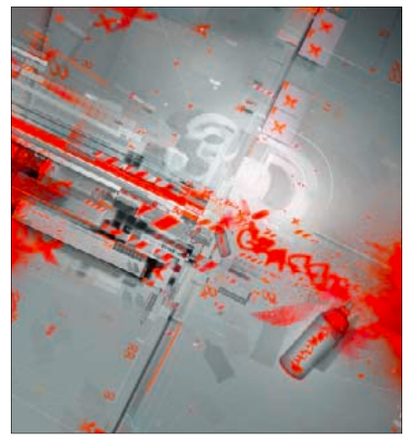
17 Create a spray can in *Cinema 4D*, or open the can provided on the cover CD, and bring it into *Photoshop*. Cut it out with the Lasso tool and place it into the composition. Apply the Hard Light blending option and move it underneath several of the layers. Use the Pen tool to add some white pencil lines and pull the Opacity down to around 40 per cent.



18 Continue to build up the layers. For examples, take a look at the example file, 3dgraffiti.psd, on the cover CD.

19 Use the graffiti stencil once again, placing it on the spray can itself by dragging the opened stencil file into the composition. By using the Luminosity blending option you can give the stencil a highlighted greyscale effect. Ensure that you keep the Opacity low at around 10-15 per cent.

20 Create a new top layer and fill it with solid red. Next, change the layer blending option to Luminosity and reduce the Opacity to around 30-40 per cent. This will lift the red and help to merge all of the colours in the composition. You will also notice that the bright white has been toned down.



21 Go to Layer→FlattenImage and make any final adjustments. Up the contrast slightly by choosing Image→Adjust and make a few minor colour tweaks using the Colour Balance options in the Image Adjust menu.

22 Take the flattened image and duplicate the layer. Change the new layer style to Screen in the Layer Styles menu within the Layers palette. Set the Motion Blur to 50 per cent horizontal and vertical and reduce the Opacity to 30 per cent. This will reduce the harshness of all of the lines in your piece. You can now experiment with new textures and light styles. arts

RENDER SMARTER

The rendering of a 3D scene can be extremely time consuming, so it pays to use this time wisely. Do test renders at low resolution to check how your effects are working and optimise your rendering settings. Turn off Anti-aliasing (the process that gives your surfaces smooth edges) for test renders as it slows the rendering process – you can turn it back on for the final render for that "finished" look.

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The Campbell's Soup label

This red and white classic has had far more than its 15 minutes of fame

WORDS BY
VICKI ATKINSON

What proves a brand's success? Recognition, loyalty, enduring design and profitability, for starters. According to recent figures, 70 cans of Campbell's Soup are bought in America every second, and each US household larder contains an average of eight cans… But while Andy Warhol's silkscreen tributes to the brand have undoubtedly sealed its place in popular culture on both sides of the Atlantic, the red and white label seeped its way into consumer consciousness long before then.

The Campbell Soup Company was established in 1869 by Joseph Campbell, a fruit merchant, and Abraham Anderson, a tin ice-box manufacturer. In 1876, their canned beefsteak tomatoes won a medal for quality at the Centennial Exposition, but it wasn't until 1897, when company chemist Dr. John T. Dorrance developed a way to remove water from the mixture to produce condensed soup, that the products really began to fly off the shelves.

The now legendary red and white label was first conceived in 1898. The story goes that a company executive was attending a traditional football game between rivals Cornell University and the University of Pennsylvania. He was so entranced by the striking new red and white strip of the Cornell team that he immediately proposed that the same colour scheme be used on all Campbell's labels. A stroke of luck, as red and white has consistently proved itself to be a successful colour combination – take the branding of drinks giant Coca-Cola, for example.

For Campbell, true brand success came when the progressive company started advertising – a concept still rare at the time. The first Campbell's Soup adverts, released in 1899, featured a large picture of the red and white can and graced the sides of New York streetcars. The result? Sales in the city increased by a staggering 100 per cent.

Gold seal of approval

In 1900, the soups won a Gold Medallion for excellence at the Paris Exposition, and it was this circular gold badge that graced the modern-day cans depicted in Andy Warhol's posters. These days, the badge has, on all but the classic brands, been replaced by images of tasty serving suggestions, but the red and white label still remains.

"Its success is all down to the simplicity and colour co-ordination of the layout," explains Nick Hayes of design studio Identikal. "Because of its simple format and striking shapes, it leaves the typography as the only thing to be brought up to date. Designs like these could go on forever."

It was during the sixties that Andy Warhol, leader of the pop art movement, picked the Campbell's Soup can from the shelf and threw it into the shopping trolley of popular consciousness.

In the first of his serial works, the prolific artist illustrated individual canvases with each of the 32 soups in the Campbell range. The initial works in the soup series were shown at his first solo exhibition at the Ferus Gallery in Los Angeles in 1962. The works were arranged along a shelf to parody the supermarket experience and contrast with the idea of art as a unique commodity.

By the end of the exhibition, the canvases had attracted the art world's attention. Warhol was persuaded by gallery manager Irving Blum to keep the collection, and eventually sold the entire series to him for $1,000. Warhol captured all 32 flavours in a simple yet striking design that served to show how conformity could still be present in variety.

The "Big Tomato" first appeared in Campbell's ad campaign, which featured in leading women's magazines, in 1926 and preached the message of wholesome tomato goodness. A can cost 12 cents.

© CAMPBELL SOUP COMPANY

Why soup?

The thinking behind Warhol's choice of subject matter was, and still is, the subject of debate. According to Victor Bockris's *The Life and Death of Andy Warhol*, the illustrations came about following a conversation with art dealer Muriel Latow, who suggested he paint what he liked

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© CAMPBELL SOUP COMPANY

Last year, Campbell's celebrated Andy Warhol's silkscreen tributes to their soup cans with a range of four limited edition colourful cans. These were only made available in Pittsburgh, USA, Warhol's birthplace.

most in the world – adding that he should paint something that everyone would recognise.

The widespread familiarity of the label also served to emphasise the saturation of advertising and commercialism in America at that time. By the sixties, Campbell's was still using a 50-year old design and had managed to keep its prices stable for almost 40 years. He chose the iconic can to reflect the monotony of commercial images seen on everything from newspapers and TV to the supermarket shelf. Warhol later applied the same technique to the saturation of celebrity with his now famous Marilyn Monroe and JFK prints.

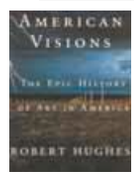
The first image in the Campbell's Soup series was illustrated and hand-painted using a basic stencil for the can. On each canvas, the gold medallion is a crude approximation and the text is deliberately inconsistent. This contrasted the machine-printed label with the less automated nature of art.

Warhol didn't stop with the original 32 canvases acquired by Blum. There are hundreds of different representations of the cans, individually or in their hundreds. Variations on the original paintings were developed by the artist's later experimentation with silkscreen techniques and bright new can colours.

Over 40 years on, the artist's vision continues to inspire. "I've seen the brand manipulated and turned into a nineties rave flyer, which was interesting," says Hayes. "I've also seen Warhol's portrayal of brands used for album sleeves, art shop windows, flyers and magazine covers. It's a technique that has been overdone now."

But despite the possible overload of imagery, the original Campbell's Soup can is still revered by both brand designers and product manufacturers alike. Put simply, it's one of the greatest success stories in both brand design and American modern art. arts

ESSENTIAL READING



TITLE: American Visions: The Epic History of Art in America
AUTHOR: Robert Hughes
ISBN: 0-37570-365-9
PUBLISHER: Tate Publishing, 2001
PRICE: £20.49

TITLE: Warhol
AUTHOR: Heiner Bastion
ISBN: 1-85437-410-9
PUBLISHER: Alfred A. Knopf, 1999
PRICE: £29.99

TITLE: Ernst Beyeler, *et al*
AUTHOR:
Heiner Bastion
ISBN: 3-77571-163-5
PUBLISHER: Hatje Cantz, 2002
PRICE: £16.70

A DESIGNER'S VIEW
Dan Moore, Studio Output

Computer Arts: The original red and white Campbell's label was designed in 1899. Why do you think that design has endured so long?
Dan Moore: To me, the design is very Americana – very Norman Rockwell. It portrays a sense of quality and wholesomeness. The packaging seems to indicate a great sense of tradition and heritage, something that is missing in a lot of American culture. It's for this reason that the design still exists, coupled with the fact that the product itself (especially the condensed soups) remains virtually unchallenged in terms of competition.

Heinz has recently re-branded some of its range to keep up with the new fresh soup brands and also to keep the Heinz brand fresh in its other product areas. The Campbell's product is still unique.

CA: What do you think is particularly striking about its colours and style?
DM: The design by itself is pretty striking, but I think you have to give some weight to the fact that many people know the brand simply because of Warhol's work, and not because they actually buy it.

CA: Why did Andy Warhol choose that particular product over others?
DM: I think Warhol wanted a great American brand, one that everyone used. He used others in a similar way – Coca-Cola, Brillo, etc. – as part of a series that dealt with the American way of life.

CA: Have you seen the Campbell's brand, or Warhol's portrayal of brands, parodied anywhere?
DM: The Warhol style and attitude towards image-making is everywhere, from colourful Marilyns to Maos. I think the one factor that helps it prevail is the ease with which anyone who owns an image-editing app can "Warhol-up" their photo album.

LEARN MORE ONLINE

- The complete history of The Campbell Soup Company
  www.campbellsoupcompany.com/history.asp
- The Andy Warhol Museum
  www.warhol.org

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Top tips and tricks from the experts

PHOTOSHOP

Anthony Robinson recreates the look and feel of the 1972 Olympics artwork with movement and striking colour effects courtesy of *Photoshop*'s Duotone and Posterize features.

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Ever wanted to create an online game without the help of *Flash*? Now you can with *Flash* rival *SWiSHmax*. Expert action scripter Justin Mills solves this fully-interactive puzzle.

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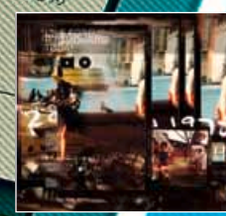

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PHOTOSHOP

DUOTONE & POSTERIZE

By using *Photoshop*'s duotone and posterize features, it's possible to add spectacular colour and shape to your work. Anthony Robinson explains how to use these techniques to recreate the look and feel of the Munich Olympics

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TIME LENGTH
2 hours

INFO

Anthony Robinson is a digital illustrator with over 14 years experience. He has worked for a large number of editorial publishers, publishing houses, production and record companies worldwide and has also exhibited his work at the Buckingham Palace Gate, Soho Square and Mycene House galleries. To see more of his work visit www.anthony-robinson.com.

In 1972, Munich played host to the Olympics. At the time, the graphics and artwork used to promote the world-famous games took on a Swiss graphics style, using duotone techniques and a range of colours that have since inspired many generations of artists.

This tutorial aims to recreate this iconic style step by step. You'll take an ordinary, full-colour photograph and, using a range of techniques, create a stylised colour-processed image using *Photoshop* to add duotone and posterize effects.

The secret to creating successful images of this nature is to layer multiple images. You can then blend these images together using masks to create a stylised colour-processed appearance.

By using more than one image you can increase colour and tone to give your work added depth and originality. Plus, if you then include a range of shapes, colours and effects within several images, it's much easier to go back and change a small part of one of those images if you are unhappy with something than it is to change an important part of a single image.

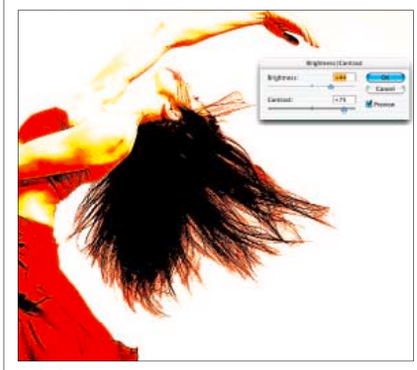
Using and layering multiple images is a technique that I often use when creating illustration work of my own. I find that it gives the final image much more impact. By following this tutorial you will learn how to use *Photoshop*'s duotone and posterize features effectively – a process that can be used over and over again to create striking, eye-catching and original results, that look different every time.

Illustration and tutorial by Anthony Robinson
www.anthony-robinson.com

1 Before you start, launch *Photoshop* and import the file named dancer.psd from the Tutorial\Swiss folder on the cover CD.

2 Use the rectangular Marquee tool and, starting in the bottom left-hand corner of the image, select a square that contains the girl at the centre (but slightly to the left) of the selection. Hold down the Shift key and drag the selection until you create a perfect square. Next, go to Image→Crop.

3 Select the Pen tool and trace around the edge of the girl until the path closes. Don't worry too much about the detail around the girl's hair; just make sure that the bulk is selected as shown in the image above. This step may be time consuming, but it will save you time reselecting it later.



4 Duplicate the background layer and then go to Image→Adjustments→Brightness/Contrast. Gradually increase the Brightness and Contrast until the hair starts to appear more isolated against the background.

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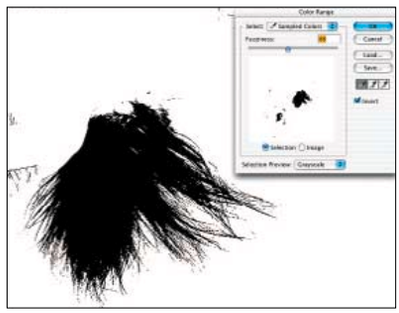
PHOTOSHOP

THE MARQUEE TOOL

Hold down the Alt key while selecting the Marquee tool and you'll be able to toggle between different types of that particular tool.

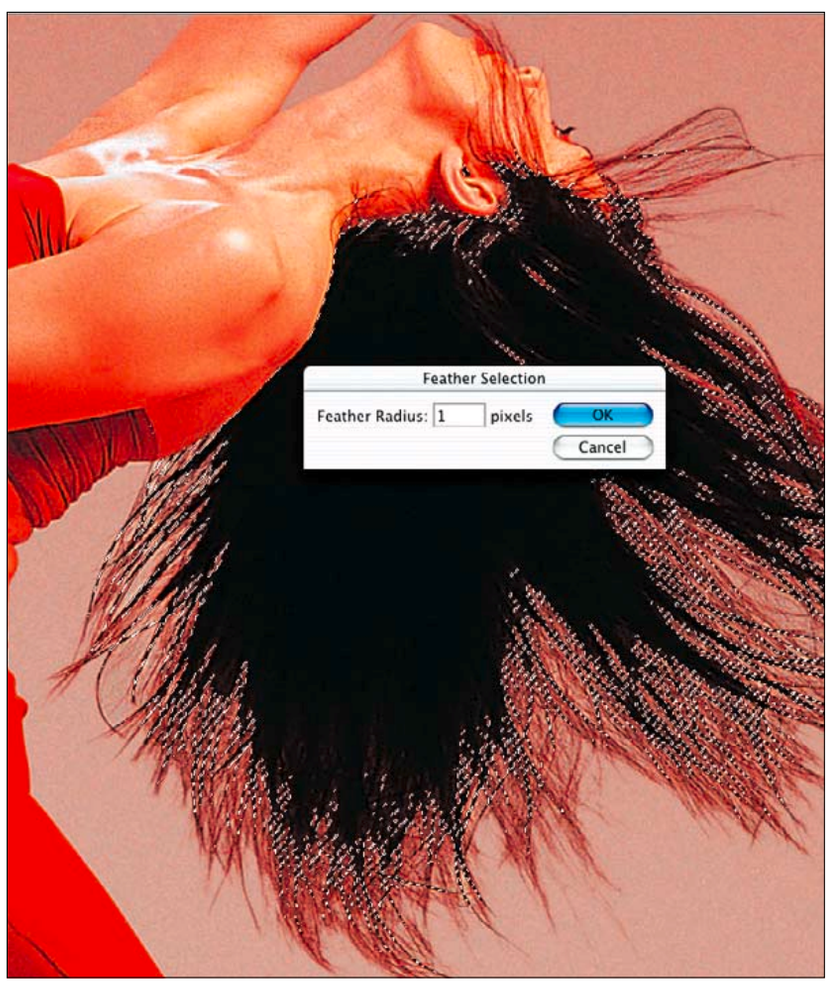
Hold down the Shift key while using either the Elliptical or Rectangular Marquee tools, and you will easily create a perfect circle or square.



5 Choose Select→ColourRange and then make sure that the Select pull-down menu is set to Sampled Colours. Click on the hair with the sampler and adjust the fuzziness until it really stands out against the white. Hit OK.

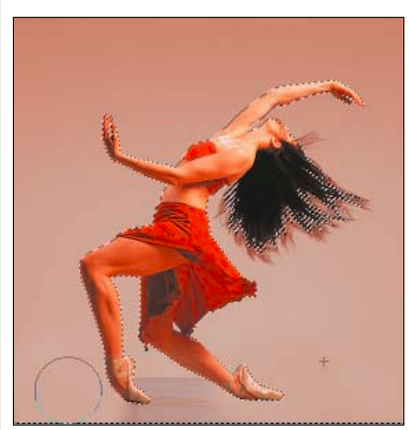
6 Select the Lasso tool and, while holding down the Alt key, remove any of the selections that don't form part of the hair.

8 Press the Q key to select the Quick Mask and then, using the Brush tool, carefully start to paint-in any additional areas of the hair that haven't been selected (the selected areas will be shown in red). Push the Q key again to exit the Quick Mask.



7 With the hair now roughly selected, hold down Apple, Alt and D to call up the Feather Selection dialog box (this can also be done by choosing Select→Feather). Set the Feather Radius to one pixel and press OK. This will soften the edges of the hair.

9 With the hair selected, go to the Paths palette, hold down Apple+Shift and click on the Work Path layer so that her entire outline is selected. Go to the Channels palette and click on Save Selection As Channel (this will create an alpha channel) before removing the duplicated layer and keeping the original.



10 Inverse the selection by choosing Select→Inverse (or Apple+Shift+I). Next, use the Clone tool to take a sample by holding down the Alt key and clicking just above the ground. Finally, paint out the floor.

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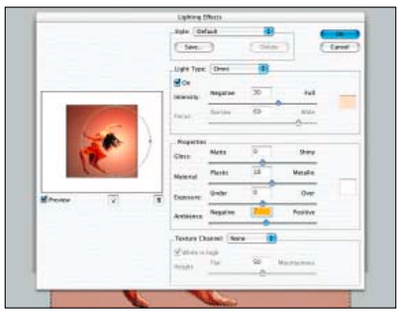


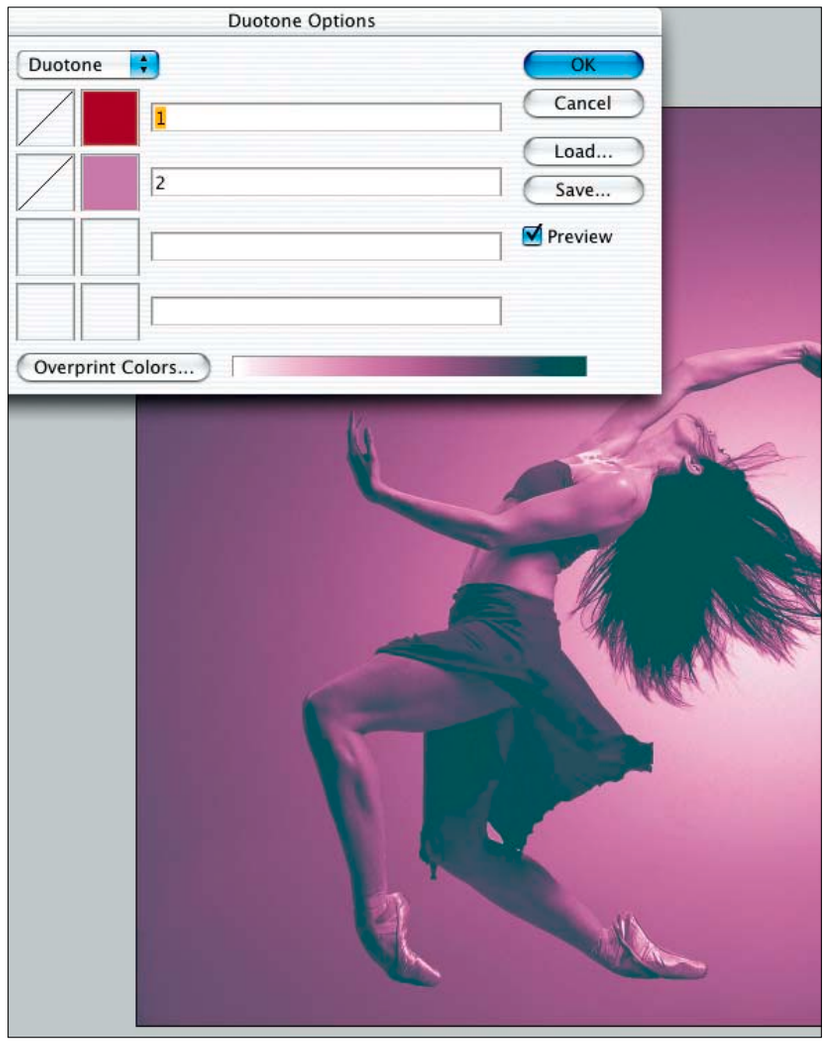
11 Once you have removed the floor, ensure that the image is still selected and choose Filter→Render→LightingEffects. Set the Light Type to Omni and the Light Colour to a peachy skin tone. You can now move the centre of the light so that it appears behind her hair. Hit OK.

12 Deselect the image and convert it to greyscale by choosing Image→Mode→Greyscale. Now duplicate the image by choosing Image→Duplicate. There's no need to change the file name suggested.

13 With the duplicate in front of you, go to Image→Mode→Duotone. Make sure the Type is set to Duotone. Set Ink 1 to a pale orange and Ink 2 to a bright green and name them 1 and 2. Next, click the Overprint Colours button at the bottom of the dialog box and set the 1+2 colour to a deep green. OK that and the Duotone dialog box.

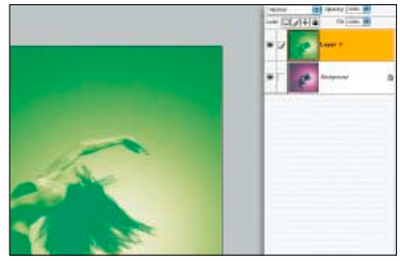
ZOOM & HAND TOOLS

You can quickly zoom in and out of an image without changing the tool you are using by holding down the space bar and the Apple key to zoom in (and the space bar, Apple and Alt keys to zoom out). Double clicking on the Zoom tool will take the image back to 100 per cent. If you hold down the space bar you can temporarily change to the Hand tool, which enables you to scroll around the image.



14 Repeat the same process as step 13 with the original image, but this time set Ink 1 to a deep red, Ink 2 to pink and the Overprint Colour to a very dark yellowy green. It is interesting to experiment with this area of *Photoshop*, so don't feel that you have to stick rigidly to the colours I've suggested here.

15 Convert the image back to RGB by choosing Image→Mode→RGBColor. Go to Duplicate and again convert it to RGB.



16 Select all of the green copy by going to Select→All (or Apple+A) and Copy it by choosing Edit→Copy (or Apple+C). You can now Paste it into the purple image by choosing Edit→Paste, or using Apple+V.

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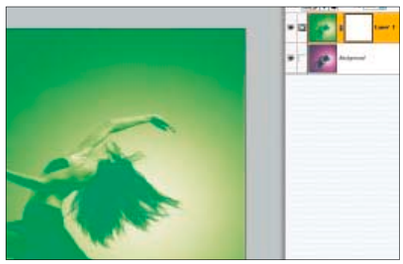
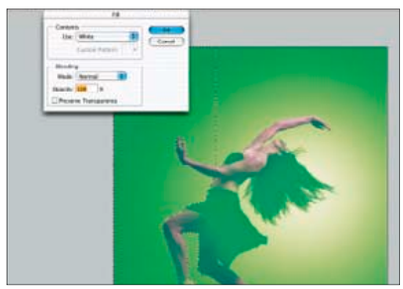
PHOTOSHOP

LAYERING TIPS

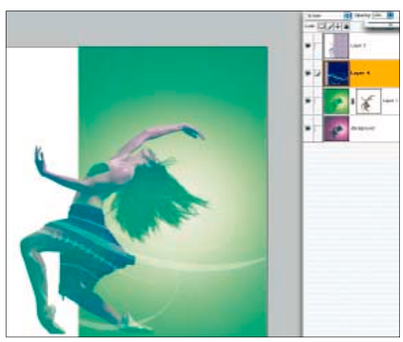
Layers can be linked together by selecting one layer and then clicking in the box between the eye and thumbnail of the layer you want to link. If you hold down Apple+Alt+Shift, you can even drag the layers to a new document (keeping them as separate layers). You can then move both of those images around at the same time. You can also change the size of the layer thumbnails by going to the arrow on the right-hand side of the Layers palette and selecting Layer Options.



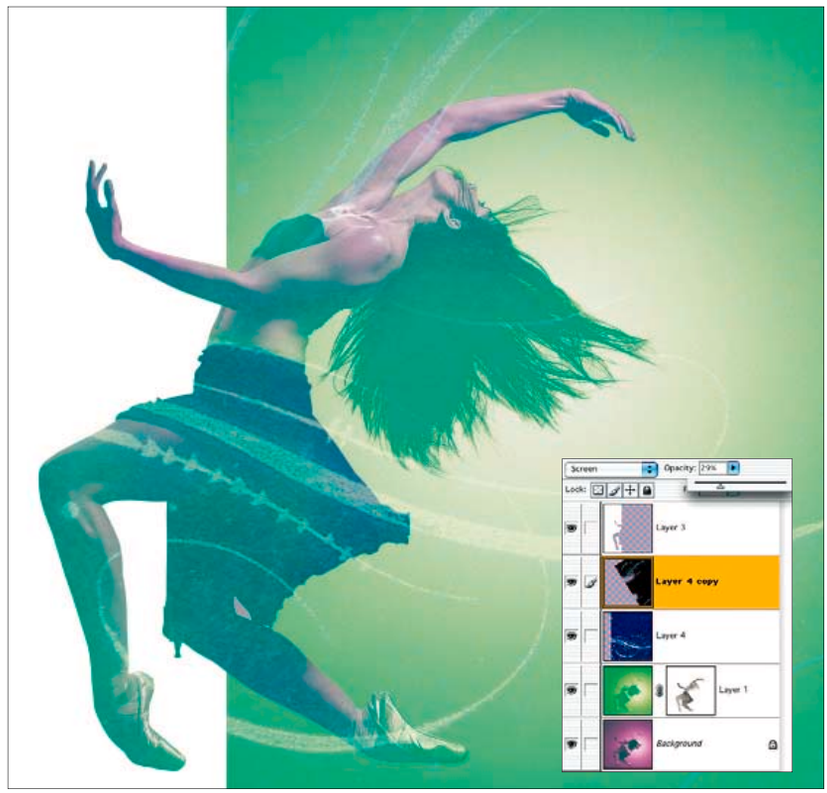
17 With the top layer active, click the Add Layer Mask icon in the Layers palette. Go to the Channels Palette, hold down the Apple key and click on the Alpha Channel you created earlier. In the Layers palette, click on the Layer Mask thumbnail. Now, using the Brush tool, mask out parts of her skin, ensuring that the flow is set to 20 per cent. This will make subtle tonal changes.



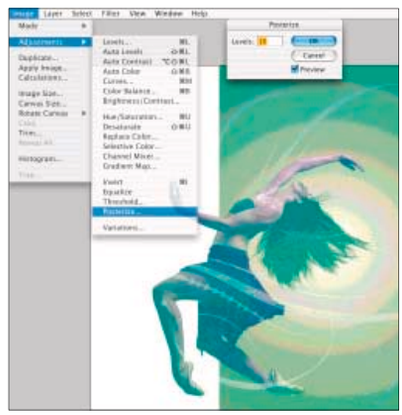
18 Create a new layer at the top of the Layers palette. Use the rectangle Marquee to select the left of the image, stopping just to the right of her left shoe. Go to the Channels palette, hold down Apple+Alt and click on the Alpha Channel to remove the selection of the girl from the new selection. On the new layer, fill the selected area with white.



19 Open Swirls.jpg from the cover CD, Select All, then Copy. Return to the main image and Paste. Change the Blend Mode of the Swirls layer to Screen (to eliminate the darker areas) and the Opacity to 49 per cent. Move the Swirls layer to just below the top layer, hold down the Apple key and click and drag inside the image to place the swirls in a position of your choice.



20 Duplicate the Swirls layer, flip it vertically and then rotate it 30 degrees anti-clockwise. Change the Opacity of this layer to 29 per cent and then go to Image→Adjustments→Levels. Drag the far-left triangle of the histogram slightly to the right to darken the shadows of that layer and hit OK.



21 Now flatten the image by choosing Layers→FlattenImage and then go to Image→Adjustments→Posterize. The level has been set to ten, but again this is something you can experiment with.

22 It is advisable, although not essential, to tweak the image by adjusting the Hue and Saturation. This can be done by choosing Image→Adjustments→Hue/Saturation. You can also make any minor alterations you require by going to Image→Adjustments→ColourBalance.

NEXT ISSUE IN COMPUTER arts

PROTECT YOUR IMAGES
How to stop the thieves from stealing your images

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WIN THE ENTIRE MONOTYPE FONT LIBRARY

Win fonts worth £2,999 and see your own typeface in the Monotype Library!

PRIZE WORTH £2,999!

Computer Arts and *Computer Arts Projects* have teamed up with Monotype Imaging to bring you the chance not only of winning the company's complete library of typefaces (worth a massive £2,999), but also to have your typeface feature in the celebrated Monotype Library. Just think – your hard work could soon join the likes of *Gill Sans*, *Cartier Book* and *Baskerville*!

This competition gives aspiring typographers the chance to get noticed and have their work feature in one of the world's biggest collections of commercial typefaces. For details on how to enter, plus rules and conditions, simply check out the "How To Enter" box, below-right... Good luck!

The Monotype Library includes...

1,352 fonts, including nearly 400 new releases and other fonts new to the collection • All of the classic Monotype fonts – *Bembo*, *Dante*, *Ellington*, *Gill Sans*, *Fournier* and *Palatino* – plus recent contemporary favourites such as *Cartier Book*, *Mosquito*, *Mundo Sans* and *Scene* • Licensing for 20 users and two printers • Both Macintosh and Windows PostScript data for all fonts.

HOW TO ENTER

In order to win this fantastic prize, all you have to do (!) is send us a font that you've designed. The font can be in TrueType, Postscript 1 or OpenType format, but must be your own work and designed within the last two years. For your font to be eligible, it cannot currently be sold by any commercial font foundry.

If judged to be good enough, your font will be included in Monotype's Library alongside such classics as *Bembo*, *Dante* and *Ellington*. The winner will also receive the entire Monotype Library, worth £2,999.

Send your entries via email to: **gillian.carson@futurenet.co.uk** with the subject heading **Monotype Competition**. Alternatively, you can send your font on CD, with contact details, to the following address: **Monotype Library Competition, Computer Arts, 30 Monmouth St, Bath, BA1 2BW.**

Judging will take place on **Friday 15 April, 2005**. Any entries submitted beyond this date will be disqualified.

The rules: The closing date for this competition is Friday 15 April, 2005. Employees of Monotype Imaging and Future Publishing, their agents and families are not permitted to enter. Multiple entries are not accepted. The Editor's decision is final and there are no cash alternatives. No other correspondence will be entered into. If you are entering by post and do not wish any of the companies involved in this competition to contact you with further offers, please indicate this on your entry. We will not pass your details on to third parties.

THE JUDGES

Robin Nicholas
Head of typography
Monotype Imaging

Gillian Carson
Senior editor
Computer Arts

Rob Carney
Associate editor
Computer Arts Projects

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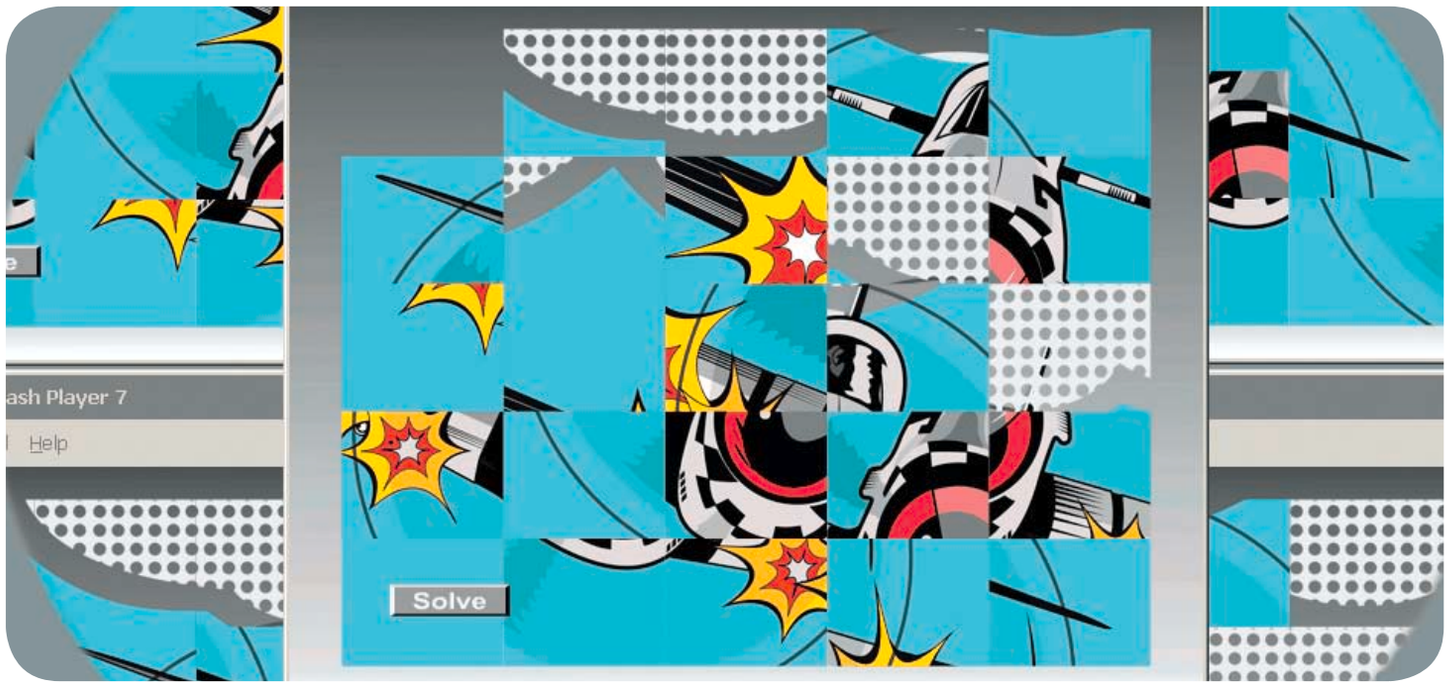


ON THE CD

DOWNLOAD
Click here to download the files you need to complete this tutorial

TIME LENGTH
1 hour

INFO

Justin Mills is a freelance action-scripter and watercolour teacher. A former internal beta tester for *SWiSHmax*, he's passionate about pushing the *SWiSH*-scripting boundaries. Find out more about his work at www.justinfront.net.

SWISHMAX

SLIDER WEB GAME

Ever wanted to build an online game but can't afford or understand *Flash*? Justin Mills explains step by step how to create an online slider puzzle using *SWiSHmax* – one of the most exciting software packages to hit the market

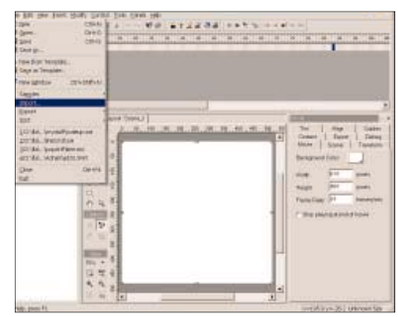
SWiSHmax, the latest *SWiSH* iteration, is sure to dispel the myth that this *Flash* creation program is merely a text effects package. In reality, this new and improved *Flash* alternative is jam-packed with features, including 230 new effects, a JavaScript-like scripting language and support for dynamic content and input forms. *SWiSHmax* has everything you could need to create fully interactive *Flash* presentations.

So why use *SWiSHmax* rather than *Flash*? Most users find *SWiSH* much easier to learn. *SWiSH* is designed to create complex effects without the need for code, and some of the built-in features just make life easier. Through this tutorial, I hope to introduce you to some of the program's built-in features, which will ease development and help you to create fantastic effects.

SWiSH provides strong scripting tools, which you can use to create dynamic content and interactive games, such as the puzzle featured here. *SWiSHmax* doesn't implicitly support creation of classes, but functions are scoped to their sprite, enabling functions to be used as methods.

This tutorial concentrates on creating simple graphics and centralising script. To polish things off, you'll even be able to add a range of timeline effects… It's the perfect introduction to *SWiSHmax*.

Since the differences between *SWiSH* and *Flash* scripts are minor, and some of the *SWiSH* effects and tools are great, this tutorial will interest *Flash*, *SWiSH* and future *SWiSH* users alike.



1 Choose File→Import and import sliderPicture.png. This will be the main image for your puzzle. Stage dimensions can be set in the Movie Panel or dragged manually if you decide to use a larger image. Import your image to the stage and make sure the Layout Panel is selected before choosing View→FitSceneInWindow.

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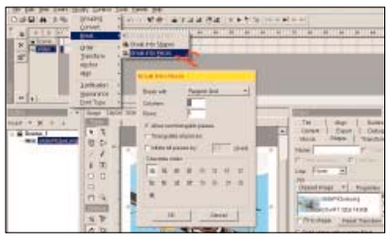
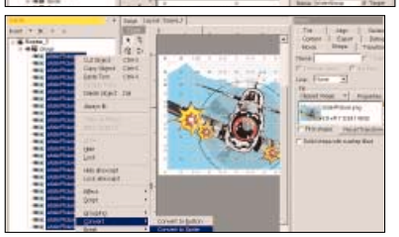
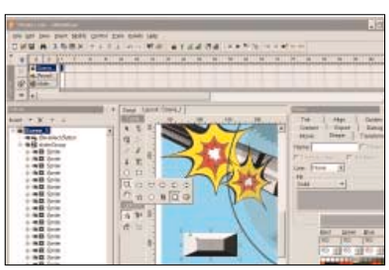


2 To create the slider tiles, go to Modify→Break→BreakIntoPieces. Select a Regular grid with five columns and five rows and Allow non-triangular pieces. Finally, set the Cascade order, which will determine how *SWiSH* automatically names each piece.



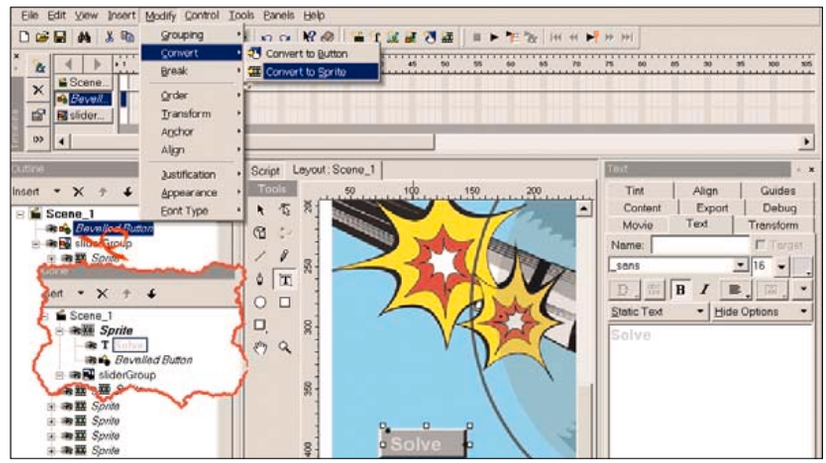
3 Rename the group "sliderGroup", so the tiles can be targeted by the code. Locate the Group panel and select the Target tick box. Open the Group and select all the pictures using the Shift key. Right-click and select Convert→ConvertToSprite.



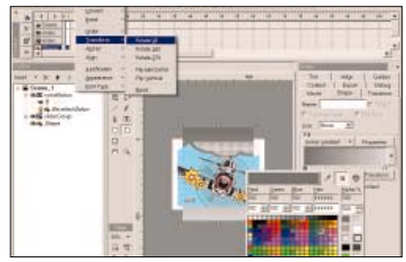
4 Select Scene_1. Rollover the toolbar, locate autoShapes and select the bevel shape. Draw a box within the Layout panel to use as a Solve button. Adjust the bevelled button using the modifiers (green circular anchor points). In the Shape panel, click on the large colour sample to display the Colour palette and pick a colour.

THE OUTLINE PANEL

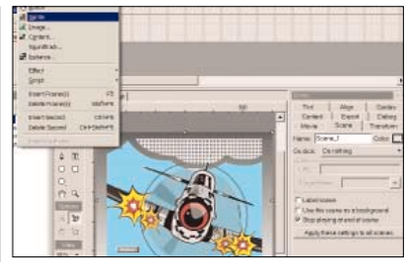
Your image should occupy a distinct new depth/layer on the Timeline panel with the name of the image (in our case "slider Picture"). It'll also appear as an icon in the Outline panel. The Outline panel is a visual means of representing the depths and grouping within your movie, akin to a directory structure, with an additional clickable eye symbol that toggles to a cross or padlock for hiding and locking during the editing process. Most panels have useful right-click menus.



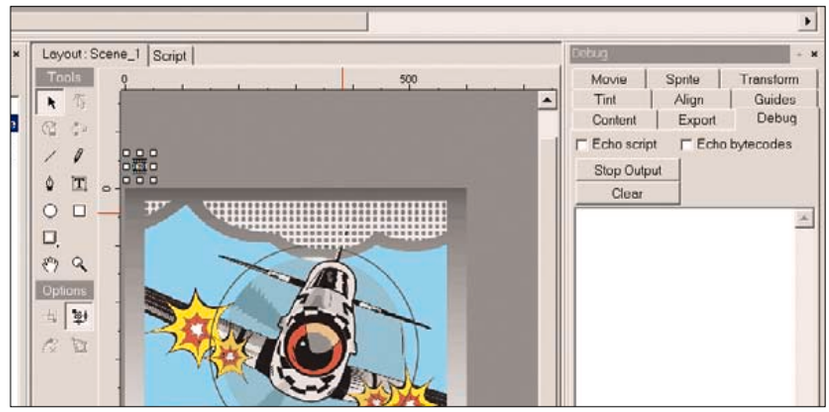
5 Select the bevelled button shape and choose Modify→Convert→ConvertToSprite. Name the button solveButton in the Sprite panel. Open the solveButton in the Outline panel. Use the T tool to draw a text field within the bevelled button. Make sure you set the Text panel exactly as shown and type "solve" in the bottom area of the panel.



6 In the Outline panel, select Scene1, and from the toolbar select a rectangle shape and draw a large rectangle on the layout. Select Modify→Transform→Rotate90. Go to Shape→Fill Type Linear and click on the arrows of the gradient to adjust the colours. Resize the shape to the stage dimensions. In the Outline panel, drag the Shape icon to the bottom layer. (See the CD file graphic.swi.)



7 Create a sprite by choosing Insert→Sprite to centralise your code within. Sprites (MovieClip to *Flash* users) can be considered a form of customisable class, since multiple instances can be used from the Contents panel. Name the sprite "codeSprite". In the Layout panel, drag codeSprite, so that it's out of the way above the visible stage.



8 The Script panel relates to the object currently selected. Select codeSprite and drag the Script panel so that it's floating. Select Expert mode from the Guided drop-down menu to enable direct typing of script and the use of the Add Script drop-down menu.

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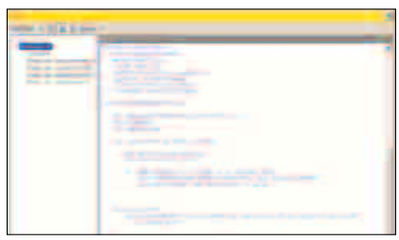
SWISHMAX

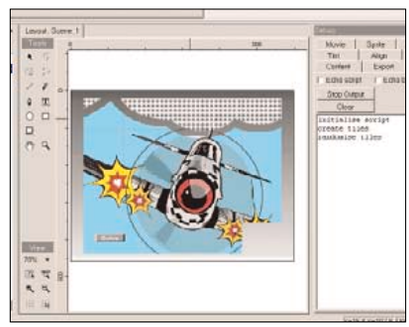
9 All "SWiSHScript" must be contained within an event or a function and (with the exception of the last line) must be terminated with a semi-colon. Missing just one semi-colon will turn the code red – denoting errors. This simple script will trace some text to the Debug panel when the sprite is placed by the *SWiSH* internal *Flash* player.

```
onload(){
//declare properties as variables

    //arrays of sprites
    var tiles:Array=new Array();

    //sprites
    var place:Group;
    var solveButton:Sprite;

    //other properties
    var randomMess:Number;

//initialise class code
    init(_root.sliderGroup,_root.solveButton,45);
}
function init(target:Group,sbutton:Group, muddle:Number){
    trace("initialise script");
    place=target;
    solveButton=sbutton;
    createTiles();

    randomMess=muddle;
    randomise();
```

10 Enter the code shown above. When the codeSprite first loads, the "onLoad" event will fire – declaring instances' properties/variables and running the initialisation function "init". The init function will set up the values of the custom properties and then call functions to run the game. Go to Control→PlayMovie and the Debug panel should trace out "initialise script", "create tiles", and "randomise tiles". (See script1.swi on the cover CD.)

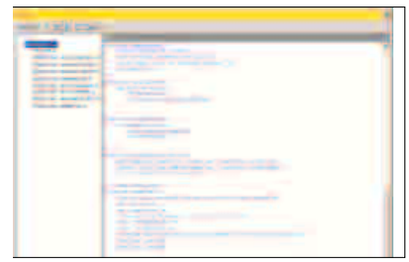


11 Add the code to put the tile references in an array (see script2.swi on the CD). Creating a property to store all your tiles, by looping through all the objects (tiles) in the sliderGroup, using a "for...in" loop.

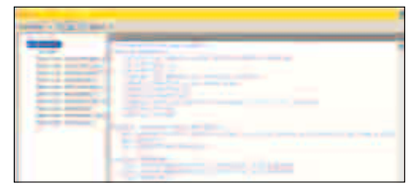


12 Run Control→PlayMovie and you'll notice that the last tile disappears in agreement with the last tile's "_visible" property, set to false in the script. Subsequent steps will describe code added.

13 The "onPress" event is triggered when you click on a tile, but only works when tested in an external *Flash* player. With *SWiSH*, you can use "on(press) {}" and "onSelfEvent(press) {}", but these events would need to be placed in every tile. Instead, the onTilePress function loops through your tiles using a "for (... in ...)" loop, and assigns a function (swapPos) to each tile "onPress" event. The "swapPos" function swaps the x and y values of two sprites so that they change positions (see script3.swi).



14 Another stage is added ("moveIfNear") to check if a tile is positioned near to the lastTile and suitable to swap. moveIfNear checks if either the x or y values (not both) (ex -or operator "^") are the same as the lastTiles x and y. If the tile is near, then it will swap tile positions with the "swapPos" function (see script4.swi).



15 Instead of a simple swap, you can tween the tile into position. Initialise your tween and set the end frame position or target the invisible tile or lastTile. Set the speed of the tween and then the "tweening" function to run each frame of the tile using the onEnterFrame event. The "tweening" function uses Math.approach() to calculate deceleration. But if you adjust the easing parameter ("speed") for every frame, you'll achieve an acceleration and deceleration to the target position (see script5.swi).

STRICT TYPING

SWiSH now allows strict typing, but does not do any checking. This is a future-proof feature. You'll often use declaration of a data type after the variable name – for instance, var variableName: TypeOfvariable;

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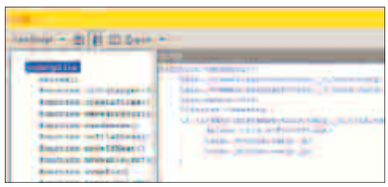
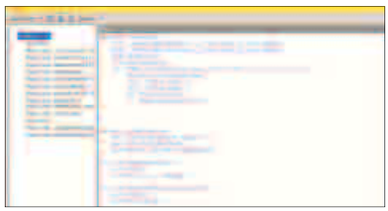
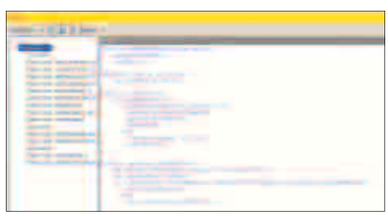


16 The Math.distance function checks that the tile has reached the target to within one pixel, preventing the onEnter Frame running forever. Delete the onEnter Frame event from your tile and set its position to the target (see script6.swi).



17 To solve the puzzle, you must store a history of movements, assigning the solveButton's onPress event initially to an undo (single stepBackwards). Use Push to push references to moved sprites (tiles) into the history array and Pop to take off the last tile pushed. Use a "solve" property to control the history – you don't want to record history moves (see script7.swi).

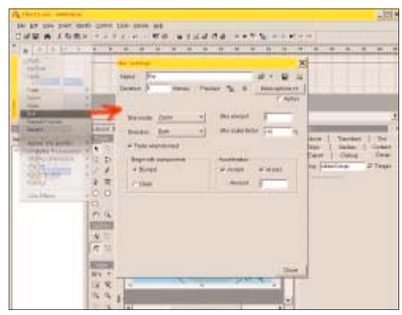
18 Now that you've implemented a step backwards, adjust tweening to continue stepping backwards until there is no history. An array's length property describes how many items it contains. So "swapPos" until history.length is 0 (see script8.swi).



19 Modify the randomise function so that it will generate (suitable) random tiles within an iterative tile jumbling loop. The loop is formed with "swapPos" and the other tile movement functions (see script9.swi).

20 To check that the game is solved, you need to store the original tile positions ("info" array) and compare them with the current status using the checkingIfFinished function (or tweening function). When finished, the "hasFinished" hides the solveButton and removes all the onPress tile events. Add an "info" variable declaration to the onLoad event (see file script10.swi).

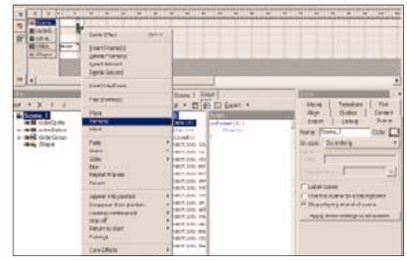
21 Consider improving your code so that your code is more reliable and future modifications are simpler. We used several onLoad events, but it's wise to collect these events into one onLoad event. It's now obvious that the solveButton.onPress=step Backwards; shouldn't have been in the onLoad, but rather actioned after the tiles have been randomised (see file script11.swi).



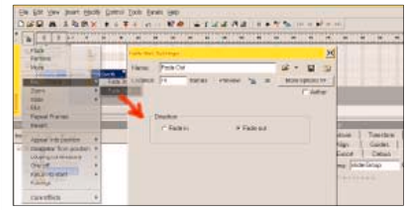
22 Now polish the project! After selecting the sliderGroup, press the Fx button, select Blur and adjust the Blur Settings. Run the Movie ←alt→ + F, T, P. The code you wrote won't work (see effect1.swi). This is because the effect needs to finish before code can be applied to the sliderGroup.

SWAPPOS

You may notice a magic word "this" in swapPos: it references the sprite that a function exists on (the tile pressed); omitting "this" references the properties where the function is defined (codeSprite) (ie, this._x = x position of a tile, _x = x position of the codeSprite).



23 Select the end of the codeSprite timeline and right-click to Place the codeSprite. Add script to the scene to stop the movie on frame six. Then, on frame seven, Remove the codeSprite ready for the next step. Run the movie in the external player – it should now work (see file effect2.swi).



24 To end, click on frame seven of the sliderGroup, click on the Fx key, choose Fade→FadeOut and change the duration to about 30 frames. Add "_parent.play()" to the last script line of the "hasFinished" function in the codeSprite. This will play the fade out effect (in the codeSprite's _parent) when the puzzle has Finished (see file effect3.swi).

25 You may want to try using a different picture with more tiles or change the effects. You could even try a video version of the slider puzzle (which is possible) or add other features. Having used centralised code, you're now in a good position to create your own game, but there's still a lot to learn. arts

NEXT ISSUE IN COMPUTER arts

ANIMATION MASTERCLASS
Bring your images to life in our in-depth animation tutorial

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TODAY.
TRANSFER.SUPER.EIGHT.FOOTAGE.ANALOG.TO.DIGITAL.FORMAT.
MEMORIES.LIVE.FOREVER.
SUPER.EIGHT.FOOTAGE.29.JULY.1975.INPUT.MAGS.29.JAN.2007.CAPTURE.DATA.STREAM.

➔ AVID FREE DV

SUPER 8 TO VIDEO

Super 8 isn't just a nostalgic throwback, it's a format that's still used by filmmakers worldwide. So make sure your own efforts endure – by transferring them to digital video using *Avid Free DV*

DOWNLOAD

DOWNLOAD
Click here to download the files you need to complete this tutorial

INFO

Chris Kenworthy is a writer and director based in Perth, Australia. He works with digital video, film and computer-generated material and has written two novels, countless features and works on several TV series.

THE PROBLEM

Super 8 film looks terrific when it's transferred to video. But how do you go about transferring your latest short film or archiving your old home movies without sacrificing that unique, freshly projected look?

ILLUSTRATION: ROB CHIU WWW.THERONIN.CO.UK

➔ The realities of home storage and decades of repeated projection means that most 8mm film is damaged. Watching 8mm footage is time-consuming, and editing raw film requires patience and persistence. So why not turn your film into video? You can then archive your footage, edit at will, correct the picture quality and watch the movies as often as you like.

Many people still shoot on 8mm film rather than video. Film is richer, and more detailed. But to make the most of any 8mm footage, you'll need a good telecine system.

Telecine is a way of filming the projected image that retains the quality of the original footage. But you can't just set up a normal screen and try to film from the side of the projector – by recording off-centre, the image would appear distorted. Instead, you should project your 8mm footage onto a translucent screen. You can then angle an adjacent mirror, point your DV camera at it, and start recording.

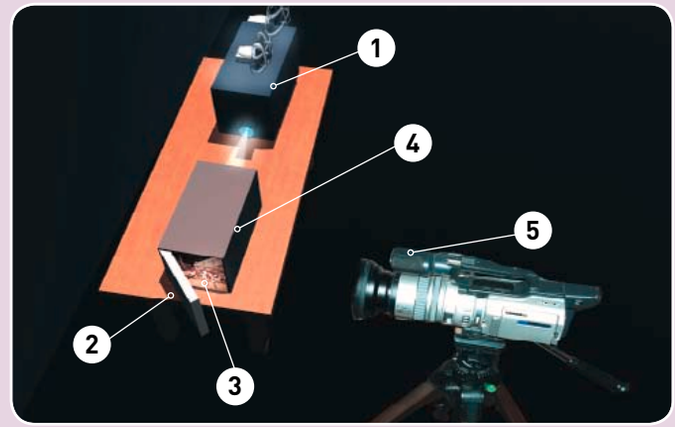
Once your footage has been transferred to DV tape, you can import it to *Avid Free DV* (free on the cover CD), clean up the frame, correct poor exposure, edit out the mistakes, and brighten the colours.

When shooting Super 8, it's possible to record on a DV camera or MiniDisc. To synch that sound to the picture, you'll need to load the audio into *Avid Free DV*. Load the sound by transferring the cassette sounds to DV tape, then to your computer.

Some old Super 8 film contained a magnetic stripe to record live sound. If you're converting this type of material, connect the projector's sound output to your DV camera's sound input. Sound synch will be slightly easier, but you'll still need to make manual adjustments.

Sound synch is vital – if the image is out of step with the sound, your audience will notice immediately. They may forgive a poor picture, but not dodgy sound. Traditional synching involved precisely increasing or decreasing the audio's speed. These days, editing software makes it so easy to manipulate audio tracks that you can synch clips with a simple cut and paste, without changing the speed of the track itself.

➔ TRANSFER FILM TO DIGITAL



1. Projector Use a new bulb to prevent the image becoming too yellow. Place the projector on a level surface and tape it down with gaffer tape, so there's no need to readjust each time you change the reel.

2. Mirror Place the mirror at a 45-degree angle to the translucent screen and keep it clean.

3. Translucent screen Focus the projected image onto the translucent screen. The screen should be placed at the end of a lightbox, which will stop reflected light hitting the screen and flaring the image.

4. Lightbox Build you own lightbox – or buy one cheaply with a built-in screen and mirror. Again, tape it to the table so that nothing moves.

5. DV camera Place your camera close to the mirror at a 90-degree angle to the projection set-up. Don't place the camera too far away and zoom in as focusing will be difficult.

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THE SOLUTION

SOUND SYNCHING

It's best to get cracking on sound first, as this can be knocked back out of synch as you work on the images. We've supplied both sound and images, so that you can perfect your synching skills before you get started on your own project

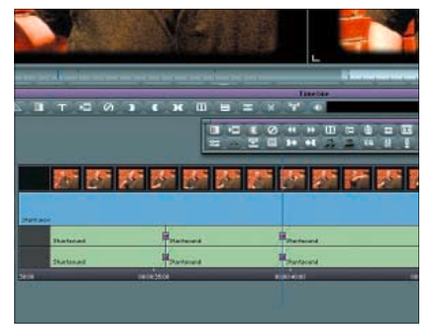
1 Import Stunt.mov and Stuntsound.mov from the cover CD into *Avid Free DV*. Although there are no gaps in either clip, they don't quite match up. To synch the clips, find a point where the sound clearly matches the image. Arm movements or shirt rustles, are always a good choice.

2 Select the sound clip and drag it slightly until the sound you've chosen matches the picture. In an ideal world, you would use the sound and image of a clapperboard to synch up. Instead, use the clearest sound you can find; in this case, an arm movement towards the end of the clip.

3 Once you're happy with your sound synch, watch the clip through. You'll notice that although the sound is well synched in the last quarter of the clip, it's way off in the first half. This will be caused by common errors and discrepancies between the sound and film recording speeds.

4 Use Insert Edit to make a cut at a quiet point, just a few seconds into the clip. Drag the left-hand clip slightly to the right, making tiny adjustments until the opening moments synch properly. You can now synch the rest of clip by making these small cuts further along.

5 Place the playhead on a transition; go to Fast Menu and Quick Transition. Set to Dissolve on the Cut for about 12 frames. When you listen back the cut should be inaudible, but if you do find sound overlaps, reduce the Dissolve to six frames.



6 Repeat this process throughout the clip until everything's synched up and dissolved. If you're ever in doubt about a synch, it's probably wrong. It can also help to leave your work for half an hour before watching it afresh to double-check that everything is accurate.

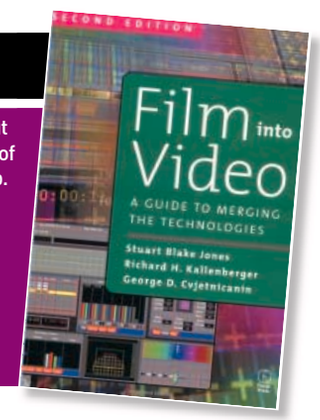
CRYSTAL SYNCH

The nirvana of Super 8, crystal synch, enables you to record sound and picture at an identical rate. When magnetic Super 8 film was available, this wasn't a problem because the sound was recorded on the film strip. But because sound is now recorded separately, many Super 8 users buy a device that synchs their camera to a sound-recording device. Far from cheap, crystal synch won't solve all your synching problems; the sound is always slightly mis-timed (due to the way projection systems work), so you'll still need to make one manual adjustment when you're converting to video.

READ THIS...

FILM INTO VIDEO: A GUIDE TO MERGING THE TECHNOLOGIES (SECOND EDITION)
Stuart Blake Jones, Richard H. Kallenberger and George D. Cvjetnicanin
PRICE: £42.99
PUBLISHER: Focal Press
ISBN: 0-240-80411-2

If you want to know more about 8mm transfers, there's plenty of home-made advice on the web. But for the best information, shell out for *Film Into Video*. It's far from cheap, but gives you the inside information on software, hardware, and just about every approach to film and video transfers.



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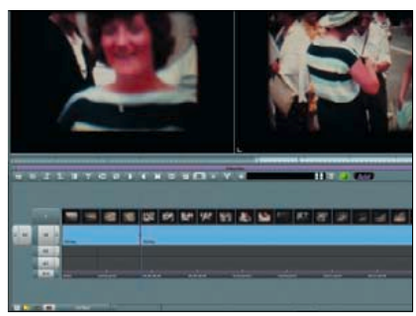
➔ PROTECT YOUR IMAGE

Now make a start on the moving images. You'll need patience – editing film can be a tricky process – but get it right and your Super 8 will really come to life

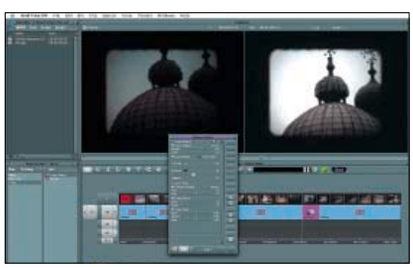
1 First go to File→Import and then load the Holiday.mov clip included on the cover CD. Click the Effects Mode button, then the purple Effects button in the bottom left-hand corner. Next, choose Image→Resize and drag this filter to the clip. Finally, call up the Effect Editor and adjust the Scaling and Position to resize the main image.

2 The Resize tool also enables you to eliminate scrappy edges. If you're using an old Super 8 projector, the edge of your movie might look ragged, so crop hard to remove this. Drag the Crop sliders in until the image has sharp, equally sized edges, not quite at the perimeter of the screen.

3 Editing physical film is difficult, but now you've converted your film to DV, cutting out the waste is easy. Position the blue playhead just after the opening, flickering section. Choose the Insert Edit button, select the first section of the clip and hit Delete.



4 Remove flashes and brief moments of blurring. Make two Edit points on either side of the errors. Place the blue playhead just before the damaged frame and click Insert Edit. Do the same to the frame following the damage. Select the offending frames and delete.



5 Apply the Colour Effect filter by dragging it to each clip in turn. To correct poor exposure, go to Luma Range in the Effects Editor. Click-hold the White Point box and drag the Eye-dropper to a point where your image should be pure white. Do the same for Black Point.

6 Use Chroma Adjust to increase the Saturation, particularly if your film is old and faded. Finally, use Colour Gain to adjust the colours so that flesh tones, greenery and the sky appear as natural as possible. arts

LEADERS
Every reel of film comes with a short "leader", a piece of film used to lead the film through the projector. The leader often has tiny holes in it, with times, numbers and words printed into the film. Leaders allow you to handle the ends of the film without damaging the picture. Use leader images to focus the projector so that you don't damage the important footage.

DYNAMIC RANGE
Film can record detail from the darkest shadows to the brightest glows. Video, unfortunately, cannot, as its range is far less dynamic. The upshot is that no matter how good a job you do of converting your DV footage, it will never have the dynamic range of the original, projected film. To get the best results, set your camera's exposure so that shadows remain detailed, but you can still clearly see clouds in bright skies.

TOP TEN TIPS

1 That synch-ing feeling Sound takes less time to process and is easily knocked out of synch, so always edit for sounds first and then work on the picture. You can correct effects and colour once you've finished.

2 Archiving Don't just burn a playable DVD, because DVD is a highly compressed viewing format. To archive, create a *QuickTime* file at full resolution and Best Quality, and store it on a DVD or hard drive.

3 Projector focus You'll need to refocus the projector each time you use a new spool of film. Don't assume that the focus can be set once; it changes according to the thickness and flexibility of each film.

4 DV focus In theory, you should be able to set the focus on your DV camera once and leave it. To focus, switch the projector on without any film running through it and hold a piece of paper flat against the translucent screen.

5 Steadyshot If your camera comes equipped with a Steadyshot feature, switch it off. The square of light doesn't move, so Steadyshot can overcompensate, making the image wobble.

6 Darkened room Set up your telecine suite in a darkened room, but not in pitch black. Although arguments rage over the best solution, most users find that a near-dark room yields the best results.

7 Reversed spool If you find a spool of film that seems impossible to put through your projector, it could be that it was never originally rewound. Your projector's rewind setting should help.

8 The projected look You could perfect your image in *Avid*, but some users prefer to leave soft edges, jumpy cuts and leader images on, for an authentic feel.

9 Sound replacement If you're using footage that was shot without sound, you could add music. Some purists even add a recording of the projector sound, to ensure the home-movie feeling isn't lost.

10 Monitor Focusing, setting exposure and checking your results can be tricky with a DV camera viewfinder. So connect your camera to a TV while you work.

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ILLUSTRATION: RUKKIT KUANHAWATE

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GET STARTED WITH...

PROFESSIONAL TRAINING

The increasing speed of technological development means that if your skills stand still, you'll quickly fall behind. Mark Penfold takes a look at how best to keep yourself ahead of the competition

Professional software training is all about boosting your efficiency quickly and effectively. It can provide you with essential skills to improve your workflow, attract new clients, or even just beef up your CV. But it's an expensive game, so it's only really worthwhile if you know you're going to get the most out of it. That means understanding what's on offer.

How will I know?

Anyone considering this type of training should have identified a skills gap before going on to think about the course itself. George Snow of 3D3 World runs a range of software courses from *Maya* and *Photoshop* to *Flash*, all from his converted Tuscan villa.

"If the student knows what he wants from a course," he explains, "that will inform the teaching staff and ensure that he gets value from the time and money invested."

There are two basic approaches to determining the need for training: reactive and pro-active**.** Responding to a perceived skills shortfall by reading-up on the relevant software will be the most familiar scenario for many. Sandip Bhathal is a marketing executive at Sphinx IT distributors: "I could ask my colleagues for help with programs such as *Dreamweaver*," she says, "but I knew I could do things a lot better."

Bhathal underwent training at Symbiosis and returned to work with new HTML, *Photoshop* and *Flash* skills. She was immediately more comfortable with her work: "You know yourself when you've got the hang of things, because you can just come back to the office and get on with it," she says, adding that, "The little books they gave me to take away have become like my bibles."

This highlights the questions surrounding the quality of course materials and after-sales support.

Meanwhile, the pro-active school believes, like most training firms, that it's best to be prepared *before* the cracks in your knowledge show up. As Highlander's managing director Andy Gardiner puts it: "The most successful organisations have a strong investment in training." Employers must be aware of

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ALTERNATIVES

The classroom isn't the only place you can develop your skills as a designer

The range of alternatives to classroom learning continues to expand daily. From books and DVDs to online resources, there's something for every level, application and budget.

Books are probably the first port of call for many. "There's a myriad of books to match almost every learning style," says Hannah Latham of Pearson Education. These range from official training resources, such as Adobe's *Classroom in a Book* series, to tutorial-based introductions – the *Visual Quickstart* series, for example.

The boundary between books and DVDs continues to blur as numerous titles increasingly sport their own video instruction. Sybex has been working with Alias for some time to produce the *Maya Fundamentals* series, combining the two media. The excellent *Final Cut Pro 4 And The Art Of Filmmaking* prompts the question – book with DVD, or vice versa?

Meanwhile, pure video training is also gaining in popularity, with companies such as Digital Tutors producing materials to cover just about every digital medium imaginable for a fraction of the cost of classroom-based courses.

CERTIFICATION FOR BEGINNERS

The big guns are eager to ensure you're being taught by the very best

While most institutions provide their students with certificates to show that they've finished a course, the most important qualifications involved in professional training are those hanging on the wall behind your tutor.

Most big software manufacturers go to great lengths to ensure that certified trainers are fully qualified. As Symbiotic director Sally Day points out, "The exams the instructors sit are incredibly hard. They aren't just a formality."

Ian Turner, Macromedia's head of European marketing, agrees. Macromedia's accreditation policy is well known for being one of the most technically demanding in the industry.

"There are levels of qualification, each of which demands the tutor present one of our courses on video," he says. "These [videos] are sometimes sent to the US for approval [by Macromedia]. It's a rigorous procedure."

technological developments and keep abreast of them, acquiring skills that could improve your work.

Won't books do?

The obvious alternative to expensive training is to pick up a textbook that covers your subject and get stuck in. And indeed for many this is a viable option; particularly as the range and quality of titles dealing with creative software continues to expand. However, not everyone is suited to self-teaching: "I'm a 'show me' type of person," admits Bhatal. Some people need the interaction provided by classroom teaching to learn.

"It's all about people," says Macromedia's Ian Turner. Yes, the quality of instructor will, of course, be of primary concern, but not to be overlooked is the chance to interact with other designers. "Being in a room with a number of like-minded people gives you a chance to interact with other users and learn from them too," says Turner.

"The big problem with learning from books is that you have to follow the instructions to the letter and not miss out a sentence," says Snow, highlighting a need for interactivity. "With a teacher, you analyse the problem together and come up with an alternative."

> "The problem is that there's no system to distinguish between a £50 evening class and a full-time course for four"

The criteria

Once you've established your needs and have decided you can't go it alone, the next thing is to ensure your course ticks all the right boxes; that it covers all the key areas in a way you're happy with. According to Tidalfire's Louise Scott, "Not every company publishes a course outline, but it's essential that you agree with a training provider what the training will be before you confirm. Otherwise, how can you complain if you didn't get what you paid for?"

As Turner points out, "One person's easy could be another's advanced."

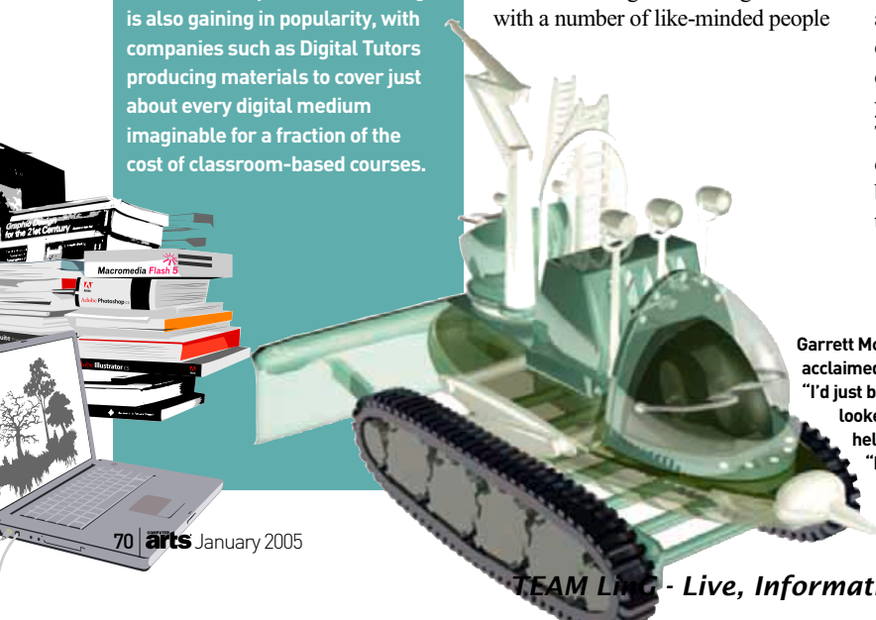
He also goes on to say that this type of discrepancy is particularly evident among the self-taught, as never using an objective yardstick makes it hard to judge your own level. The message is clear: "Do plenty of research. There's a huge [Macromedia] community out there. All you have to do is ask for advice on a forum."

And this is true for virtually every major software package.

Certification

This is the big one, particularly if you're using a course to improve your employment profile. Most courses will supply you with a certificate of attendance, but even the trainers are willing to admit that, in most cases, these prove little more than your ability to turn up.

Tom Jeffs teaches *Photoshop* skills at Metro New Media: "The problem is that there's no system to distinguish between a £50 evening class and a full-time course in a group of four." This dilemma makes selling these



Garrett McKeagney is an alumnus of George Snow's acclaimed 3D³ World training course in Tuscany: "I'd just bought *Maya* for the company and having looked at the programme I knew that I needed help. George is a great teacher," says Garrett. "I did another course with him last year and I would like to do another this year."

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THE IDEAL PATH TO TECHNICAL ENLIGHTENMENT

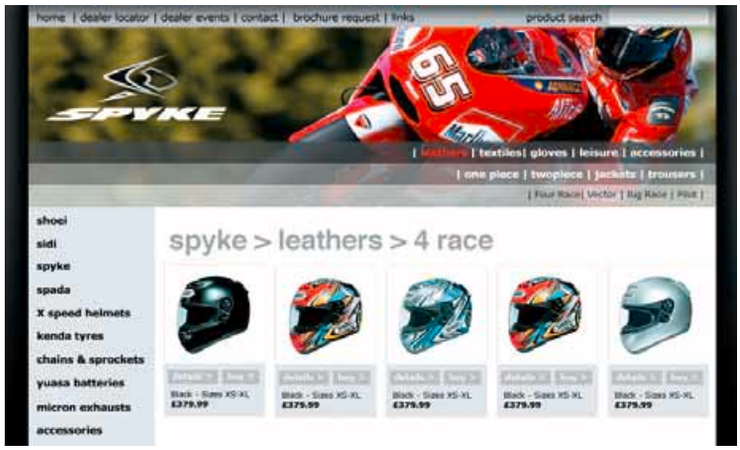
Finding the right course to suit all your needs – a case example

Andy Donovan, a new media designer for Emap Automotive, subscribes to the forward thinking approach: "I'd been thinking about web standards for a while," he says, "and Cascading Style Sheets (CSS) seemed to be the obvious solution to all the problems we'd been fighting with HTML."

Having identified a technology that could improve the online materials that Donovan's department produced, the next step was to find a suitable course. "The Ubiq website [www.ubiq.co.uk] influenced my decision because, aside from being well designed, it was constructed using CSS."

The next important consideration for Donovan was the size of the class, which turned out to be one to one: "It was great being able to recap my needs."

This is a textbook example of how training should work. It's easy to get it right providing you take a considered approach.



Andy Donovan went to training providers Ubiq (www.ubiq.co.uk) to update his knowledge on the arcane science of Cascading Style Sheets, and couldn't have been happier with the results. "CSS was the answer to all our HTML problems," he recalls.

As an IT manager, Greg Mumford needed to rapidly brush up on his knowledge of *Acrobat*, *Flash* and *InDesign* – Symbiosis training helped him do that. "The real advantage for me," he says, "was being able to ask questions, to adapt the material to my own situation."

courses on your CV a bit difficult. "My advice is to 'big it up' as much as possible," says Jeffs. Good advice, but this would only be a problem if you haven't already put the skills you learned into practice.

Highlander is an exception. Andy Gardiner describes his courses as good prep for sitting the Adobe and Macromedia-certified user courses: "If a trainer is confident in their courses," he says, "they should bill them as leading to certification."

Gardiner has a point, but only if certification is your reason for attending the course in the first place. For most delegates, the question becomes more one of whether your course and its tutor are sanctioned by the developer itself. This is easy to establish. All the major manufacturers maintain up-to-date lists of their training partners, usually online.

Class of your own

Once you've decided that the school is suitably qualified and your tutor makes the grade, check the facilities and materials. As Tidal Fire's Louise Scott says, "You have to make sure all the equipment is up to date and every student has their own machine."

This advice may seem obvious, but if you're paying £500 for a two-day course, your equipment must be up to scratch. Today's graphics applications are incredibly memory intensive and on a 3D course, for example, your machine's RAM complement could determine the success of your learning experience. So check the standard of equipment, presentation materials and technology.

Class sizes vary from between three and 15, depending on level and institution. Generally, though, the higher the level, the smaller the numbers. As Tom Jeffs of London's Metro New Media says, "Avoid big groups. If you're paying £50 for a course, you might as well buy a multimedia CD as you're not going to get much time with the tutor."

Mind the skills gap

Media Training Northwest (MTNW) was set up primarily as an industry

SYLLABUS CHECKER

Find a fulfilling course...

Knowing what to look for is easy if you already know something about your software, but beginners can find it hard to determine whether a particular syllabus will give them a good grounding. Here's an overview of some major applications.

PHOTOSHOP
Getting started • Working with selections • Layer basics • Painting and editing • Masks and channels • Photo retouching • Basic Pen tool techniques • Vector shapes and clipping paths.

FINAL CUT PRO
Introduction to DV and *QuickTime* • The anatomy of *Final Cut Pro* • Starting a project and setting a capture scratch • Digitising footage • Managing clips • Creating sequences and setting sequence preferences • Three-point editing with the viewer, canvas and timeline • Creating movement using motion properties • Using transitions and filters with video and audio • Creating titles and effects • Importing and animating *Photoshop* layers • Exporting material for multimedia and internet • Laying off to tape using Print to Video.

DREAMWEAVER WEB DEVELOPMENT
Getting started • Adding content to a site • Formatting text • Working with graphics • Navigating your site • Designing layouts using libraries and templates • Creating forms • Testing, maintenance and uploading.

MAYA 3D BASICS
Building models using polygons and NURBs • Texturing using image files and procedural shaders • Lighting and camera control • Hierarchical relationships • Animation and keyframing.

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If you're paying full whack for a course, you'll want the best, so ensure you get just that. Check the equipment is cutting edge, that you'll have your own machine, and that your instructor is well versed in the ways of the classroom. This Highlander suite gives you some idea of what to look out for.

body designed to resolve a perceived skills gap in the broadcast, film and multimedia industries of the North West. "The problem isn't regional," says chief executive Lynne McCadden. "The problem is inherent in the rapidly changing nature of the industry."

With sponsors including the BBC, ITV and Cosgrove Hall Films, MTNW is attempting to give the creative industry the training boost it needs to fulfil its economic potential. "Employers often complain that the students they take on just aren't job ready," says McCadden.

There are many reasons for this, not least the cost of providing cutting-edge hardware and software, which makes this type of training provision difficult, even for universities. But the trouble doesn't stop there. "In terms of training providers, the South East is pretty well catered for, but there just isn't the supply elsewhere," says McCadden. MTNW has sent its trainees, sponsored by up to 70 per cent, to attend courses in London.

So MTNW plans to source funding from the likes of Skillset and use the money, in partnership with industry, to deliver the kind of training that is currently so lacking. Jon Wetherall's games company, Onteca, has been collaborating with MTNW in an attempt to develop a new generation of technically capable games developers. "Some employers are good about training. Codemasters, for example, gives new recruits a six-month introduction to bring them up to speed." But, says Wetherall, "The majority of companies just don't have the resources for that, so training needs to happen elsewhere."

Learning curve

Even though the creative industries have an almost insatiable need for new skills, getting access to quality training is difficult and expensive. For those not backed by an employer, the challenge is to hunt down a good but inexpensive school or to get funding from organisations such as Skillset or MTNW. But neither option is particularly straightforward.

Even for the professional, it seems, there's plenty of learning to do before you set foot in the classroom. Clear objectives are obviously a priority. But then you need to find a course that matches your needs exactly – and ensure the reality measures up. arts

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All the latest kit, put to the test

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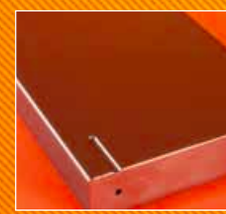

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REVIEWS

All our products go through rigorous testing and only truly outstanding and essential pieces of kit receive the coveted five-star rating.

★★★★★ COMPUTER arts RECOMMENDED

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MAC Yes PC Yes

PRICE

Professional £464 (upgrade £159)
Standard £288 (upgrade £93)

CONTACT

Adobe 020 8606 1100
www.adobe.co.uk

SYSTEM

MAC: PowerPC G3, 128MB RAM, 495MB HD, Mac OS X 10.2.8
PC: Pentium processor, 128MB RAM, 460MB HD, Windows 2000, XP

FEATURES

- Improved performance
- Extended commenting capabilities (free *Reader*)
- Assemble multiple files into one document
- New pre-press tools
- Collect and manage review feedback
- Apply advanced document control and security
- Improved attachment capabilities
- Design PDF forms
- Organise PDF collections more easily

FOR

- Faster to launch and use
- Good pre-press capabilities
- Opens up document reviewing

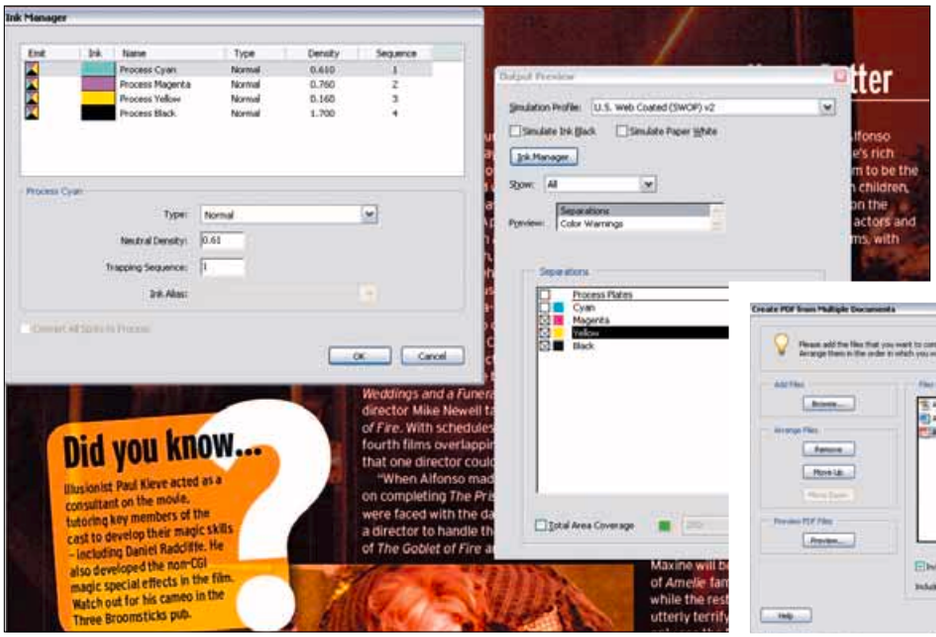
AGAINST

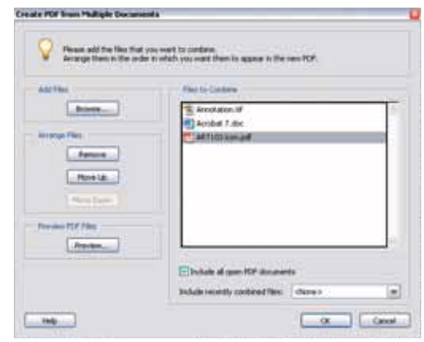
- Rather sprawling and bitty
- Too many versions in range
- Mac version not as well integrated with other apps

VERDICT

More evolution than revolution, *Acrobat 7* nevertheless incorporates a good number of tweaks and useful new features. The ability to make documents reviewable by just about everyone is a welcome addition, and might even change the way you submit roughs.

★★★★★





LEFT: The Output Preview is improved, and now you can view ink changes via the Ink Manager.

BELOW: Creating PDFs from multiple sources is relatively simple, although you can't access format settings from here, which is a little annoying.

Acrobat 7 Professional

RECONFIGURED PDF CREATOR SHOWS OFF NEW FEATURE-SET AND ENHANCED INTERFACE

Adobe's Portable Document Format has established itself as the de fact standard for sharing digital documents of all stripes and colours. Of course, it's also an invaluable solution for digital print processes; *Computer Arts* has been produced using the PDF for around five years now.

So it's difficult to imagine exactly what Adobe could add to the latest version of its PDF creating package, *Acrobat*. Quite a lot, as it happens – although many of the additions are aimed at business users rather than creative professionals. We took a look at a late beta version which was running remarkably smoothly.

Acrobat 7 Professional actually consists of three programs: the main app itself, *Distiller 7* (for converting PostScript files to PDF) and *Designer 7* (for creating electronic XML forms for distribution as PDF or HTML). At its most basic, *Acrobat* is a single-click operation for many types of document, automatically installing a Convert to PDF toolbar in any compatible app found on your system (be it Microsoft *Word, Internet Explorer, AutoCAD...*).

Interestingly, there's now support for Microsoft *Outlook*, so you can convert a folder-full of emails into one PDF document for archiving if you like.

Alternatively, you can use the virtual PDF Printer to output just about any document as PostScript, which is then automatically converted to PDF. And if push comes to shove, you can even scan a paper document and use OCR to create a rough-and-ready translation.

Acrobat 7 adds the capability to create a PDF from multiple files, be they images, text or whatever. Bookmarks are automatically generated for each file, and the elements of such "combined" PDFs can even be extracted again, back to their original file formats. As before, the app provides comprehensive options for controlling the compression of bitmaps, colour policies and so on for each format – although, curiously, you can't alter any of these parameters for a page converted from HTML. For software that revels in flexibility, this seems oddly restrictive.

AT ITS MOST BASIC, ACROBAT IS A SINGLE-CLICK OPERATION FOR MANY TYPES OF DOCUMENT

RESOURCE

Acrobat is so much more than a humble PDF generator. Check out studio.adobe.com for a wealth of advanced tips, such as how to incorporate JavaScript into a PDF or exploit *Acrobat*'s batch-processing tools.

Once a PDF has been created, there are numerous ways to add comments and notes to its content. For engineering and CAD docs, the new Dimension tool enables you to check an existing measurement and add a corrected one if necessary. Then there's the new Callout tool for adding location-specific comments, complete with arrows – rather more subtle than the old Note tool, which often obscures the doc. All types of comment can now accommodate cut-and-pasted text, too, which means you can refer to Web links or the like – or even attach a specific file as a comment.

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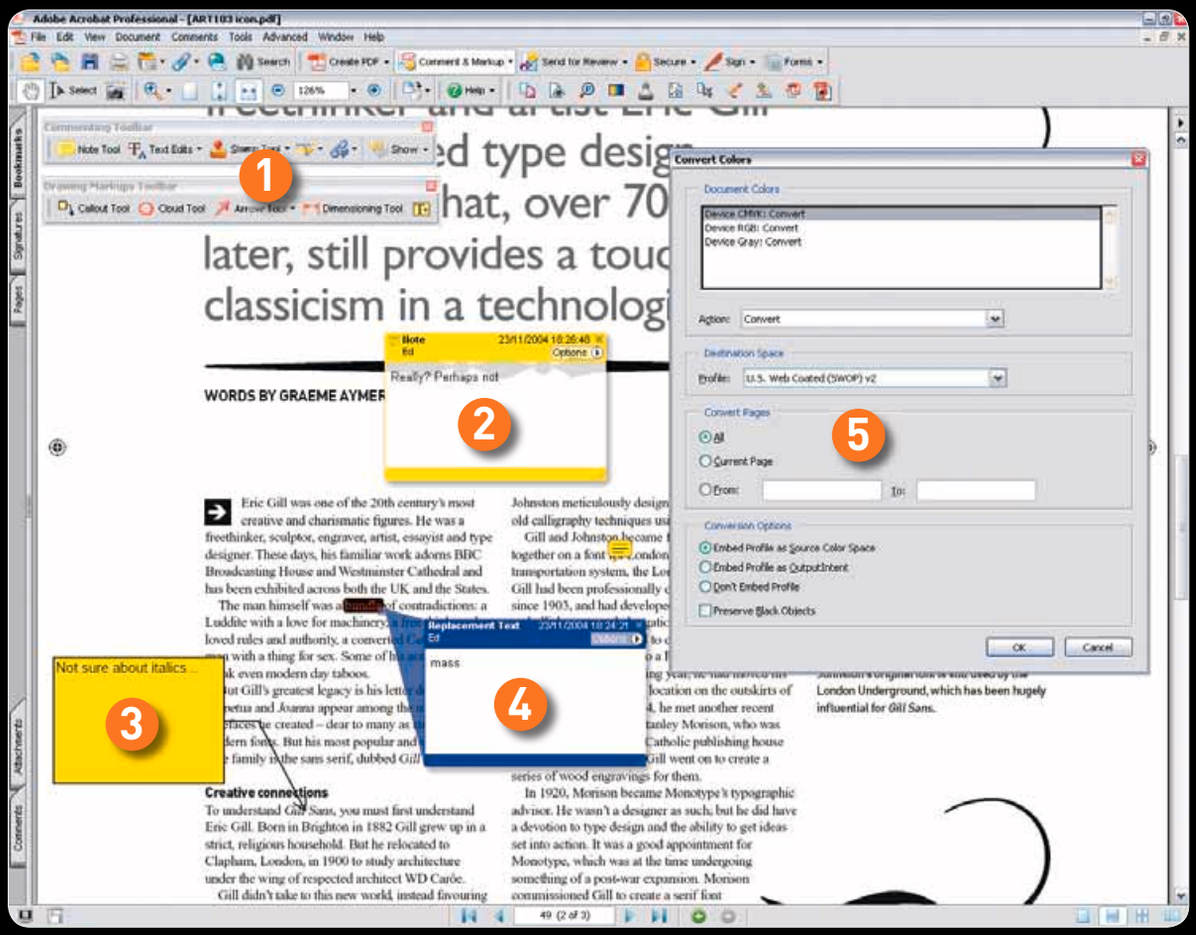

ACROBAT 7 PROFESSIONAL NEW FEATURES

1. REVISED TOOLBARS
Adobe has grouped many of the old menu functions into relevant toolbars. These act like those in any other application.

2. TAKE A NOTE
You can now cut and paste virtually anything into the PDF notes, as well as type directly into the text field.

3. ANNOTATIONS
The new Callout annotation tool has configurable arrows and is mainly designed for engineering plans.

4. TEXT AMENDS
Any textual additions, deletions, etc., made are displayed as shown, along with the replacement text itself.

5. CONVERT COLOURS
The new Convert Colors dialog is one of the many additions geared towards pre-press and creative use.

One of the biggest changes to version 7 comes as rather a bold step for Adobe. Recognising that not everyone who receives a document will have *Acrobat*, version 7 enables anyone with the free Adobe *Reader* to add comments and notes (given the author's permission). Such documents can then be emailed to any group. This great addition should make collaboration a lot simpler.

While much of this is welcome but hardly exciting, the new Print Production toolbar proves far more intriguing. This groups several options from previous versions, but adds some new ones, too, most notably Convert Colours and Printer Marks. With this handy feature, you can now convert from CMYK, RGB, greyscale or spot to any installed gamut, although unfortunately there's no preview or undo facility.

Meanwhile, the Ink Manager enables you to modify the way inks are treated while the PDF is open (although you still need to use Convert Colours to make permanent changes). In addition, you can add Printer marks from one handy dialog box, and crop accordingly.

PROFESSIONAL? STANDARD?

So what exactly is the difference between the various flavours of *Acrobat 7*? Well, most importantly, the *Standard* version lacks the ability to make docs reviewable in Adobe *Reader*. It also comes without the Designer forms software and doesn't support *AutoCAD*.

Acrobat Elements is much more basic, and intended for volume licensing only. Then, of course, there's the ubiquitous Adobe *Reader* (nee *Acrobat Reader*), which is read-only and available entirely for free. (Note that other versions, such as *Capture* and *Messenger*, are highly specialised.) For a full comparison of the range, visit www.adobe.com/products/acrobat/matrix.html.

The Output Preview has also been beefed up, for viewing separations, while the new Flattener Preview enables you to view any transparency information in the current PDF. Finally, there's a useful Fix Hairlines tool to ensure ultra-low line weights don't vanish altogether.

One of the biggest complaints levelled at *Acrobat 6* was its slow launch speed. The glacial pace at which PDF documents in a web browser were displayed put off many surfers, too. Adobe has remedied both problems in version 7 by adding the Speed Launcher, which runs on start-up and sits in the background (although only in Windows), accelerating the display.

There are numerous other improvements and tweaks in *Acrobat 7*. The tidier interface is less confusing – and, finally, we get an auto-save option. Some are really only of interest to hardcore business folk, admittedly, while others (such as the ability to embed *Atmosphere* 3D objects) are just plain obscure.

But the overall impression is that Adobe has listened to its customers. *Acrobat* finally feels like a stable and integrated program, instead of a rather random collection of tools. There's still room for improvement, of course, especially with some of the new pre-press functions, but one step at a time...

The ability to add comments and other notes to a doc using just the free *Reader* seems to publicly acknowledge that PDF is now *the* all-conquering format for collaboration. It should help any design studio get better work-in-progress feedback from clients, and without them having to shell out a fortune for the privilege. arts

ABOVE: The Organiser, a comprehensive PDF browser, also provides access to common features such as printing.

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MAC Yes PC Yes

PRICE

£1,169 (licence packs available – see website)
PrintDevizor Lite (Viewer) – available free of charge

CONTACT

Stonecube
0117 905 8706
www.stonecube.com

FEATURES

- Simulates spot colour, varnishes, paper stock, metallic inks, embosses, foils and more
- Interactive 3D preview
- Stack-based interface
- Output image or QTVR
- Supports a range of file formats, including GIF, JPEG, PCT, PSD (including selection of one or more layers), PNG, RGB, SGI, BW, RGBA, TIFF, TGA, BMP and PDF (Mac version only)

SYSTEM

MAC: PowerMac G4 (with ATI Radeon 9800 Pro Mac Edition), PowerMac G5, iMac G5, 2004 PowerBook G4, QuickTime 6.5.1 or later, Mac OS X 10.3 or later
PC: 1GHz P4, 256MB RAM, QuickTime 6.5.1 or later, DirectX 9 class graphics card, Windows XP or 2000

FOR

- Good special finish simulation
- Intuitive "stack" interface

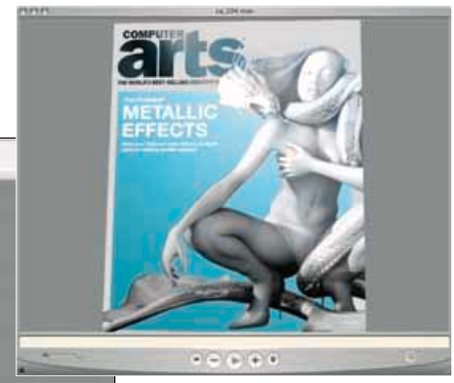
AGAINST

- No Pantone colour support
- Expensive

VERDICT

PrintDevizor is a great idea, especially if you work regularly with print finishes. But it falls short in one important area. It'll need to include Pantone colours if it is to work efficiently within a pro design environment, and a few quid knocked off the price tag wouldn't do any harm either.

★★★★☆



ABOVE: *PrintDevizor Lite* is a Viewer app that enables you to create basic mock-ups – with a maximum of four stacks – and save them with a watermark. You can't edit those made in *PrintDevizor*, though.

LEFT: *PrintDevizor* allows you to output your print finish simulation as either a JPEG or QTVR – so sharing files among colleagues and clients is a doddle.

PrintDevizor 1.0

VISUALISE YOUR PRINT FINISHES WITHOUT EXPENSIVE MOCK-UPS OR CHROMALINS

The problem with spot colours, varnishes, metallic inks, embosses and other special finishes is that you can't really tell what they'll actually look like until you've got the printed result in front of you. Of course, by this time, if there's anything that looks wrong or out of place you'll either have to live with it or send the whole run again. The latter, in a deadline-based environment, just isn't feasible.

Cue *PrintDevizor*, a tool that aims to simulate the look of certain print finishes within an interactive 3D environment. This sounds like an art director's dream; no more explaining to clients that it's not your fault that the gloss doesn't look right over that metallic spot...

But there's no direct support in *PrintDevizor* for Pantone colours. Sure, you can select a coloured spot or metallic ink using the system colour palette, but you can't quickly change a Pantone swatch – when a client wants to see his logo in "pink".

The obvious workaround is to create your spot colour in *Photoshop* – using swatches rather than channels – and then import the image back into *PrintDevizor*. Or alternatively you could note the CMYK values of your Pantone swatch in *Photoshop* and apply them using the colour-picker. Adding native and accurate Pantone colour support would make this app great.

That said, *PrintDevizor* is impressive in its ability to simulate surfaces – gloss and matt UV, different papers, embosses and more are represented with notable realism. As you drag and rotate your creation in the main window, light reflects off the surfaces.

PANTONE COLOUR SUPPORT WOULD MAKE THIS APP GREAT

RESOURCE

Visit Stonecube's website and find tutorials to help you get started with *PrintDevizor*. You'll find *PrintDevizor Lite* on the cover CD, which allows you to view *PrintDevizor* projects and create simple special finish visualisations.

The process of applying finishes to your document is simple, but, depending on the complexity of your project, can take a while to set up. When recreating last issue's cover (pictured), for instance, we had to make a mask of the metallic background and border, text, woman and logo in *Photoshop*.

We then adjusted the document's geometry to our specs, applied a matt paper and added the metallic ink using *Photoshop* to choose the swatch. We imported it in at a 75 per cent mix and then added a process colour layer. We then added the spot UV varnish to the woman and logo and adjusted the micron thickness based on our printer's advice.

The masks act as, well, masks, for special finishes; the black sections appearing where the special finish is applied. And you can, at any time, reverse the effect by hitting Invert in the context-sensitive menu to the left of the interface. You can then output the virtual mock-up as an image or QTVR file – so you can easily share the simulation among colleagues or clients. The software also supports all major image file formats.

PrintDevizor is undoubtedly a great idea, and we imagine the greeting cards companies will lap it up. It's also pretty good for publishing and general design environments – if you use a lot of varnishes or embosses – and very fast at rendering effects and image rotation, zoom and so on.

The package is expensive at £1,169 though, and dongled, which really got on our nerves. Add native Pantone support, halve the price, ditch the hardware key and we'd be interested in using it on a monthly basis. Until then, we'll keep hold of our cash and trust our instincts. arts

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MAC No PC Yes

PRICE

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Toaster Post £2,299

CONTACT

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www.newtek.com

FEATURES

- Live video capture and mixing from up to 24 sources
- Real-time editing
- Full version of *LightWave 3D*
- *Aura* (video painting package)
- Internet streaming
- DVD authoring
- Titling package
- Complete TV studio
- Live chromakey
- Live audio tools

SYSTEM

- Intel P4 520 (2.8GHz), Dual Xeon 2.4GHz or faster
- 512MB RAM
- UDMA IDE system drive with 600MB free HD space; 16GB for installation of DVEs and content
- Video Stripe Set: Four 10,000 RPM Ultra 160 or 320 SCSI hard drives
- SCSI Controller for Video Stripe Set on the 64-bit PCI interface

FOR

- Everything you need for a multi-camera shoot
- Excellent real-time facilities
- Great post-production tools

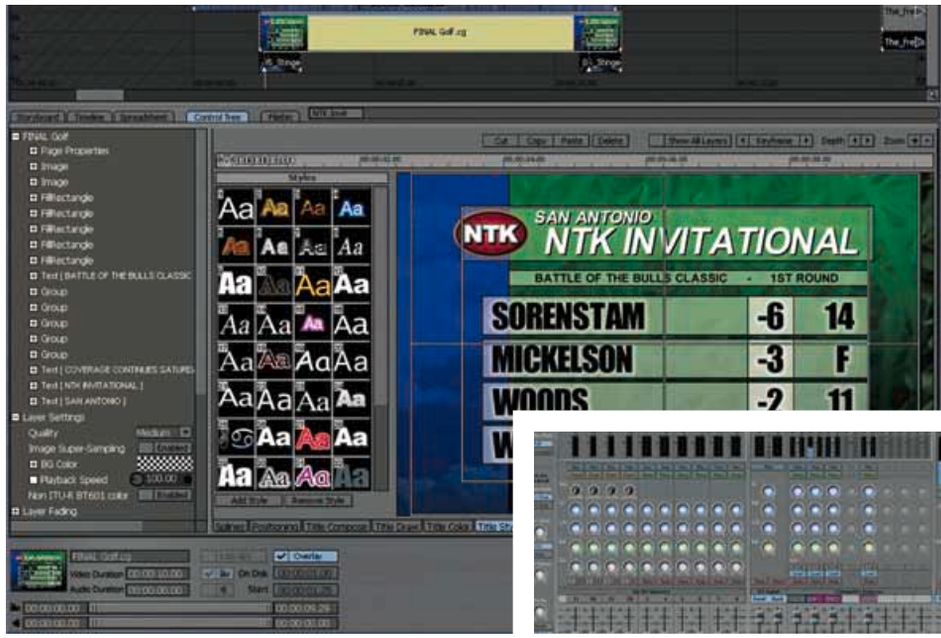
AGAINST

- No compositing package
- No audio mixer
- You'll have to buy a new PC

VERDICT

Toaster's specs are impressive, and if you want to set up a multi-camera shoot, or even a studio, there's little to touch it. For *Toaster* to work at its best, though, you'll need some fast hard drives and a decent PC. If you have the kit, there's not much you can't do with it.

★★★★★



LEFT: The improved titling package enables you to apply basic title animations with ease, courtesy of some quick and easy presets.

BELOW: You can set up a playlist containing video clips on disk, and then play them in a live show.

Video Toaster 4

A COMPLETE TV STUDIO WITH A POST-PRODUCTION SUITE THROWN IN

The original *Video Toaster*, back in the days when the best graphics computer on the market was the Commodore Amiga, introduced television to the idea that computers might just have a role in the production process.

In its more recent PC incarnation, the *Toaster* combines hardware and software to produce a system that's not only capable of editing uncompressed video in real time, but also running a live TV studio. In addition, the program comes bundled with a full suite of post-production effects software, so that everything you need for a live multi-camera shoot or a post-production suite fits into a single flight-case.

The *Toaster* prides itself on making software work harder than hardware. In other words, the tough job of working with video and applying effects in real time is done on your PC's own hardware. The *Toaster*'s machinery consists of a patch bay into which you can plug multiple cameras or tape machines (up to eight component or 24 composite), four microphones, a PCI card and a T-bar control unit, which lets you fade or cut from one input to another.

THE EDITOR IS INTUITIVE, IF A LITTLE UNCONVENTIONAL

The software includes its own editor, vision mixing software, full copies of *LightWave* and *Aura* (better known as *Mirage*). There's also a hard disk recorder, a titler and a DVD editing program.

The editor itself is intuitive, if a little unconventional. You can use any video file, compressed using any codec on your system, and combine different types of video flawlessly and without pre-rendering. There's also an absence of audio and video tracks on the timeline, so you can put anything anywhere on it and it'll still work. You can also put a gap for a live feed onto the timeline as though it's a pre-recorded video clip.

For live work, you can combine outputs from your cameras with a feed from the editing package, or a window from any other app. In other words, you can bring in a website or *Flash* animation and fade it, live, into your programme.

Version 4 doesn't completely overhaul the *Toaster*, but it does address some of its old weaknesses. Audio is improved with a full graphic equalizer, 3D surround sound and a range of audio effects, as well as four audio inputs. However, a hardware audio mixer would've been useful. As it is, you can fade audio tracks on screen, but there's no physical mixing desk for them.

In addition, Chromakey tools (spill suppression) have been improved, there's simpler internet streaming so you can record a full quality master to disk while streaming a compressed version of the show live online, and better background rendering is available for effects too complex for real-time manipulation.

The *Toaster* comes in two flavours – *Toaster Live* (reviewed here) and *Post*. *Post* includes all the software of the *Live* version, but no breakout box for multiple cameras and no T-bar to mix between video sources. A slightly cheaper version (sans *LightWave*) is also planned. arts

RESOURCE

The original *Video Toaster* caused quite a stir when released, and still has its fans today. In fact, it's still being run on Amigas and Amiga emulators. NewTek has even made the source code available, so enthusiasts can re-program it for fun. Check out www.open videotoaster.org.

TEAM LinG - Live, Informative, Non-cost and Genuine!

MAC Yes PC Yes

PRICE

£459

CONTACT

Hewlett Packard
0845 270 4000
www.hp.com/uk

FEATURES

- 24ppm (mono)
- 4ppm (colour)
- Fast warm-up time
- Compact
- 64MB of RAM, upgradeable to 192MB
- Parallel, USB or network connection
- Handles media up to 170GSM card
- 30,000 pages per month duty cycle
- One-year on-site warranty

SYSTEM

MAC: No Mac software – only connects via network
PC: 233MHz processor, 32MB of RAM, 150MB HD space, Windows 98, USB, parallel or network

FOR

- Low running cost
- Decent print quality
- Attractive machine

AGAINST

- High outlay for toner replacement
- Inadequate memory
- Terrible print queue management, especially for a workgroup printer

VERDICT

A compact and elegant printer, the 2550N desperately needs more memory and an easier-to-understand error reporting system. It quickly produces great prints, but with a limited gamut and limited drivers. It's fairly inexpensive to run, but ink replacement is far too steep.

★★★★★

ABOVE: Although compact and elegant in appearance, this laserjet could keep you hanging around for prints.

LEFT: The 2550N is fairly inexpensive to run, but could benefit from extra memory.

HP Colour LaserJet 2550N

A COLOUR LASER PRINTER THAT PERFECTLY SERVES ANY SMALL WORKGROUP

Epson took the gloves off in the budget colour laser market with its £450 C1000 – then went one better with the C900, which came in at under £270. Hewlett Packard has taken a while to come up with a worthy rival, and at first glance the 2550N doesn't seem up to scratch. But dig a little deeper and things start to get interesting...

First off, the 2550N outputs in mono at a lively 24ppm, 50 per cent faster than the C900's 16ppm (although both printers provide a more modest 4ppm in full colour). HP's baby also sports an impressively quick warm-up time; it took 2.5 minutes to churn out the first full page of a colour 300dpi A4 print, for instance. Not bad at all.

Sadly, the printer's drivers, along with its limited memory, leave you waiting longer. A lot longer. Sometimes, in fact, print jobs don't appear at all... This is particularly worrying given the 2550N's positioning as a network printer. For some reason, the device doesn't communicate properly with the drivers to manage queued print jobs. Indeed, the drivers often had insufficient memory to print our pages. Unsurprising, given the pitiful 64MB fitted as standard. It may knock the C900's 16MB into touch, but it still isn't enough for complex A4 jobs at 300dpi. Our advice? Upgrade the unit to 192MB, using dirt-cheap, industry-standard SDRAM sticks. Why the printer isn't fully configured already is beyond us...

THE 2550N OFFERS GREAT COLOUR AND VIBRANT PRIMARIES

RESOURCE

There are three HP2550 models to choose from: the 2550L, 2550LN and the 2550N. Check out all three at http://h10010.www1.hp.com/wwpc/uk/en/sm/WF25a/5043-5047-5051-5051-5063-4846693.html.

In terms of print quality, the 2550N offers great colour and vibrant primaries. Despite HP's blurb about "superior gamut", though, the printer (or its drivers) produces less tonal gradation than the cheaper Epson C900. This makes it less useful for proofing. Although the drivers offer various ICM colour-management options, none of them managed to reproduce the subtle variations of our test images. Laser printers aren't as subtle as inkjet printers anyway, but the HP 2550N's output was noticeably inferior to that of the Epson C900 and C1000 families.

In terms of running costs, the 2550N just pips the C900. It's a classic gambit by printer manufacturers to deliver printers that are cheap to buy, but expensive to run. The bare-bones 2550 costs £305, yet a full set of replacement consumables £433.95! This includes the imaging drum, which must be replaced every 5,000 pages. The black toner also lasts 5,000 pages, and colours for only 4,000 pages.

Even so, the printer only works out at 9.8p per page (at five per cent coverage) – cheaper than most inkjets. Furthermore, while Epson only includes a reduced capacity toner with its C900 (1,500 pages instead of 4,500), HP includes a full 4,000/5,000-page set with the 2550N.

When you consider that the difference in toner would set you back about £150-£200, the initial price difference becomes almost insignificant. Factor-in the 2550N's networking capability and the balance definitely starts to tip in HP's favour. arts

TEAM LinG - Live, Informative, Non-cost and Genuine!

MAC Yes PC Yes

PRICE

£292

CONTACT

Xchange International (reseller) 020 7588 5588
www.comnet-network.co.jp

FEATURES

- Palettes integrate with Adobe *Illustrator* palettes
- Intuitive layer-mapping
- 3D lighting effects
- Comprehensive manual and sample files
- Improved Positions palette
- Enhanced 3D modelling functionality
- *QuickTime* compatibility
- Customisable 72 or 360dpi export

SYSTEMS

MAC: PowerPC G3 or above, RAM sufficient to run *Illustrator*, graphics card supporting OpenGL 1.1 or later, OS 9.0 or later
PC: Intel Pentium processor or above, RAM sufficient to run *Illustrator*, graphics card supporting OpenGL 1.1 or later, Microsoft Windows 98, 98SE, ME, 2000, XP

FOR

- Digital mock-up capability
- Looks like just another *Illustrator* palette
- Gentle learning curve

AGAINST

- No specific help or topic search built in
- Complicated shapes can take a while to set up

VERDICT

Comnet's software will only appeal to specialist users – namely, packaging or direct-mail designers – but it works well and extends *Illustrator*'s capabilities beyond just 2D design and artwork. It's commendable that Comnet has targeted this niche market so well.

★★★★☆

ABOVE: Those already familiar with *Illustrator* will find this plug-in's layer-based design system pleasingly simple.

LEFT: Creating a basic mock-up is a straightforward job – and *FoldUP! 3D* can even fold the design up for you.

FoldUP! 3D 1.5

VIRTUAL PACKAGING MADE SIMPLE WITH COMNET'S USER-FRIENDLY *ILLUSTRATOR* PLUG-IN

Understanding how your design will look in three dimensions is obviously of vital importance to packaging professionals. Sadly, Adobe *Illustrator* boasts limited 3D capabilities, so the only way to preview your latest design is to print it out, cut and paste, then fold the prototype up by hand.

This can be a problem if you're pushed for time, or need to make numerous changes or electronically send a design to a client for approval. A flat design, laid out on a cutter guide, really can't convey the finished product as well as a fully transferable digital 3D mock-up.

Which is where Comnet's easy-to-install *FoldUP! 3D* comes in handy (demo on the cover CD). It's an *Illustrator* plug-in aimed at packaging designers and artists, and, once installed, appears as one of the app's many tabbed function windows, alongside such favourites as Pathfinder. It also adds a new tool called Base to the toolbox.

When you select *FoldUP! 3D* via the appropriate menu, you're greeted with a simple interface consisting of five palettes. The enclosed PDF manual covers each one in detail, but we found using the tutorial sample files a good hands-on alternative. Comnet's plug-in relies on layer-like functions to ensure it's intuitive to work with.

FOLDUP! 3D CAN AUTOMATICALLY FOLD THE DESIGN FOR YOU

To create a basic folding mock-up, you simply need to set up a "base", a "cut layer" (this enables the app to see the edges of your design) and a "fold layer". All graphics are then assigned to the artwork layer, and set up in the Layer Mapping palette. *FoldUP! 3D* can now automatically fold the design for you, or you can do it yourself by assigning the appropriate angles and folding directions using the Fold palette. You can then preview your design by hitting the Fold button.

It's possible to view your design in a variety of ways: as a wire-frame, white paper or hidden line solid, among others. You can also adjust the lighting effects, reorientate your object in virtual 3D and choose between low and high-resolution output. It's also possible to export the animation as a 3D raster image, a 3D model file or a *QuickTime* movie. At first glance, the interface seems complicated, but again the bundled sample files will help you out.

With *FoldUP! 3D*, you can create digital mock-ups entirely in *Illustrator*, a task that not so long ago would've required you to master an entirely new 3D package. Sure, it's never going to replace physically holding a mock-up in your hands, but the advantages are legion – accurate 3D digital models that are easy to pipe to clients for approval.

This latest version of *FoldUP! 3D* tweaks several functions, including the Positions palette and modelling functionality. *QuickTime* support is also provided. For retail packaging, direct-mail pieces and any kind of folded design, it should prove a godsend, fast-tracking the process and saving your sample-cutting for the finished product. arts

RESOURCE

FoldUp publisher Comnet produces a host of other Adobe plug-ins including tools for sign making, vinyl cutting and touching up and finishing off poorly designed logos. For more information see www.comnet-network.co.jp/eng/

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MAC No | PC Yes

PRICE

£99

CONTACT

Epson
08702 416900
www.epson.co.uk

FEATURES

- Automatic film loader
- 2,400 x 4,800 dpi
- Colour restoration and dust removal
- Image enhancement
- Image-editing software
- USB 2.0 connectivity
- Colour CCD sensor with Micro lens
- Compact design
- One year replacement or repair warranty

SYSTEMS

- Pentium 4, 2.4GHz, 512MB of RAM, USB2.0 Hi-Speed
- Windows XP Professional Edition

FOR

- Simple and automatic negative scanning
- Easy to use
- Inexpensive

AGAINST

- Image quality doesn't quite match that of more expensive scanners
- Doesn't feel solid

VERDICT

The Epson Perfection 2580 is a low priced but effective scanning device that produces great images, fast. The scanner is well designed and easy to use and its brilliant automatic loader makes the once-tricky process of scanning 35mm film negatives simple and painless.

★★★★☆

Perfection 2580 Photo

A CHEAP BUT CHEERFUL COLOUR FLATBED THAT MAKES LIGHT WORK OF SCANNING NEGATIVES

The digital photography revolution has taken the world by storm in what seems like a matter of months, so it's easy to forget there was once life before the megapixel and the bargain basement digital camera and that taking pictures once revolved firmly around 35mm film.

Ever keen to spot a trend and tap into a new market, scanner manufacturers have developed ways to help those undertaking film to digital archiving projects get the most from their 35mm film negatives.

Epson, always a powerful force in the scanner market, has tapped into this growing area with a number of models, including the affordably priced Perfection 2580 Photo – a light and compact device that scans both prints and negatives and offers all of the standard features of any competing colour flatbed scanner.

Standard issue flatbed scanners have been able to digitise prints for a while now, but the arrival of built-in 35mm film loaders is relatively new. The Perfection 2580 features an automatic loader, which makes the process of scanning negatives simple and pain-free. A flap opens up to give access to a motorised feed, which niftily sucks in a strip of up to six negatives. Slides can be loaded too, but need to be dealt with manually. The whole process is simple and far preferable to loading negatives into holders.

A LIGHT AND COMPACT DEVICE THAT SCANS BOTH PRINTS AND NEGATIVES

RESOURCE

All the info you need on driver downloads, FAQs, warranties and support can be found at www.epson.co.uk, as well as e-Talk – a live online help centre, which lets you fire off email enquiries to technical support.

Once the negatives are loaded, the Perfection 2580 can get to work – simply check the negatives using the Preview mode and push the Scan button. The scanner quickly captures images at a whopping 2,400 dpi. A 35 x 24mm negative will take around 60 seconds, resulting in a final image of around 3,000 x 2,500 pixels.

While our tests found a little fade in terms of colour reproduction, the images produced were faithful to the originals and of a pretty high quality.

MAIN IMAGE: The 2580's motorised top loader can quickly suck in a strip of up to six negatives.
INSET: Once your negatives are loaded, it's simple – just press the Scan button.

But aside from its negative scanning capabilities, the Perfection 2580 behaves in much the same way as any flatbed scanner of this price and easily and quickly scans and previews any media you chuck at it.

As the photo processing element of the package's functionality is so important to Epson's target audience, the company has included a number of extras to improve the final image. The Image Quality Enhancer includes dust removal, colour restoration, exposure correction, focus and noise removal features, while a bundled software package includes ArcSoft's *PhotoImpression*, for image editing, and an image-to-text converter for document text editing.

While the Perfection 2580's low price may put some users off, the results, for a scanner of this type, speak for themselves. It's a great investment. arts

TEAM LinG - Live, Informative, Non-cost and Genuine!

MAC Yes PC Yes

PRICE

£103

CONTACT

Lacie
020 7872 8000
www.lacie.com/uk

FEATURES

- 40GB storage space
- USB 2.0
- Lightweight and compact design
- Easy to use, with no driver software to install
- Powered by USB bus – no adaptor needed
- Cross platform
- PS2 power-sharing cable
- Two-year warranty
- 12ms seek time

SYSTEM

PC: Built-in Hi-Speed USB 2.0 or FireWire interface; Windows 98 Second Edition, Windows 2000, Windows Me or Windows XP
MAC: Mac OS 9.x or greater; Intel Pentium II 350MHz-compatible processor or greater; iMac, Power MacG3 or greater; minimum 32MB of RAM.

FOR

- Easy to use
- No power adaptor needed
- Looks good

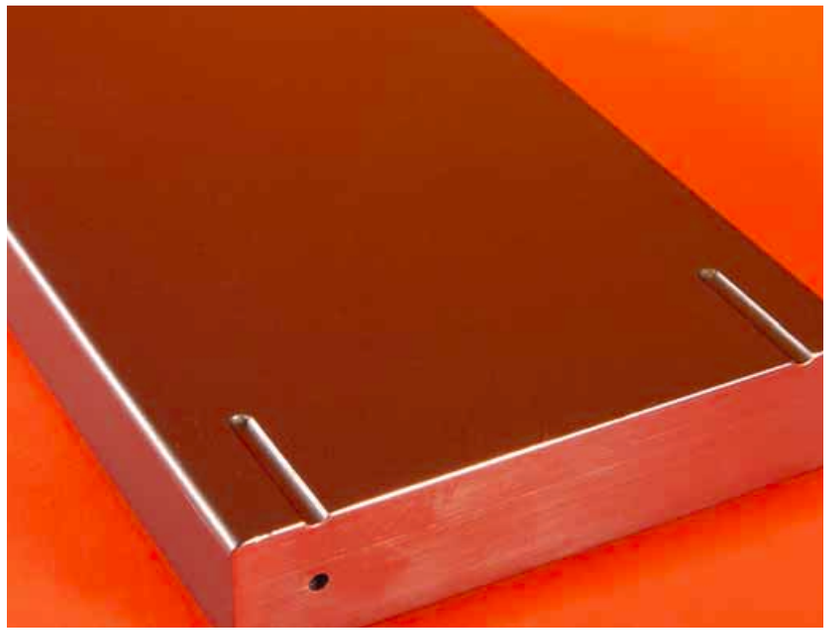
AGAINST

- Expensive
- Not the fastest drive available

VERDICT

The Lacie Mobile Hard Drive is not the fastest or cheapest portable storage product on the market, but it is durable, hardworking effective and very easy to use. In addition, the sleek and minimalist Porsche design makeover adds a little extra individuality.

★★★★★



ABOVE: Porsche's sleek design makeover may look great, but will it add much value?

LEFT: Weighing-in at just 200g, Lacie's latest mobile storage device is lightweight and easy to carry around.

Lacie 40GB USB 2.0

AN EFFECTIVE AND HIGHLY-PORTABLE MOBILE STORAGE UNIT WITH A SLEEK PORSCHE MAKEOVER

Mobile storage units don't usually score highly in the rankings of must-have accessories, especially when compared to the ubiquitous iPod, but peripherals specialist Lacie is making an effort to make these wholly functional devices just a wee bit more glamorous.

Sure, portable devices ranging from storage keys to the likes of the Iomega REV drive (reviewed in *Computer Arts*, issue 103) have got smaller and more user-friendly over the years, but in terms of pure aesthetics, a rectangular piece of plastic is usually presented by its manufacturers as just that.

But, with its eye firmly on the massive cross-over gadgets market, Lacie has handed its latest mobile storage unit over to the legendary design team at F.A Porsche for a complete external makeover. The result? A product that is both effective as a storage device and quite nice to look, too.

With its brushed metal finish and minimalist shell, the Porsche team has done a great job of transforming a boring looking piece of kit into something that's more aesthetically pleasing. But design aside, is this a storage unit you can take seriously, or does it just look good?

One of the most important considerations for the Lacie drive is that it should be easy to store and move around. Weighing-in at just 200g and with dimensions of 17x76x129mm, the drive is certainly light and easy enough to carry in a coat pocket. The drive also seems durable, with a tough metal exterior that gives a robust impression – it should certainly be able to take a couple of knocks and stand up to general wear and tear.

AN EFFECTIVE STORAGE DEVICE THAT'S QUITE NICE TO LOOK AT, TOO

RESOURCE

Problems with your new hard drive? Difficulties transferring or naming files? Need advice on USB cards and adapters? Visit Lacie's website at www.lacie.com/uk to find all the info, answers and drivers you'll need to get started.

In terms of performance, ease of use and convenience, the Lacie drive scores highly. The device works straight out of the box, connecting to Windows PC or Mac via a USB 2.0 lead and appearing instantly on your desktop. There's no software to install either, so you really do just plug it in and get started. The bus-powered drive doesn't have a power supply, but draws power from your PC or Mac via the USB cable. If it can't, Lacie has included an additional power-sharing cable, which can be plugged into a second USB or PS2 port. This means you don't have to carry a power supply around with you, saving even more room.

In terms of data transfer speeds, we found the 40GB model perfectly adept at dealing with large transfers at a rate of around 6.5MB per second – a reasonable speed for a drive of this size and price. We were also impressed with the speed at which the drive transferred data back to our source Mac.

At £103 for the 40GB model, the price tag is not the lowest available for a device of this type, but neither is it too inflated. At this point, it's a little difficult to see exactly how much value Porsche has added with its sleek design job, but the product works excellently well in terms of mobile storage and is very easy to carry around.

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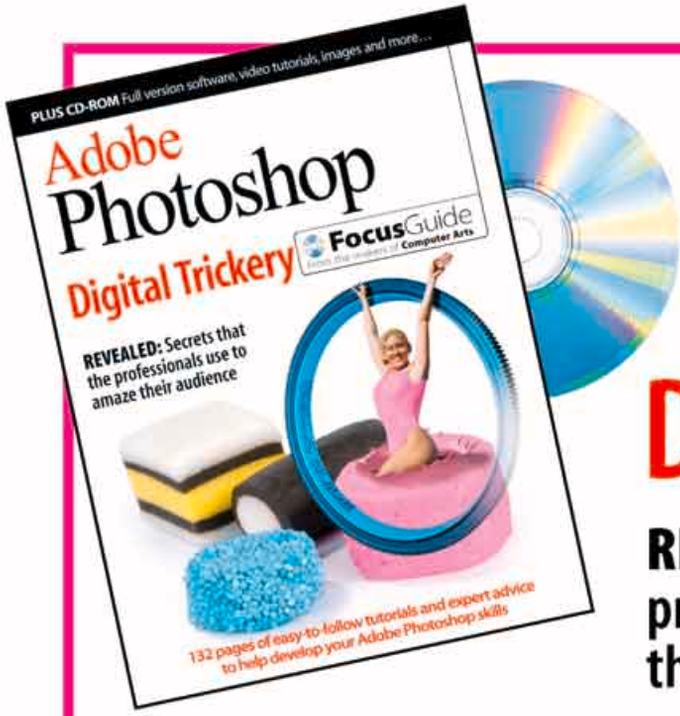

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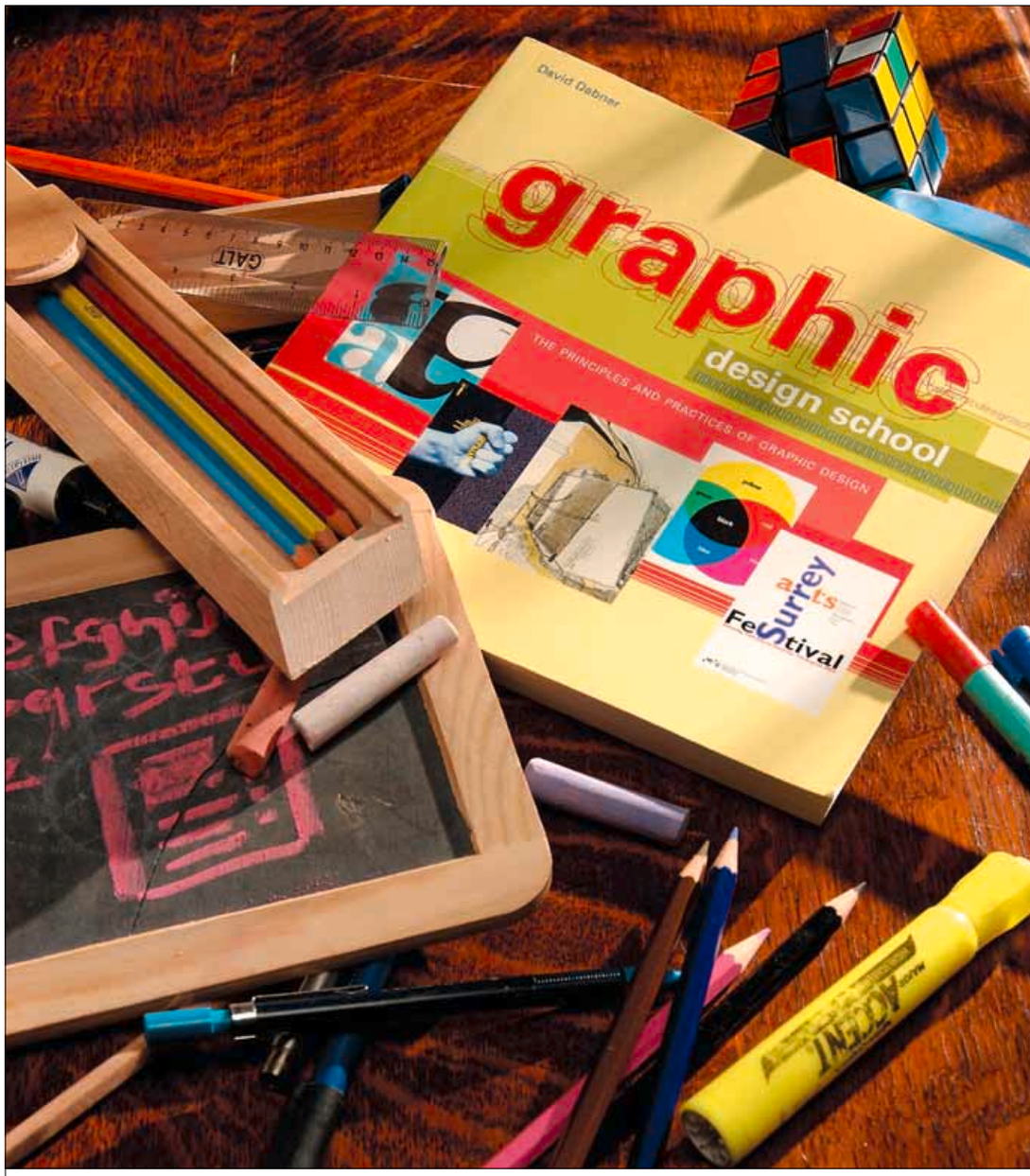


BOOK OF THE MONTH

GRAPHIC DESIGN SCHOOL
THE PRINCIPLES AND PRACTICES OF GRAPHIC DESIGN

AUTHOR: David Dabner
PRICE: £14.95
PUBLISHER: Thames & Hudson
ISBN: 0-500-28526-8

Some working in the professional design field insist that graphic design is a skill that cannot be taught. Potential designers need to have a "feel" for design, they argue, an intuitive understanding of what works on the page. No training, they believe, can compensate for a lack of innate talent.

They may have a point, but few designers could get by without *some* kind of formal training – and all, when pushed, admit that when it comes to, say, mastering the intricacies of industry-standard software, it's easier with (rather than without) a mentor to show you the way.

Certainly, David Dabner, who has written widely about graphic design, and teaches a course in the subject at the London College of Printing, believes everyone deserves a chance... His latest book aims to provide a self-teaching guide for those wanting a solid grounding in the basics.

Split into two sections dealing with the language and principles of design, his book covers pretty much everything you need to know when considering a career as a professional designer. Part one looks at the principles of basic layout, colour theory, composition, photography and typography. It also provides a brief introduction to layout, print and web design, and 3D software.

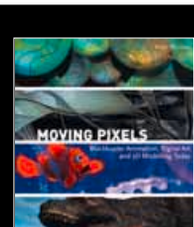
Part two then seeks to draw all these elements together, and demonstrate how to apply them to specific projects in real-world situations, with the help of tips, examples and even written seminars.

In trying to be a jack-of-all-trades, Dabner's book acts a good introduction to the field, but covers too much in too little detail. The chapters attempting to deal with *QuarkXPress*, *InDesign*, *Dreamweaver* and even *Toon Boom*, for instance, do little more than scratch the surface. Still, as a hands-on overview, it does the job.

ALSO RECOMMENDED

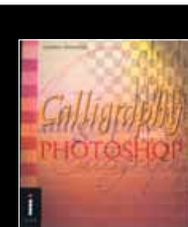
THE DIGITAL DESIGNER'S BIBLE
AUTHOR: Alistair Dabbs and Alastair Campbell
PRICE: £24.95
PUBLISHER: Ilex
ISBN: 1-904-70527-8

This in-depth trawl through digital design aims to cover the development of a project from first idea to completion, taking in everything from software issues and copyright to printing and web design. A thoroughly comprehensive guide.



MOVING PIXELS: BLOCKBUSTER ANIMATION, DIGITAL ART AND 3D MODELLING TODAY
AUTHOR: Peter Weishar, Phil Tippett
PRICE: £19.95
PUBLISHER: Thames & Hudson
ISBN: 0-500-51208-6

A quality coffee-table guide to computer-generated imagery in blockbuster flicks, *Moving Pixels* features hundreds of illustrations from the likes of Pixar and Dreamworks.



CALLIGRAPHY WITH PHOTOSHOP
AUTHORS: George Thomson
PRICE: £16.95
PUBLISHER: Ilex
ISBN: 1-904-70554-5

This well-put-together guide explains how to produce calligraphy in *Photoshop* and covers everything from letterform basics to how to transfer calligraphy to design packages. Some effects are cheesy, but it's a useful reference guide.

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➔ GROUP TEST

3D ANIMATION SOFTWARE

With 3D computer-generated imaging now a staple of the film, television, print and web industries, selecting the right app for your needs demands more than a bottomless wallet and Ferrari-specced hardware...

Choosing the right 3D animation package is never easy – particularly when so many of them seem to offer a similar set of features. 3D programs can usually be divided into four areas – modelling, texturing, animation and rendering – and each program will tackle these sections differently. For example, all the applications on test here offer some kind of polygon modelling, although some also provide mathematical representations of 3D geometry, or NURBS (Non-Uniform Rational B-Splines), and/or Bézier patches. Likewise, each app provides keyframe animation, although the related tools and interfaces vary considerably.

Specifications matter when buying any kind of product, but they should not be the determining factor. Far more important is how well the application integrates various features and, of course, how well it works. For example, HDRI (High Dynamic Range Image) support is catered for in all the applications featured in our Group Test, but the level of support and the ease with which you can use HDRI files in the program differs considerably.

We've judged all of these programs not just on features, but on the usability of the feature-set in real production terms. After all, there's not much point having the latest buzzword feature if it's painfully slow or difficult to use. So read on, and see which one of these five industry-standard packages would best suit you...

Illustration by Scott Hansen. www.iso50.com

MAYA 6.0 P90

SOFTIMAGE XSI 4.5 P90

3DS MAX 7 P91

LIGHTWAVE 8.0 P91

CINEMA 4D R9 P92 ➔

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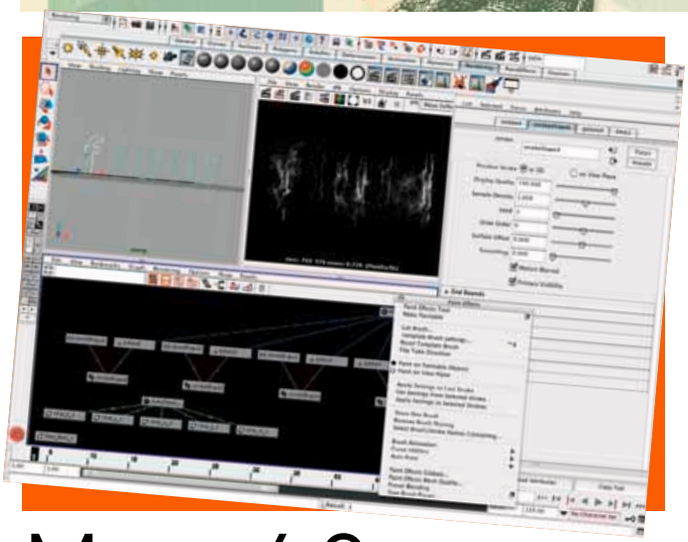


Maya 6.0

MAC Yes | PC Yes | PRICE £1,470

CONTACT 01494 441273 www.alias.com

No 3D Group Test would be complete without *Maya*. It's become the standard package in the high-end visual effects and post-production markets and the yardstick by which to compare other 3D apps. So you might wonder why this mighty program hasn't taken the top slot in our Group Test? Well, while it's pretty much top dog for effects and character animation work, it has some mighty flaws.

Modelling, however, is very good, with both NURBS and polygon modelling well catered for. You'll also find hierarchical Subdivision Surfaces and the more regular kind, labelled by Alias as the Polygon proxy mode. Animation is excellent, too. There's a very good keyframing, f-curve and set-driven key interface, which – coupled with deeper tools such as Expressions and MEL (Maya Embedded Language) scripting – offer a solution to just about every animation problem. Other versatile technologies include Trax (non-linear animation), IPR, Paint FX and Dynamics systems.

Helpfully, rendering has integrated support for the excellent *Mental Ray 3.3* renderer, plus *Maya*'s own software and hardware rendering, as well as a RavX *Flash* output tool for web-based 3D work. The material/shader system is less satisfactory, though, and could benefit from a simpler and more user-friendly interface.

But there's one main problem. *Maya* requires a huge amount of dedication, and despite attempts by Alias to make it more accessible to new users, the program is much less artist-centric than the other 3D apps on test here. To get the most out of it, you'll need to make your way into the guts of the program, whether you want to or not.

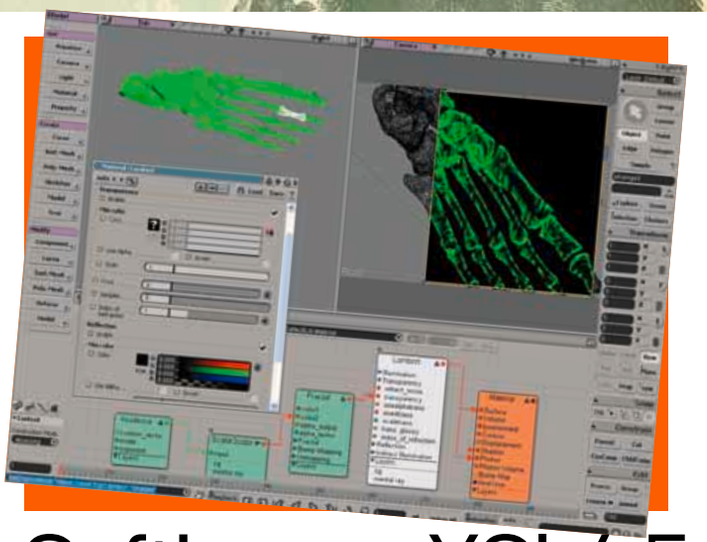
If you're looking for a more casual 3D system, you may find *Maya* just a little too uncompromising.

VERDICT ★★★★☆

A great 3D app for the die-hard character animator or effects artist, but a lack of flexibilty lets the software down. *Maya* features some phenomenal technology, but is less inviting for digital content creation and general-purpose 3D work.

RESOURCE

Alias's *Maya* Resource Centre offers excellent tips and tricks for *Maya* users. Want to know how to import *3ds max* files? Or add motion blur to an animated texture? Then visit www.alias.com/eng/support/maya/index.jhtml



Softimage XSI 4.5

MAC No | PC Yes | PRICE £1,082

CONTACT 01753 650 949 www.softimage.com

Of the high-end 3D programs on test here, *XSI 4.5* is arguably the most balanced, offering a rich, even-handed toolset for modelling, animation and rendering. Rendering is a strong point, mainly because *XSI* was designed to work seamlessly with *Mental Ray* from the outset.

Interactive preview rendering can be accomplished in any viewport at any time, although it's not quite the same as true interactive systems that only update parts of the image that change, as in *Maya*'s IPR (Interactive Photorealistic Rendering). Nevertheless, the graphical shader-building system is well designed and relatively easy to use, and automatic insertion of data conversion nodes makes connecting shaders with disparate data types much easier for newbies.

NURBS are catered for, but the system isn't as complete as *Maya*'s. However, *XSI* makes up for this shortfall with an excellent polygon modelling toolset that is a joy to use. Subdivision smoothing is available as property of all polygonal objects and makes flipping between low and high-res modes really easy.

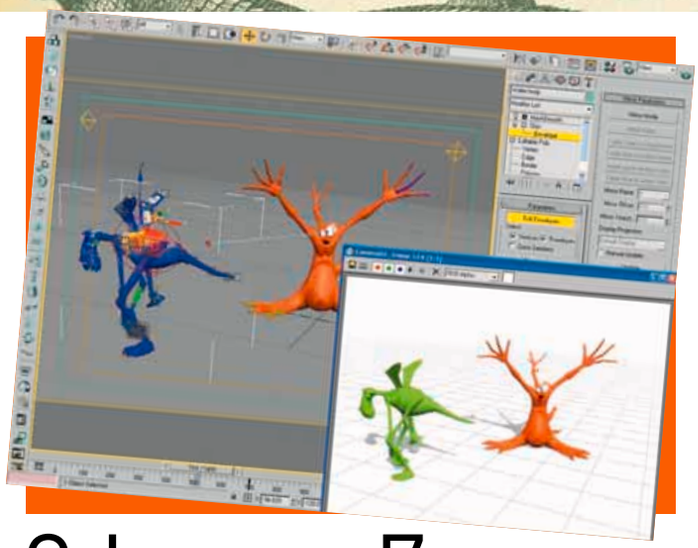
Animation is also excellent, with features comparable to *Maya* combined with a smooth workflow. However the organisation of animatable parameters can be confusing, which leads to a more complicated selection and general set-up process than we think is necessary. That said, *XSI* has fine tools for managing high-level animation, and does a great job of applying existing animation data to different character rigs.

XSI Essentials costs $1,995 (approx. £1,082) and includes cloth, soft body dynamics, particles, a six-node rendering licence and some superb general-purpose tools. It's a great system, and boasts one of the best implementations of modelling history we've seen.

VERDICT ★★★★☆

A great all-round system, with superb rendering and a solid character toolset. Not as easy to use as some other apps – and only available for the PC – but workflow is consistent. Advanced scripting is also available.

TEAM LinG - Live, Informative, Non-cost and Genuine!



3ds max 7

MAC No | PC Yes | PRICE £2,695

CONTACT 0207 851 8000 www.discreet.com

3ds max is the one package featured here that hasn't yet succumbed to a drastic price-cut. At £2,695, it's an expensive package and, unlike the modular *Cinema 4D*, must be swallowed in a single chunk. But despite the high price, it remains one of the most popular choices for 3D artists.

The toolset is broad and diverse enough to cater for almost all 3D situations, including character animation, an area in which *3ds max* has become much more suited thanks to a *Character Studio* plug-in. The biggest bonus? *3ds max 7* now includes *Character Studio 4.0* at no extra cost. This is a wise move by Discreet, because *max* has been losing mind-share to *Maya* and *XSI* in this area for a while now.

One great feature – particularly for game designers – is Normal Mapping. This enables you to "imprint" the normals of a high resolution model onto a low-res model in a similar way to bump-mapping (except that the details are referenced from actual geometry). Another is Skin Morph, similar to *Maya*'s Wrap Deformer, which enables you to deform a high-res mesh using a much simpler proxy that's also easier to rig and weight.

3ds max is a good all-round system, despite its bias towards games development, but there are drawbacks. The core of the program is dated compared to *Maya* and *XSI*, which both offer deeper access to features and better integration with different aspects of the 3D pipeline (such as modelling and animation).

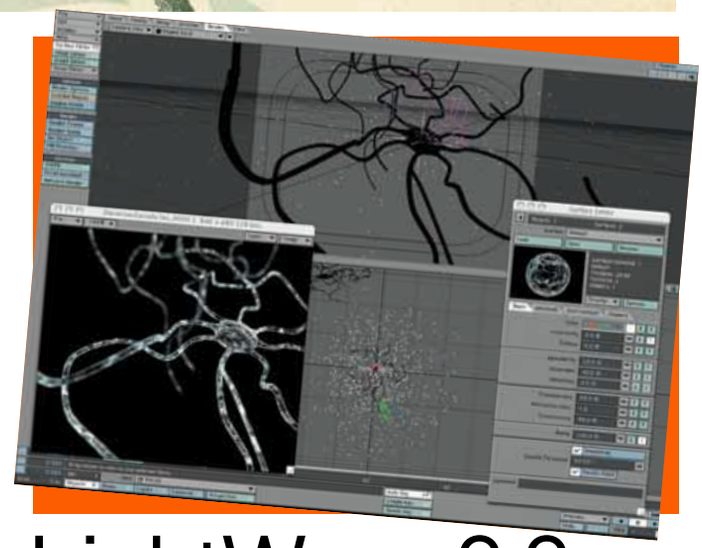
Rendering is supplied by a *Mental Ray* plug-in, but it's not quite up to *Softimage XSI* standard. The material system is fairly good, but it can be difficult to keep track of complex set-ups because of the weak interface. *3ds max* is a good program in terms of features, but the core is already showing signs of age.

VERDICT ★★★★☆

A feature-rich system that's been built on a less-than-ideal foundation and workflow, but it's capable of good results nonetheless. Unlike competitors such as *XSI* and *Maya*, *3ds max 7* is expensive, but still remains a popular choice.

RESOURCE

You may have already seen *LightWave* imagery in film and on TV without really realising it. Check out what's possible at http://www.newtek.com/products/lightwave/lw-gallery/index.php?cat=2



LightWave 8.0

MAC Yes | PC Yes | PRICE £995

CONTACT 1-210-370-8000 www.newtek.com

In essence, *LightWave 3D* hasn't changed that much since it was launched way back in 1995. Yet it's managed to keep up with its peers and even maintain a lead in some key areas. It's a system that breaks with 3D convention, yet remains simple enough to beguile even the most techno-illiterate of artists.

LightWave doesn't offer the complexities of true NURBS surfaces, for instance, but it was one of the first to integrate subdivision surface modelling (then called MetaNURBS, now dubbed Subpatch modelling) and developed a strong toolset around the concept. It's a strong polygon modeller, too, but could benefit from some form of modelling history.

Unlike the other programs featured here, *LightWave* is also a dual app, with separate programs for modelling/surfacing and animation/rendering. This approach actually works well in production, and makes it easy to refine a model even if it's already been rigged and animated.

Rendering is one of *LightWave*'s strong points, with the best native rendering of any of the apps on test. The program offers all the usual niceties, such as Radiosity, Caustics and HDRI support, plus VIPER interactive rendering and soft shadow caching (new in 8.0).

In this latest iteration, NewTek has also tried to address one of *LightWave*'s weakest features: character animation. The app is fine for occasional work, but we wouldn't recommend it for dedicated animation, since *Maya*, *XSI*, and *Cinema 4D*, have more fluid and refined workflows in this area.

There's also a good particle system, soft and rigid body dynamics and even basic hair and fur. Stand-out features include morph maps, which store multiple morph targets in a single object file, and decent unlimited rendering as standard.

VERDICT ★★★★☆

LightWave 8.0 is a great all-rounder with a relatively easy learning curve and excellent rendering quality. But a lack of modelling history can be a pain and the character tools are still a little weak.

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MAC Yes PC Yes

PRICE

£2,199

CONTACT

01525 718181
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FEATURES

- Innovative Soft IK
- Micropolygon displacements
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- Set-and-forget 16x edge anti-aliasing
- GUI-based expressions
- Intuitive, powerful interface
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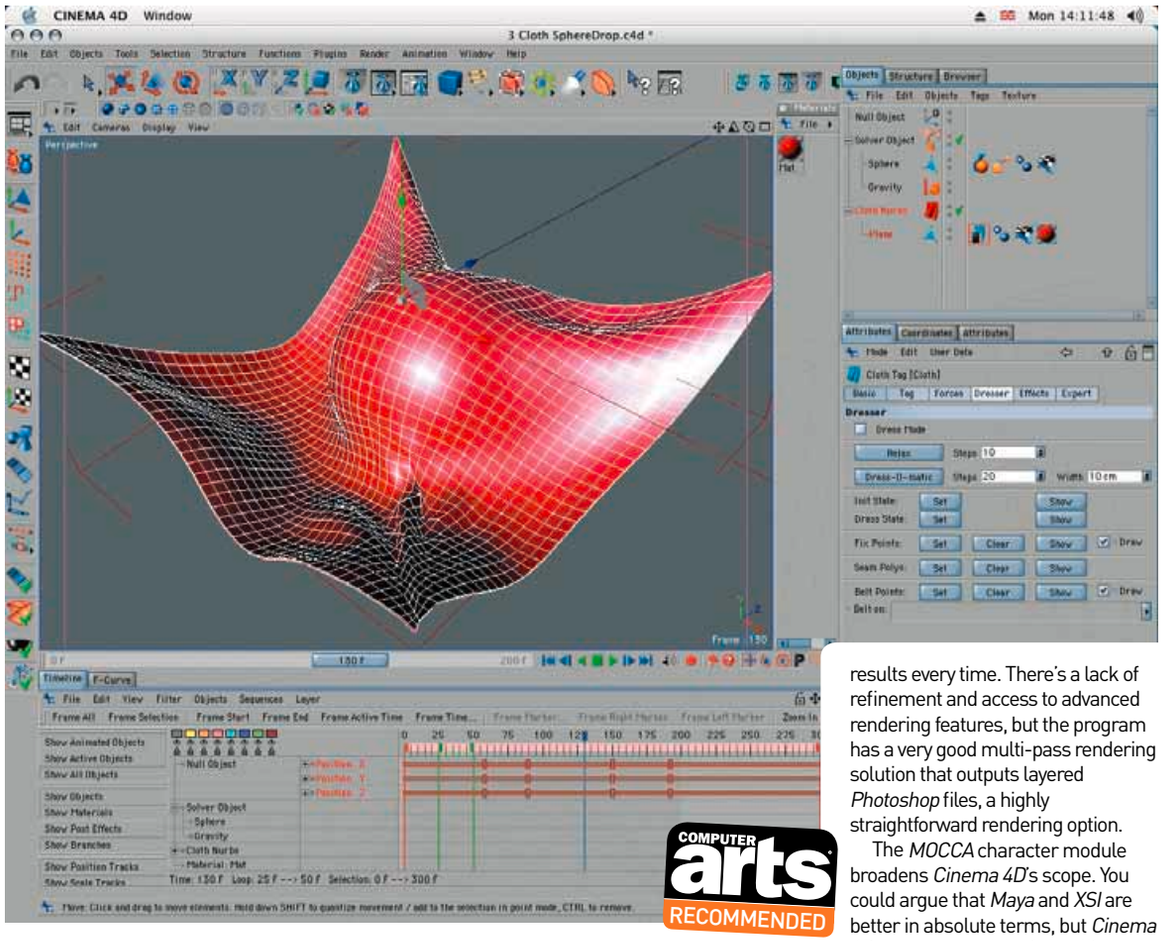
- Excellent Cloth simulation
- Rigid and soft body dynamics with springs and constraints
- Dedicated BodyPaint 3D painting and UV editing interface
- Deep integration between toolset and interface
- Powerful Attribute Editor

FOR

- Easy to use
- Deceptively powerful

AGAINST

- Rendering quality could be less CG-like
- Currently no third-party alternatives



COMPUTER arts RECOMMENDED

Cinema 4D R9

MAXON'S TOP MODELLER FINELY BALANCES VALUE FOR MONEY WITH POWER AND FEATURES

Cinema 4D R9 is unique in that it enables you to custom-build its feature-set with the help of modules. Unlike plug-ins, these programs give access to totally integrated feature sets in areas such as character animation, 3D painting and UV editing, rendering and dynamics.

The core application, *Cinema 4D R9*, costs a modest £499 and includes a full set of modelling and keyframing tools, as well as good basic rendering. The *Studio Bundle* on test here features all eight extra modules (*Advanced Render R2, MOCCA R2, Thinking Particles, NET Render, Dynamics, BodyPaint 3D R2, PyroCluster R2, Sketch and Toon*). The best thing about this modular system is that you can expand the program as and when budget allows, which is much more cost-effective.

In use, *Cinema 4D* feels halfway between a full-on, uncompromising 3D app such as *Maya*, and a more user-friendly low-end package. But this isn't a criticism; it has the added benefit of combining a comfort zone for new users with the depth or access required by pros, without compromising either.

There are weaknesses, though, such as rendering, which we think lacks a certain something, as well as the flexibility of advanced raytracers such as *Mental Ray*. However, the default 16x geometry anti-aliasing delivers perfect edge results every time. There's a lack of refinement and access to advanced rendering features, but the program has a very good multi-pass rendering solution that outputs layered *Photoshop* files, a highly straightforward rendering option.

The *MOCCA* character module broadens *Cinema 4D*'s scope. You could argue that *Maya* and *XSI* are better in absolute terms, but *Cinema 4D* does a better job of simplifying the process. Indeed, the usual horrors associated with bones and IK have largely been eradicated.

R9 introduces a new cloth engine, ClothHilde, which makes this task relatively easy and solves most problems, including collision and penetration. Results look good, too.

The built-in Xpresso system combines the power of expressions with the ease of use of a GUI, which gives access to this most useful of 3D tools to even the most non-program savvy artist. It's this feature that keeps *Cinema 4D 9* one step ahead of the game.

Maxon has spent a lot of time making advanced 3D tools easy to use, and creating a consistent user-interface and workflow for both casual and advanced 3D artists. Features are one thing, but implementation is everything, and, as such, *Cinema 4D R9* is the most accessible and usable of all the 3D packages on test here.

RESOURCE

Maxon's flagship 3D modeller has a massive and dedicated following. Visit www.maxon.net/index_e.html for an index of links to competitions, tutorials and free-to-use 3D models.

VERDICT

An excellent all-purpose 3D system that can tackle most 3D scenarios without making you jump through hoops. The program is well designed, stable and has growing support from third-party developers. Consistently strong across the board, too.

★★★★★

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CONCLUSION

Cinema 4D R9 wins this Group Test because it has the most to offer for the widest range of 3D work. It's as capable an architectural visualiser (offering some useful camera perspective tools) as a character animation tool, and the interface is easy on the eye, fast and eminently customisable. The default layouts are excellent, too.

Modelling and its associated workflow is particularly well configured. In addition to an excellent polygon modelling toolset, *Cinema 4D* also offers spline drawing tools, from which you can derive surfaces in the usual fashion (extrude, lathe, etc). These polygonal surfaces are generated "live", affording a much greater degree of modelling history. With the Object Manager, you can also group so-called generators that produce geometry with deformers, such as Bend, FFD or Bones.

While not offering as deep a history scheme as *Maya* or *Softimage XSI*, the tight integration of all features means that you rarely run into conflicts when animating such hierarchical set-ups. In fact just about all parameters can be keyed, including those used to generate geometry in the first place. This offers a great deal of consistency throughout the program, regardless of the task you're performing, providing a level playing field for newbies learning the app and pros finding a solution to a production problem.

With *Cinema 4D R9*, you can have multiple scenes open at once – a feature currently unavailable in any of the other apps on test. It's a simple feature, but one that gives you lots of extra virtual working space. You can Cut and Paste between open files to modify an object in an empty scene file instead of in its main scene, which is extremely helpful if you're working on complex jobs.

Overall, *Cinema 4D R9* combines ease of use with powerful features and an elegant interface. arts

MODEL	MAYA 6.0	SOFTIMAGE XSI 4.5	3DS MAX 7	LIGHTWAVE 8.0	CINEMA 4D R9
					COMPUTER arts RECOMMENDED
MENTAL RAY SUPPORT	Yes	Yes	Yes	No	No
OTHER THIRD-PARTY RENDERER SUPPORT	Yes	No	Yes	Partial	No
RADIOSITY/GI	Yes	Yes	Yes	Yes	Yes
NURBS	Yes	Yes	Yes	No	No
NETWORK RENDERING	Yes	Yes	Yes	Yes	Yes
SOFT BODY DYNAMICS	Yes	Yes	Yes	Yes	Yes
RIGID BODY DYNAMICS	Yes	No	Yes	Yes	Yes
CLOTH	No	Yes	No	Yes	Yes
ADVANCED CHARACTER TOOLSET	Yes	Yes	Yes	Yes	Yes
MODELLING HISTORY	Full	Full	Modifier stack only	No	Partial
INTEGRATED 3D PAINTING	Yes	No	No	No	Yes

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Pick up this superb set of digital photographic filters from *Nik Color Efex Pro* for only £280.

IOMEGA REV DRIVE
Iomega provides an innovative back-up solution for £279.

GRAPHICS AND LAYOUT SOFTWARE

NAME	MAC PC?	DESCRIPTION	MANUFACTURER	PRICE	WEBSITE	ISSUE	VERDICT
STUDIO ARTIST 3	Mac	Image processing and real-time video effects in this, the latest edition of the world's only "graphics synthesiser".	Synthetik Software	$379	www.synthetik.com	95	★★★★ Not the easiest graphics package to get to grips with, but persevere and it comes into its own.
ILLUSTRATOR CS	Mac PC	Industry standard vector graphics software – a vital tool for anyone who needs to design for print or the web.	Adobe	£511	www.adobe.co.uk	89	★★★★½ Offers smaller improvements across the board, but not exactly what you'd call a huge upgrade.
PHOTOSHOP CS	Mac PC	The design daddy, the creative king, and the industry standard professional image editor.	Adobe	£605	www.adobe.co.uk	89	★★★★½ Improvements across the board make this a more versatile tool than ever. arts RECOMMENDED
FREEHAND MX	Mac PC	An easy-to-learn graphics environment for designing illustrations and organising data for print/web or *Flash*.	Macromedia	£299	www.macromedia.com	82	★★★★★ A rock-solid release that offers a plethora of invaluable tools. arts RECOMMENDED
QUARKXPRESS 6	Mac PC	The tried-and-tested publishing tool of yesteryear plods into the present. Better late than never...	Quark	£1,095	http://euro.quark.com	87	★★★½ A comfortable and familiar upgrade, but *InDesign* still has the edge, design-wise.
INDESIGN CS	Mac PC	Adobe's DTP upstart comes of age as *QuarkXPress*-killer *InDesign* approaches industry-standard status.	Adobe	£716	www.adobe.co.uk/products/indesign	67	★★★★½ *InDesign* now simply amazes – and utterly trounces *QuarkXPress*.
SKETCHBOOK PRO	Mac PC	Fuss-free paint and drawing application with customisable markers, pens, brushes and airbrushes.	Alias	$179	www.alias.com	100	★★★★ A well-designed app that focuses on ease of use rather than unnecessary extra features.
PAINTER 9	Mac PC	The number one natural media tool now delivers an Artists' Oils system, a batch of KPT filters, and more.	Corel	£249	www.corel.co.uk	102	★★★★★ If you want realistic digital paint, there really is no other option. arts RECOMMENDED
JAWS PDF CREATOR 3.4	Mac PC	PDF creation utility; its Jaws virtual printer drive enables delivery from any program.	Jaws	£62	www.jawspdf.com	102	★★★★ Equally adept at outputting pre-press quality PDFs as everyday office documents.
FLASHPAPER2	PC	Enables you to create cross-platform electronic documents (SWF and PDF files) from any program.	Macromedia	£49	www.macromedia.com	102	★★★★ A slick way of creating high-quality versions of your documents. Customisation options are limited.
CLICK TO CONVERT 5.3	PC	A mini-publisher of two file formats (PDF and HTML), which you can output simultaneously, if required.	Click to Convert	$89	www.clicktoconvert.com	102	★★★ Ideal for churning out documents in the two formats, but keeping file sizes down can be tricky.
PDF CREATE	PC	Complex and sophisticated PDF creation utility, reminiscent of Adobe *Acrobat* itself.	Scansoft	£40	www.scansoft.co.uk	102	★★★★ Not a one-click solution – but when precise configuration matters, *PDF Create!* is a godsend.
PDFFACTORY PRO 2.27	PC	This PDF creation utility offers pre-conversion document preview, batch processing and a virtual printer driver.	FinePrint	£59	www.fineprint.com	102	★★★★ For overall flexibility, speed and compact files size, this conversion utility is a must.
QUARK XPRESS 6.5	Mac PC	Latest iteration offers expanded Print Styles, expanded PDF generation and Vista Xtension.	Quark	£1,169	euro.quark.com/en	104	★★★½ Not quite the *InDesign* killer many were hoping for, but the tweaks bode well for *XPress 7*. arts RECOMMENDED
SIZEFIXER	PC	Enlarge your digital images by a staggering 400 per cent with no loss in quality.	FixerLabs	£149	www.fixerlabs.com	104	★★★★ Makes some bold claims, but delivers – you can stretch images to breaking point .
ACDSEE	PC	This image-management solution supports the RAW image format and can convert to JPEG 2000.	ACD Systems	£35	www.acdsystems.com	104	★★★★ A fast, easy-to-use and efficient image-management tool. Great interface, too.

PLUG-INS

NIK COLOR EFEX PRO	PC	Fantastic set of digital photographic filters for *Photoshop* and *Paintshop Pro*.	Nik Multimedia	£280	www.nikmultimedia.com	94	★★★★ You could create the effects for yourself in *Photoshop*, but they'd take longer. arts RECOMMENDED
SYMMETRY WORKS	Mac PC	Adobe *Illustrator* plug-in for creating eye-catching surface pattern designs in seconds.	Artlandia	$241	www.artlandia.com	N/A	N/A Fast and effective way to create patterns. An effective time-saver when up against deadlines.
PRIMATTE 2.0	Mac PC	*Photoshop* plug-in dedicated to ultra-clean, blue-screen compositing.	Digital Anarchy	$299	www.digitalanarchy.com	97	★★★½ More powerful than *Cinematte* and cheaper than *Multimatte*. Results are impressive.
SAPPHIRE	Mac PC	Generate superb effects with this 175+-strong suite of movie-quality plug-ins.	GenArts	$1,699	www.genarts.com	98	★★★★ Without a doubt, the best plug-ins you can buy – but they come at a professional price.
PARTICULAR	Mac PC	Neatly integrated *After Effects* plug-in suite, comprising natural and technical effects.	Trapcode	£199	www.trapcode.com	99	★★★★★ Stunning, beautifully put together and boasting endless creative possibilities.
FURNACE	Mac PC	Two *After Effects* plug-ins for stabilising (Steadiness) and speeding up/slowing down (Kronos) footage.	The Foundry	£350	www.thefoundry.co.uk	101	★★★★½ Excellent, easy-to-use plug-ins – the high price shouldn't dissuade professionals.
EYECANDY 5: TEXTURES	Mac PC	Ten *Photoshop* plug-ins, including Fur, Brick Wall, Diamond Plate, Marble, Reptile Skin and Swirl.	Alien Skin	$99	www.alienskin.com	102	★★★★ A fun, versatile and (mostly) useful set of filter effects that'll suit pros and amateurs alike.

IMAGE EDITING SOFTWARE

PHOTOCLEAN	Mac PC	A quickfire photo clean-up application designed with the absolute beginner in mind.	Shortcut	95 Euros	www.trulyphotomagic.com	101	★★★★ Easy-to-use and intuitive photo-editing tools that should interest pros and enthusiasts.

MOBILE HARD DRIVES

LACIE BIG DISK EXTREME 500	Mac PC	500GB FireWire hard drive.	LaCie	£420	www.lacie.com	97	★★ A stylish, powerful and versatile hard drive – let down by potentially disastrous reliability issues.
MOBILE HARD DRIVE	Mac PC	20GB, 40GB, 80GB hard drive.	LaCie	£85-£200	www.lacie.com	97	★★★★★ Swift auto-installation (without drivers), top transfer rates, and a great low price! arts RECOMMENDED
IOMEGA REV DRIVE	Mac PC	An innovative back-up/storage solution. Includes *Norton Ghost* (PC)/*Dantz Restrospect Express* (Mac).	Iomega	£279	www.iomega-europe.com	103	★★★★ Fast and reliable, but not much cop if you're operating in a multi-platform environment.

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DIGITAL SLRS

NAME	MAC PC?	DESCRIPTION	MANUFACTURER	PRICE	WEBSITE	ISSUE	VERDICT
NIKON D70	Mac PC	An upgrade of Nikon's D100, but at half the price – and a capable answer to Canon's 300D.	Nikon	£800	www.nikon.co.uk	97	★★★★½ Superbly kitted out and built to tough and reliable specifications, the D70 betters the D100.
OLYMPUS CAMEDIA E-1	Mac PC	Smart design enables Olympus' first foray into the digital SLR world to accommodate smaller lenses.	Olympus	£1,400	www.olympus.co.uk	97	★★★★½ A cracking build and a vast array of features make the E-1 a highly attractive proposition.
FUJIFILM FINEPIX S2 PRO	Mac PC	Competent digital shutterbug with Super CCD that can capture 12MP images (with interpolation).	Fujifilm	£1,500	www.fuji.co.uk	97	★★★★ A bulky, weighty SLR that delivers crisp, clear, colour-accurate images time after time.
CANON EOS 300D	Mac PC	The first genuinely budget SLR to hit the market – with easy-to-use controls and limited functions.	Canon	£900	www.canon.co.uk	97	★★★ An average SLR that's unfortunately showing its age – now superseded by Nikon's better-specced D70.
CANON EOS 10D	Mac PC	Critically acclaimed digital SLR that's exceptionally well put together.	Canon	£1,400	www.canon.co.uk	97	★★★★★ First class images, superb magnesium alloy body and great features.

SCANNERS AND PRINTERS

CANON I965 BUBBLE JET	Mac PC	Fast (full A4 photo in under a minute) and economical printer with borderless photo printing facility.	Canon	£255	www.canon.co.uk	96	★★★★ Superfast photo printer that simply trounces the competition. Another winner from Canon.
CANOSCAN 8000F	Mac PC	Entry-level scanner with FARE Level 1 auto-correction technology. Can scan up to the edge of the bed.	Canon	£175	www.canon.co.uk	98	★★★ Good capabilities at a very good price, but none of its features are market-leading.
HP SCANJET 8200	Mac PC	4800x4800dpi resolution A4 scanner with 48-bit colour sensitivity and good software package.	HP	£449	www.hp.com/uk	98	★★½ Specs-wise, this sounds a dream; in practice, it's a nightmare... Poorly conceived drivers impair workflow.
CANOSCAN 9900F	Mac PC	Professional scanner offering 2400x4800dpi resolution and FARE Level 2 technology.	Canon	£299	www.canon.co.uk	98	★★★★ A competent performer at a great price. It scans all sorts of media and is very easy to operate.
MICROTEK ARTIXSCAN 1100	Mac PC	Showing its age, but this faithful stalwart's colour fidelity is second to none.	Microtek	£938	www.microtek.co.uk	98	★★★ Valuable as part of a colour-critical environment, but slow and expensive, considering its age.
PERFECTION 4870 PHOTO	Mac PC	Proficient scanner with Digital ICE image-cleaning technology for the ultimate reproduction quality.	Epson	£349	www.epson.co.uk	98	★★★★½ Wouldn't look out of place in a pro environment or even a home studio.
BROTHER HL-3450CN	Mac PC	A3/A4 colour laser printer (size: 615x420x540mm), offering maximum resolution of 2400dpi.	Brother	£2,349	www.brother.co.uk	101	★★★ Seems more at home with business graphics than digital artwork. Could do with more memory.
MAGICOLOR 7300	Mac PC	A3/A4 colour laser printer (size: 628x594x564mm), offering maximum resolution of 600dpi.	Konica-Minolta	£2,606	www.konicaminolta printers.co.uk	101	★★★★ High quality results. You can't ignore the low price and running costs, or the 256MB RAM.
OKI C9500DN	Mac PC	A3/A4 colour laser printer (size: 666x626x460mm), offering a maximum resolution of 1200dpi.	Oki	£4,869	www.oki.co.uk	101	★★★★ A fast and accurate printer for both high-end graphics proofing and office documents.
XANTÉ CL30	Mac PC	A3/A4 colour laser printer (size: 665x589x462mm), offering a maximum resolution of 1200dpi.	Xanté	£4,463	www.info-tec.biz	101	★★★★ Expect colour-accurate output every time and quickly delivered, reliable proofs.
XEROX PHASER 7750DN	Mac PC	A3/A4 colour laser printer (size: 644x715x493mm), offering a maximum resolution of 1200dpi.	Xerox	£5,779	www.xerox.com	101	★★★★ Fast, high quality printer that's perfect for both every day proofing and mission-critical design.
HP DESKJET 6540	Mac PC	Can print up to 30ppm (black) and 20ppm (colour). 150-sheet input tray and ink status alert.	Hewlett Packard	£118	www.hp.com/uk	103	★★★★ Not feature-packed, but delivers good results in both colour and black and white.
HP DESKJET 130NR	Mac PC	Large-format (A1+) printer with 64MB RAM, automated 24-inch roll feed and automatic paper cutter.	Hewlett Packard	£1,600	www.hp.co.uk	104	★★★★ An affordable and robust proofing machine that delivers impressive results.

GRAPHICS CARDS

FIREGL X2 256T	PC	Top-end, pro-level graphics card tailored for power-hungry users (engineers, architects, etc).	ATI	$899	www.ati.com	98	★★★½ An amazing performer, but it comes at a price that may put off many prospective buyers.

ASSET MANAGEMENT

PORTFOLIO 7	Mac PC	Leading asset-management software, now expanded to include direct-to-web publishing feature.	Extensis	$200	www.extensis.co.uk	100	★★★★ Nothing can touch the power of this long-respected and valuable asset management solution.

DIGITAL VIDEO

VIDEO TOASTER 3	PC	A complete post-production and video mixing suite. Supports live internet streaming.	Computers Unlimited	£2,500	www.newtek -europe.com	95	★★★★ Budget studios will find *VideoToaster 3* an ideal all-in-one solution for their production needs.
FINAL CUT PRO 4	Mac	Emmy Award-winning tool for editing and finishing in SD and HD formats. Used to produce many TV shows.	Apple	£699	www.apple.com/uk/ finalcutpro/	86	★★★★★ *Final Cut Pro 4* is nothing short of superb. Excellent bundled applications, too.
AVID XPRESS PRO	Mac PC	Sophisticated video editing tool aimed at the higher end of the mid-range market.	AVID	£1,527	www.avid.com/ xpresspro	91	★★★★ Twice as expensive as *Premiere* – but not different enough to warrant the difference.
AUDITION 1.5	PC	Pro audio editing/mixing environment that delivers advanced mastering and effects-processing features.	Adobe	£246	www.adobe.co.uk/ products/audition	N/A	N/A An excellent tool for home users serious about audio. Superb features and easy to use, too.
FINAL CUT EXPRESS 2.0	Mac	Apple's flagship consumer video-editing app strikes a careful balance between features and affordability.	Apple	£199	www.apple.com/uk/ finalcut express	94	★★★★ The best low-cost editing solution for DV, although effects may frustrate *Pro* users.

WHAT TO BUY?

FINEPIX S2 PRO
Fujifilm's competent digital shutterbug will set you back £1,500.

EPSON 4870
Epson's Perfection 4870 offers superb reproduction quality for under £350.

HP DESKJET 130NR
The HP DeskJet prints 20 colour pages per minute.

FINAL CUT EXPRESS 2
Apple's flagship video-editing application (£199).

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DIGITAL VIDEO continued...

WHAT TO BUY?

AFTER EFFECTS 6.5
Now includes better motion-tracking and grain management tools for only £664.

PREMIERE ELEMENTS
For £69, you can have unlimited video and audio tracks with *Premiere Elements*.

MAYA 6
Award-winning 3D software for £1,645 – one of the industry's favourite tools.

CARRARA 4
A much-improved and redesigned version of Eovia's 3D modeller for £199.

NAME	MAC PC?	DESCRIPTION	MANUFACTURER	PRICE	WEBSITE	ISSUE	VERDICT
AFTER EFFECTS	PC	Adobe's industry standard tool for adding visual effects and motion graphics to film footage.	Adobe	£664	www.adobe.co.uk/products/aftereffects	95	★★★★ Well-designed application with many features not available in rival software.
DVD WORKSHOP 2	PC	Consumer-friendly DVD authoring software with many professional features, including real-time previews.	Ulead	£259	www.ulead.co.uk	97	★★★ Easy to use, but much of the (cheaper) competition has caught up since the release of v1.
VEGAS 5	PC	Capable audio-visual editor with real-time effects rendering and 3D clip animation.	Sony	$699	www.sony.com	98	★★★½ The most powerful audio editor on the market now sports compositing tools.
FINAL CUT PRO HD	Mac	The professional editing application with broadcast quality credentials is now HD compatible.	Apple	£699	www.apple.com/uk	98	★★★★★ Pro features and top interface ensure this pro-level app always delivers.
AFTER EFFECTS 6.5	Mac PC	Adobe's industry standard app now includes better motion tracking and grain management tools.	Adobe	£664 (Standard)	www.adobe.co.uk	99	★★★★½ A number of new and improved features make this an indispensable tool for the video pro.
PREMIERE PRO 1.5	PC	Video-editing app with improved project management and broader support for industry formats.	Adobe	£616	www.adobe.co.uk	99	★★★★½ *Premiere*'s allegiance to Windows ensures superior integration with related titles.
PFTRACK 2	Mac PC	3D motion-tracking software that supports tracking, zooming, passing and tilting shots.	The Pixel Farm	£3,000	www.thepixelfarm.co.uk	100	★★★★ Fast and efficient, *PFTrack 2* completes what can be a dreadful job simply and quickly.
MOTION 1.0	Mac	Apple's entry-level motion graphics software comes with Behaviors and stacks of effects filters	Apple	$299	www.apple.com	102	★★★★ Simple and intuitive to use, with many advanced features, *Motion 1.0* delights on all levels.
VIDEO STUDIO 8	PC	This DV editor offers 128 transitions, DVD authoring functionality, and five audio filters.	Ulead	£50	www.ulead.co.uk	103	★★★★ Offers a wealth of flexible presets and effects filters, but unsophisticated editing tools.
POWER DIRECTOR 3	PC	DV editor with great titling functions, plus 122 transitions and 24 video filters.	GoCyberlink	£50	www.gocyberlink.com	103	★★★½ Will certainly get the job done if you're on a budget, but the DVD authoring is as basic as can be.
LET'S EDIT	Mac PC	DV editor offering 96 standard wipe transitions, a built-in wipe customiser and 26 video filters.	Canopus	£99	www.canopus-uk.com	103	★★★½ Every dialog/menu boasts a wide range of options and controls, but it's not that intuitive to use.
STUDIO PLUS 9	PC	Enjoy 126 transitions, 16 video filters and DVD authoring with this multi-purpose DV editor.	Pinnacle Systems	£60	www.pinnaclesys.com	103	★★★★½ Probably the fastest way to achieve a finished production from your raw footage.
PREMIERE ELEMENTS	PC	Benefit from unlimited video and audio tracks with this feature-rich, entry-level version of *Premiere Pro*.	Adobe	£69	www.adobe.co.uk	103	★★★★½ Your work may take longer, but the results speak for themselves.

3D SOFTWARE

SHAKE 3.5	Mac PC	Small but effective update for Apple's industry-standard compositing and visual effects application.	Apple	£2,099	www.apple.com/uk/shake	99	★★★★★ Excellent colour correction tools from Apple's pricey but powerful app.
3DS MAX 6	Mac PC	Acclaimed modelling, animation and rendering solution used by 3D artists worldwide.	Discreet	£2,814	www.discreet.com	92	★★★★ Vertex Painting should keep *3ds max* popular in the games industry.
MAYA 6	Mac PC	Academy Award-winning 3D animation and effects software that's become the film industry's favourite tool.	Alias	£1,645	www.alias.com	97	★★★★ Alias has made major improvements, although the app remains as tricky to master.
VUE 4 PROFESSIONAL	Mac PC	Natural 3D scenery rendering package that enables you to generate lush landscapes at the click of a button.	e-o n Software	£419	www.e-onsoftware.com	91	★★★★ A cut above other 3D packages – and soon-to-be leader in its field.
SILO	PC	Affordable polygon-modelling program that aims to be a cheap yet powerful alternative to its pricier peers.	Nevercenter	$109	www.nevercenter.com	93	★★★★½ Professional-level modelling tools at your fingertips for a fraction of the cost. Great value.
CINEMA 4D 8.5	Mac PC	Powerful yet accessible 3D modelling and animation application, widely used in the film industry.	Maxon	£499	www.maxon.net	97	★★★★ Create realistic images with ease. New features include extra shaders and better Booleans.
MOJOPACK	Mac PC	Compendium of planets, plug-ins, terrain maps and tutorials for planet/landscape-generator *MojoWorld*.	Pandromeda	$99	www.pandromeda.com	97	★★★ An interesting collection, but hardly a substitute for a full-on *MojoWorld* update.
ZBRUSH 2	PC	V2 of this innovative 2D painting/3D modelling hybrid is faster than ever and boasts hi-res mesh support.	Pixologic	$489	www.pixologic.com	98	★★★★★ A stunning 3D package that sets a new standard for detailed polygon modelling.
LIGHTWAVE 3D 8	Mac PC	A long-awaited upgrade of this highly competitive industry standard 3D modelling and animation package.	NewTek	£699	www.newtek.com	93	N/A Brand new bones and dynamics systems make *LightWave 8* a force to be reckoned with.
SOFTIMAGE XSI 4.0	PC	This world-leading 3D modeller comes in three flavours: Advanced, Essentials and Foundation.	Softimage	$1,995 -$8,995	www.softimage.com	100	★★★★½ Manipulating curves and NURBS is a little inadequate, but the rest makes up for it.
AMAPI 7 PRO	Mac PC	Latest iteration of Eovia's classic app now comes with a new NURBS kernel and Dynamic Geometry.	Eovia	$799	www.eovia.com	101	★★★★ A powerful NURBS modeller for the professional designer, modeller or animator.
CINEMA 4D 9	Mac PC	Ninth iteration introduces 100 new features, including cloth simulator, the Point Slide tool and Ngons support.	Maxon	£499 - £2,199	www.maxon.net	102	★★★★½ Not quite as feature-rich or complex as 3ds max, but capable of some equally good results.
VUE 5 ESPRIT	Mac PC	The famous 3D landscape generator now comes with Radiosity, Global Illumination and HDRI rendering.	e-on software	£171	www.e-onsoftware.com	103	★★★★ Restricted plant generation and modelling tools, but a superb rendering engine.
CARRARA 4	Mac PC	The latest version of Eovia's 3D modeller delivers an improved inverse kinematics and a redesigned timeline.	Eovia	£199	www.eovia.com	103	★★★★ Easy for students and amateur designers to learn, powerful enough to satisfy full-time pros.
PIRANESE 4	Mac PC	Distinctive 2D painting app, geared towards enhancing 3D design. Comes with natural media paintbox.	Informatix	£450	www.informatix.com	104	★★★★ A true 2D/3D painting hybrid. The ability to import 3D objects is a real boon.

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GRAPHICS TABLETS

NAME	MAC PC?	SHORT DESCRIPTION	MANUFACTURER	PRICE	WEBSITE	ISSUE	VERDICT
NISIS EASYPEN G6	Mac PC	USB-friendly tablet: active area 304 x 228mm; tablet dimensions: 385 x 347 x 12mm	Nisis	£90	www.nisis.com	99	★★★ Nearly there in terms of features and usability, but there are irritating signal issues.
GRAPHIRE3 CLASSIC XL	Mac PC	USB-friendly A5 tablet: active area 209 x 159mm; tablet dimensions: 276 x 257 x 18mm	Wacom	£200	www.wacom.com	99	★★★★ Great all-round performer from Wacom, although not in the Intuos league.
INTUOS2 A5 PLATINUM	Mac PC	USB-friendly A5 tablet: active area 203 x 162mm; tablet dimensions: 334 x 258 x 14mm	Wacom	£300	www.wacom.com	99	★★★★½ An incredible, feature-rich tablet that's hard to fault. A5 tablets don't get better.
INTUOS2 A4 REGULAR PLAT	Mac PC	USB-friendly A4 tablet: active area 305 x 241mm; tablet dimensi ons: 456 x 361 x 14mm	Wacom	£400	www.wacom.com	99	★★★★★ Customisable and easy to use, this is everything you could want it to be. arts RECOMMENDED
WACOM INTUOS3	Mac PC	Redesigned A6, A5 and A4 tablets with scroll and Express Key functions, and new Pen Tablet System.	Wacom	£130-£306	www.wacom-europe.com	102	★★★★ Wacom's justly famous; these newly tablets are set to attract even more admirers.

WEB, ANIMATION, CD/DVD

DVD STUDIO PRO 3	Mac	Create a complete DVD in under 15 minutes with the latest iteration of Apple's pro DVD creation tool.	Apple	£349	www.apple.com/uk	99	★★★★ Stacks creative features make this perfect for the professional. arts RECOMMENDED
GO LIVE CS	Mac PC	Adobe's website design application is sometimes hailed as the Pepsi to *Dreamweaver*'s Coke.	Adobe	£394	www.adobe.com	89	★★★★ The refined look and the feel of the app make it better than ever.
DREAMWEAVER MX 2004	Mac PC	Build and maintain websites and applications with this powerful set of tools.	Macromedia	£339	www.macromedia.co.uk	91	★★★★ Good integration with *Contribute*; fully embraces Cascading Style Sheets.
STITCHER 4	Mac PC	Create high quality panoramas and 360-degree *QuickTime* VR animations in minutes.	RealViz	499 euros	www.realviz.com	95	★★★★ Not the cheapest "sticking together" app around, but still one of the best.
TOON BOOM STUDIO 2.5	Mac	2D animation package that covers everything from scene-planning to preparing output for delivery.	Toon Boom	$374	www.toonboom.com	98	★★★★ A fantastic all-round package for anyone interested in 2D animation.
FRAME FORGE 3D STUDIO	Mac PC	Professional quality storyboarding 3D software – import scripts, pose figures, set up cameras, and more...	Innoventive Software	$349	www.frameforge3d.com	100	★★★★½ If you need to visualise your film before shooting, this is an easy solution.
AUDITION 1.5	PC	Syntrillium's former sound editor *Cool Edit Pro*, supports VST, ReWire and enhanced video.	Adobe	£246	www.adobe.co.uk	100	★★★½ This respected audio tool benefits from simplified features and better integration.
SWIFT3D	PC	The latest version of the *Flash* 3D app has matured – check out the enhanced modelling environment.	Electric Rain	$189	www.eran.com	102	★★★½ Approachable and easy to master with a great modelling environment.
FLASH STUDIO PRO2	PC	There's more power and greater functionality in this latest iteration of the industry's leading SWF2EXE app.	Multidmedia	£130	www.multidmedia.com	103	★★★★ An essential *Flash* utility for designers who know their limitations.
CAPTIVATE	PC	Redeveloped version of *RoboDemo*, a screen capture program ideal for distance learning applications.	Macromedia	$499	www.macromedia.co.uk	103	★★★★ Provides streamlined and professional results via a simple interface.

DVD WRITERS

SONIC DVDIT 5	PC	DVD writing app that sits between Sonic's entry-level *MyDVD* and the more advanced *ReelDVD*.	Sonic	£171	www.sonic.com	100	★★★ A useful introduction to the media for savvy creatives, but a little limited.
AHEAD NERO 6 SUITE	PC	A repackaged DVD version of the oft-bundled *Nero* burner, complete with *NeroVision Express 2*.	Nero	79 euros	www.nero.com	100	★★ An effective entry-level application aimed solely at consumers, not professionals.
ROXIO CREATOR 7	PC	Complete with pro authoring component *DVD Builder* and a host of useful DVD-authoring features.	Roxio	£70	www.roxio.com.uk	100	★★½ A comprehensive suite of tools that challenges the options of the *Nero* bundle.
APPLE DVD STUDIO PRO 3	Mac	Features include render-free transition preview, alpha transitions and *Photoshop* integration.	Apple	£349	www.apple.com	100	★★★★½ There's no alternative for Mac users serious about creating DVD content.
ADOBE ENCORE DVD 1.5	PC	Features include DV menu previews, *QuickTime* file support and integrated/background transcoding.	Adobe	£452	www.adobe.com	100	★★★★½ This usable app provides a strong range of design and authoring options. arts RECOMMENDED

MONITORS

BENQ FP23W	Mac PC	23-inch widescreen LCD can display 1920x1200 pixels and boasts a contrast ratio of 500:1.	BenQ	£1,275	www.benq.co.uk	102	★★★★ An impressive monitor that delivers in terms of both resolution and picture quality.
MICROSCAN A904	Mac PC	19-inch LCD with a resolution of 1024x768 and 500:1 contrast ratio.	ADi	£395	www.adiuk.com	104	★★★½ A good budget entry monitor, with a punchy image that's fine for low-level usage.
GALLERY 2010 PLATINUM	Mac PC	20.1-inch LCD with a resolution of 1600x1200 and 600:1 contrast ratio.	Formac	£746	www.formac.com	104	★★★ Gorgeous for day-to-day use, but lack of adjustability will dissuade graphics pros.
MULTISYNC LCD2180UX	Mac PC	21-inch LCD with a resolution of 1600x1200 and a 400:1 contrast ratio.	NEC	£1,291	www.nec.co.uk	104	★★★★ A gorgeous display, compact yet easy to configure for precise image control.
SDM-P234	Mac PC	23-inch LCD with a resolution of 1920x1200 and a 400:1 contrast ratio.	Sony	£1,622	www.sonystyle.com	104	★★★½ Style-wise, it looks great, but design faults (that backlit logo on the bezel) irritate.
COLOREDGE CG21	Mac PC	21.3-inch LCD with a resolution of 1600x1200 and a 400:1 contrast ratio.	Eizo	£1,526	www.eizo.co.uk	104	★★★★½ A masterpiece – if colour accuracy is an issue, look no further. arts RECOMMENDED

WHAT TO BUY?

WACOM INTUOS 3
Revamped Wacom tablet prices start from £130.

DREAMWEAVER MX
Build and maintain websites and apps with *Dreamweaver* for only £339.

DVD STUDIO PRO 2
The only Mac option for DVD writing from Apple costs £349.

MICROSCAN A904
ADI's new MicroScan A904 monitor has a price tag of £395.

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THE INTERNATIONAL MAGAZINE FOR 3D ARTISTS

ISSUE 60 ON SALE NOW: PRICE £6.00

INSIDE THIS ISSUE

IN THE MAG **It's showtime!** Discover how Pixar s-t-r-e-t-c-h-e-d its own formula to create the superhero shots for its latest animated masterpiece, The Incredibles • **Get hired** Industry insiders offer their expert tips for creating a successful 3D showreel • **3D software and hardware on test** Carrara 4, modo, MojoWorld 3, Alienware MJ-12 • **Perfect timing** Pro tips for improving your animation timing

ON THE CD **Exclusive 3ds max 7 demo** Never before on CD – get to grips with the latest version of Discreet's 3D modelling, animation and rendering powerhouse • **PLUS** Software demo includes massive built-in 3ds max 7 tutorial starter kit, in addition to our step-by-step magazine tutorial exploring version 7's new features

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Full version of *Amapi 6*, free EyeCandy textures, *Swift 3D 4* trial, Freak bundle, and lots more!

ISSUE 103 Code COA103

PDF VERSION AVAILABLE
PRINT VERSION SOLD OUT
3D effects in *Photoshop* tutorial, plus free MAC Rhino fonts, full copy of *Xara X1* and *Flash StudioPro 2* trial.

ISSUE 104 Code COA104

PDF VERSION AVAILABLE
PRINT VERSION AVAILABLE
Photoshop's metallic effects exposed, full version of *Bryce 4* on the CD, plus how to customise *Illustrator* brushes.

COMPUTER arts projects

IN EVERY ISSUE, COMPUTER ARTS PROJECTS FOCUSES ON A DIFFERENT AREA OF DIGITAL DESIGN – WITH TIPS, TOP TRICKS AND EXPERT TECHNIQUES...

Did you know you can receive *Computer Arts* in electronic format? Turn to page 85.

PHOTOSHOP Special – COSB0064
Improve your *Photoshop* work with these expert tips and techniques.

DESIGN BUSINESS Special – COSB0065
Top advice on how to set up your very own design company from scratch.

TYPOGRAPHY Special – COSB0066
Design your own font and discover how typography can invigorate your work.

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ON THE CD

WELCOME

This month, we lead with a 30-day trial version of Discreet's *3ds max 7*, the professional 3D app that's perfect for film-quality special effects, video-game design and architectural visualisation. If it all sounds a little daunting, then check out our tutorial starting on page 104, where you'll find out how to model your own home in 3D.

Also this month: a full version of *Camtasia 3*, the screen-recording app often used for creating video tutorials, PDF extracts from Peachpit Press's *Apple Pro Training Series: Motion* – and a chance to enjoy more high-quality motion graphics from Digital Anarchy's acclaimed Chaos Stock collection.

Joe Russ
joseph.russ@futurenet.co.uk
NEW MEDIA CONTENT EDITOR

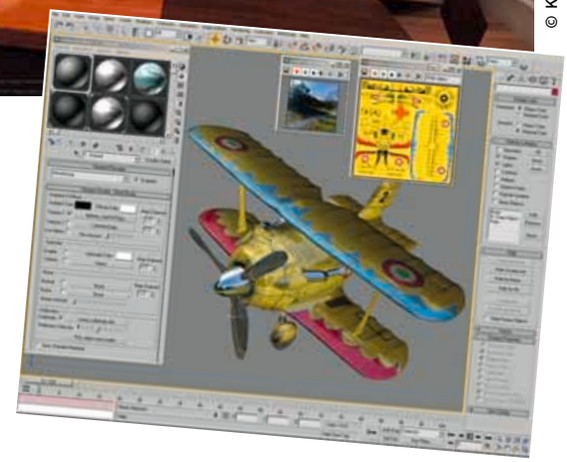
PAGE 104
BUILD YOUR OWN HOUSE FROM ARCHITECTURAL PLANS WITH 3DS MAX

➔ 30-DAY TRIAL **PC ONLY**

3ds max 7

Get hands-on with the effects industry's leading 3D modelling package

© Kitchen Sink Studios



For those already familiar with *3ds max*, version seven of Discreet's heavyweight 3D app introduces a range of notable improvements. The *Mental Ray* renderer and *Character Studio* now come as standard, for instance, and Discreet has tweaked a host of modelling, animation and rendering tools.

But even those new to the app are in for a treat. With this superb trial of *3ds max* at your fingertips, you'll be able to master the skills deployed every day by 3D professionals working on Hollywood blockbusters, top-selling videogames, product designs and in architectural visualisation. *3ds max*'s vast toolset encompasses almost every aspect of 3D design, be it character animation or special effects, and even takes in such seemingly obscure features as accurate physics modelling.

For game designers who need to be economical with the complexity of their models, the new Normal Mapping feature will prove a real godsend. Normal Mapping enables you to take textures from high-res models and apply them to simple low-polygon objects, increasing the apparent detail in the model.

The *Mental Ray* renderer is an industry-standard module for creating high-quality image output – and capable of simulating a range of complex and subtle effects. These include global illumination (the way light reflects and interacts with objects) and camera lens effects such as motion blur and depth of field.

Then there's *Character Studio*, an impressive app in its own right, which offers, as the name suggests, a range of tools geared towards character animation. Now you can create realistic bones systems, which you can then "flesh out" to create moving characters, complete with accurate, flexing muscles and realistic skin textures. The ability to import motion capture data enables you to add another level of realism to your 3D characters.

With such a broad set of features at your disposal, *3ds max* can seem a little daunting at first, but don't be put off. Turn to our tutorial, starting on page 104, and you'll be shown all the basic techniques you need to build a 3D house using simple plans.

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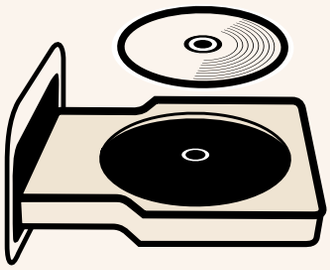
COMPLETE BOOK CHAPTER MAC & PC

40 PAGES FROM APPLE PRO TRAINING SERIES: MOTION

ON THE CD



➔ TRIAL **MAC AND PC**

PrintDevizor Lite

Take the worry out of applying special finishes to your print work

When you want to make your print work leap off the page, you'll probably want to splash out on a special finish. A good printer will always offer a range of additional coatings, varnishes and foils that give your work that extra oomph. Look closely and you'll often see the cover illustration of *Computer Arts* varnished to give it a lustrous sheen. The problem is, these finishes are expensive and – because they're created mechanically, apart from the print process – difficult to visualise. Special varnishes can therefore be an expensive gamble.

PrintDevizor helps minimise the risk by enabling you to visualise your special finishes on-screen before you go to press. To see how your finishes might look, *PrintDevizor* turns your document into a 3D model which you can then rotate through 360 degrees, showing how an array of varnishes, metallic finishes and special inks will appear under different lighting conditions. You can even visualise different surface textures, such as paper or board and matt or gloss finishes.

Another useful feature is the ability to output the visualisations created in *PrintDevizor* as emailable images, animations and *QuickTime* VR movies.

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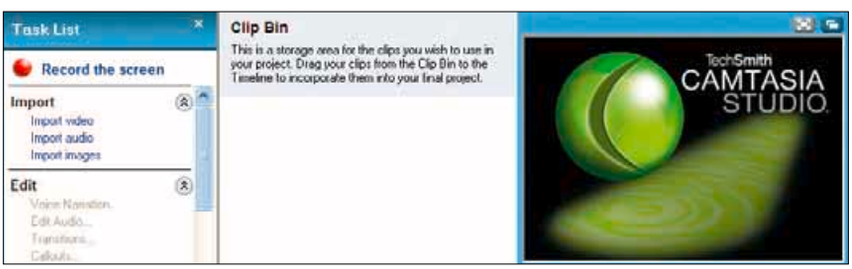
*www.computerarts.co.uk/competitions

➔ FULL SOFTWARE **PC ONLY**

Camtasia 3

Create your own presentations with this powerful screen-recording package

Ever discovered a neat trick in your favourite app, be it *Photoshop or Flash*, and wanted to tell your friends about it? You could write it down or a mail over some screenshots, of course, but wouldn't it be easier if you could show them *exactly* how it's done, in real time? *Camtasia Studio* is a complete solution for quickly creating professional-looking videos of your PC desktop activity. Simply hit Record in *Camtasia*, demonstrate your prowess as normal, then, when you're finished, hit Stop. You'll now have a video of your on-screen activity in *Flash*, *Windows Media*, *QuickTime* or *RealPlayer* format.



FULL LISTING

3DS MAX 7 (PC)
30-DAY TRIAL
Model a house – or just about anything you like – with this heavyweight 3D application.

CAMTASIA 3 (PC)
FULL SOFTWARE
Record on-screen activity to create demos and presentations of your work.

CAMTASIA STUDIO 2 (PC)
TRIAL
The latest version of this screen-recording package.

APPLE PRO TRAINING SERIES: MOTION (MAC+PC)
BOOK EXTRACT
A complete chapter from the Peachpit Press guide – find out why the graphic pros are getting excited.

PRINTDEVIZOR LITE (MAC+PC)
TRIAL
Visualise special print finishes in 3D.

FOLDUP! 3D (MAC+PC)
TRIAL
Design packaging with this Adobe *Illustrator* plug-in.

SWISHMAX (PC)
TRIAL
Create content with this alternative *Flash* app.

AVIDFREE DV (MAC+PC)
TRIAL
Try out this feature-rich DV editing software.

CHAOS STOCK (MAC+PC)
STOCK MOTION GRAPHICS
Free animated backgrounds for DVD and video.

TUTORIAL FILES (MAC+PC)
To find this month's supporting files, navigate the interface to "In The Mag" and select Tutorials.

SPECIAL OFFER FOR COMPUTER ARTS READERS

From now until 31 January 2005, *Computer Arts* readers with a copy of *Camtasia 3* on our covermounted CD can buy *Camtasia Studio 2* for only £128 (excluding VAT), a saving of more than £40 off the normal RRP. Visit **www.qbssoftware.com/CamtasiaCAOffer** or Grey Matter **www.greymatter.com/camtasiaCAoffer** and enter the password CSCOMPUTERARTS to obtain your discount.

TEAM LinG - Live, Informative, Non-cost and Genuine!

FULL SOFTWARE

Check out the fully working 30-day trial of *3ds max 7* on this month's cover disc. For more information, turn to page 102.

ON THE CD

You'll find all the files you need to complete this tutorial in the folder marked Tutorial\ CD on the cover CD.

TIME LENGTH

1 hour

INFO

Anthony Lester is the senior architectural visualisation specialist at Visual Eyes Media, a company he set up in 2004. For further information, visit www.visual-eyes-media.co.uk.

3DS MAX

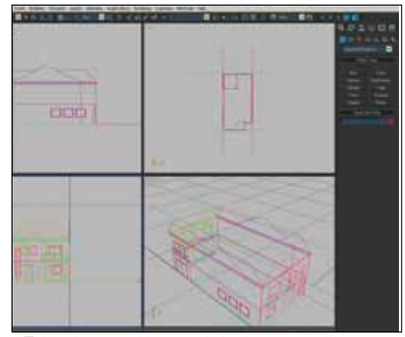
BUILDING BLOCKS

3ds max is an exceptionally useful tool for architects working at all levels of design, says Anthony Lester. But what can it do for you? Give *3ds max* a test-drive with this brilliant 3D visualisation tutorial and find out for yourself

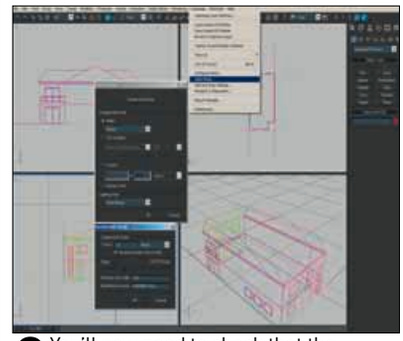
3ds max has managed to establish itself an ever more important role in the workflow of many an architect, from the small, single architectural practice to the multi-national studios. It has landed this role for two simple reasons. The program easily integrates with, adopts and develops many of the tools and interfaces found in sister packages such as *Viz* and *AutoCAD*, and offers a number of differing project workflow techniques to achieve similar results. This enables anyone with knowledge of the basics of 3D modelling, in any package, to use *3ds max* and produce quality results in hours using the same techniques they may well have mastered within other applications.

3ds max offers the architect an effective design development tool, giving real-time feedback on the important issues of building form, lighting and material solutions. All can be represented within *3ds max* and then progressively updated as the design specifications change. *3ds max* should be embraced and utilised by the designer and not feared, much in the same way 2D drafting packages have been adopted into the workflow of every architect over the past decade.

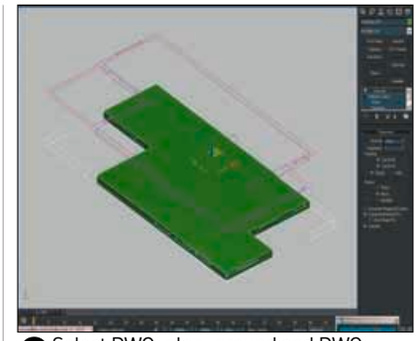
The following tutorial will run through several of these most common modelling techniques. Some, the experienced user will take for granted, but others, such as the AutoGrid feature, have just been overlooked. The processes used here are the building blocks to any successful 3D visualization, and while you may not use all of these techniques in future projects, many of them through time and experience will become embedded within your production workflow.



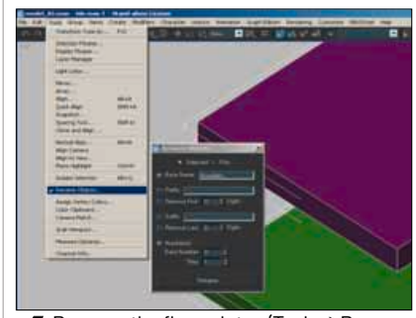
1 First, open the model_dwg.max file, provided on the cover CD. This file contains the plans and elevations for the scheme that will form the basis of this particular project. Go to File→Open and navigate to the relevant folder.



2 You'll now need to check that the system unit's scale and display units are correct. Access this information by choosing Customize→UnitsSetup. Display units are purely for visual reference, but use metres for this exercise. For simplicity's sake, set System units to 1 unit = 1 metre.



3 Select DWG_plan_ground and DWG_plan_1st, isolate them and then, in top view, trace the extremities of the internal floors, keeping within the walls. You should use either 3D or 2.5D snap while tracing. Remember, if you use 2.5D you'll then need to re-position the 1st floor plate.



4 Rename the floor plates (Tools→Rename Objects) and select (in this order) the ground floor line and then the 1st floor. Use the settings in the plate and then hit rename. Add an extrude modifier to each line with an Amount value of -0.4m.

Illustration and tutorial by Anthony Lester
www.visual-eyes-media.co.uk

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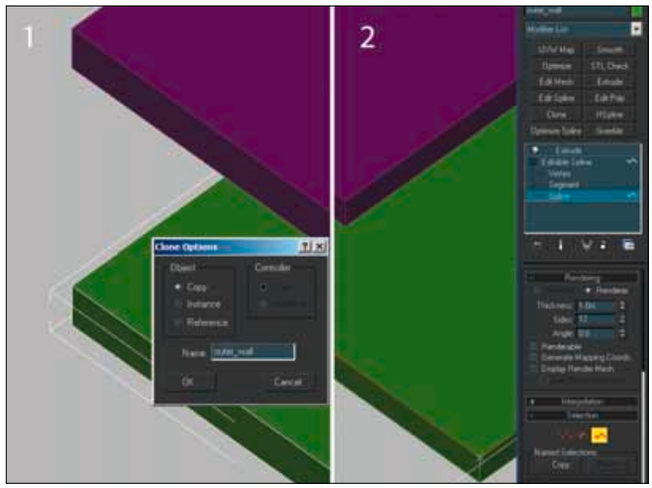
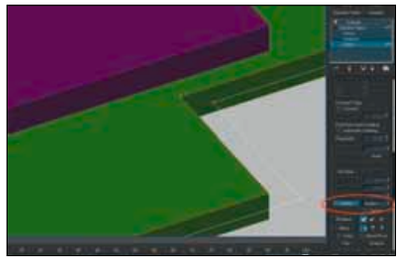


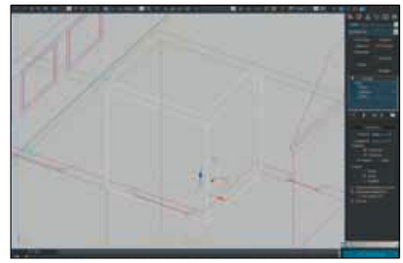
5 Because the outer walls are geometrically simple, you can use an extrusion and Boolean technique easily enough. Select floorplate_00, then clone (Ctrl+V), tag the copy radial and rename it outer_wall. With the outer_wall selected, drop down to the editable spline level and select the spline sub-object.



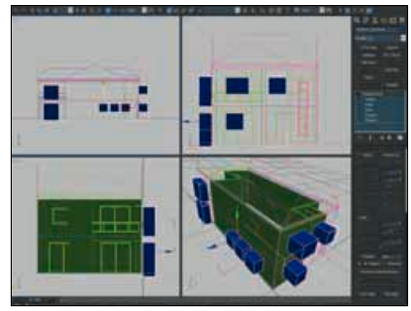
6 Select the only spline in the object, under the Geometry group of the spline modifier, and enter -0.25m into the Offset box. Depending on the direction that the original floorplate_00 was traced, you may need to change this to +0.25m. Once it's offset, go back up the stack and change the extrusion value to 5.2m.

SYSTEM SCALE

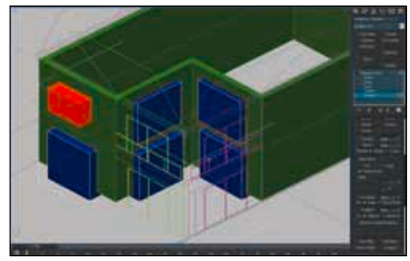
It's extremely important to ensure that the systems scale of a project file is correct right from the start, especially when dealing with imports from other applications. This scale can adversely affect modelling mapping, and photometric lighting. The display units can be set to anything that the user is comfortable with. Use the Measure Distance tool on a known dimension to check that the system units are correct.



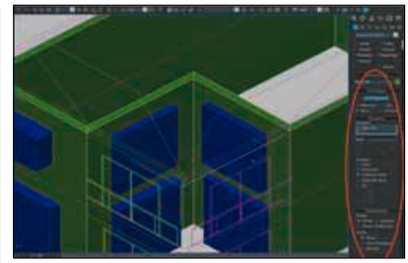
7 Next, add the overhang above the front door. Simply use DWG_plan_1st to trace the outline of the wall in top view. Extrude by 2.6m and attach this to the Outer walls using an Edit Poly modifier. Select outer_wall, add Edit Poly to the modifier stack and select Attach. Select the object you've just made.



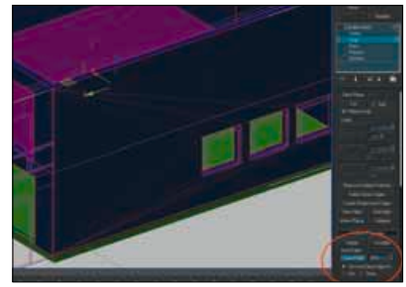
8 You'll now need to create openings in which to place the windows and doors. It's best to create these holes using the Boolean technique. But this process can be a little temperamental, so we'll only be making one Boolean operation. As a result, you'll need to produce all the geometry being used as the second operand as one object.



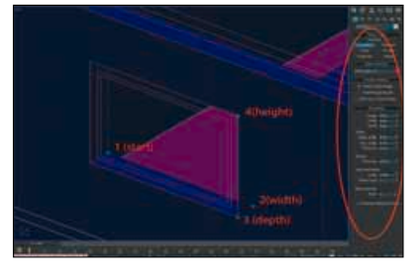
9 Using the different views (left, right, front and back), you can trace the outer perimeters of the windows and doors. You'll need to extrude these lines, merge them into one editable mesh and then position the individual elements to intersect the outer_wall object in preparation for the Boolean.



10 Select Outer_wall. Right-click on the top of the modifier stack and select Convert to Editable Mesh. Select the Create tab and in the drop-down menu select compound objects. Making sure Outer_wall is still selected, click on the Boolean tab. Hit the Pick Operand B tab and select the "windows mesh" you created earlier.



11 Convert Outer_wall back to an editable mesh, as you did in the previous step. Next, to remove unwanted diagonal face edges, select the Edges sub-object and hit Ctrl+A to select all edges. Now, in the Surface Properties group, hit the Auto Edge button. An STL Check modifier can also be used to check for errors in the Boolean.



12 You can now use the outer_wall shell as a base for the windows and doors. On the Create tab, go to the drop-down menu, select Windows and then Awning. Set the parameters to those shown in the step 14 image on the facing page. With 3D Snap selected, click, drag and release the four points 1) start 2) width 3) depth 4) height.

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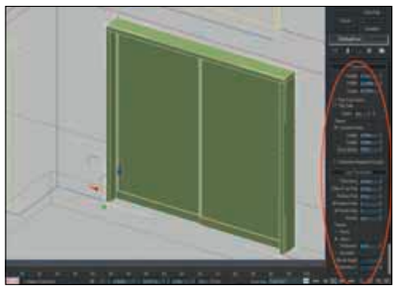
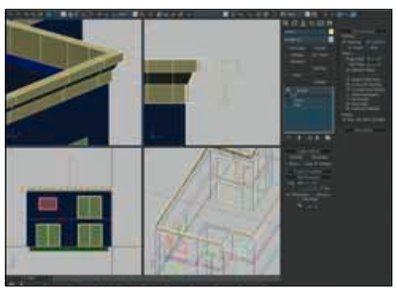
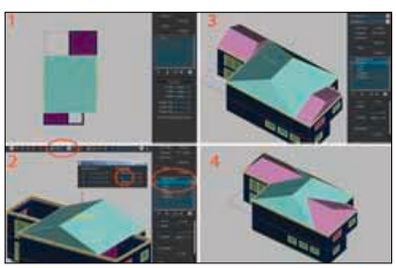


13 Repeat this process for the rest of the windows in the scene. For the doors, the process is similar – just use the Doors drop-down menu in the Create tab and use the appropriate parameters (as shown above). Although tricky to get used to, the AEC are a useful way of sketching up quick generic models.



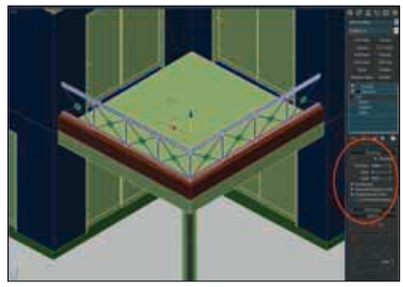
14 Create a cornice, by constructing a Loft, around the outer edge of the outer_wall. Draw a path around the top of the outer_wall, closing the spline and then using the Loft_shape.max file, which can be merged in from the cover CD. When selecting the shape for the Loft, flip the orientation of the shape by using Ctrl+Select (LMB).



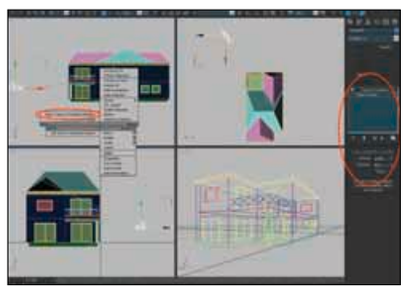
15 Now make the pitch roofs simply by deforming three boxes. In top view, make a box convert to an editable mesh, non-uniform scale the top four vertex points in the Y axis to create two, and weld together. Move each of these vertexes to align with the front elevation. Repeat the process for the secondary pitches.

AUTOGRID

The AutoGrid tool is a quick way of modelling geometry or a shape that has local co-ordinate systems aligned with the face that is selected. You can use it "on the fly" as an efficient way of modelling for extrusions and Booleans. The AutoGrid hasn't been used in this instance because the viewport grids act in a similar way.

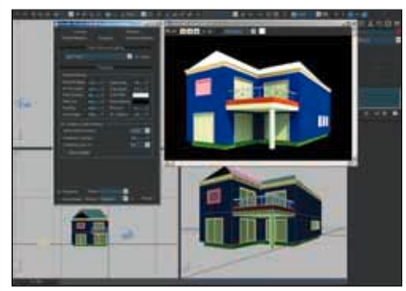


16 To add some depth and detail to the model, you'll need to add the balcony. Do this by creating a rectangle extruded by 0.3m and then build a wall around the edge – a spline extruded by 0.3m. You can then add a balustrade using renderable splines. Finally, add some cylindrical columns at the corner of each overhang.

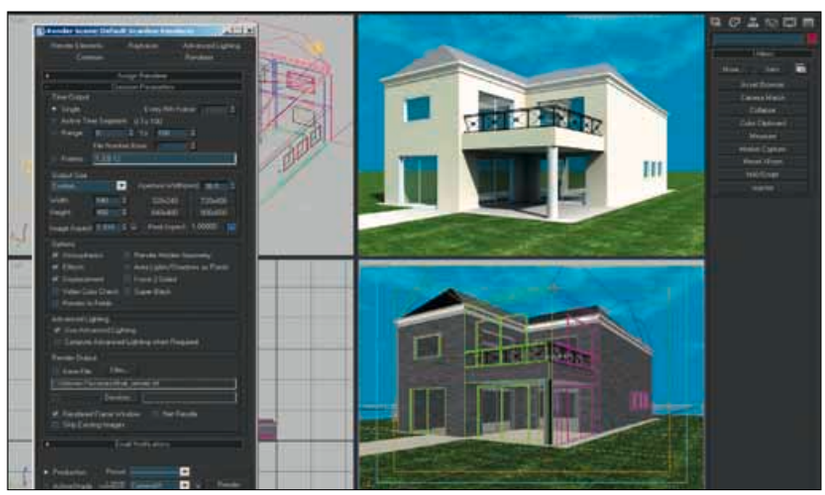


17 You can now place a camera. Switch Snaps off (S) and go to Create→Cameras→Target. Beyond the top-left of the building, click-drag towards the middle of the building. Select and move the camera and its target up by 1.6m. If the target has a different world Z value to that of the camera, use the camera-correction modifier to compensate.

18 Place a skylight anywhere in the scene by choosing Create→Lights→Standard→Skylight, with settings as shown above. The Direct light will be placed over the "right shoulder" of the camera view. Allow it to cast raytrace shadows, set its intensity to 1 and the Ray bias (in the Ray Trace Shadow Params group) to 0.01.



19 Light Tracer is a quick lighting solution that's easy to set up. Open the Render dialog box, ensuring that the default Scanline renderer is selected. On the Advanced Lighting tab, select Light Tracer and adjust the settings as shown here. Hit Render and you'll have created a reasonable lighting setup for your quick model.



20 Load up the model from the CD (model_final.max). It should appear the same as the one you've created, with the addition of some simple materials. With the exception of the base plane, all the geometry lighting and cameras have been kept the same. arts

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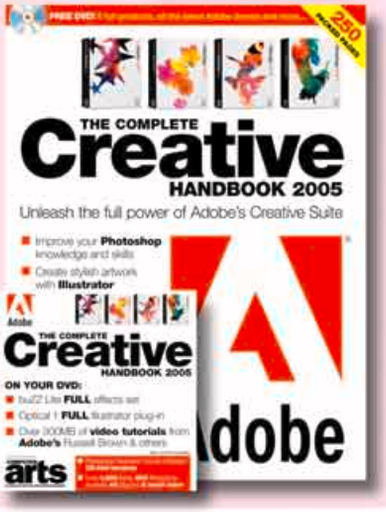

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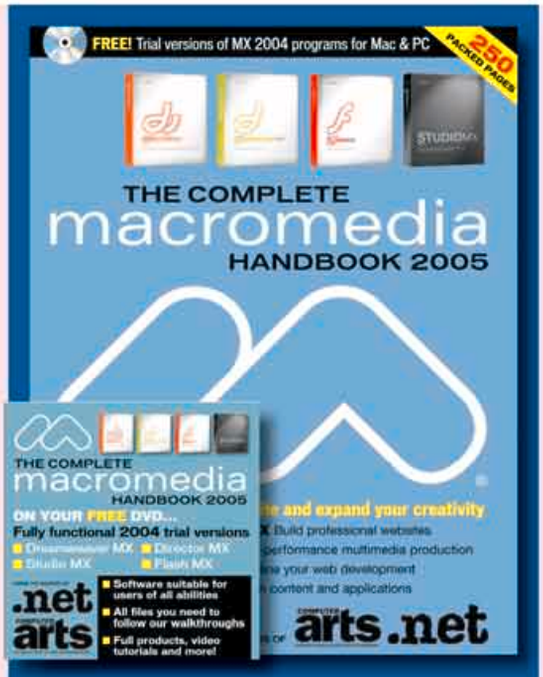

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CURRICULUM VITAE
RAOUL DELEO

LOCATION: Rotterdam, Holland
JOB TITLE: Visual artist
DATE OF BIRTH: 21 December 1968

TRAINING: 1987-1990 – Graphic Design, Academy of Visual Arts, Tilburg
1990-1993 – Illustration, Willem de Kooning Academy, Rotterdam

SOFTWARE: All that is needed to get the job done. Most of the time, Adobe *Illustrator* and *Photoshop* are sufficient.

HARDWARE: A very noisy Apple PowerMac G4 "Quicksilver" dual 800 (I need to find someone to replace the fan), an Epson 3200 Photo flatbed scanner and an A5 Wacom tablet.

INFLUENCES: Japanese Manga and the work of The Designers Republic used to inspire me. But now I just collect any image that I like. This collection, which consists of samples of photography, graphic design, street art, fine arts, computer games and cartoons, often gives me an idea for a "new" style or technique.

STYLE: I've never had a specific "style" of my own; in order to keep things interesting, I try to create every illustration in a unique way. I also let my ideas and solutions for a certain brief determine which style or technique I use. But I always try to ensure a good concept and an overall feel of quality.

TELL US ABOUT YOURSELF: The internet is a wonderful thing. The length of my bookmark-list with visually stunning websites has become so long it's unscrollable. However, should my computer die on me, I'm happy to own the *Pictoplasma* books, number one and two. At the moment I'm busy creating an animated cartoon. I'd love to go back in time and work with Walt Disney between 1925 and 1935. I think his first black and white cartoons were brilliant.

CONTACT: To see more of Raoul's work, visit www.deleo.nl, or email raoul@deleo.nl.

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"For this illustration, I built a wooden statue, painted it, photographed it, then digitally decorated it afterwards."

"This piece was created for a conference that covered innovation in the illustration industry and was built entirely in *Illustrator*."

"*The Last Taboo* was created for an article that appeared in *Playboy*. The piece was about a couple who wanted to reverse the roles in bed for once!"

"*The Fugitive Four* was a four-page cartoon about disappearing dictators and terrorists. I wanted it to look like one long filmstrip of an old black and white animated cartoon."

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