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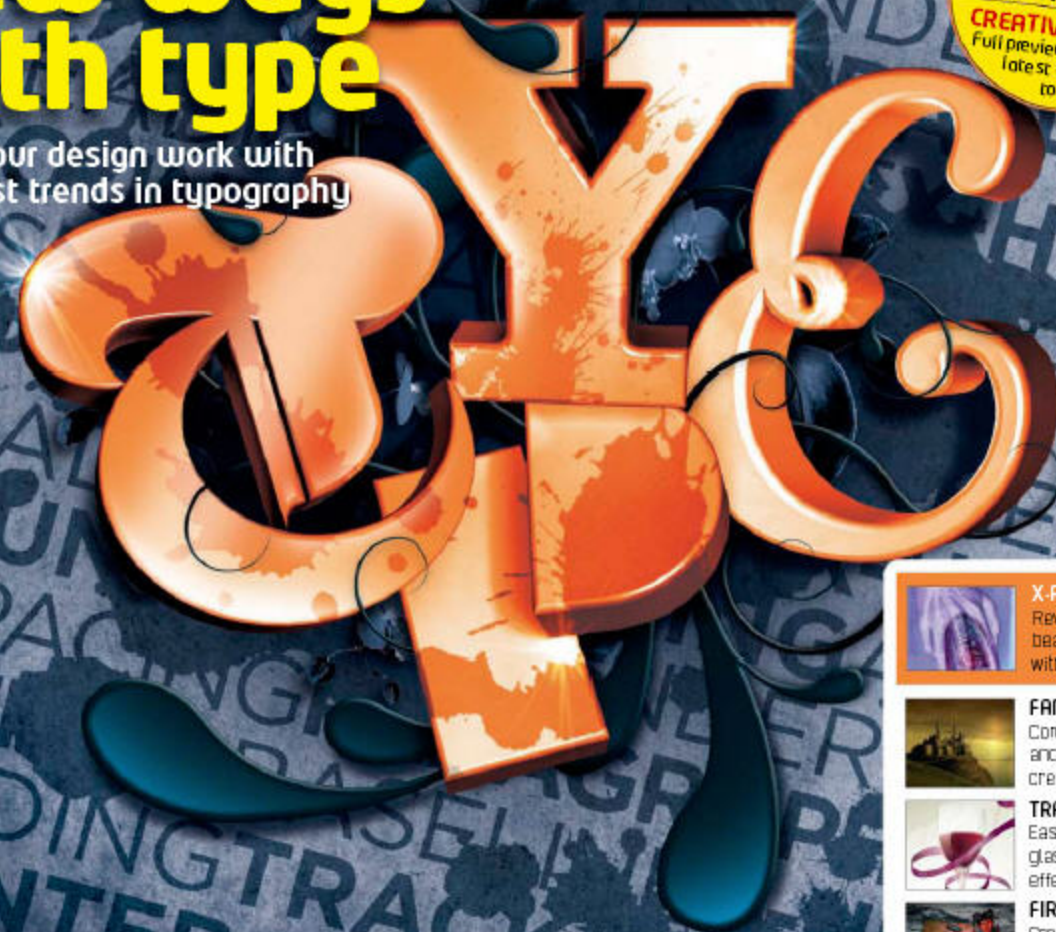
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WORLD LEADERS IN IT PUBLISHING



editorial

www.DIGITALARTSONLINE.CO.UK

welcome

Ideas are easy. The trouble is sorting the gems from the also-rans, the dead ends from the sparks of genius. And in an economic environment that sees designers having to work ever quicker to increasingly tighter budgets, good ideas are a matter of commercial life and death.

The challenge is in capturing and then nurturing ideas in as creative a way as possible. This issue, we show you how to set your mind free from the shackles of conformity thanks to the wonders of mind mapping.

By helping designers break out of the bad habits of linear brainstorming, mind mapping provides a quick - even enjoyable - way to pursue ideas, identify the creative sparks, and join it all together in imaginative ways. You can read about mind mapping as a tool for your next project starting on page 30.

From idea to creative realization, our inspirational masterclasses are a riot of advanced effects. This issue, we explore the power of transparency in Adobe Illustrator, how to create fantasy art scenes, conjure particle effects in After Effects and produce some stunning X-ray effects in Photoshop. Our masterclasses begin on page 46.

If you want to push these creative tools even further, we also delve into the latest version of the Adobe Creative Suite, with all-new versions of Photoshop, InDesign, Dreamweaver, Flash and Illustrator - each bulging with new features and creative possibilities. We've been using the beta versions for some time, and you can read our first-look impressions on page 62.

So, if you're stuck for a creative nudge, this issue is a step in the right direction.



Lynn Wright
editor

DigitalArts

Digital Arts delivers authoritative creative advice that directly impacts on you as a designer. Digital Arts covers design, visual effects, video, interactive, 3D, and animation, and our tutorials are sourced from leading creative practitioners. Digital Arts is the leading reviews magazine, and reviews more creative products than any other UK monthly magazine.

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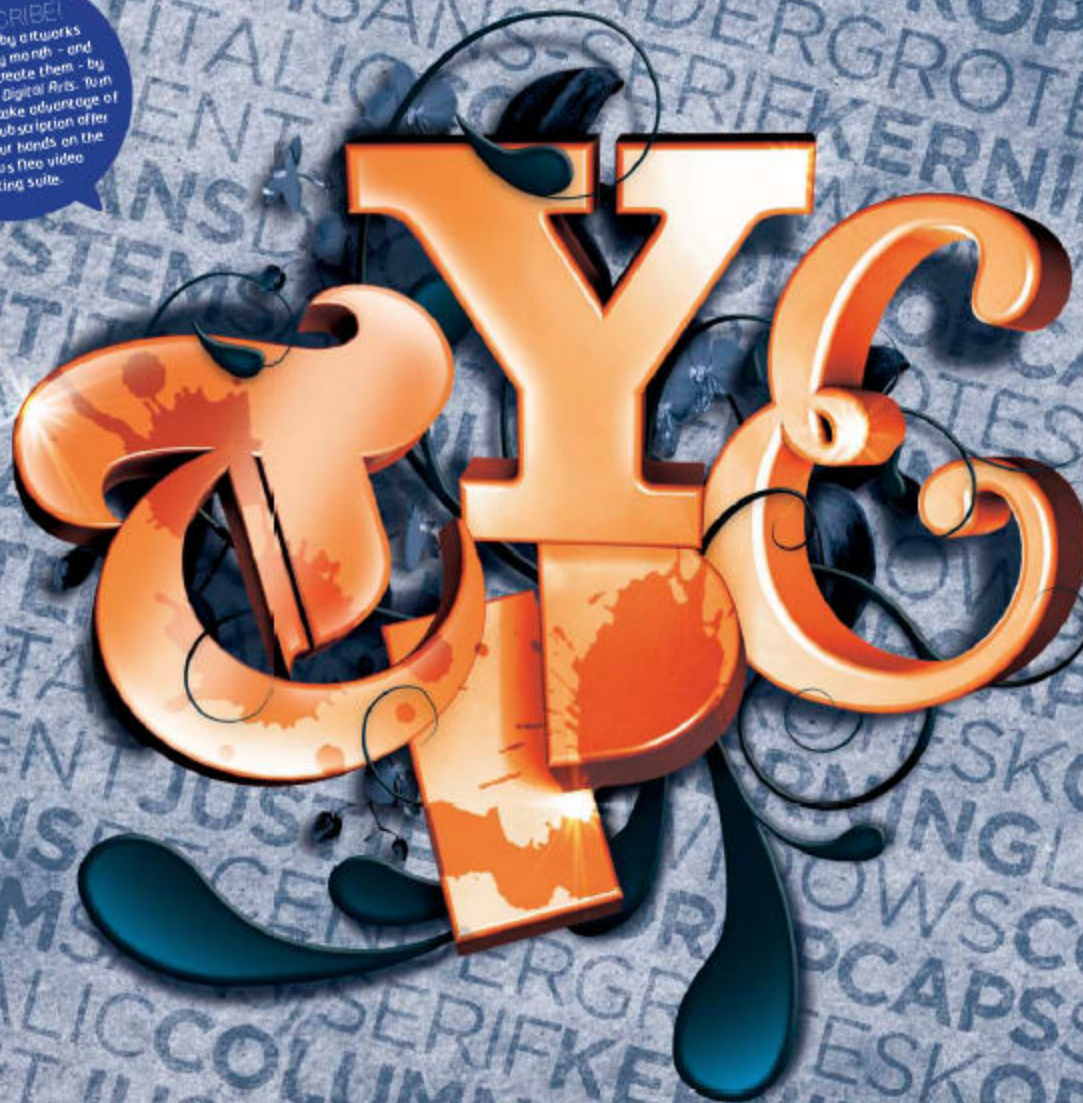


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FULL 3D SUITE

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Create fantastic 3D artwork, illustrations and animations using this easy-to-use, professional suite for Windows XP/Vista

20 amazing high-res stock images
Boost your designs with these royalty-free photographs from Shutterstock
Training videos
Three advanced training videos from Talented Pixel for After Effects CS3
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Top ads and music videos, and behind-the-scenes videos on their creation
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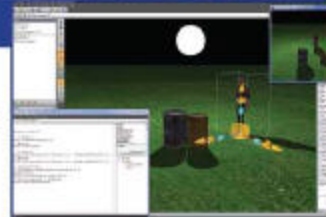


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Onedotzero promises a new adventure

Celebrated exhibition and conference heads to London in November and heralds the latest in moving image.

Global exhibition onedotzero is heading to London in November, bringing with it a showcase of the best in global animation and moving image.

The festival, which will be held at the BFI Southbank from November 14-16, will include the chance to see work at the London

IMAX theatre – the biggest screen in the UK.

Sessions include *Cityscapes*, a series of provocative shorts that explore the modern metropolis, and *New British Talent*, showcasing up-and-coming creatives from the UK indie filmmaking scene.

Terrain will show off evocative artist interpretations of all types

of terrain and environments – from urban worlds to imaginary landscapes.

Regular sessions from previous years mark a return, including the popular *J-Star* thread highlighting music videos, motion graphics and shorts from Japan, and *Wavelength*, which showcases rare music promos and visually

progressive video promos.

The exhibition will debut initially at London's new P3 arts venue from October 27 to November 13, which offers talks, classes and an audience-generated cityscape illustration.

Full timings, entry details and show information are available at www.onedotzero.com



Disco's viral for Berocca features CG fish performing synchronized swimming to show how the vitamin tablet provides a daily boost. Shot in HD, the viral has a mobilephone video style. www.goldensq.com/disco



VFX studio Suspect has created a spot for Christina Aguilera's fragrance, *Inspire*. Directed by David LaChapelle, Flame work was done by Tim Creen. "Working from David's mood boards, we began an intensive testing phase. He's a pretty free-form director which is challenging from the VFX standpoint, but he followed the board closely and shot a lot in-camera for an authentic theatrical vibe," said Creen. www.suspect.tv

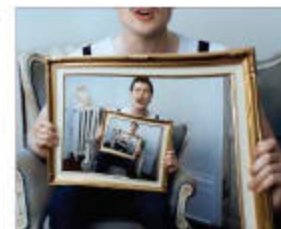
Infinite illusion for Wild Beasts promo

Creative partnership OneInThree used Apple Final Cut Pro for indie music video

Director duo OneInThree has created a visually stunning music video for up-and-coming indie band Wild Beasts' track, *Brave Bulging Buoyant Clairvoyants*.

The promo sees the band performing in a series of optical illusions that spirally replicate ever-smaller versions of the scene towards a seemingly infinite point in the distance. It uses the Droste Effect, an illusion that fascinated illustrator MC Escher. However, even Escher couldn't fully create the effect.

OneInThree edited the promo in Final Cut Pro, with a total of ten minutes of footage to grade.



Variable point: OneInThree made the grade for their optical illusion music promo for indie group Wild Beasts.

OneInThree then used the Final Cut Pro 'XML to Crimson to Red Cine' workflow to conform the promo as 4k 10-bit DPX's (660GB worth) before it was graded in Baselight by James Bamford at

The Mill. This was output as a 4K TIF sequence so that OneInThree could start the effects process.

Mathmap was used to apply the effect to single images – and the team had to source extra computers to handle to process.

The images were prepared in After Effects and the Droste Effect applied before compositing the final promo was begun. The 'Drosted' images re-conformed and animated in After Effects to zoom in time to the beat. Transitions were hand animated and the stills added into the mix, before OneInThree headed back to The Mill for final post work. www.oneinthree.tv



New book *Art & Sole: Contemporary Sneaker Art & Design* by Intercity celebrates the creative side of sneaker culture, showcasing the best collaborative and limited-edition sneakers produced by a wide range of artists and designers. www.laurenceking.co.uk

Sony Alpha digital SLR debuts 24.6 megapixel photos

Sony has released the Alpha 900 – a digital SLR that has a 24.6 effective megapixel full-frame CMOS sensor, according to Sony. The sensor's ultra-high pixel count and large size – equivalent to a 35mm film frame – deliver extraordinary image detail and wide dynamic range, says the company.

Sony says that the sensor captures photos with a minimal amount of noise. The camera can handle 5fps continuous shooting at full 24.6 megapixel resolution. It has a 9-point AF system, 10 focus assist points, improved out-of-focus detection to reduce focus hunting and a dedicated F2.8 sensor for enhanced AF accuracy with wide aperture lenses.

The Alpha 900 features SteadyShot Inside, an in-body optical stabilization system that delivers anti-shake correction with compatible lenses. A new 'intelligent' preview function simulates the effect of white balance, D Range optimizer and exposure level on the LCD screen.

The camera will ship with a range of compatible lenses, including a high-power 70-400mm F4-5.6 G SSM telephoto, featuring proprietary technology for fast, silent AF operation.

The Sony Alpha 900 is shipping now for £1,775 plus VAT. Carl Zeiss Vario-Sonnar T* 16-35mm F2.8 ZA SSM and 70-400mm F4-5.6 G SSM lenses will be available from early 2009. www.sony.co.uk



Rushes has completed VFX and a colour grade on the video for Boyzone's single *Boyz*. Directed by JT of Pulse Films, the video sees the band in a New York street set dressed in sharp suits and surrounded by beautiful girls. "I wanted a classic 50s style look so hot, key lighting added the sick feel I was after," says JT. www.rushes.co.uk



Little Red Robot has created some fun VFX for *I Know What Them Girls Like* by Ludacris. A paper cut-out technique overlaid with hand-drawn artwork and visual effects created the thought bubbles that appear above the heads of the girls. Cinema 4D was used for the 3D elements and the project composited using After Effects and Nuke 5. www.littleredrobot.com



Rushes, Smoke & Mirrors and Framestore have collaborated on a new campaign for Amnesty International. Entitled *You Are Powerful*, it highlights the fact that everyone is capable of standing up against human rights abuse. Post production was central to achieving the central idea which shows contemporary people composited into archive news footage where they prevent violence. The project involved complex roto and compositing work as well as careful grading to ensure characters matched. www.amnesty.org.uk



Speedshape has created two HD TV spots for the new Ford Flex which feature entirely CG cars and a photo-real CG cityscape. www.speedshape.com



Main image: EOS 5D; Top left: PowerShot G10; Bottom left: Digital Ixus 980 IS.

Canon EOS 5D adds video capture

Trio of new camera launches puts Canon's enhanced digital photography engine in the frame.

Canon has updated its EOS 5D digital SLR with a new model, the EOS 5D Mark II, which has the ability to record high-definition video.

Until recently a high-def video function had never been available on a digital SLR camera, but Nikon debuted this feature on its D90 camera, launched in August this year. The D90 can record 1,280-x-720 pixel resolution video, which is the lower of the two high-def video modes, while Canon's new camera manages the higher 1,920-x-1,080 resolution.

The EOS 5D Mark II hits stores in late November and will cost £1,955 plus VAT. Sold with a 24-105mm lens, the camera will cost £2,594 plus VAT.

Images from its full-frame 21.1-megapixel sensor are processed

using Canon's Digic 4 image processor, which can manage continuous shooting of 3.9 full-resolution pictures per second until the memory card is full, or burst shooting of up to 310 shots.

Measuring three inches and 920,000 pixels, the EOS 5D Mark II's screen is now larger and higher resolution.

The PowerShot G10 is the second of Canon's new camera launches. The first of the G-series cameras to offer wide-angle imaging via a 5x (28mm) zoom with optical Image Stabilizer, it features a 14.7mp sensor and Canon's Digic 4 image processor.

The PowerShot G10 includes a RAW shooting mode – plus support for Canon Digital Photo Professional software. The camera features a three-inch, 460,000-

pixel PureColor LCD screen – which Canon says offers improved colour rendition over the G9's screen. New dedicated Exposure Compensation dial and dual ISO/shooting mode dial also feature on the camera.

The G10 supports Canon's Macro Ring Lite and Macro Twin Lite accessories. New compatibility with the Remote Switch RS60-E3 allows easy shutter release when shooting with a tripod. PowerShot G10 costs £425 plus VAT.

Canon has also released the 14.7 megapixel Digital Ixus 980 IS, which it claims uses the optical viewfinder for framing and focusing, virtually eliminating shutter lag. Available in black or silver finishes, it is shipping now and costs £300 plus VAT.

Canon, www.canon.co.uk



LaCie boosts creative colour

LaCie's 700 series of LCD monitors uses RGB-LED backlights and ultra-wide gamuts of up to 123 per cent of Adobe RGB for superior colour accuracy. The 20-inch LaCie 720 costs £1,037, or £1,207 with LaCie's Blue Eye calibration hardware. The 24-inch 724 costs £1,472, or £1,633 with BlueEye. The 30-inch 730 costs £3,012, or £3,182 with the BlueEye. All prices exclude VAT. www.lacie.co.uk



Lumix G1 bridges SLR gap

Panasonic has developed a digital camera that straddles the gap between compact point-and-shoot models and SLR cameras. The Lumix DMC-G1 has interchangeable lenses without the bulky mirror and prism used in SLR viewfinders, so light comes through the lens and straight to an image sensor. The result is a camera that's much smaller and lighter than an SLR, while retaining some of these models' benefits. It will cost around £635.

www.panasonic.co.uk



Sony Vaio AW-Series laptop

Sony has launched the Vaio AW laptop, with a bright 18.4-inch display offering full HD resolution. Weighing just 3.9kg, it will appeal in part to photographers and HD camcorder users working on the fly, says Sony. It features a 3LED backlighting system, an Intel Core 2 Duo T9600 processor, NVIDIA's 512MB GeForce 9600M GT chip, and 128GB of SSD Flash memory that works in a RAID array with the 500GB SATA drive to boost performance. www.sony.co.uk



Shilo creates explosive spot

Mercenaries 2 launches with a fun promo campaign by Shilo.

Shilo's spot for the FPS video game *Mercenaries 2* is an explosive affair, in which a mohican-sporting anarchist goes on a gun-toting rampage.

Everything about the spot radiates irresponsible fun; we caught up with Shilo's co-founder and creative director Jose Gomez.

DA: What was the project brief?

JG: DraftFCB wanted us to create a story and a world that captured the sense of fun you get when you play the game. They also had the idea of articulating this world in this money aesthetic which we thought was genius. We had a great time making this spot.

DA: How far were you able to deviate from the computer game?

JG: From the start we decided not to use any 'in-game' footage. We wanted complete freedom to dive into this story and direct the production in our own style.

DA: What were your aesthetic points of reference?

JG: US currency, the good old dollar. We weren't concerned with

recreating the art on a dollar, rather the feel and tone of money from the saturation levels in the new dollars to the colour mixture and textures. The cross-hatching texture was also a big part of our look so we did a lot of tests to get that to look correct in a 3D world.

DA: What software did you use?

JG: Maya. And all the other usual suspects: Adobe Creative Suite and Apple Final Cut Pro.

DA: How did you achieve the smoke and flame effects?

JG: All the fire and smoke was done in Maya, and for good measure we mixed in some shot footage of fire into the explosions. It was fun coming to work and blowing stuff up!

DA: What was the toughest challenge of the project?

JG: Telling a compelling narrative is always a challenge in a 30-second timeframe. Also by not going overboard with the look and exercising restraint, we ended up with a more refined 'money' world. www.shilo.tv

Furnace 4 and Keylight come to FCP 6

The Foundry has released versions of its Furnace 4 and Keylight VFX plug-ins for Apple's Final Cut Pro 6.

Keylight is a blue- and green-screen keyer that's designed for challenging shots such as those featuring hair, reflections and semi-transparent areas. Built-in spill suppression means users can select part of the screen colour in order to pull a perfect matte, while allowing effects elements to be seamlessly seated together to look

as if they were filmed together.

Furnace 4 for Final Cut Pro 6 includes a number of plug-ins including DeFlicker for removing luminance flicker in a sequence; DeNoise, a noise and grain removal plug-in; Kronos, which allows an image sequence to be speeded up or slowed down and grain management tool ReGrain.

Furnace 4 for Final Cut Pro 6 costs £250 plus VAT and Keylight costs £125 plus VAT. www.thefoundry.co.uk

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It's oh so quiet

Jupiter Images' newest releases include *The Still of the Night*, a collection exploring the world after dark. Some of the images are whirlwind of movement, while others are as poised and tranquil as the name indicates. The collection focuses on locations rather than portraits, and is a great place to head for inspiration. www.jupiterimages.com



Peak time

It may not be skiing season just yet, but Artbeats is anticipating demand with its newest collection of aerial footage. *Winter Wilderness Aerials* features a bird's-eye view of stunning mountain ranges at their most idyllicly beautiful. The collection comprises over 40 clips and is available in high-definition (\$1,299; about £730) and standard-definition (\$699; about £395). www.artbeats.com



Deck the halls

It's that time of year again already, and the requests from clients for everything from Christmas cards to seasonal campaigns are rolling in. For a festive collection that's low on the kitsch but high on the feelgood factor, check out Veer's *Naturally Christmas* gallery - It's full of rights-managed and royalty-free images that put a traditional, handmade spin on the season. www.veer.com



Disco fever

Meaty, bold, blocky and retro, Geodezyx is the typographic equivalent of a towering pair of sparkly platform boots. It's the work of Nick's Fonts, a boutique Chicago foundry run by the prolific Nick Curtis, which specializes in historical fonts from every era - including, it seems, the golden age of disco.

It's only available in one weight, and costs \$7.95 (£4.50). www.myfonts.com
www.nicksfonts.com

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Realtime HD Editing at a Breakthrough Price!



The demand for HD video production is set to skyrocket now that HD televisions are in widespread use and Blu-ray has won the battle of the distribution formats. The time to add HD production capabilities to your repertoire is now. Cameras are affordable and the new Matrox RT.X2 LE card dramatically reduces the cost of a high-performance HD editing system. Not only is the price of the card itself lower than ever, it also fits into a low cost desktop system.

Matrox RT.X2 LE gives you all the realtime editing power and additional productivity tools you need to get the most from Adobe CS3 Production Premium. Whether you work in DV, HDV, P2 MXF, XDCAM EX, or a combination, you'll find that RT.X2 LE goes far beyond the capabilities of software-only in all aspects of video production - capture, editing, content creation, and delivery. Matrox RT.X2 LE will save you time on every project, letting you concentrate on creating your best work and building your business.

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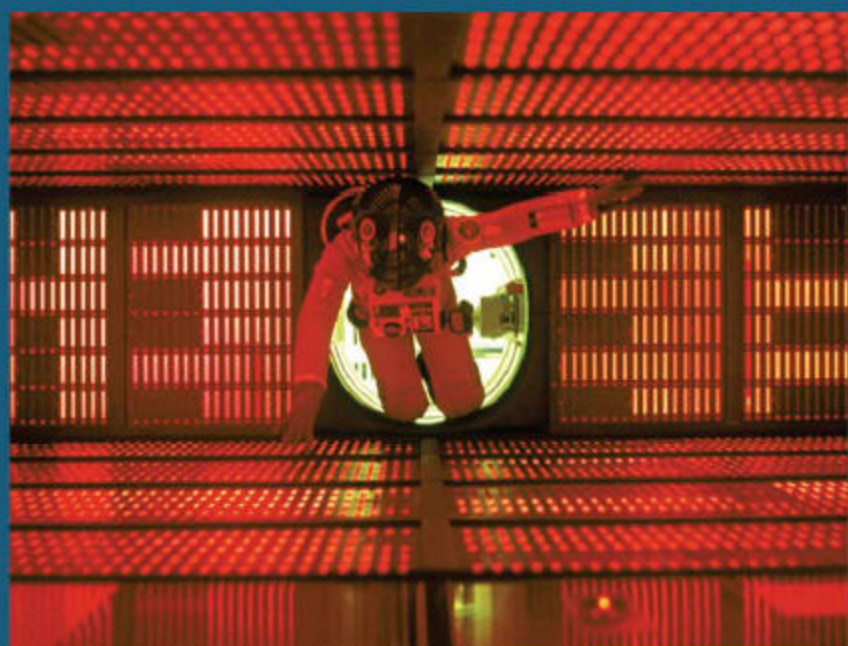
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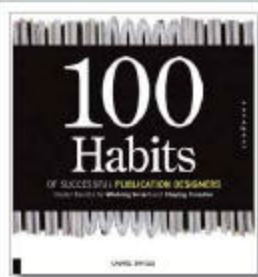
COLD WAR, HOT DESIGN

MAJOR EXHIBITION SHOWS HOW DESIGN WAS SHAPED BY THE COLD WAR PERIOD AGAINST THE BACKDROP OF THE BATTLE BETWEEN COMMUNISM AND CAPITALISM

A new exhibition at London's V&A Museum this autumn showcases modern art, architecture, design and film from 1945-70 – a period known as the Cold War. These years were marked by an intense rivalry between the superpowers, the Soviet Union and America. In the political power-play that ensued, the two countries accelerated the development of new technologies for weapons production, nuclear arms and the conquest of space.

Artists, architects and designers were drawn into this dynamic, demonstrating their nations' superior modernity. The result was 25 years of slick, envelope-pushing designs using high-tech materials and radical solutions inspired by this tense – but highly creative – period.

Cold War Modern runs until January 11, 2009. Timed tickets are available online. www.vam.ac.uk



100 Habits of Successful Publication Designers, by Laurel Saville, explores the creative process behind making effective magazines, journals, books, and other print publications. An in-depth exploration of the creative and editorial mind, the book offers advice, tips, and do's and don'ts from more than 30 designers and illustrators including those working on mainstream magazines. Various aspects of publication design are spotlighted including deconstructing a spread, working with illustrators, before-and-after redesign, the importance of covers, and what the future of publication design may hold. With 350 photos, the 192-page hardcover book costs £27.50. www.rockpub.com

Submarinechannel.com has published a 200-page book and DVD showcasing the work of offbeat artist and animator Han Hoogerbrugge. Covering all aspects of Hoogerbrugge's career from the early Neuronic series for the Web, up to Hotel Nails and commissioned works, the book has chapters on his work in interaction and sound design, web publishing and animation technique. www.bispublishers.nl



Pixar and Aardman animators are among the figures presenting at Hello Digital, a new festival celebrating the digital age, which kicks off this month in Birmingham. The free festival comprises four days of animations, digital films, games, illuminations, robotics and other high-tech interactive displays. A conference, Hello World, runs alongside the festival, and

features top names from the global digital community. Hello Digital takes place October 23-26, 2008. Other highlights of the Hello Digital showcase include DigiToons – a series of exclusive screenings created from workshops featuring award-winning animators Greg and Myles McLeod, best known for their work on MTV's Fuggy Fuggy. www.hellodigital.net

T-Mobile's G1 Android phone is coming to UK in early November. The HTC G1 phone, is the first phone to run the Google-originated Android open source operating system. A Linux-based operating system for mobile devices, Android was announced in November 2007 by the Open Handset Alliance, a group made up of, among others, Google, HTC, Intel, Motorola and Samsung. The phone offers 3G, a touch screen, a full QWERTY keyboard, GPS and Wi-Fi. Among the Android applications available for the phone is Google Streetview, which has a GPS compass mode that synchronizes the view with the direction the phone is pointing. www.t-mobile.co.uk



For the first time, the commercial, personal and collaborative work of character maestro Jon Burgerman has been collected together in one gorgeous publication. Along with hundreds of Burgerman's doodles, drawings and characters from projects as diverse as toys, clothing, exhibitions, murals, and sketchbooks, the 310-page book includes essays by the Pictoplasma team and insights into Jon's working process. The accompanying DVD is packed full of animated goodies, and documentaries about his work. Jon Burgerman: Pens are my Friends costs £30.



Able to laugh off the current credit crunch? Then get your chequebook out for a luxury laptop from car manufacturer Bentley Motors. Priced at a US\$19,800 (about £11,200), only 250 Ego for Bentley's will be made. Running Microsoft Vista, this stylish laptop has a 64-bit processor, a 160GB hard drive, and a white gold frame engraved with the limited edition number. Looking more like an expensive handbag than a laptop when closed, the outside of the machine is trimmed with 'Bentley leather', styled with Bentley hand stitching. The Ego laptop's interior can, of course, be colour-customized to look like your Bentley. www.ego-lifestyle.com

Tate Modern is hosting a major exhibition of the work of abstract painter Mark Rothko, known for his iconic paintings of soft-edged rectangles saturated with colour. The exhibition focuses on Rothko's work in series, with their theme of repetition and variation. www.tate.org.uk



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PABLO ALFIERI



Argentinian graphic designer Alfieri tends to look outside the traditional toolset of computer, pen and paper to create his works. Although many of his pieces are created using Adobe Illustrator, Photoshop and Motion Cinema 4D, he'll also resort to the contents of his desk drawer, artfully arranged, to make his point.

"I love to work with the computer as a tool, but doing things with my hands is a totally different feeling," he says.

When he's not arranging highlighters and other stationery, Alfieri also demonstrates a winning way with typography and has developed a distinct graphical style, full of neon-coloured clouds and blocky, fun capital letters.

His works – which he has shown in magazines and in blogs such as *The Serif*, *Form Fifty Five* and *Change the Thought* – are inspired by music, as well as "space and the stars, love and my lovely girl," he says.

Alfieri studied graphic design at the University of Buenos Aires, where he is still based. He currently works for up-and-coming local agencies.

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Right and below: *Lips Like Sugar*, a personal work inspired by an Echo and the Bunnymen song.

Top right: *Play With Tools*, a personal work exploring a return to traditional graphic design materials.

Far right: *Playful*, a piece for promoting Alfieri's work.



VINCENT CHONG



Although some bits of Vincent Chong's work may be startling, the graphic designer's distinctive, aged-photo-style work is getting noticed: Chong's *Digital Arts* appearance comes hot on the heels of his recent win of British Fantasy Artist award at Fantasycon.

Chong studied graphic design at Northumbria University, where he specialized in illustration. He's now based in Newcastle upon Tyne, and has a client roster that includes HarperCollins, St Martin's Press, Bantam Dell, Polish publishers Prószyński i S-ka and Shogakukan. Projects have included illustrating books by Stephen King and Ray Bradbury.

He has also exhibited works in the Brick Lane Gallery in London.

"I create my images in Photoshop, combining photographic and mixed-media elements," says Chong. "I draw inspiration from various sources, from other artists' work to films and music."

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JULIEN CANAVEZES



Illustrator and graphic designer Canavez lives in Paris, and uses the online alias Djodju. He's been freelance for almost two years.

"Since going freelance, I've worked for French magazines like *Geo*, *Ado*, *Phosphore*, and *AFM*. He has also been commissioned by large agencies including Publicis, DDB and Euro RSCG 4D.

"I use Photoshop and Illustrator CS3 for my illustrations and graphic design. I also use Flash for creating web sites and motion graphics," he says.

"At the moment, I'm not exhibiting work in any galleries because I don't have the time, but all my work can be viewed on my web site," he continues. "My inspiration is very broad – it can come from things I see on the underground, in the street, from books... I photograph what I see and I translate it with my pen."

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SEAN CHAPMAN



San Francisco-based Sean Chapman says that he realized early on that his passion is drawing — and he's put this passion to good use, crafting a career as a freelance illustrator.

He starts each piece with a graphite line drawing, which he then renders using Adobe Photoshop and a Wacom pad.

Chapman's client base includes Sniper Studios, Immortal Records, Tiki Tuins Entertainment and Aldenac Entertainment. He's exhibited work in a group show, Heavy Hitter 2, in San Francisco, and says that his plans for the future include experimenting with more digitally tangible artwork to be shown in galleries.

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KITTOZUTTO

The joint artistic enterprise of Singapore-based creatives Yana and Jun, Kittozutto specializes in hyperrealistic illustrations combining hand-drawn and digital elements.

The duo launched the Kittozutto Web site in September, so there hasn't been much time to accumulate a client list. However, between them Yana and Jun have over ten years' experience, working for clients including Adidas, American Express, BBC, Chanel, Coca Cola, Levi's, Ministry of Sound, Motorola, Ogilvy & Mather, Pioneer and Yahoo. Jun also runs brand agency UFAO (www.ufao.com).

Kittozutto has started work on its first project, though - contributing to the *Atlas of Illustrators*, due out next year.

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BEN QWEK



Self-proclaimed visual stylist Qwek grew up in Singapore and says that he's influenced by the country's cosmopolitan atmosphere and convergence of cultures.

Qwek describes himself as a "crossover artist between the worlds of graphic design and street art," and adds that he aims to add a "street" edge to all his work.

He's still based in Singapore - where he studied at Nanyang Polytechnic, specializing in illustration - but plans to move to London next year to further his career. Qwek says that his overall ambition is to become a multidisciplinary artist, fusing influences, techniques and elements from across the spheres of art and design communication.

Clients so far have included international brands such as Nike and Tiger Beer, as well as giant agencies including Ogilvy & Mather and Publicis. Qwek's work has also been broadcast on his local news.

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MARK WARD



St Martins graphic design graduate Mark Ward specialized in advertising, but after graduating he quickly crossed the fence.

"After working as an art director for a short while, I realised it wasn't for me - I wanted to create the artwork that I was commissioning out to other illustrators and artists."

Now based in south London, Ward works from home and a shared studio, where he tends to use acrylics and spray paints. "They're the two mediums that I find most comfortable and efficient to use to get the result I want - but it all depends on what the job involves. I've had to paint on some obscure surfaces in the past."

Ward is from a skate and urban bike background. He says: "This led on to a whole world of inspiration connected to that culture." His recent first solo show was held at London's Skam City Skates.

As for other influences, he says: "I'm genuinely fascinated by American culture. I know it's an area that everybody knows with anti-Bush imagery etc, but I'm visually more interested in 1980s Americana. Silly things like wanting to be able to buy a hotdog on a street corner, or having a trash can that looks like the ones on *Sesame Street*. That imagery runs deep through me. I'm sure it's a case of wanting what you can't have as a kid, but for some reason the fascination has stuck."

His clients include Nike, Stussy, Red Bull and Burton Snowboards.

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April Greiman was among the first graphic designers to embrace computer design, and she's widely credited with championing the New Wave aesthetic in the US.

told *Digital Arts* that their key influences were the bottom-up variety – namely, design students.

"You tend to notice things that crop up a lot, which more often than not come from some profiled activity that gets hijacked by students then exhausted, like the recent vector aesthetic," notes Trevor Johnson, creative director of Manchester design agency CreativeLynx (www.creativelynxx.co.uk). Johnson believes that in this way, niche and cult influences feed into the mainstream with each new wave of students. "With each shifting generation the previous urban street cultures then become mainstream – like the Banksy stencil thing."

If there's one man who knows more about design students than most it's Phil Bains, professor of typography at St Martin's College of Art and Design.

He throws a some light onto Johnson's observations.

"Students today are very clued up on what's going on around them, because they're able to pick up influences from all over the world that when I was at college would take five years to filter through."

To illustrate the point, Bains cites the 1980s work of US-based CAD design

"There's been a lot of interest in grids and vertical rhythm"

pioneer April Greiman: "Greiman's influence took a long time to reach Britain, because the only way it could be through magazines like *Creative Review*."

He says much of students' interest in type today is sparked by music and fashion. "It's a kind of recycling of interest. They seem to be interested in things that I find difficult to like – a lot of 1970s stuff seems to be popular again, stuff like Souvenir and that ITC American stuff."

Johnson has helped package Manchester's cultural activity for more than 30 years, covering everything from promotional design for the city's legendary Hacienda nightclub to brand consultancy for Manchester United FC. He's seen types trends come and go, and believes students wield influence by dint of numbers rather than any prowess with typography.

"The abundance of easily accessible



In a way, the headers are composite illustrations, and I treat the magazine as my portfolio of work, and try and push the style as much as I can," says Matt Ward. "I even get the odd illustration sending work in, saying how much they like it."

MATT WARD, *KINGPIN SKATEBOARDING EUROPA*

Illustration and typography have been bedfellows since medieval times, when monks used ornate imagery and drop caps to startling effect. Art director Matt Ward (www.kingpinmagazine.com) is resurrecting this centuries-old tradition in the most contemporary way imaginable – by styling a skateboarding magazine.

Ward has a BA and MA in illustration, and increasingly concentrated on type-based work as his studies progressed. This has given him the background to create one of the most distinctive newsstand magazines anywhere.

Ward, a keen skateboarder, came up with the idea for *Kingpin Skateboarding Europa* magazine five years ago, and began as the title's designer. Today, the publication carries hand-drawn feature headers that are each unique composite illustrations.

Hand-drawn type

Ward explains his creative process: "I do loads of hand-drawn stuff for each issue, and it's quite time-consuming. I try to work the illustration into the type. I use three or four different fonts and cut them up or tear them up, then draw or point over them. I use a pencil, quite a bit of tracing, and we have a colour copier. I find you can get a bit more out of serif typefaces because you can extend the serifs when you're drawing, and this gives it a different flavour.

"When I'm done I'll put tape over it all and scan it in.

He continues: "I try to get the whole magazine laid out first, with photos and copy, and only then do I start putting the headlines in. This means I can spend two days working up headlines."

The only section to feature Ward's hand-drawn heads is interviews. Others, such as news and products, are set using fonts from the Century typeface. "I try to have balance in each magazine," he says. "If it was all hand-drawn then it might look a bit messy."

Ward also promotes consistency by referencing Century in other ways. "I base a lot of the hand-drawn type on Century and one or two other fonts because they're the sort of fonts that don't date too much. I've found on other magazines we were using contemporary fonts that always seemed to age quite badly."

But Ward admits he has "a real problem with repetition", which means he likes to mix things up. "I steal from old books that use old typefaces and throw in odd words made of block type, and might use a bit of blackletter from time to time, as it's a bit edgy and is great when you trace round it.

The downside to Ward's approach to typography is the onerous demands it makes of his time and creativity. "It's really difficult if I'm not feeling creative, because I've still got to get the magazine done, and I'm now committed to that look."

It wasn't always like this for Ward. When he began on the magazine he admits he was "really into white space and clean design, but the editor had a real problem with that". Ward was forced to conjure a design that would please both parties – so began using point to create backgrounds instead of solid colours. This fed into his approach today.

"Everyone seems to love the magazine," he says. "There's some good skateboard magazines but their approach is all photography and white space. My approach gives us a unique voice."

Not one to stand still, Ward is currently contemplating an 'anti-design' issue – "something that uses stuff like Comic Sans and looks like it was done in Word". His logic? "It would stop people in their tracks a bit and I think it could be quite interesting. It would be a shock tactic."



alphabets can be confusing to younger designers, who lack an understanding of the fundamentals."

But regardless of student-driven fads, he says some things will never change: "The necessity for versatile, good-looking stalwarts won't really change, whether slab or sans serifs, and that's why, for instance, Lubalin and Avant Garde have been popular again over the past few years."

Back to basics

Naturally, there are many key influences aside from design students. Bains has noticed a surge of interest in hand-drawn type in advertising design, something he says that can be traced back to Jeff Fisher's 1993 cover design for Louis de Bernières's hit novel *Captain Correlli's Mandolin*.

"For quite a while there was a real interest in hand-made type in book-cover design, with pencil and pen replacing type, and there's been a bit of a revival in this area. It now seems to have spilled over into mainstream design, in areas such as advertising. I believe it's a reaction against the quality that you can get from the Mac now.

"Ten years ago we weren't talking about quality, but rather, superficiality of finish. Now – particularly when it comes to type – it's all about quality, particularly so since computer-to-plate."

What about type trends online? It's

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Top: The current interest in hand-drawn lettering is reflected in the books like Hand Job: A Catalog of Type, by Michael Perry, which collects work from 50 of today's most talented typographers who draw by hand. Above: Jason Beaird's The Principles of Beautiful Web Design.

tricky, says US Web designer and author Jason Beaird.

"Typography on the Web is a touchy issue for designers. For body text we're limited to the small set of typefaces the majority of visitors have installed," says Beaird, author of *The Principles of Beautiful Web Design*.

But he adds: "Over the past two to three years, though, the Web design community has come to the realization that there's more to good typography than typefaces, and there's been a lot of interest in vertical rhythm and grids."

Beaird says this can be credited to two Web designers – Mark Boulton (www.markboulton.co.uk) and Khoi Vinh (subtraction.com), from the UK and US respectively.

"Grids of horizontal and vertical lines have been used to organize typographic content since the Middle Ages and have been a cornerstone of print design since the 1930s," says Beaird. "On the Web, the use of grids has been fairly primitive but took off after Vinh and Boulton teamed up in 2007 to give presentations on the subject. Their work has directly inspired a growing number of recent Web site designs."

The baby brother of online design



Top: Trevor Johnson's work for Manchester-based creative consultancy Creative Type includes these logo designs.

– mobile device design – is a channel that rarely figures when it comes to examining prevailing type tastes. Long may this continue, argues Johnson.

"The styling of type is about the appropriateness of the look to the message in its context. Some system fonts have been created for the sole purpose of versatility, and are designed to be competent across a broad range of communication channels. I have no problem with typefaces such as Arial and Georgia, for instance, because of the environment in which they are most often viewed. Legibility and navigation are paramount, and the best designs of messages are often the ones that work so well they go unnoticed."

A less welcome trend, says Bains, is in the off-neglected realm of signage.

"The heritage lobby has affected signage for the worse," complains Bains, co-author of *Signs: Lettering in the Environment*. "You get those cast-iron heritage-style finger posts, on which the

TYPOGRAPHY 2.0

Web designer Jason Beaird is author of the *The Principles of Beautiful Web Design*, and there are few people who appreciate the rules, laws and technologies governing the use of type online.

Beaird says the dos and don'ts of typography in print and online are similar, but that there are distinct and common 'type crimes' for each discipline.

"On the Web, the things that tend to get overlooked are details like avoiding justified text in tight quarters [because this demands constant hyphenation], preventing widowed words at the ends of paragraphs and the use of proper HTML-encoded punctuation."

Beaird adds that online, designers are also faced with technological challenges that can act as barriers to the traditional design process.

"The biggest issue with JavaScript-driven Web 2.0 technologies is designers are often only responsible for creating an initial homepage," he says. "The creation of the individual pages of an Ajax-driven application is often left up to programmers with little or no design background."

In order to stay ahead of the game, designers now need to learn more about front-end programming and programmers need to understand basic graphic design principles.

But he says the biggest problem for online designers is accepting the fact that design decisions will not look the same to all people.

"We do our best to make a site look the same across all browsers and devices, but some inconsistency is inevitable. Unlike with print design, we have to consider what our work will look like to all people. It keeps things interesting, but sometimes makes me want to pull my hair out."

lettering is generally too small and badly spaced. It ticks boxes for councils and environmentalists but none as far as the sign is concerned."

There are many rules governing the use of type, but Johnson dismisses them. "There are no rules of type as far as I'm concerned – as long as a message is communicated, anything goes."

Instead, he says the focus should be about "weighing up the importance of the message in the design," and therefore "the level of crafting of the type required".

He concludes: "As graphic designers, our job is to create and manage perception; the styling of type is about the appropriateness of the look to the message in its context."

AMERICAN TYPEWRITER

AVANTE GARDE

Type trends

TYPE ONLINE: GRID-BASED LAYOUT

When it comes to laying out copy online, Web designers have never enjoyed the same flexibility as those working in print, because the two mediums are governed by utterly different sets of typographical rules - until now, that is.

A design revolution is afoot, one that challenges this received wisdom by basing Web design on the principles of design for print. It means we are now beginning to see Web sites that feature text ranged across proportional widths, and image placement that ushers the eye through content that's marooned in white space - something formerly that was the preserve of glossy fashion and art magazines.

The person responsible for this revolution is Khoi Vinh, design director of the *New York Times* Web site.

A year ago, Vinh began thinking about defining his approach to Web design - with the typographic grid as his primary layout tool.

Khoi's contention is that what has been good enough for print designers for more than 100 years should be good enough for contemporary Web designers.

"Design in the digital world demands giving up control, but traditional graphic design has always been motivated by control. Grids are a design tool intended to enable control," explains Khoi.

"The grid is the most vivid manifestation of the will to order in graphic design," he continues. "The golden section is the groundwork for a grid. There is a strong overlap between what motivated grid usage nearly a century ago and what motivates grid usage today."

Khoi says that grids not only "derive beauty from the innate qualities of the browser" but have the added benefit of championing standardization.

Typographical grid

Khoi has set the Web design world ablaze with discussions of how to best deploy the typographical grid, and much of this debate is based on real-world designs crafted by a burgeoning mass of grid evangelists. Typical of the debate he's kick-started are the entries and responses on Khoi's own blog (tinyurl.com/295vj2).

The story of how Khoi first launched into the subject of online grids goes back to the Future of Web Apps conference in London in February 2007, where he presented a grids workshop.

Khoi wanted to conceive a way to visually represent the problem-solving processes he goes through when designing new interfaces with grid layouts, and hit upon the idea of a hypothetical redesign of an existing Web site - "an approach that allowed me to tackle a set of real-world design problems that would be familiar to lots of users".

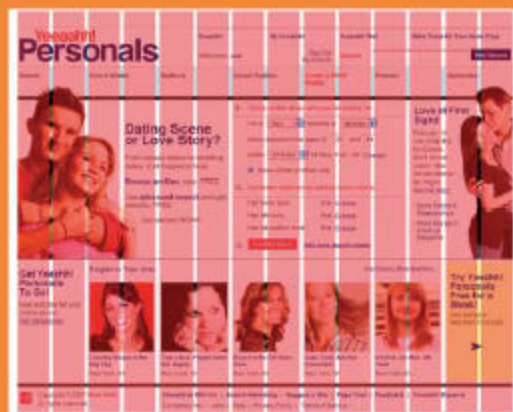
Khoi's design for his fictional Yeeeahh site is based on "a well-known search engine" (Khoi prefers not to be explicit about which, for legal reasons - but there's no cigar for guessing). He chose this site "because it has an ideal blend of information design problems; robust navigation, multiple content types, consumer branding, a mix of editorial and marketing contents", and set about reconstituting its content into a new, grid-based layout.

Khoi explains: "The idea wasn't so much to improve upon the originals, as it was to use the redesigns as a vehicle for illustrating the various methods and principles I use in grid layouts."

But Khoi is quick to dismiss grids as some kind of Web-design panacea. "Grid-based layout is not a replacement for educated guesswork, best practices research, instinctual creativity and testing, testing and more testing."



Temporary CSS grids based on Khoi Vinh's typographical grids are available for download (www.typefaces.org), and are gaining in popularity among Web designers.



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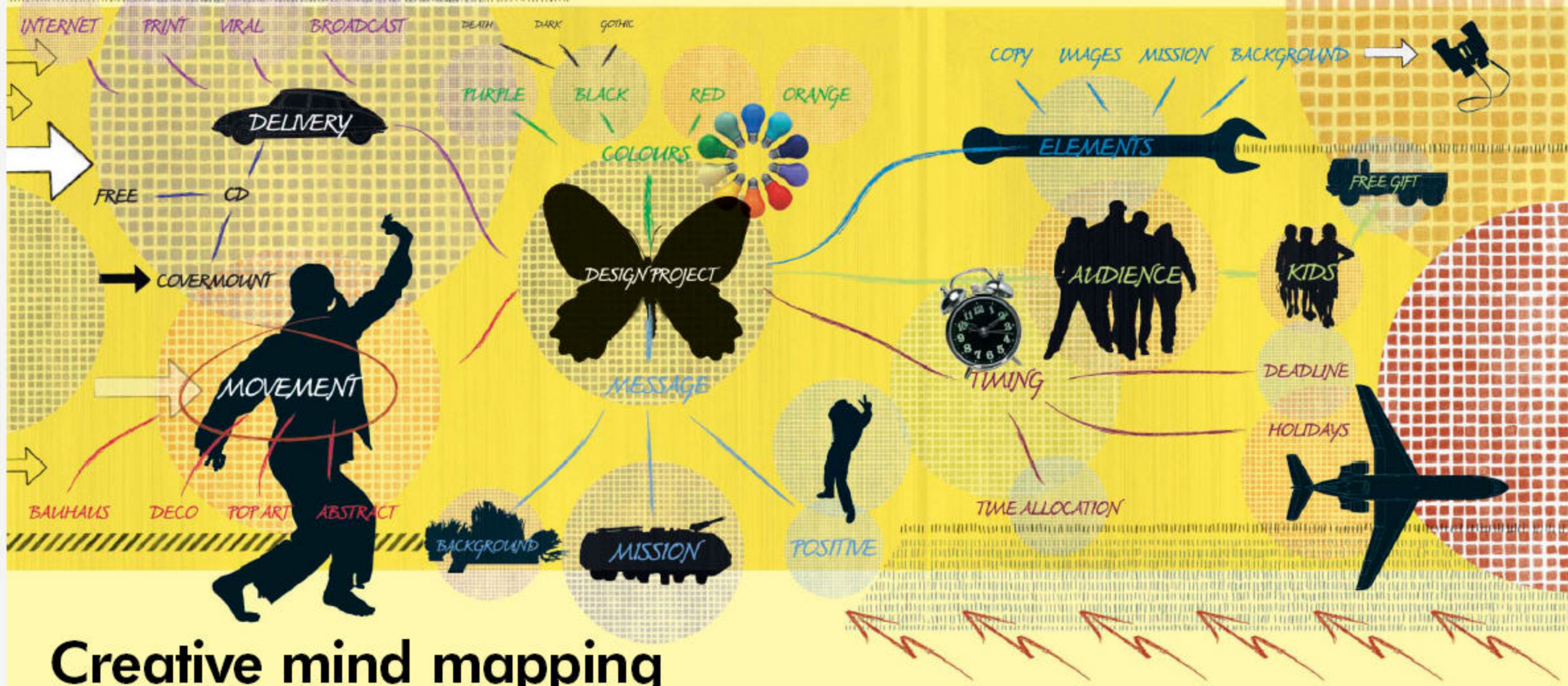
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Creative mind mapping

Break down creative blocks, develop visual solutions and discover ideas that push the boundaries of design by mastering mind mapping.

words Beth Whetton image John

Mind mapping has become a breakthrough skill for designers and artists looking to tackle creative issues. It might sound like a buzzword straight out of business school, but mind mapping is being adopted by design studios as a way to take brainstorming further.

The technique was apparently invented in the 1960s by British popular psychology author Tony Buzan. It apes the way the mind works, combining creative thinking, brainstorming, problem solving and note taking.

Mind maps offer a hybrid of both words and pictures – which helps to burst through any creative block, and

they are more effective than making a straightforward list.

The key thing about mind mapping is that it works in the same way that creative people do. It allows the mind to move away from restrictive linear thinking and stimulate radial thinking. Our thoughts tend to happen in a disordered, often random manner, which can be hard to capture using a linear approach, such as list making.

Linear lists force linear thinking – often people bury an idea deep in a list that could have held the key to unlocking a creative brief. Mind mapping, on the other hand, treats all ideas as equal, and a mind map gives

easy access to an idea, allowing you to link it to other thoughts.

Mind mapping also works because the mind recalls key words and images far more easily than sentences and, because mind maps are more visual and depict associations between key words and images, the entire mind map is easier to recall than a page of notes. Many designers use mind maps as a form of note-taking when initially brainstorming with clients.

Mind mapping is a combination of both right- and left-brain activity – meaning it's useful for a variety of types of team – but you need to understand how to get the best from it.

How to create a mind map

Step one: Starting out

Creative mind mapping should be fun – so you'll need a large sheet of plain paper and some coloured pens. You'll also need some quiet space, so turn off the iPhone, MSN and email as well.

Turn the page so it's in landscape orientation, and then in the centre of the paper draw an image that represents your creative problem. This could be anything related to a client brief, for example, such as a product or target audience, or a good question or idea. Think about what you want to achieve, and precisely define it. Next, clearly label the image, such as 'Christmas' to sum up creating a seasonal project for a client. While this is the goal, it's OK for your brain to wander as

you work on the mind map, as long as you capture your thoughts.

The point of placing the image and label in the centre of the paper is so that you have freedom to spread your thoughts out in all directions – which is more aligned to how your brain processes thoughts.

Step two: Spread your wings

Now get busy with the coloured pens, and create thick branches that stem out from the central picture and label. Each branch will become a main stream for certain types of thoughts. There are no limits here, but mind maps traditionally comprise five to seven branches.

On each branch, clearly label in capitals your main thoughts with a

single word. These thoughts should come from key questions. In the case of a creative project these could be: 'Who is this aimed at?', 'What visuals will be needed?' and so on. You may decide the label these coloured branches 'Audience' and 'Elements', for example.

Make your mind map as visual as possible: make sure you use different colours, as these excite the brain and create more stimulating thinking. You can also doodle or add reference images to the mind map as you need to – often these are more evocative than just writing the words. This will also help you develop the project's overall feel.

Step three: Associative thinking

The next stage is to begin to expand your mind map. Start by exploring the main keyword branches, and then start to clearly write more keywords that spin off from the main branch. Each becomes a sub-branch, and you can create as many sub-branches (and sub-sub-branches) that you need.

So your main branch labelled 'Elements' could produce sub-branches labelled 'Festive', 'Red', 'Santa' and so on. Keep following each sub-branch, producing new ideas that are related to the Festive branch, for example. So this branch could give rise to 'Gifts', 'Holly', and so on.

Stage four: Putting it together

The final stage is to begin to link elements together, and to continue branching out ideas. When you've exhausted your idea bank, use coloured pens to start joining ideas together. These are used to form associations that wouldn't have been possible if you'd relied on linear notes. Use this stage to spot new ideas or novel concepts that can kickstart your creative project.

Stage five: Shoring ideas

Mind maps are great for solo brainstorming – many writers use them to develop stories and characters – but they are especially good in team environments or for groups of designers working long-distance.

If a design team is working on a project from several different locations, each can create a mind map and share it when they're finished done. This allows you to rapidly spot common ideas and themes, as well as quickly identify new thoughts rapidly, and then agree to develop them further.

Always file your mind maps – they can provide a quick jump-off point for new thinking and a quick visual aid to recall your initial thoughts for a brief.

Top tips for mind mapping

- Use as many images as you can, and limit words to single keywords.
- Start with a clear, uncomplicated image at the centre of the map that sums up the problem or goal - it needn't be a polished sketch, a doodle will be fine.
- Use printed letters rather than scripted characters. Capitals are memorable, but even printed lower-case letters are distinctive and easily remembered.
- Always put keywords on lines that connect thoughts, so it builds a structure to your mind map.
- Colour is important: use it to reinforce associations, themes and to ensure ideas stand out.
- The rule is simple: get ideas down, get them down quick, and put them down wherever they fit - you shouldn't hold back ideas and you shouldn't judge or filter them.
- Time matters. This isn't a marathon - instead, set a time limit - creative thoughts flow much more readily when they're working against a ticking clock.
- Link ideas together with anything you like: arrows, lines, icons - anything that links ideas together is a good thing.
- If you feel one branch is running dry, don't fret: move to another branch and keep working.
- Finally, use it to brainstorm alone - the rule is to continually connect together a stream of creative thoughts, and keep the pen firmly on the paper so you don't get distracted.

Mind-mapping software

FreeMind

Free mind-mapping tool for Mac and Windows, written in Java.
http://freemind.sourceforge.net/wiki/index.php/Main_Page

iMindMap

Cross-platform mind-mapping software, from the creator of mind mapping Tony Buzan.
www.imindmap.com

ConceptDraw MindMap

Software for Mac and Windows to create mind maps, brainstorming and organizing ideas.
<http://conceptdraw.com/mindmap>

OmniGraffle

Mac-only tool that offers mind-mapping and advanced diagramming.
www.omnigroup.com/applications/omnigraffle

MatchWare OpenMind

Easily log brainstorming sessions and create mind maps for Mac and Windows.

When to use mind mapping

Client brief

It might seem unusual, but use mind maps in client meetings in place of traditional note taking - they can be used to organize client goals and needs into a form that is easily remembered, and they can also provide a rapid starting point for a project.

Project management

Mind maps are great for project managers in studios - they can be used to collect all elements of a project with a top-down overview, and then link processes, deadlines, and people together to ensure speedy delivery.

Pitching

Mind-map the pitch beforehand. This will be easily remembered, letting you do away with crib notes and visualize the pitch in your mind, leading to a more fluent presentation and better client interaction.

Creativity

As suggested in the main article, mind maps are an excellent way to solve problems and explore creative paths without the danger of losing track of your thoughts, or failing to fully explore paths that hold creative potential.

Project budgeting

Use a mind map to brainstorm all potential elements and costs - and cost savings - in one place to help you formulate a price. Use the mind map to detail how long elements will take, or what resources - you can do this visually by, for example, making important costly tasks large and colourful, and lesser tasks plain and small.

Post-mortem

Your Web site may be complete or interactive project launched, but use this time to mind map the project. Start with the client name, then mind map what, when, good or bad, or what you learned about a project. From this, spiral into what worked or didn't, what needs improvement and what you'd do differently in a similar project.

Mind mapping online

Mind map examples

A fantastic resource of mind maps that show how the process can apply to any topic - from the Harry Potter novels to the extinction of the dinosaurs.
www.buzanworld.com/Mind_Maps.htm

Bubbl.us

Easy to use and free online application for creating and sharing mind maps, and even printing them out.
www.bubbl.us

MindMeister

An online mind-mapping tool that

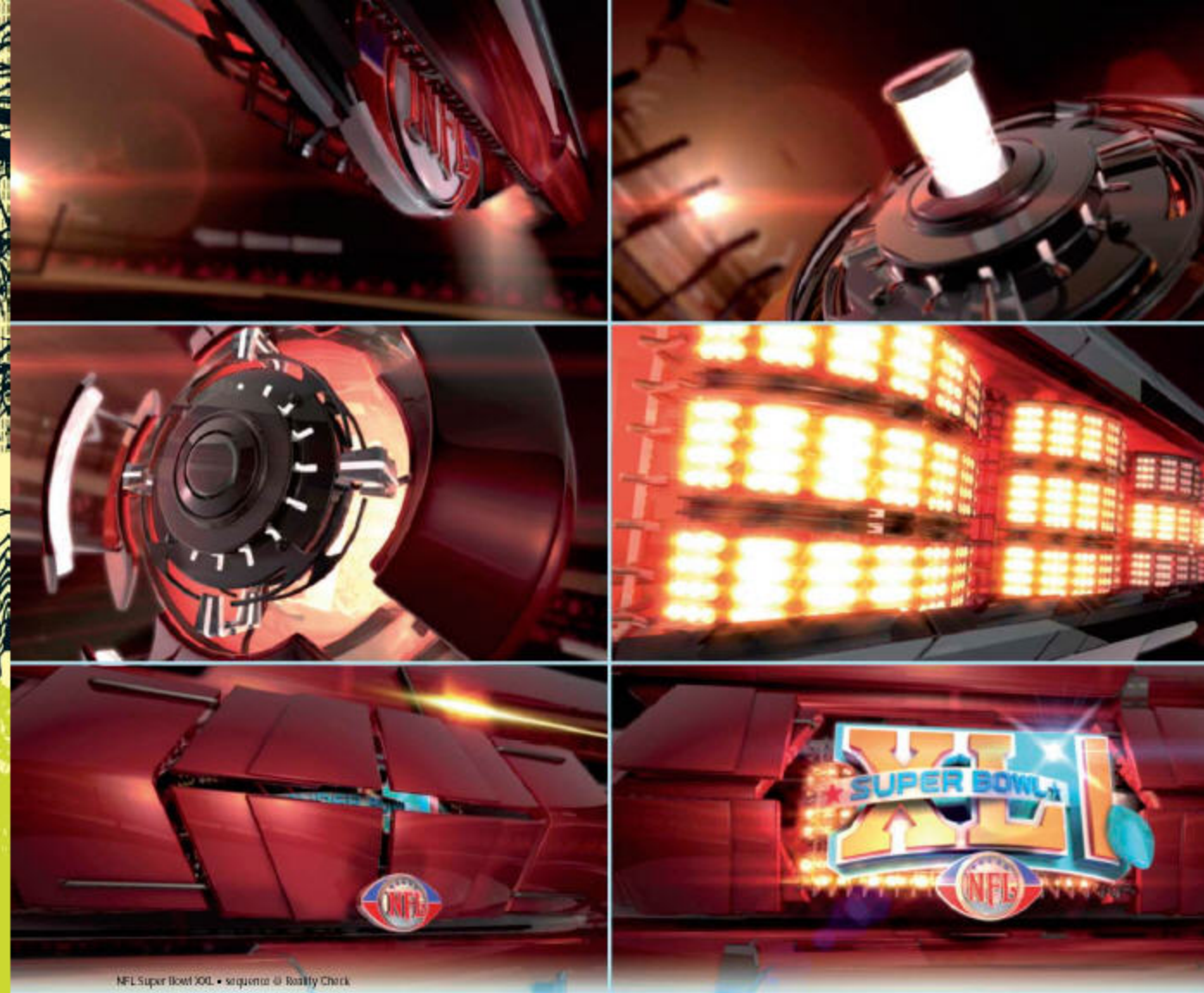
offers basic mind mapping using a Web browser for free. There are tools for collaborative mind mapping.
www.mindmeister.com

My Mind Map

If you want to print out a raft of mind map templates to get started, then My Mind Map has loads of free ones.
www.mymindmap.net

Mind Mapping

Lots of online examples and advice on how to use mind maps in a creative environment.
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NFL Super Bowl XLII • sequence © Robby Clark

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The making of a CG Mummy

From a decayed mummy, encased in a clay shell, to vast armies of terracotta soldiers and the risen dead, Digital Domain served up some gory visual effects for *The Mummy: Tomb of the Dragon Emperor*.

words Lynn Wright

One of this summer's big action adventure films, *The Mummy: Tomb of the Dragon Emperor* is the third installment of Universal Picture's *Mummy* franchise. This time around the action moves from Egypt to China, where Jet Li plays the Mummy of the title – Emperor Qin, a ruthless Chinese ruler from 500BC who has been cursed to an eternity trapped in a terracotta casing. Unearthed and awoken by Alex O'Connell, the now grown-up son of Rick O'Connell (Brendan Fraser) and his British wife Evelyn, the Emperor Mummy is on a mission to reawake his army, which has been transformed into terracotta soldiers.

The film's many visual effects posed some unique challenges for director Rob Cohen, who took over the helm of the franchise from Stephen Sommers. Cohen turned to visual-effects houses Digital Domain and Rhythm

& Hues, splitting the effects shots between the two based on each company's speciality. While RGH delivered most of the film's creature work – including a three-headed dragon, and a Yeti – Digital Domain was responsible for the terracotta warriors and the Jet Li-inspired CG emperor mummy, as well as the major battles scenes between rival armies of undead warriors.

Actor Jet Li is seen in human form as Emperor Qin only at the very start and end of the film. For the majority of the film, the emperor is a CG character – a burnt, desiccated mummy trapped inside a terracotta shell.

In moments of anger, his terracotta face cracks and pieces fall away to reveal the grotesque mummy underneath. As his curse is to be forever encased in this terracotta shell, the shell quickly reforms with hot clay

that glows and smokes as it regrows over his face. Not only did the burnt, decayed mummy have to look – and speak – like Jet Li, but the terracotta figure also had to resemble Li, albeit in a stylized form.

"Rob was emphatic that this character, either in mummy or terracotta form, really looked like Jet Li," says Mårten Larsson, lead effects artist at Digital Domain.

Using data generated from a motion-capture session with the actor, a digital version of Li was modelled and animated in Autodesk Maya and rendered in Pixar RenderMan. Multiple layers of highly detailed textures were created in ZBrush.

According to Larsson, the main challenge of creating the terracotta shell was in striking a balance between making the terracotta face move with human characteristics while maintaining the look of a solid object. Cohen



The ZBrush model of the mummy



Creating the Dragon Emperor mummy

Much like a Russian doll, the Emperor Qin mummy is formed of two hero characters – an 'under-mummy' that resemble a desiccated, burnt Jet Li, and the terracotta outer shell that resembles the actor in a more stylized way. The Mummy's face was a mix of hand animation and meticulous procedural work, including stress maps that cracked the overlaid terracotta shell when it stretched beyond certain points.

wanted the shell, even while cracking and re-sealing, to reveal the subtleties of the facial animation underneath.

"We went back and forth on the design of the terracotta a little bit," explains Larsson. "Initially we designed a whole system that actually cracked up the character's whole face and moved it as solid chunks, as if he had terracotta shell on him, but that became really distracting. So in the end, we used a deforming face with cracked textures on it."

To create the crumbling terracotta shell, a simulation was created on the surface of the character's face. Digital Domain's effects team imported the Jet Li character's geometry from Maya into Houdini. Here,

stress maps were calculated to determine which part of the face was moving during a particular period of time. When an area hit a certain level of stress, it would crack along a seam, creating the appropriate – and appropriately scary – simulation.

Re-sealing the character's face with molten terracotta was another challenge, Larsson explains, as the effects team needed to convey the extreme heat of molten clay.

Heat effects, including smoke and flaking embers, were created by hand in Houdini and rendered with Houdini's Mantra rendering engine, while Digital Domain's volumetric renderer Storm was used for smoke effects.

Compositing the mummy of Emperor



The basic animation model



A rough composite



The final composite

Qin and his terracotta shell was equally tricky, explains Ted Andre, lead compositor at Digital Domain. The two objects were rendered separately, but as each object's light affected the other, the team used two different passes.

"These passes had multiple layers, which allowed us to control the overall look and feel on an individual basis," explains Andre.

Despite sharing the same material qualities, the warriors of the terracotta army had to be modelled differently to the Emperor, because of the vast number of characters involved in the scenes. The soldiers are portrayed purely as terracotta statues brought to life – not as mummies encased in a clay shell – and so moved in a more solid



fashion without cracking and shattering. Working from a life-sized model of a terracotta warrior used on-set as a lighting reference, along with tons of photographic material relating to China's real terracotta army, found in 1974, the team built the soldiers in 3D using Maya.

Much like the real terracotta warriors – each of whom is unique, and is believed to have been based on a real individual – Cohen wanted the film's Qi soldiers to be highly individualized.

Armies of the undead
In addition, the film script called for a rival army of the risen dead, called the Foundation Army because they had been buried on Emperor Qin's orders in the foundations of his great wall. Consisting of desiccated mummies and partial skeletons, they fight the terracotta army alongside the film's live actors.

"Rob was after a very specific look for the foundation army," says Larsson. "They had to look supernatural yet move in an organic, human way, with a colour palette that reflects the fact that the bodies had been buried in the wall for thousands of years."

To generate enough variety for this army, a number of initial models were built for the characters from which the Digital Domain team then swapped heads, bodies, and clothing to create a full army. "We also worked with different levels of decomposition," adds Larsson. "That way, we had a few layers for each character, so we could reveal different layers all the way down to the bone-structure."

Massive was used extensively for the large scale battle at the end of the film. The software agents were built on the back of motion capture sequences and the shot was split into layers depending on the detail.

Massive agents were used in all the background shots, with hand-animating added to mid-ground and close-to-camera characters. All the warriors were based on motion-capture data provided by four weeks of capture by Giant Studios.

Both armies posed their own unique compositing challenges.

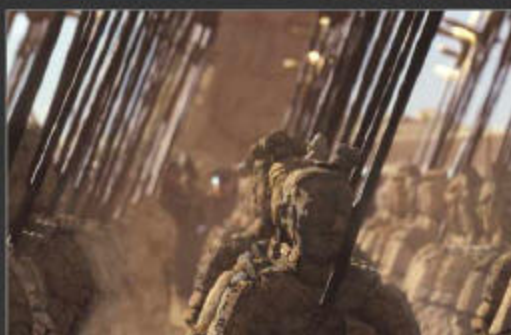
For the terracotta soldiers, the hardest thing was maintaining the subtle hue variations inherent in terracotta. This had to be achieved without sacrificing the individuality of each soldier, while still making them live in the live footage.

"This would change depending on the lighting of each shot," says Andre. "In addition, the soldiers needed to connect to the ground, leave footprints, cast shadows, kick up dust and behave in a manner that would suit the action in the scene – and it all had to look like we just happened to catch it on camera."

Colour control
Key to compositing the Foundation Army was maintaining a good colour balance, Andre continues. This was complicated by the fact that the characters' skeletal structure had to have a certain colour and quality, and each scene's lighting depended on how much of a particular character's clothing, hair and flesh remained.

"The challenge was in maintaining a level of visible detail on the characters while making them work together as a unit," he explains.

One of Digital Domain's more challenging visual-effects shots involved the awakening



Digital performer
Actor Jet Li is seen only briefly in human form at the start and end of the film, but key to the successful performance of the CG mummy was motion-capture data and a photographic scan of the actor's face. These, coupled with video references, of Li's vocal performance helped bring the CG character to life.



of the Foundation Army. In this sequence, thousands of dead labourers buried at the foot of the great wall of China, shake themselves free of the earth and rise from the ground.

"It was particularly tricky getting the scale correct for this effect," says Andre. "We had to make it look as if it was a really big earth-shaking movement, as the supernatural army comes up out of the ground. It was something that we didn't really have a lot of reference for in terms of a film that had done this before, but Rob had a pretty clear idea of what he wanted. While it was a challenging shot, it's also one of the cooler shots in the film."

"It was technically difficult because the sheer amount of volumetric data involved meant we had lots of layers to composite," adds Larsson. "The layering was also constantly shifting depending on where the camera was, so combining the layers could be tricky because we had to make sure we couldn't see through a layer to the one beneath."

For the climactic battle between the rival armies, Digital Domain used Massive, the award-winning crowd-simulation software, combining Massive with motion-capture data



"The armies want to tear the hell out of each other. The final result is pretty gory – limbs get hacked off"

"Massive was a natural choice for this, as the sheer number of soldiers demanded a procedural solution that would not only generate the number of characters but also give them the individuality the director desired," says Larsson. "It couldn't be just a bunch of guys running around randomly; they needed to interact with each other and interact with the contents of the scene itself."

The team used Massive for the background mass of characters, and the hero vignettes in the mid-ground and foreground. For characters seen in close-up, hand animation was added onto the mocap data.

The team looked to Mel Gibson's historical

epic *Brokeheart* for inspiration when it came to the battle-scene.

"It's one of the best battle films out there," says Andre. "But what became apparent when looking at this film is that shots are set up where you see these two armies running at each other but you don't actually see them hit."

He goes on: "The shot goes from them running at each other to a little vignette of fighting, but in our shot we wanted to see the actual impact where these two armies that have thousands of years of hatred between them finally meet. They want to tear the hell out of each other and we wanted to show this. The final result is pretty



gory, with characters getting stabbed and gouged and limbs being hacked off."

Around 200 people worked for nine months at Digital Domain to create the visual-effects shots. But, says Andre, working with Rob Cohen made those nine months fun.

"He is fantastic to work with – absolutely one of the best directors around," says Andre. "He understands things from an artistic and story standpoint, and from a visual-effects standpoint. He even goes the extra mile to learn everyone's name, which may sound minor but actually goes a long way to keeping morale up during the long weeks and months spent creating beautiful images for the film."

DigitalArts



The ascent of (Mini)man

Visual-effects studio Lobo pulled out all the stops for a full-CG spot charting the changes that have rocked the world in the 30 years since Lego launched its first Miniman.

words Alice Ross

What do Luke Skywalker, the fall of the Berlin Wall and pro skateboarders have in common? They're all referenced in a fast-moving, full-CG video created by Brazilian studio Lobo to celebrate the Lego Miniman's 30th birthday.

The video, which was commissioned by agency Pereira & O'Dell for the Miniman Web site, is a minute-long recap of the events and trends that have defined the past three decades, acted out by legions of Lego Minimen.

The spot is available online in standard definition, HD and even 3D.

It's a whistle-stop tour that name-checks *Star Wars*, *Saturday Night Fever*, subway breakdancers, an ice hockey match between the US and USSR, the fall of the Berlin Wall, space exploration, skateboarding championships and a rock gig.

On top of all this, Lobo has managed

to fit in an impressive number of visual jokes, helping to ensure that the spot teems with life and energy.

Lobo's original brief from the agency required that they fit in as many historical and cultural facts from the past 30 years as possible, meaning that Lobo had to engage in plenty of back-and-forth negotiations before the final storyline was settled on, and Lobo could create the storyboard.

"The agency wanted it to feel like a child's imagination at work, flowing freely from one situation to another - that's why we thought of all the transitions," says Cadu Macedo, the spot's director.

The sheer number of different scenes crammed into the spot meant that there would inevitably be planning problems. Although the spot's references needed to run chronologically, the transitions had to be considered early on to avoid insurmountable

CREDITS

PROJECT
Go Miniman Go
CLIENT
Pereira & O'Dell/Lego
STUDIO
Lobo, www.lobopg.com
SOFTWARE
Autodesk Maya
Pixar RenderMan

problems at later stages - so all transitions were planned in detail during the storyboard production stage.

"Some transitions happened naturally, but some didn't - like the one from the subway into the hockey match, for example, which couldn't be resolved because of the number of elements involved. We had to resort to a fade to white between scenes there," explains Macedo.

As you'd expect from something that has Lego's ubiquitous position in childhood, there's already a huge amount of Lego-related creativity out there - particularly on the Internet - for Lobo to check out.

The team researched the plentiful stop-motion movies made with Lego bricks, looking on everything from amateur examples they found on YouTube to Michel Gondry's stop-motion promo for the White Stripes' track *Fell in Love with a Girl*.



Lego characters from throughout the decades populate the spot - and there are a few cheeky out-of-place characters slipped in, such as a pirate on the subway or a cowboy on top of the Berlin Wall.



Use the force
One of the client's only restrictions or special requests for the spot was that the animation respected the Miniman's limited movements. This requirement ended up making Lobo's job a lot easier, as it meant that all characters moved in a straightforward way and never twisted or bent more than a real Miniman could.



They also watched plenty of previous Lego ads - "but this was more in an effort to do something different altogether from what they've used before," says Macedo.

A big part of retaining the childlike, fantasy feel the agency sought was stopping the spot from feeling overly slick or CG - Lobo wanted the viewer to feel that these were real Minimen. Although the spot is fully CG, Lobo was aiming for a stop-motion animation feel.

They were helped in this by the Miniman's

limited movements - which the client had stipulated as a key aspect of the project.

Partly because of the easy motion requirements of *Go Miniman Go*'s plastic stars, the spot was refreshingly straightforward to work on, once the transitions had been figured out. All animation was handled in Maya, using mental ray and RenderMan modules.

Of course, crowd scenes such as the rock gig were still problematic, because of the sheer number of characters in them. Lobo used render layers to handle these, resorting to RenderMan modules for a lot of the geometry requirements.

The amount of lighting, shadows and other information also ensured that the final rendering process was highly demanding.

Lobo's team was made up of three key members, with up to eight extra people pitching in when needed and four more for 3D rendering. The team clearly enjoyed the process of making the spot, and the opportunities it afforded them to unleash their inner child. "The most fun we had was with incorporating strange little characters as 'walk-ons' in some scenes. Our favourites are the skeleton biker and the bum with the dog," notes Macedo.

DigitalArts

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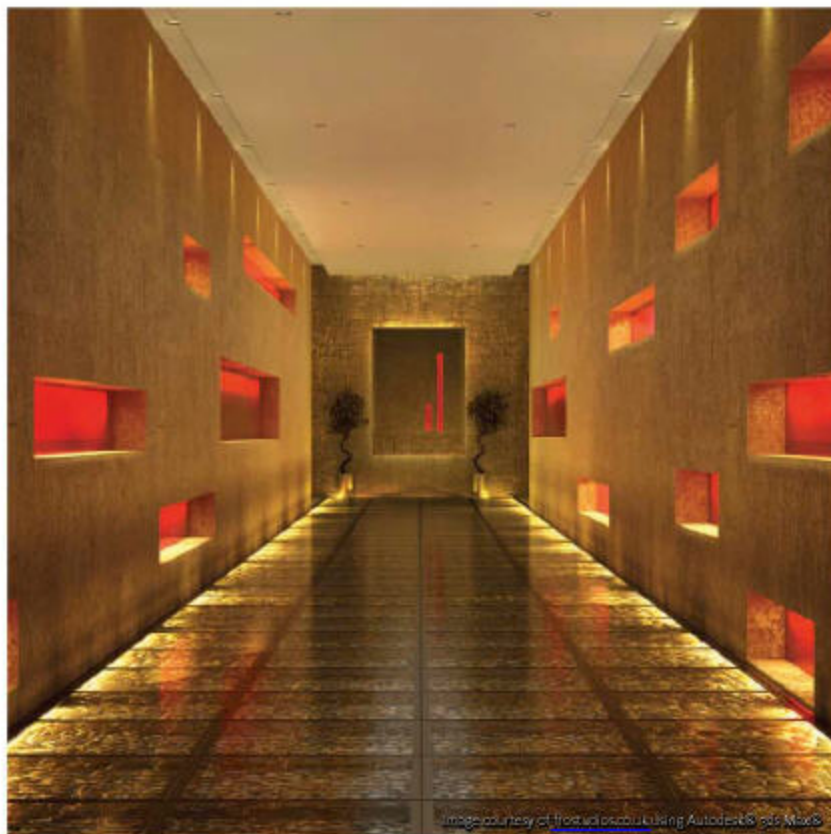
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projects



Step inside the mind of Serial killer Dexter returns for a third series with a promo that attempts to portray the complexities of his mind, using as a metaphor a funhouse.



Topix's killer *Dexter* promo

Smash-hit kill-by-numbers TV show *Dexter* got a visual-effects makeover from US studio Topix for the teaser promo for upcoming third season.

words Lynn Wright

"The biggest challenge we faced was making it all fit together," reveals Topix VFX director Marco Polsinelli of the team's full-on work behind the creation of the third season promo spot for hit serial thriller *Dexter*.

"Two days, different locations, different cameras, many different lighting set-ups, and loads of greenscreen footage - all to match and composite seamlessly. On top of that, we had the opening sequence that was built entirely out of digital files of sky, clouds and matte paintings that needed to cut with previously shot footage," he says.

The task of heralding the return of television's favourite mass murderer was a tough one - but one that US-based visual-effects studio Topix was gunning for.

The spot, called *Funhouse*, is a darkly humorous expose of the life to date of serial killer Dexter, as he walks through a series of surreal rooms that mix footage shot at different frame rates, matte work, 3D modelling and colour effects.

The spot opens with Dexter walking across a barren desert toward the stylized funhouse that was digitally created from the ground up by Topix digital matte artist, Andrew Nguyen.

"The scene was then brought to life by including moving clouds, shadows and sunshine to build the atmosphere," explains Polsinelli, who also created CG animated lights, added flags and faked camera moves to finish the look.

"The first six scenes were entirely shot on greenscreen and composited with a matte painting for the fun house," adds Polsinelli. "The sun was created using lens effects and glows along with enhancing highlights on Dexter to integrate him into the scene."

The sky was treated with a multilayer composite of clouds that moved ever so slightly to convey an open desert. Shadows of the clouds were added, and a post camera move helped finish the scene, he explains.

"The matte painting of the funhouse was brought to life with 2D animated lights," says

CREDITS

PROJECT
 Funhouse
CLIENT
 Showtime: Dexter
STUDIO
 Topix
www.topixfx.com
SOFTWARE
 Adobe Photoshop
 SoftimageXSI
 Autodesk Flame

ON THE CD

You can view the sequence on this month's cover disc.

Polsinelli. "A matte was then generated of every lightbulb on the funhouse, and a pattern was animated using mattes generated on the Flame. This was then treated with glint and glow filters to finish the lighting effect."

Real flags were shot at multiple angles on greenscreen and composited into place. Adding some depth-of-field and rack focusing to some of the scenes helped create the final composite.

The promo was shot with a dual-camera system that fired off at two different frame rates, creating the effect of a split between the real and surreal within the same scene. The effect is further enhanced with series of digital sleights of hand, including upside-down rooms and characters transforming into pop-up shooting targets.

"The idea here was that Dexter's mind is toying with him, blurring the lines of reality," explains Topix co-VFX director Julia Deakin. "The viewer thinks Laguna and Angel are pulling their guns on him, until we pan across



To create the pop-ups of Laguna and Angel, the actors were first shot against greenscreen, and the pop-ups were then tracked, textured, modelled and rendered in 3D using Softimage|XSI, and then comped in Flame with shadows, grain and 3D renders added to help incorporate them into the scene.



"We shot on greenscreen so we'd have ultimate control"

Mirror mirror

The mirror scene was shot on set with a real hall of mirrors. Medium and wide angle camera shots were used to take into account wardrobe changes. Warping and rotoscoping were then completed in Flame.



between the medium and wide shots, so having a true locked camera was impossible. "We lined up the shots as accurately as possible using the monitors on set, but there was inevitably some warping and rotoscoping that needed to be done in Flame, as there was no way around moving the camera between each shot. Also, we did a little subtle time warping using Flame's Motion Estimation to make sure that the feet and hands were moving in synchronicity," she adds.

The promo aired in the US in the run-up to season three of Dexter, which debuted its first episode in late September. *DigitalArts*

to reveal the facade of the set and the payoff: they are merely the kind of pop-ups one would encounter in a shooting gallery.

"To achieve this surrealism, we shot Laguna and Angel on greenscreen, so that we would have ultimate control in how they looked and behaved in the scene," says Deakin. "We experimented with scale and colour-grading a bit before settling on this look of near-reality."

She continues: "Reflections on the window were added using reference stills of the adjacent wall that I took on set, in anticipation of the need for them to appear behind glass. Footage of Dexter walking from the preceding shot was manipulated and comped into the reflection as well."

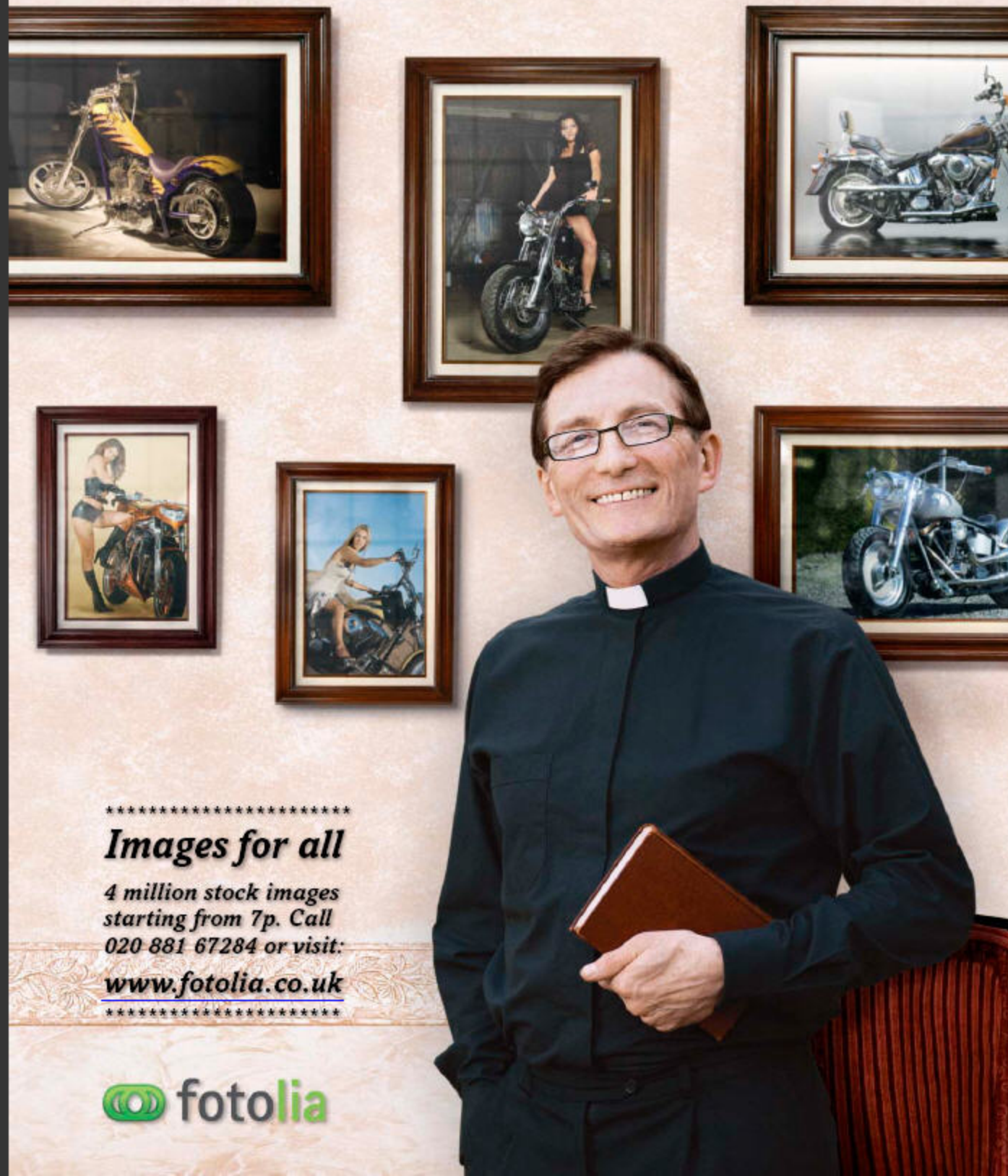
With the shoot for the scene in the can, the pop-ups were then tracked, textured, modelled and rendered in 3D using

Softimage|XSI, and then comped in Flame, adding shadows, grain, mimicking the light flashes coming from the door, and generally finessing the 3D renders to integrate them into the scene.

Time for reflection

A clever concluding scene rounds off the effects work, and sees Dexter in various guises approaching a hall of mirrors – demanding a high degree of rotoscoping to accommodate several wardrobe changes.

"The mirror sequence was a matter of split-screening and a bit of rotoscoping," says Deakin. "We built a practical hall of mirrors on set, covered the entrance with black board, and cut a hole in the board for the camera lens. One of the challenges here was that Michael needed to do two wardrobe changes, and we needed to change the lens

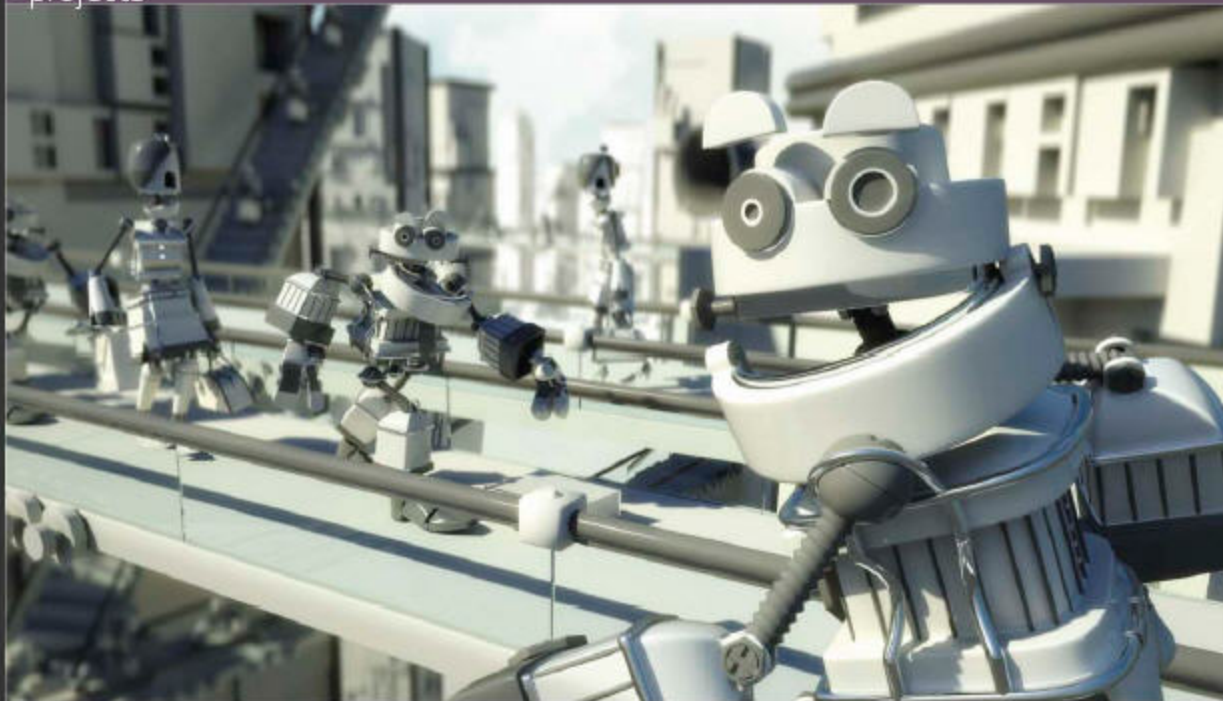


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Making robots bop for Mars

French animators Pierre+Bertrand got the chance to transform a student project into a full-blown commercial when their robots caught the eye of Mars' ad agency.

A new TV commercial for Mars Planets portrays a futuristic black-and-white cityscape inhabited by regimented robots performing monotonous tasks to the sound of a klaxon. This routine is disrupted when three rebel robots seen loafing on a rooftop share a packet of Mars Planets. Energized by the taste of the chocolate, they then throw the bite-sized treats into the klaxons, which begin to blast out music (by DJ Mr Thing), ultimately leading to a city-wide dance party.

Created for AMV BBDO, *Bots* is the work of French animation duo Pierre+Bertrand, working in the UK through production company Not to Scale. The TV ad references Pierre+Bertrand's award-winning short film *True Color*, and shares the same world and humorous robot characters.

Made in 2004 as a graduation film, *True Color* saw former graffiti artists Pierre Ducos and Bertrand Bey mixed their street art style with CG animation.

"We wanted to tell a story about painters, so we imagined an oppressing and boring world, a bit like in Terry Gilliam's *Brazil*, which is completely white. The characters, inspired by art toys and made of spray-can parts, then bring colour and happiness on the walls of the city," explains Ducos.

"We got a call from the AMV's TV department saying that the team loved *True Color*, and had written a campaign based on the robots and cityscape, but with a different story based on sound rather than colour," says Dan O'Rourke, executive producer at Not to Scale.

While the Mars Planets commercial shares the same elements as *True Color*, Pierre+Bertrand evolved the robot characters for the ad. New details were added including chrome teeth and eyebrows, and a female character was created. The animation's background elements were altered too with the addition of stairs and new roads for the pedestrians.

CREDITS

PROJECT
Mars Planets Bots
AGENCY
AMV BBDO
PRODUCTION
Not to Scale
www.notoscale.tv
DIRECTORS
Pierre+Bertrand
SOFTWARE
Adobe After Effects
mental ray
SoftimageXSI

"We had just two months to do everything so it was a good thing that the agency liked *True Color* and didn't want to change everything," says Ducos.

The animation duo kick-started the project with a 2D animatic to build the timings of the animations, before sketching and modelling the robots and backgrounds.

"When the previz was approved, we began animating," says Ducos. "We focused first on the last shot with the crowd because it was a heavy scene to do, with long render times."

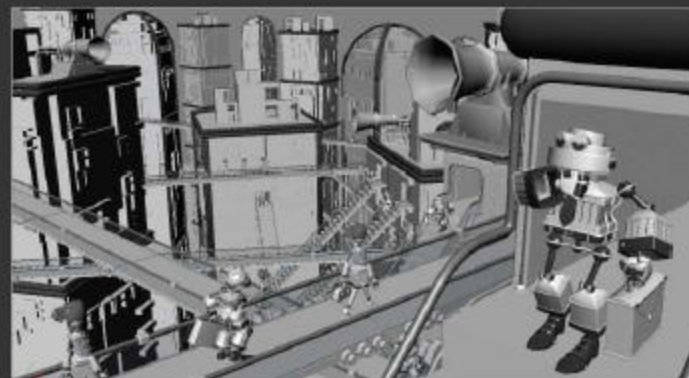
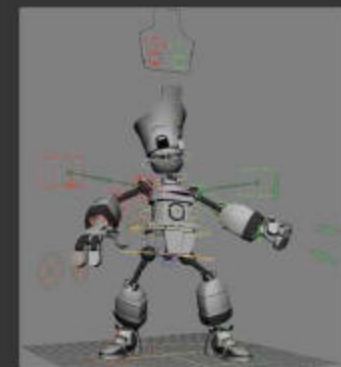
Although Pierre+Bertrand had created *True Color* with 3DS Max, they decided to switch to a SoftimageXSI pipeline for the commercial.

"We used XSI because it's efficient in sharing data across a team, thanks to its referencing system and because it speeds up the workflow. It's also very nice for modelling and animation, and the passes system for rendering is very powerful," explains Bey.

The robot characters were created



"We spent a lot of time animating the characters – it's our favourite part"



as polygons with subdivisions and a full IK/FK rig was used by the animators.

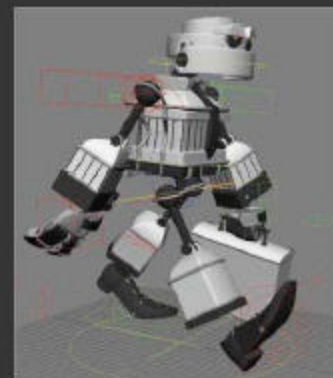
"We built it by ourselves so we could add our own favourites tools for animation, and as it's scriptable we could automatically adapt it to different characters with different sizes," says Ducos. "We wanted to have freedom to animate characters so we could do everything that we wanted with them."

Textures were kept simple with white and grey plastic, and shiny, chrome metal. Mental ray was used for rendering the scenes, with Final Gathering used to make

the colours bleed more naturally. As the animation duo wanted a strong, realistic light that dazzles the viewer's eye, a physical sky and physical sun system were used.

A beauty pass, depth pass and different mask passes for the characters and props were made so the colour of each pass could be tweaked individually when compositing the different passes in After Effects.

"The biggest challenge of the project was quickly building the wide backgrounds full of robots, while keeping light scenes for the animators," explains Ducos. "We used



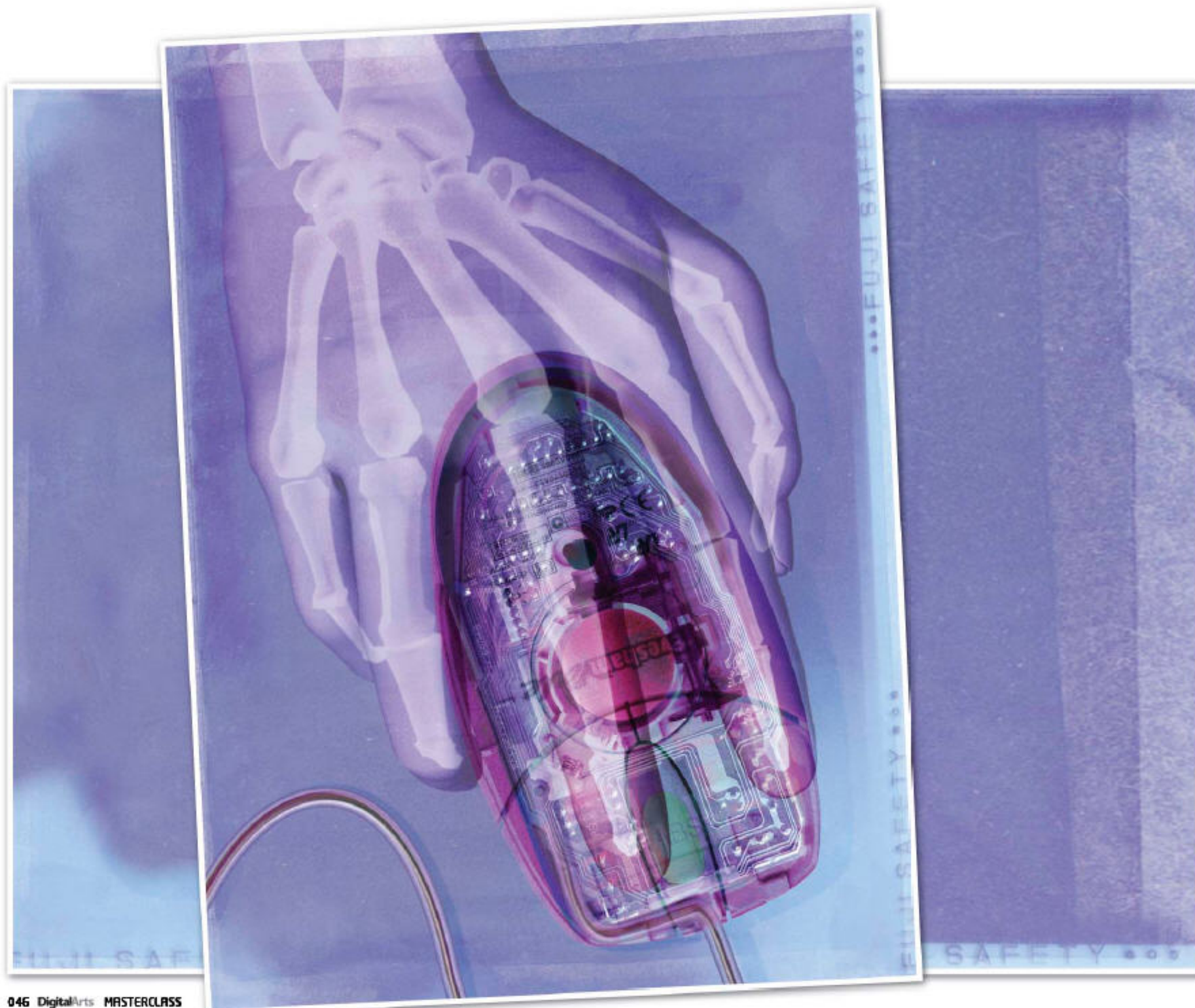
"We were very happy to keep the main ideas from *True Color*," says Bertrand Bey. "And it shares the same storyline, a new thing, which in this commercial is hip hop music, brings happiness in a boring world."

the XSI referencing system and the instances to load and unload the different parts of the scenes, to switch between the high-resolution models and low-res models."

While the directing duo are particularly happy with the spot's lighting, they're proudest of the character animation.

"We spent a lot of time on the characters' animation, because it's our favourite part of the work. Bringing life to the characters is always funny – and it's very important for the viewer's understanding of the story," says Bey.

DigitalArts



WHO

MARK MAYERS
Freelance illustrator and designer Mark Mayers is based in Cornwall. With over 18 years' experience, he can recall life before Macs and is a reformed technophobe. He now writes tutorials for leading publishers worldwide, and has won awards including MetalFX Designer of the Year 06.

CONTACT
markmayers.co.uk

SOFTWARE
Photoshop

TIME TO COMPLETE
2 hours (if using the CD files)




ON THE CD

All files for this tutorial can be found on the cover CD.

X-ray effects in Photoshop

Look beyond the surface and create intriguing X-ray images.

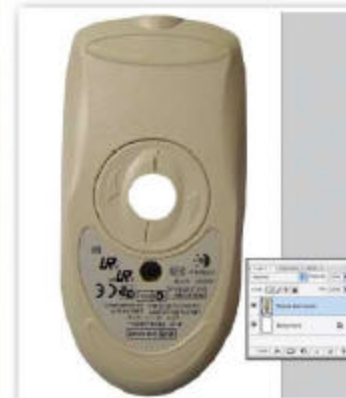
 Capturing the inner beauty of an object with an X-ray is not an easy task. Only a handful of photographers combine photography as an art form with radiology – which might have something to do with the fact that achieving the effect requires highly-specialized equipment, that bombards the subjects with potentially-lethal ionizing radiation.

Unsurprisingly, this doesn't come cheap, so in this tutorial, we save you some pennies by inviting Mark Mayers to show you how to

achieve a similar effect in Photoshop.

You'll discover how to re-assemble the inner workings of a computer mouse using a variety of blending modes to reveal hidden detail. Next we'll add some distress layers to add interest to an otherwise clinical illustration. Finally, you'll add some 3D renders to really finish off the effect.

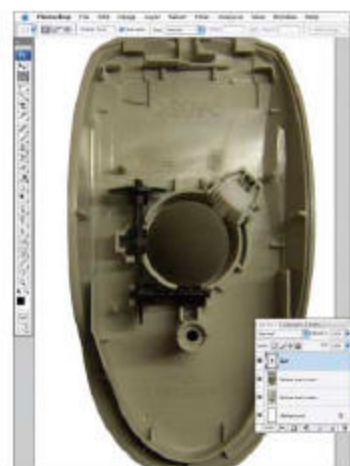
This is a great technique that works with almost any technical appliance that can be dismantled – but don't expect to be able to use them again afterwards.



01 We'll be working from the base of the mouse upwards; so open *Mouse_1.jpg* from this month's CD and select **Image > Rotate Canvas > Flip Horizontal** – remember, you're looking from above. **Cmd/Ctrl + click** 'Clipping 1' path (in the Paths palette) to generate a selection, then hit **Cmd/Ctrl + J** to float a new layer and label it 'Mouse back outer'. Generate a selection from 'Clipping 2' and hit **Delete**, then fill the base layer with white. This will be your working file for the first part of the tutorial.



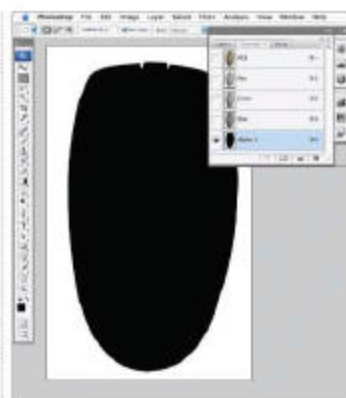
02 Open *Mouse_2.jpg* and create a path-based selection, copy and paste it into a new layer and label it 'Mouse back inner'. Lower the layer's opacity and scale and position it using the central hole as a guide. Now **Cmd/Ctrl + click** the first layer's thumbnail to generate a selection. Invert it (**Cmd/Ctrl + I**), ensure your new layer is targeted, then use the Eraser tool in the circle. Set the opacity back to 100%.



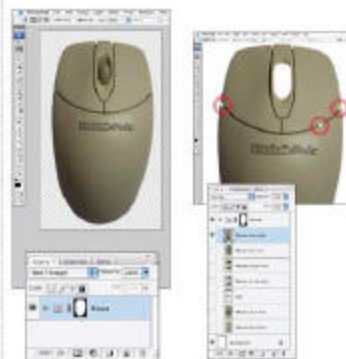
03 Open *Ball.jpg* and use the Elliptical Marquee tool to roughly select the ball. Nudge and Expand/Contract the selection to fit, then copy-and-paste it as a new layer and label it 'Ball'. Position and scale it to fit within the central area. Although our photos were taken from the same distance, a certain amount of re-sizing is necessary.



04 Open *Mouse_3.jpg*, generate a path-based selection, copy-and-paste it into a new layer and flip it (Edit > Transform > Flip Horizontal). Position and re-size, and label it 'Mouse circuit outer'. Next open *Mouse_4.jpg*, drag and drop as a new layer (there's no path), and label it 'Mouse circuit inner'. Lower the opacity, then position and re-size it over your previous layer. Generate an Inverted selection from the underlying layer, ensure your new layer is targeted and erase only the lower inner and outer areas - don't worry about the cable yet.



05 Follow the supplied paths to paste new layers into your working document from *Mouse_5.jpg* (labelling it 'Mouse top inner') and *Mouse_6.jpg* (labelling it 'Mouse top outer'). When you're happy with the positioning of all your layers, generate a selection from your uppermost layer and create a new Alpha Channel filling the active selection with white. Next paint out the wheel slot using a white, hard-edged paintbrush, then hit Cmd/Ctrl + I to Invert the Channel.



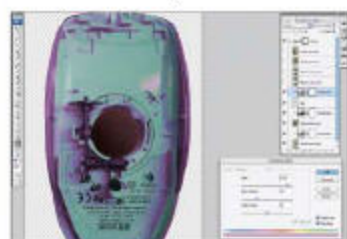
06 Delete the background layer, then add a group folder at the top of the layer stack. Shift + click your top and bottom layers and drag them into the group folder. Cmd/Ctrl + click on your new Channel thumbnail to generate a selection. Target the group folder and go Layer > Layer Mask > Hide Selection to trim away the excess areas. Target the 'Mouse top outer' layer and draw closed paths around the areas circled in red, make a selection and hit Delete.

TIP

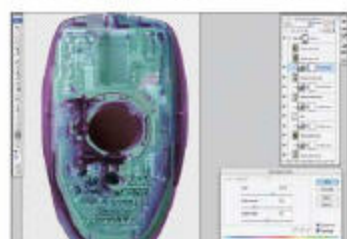
Always be on the lookout for interesting textures that you can incorporate into your illustrations - the two distress images I've used here are scanned by-products from a conventional Polaroid.



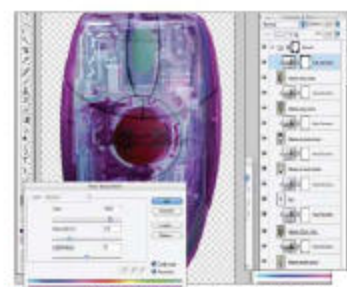
07 Disable the visibility of all layers but 'Mouse back outer' and clip an adjustment layer by holding Alt/Opt while clicking on the 'Create new fill or adjustment layer' icon at the foot of the Layers palette. Select Hue/Saturation. In the next dialog box check Use Previous Layer to Create Clipping Mask. Set the Hue to 171 and the Saturation to 25 with the Colorize preset checked.



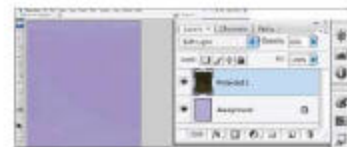
08 Set the 'Mouse back inner' layer's blending mode to Pin Light; clip a Hue/Saturation adjustment layer, setting the Hue to 296 and the Saturation to 25 with the Colorize preset checked. Do the same for the 'Ball' layer using Hue = 318, Saturation = 31, but leaving the blending mode unchanged.



09 Set the 'Mouse circuit outer' layer's blending mode to Screen. Clip a Hue/Saturation adjustment layer, setting Hue = 175, Saturation = 25 with the Colorize preset checked. Set the 'Mouse circuit inner' blending mode to Soft Light. Clip a Hue/Saturation adjustment layer with Hue = 218, Saturation = 25, with the Colorize preset checked.



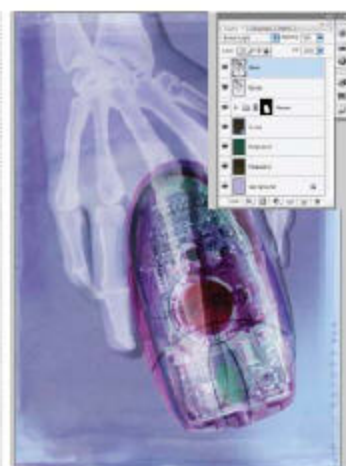
10 Set the 'Mouse top inner' blending mode to Saturation. Clip a Hue/Saturation adjustment layer, with Hue = 182, Saturation = 25, with the Colorize preset checked. Set the 'Mouse top outer' blending mode to Overlay. Clip a Hue/Saturation adjustment layer setting the Hue to 302 and the Saturation to 25 with the Colorize preset checked.



11 Make a start on the background by first selecting R = 184, G = 175, B = 217 as your background colour. Create a new A4 portrait document in RGB mode, 300dpi with the Background Content set to Background Colour. Open *Distress_7.jpg* and Shift + drag the layer icon into your new canvas, labelling the layer 'Polaroid 1'. Both files share the exact pixel dimensions, so Shift + dragging pin-registers the new layer. Now set the blending mode to Soft Light and lower the opacity to 60%.



12 Shift + drag *Distress_2.jpg* as a new layer, set the blending mode to Screen, the opacity to 80% and label it 'Polaroid 2'. Follow the same technique for *X-ray.jpg*, setting the blending mode to Overlay and labelling it 'X-ray'.



13 Drag the mouse Group Folder into your new canvas and position, rotate and scale it as shown. Next drag and drop *Bones_render.png* as a new layer and label it 'Bones'. Set the blending mode to Linear Dodge (Add) and lower the opacity to 35%, then hit Cmd/Ctrl + I to Invert the selection. Drag and drop *Skin_render.png* and label it 'Skin'. Set the blending mode to Linear Light and drop the opacity to 35%. Align the hand and bone layers, then Shift + click both layer icons and scale and position them over the mouse as shown.

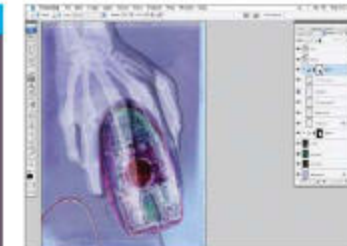


14 Draw an open path for the cable extending into the mouse. Add a new layer above the mouse folder, then select a hard-edged 60-pixel brush. Pick a pale pink as your foreground colour and click on the Stroke path icon at the foot of the paths palette. Add an Inner Glow Layer Style with a Multiply Mode using a dark purple. Adjust opacity to 55% and the Size to 32 pixels. Now set the blending mode to Luminosity.

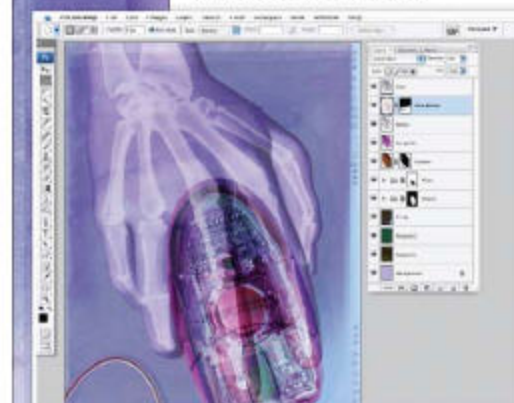
Adjust the hue of the hand by generating a selection, then filling with a mid-purple on a new layer beneath the bones

TIP

The 3D renders used in this tutorial were created using Poser and Cinema 4D. First the H3 character and conforming skeleton were posed (both available from daz3d.com), then the right hand and arm were exported as an .OBJ file. This was then opened in Cinema 4D (this saved making all the unnecessary body parts invisible in Poser, plus Cinema 4D has a faster render engine). The skin and bone meshes were grouped as separate objects and then two renders were produced each with its own Alpha Channel for ease of selection.



15 Continue stroking the path on new layers with a 20-pixel brush using colours sampled from the illustration. Experiment using different blending modes such as Difference, Lighten and Overlay as well as lowering their opacities. Now use the Move tool to nudge some layers by a couple of pixels so that they overlap, giving them a more natural look. Next add all the wire layers to a new Group Folder, add a mask and gently blend the wires into the mouse.



16 Adjust the hue of the hand by generating a selection from its layer, then filling with a mid-purple on a new layer beneath the bones. Set the blending mode to Soft Light and drop the opacity to 40%. It's down to individual taste on how far you take the illustration from here. Here, I've added a pale shadow around the hand and mouse, as well as defining two of the fingertips further with a duplicated masked layer.



WHO

JEFF HUANG
New York-based Huang is a graphic artist and illustrator specializing in digital illustration and print design but also has experience of 3D modelling, animation, motion graphics and compositing. His style none-checks graffiti, surrealism, digital matte painting and 2D illustration.

CONTACT
www.thefreelancer.net

SOFTWARE
Adobe Photoshop CS3

TIME TO COMPLETE
1-2 hours



ON THE CD

Files for this tutorial can be found on the cover CD.

Build a fantasy castle

Pick up incredible photo-montage and texturing tricks with this tutorial from Jeff Huang.

1 Fantasy art is a genre all of its own: just like any other art form, it has its own rules and conventions. Slick, polished finishes are central to fantasy art.

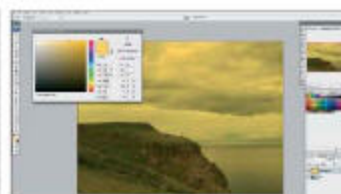
To achieve these slick finishes, you'll need razor-sharp compositing skills and a neat way with colour – you're aiming for something that looks as though it could be real, but that nonetheless has a faraway, dreamlike feel.

In this tutorial, Jeff Huang shows how to use blending modes, textures, shadows and colour to create this hilltop castle – which makes the perfect backdrop to any fantasy composition, and will teach you a few of the tricks you'll need on your way.

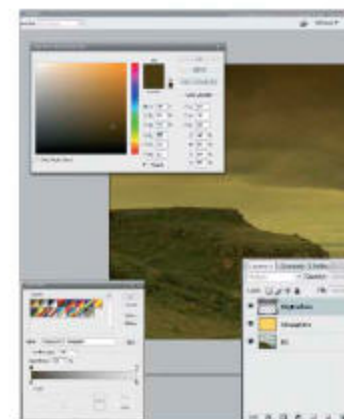
The Masterclass is also great for anyone seeking to brush up their compositing skills in general.



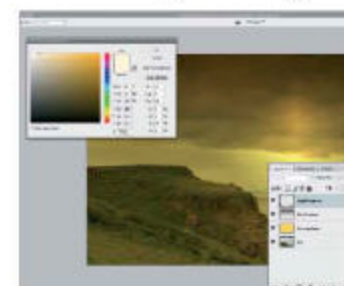
01 Open *Green Hill.jpg* from the cover disc in Photoshop, and rename the background layer as 'BG'. Renaming the layer helps us to be better organized, and also unlocks the layer. Next, we'll need to dream up the atmosphere of our image, and the environment the castle will sit in.



02 Create a new layer and name it 'Atmosphere'. In this layer, click on the primary colour picker in your toolbar and enter reference number #ff5258 in the bar at the bottom, to bring up a yellow hue. Fill the Atmosphere layer with this colour (Cmd/Ctrl + Delete). Your entire canvas will now be yellow – don't panic, just change the blending mode to Multiply to get a mysterious, yellow-toned atmosphere.



03 Now let's enhance the atmosphere. Create an empty layer and name it 'SkyDarken'. As the name indicates, we're going to darken the sky to make it more dramatic. As in the previous step, go to the colour picker, and enter #4d320c to bring up a brown hue. Use the gradient tool (being sure to set the preset to Foreground to Transparent) and create a gradient going from the top of the canvas to about halfway down the canvas. Now set the blending mode to Multiply.



04 Next, we're going to create a light source for our scene so that it's not so neutral. Create a new layer and name it 'LightSource'. Go to the colour picker and enter #fff5dd to bring up a light peach hue. We're going to use the gradient tool again, but this time instead of a Linear Gradient, we're going to use the Diamond Gradient.

Before using the gradient, set the blending mode of our 'LightSource' layer to Overlay. Now, with the Diamond Gradient, create a light source from where the dark clouds meet the light clouds on the right side of the canvas.



05 Because this is not a complete start-to-finish tutorial, we are going to skip a few steps so that we can focus on more technical aspects. In order to save time, I've prepared a modified version of the green hill, which we will be plotting onto our canvas.

Open *ModifiedHill.psd* from the CD, and hold Shift while dragging the image layer onto your working canvas. It should now be neatly plotted onto the canvas with no flaws. I have also pre-modified the lighting and shape of the hill, as we will not cover that in this tutorial.



06 Next, we'll plot a pre-painted castle onto our canvas. Open *CastleBase.psd* from the CD. While holding Shift, drag the CastleBase image onto our tutorial's canvas. This is the painted base of our Castle, which we will begin to texture in the steps to come.



07 Next, we'll create a stone texture for the castle. Download a flat stone-wall image or texture – you can download the one I've used from <http://tinyurl.com/3wfa22>. Fiddle with it until you're happy with the texture, and drop that into our tutorial's canvas on a layer named 'StoneTexture'. Don't worry about exact placement at this point.

With the Diamond Gradient, create a light source from where the dark clouds meet the light clouds



08 We'll start texturing our castle now. Duplicate the 'StoneTexture' layer and hide the original. With the duplicated texture, first set the blending mode to Multiply, then hit Cmd/Ctrl + T to free-transform the texture. Resize and move the texture accordingly, then right-click (Ctrl + click) on the bounding box and choose Distort. Drag the corner points of the bounding box to fit the perspective of the castle wall.



09 In the layer stack, we're going to move the distorted stone texture layer to be above our castle layer. Once that's done, hold Alt/Opt and click on the space between the 'StoneTexture' layer and the 'Castle' layer. You'll notice a symbol that resembles an inverted lock showing up if you're doing this correctly. Click on the symbol to make a clipping layer between the texture and the castle layer. Your texture layer should now be stacked on top of the castle layer.



10 Although clipping layers help tremendously and save you from needing to mask precisely in all areas of the castle, minor masking will still be needed. Create a layer mask on the texture and mask out all of the castle's light sides, so that you're just texturing the dark sides of the castle walls with the Multiply mode. We will be texturing the light sides of the castle later on with another blending mode.



11 Repeat Steps 08-10 for the rest of the castle's dark walls. This should give you at least five layers of textures. Duplicate the original 'StoneTexture' layer and begin the process again. Pay close attention when distorting the texture - matching the perspective of the castle walls is key. Also, make sure that you're using Multiply as the blending mode, that you have a consistent size ratio of the stone textures.

Do not scale the walls to different sizes, or it will harm the image's realism. When you've finished texturing and masking, merge the layers to one single layer and rename it 'Darks'. Also, if the blending mode resets from being merged, change the mode back to Multiply.



12 Now that we have finished the dark sides of the castle, we will need to work on the light sides. Repeat Steps 08-10 on these sides, except this time use Overlay as your blending mode. Once you've done this, merge the layers like before, and change the mode to Overlay. If it has reset to Normal, clip this layer on top of the castle layer.



13 It's all about details from here. The castle is looking convincing now, but it's missing shadows. Create an empty layer, name it 'Shadow', and clip it on top of our 'Castle' layer. Set the blending mode to Multiply, and using the colour picker, enter the reference #2b190f to get a brownish hue. Using a soft brush with a low opacity, begin brushing in the shadows for our castle, observing the light source.

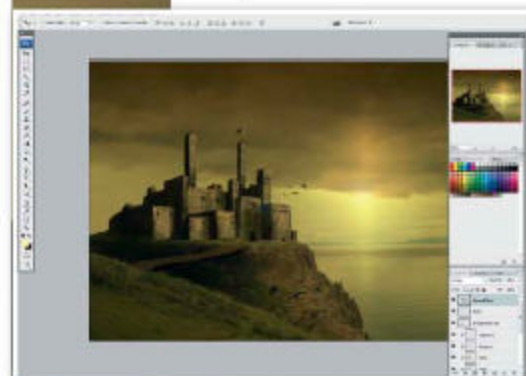


14 Let's add some highlights to the castle. Create a new layer, name it 'Highlights', and clip it on top of the Castle layer. In the colour picker, enter reference #fef993 to select a light yellow. Now paint in some highlights where you feel they would occur. The light source is from the right of the sky, so highlights should be on the outer right edges of the castle. If the highlights become too strong, simply lower the opacity of that layer to a comfortable level.

Pay close attention when distorting the texture - matching the perspective of the castle walls is key to this effect



15 It's time to add final adjustments to our castle. You can create your own elements from your imagination, or use the ones included on the cover disc. Open up *BridgeAndGrass.psd*, hold Shift, and drag the layer into our canvas. Make sure it is our top layer. If done correctly, your image should now have grass, a bridge, and minor details, tweaks and adjustments on the canvas.



16 Finally, let's plot some more fun elements onto our canvas to complete our piece. Also on the CD are *Birds.psd* and *LensFlare.psd*; open them and Shift-drag them onto your canvas. Again, make sure they are at the top of the layers hierarchy. You should now be able to create imaginative scenery and convincing texture elements with no problem.

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Course	Days	Price*	Dates 2008	Venue
An Introduction to Anil Cut Pro 6	3	£750	3 rd - 5 th November 10 th - 12 th December 10 th - 12 th December	B'ham Kingston Belfast
Mac OS X Support Essentials v10.5	3	£950	17 th - 19 th November 1 st - 3 rd December 19 th - 21 st November 26 th - 28 th November	Leeds B'ham Kingston Belfast
Adobe InDesign CS3 Introduction	2	£440	5 th - 6 th November 27 th - 28 th November 3 rd - 4 th December	B'ham Leeds Belfast

*course prices exclude VAT

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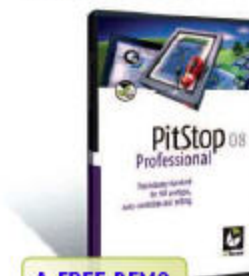


Authorised
Training Centre



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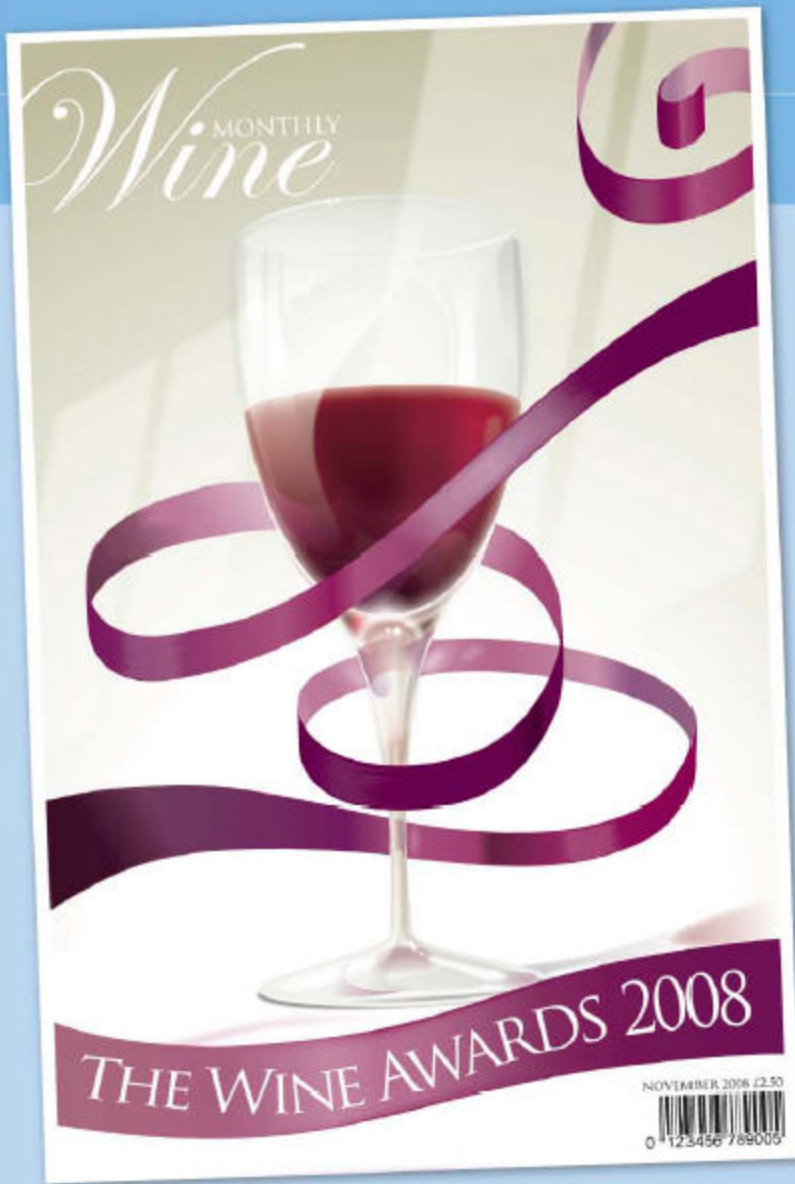
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Make see-through surfaces

Create this wine glass from scratch using Illustrator's transparency and translucency settings, with tips from James Arnott.

Illustrator allows you to create art of all varieties, from the highly stylized to the photorealistic. Here, digital design expert James Arnott shows how to make an impressively realistic and convincing wine glass using the software. The tutorial gives you the tools to master

transparency and translucency in Illustrator, including a step-by-step guide on using the transparency palette, blending modes and black-and-white gradients. Pair this with some smart use of the Gaussian blur and you've got the tools to add some touches of realism to any image.



WHO

JAMES ARNOTT
As creative director for London digital creative agency Rare Design, James has produced illustration, character design and web sites for a variety of companies over the past 11 years.

CONTACT
www.wearar.com

SOFTWARE
Adobe Illustrator

TIME TO COMPLETE
1 hour



01 Create a new document measuring 500-x-800 pixels. Create a box that covers 75% of the artboard from top down. Apply a circular background gradient to this box with three colours in it, ensuring the centre of the radial gradient starts at the base of the box and ends at the top of the box. The colours should be the following: at position 35%, C = 0, M = 0, Y = 0, K = 0; at position 80%, C = 15, M = 10, Y = 23, K = 0; and at position 100%, C = 25, M = 20, Y = 40, K = 0.



02 We need to create a glass shape. I would recommend drawing half the glass using the Pen tool, then copy-and-pasting and flipping this to create the other half. This way it's guaranteed to be symmetrical. Put the two sides together and join using the Pathfinder palette button 'Add to Shape Area', which unifies the objects.



03 Next, we'll colour the glass with a vertical four-colour gradient. Set the colours to the following: at position 35%, C = 18, M = 10, Y = 22, K = 0; at position 47%, C = 0, M = 0, Y = 0, K = 0; at position 80%, C = 13, M = 14, Y = 22, K = 0; at position 97%, C = 6, M = 3, Y = 7, K = 0. This gives us the basis of the glass colour.

Add an Inner glow to give the effect of a curved surface: select **Effect > Stylize > Inner Glow**, set the Mode to Screen, Opacity to 100%, Blur to 68 pixels and ensure that Center is ticked. I used the colour C = 5, M = 2, Y = 10, K = 0, experiment to get the best soft shape to the glass.



04 Now we'll get started on the transparency. The Transparency palette has a great dropdown that controls the blending mode of all shapes in a similar way to In Photoshop. The options we will be concentrating on are Screen Multiply and Overlay, which when used with black-and-white gradients and a little blur can create some excellent effects.



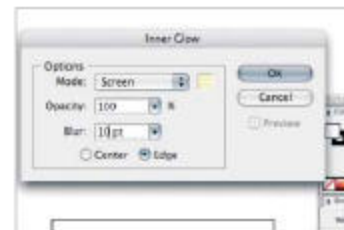
05 Let's create the glass' top. Create an oval at the top of the glass. Fill it with a horizontal white-to-black linear gradient. Keep it selected and change the blending mode from Normal to Screen – this will get rid of the black. Set the transparency to 45% and put a Gaussian blur of three pixels on it to soften the effect.



06 Create an ellipse over the top of the glass so it sits just inside the bowl. Use the Pen tool to remove the point at the top of the ellipse then use the Direct Selection tool (the white arrow) to pull the top two Bezier's towards their nodes. We should now have a shape that looks like half a glass of liquid. Create a radial gradient from bottom of the shape to the top, use these three colours: at position 0%, C = 0, M = 0, Y = 0, K = 0; at position 13%, C = 55, M = 90, Y = 60, K = 70; at position 100%, C = 20, M = 100, Y = 75, K = 18.

TIP

If your document is CMYK you will have to ensure the black you create is a 'rich' black made up of four colours e.g. C = 100, M = 100, Y = 100, K = 100 – otherwise the blending mode will not translate properly.



07 Next, add an Inner glow to the wine to give it a translucent edge. Select **Effect > Stylize > Inner Glow**, setting the Mode to Screen, the Opacity to 100%, the Blur to around ten pixels and making sure that Edge is selected. Again using the Transparency palette, make sure your wine shape is selected and change the blending mode to Multiply. This will make anything white transparent, and in this instance the wine's edges will become transparent.



08 The glass needs some reflections to make it more realistic. Create a shape on the left side of the glass about five pixels in from the edge of the glass. Fill with a linear gradient that goes from a 100% black to a 40% black (light grey) then back to 100% black again. Using the blending mode dropdown again, set the mode to Screen and reduce the transparency slightly to around 80% so the reflection isn't too overpowering.

Try adding a little Gaussian blur to the reflection of around three pixels to soften it a little. Repeat this process again for another two softer reflections.



09 Repeat the process from Step 08 to create two highlights around the rim of the glass. Add two small areas of light to the top rim highlight by blurring two small white circles, as shown here.



10 Now we're going to add in a light source. Create a layer below the wine layer but above the wineglass layer. Draw two white rectangles side by side with a small gap in between. Select both shapes, using the Free Transform tool, skew it to the right, then skew the right side up a little. Add Gaussian blur to both the shapes of around seven pixels and set the opacity to 30%. Position them over to the right, then duplicate them, reduce the size and place the duplicates over to the left.

These shapes represent light from a window to the left falling on a wall in the background. Now we have a recognizable source of light, we can improvise how it will react on the glass and how the wine in the glass will affect the glass itself.



11 Add some more reflections to the left-hand side of the glass to simulate the light source, using the same process as before: create a shape, add a gradient, change the blending mode to Screen, reduce the opacity, and add a small Gaussian blur to soften the effect.



12 Now we've introduced light reflections, we should add shadows and wine reflections. At the base of the wine create the shape in shown here. Add a five-colour gradient to it, then add an inner glow and some Gaussian blur. Finally change the blending mode to Multiply and set the opacity to 75%. Try adding some more shadows to the stem of the glass.

TIP

If you find adding the inner glow leaves a line of fill colour around the edge of the shape, add a small white stroke to it. As we are removing the white with the screen blending mode, it will disappear.



13 Finally let's add more depth to the translucent wine. Add a new layer below the glass highlights. Create a black round-edged shape near the top of the wine. Add some Inner glow to it.

Then change the opacity to 20% and change the blending mode to Multiply. Add some highlights to the wine using white shapes with the blending mode set to Overlay. Don't forget to add some Gaussian blur to soften the effect.



14 In the final image you can see how I've used these techniques to add further reflections, light glows and shadows to the image to add more realism. If you get stuck working out where to add more life to your illustration I find a search through the images the search engines have to offer is great for getting inspired.

Digital Arts

MacVideo

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www.macvideo.tv





WHO

ANGIE TAYLOR
Angie produces visual effects and graphics for television, film, video and the web. Her work regularly appears on British and European TV. She is the author of *Creative After Effects 7*, and she regularly tours with Adobe and Apple giving demonstrations and seminars.

CONTACT
creativeaftereffects.com

SOFTWARE
Adobe After Effects CS3

TIME TO COMPLETE
45 minutes - 1 hour

ON THE CD

All files for this tutorial can be found on the cover CD.

Handling particles in After Effects

If your budget doesn't stretch to pricey plug-in particle filters, use After Effects' internal tools.

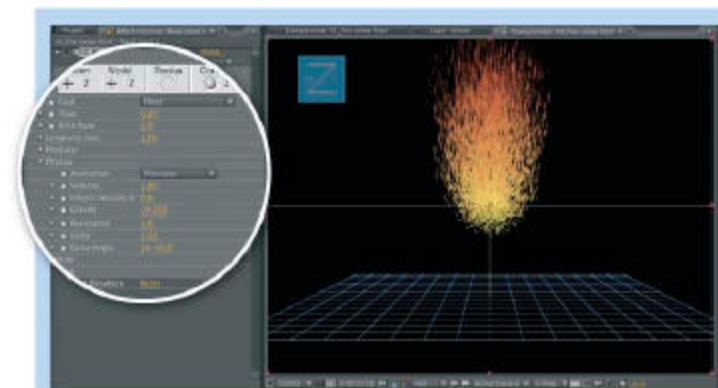
After Effects CS3 includes built-in particle filters you can use in your projects. Although they are not as powerful as some of the specialist 3D particle filters (like Trapcode's amazing Particular plug-in), you can use them to achieve fairly convincing animations of natural phenomena such as fire, smoke, rain and dust. All you need is patience and a natural affinity for tweaking sliders.

In this tutorial, Angie Taylor shows you how to create fire, smoke effects and 3D rocks, all using After Effects' built-in 3D particle filters, to create part of the title sequence for Taylor's forthcoming animation *Hellwoman*, a spoof of the movie *Hellboy*. For the tutorial, you'll use two filters that allow you to animate particles in 3D space: CC Particle World, and Shatter.

Before you start, watch the full clip, so that you know what you'll be creating. Open *Hellwoman_AngieTaylor_Start.aet*, and double-click the movie *Hellwoman_Final.mov* in the Project panel.



01 We'll start by creating the fire effect. In the Project panel, open *01_Fire comp Start*. In here is a solid layer with the CC Particle World effect applied. Press 0 on the number pad to RAM-preview the composition. The default behaviour is for the filter to emit lines from the centre of the screen. You'll also see a 3D ground-plane guide representing the floor of the 3D world. It's hard to imagine how we can make fire from this, but just wait and see what can be done with a bit of tweaking.

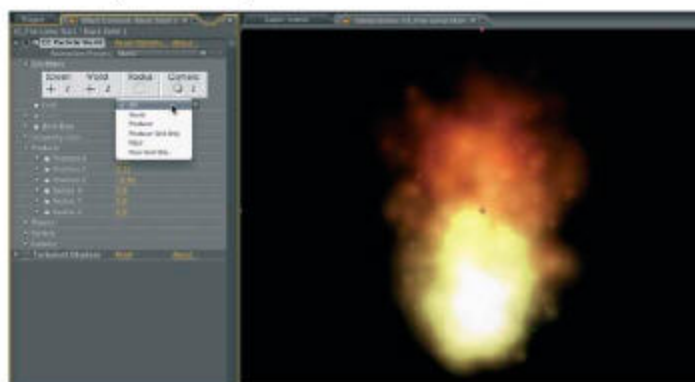
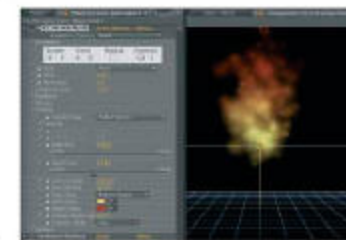


02 We'll start by opening the Physics section: these settings determine how the particles move. Change the following settings: Gravity = 0.35; Animation

= Viscous; Velocity = 0.9; Resistance = 1; Extra = 3.31. RAM preview the effect and notice how the particles now move upwards rather than in the fireworks form of before.

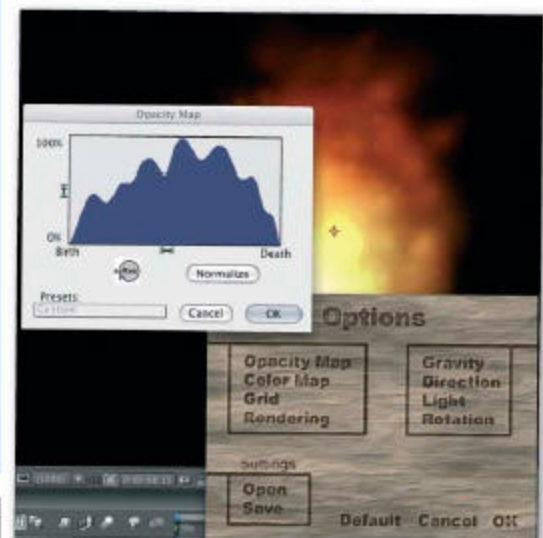
03 Open the Particle section and change the following settings: Particle Type = Faded Sphere; Birth Size = 0.661; Death Size = 0.714; Size Variation = 100%; Max Opacity = 20%; Birth Color = 255, 217, 84; Death Color = 201, 4, 4; Transfer Mode = Add.

RAM preview and you should now see more fire-like particles moving upwards. But we need more particles to build up the flames.

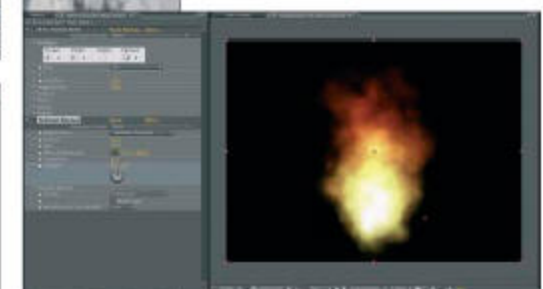


04 Increase the Birth Rate to 10 and Longevity to 0.90. Open the Producer section, change the Z Position to -0.40 and the Y position to 0.15 to move the flames up and nearer the viewer. In the Grid

menu, choose None to hide the 3D grid and RAM preview to watch your ball of flames. At the top of the Effect Control panel, click the Options hyperlink to open the additional options.

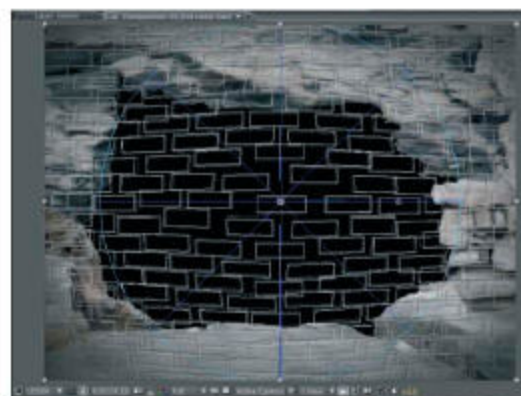


05 Click on Opacity Map and change the Opacity graph by dragging across the existing curve to draw a new curve. Click the Soften button to soften the curve. Click OK to leave the dialog box.

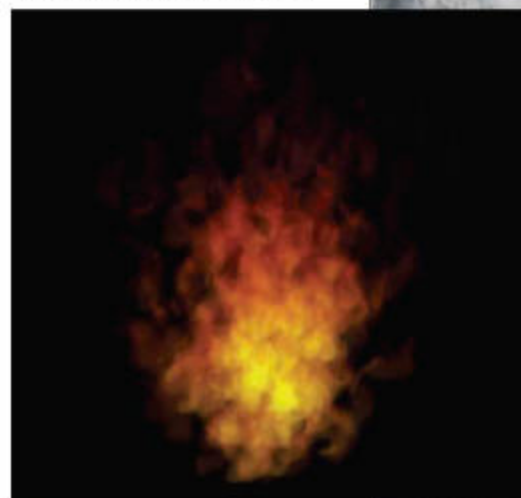


06 To add a finishing touch, add the Turbulent Displace effect to the layer and change the following settings: Displacement = Turbulent Smoother; Amount = 40; Size = 10; Offset (Turbulence) = 517, 460; Pinning = Pin Bottom.

Once you have changed these settings, animate the Evolution value from 0 at the beginning of the comp to 5 revolutions at the end of the comp. Turbulent Displace will add a little more random movement to the flames, adding to the realism.

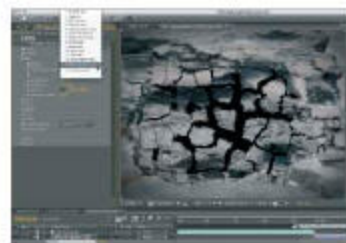


07 Open the *04_Smoke* start comp. In the CC Particle World Effect Controls enter the following values: Gnd = Off; Birth Rate = 100; Longevity = 2; Position Z = 0.3; Radius X = 0.5; Animation = Cone Axis; Velocity = 0.5; Gravity = -0.01; Extra = 1.2; Particle Type = Faded Sphere; Birth Size = 1.69; Death Size = 1.762; Size Variation = 100; Max opacity = 1.5; Transfer Mode = Add, with a white Birth Colour and yellow-grey Death Colour.



08 In the Project panel you'll see two other fire movies, RAM preview these to see the different fire effects that can be achieved with CC Particle world. These examples have custom Layer textures; we'll look at working with custom layer maps soon.

You should now see the Hellwoman character and some 3D text appearing from behind the rocks. I've also added an animated sky



09 Open *05_End* comp. Start to see a wall of Rock painted with Corel Painter. Another option when working with particles is to split an existing layer into particles. After Effects has its own filter for doing just this, named Shatter. Select the 'Painted Shatter Rocks' layer and hit F3 to open the Effect Controls.



10 Preview the composition and notice that it explodes the layer into brick shapes - currently represented in wireframe mode. In the Effect Control panel, change the View menu to Rendered and preview again to see the bricks rendered with the rock layer texture. Open the Shape section, from the Pattern menu, choose Custom and from the Custom Shatter Map menu choose 3. Rocks Shatter Map. This is a custom shatter map that I created in Adobe Photoshop and Imported into the comp. Change the Extrusion Depth to 0.5, and the Side Mode and Back mode menus to Tinted Layer.

Open the Physics section and change the Rotation Speed to 0.5 to make the pieces of rock spin as they explode. Switch on the other layers in the comp. Notice the Custom Shatter Map - it uses pure CMYK and RGB colours.



11 Open the Textures section, click on the Color Swatch to change the colour to a warm, mid-grey colours (black and white can also be used) to denote the pieces. Once you have looked at this layer, switch off its video switch and RAM preview the comp. You should now see the Hellwoman character and some 3D text appearing from behind the rocks. I've also added an animated sky, which was created using the Fractal Noise filter. All we need now is to composite our fire and smoke in here.



12 Drag the finished Fire comp into the Comp so that it's above the two Fire layers, drag the finished Smoke comp on top of these and change its blending mode to Lighten. Particle World and Shatter both produce particles that animate in 3D, so you could place a new camera layer into your comp and animate a round the flames in 3D space. Particle World lets you do this automatically, if using Shatter, check the Comp Camera checkbox to enable this feature.

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Creative Suite 4

words Neil Bennett



With Creative Suite 4, Adobe has updated its tools for design, animation and editing across a range of media. Thirteen of the fourteen core applications are upgraded (Acrobat version 9 was released a few months ago) and finally there's a cohesive interface across all applications.

Creative Suite 4's emphasis seems to be on speed and efficiency rather than flashy new creative tools – though there are a substantial number of these, too. The focus on productivity isn't just about moving projects from one application to another, but also about making tasks easier to achieve. So After Effects gains better output tools for Flash, but also now has a search system that makes finding and changing parameters within complex compositions easier.

As with Creative Suite 3, each application has fewer new features than there used to be in the days when they were released separately – instead, the focus is on refining what they do.

There are six versions of Creative Suite 4, and the tools are also available separately. Design Standard (£895) includes the CS4 versions of InDesign, Photoshop,

Illustrator, Bridge, Device Central, and Version Cue, plus Acrobat 9 Pro. Design Premium (£1,249) adds Extended versions of Photoshop, Dreamweaver, Fireworks and Flash. Web Standard (£705) includes Dreamweaver, Flash, Fireworks, Contribute, Bridge, Device Central, and Version Cue. Web Premium (£1,195) adds Photoshop Extended, Illustrator, Acrobat 9 Pro, and Soundbooth.

Production Premium (£1,409) includes After Effects, Premiere Pro, Soundbooth, OnLocation, Encore, Photoshop Extended, Illustrator, Flash, Bridge, and Device Central. The Master Collection (£1,969) includes all of the applications.

All prices exclude VAT. We took a long look at beta versions of all of the applications, running them on an Apple Mac Pro with two quad-core processors, 4GB RAM and Mac OS X 10.5; and a Dell Precision T7400 with two quad-core chips, 4GB RAM and Windows XP.

All tools run under Mac OS X 10.4/5 and Windows XP/Vista. Mac versions of Premiere Pro, Encore, Soundbooth, and OnLocation require a Mac Pro or MacBook Pro.

The software should be released by the end of October.

Photoshop CS4

Photoshop is Creative Suite's most widely used application: it's a primary tool for designers, illustrators and digital artists, and an essential secondary one for motion-graphics, visual-effects and 3D artists and animators. It's also widely used by those creating scientific visuals for medical and biological research.

Adobe has done a great job of boosting the application's overall usability for everyone.

The interface has been overhauled, with both cosmetic changes and workflow boosters. The snapping panels of the CS3 version have been enhanced, and the tabbed layout of documents from tools like After Effects has been introduced, with the guiding principle that it shouldn't be fiddly to work with multiple images at once.

The Windows version sees the most obvious change – integrating the

traditional top Menu bar with a series of shortcuts for access to Bridge, zoom ratio, the Hand and Zoom tools, screen mode, and a drop-down menu of Workspace layouts. On the Mac, these tools sit below the Menu bar. There are also two new functions here: Arrange Documents and Rotate View.

Arrange Documents lets users set how multiple images are displayed. Images appear across the full width of your workspace, with a grey background if they don't fill the workspace. A new set of tabs sits under the toolbar, allowing you to switch between windows more quickly than by using the Window menu or hiding windows.

Visual performance is better – the application now taps your computer's graphics card to dramatically improve how images are rendered on-screen.

This also means no more 'jaggles' when zooming at non-standard



Using Arrange Documents, you can create two-up or four-up views to fit images in an orderly fashion, with each tile capable of showing multiple tabs if you're working with loads of images.



The Adjustments panel provides quick access to add and modify 15 adjustment layer types and offers presets for Levels, Curves, Vibrance, Exposure, Hue/Saturation, Black & White, Channel Mixer and Selective Color.

"Photoshop CS4 taps your computer's graphics card to improve how images are rendered on-screen"

ratios. We tested this using our Mac Pro's graphics card and the high-end workstation board in our Dell workstation: zooming and panning were smooth, with crisp output.

Panel discussion Photoshop CS4's interface gains two new panels for working with adjustment layers and masks. The Adjustments panel provides shortcuts to adjustment layer types and has the new Vibrance tool, for adjusting saturation without making subtle areas such as skin tones look unrealistic.

This does what it's supposed to – if used with caution. It's a useful addition, and the ability to modify adjustment layers without opening dialog boxes could save you time in the long run.



There's now on-screen drag-adjustment of a brush's size and hardness – a useful timesaver if you don't have the Brush palette docked into your view.

The Dodge, Burn and Sponge tools have had an overhaul, with a new Protect Tones tool to help you avoid damaging skin tones when tweaking hue and saturation.

Like the Adjustment panel, the Mask panel now has all its tools in one place and provides 'live' sliders for Density and Feather. This is a real timesaver when creating masks or adjustment layers.

There are improvements to the Photomerge panorama creation tool, which adds support for 360-degree panoramas and images captured with fish-eye lenses (so you can create a 180-degree panorama with one shot, or a full 360-degree image with two).

The print output dialog gains a gamut warning of any parts of your image that are more than your printer

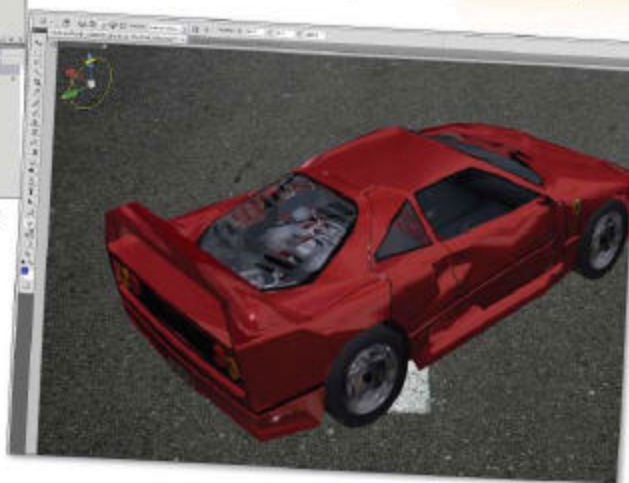
can handle. On the Mac version only, you can send 16-bit colour to large-format printers without needing plug-ins such as Canon's Easy-PhotoPrint Pro for its Pixma Pro and iPF models. As with Photoshop Lightroom's 16-bit print output, this is Mac-only due to limitations within Windows XP and Vista, rather than through any choice of Adobe's.

The new Camera Raw 5 module for importing Raw images from digital SLRs includes non-destructive adjustment tools that can now be painted onto areas of a photo.

As with Photoshop CS3, the new release is available in Standard and Extended versions. The Extended version gives you full 32-bit image processing, video layers, and 3D import and perspective tools, on top of the standard feature set. Photoshop Extended CS4 boosts its toolsets in these areas.

Working with 3D models inside Photoshop is now easier and faster, as you no longer have to be in a special '3D transform' mode to modify a model. There's an on-screen 3D axis control for moving or stretching models along a single axis (though scaling rather than stretching would have made more sense). This makes positioning models in 3D space easier,

Photoshop CS4 boasts improved 3D tools, including expanded rendering tools such as output to red/blue stereo for use with old-school 3D glasses. Quality is cartoonish rather than the photo-real



particularly if you're new to working in a 3D environment.

The new 3D menu includes a host of additional tools including the ability to turn any 2D layer into a flat 3D layer for transforming; wrapping it around a 3D primitive (a basic 3D shape such as a cube, sphere or cylinder); and basic extrusion tools.

Photoshop CS4 offers a wide selection of tools, including some that will appeal to all, and some that are well targeted at particular types of creative. For many users the better image rendering and workflow improvements will make this a must-have upgrade.

Photoshop CS4

price: £485 plus VAT. Standard version included in: Design Standard. Extended version included in: Design Premium, Web Premium, Production Premium, Master Collection.

New Features

- Tabbed interface
- Graphics card drive image rendering
- Adjustments panel
- Masks panel
- Improved Dodge, Burn and Sponge
- Faster working with 3D models*
- 2D to 3D tools*
- Audio support in video layers*
- Improved panorama creation
- Camera Raw 5
- Bridge CS4 gain interface enhancements, and Review mode
- * Photoshop Extended CS4 only

Illustrator CS4

Illustrator CS3 saw the introduction of the Live Color system, which provided a powerful and innovative way to create colour schemes and pare them down for particular projects. Nothing in the CS4 release is going to have as much impact on the way you use the program on a day-to-day basis, but it's a well thought-out nip-and-tuck that will allow you to create designs faster.

The most highly anticipated new feature is a direct steal from FreeHand, the Macromedia-developed vector art software that's still available from Adobe despite not being upgraded in over five years. You can finally create Illustrator files with more than one artboard. This allows you to create multiple versions of a piece of artwork – for example, A4, A5 and Web banner versions of an ad – without having to create a new document, add or copy and paste all of your elements, and generally fall apart.

All artboards sit on the same 'page', and you use the Artboard tool to mark areas, with the usual size presets available for print projects. Creating artboards around objects is also swift.

Illustrator CS4 has had the same interface overhaul as Photoshop

– including the move from curved tabs to faux-3D square ones. More importantly, it adds the tabs and tiles that make it much easier to work with multiple documents at once.

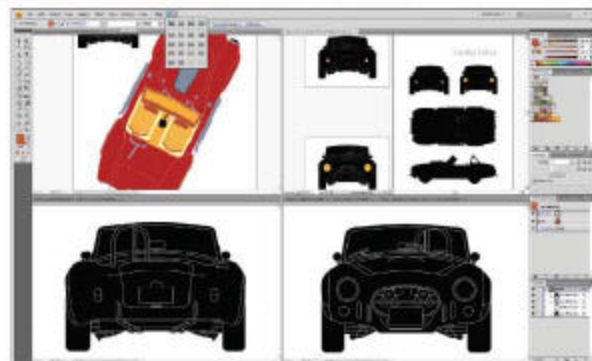
It also shares Photoshop CS4's shortcuts bar (on the Windows version only), multiple-documents tabs and Arrange Documents drop-down menu. The overall effects is a much cleaner workspace without documents piled higgledy-piggledy on top of each other – making it easier to copy elements backwards and forwards.

Illustrator adds another interface enhancement: the ability to drag and drop elements onto the panel stack when it's minimized, which then pops open so you can drop an element into the Symbols panel, for example. The panel then pops away. Keeping your panel stack minimized and working this way is useful if you're on a laptop or other low-res screen.

Blob builder

The new Blob Brush is a simple way to create cartoony blobs, which combine automatically to create a single object. It's a fast way to create paint elements, as it gives you simple controls over fidelity, smoothness and brush shape.

The Gradient tool gains on-screen



Illustrator has gained the same user interface improvements as the rest of Creative Suite 4, allowing you to view your open documents in two-up or four-up format – a huge timesaver for flipping between documents.

controls for adjusting most of its functions. When you draw out a gradient, you get a coloured bar with sliders for adjusting the gradient points. The new visual tools have the advantage of letting you place the points exactly where you want them. You can click on the slider stops and adjust the colours.

Gradients can also include transparency in Illustrator CS4, which offers some intriguing creative possibilities. While these appear to import correctly into an InDesign document, we'd recommend that you test these carefully on your printer's RIP before sending projects off to a commercial press.

Adobe has added two panels that expand on the Live Color system. The Kuler palette logs you into Adobe's online colour-scheme sharing system. It's a reasonably useful added extra, but Kuler's core creative functionality is already built into Live Color.



Separations Preview is more useful, as it allows you to preview how the colour separations of your document will come out – and works exactly how it says on the tin.

Other new features include improvements to clipping masks, Smart Guides, and the Appearance panel – which now allows you to add strokes, fills and effects to multiple objects at once. The Graphics Styles panel gains a library of pre-built drop shadows and blurs, which work independently without modifying an object's fill.

Illustrator CS4 may not be the most exciting update in the application's history, but the ability to work on multiple artboards alone may be enough to get users to upgrade.

Illustrator CS4
price: £495 plus VAT included in: Design Standard, Design Premium, Web Premium, Production Premium, Master Collection
New features
<ul style="list-style-type: none"> • Overhauled interface • Multiple artboards • Blob brush • On-screen gradients, with support for transparency • Improved clipping mask, smart guide and Isolation Mode functions • Expanded Appearance panel and Graphics Styles • Embedded Kuler online colour scheme creator • Colour separation preview

Above: The ability to have several artboards in a single document is one of Illustrator's most appealing features, simplifying workflows and saving a lot of clicking between windows. Right: Pop-out panels help de-clutter the workspace.

InDesign CS4

Despite Adobe's best efforts to turn InDesign into an Interactive Flash design tool, the software remains most popular with print design professionals – and the CS4 release includes many improvements that will appeal to this traditional user base. In fact, InDesign seems to have been given the broadest set of new features of any of the CS4 applications.

The biggest new interface element is Smart Guides, as introduced in Illustrator CS3. This tool shoots green lines across the screen to show when the sides of image or text boxes line up with the sides of others, or when their centres are aligned with other centres or page elements such as horizontal or vertical middles. This is quicker (and more accurate) than creating guides manually, or working by eye, but if you find them getting in the way, you can just turn them off.

You can also see when a box's width, depth or rotation matches another, and when spacing between objects is the same. These are slightly trickier to get to grips with, but they're a useful feature.

The Links panel has had a reft, and now sits at the top right in the same tabbed panel as Pages and Layers. Multiple uses of the same image sit in collapsible groups to make navigation easier. The amount of information available to you about each element has increased hugely – you can add columns listing colour space, effective resolution, scale, size, and so on. There are also hyperlinked page numbers, and the new Link Info pane, providing a thumbnail plus metadata for an image. The pane can be easily hidden if you don't need it.

One thing InDesign still lacks is a quick way to deal with the most common production issue, RGB images. A built-in batch convert to CMYK command would be a good

timesaver – maybe next time.

Conditional Text allows you to create multiple versions of the same document. This can range in scope from variants with simple text replacements such as different currencies for use in different countries, to versions with more and fewer pages.

Text replacements are easy: you put all words or figures on a line and apply different Conditional Text styles to each. You can then use standard on and off eye icons to see and output the different versions.

Smarter text

Creating longer and shorter versions of documents is made easier by the Smart Text Reflow feature, which automatically adds or deletes extra pages based on the amount of body copy you have. Where it becomes more tricky is if you want images on those pages. This is done by anchoring images to parts of the text, which is as time-consuming as doing it manually, unless you're working on lengthy documents.

As you'd expect from Adobe, which seems to aim for Flash-based interactivity above all else, there's improved output to Flash. Many of the new interactive features also work if you output to PDF, while some actions and elements that you might be used to including if you create interactive PDFs in InDesign (such as our own Digital Arts CD) don't work.



Story Editor now sits in its own file rather than floating over your page, and can edit tables.



InDesign CS4 gains the same cleaner workspace, with tabs for different open documents and the ability to view documents in two-up or four-up format.

"The amount of information about images in the Links panel has increased hugely"

If you create documents that are designed to be read as PDFs, you can now create SWF versions too. Both PDFs and SWFs can be output with Page Transitions, animated dissolves, fade and wipes as found in Premiere Pro, making flipping between pages seem more tactile. SWFs can also include 3D animated page curls.

Adobe has also seen fit to include Premiere's 1980s Top of the Pops-style collection, such as Blinds and Comb, which no creative in their right mind should even contemplate using, and which Adobe should certainly have contemplated leaving out.

More useful for creating interactive elements are the new Buttons panel and Sample Buttons library. The Buttons panel gives you quick access to a button's properties, which is a great improvement.

It's easier to work with hyperlinks thanks to the overhauled Hyperlink panel, and there's a box for applying Web links to highlighted text.



Live Preflight warns you of anything outside your preflight parameters, like low-res or RGB images, missing fonts or overset text.

Producing SWFs directly from InDesign does have advantages over exporting in PDF format, but it's also more restrictive. You can't embed movies or sound, create links that open files, or have links overlapping with transparent elements.

Also, to flip through pages or jump to pages in SWFs, you have to include buttons or hyperlinks, rather than scrolling down or choosing from a page list as you can with a PDF.

Other new tools include Web Cross Reference, which allows you to link online text elements to one another. There's also support for Photoshop CS4's 3D artwork.

Smart Guides and Live Preflight functions make InDesign CS4 highly desirable. Conditional text will appeal to some, while the improved interactive tools will draw in others. Overall, this is a well-rounded release that is very much worth upgrading to. ➤

InDesign CS4
price: £595 plus VAT included in: Design Standard, Design Premium, Master Collection
New features
<ul style="list-style-type: none"> • Smart Guides • Live Preflight • Redesigned Links panel • Support for tables in the Story Editor • Conditional Text with Smart Text Reflow • Improved interactive document creation through the new Buttons and redesigned Hyperlink panels • XRL output for Flash

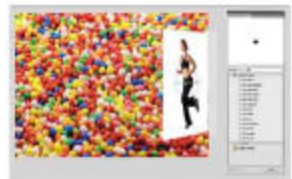
"Flash gains 3D tools that are similar to Photoshop's, and simpler than multi-axis tools like After Effects"

Flash CS4

The interface revamp of CS4 may upset old-hand Flash users, as it's the second drastic front-end facelift in as many versions. However, it does make Flash faster and easier to use. Much of what's new in Flash has been taken from tools on the Adobe side of 2005's merger between the company and Macromedia. In particular, After Effects, which has long had much better animation tools than Flash, has donated features. One upside to this is that Flash has become easier to learn and use for AE-based motion-graphics artists.

Flash's keyframing system has been simplified almost to the level of AE's. You can right-click on an object and select 'Create Motion Tween' – you don't have to mess about manually turning it into a symbol, as Flash does this for you. The software also automatically creates keyframes if you move to a frame on the timeline and modify a symbol in 3D. This is much simpler to use than multi-axis rotation tools like AE's if you're new to working in a 3D space.

Another direct steal from After Effects is the Motion Editor, a modified version of AE's Curves Editor. This allows you to finetune animations by providing graphs of parameter values against time and letting you quickly modify values. You can also turn the straight lines of constant motion into Bézier paths, to allow acceleration of change.



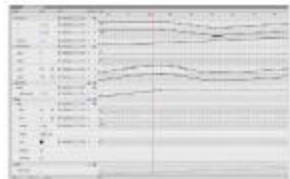
While Adobe provides default Motion Presets, you can also create your own – a good thing, as those on offer are scant and basic.

It's a powerful tool but, unlike the Curves Editor, the Motion Editor can work with the parameters of only one tween at a time and stacks up all of the parameter lines vertically in black against a grey background. The overlaid coloured lines of the Curves Editor allows you to see more at once without the panel taking up most of your screen.

Alongside this, Adobe has introduced Motion Presets: animation presets such as 'fly-in-bottom' and 'fly-out-top' that quickly add animation to your project. You can create your own and share them between projects – which is fortunate, as compared to AE's extensive Animation Presets, the presets that come with Flash CS4 are weak, and there aren't many of them.

For better animation, Flash CS4 also gains 3D transformation tools that are similar to those in Photoshop, being based around widgets where you drag on single-axis wheels to move and rotate symbols in 3D. This is much simpler to use than multi-axis rotation tools like AE's if you're new to working in a 3D space.

Dem bones The final new animation tool is Bones, a simple inverse kinematics system that allows you to connect symbols together so that moving one affects another as if they were physically connected. The 'bones' metaphor is apt, because it lets you set up systems such as a representation of a hand



The new Motion Editor is essentially a modified version of After Effects' Curves Editor – it lets you tweak animations using a graph-based interface.

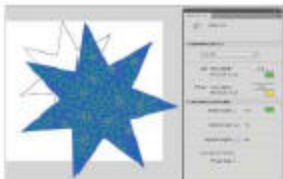


Above: A host of new functions borrowed from After Effects and an interface overhaul make using Flash CS4 a very different experience. Right: You can now make any object interactive in a fuss-free way through the Create Motion Tween option, accessed by right-clicking any object.

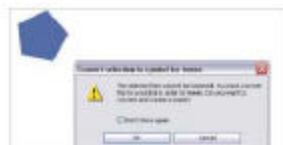
where moving the end of a finger makes all of the other parts move to follow it. It can also be used to modify single shapes by building 'bone structures' within them in a similar way to AE's Puppet tool.

Bones creates more realistic-seeming structures that can either be used to make animating parts of your movie easier or, to rather nifty effect, as part of your movie's interaction (so in the previous example, if the user moved the end of the finger, the rest would follow).

Flash CS4 has improved fill options using Grid Fill and Vine Fill within the new Deco tool, which fills objects with patterns. You can use the Symmetry Brush option to produce patterns of symbols outside of others. It's a simple tool, and effective if used sparingly. Other new functions include



The new Deco tool fills objects with simple patterns of symbols or organic branches, leaves, fruit, or any other symbol you wish.



support for H.264 video, export to Adobe's AIR Web development format, and the ability to Import InDesign and After Effects projects.

The former works well but is really only useful for simple online versions of magazines or brochures, and the latter has some major limitations – for example, text doesn't remain editable in Flash. Both have to be exported from the other tools as XFL files – you can't import either natively, which will be a pain in some workflows.

While Adobe could have gone further, the improvements to Flash's animation tools are welcome both to long-term users and to motion-graphics artists who would like to try the software.

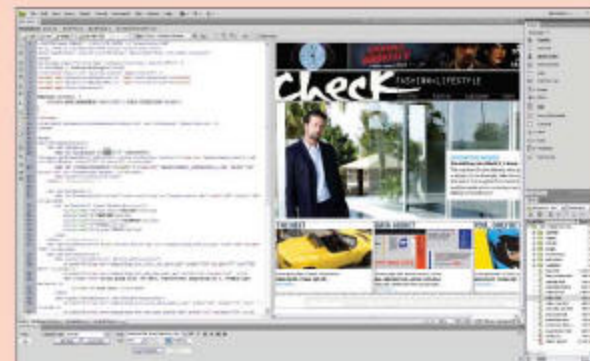
Flash CS4

price: £489 plus VAT
included in: Design Premium, Web Standard, Web Premium, Production Premium, Master Collection

New features

- Working with keyframes simplified
- Motion Editor for fine-tuning animations
- 3D transform tools
- Bones inverse kinematics system
- Pattern-based Deco Tool

Dreamweaver



Dreamweaver CS4's new interface is more orderly, meaning you don't have to battle your way through a mess of windows when working on a complex project, making it speedier to use.

Like Fireworks (right), Dreamweaver was passed over when the Creative Suite 3 interface overhaul was rolled out, so for long-term users Fireworks CS4's new interface will be quite a shock. The upside is that it's a great improvement. It also makes Dreamweaver easier to learn by those used to other Creative Suite tools.

Web-design enhancements include the Related Files bar, so you can click from an HTML file to the CSS style sheet, and JavaScript files that drive it.

Live View shows how your page will look in a browser, when the various codes and scripts come together. You can both preview your page with full code-based interactivity built in, and see how the output code is rendered by the browser. This is a big advance over the previous version's rendering engine, but as it uses open-source WebKit, you can't preview as Internet Explorer.

The Properties panel (formerly Properties Inspector) has been split into HTML and CSS modes. All formatting controls have been stripped out of the HTML section, so you have to create these in CSS. The new HTML data sets function

builds dynamic tables using a wizard-driven approach. This could be used to turn an HTML- or <div> tag-based table into one that can be sorted by columns or row, or into a series of stacked containers – or you could take the information from a dynamic source such as RSS feeds.

Other new tools include support for Adobe's InContext Editing, which sits on your Web server and allows your clients to edit sections of pages that you set live on the page through their Web browser. Embedding SWFs now automatically generates the code to get owners of older versions to upgrade, while support for Photoshop Smart Objects gives round-trip editing.

As with many of the other tools within Creative Suite 4, Dreamweaver CS4 is more efficient, allowing you to produce Web projects faster.

Dreamweaver CS4

price: £335 plus VAT
included in: Design Premium, Web Standard, Web Premium, Master Collection

New features

- Significant interface changes over previous version.
- Live View improves preview accuracy.
- HTML data sets for dynamic table creation.

Fireworks



The new release lets you edit symbols on your current project, has a redesigned Style panel and the ability to quickly create a demo of the current file for when a client drops by unexpectedly.

After many years as a Web graphic drawing tool, Fireworks became a Web site prototyping tool in Creative Suite 3, as Photoshop's superior art tools made Fireworks redundant. Fireworks was always better for creating interactive elements such as rollovers, so the new task sat naturally, but it still grated that its layout and design tools were a clear second to Photoshop's.

The CS4 version attempts to correct this by including features from Photoshop and other Adobe applications. These include a better set of guides and Adobe's Text engine, on top of the CS4 interface upgrade.

Smart Guides debuted in Illustrator CS3 and were also added to InDesign in CS4. They're green lines that appear when you move or resize an object to align with the edge or centre of another (or with the centre of your canvas). Standard guides have also been enhanced so that when you move one, Fireworks shows the distances between it, other guides and the canvas edges.

Fireworks' text engine has been improved – adding support for ligatures for the first time – though strangely, some text elements are

supported but can't be created, such as struck-through text. These work if you import a PSD file with such text inside them, but this formatting can't be modified within Fireworks.

Importing and exporting have been improved: PSD files can now be resized on import, and projects can be output as CSS-based Web sites or AIR applications. These give you more options to output prototypes of your work in the format that the final piece will be in, and gives you some actions specific to the format. You can also export projects as PDFs.

You're still going to want to do your designing in Photoshop and then add interactivity in Fireworks, but making changes here just became a lot easier. ➤

Info/System requirements

price: £595 plus VAT
included in: Design Standard, Design Premium, Master Collection

New features

- Smart Guides
- Live Preflight
- Redesigned Links panel
- Support for tables in the Story Editor
- Conditional Text with Smart Text Reflow
- Improved interactive document creation through the new Buttons and redesigned Hyperlink panels
- XFL output for Flash

After Effects CS4

After Effects is still the most popular compositing application for video and animation professionals, though it has stiff competition from Apple's Motion and Boris Red for motion-graphics work, and Eyon's Fusion and The Foundry's Nuke for VFX work. AE's combination of toolsets for both disciplines gives it wide appeal, and the new release adds functions that will appeal to both types of user. AE CS4 features the same interface design as the rest of the suite, though it's a purely aesthetic change, with a lot of curves squared off.

A lot of effort has clearly gone into making complex projects easier to navigate. The timeline can easily get cluttered when you're working with large numbers of layers with multiple effects on each, and opening and closing layer triangles can be time-consuming. AE CS4 adds a search facility where you can type all or part of a parameter, effect or layer name and only elements that match this are displayed.

This is a huge timesaver, not only for navigating complex projects, but also for modifying parameters across different layers. The search facility has also been added to the Project and Effects & Presets panels, which again is useful if you've forgotten which folder your asset is in, or which category the effect you want comes under.

Alongside this is the ability to see a flowchart of how compositions are

nested inside others. It makes using nested compositions easier, and this does a great job of encouraging you to build 'comps of comps' to see more easily how your project is organized.

The search and nested composition enhancements are welcome, but they can't hide the fact that AE really needs a proper nodal flowchart system to work with complex projects. Working with such compositions is much easier and quicker in Fusion and Nuke, as it's a much more intuitive way to visually map how an effect is created.

Lacking in bits

Also compared to those two tools, After Effects isn't available in a 64-bit version. A 64-bit version of AE – which would allow longer RAM previews and better overall performance for most users – would have benefited more users than the 64-bit version of Photoshop that's offered in CS4 for Windows Vista users.

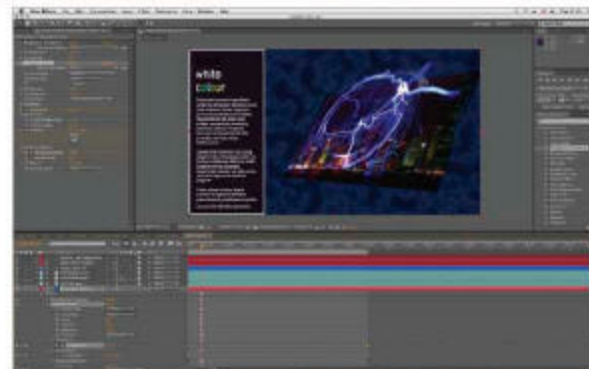
Users can import static 3D compositions from Photoshop Extended, which can then be used as 3D objects within a 3D scene. These can be 'live' objects, so you can switch to Photoshop and edit their textures, which are automatically updated in AE. Many motion-graphics artists will find this appealing, but the rendering engine is a bit cartoony, and it's annoying that you have to go through Photoshop if you just want to import a 3D object into your scene – you can't just add an OBJ or 3DS model, as you can with Boris Blue.



The Cartoon effect is good for giving shot footage a cartoonish, hand-drawn feel.



The new search facility lets you find all the portion parameters on a timeline, for example.



One of the rather slender selection of AE's new filters is Turbulent Noise, so on here, it's an expanded version of Fractal Noise, and taps your computer's graphics card for speedier performance.

AE's 3D system also gains the Unified Camera Tool for orbiting the camera around the scene when holding down the left button, moving in X and Y using the middle button, and zooming using the right button. It's a fast way to move around, though a little tricky to master at first, and the scroll wheel on our mice made middle-clicking tricky. X, Y and Z position parameters for an object in 3D space can now be keyframed separately, which makes animations such as bounces easier to create.

Only three new effects have been added, though the software does come bundled with the AE version of Imagineer Systems' Mocha. This is a powerful 2.5D standalone tracking system that can take time to learn.

The three new effects are Bilateral Blur, Cartoon and Turbulent Noise. Bilateral Blur blurs softer features while leaving detail intact, and works rather well. Cartoon makes a better-than-most job of turning images into a Scanner Darkly-style faux-cartoons – though it lacks the crispness of output and flexibility of Red Giant Software's ToonIt (previously Digital Anarchy's ToonIt). Turbulent Noise expands on the Fractal Noise effect, using your graphics card for faster performance.

Other new tools include a 4:3 Safe overlay for widescreen projects,

advanced memory management, performance improvements when you work at lower resolution percentages, better metadata support and full project export to Flash in the new XFL format. This creates a project with all of your layers and transformation animations intact, with video and stills converted to FLV, PNG and JPG formats.

It's a desirable enough upgrade, but you can't help but wish Adobe had given it a deeper overhaul. Background rendering and a colour system to match Illustrator's (or at least a half-decent swatch system) are two major holes that should have been plugged here, so we'll just have to have our fingers crossed for them in AE CS5.

After Effects CS4

price: £875 plus VAT
included in: Production Premium, Master Collection

New features

- Search project assets and timeline parameters
- Flowchart for nested compositions
- Photoshop Extended 3D layers import
- Unified Camera Tool for 3D compositions
- X, Y and Z position parameters keyframable separately
- New effects including Cartoon, Bilateral Blur, and Turbulent Noise
- Project export to Flash
- Imagineer Systems' Mocha for AE is bundled
- Improved metadata support

Premiere Pro CS4

Premiere Pro CS3 was short on new features if you weren't bothered about outputting your video to mobile phones. The CS4 version, however, goes some way to turning the tool into a true competitor for Apple's mighty Final Cut Pro. It has one outstandingly useful new feature, plus a bunch of welcome additions.

The tool that will make the most difference to your work is Speech Search, a dialogue-transcription tool that creates an unpunctuated list of the words spoken – allowing you to scan or search through a long clip for a word or phrase to find exactly the part you want extremely quickly. Click on a word in the Metadata tab, and the Source Monitor moves to that part of the clip.

Adobe has tuned the tool for English and a few other languages. For British accents, it performs better the nearer the speaker's accent is to that of a 1950s BBC presenter, but can cope with strong Yorkshire and Scottish accents as long as the speech is clear. It's also capable of differentiating between two voices.

There's a series of updates to help you work with tapeless formats,

including – at last – native support for AVCHD format camcorders. This follows on from Premiere Pro CS3's recently added support for Panasonic P2, Sony's XDCAM EX/HD and Red Digital's Redcode formats.

To help with importing these formats, Premiere Pro now has Media Browser, which gives you a small Finder/Explorer panel to help locating media easier. The files can be viewed as folder items, or tapeless media files with their metadata. However, it's cramped, slow, and has no support for shortcuts or quick access to things like the Desktop, User or (My) Documents folders.

Multi-tasking

The release includes plenty of enhancements to editing tools, such as the ability to edit and apply effects to multiple tracks simultaneously. Users can also copy-and-paste transitions, and there are countless little tweaks. Overall, this makes Premiere slightly faster and more flexible to use.

Other new features include support for more than one sequence type in a project – for example for quickly producing SD and HD versions of



Improved editing tools include tools for working with multiple tracks at once, the ability to apply video and audio transitions, change speed or duration, and apply one or more effects.

"There's now support for more than one sequence type in a project, such as SD and HD versions"

the same piece – and users can import layered PSD files. Blend modes have also made the transition from Photoshop to Premiere Pro (though this didn't work seamlessly in our beta version).

The Media Encoder has been broken out into a standalone tool, and Premiere Pro's other satellite tools also get a boost. Encore CS4 gains the ability to output a project as a Flash movie for CD-ROM distribution, for example, but the ability to output as a Flash project would have been preferable.

OnLocation CS4 is available for the Mac for the first time and has been given an Adobe-style interface that

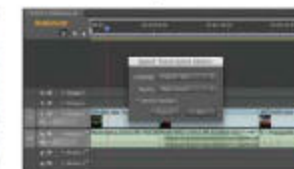
puts all panels on a single page for the first time. However, it's not fully compatible with formats like AVCHD and XDCAM.

Soundbooth CS4 has been expanded to become a multi-track editor, though it's not so bogged down with features that it's slow to perform simple tasks (we're looking at you, Apple Soundtrack Pro 2).

It also gains the same Speed Search function as Premiere Pro and is integrated with Flash Pro. Soundbooth ships as part of the Web Premium version of CS4, which makes perfect sense, as its visual approach to audio editing is just as appropriate for Flash users as video editors.



OnLocation now looks like an Adobe program and has a Shot List panel, which you can create in advance like a traditional paper shot list, but is then filled in with the shot when you capture from the camcorder.



Top: The Speech Search tool is capable of recognizing a range of international English accents. Bottom: The Media Encoder has become a standalone tool, to be used with After Effects or Premiere Pro.

Premiere Pro CS4

price: £599 plus VAT
included in: Production Premium, Master Collection

New features

- Speech Search
- Media Browser
- Improved editing tools
- Support for AVCHD
- Projects can include more than one sequence type
- Import of layered PSDs with blend modes
- Media Encoder is now separate application
- OnLocation now Mac-compatible and has Adobe-style interface
- Encore CS4 can export projects as SWF files
- Soundbooth CS4 is multi-track and includes Speech Search function

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- ★★★★★ Fundamentally flawed
- ★★★☆☆ Lacks very interesting features
- ★☆☆☆☆ Avoid



INTERACTIVE DESIGN SOFTWARE

DX Studio 3.0

DX Studio is an integrated development environment (IDE) aimed at users building real-time 3D interactive applications, simulations or games, as well as multimedia presentations, kiosks and Web sites. Its 3D engine is based on Microsoft's DirectX 9.0c technology, so its player is Windows-only - which isn't much of a problem if you're creating an in-store kiosk, for example, but may be an issue if you want to distribute branded games online.

One thing that it's not is a full 3D authoring application. There is a basic modelling tool, but the developers expect you to import ready-built 3D models into DX Studio when doing anything complex. A key point in the application's favour, though, is the price. You can download the Freeware Edition which has no time limit, but its features are restricted. The main versions, Standard and Pro Editions, cost £175 and £375 respectively. Pro version gives you database tie-ins, network play support and the ability to rebrand the player - which is essential if you're creating applications or games for clients.

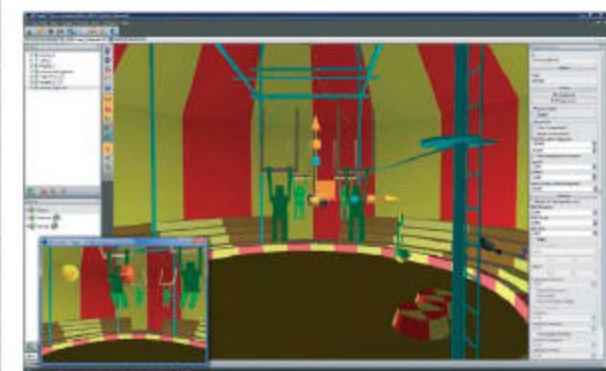
DX Studio offers a multi-panelled interface with a large, conventional-

looking workspace in the centre. In Version 3, this offers a live preview of the project, complete with per-pixel lighting on supported graphics cards, real-time shadows and anti-aliased text. Working with 2D and 3D scenes follows the same route - in 3D mode, resources such as fonts and bitmaps are dragged into the scene to become part of the project's object list.

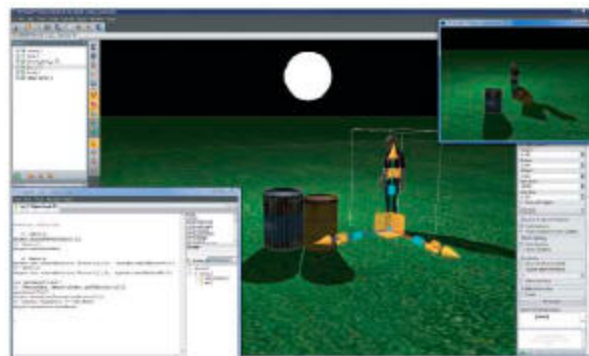
In 3D mode, the tabs on the resources panel switch to include tools for working with environments and meshes. Import and export tools are included for most 2D and 3D media formats, or you can export Collada files from 3D suites such as 3DS Max or Maya. Crucially, you can bring in complete models already loaded with animations, and then drill down to edit the individual models, textures, backgrounds and sounds.

A glamo has been included for transforming, rotating and scaling objects, though we found it clumsy for some tasks. Also, if you're exporting a sword-wielding warrior from an application like 3DS Max, for example, you'll need to export the sword and the character as separate objects.

This is due to how DX Studio handles coordinates and pivot points of



By using the built-in DX Studio camera controls, you can easily set up several camera views, and following a character or some other object is as simple as assigning values to the built-in camera features.



For slightly more complex applications and presentations you can add 3D objects with pre-loaded animations to your scene and assign activation scripts to them, allowing them to be driven by the mouse or specific keys. High quality lighting effects and integrated physics add realism.

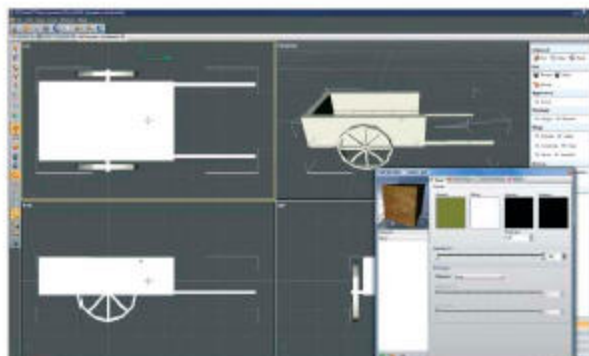
objects differently from 3D modelling tools. It's straightforward enough to work around, however.

The end result is a multi-layered document containing 2D UI elements and 3D interactive scenes, which are combined to produce an interactive application with a customized user interface. This can be compiled with the DX Studio playback engine and distributed as a single EXE file, and you can embed the content into any application or document that supports ActiveX controls. DX Studio includes an integrated SOAP client for accessing Web services, and a network server application that can be installed on a Windows server. Version 3 also

adds support for streaming your video into the scene at HD quality after converting it into OGV format.

Scripting, using the integrated JavaScript editor, can be used to control a range of properties and actions in DX Studio, but this dependence may put some purely design-led users off. Flash designers who work with ActionScript, or those used to Director or other scriptable multimedia applications will have no trouble. The closest comparison, though, has to be with Expression Blend, which is based on Microsoft's .NET framework.

As in Blend, Worldweaver provides you with a functional engine that you



You can import and manipulate 3D objects, perform simple modelling tasks, move pivot points and also edit colours by manipulating material properties.

feed with pre-built design elements and objects, using them as scriptable resources for real-time 3D applications and presentations. Both applications act as a development tool at the end of a creative design chain.

Unlike Blend, you can't export to Silverlight, but DX Studio is able to export its own Java-based content for the Web, though clients may balk at asking users to download yet another Web plug-in, and excluding Mac users.

What really sets DX Studio apart from Blend, though, is a number of features that will be of particular interest to game designers. At a basic level, these include built-in camera controls. By default, the camera object

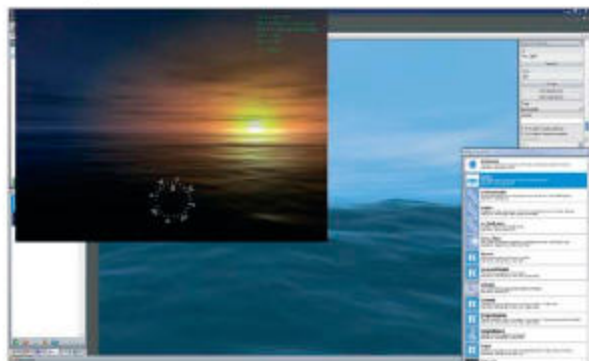
that is created whenever you create a new scene is tied to the W, S, A, D and arrow keys, while rotating the camera during runtime involves pressing and holding the right mouse button. The camera properties can be further edited or scripted to add interactive functions such as following a character or object.

New terrain

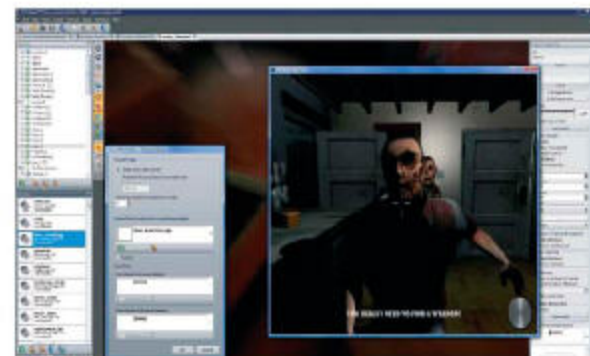
There's a new procedural terrain generation tool in version 3, based on height-map values. It's simple and feels clunky, but you can quickly customize a unique terrain, using blended textures and generator algorithms to determine the appearance of



The most basic version of DX Studio is available as freeware, but one of the benefits of purchasing a Standard or Pro licence is entitlement to make use of an online library of game-oriented models.



As well as water ripples, the built-in environment effects include full lens flares, particle systems, and real-time shadows, as well as clouds, snow, rain and ocean systems.



Complex shader support, physics, animation, 2D UI and 2D scene integration and DirectX 9.0c support strengthen DX Studio's role as a games development platform.

the landscape. For more dynamic environments, DX Studio is capable of adding an effect plane to 3D scenes, then applying generators such as a rippling water effect, or video to the plane. Again, this is a case of drag-and-drop, but the end result can be highly effective if it has been set up properly.

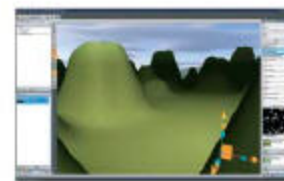
Another innovation is 3D-positioned sound effects, while for simple facial animation, morph targets offer control of expressions at the vertex level. The integrated PhysX and Bullet physics and collision-detection engines have been enhanced, allowing you to use rigid-body dynamics, pivots, cloth, character controls and, new for version 3, vehicles in your game design. Another incentive for gamers is the engine's ability to load resources in the background without interrupting playback.

For beginners, DX Studio offers a helping hand with scripting. As well

as an integrated de-bugger, if you type in a keyword, such as 'var' to declare a variable, the editor will automatically drop down a list of different options available to that keyword. There's also a decent number of demo files and tutorials to get you up and running, so it's well worth investigating the freeware version, at least.

DX Studio 3 sits somewhere between a game-design engine and an 'interactive experience' design tool such as Adobe's much more expensive Director – but for interactive designers this software is more than capable of producing a multitude of types of high-level interactive media for even the most demanding of clients.

Michael Burns



The integrated terrain generator – while no match for Daz or Bryce – is able to provide an alternative to the featureless ground plane supplied with the application.

STORAGE DRIVE

Drobo

When the original USB Drobo was released back at the beginning of the year, it made a big splash, even earning a Digital Arts Best Buy. The sturdy black box that quickly and efficiently organizes your hard drives to give you a continuous large pool of storage was appealing. Now, Data Robotics has added a FireWire 800 port, allowing it to do everything its predecessor promised, but faster.

The Drobo uses a simplified RAID technology to protect your data over up to four drives. Unlike with other RAID systems, the capacities of the drives do not have to match: plug in any four SATA drives, and Drobo will automatically set them up into what appears to you as a single, large volume on your desktop. Drobo performs data redundancy that allows you to upgrade a drive or install a replacement drive simply.

A simple light system (green, yellow, red) tells you the status of each drive, while a blue LED display tells you how much storage space is left. If you start to run out of space, you can simply pull out your lowest-capacity drive and replace it with a larger capacity disk.

Drobo will recognize the increased storage capacity on the fly and start rebuilding your volume in the background without cutting off access to your data. Likewise, if

a drive were to fail, you can swap in a new drive without losing any data. Setting up the Drobo is a breeze: it requires no tools and the drives require no cables to be installed.

One of the disappointments with the first-generation model was that, although you can fill the slots with speedy SATA drives, the Drobo was limited by the sluggish performance of the USB connection. The new Drobo FireWire offers both USB 2.0 and FireWire 800 connection options, offering more versatility and speed than the previous model. But while the new Drobo is faster, its results weren't as impressive as we'd hoped.

Our lab tests proved that the Drobo with FireWire 800 is faster than the original USB Drobo, performing more than 30 per cent faster in some tests. The new Drobo finished our low-memory Photoshop test a full minute faster than the original Drobo, and beat the original Drobo's duplication test time by 16 per cent.

In our copy tests, the new Drobo performed 25 per cent better. The new Drobo's copying to our Mac Pro test workstation was only about nine seconds faster than the original Drobo, a 15 per cent improvement. Still, the new Drobo costs the same as the old one. To have this much more speed for essentially the same cost is a solid deal.

Chris Holt



SCORE: ★★★★★
Contact details
Data Robotics, www.drobo.com
Info/System requirements
Format: Mac OS X 10.4/5, Windows 2000/XP/Vista
price: £255 plus VAT (without drives)
Summary
pros: Unique RAID system for different sized drives; faster than original.
cons: Not quite as speedy as we'd hoped.

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VIDEO EDITING SOFTWARE

Edius 5

Edius aims to be the plucky little video editor that could. Going up against three major competitors - Adobe's Premiere Pro, Apple's Final Cut Pro, and Avid's Media Composer - Edius 5 aims to outperform its rivals and offer a faster and more flexible workflow.

Originally developed by Canopus - a company whose specialty was codecs not software - it's no surprise that Edius is great at processing multiple layers of video in real-time, which can be in a wide variety of formats. Edius 5 gives real-time editing performance a boost by tapping the power of your graphics card.

The old Xplode set of effects and transitions has been ditched in favour of an extensive set of transitions that have been developed in-house, and the performance is excellent - we didn't see any performance drop using them on our test Dell workstation (which has two quad-core Xeon processors, a triple drive RAID system and an AMD ATI FireGL V7600 graphics card), even with HD footage.

The effects system is less successful. Edius's own effects tools are limited to transform, opacity and some basic colour correction. Everything else is provided through some bundled collections: the effects collections ProDAD VitaScene, NewBlueFX Motion Effects, Art Effects and Filter Effects, Zotope VST audio plug-ins, and the ProDAD Mercalli stabilization filter.

None of these are great collections, and together they're a bit of a mess, with different interfaces and overlapping lists of effects making them fiddly to use. VitaScene also has one of the worst on-screen interfaces we've seen in many years.

Transforms - like all effects and transitions in Edius 5 - are created

and manipulated using a pop-up window. This Video Layout Tool can now keyframe pan and zoom effects. The pop-up window system is workable but we prefer Final Cut and Premiere's integrated effects panels.

Edius's interface has improved a lot since its first release, but it still feels cramped on a single screen. Even on two screens, the reliance on pop-out windows seems outdated.

As you'd expect, Edius includes support for a huge range of formats. Previously you had to upgrade to the Broadcast version of Edius to get your hands on formats such as XDCAM and Thomson's own Infinity JPEG 2000 for its Infinity digital cinema camcorder. Now you get them all out of the box. New in version 5, you also get support for Ikegami's GFCAM and export of Infinity JPEG 2000, AVC-Intra and AVC-HD. If you deal with a lot of different footage types, Edius could be a godsend, as it happily mixes them all on the same timeline.

Exporting used to be handled through a cut-down version of Thomson's ProCoder too, but with Edius 5, you get the built-in Encoder. This supports many more formats, adds more options and can batch



The new transitions and effects system taps your graphics card for powerful real-time performance, but while the transitions work like the rest of Edius, effects are provided through a shambles of third-party plug-ins.

process your output - but doesn't run in the background.

Other new features include Windows Vista support, support for clip markers, a freeze-frame function, and better drawing and kerning tools.

Edius is an efficient real-time editor that offers outstanding performance and few top-notch innovations, but overall features-wise it's behind the pack, adding tools in this version that other applications gained years ago. The effects system is a mess and you'd probably have to be using one of the more esoteric formats to see a benefit from using Edius over Final Cut, Premiere or Avid.

Neil Bennett



The Exporter plug-in replaces ProCoder Express. It supports more formats and has more functions, but when you set it going, it looks down Edius.



The Video Layout tool offers a focused way to create animated transformations of video, but like many of Edius tools it sits in a pop-out window. Edius's timeline is quick to use and includes an innovative title track.

SCORE: ★★★★★
Contact details
Thomson Grass Valley desktop.thomsongrassvalley.com
Info/System requirements
Format: Windows XP/Vista
price: \$799 (around £455), upgrade from any version \$249 (£140)
minimum specs: 3GHz processor, 1GB RAM, 800MB free hard disk space, DirectX 9 graphics card with 256MB RAM
Summary
pros: Great real-time performance; GPU-driven transitions; wide format support
cons: Horrible effects system; more fiddly to use than rivals with fewer features too

TECHNICAL-DRAWING SOFTWARE

Designer Technical Suite X4

With the addition of the X4 tag, Corel has moved Designer further away from the 2D technical drawing market towards the 3D CAD space. Not that Designer can now create 3D models, but the addition into this suite of Right Hemisphere's Deep Exploration 5.5 CSE allows you to convert 3D models into accurate 2D graphics. This is useful for creatives who often work on technical illustration assignments, diagrams or other complex projects where accuracy is crucial.

The new version has enhanced software support: it can handle files in the latest AutoCAD 2009 format, while Microsoft Visio support has been updated to handle v2007 and v2003 files; there's also support for PDF 1.7 and PDF/A, Word 2007, Microsoft Publisher and JPEG 2000.

However, the included CSE version of Deep Exploration doesn't handle some of the major 3D CAD formats. If you want to import SolidWorks files or output from Autodesk Inventor, for example, or publish to a 3D PDF, you'll have to spend another £1,100 to purchase the upgrade to Deep Exploration 5.5 CCE.

There's a new Objects Coordinates Dock, which can be used to create and modify shapes and lines with precision. It's worth noting that once you've modified a shape with the Dock's adjustment sliders, a new object is created in the drawing

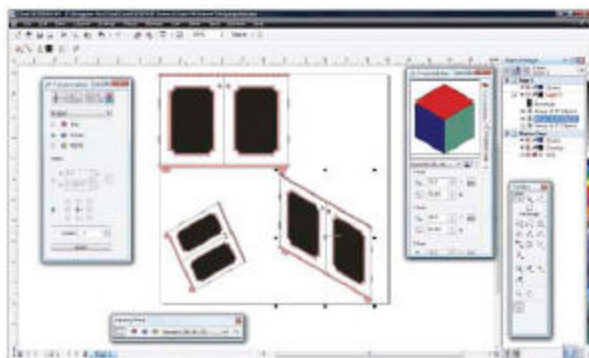
window and some transformations and effects will be lost. Therefore you're offered the option on the Docker to either create a new object and begin working with that instead or replace the original object.

You can now control and edit layers independently for each page, adding local guidelines or master guides across the range of the document, which certainly suits a highly technical workflow – particularly architectural and engineering projects. You can set multiple layers from Imported CAD documents to display on a single page.

Line managing

Also good for this market are the X4 enhancements to connector lines, dimension lines and callouts, such as reverse arrowheads and support for monospaced text. Arrowhead attributes such as size, offset and rotation angle can be specified, and there's a new facility to add halo masks to connector lines, to make diagrams more readable.

There's a lot of crossover from CorelDraw Graphics Suite X4, including Corel's bitmap-to-vector tool PowerTrace, useful for scanning and editing drawings. Bitmap editing



Designer provides docks to let you work with specific tasks, such as dedicated toolbars and Dockers. So for projected drawing, you'd make use of the Drawing Plane Toolbar, the Project and Axis Docker and the Transformation Docker.

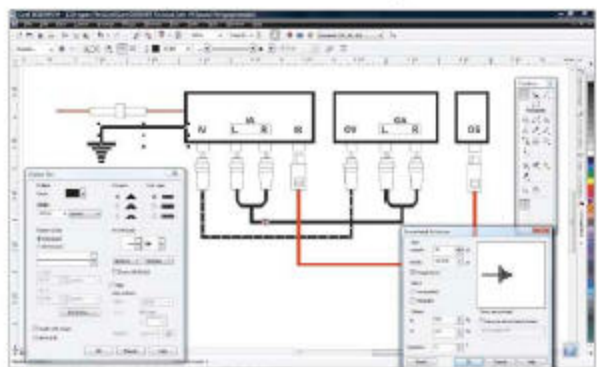
tool Photo-Paint X4 now includes Raw file support and enhanced cut-out tools. Screengrabber Corel Capture X4 and the ConceptShare Web-based collaboration service also feature. Greater integration with Vista is offered through improved search and thumbnail features, and there are also enhanced print-merge capabilities.

It's tempting to view this suite as a 'Creative Suite Lite' for technical illustrators. However, while Adobe has been targeting that market with new cutaway and measurement

features in the pro versions of Acrobat 9 and Photoshop CS3, Corel's central component goes a lot further in serving this type of work.

There is a wealth of Windows technical illustration software around the sub-£200 mark, but if you want the bitmap and 3D functionality offered here too, as well as library of 4,000 ready-to-use symbols, this suite probably provides better value in the long run. If you work with 3D CAD models, you should be aware of the import limitations of Deep Exploration CSE, though.

Michael Burns



You can change the appearance of connector lines in your diagrams using a selection of dedicated tools. Text, line appearance and arrowheads are improved and you can now add a halo effect with the Outline Pen.

SCORE: ★★★★★

Contact details
Corel: www.corel.co.uk/designer

Info/System requirements
Format: Windows XP/Vista

price: £639 plus VAT; upgrade £319 plus VAT

Summary
pros: Extended CAD file support; new docks, layers, interface and connection enhancements.
cons: 3D CAD system support needs £1,100 upgrade; no Mac or Linux support.



A row of options on the new floating Objects Coordinates Docker allows you to quickly create rectangles and squares, circles and ellipses, polygons and lines while an array of sliders lets you fine-tune their properties

WEB-DESIGN SOFTWARE

BBEEdit 9

Let's take a quick trip back to 1991. Photoshop was still on Version 1 and Windows 3.0 had only recently been belched out. In Mac-land, System 6 ruled the roost, and TeachText (SimpleText's forerunner) was the editor of choice. Rumour has it that BBEEdit evolved as a bare-bones editor to usurp TeachText and deal with Apple's application's inability to process files larger than 32KB.

Fast-forward 17 years and BBEEdit can hardly be classified as 'bare-bones' anymore. The feature-packed editor includes support for a huge array of programming languages, has absurdly long menus, and preferences that make your head swim.

However, in the area where it matters most – working with text – it's still something of a champion. Eschewing page layout and text formatting, it's carved a niche in the realms of tech-heavy Web design.

This new update isn't as radical as those added for BBEEdit 8, which ushered in major changes to the application's interface, among other things. Instead, refinements and evolution are the order of the day. Several changes are likely to make seasoned BBEEdit users exclaim, "about bloody time", not least non-modal search and find windows. You're finally no longer forced into Copy/Find/Paste/Don't Find/Copy/Find/Paste madness

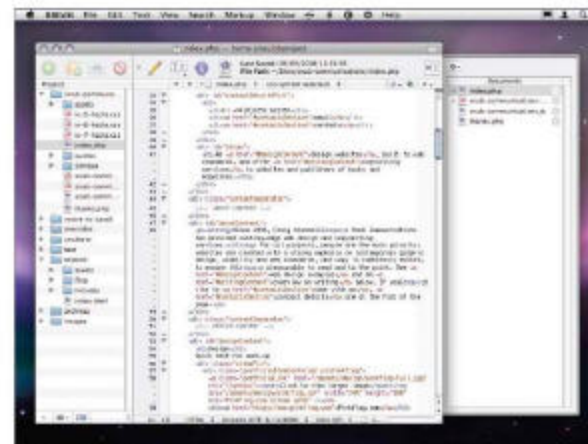
to set up multiple Find & Replace pairings. Now, the dialog happily works alongside your documents, meaning you're never locked out – you can even run a bunch of searches and/or replacements simultaneously.

It's this thinking that's kept BBEEdit relevant, rather than trying to distract users with gloss and arbitrary interface changes (take note, Adobe), and the workflow smoothing continues into results windows.

Now, rather than continually opening, editing and closing documents from results windows, you can edit and save directly within them. Again, this is a minor change, conceptually at least, but in terms of workflow, it's almost magical and a huge timesaver.

Mixed results

Other small tweaks also prove handy, making the programme quicker to work with: a live character- and word-count display (which can be toggled between a selection and the entire document) is great, and Find



BBEEdit's new Projects feature provides the ability to view and edit custom groups of documents from anywhere on your hard drive.

Differences provides more usable results for file comparisons.

Elsewhere, the update is more hit-and-miss. The new Scratchpad provides a constantly saved space for dumping text and notes, and everything's automatically retained after a relaunch.

That sounds great, but it's unclear how practical users will find it – we forgot about it pretty quickly. Projects

– the revamped File Groups – are somewhat useful for quick access to a project's files and rifling through them, but it's too easy to end up with loads of open files. And, sadly, the new text-completion feature feels inferior to that offered by BBEEdit's rivals, rarely offering what you want, but regularly displaying lots of things you don't.

Overall, BBEEdit 9 is an essential update for existing users, but, regrettably, there's little truly remarkable here to stop Web designers and coders with itchy feet defecting to the likes of TextMate and Coda.

Craig Grannell

SCORE: ★★★★★

Contact details
Bare Bones Software, barebones.com

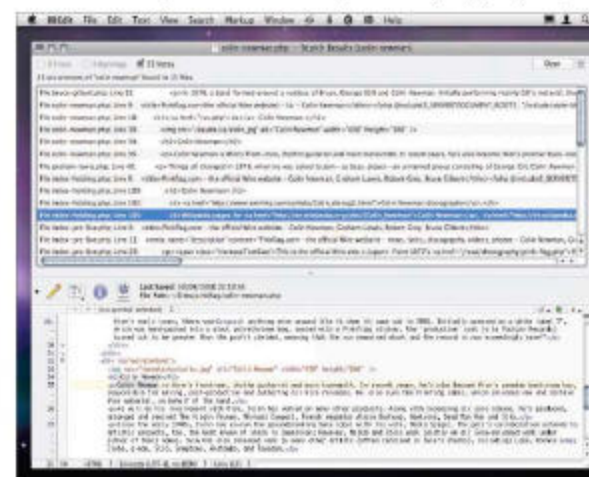
Info/System requirements
Format: Mac OS X 10.4/5

price: \$125 (around £70); upgrade: \$30 (£17)

Summary
pros: Fast and efficient; non-modal search/find makes us grin manically; ability to edit in results windows.
cons: Can be complex to set up and tweak; text-completion is slow and sluggish; .dll feels dated; no Windows version.



BBEEdit's code-folding remains the best on the Mac, and its menu options (which can have shortcuts assigned) provide keyboard access.



Results windows now enable you to edit within them, rather than you having to open documents separately.

EXTERNAL HARD DRIVES

FreeAgent XTreme/Desk for Mac

Seagate's revamped FreeAgent range of external hard drives includes both desktop and portable versions. We looked at two variations of the same desktop model. Both have connections that let you access your data more quickly than using traditional USB 2.0 and FireWire connections.

The FreeAgent XTreme targets both Mac and Windows users with its 3Gbps eSATA port, while the FreeAgent Desk for Mac looks to Apple owners with its slower 800Mbps FireWire 800 port. Both also offer connection over USB 2.0 and FireWire for maximum flexibility.

We tested the 640GB version of the FreeAgent XTreme drive, and the 1TB version of the FreeAgent Desk for Mac. The former was tested connected to a Windows PC with an eSATA port using Simpli Software's HD Tach, which is Windows-only. The FreeAgent Desk for Mac was tested with data copy tests while connected to an Apple Mac Pro.

For the FreeAgent XTreme connected over eSATA, HD Tach reported a burst speed of 100.3MBps, and a read speed more than double that when connected via FireWire – and three times the speed of USB 2.0. For comparison, we ran the same tests on a Buffalo DriveStation: results were only slightly slower for HD Tach, which reported a 96.7MBps burst speed, an average read speed of 71.4MBps.

The drives are hardback book-sized boxes that can sit flat on your desktop or upright, supported by the snap-on stand. A light on the front panel slowly pulses light and dark when there's drive activity.

This feature can be turned off with a setting within Seagate Manager, a collection of tools for managing the drive and backing up (and restoring) data or synchronizing files between machines. Seagate Manager offers unexceptional tools and refused to see the drive when connected over eSATA, as we were using a third-party eSATA board, not a port directly connected to the motherboard.

Mac lookalike

The FreeAgent Desk for Mac is designed to complement Apple's aluminum design. Time Machine-ready and formatted for the Mac right out of the box, it fits well with Apple's minimalist aesthetic – for example while an LED indicates when the FreeAgent Desk is on, it doesn't blink to denote drive activity.

The FreeAgent Desk drive turned in respectable scores in our time trial tests. It got through the 1GB copy test in a speedy 36 seconds – about 13 per cent faster than its portable 250GB FreeAgent Go cousin, but about four seconds slower than Western Digital's



The FreeAgent Desk's sleek styling is inspired by the Macs it works with, while the slightly flashier-looking FreeAgent XTreme features lights that pulse to show activity.

popular My Book Studio Edition, which is also aesthetically tuned to the Mac platform. The FreeAgent Desk's FireWire 800 duplication and low-memory Photoshop tests came in at 48 seconds and 1 minute and 13 seconds, respectively, putting them on par with other hard drives we've tested.

When using the bundled FireWire 800-to-400 adapter cable, our duplication test came in 36 per cent slower than the FireWire 800 results, and the copy test finished 20 per cent

slower – a significant drop, but not out of line with FireWire 400 test results from other drives we've reviewed.

While the FreeAgent Desk for Mac's main advantage over its rivals is its pleasing, Mac-friendly looks, the FreeAgent XTreme offers good looks and better performance than competitors, despite some temperamental software.

Rich Ericson and Chris Holt

SCORE: ★★★★★
Contact details
Seagate, freeagent.seagate.com
Info/System requirements
price: FreeAgent XTreme 500GB around £81, 640GB £88, 1TB £115. FreeAgent Desk for Mac 500GB £88, 1TB £122. All prices exclude VAT.
Summary
pros: Excellent design across both models; XTreme offers high performance; flexible choice of connections.
cons: Desk for Mac model no faster than rivals; Windows software buggy with eSATA connection.



The FreeAgent drives can sit horizontally on your desk, or upright, supported by a small clip-on stand.

HD CAMCORDER

Xacti HD1010

Sony's Xacti HD1010 is a high-definition camcorder that's much smaller even than your typical consumer HD model, making it ideal for shooting in small spaces or on the fly. It's no rival for true pro-level cameras, but it delivers reasonable quality and if your demands are modest, it's an inexpensive tool for inventive creatives.

When you pick up the HD1010, the first thing you notice is its solid feel. It weighs around 300g with the battery, and you hold it as you would a traditional handheld cine camera. The 2.7-inch LCD opens up and extends out.

When you're holding the camcorder, you access all of the controls with your thumb. The ring of buttons and switches atop the HD1010 looks intimidating at first, but is actually intuitive to use. A mini joystick is used to navigate through the camcorder's copious features.

The HD1010 uses SD memory cards for storage, and video is saved in the MPEG-4/H.264 AVC format. A 2GB SD card can hold about 20 minutes of video shot at 1,920-x-1,080, 30fps (12Mbps), the camcorder's second-best setting. The HD1010 has a top video setting of 1,920-x-1,080, 60fps (14Mbps) – but unfortunately, this version isn't Mac compatible and crashes Final Cut Pro. There's also no option to record 25p or 50i, which is a major pain for UK-based users. To test image quality, we shot an

indoor scene that includes flesh tones, colour chart, various textures, and spinning objects. Despite having a single CMOS sensor, the video quality was quite good for a consumer-level camcorder; detail was sharp, the lighting exposure was even, and the clarity was stunning.

However, image noise was slightly more noticeable in the HD1010's video than it was with other pocket-sized HD camcorders (and while models from Canon and Sony are jacket-pocket-sized, the HD1010 will slip into your jeans' pocket). Also, our video had a slight red tint. The camcorder was able to keep moving objects in video clear, but there was some minor jitter.

We also used the camcorder for several outdoor shoots; one day was bright and sunny, the other overcast. Image noise was a little more noticeable, and the red tint was still apparent. Fast-moving objects sometimes created minor streaking.

The Sony Xacti HD1010 is a charming little device. While its image quality reflects its size and price, it could be highly useful if you need a model that's extremely small, light and inexpensive, and it's a great take-everywhere option. The lack of support for UK TV output frame rates is its key flaw.

Roman Loyola



The tiny Sony HD1010 shoots respectable-quality footage, particularly considering its size and weight.

SCORE: ★★★★★
Contact details
Sony, 01923 246 363 www.sony.co.uk
Info/System requirements
Format: Mac, Windows
price: £424 plus VAT
Summary
pros: Smallest, lightest camcorder we've seen that delivers usable footage.
cons: Video quality much worse than pro-level camcorders; US frame rates only; highest setting not Mac-compatible.

INPUT DEVICE

MX 1100 Mouse

When a company puts out a highly acclaimed mouse like the MX Revolution

Mouse, the bar gets set pretty high. Logitech's new MX 1100 Cordless Laser Mouse isn't as feature-filled, but it certainly measures up.

The MX 1100 is a beast of a mouse: users with smaller hands might find it unwieldy. It weighs just over 140g, which doesn't sound like much, but compared with Apple's Wireless Mighty Mouse, the MX 1100 is a boat anchor. For us, the weight isn't a bad thing: it gives the mouse a solid feel, and we were still able to move it effortlessly.

In addition to the two main buttons, the MX 1100 has a scroll wheel button, a 'Stealth thumb button', and two more thumb buttons on the edge of the mouse. All the buttons are programmable using Logitech's Control Center software, which appears as a System Preference pane. During testing, we had no problems using the software on a MacBook Pro.

The scroll wheel is a treat to use. A button below the scroll wheel lets you switch between ratcheted movement for precise scrolling, or a free-moving wheel that scrolls faster or slower, depending on how you flick it. We appreciated the sturdy feel

of the wheel, and didn't have the problem of inadvertently scrolling when pressing down on it.

Two buttons on the upper left of the mouse let you switch between two tracking settings. The settings for each button are located in the Control Center software. It's a handy feature to have, especially if you perform work that requires pixel precision such as image editing in Photoshop. You can switch to the slower track while in Photoshop, and then toggle to the faster track when you're done.

Unfortunately, the MX 1100 doesn't come with a rechargeable battery or a charger. It uses a pair of AA batteries, or you can use rechargeable AA batteries, but you must use a separate charger and get an extra pair of batteries for swapping.

The MX 1100 operates on the 2.4GHz wireless spectrum, which means you must use a USB transmitter on your Mac.

The more we used the MX 1100, the more we appreciated its design and features. It's big and beefy, and some may not find the ergonomic design comfortable. However, in terms of control and general feel, the MX 1100 is one of the best input devices we've used.

Roman Loyola



SCORE: ★★★★★
Contact details
Logitech, www.logitech.co.uk
Info/System requirements
Format: Mac OS X 10.3/4/5, Windows XP/Vista
price: £46.80 plus VAT
Summary
pros: Very precise control; excellent scroll wheel; tracking settings for creative work.
cons: May be too big and heavy for some users. No battery charger.

this month's cd

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The included tools offer modelling, surfacing, animation, rendering and interactive behaviour creation. Modelling alone has over 400 tools which will let you work via point-editing, subdivision surfaces,

metaballs or NURBS. The real-time renderer lets you render quickly, while the two offline render engines let you use tools such as HDRI, GI, and Caustics.

Character animation is made easy thanks to the bones system and vertex morphs, and animation is a snap with non-linear blending of clips and the ability to use and mix traditional keyframing, skeletal animation, and procedural animation.

trueSpace 7.6 runs under Windows 2000/XP/Vista. To use it, register online via the link on the CD interface. www.caligari.com



After Effects training videos

From the new series of Live and Learn tutorials by Talented Pixel, we're giving away three full videos teaching you advanced tricks for After Effects. Learn how to use Bridge to preview preset effects, how to animate a lighting effect by pasting keyframes, and how to set up After Effects to render multiple formats. www.talentedpixel.co.uk

20 high-res images



11 high-resolution textures



This is a full set of textures from Fudge Graphics. Pillows, blankets, jeans, and a leather bag were scanned to make the high-resolution 2,500 pixel-wide images, which makes them ideal for print projects. www.fudgegraphics.com

Digital Arts has teamed up with Shutterstock to bring you a full library of 20 royalty-free photos. They are high-resolution – capable of being used at A4 at 300dpi – and royalty-free, so can be used in your commercial work.

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showcase



DEXTER - FUNHOUSE
Topik's VFX-heavy promo for the forthcoming third series of the cult serial-killer TV show.



MERCENARIES 2
A series of behind-the-scenes videos taking you through Shilo's work on the ubiquitous game ad.

PLUS!
This month's Showcase also includes two outstanding music videos: Mixtape Club's cute take on the jungle by night for My Morning Jacket, plus OneinThree's mind-bending optical illusion for Wild Beasts. We also have Eyeballs' motion-graphic intro for Discovery's Planet Earth.

masterclass



The Digital Arts CD includes project files and component images, vector artwork and textures to help you follow along with this month's Masterclass tutorials. On page 46, Mark Rogers shows you how to create stylish-looking X-ray art. On page 50, Jeff Huang details some great photo-montage techniques. On page 58, Angie Taylor teaches you how to create stunning particle effects in After Effects without plug-ins.

free software

Check out the Byeon Fusion 5.3 Learning Edition, which shows you how to create high-end visual-effects projects. On the CD is also the fully-working beta version of Spiral Graphics Genetica 3 texture-creation software.

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