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Inside: Sony's power tower and its bid to take over the world (plus what Nintendo, Sega and Microsoft plan to do about it)
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A tari versus Coleco and Mattel, Sinclair versus Commodore, Commodore versus Atari. The history of computer and videogaming is strewn with conflict, and in each case a clear victor has emerged.

And so it was that Sony made its PlayStation the platform of choice. Now it seems that nothing can stand in the company’s way as it seeks to lay down the future of videogaming upon the foundations it has meticulously built.

Which won’t stop Nintendo, Sega, and possibly Microsoft from trying to make the future their own, of course. Despite facing overwhelming odds, these companies refuse to roll over and get out of the way of Sony’s steamroller. Instead they are engineering their own technologies for the new millennium, battening down the hatches and opening up their creative minds.

In another industry, going up against a company with Sony’s track record – and the potential its new format patently holds – would seem folly. But this industry is like no other. Its youth affords it an enormously appealing naivete.

Few people working within its realms truly know where it’s going. Sure, they know in which directions they wish it to head, but envisioning change and actually making it happen are two very different things.

Sony’s plans are the most ambitious, and this month Edge pits the company’s hardware and strategies against those of its rivals, and offers a view of how the videogaming landscape will look once the biggest conflict of all time is resolved.

The casualties may be extraordinary, but, like all wars, it promises to be an engrossing engagement.
CONSOLE WARS II

This time it's going to get bloody: how, with PS2, Sony is preparing to win the new battle—and what its competitors are doing to shoot it down...

But is it art? 64

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SEGA KEEPS DREAMING AS UK EMBRACES 128BIT
A quarter of a million consoles shift throughout Europe but Dreamcast's localisation lockout is already defeated

It was a long night for retailers, with stores staying open into the early hours. After two days, 63,000 consoles had been sold in the UK. (Top left) Sega added to the carnival atmosphere with a group of stroll walkers. (Centre left) The first Dreamcast owners at Tower Records in London's Piccadilly Circus

Sega is relying on its TV ad campaign and the release of AAA titles such as Namco's Soul Calibur to build on its strong European launch and take the new console into a successful Christmas period.

Sales figures for Dreamcast's first two weeks on sale reveal Sega has sold 260,000 consoles across Europe – out of an initial ship out of 325,000. Of these, 95,000 have been sold in the UK – just below a predicted 100,000 units.

The launch was carried out in a characteristically high-profile manner with London's Oxford Street the centre of Sega's activity. Events took place at Virgin Megastore, which was renamed SegaStore for the day of the launch, and Tower Records' Piccadilly Circus store.

Surprisingly, much of the launch attention focused on Midway's Ready 2 Rumble Boxing. This was thanks to the celebrity rematch of ex-middleweight boxers Chris Eubank and Nigel Benn, held at SegaStore. (Eubank won the brief three-round bout.) And although Sonic Adventure was the first choice of game for the first week, selling 86,000 copies across Europe in the first five days, the following weeks saw Ready 2 Rumble as the UK's top-selling Dreamcast title.

Prior to midnight the action switched to carnival mode at Piccadilly Circus, thanks to Sega's stroll-walking cyberpunks, a posse of tribal drummers and large groups of bewildered German tourists. Benn and Eubank also changed location, with Eubank taking over half an hour to drive his American truck the mile between stores.

Kazutoshi Miyake, Sega Europe COO, told Edge that he was very happy with the console's UK launch and fully expected Sega would meet its prediction of selling 400,000 hardware units before the end of the year.

Miyake-san joked that the only problems he was
expecting concerned the allocation of stock between America
and Europe. Sales in the US after two months have topped
750,000, with Sega of America predicting 1.5m units sold by
the end of the year and six million by the end of 2000. Sega
Europe says it will have shipped a million units by early 2000.

Sega’s top brass, including Sega chairman Isao Okawa,
president Shoichiro Irimajiri and Yukawa Hidekazu (star of
Sega’s Japanese adverts), also flew from Japan to enjoy
the UK launch. They were in high spirits as they posed for
photos with Sega Europe president Jean-François
Cecillion and Miyake-san.

**Online overload**

Unlike the American launch, which was plagued by a
considerable run of faulty CD-ROMs, the only problems
experienced in Europe were initial difficulties registering
on its internet service.

Despite having put back Dreamcast’s release date
three weeks to test its online aspects, BT’s servers were
overwhelmed by the demand, with 1.2m internet
minutes clocked on the Dreamcast service over the
first weekend.

Since then BT has increased the number of servers for
Dreamcast users sixfold. Around a third of UK Dreamcast
users have registered for the online service.

Peter Moore, Sega of America’s senior vice president
of marketing, announced that a completely functional
online service would not be ready in the US until next
autumn. Simple card games will be available around Easter,
while direct dial games such as Sega Rally 2 will be in place
by the summer. The full service will launch with Baldur’s Gate
and Phantasy Star Online.

In contrast, Sega Europe has said that online games will
be available from spring next year, but has not revealed what
type of services it will initially offer.

**UK preorders topped 40,000 – around one tenth of
the total number of units Sega predicted it would
sell within a year. Consumer interest in the console was
strong in the weeks leading up to October 14**

**Breaking the lock**

More worrying for Sega is the news that hackers have
already found a way around Dreamcast’s localisation
lockout. Many game import Web sites are listing a step-by-
step guide explaining how to disable the console’s
internal battery and then swap discs to play Japanese
and American games.

One source told **Edge**: “It’s not that difficult but if
you’re not familiar with what you are doing you can damage
something.” A permanent ‘chip’ solution is expected to reach
the market soon. One Internet-based retailer is already
preparing to release a ‘universal’ Dreamcast.

**SALES FIGURES**

For the last week of October,
UK console sales looked like this:

PlayStation: 36,700
Dreamcast: 16,500
Nintendo 64: 3,000

**Chris Eubank and his preposterously proportioned American truck was much in evidence
around Oxford Street and Piccadilly Circus during the Dreamcast launch. It was hard to miss**
MOBILES: THE NEW GAMING PLATFORM

More than half a billion Web-browsing phones are predicted to be in use by 2003.

Mobile phones and personal digital assistants (PDAs) are about to take a massive leap into internet browsing, offering multiplayer gaming.

The introduction in December of WAP-enabled (Wireless Application Protocol) mobile phones such as the Nokia 7110, Ericsson R32s, and Siemens S55 will provide opportunities for innovative games — particularly for large-scale multiplayer experiences. More than half a billion WAP phones are predicted to be in use by 2003.

The first company to announce game content for these new phones is Wireless Games, part of Digital Bridges. It is in negotiations with the four big UK mobile service providers and expects to start rolling out its range early next year.

Unique titles
Initially, games will be straightforward. They will include card games such as poker, simple boardgames, and quizzes. Turn-based multiplayer games in development include Fours, Tic-Tac-Toe and a Pokémon-style game called Monster Mesh.

But more complex titles will follow. Digital Bridges has signed deals with Steve Jackson of Lionhead Studios, and Adam Mayes (ex-SCi) to develop unique multiplayer titles.

Phone games will start out as poker, simple boardgames and quizzes. More complex titles will follow. In the most advanced games the user's phone will ring when something important happens in the gaming world.

One of the main difficulties will be dealing with the range of mobile phones that will be able to access the service. Digital Bridges expects to build specific display interfaces, although devices will have different capabilities depending on screen size.

Connection speed could also be an issue. Initially two speeds, 9kps and 64kps, will be offered, but with the adoption of network services such as JPRS this will rise to 384kps.

Big in Japan
Similar moves are happening in Japan where Konami has recently announced a content deal with NTT. Its mobile network, Lmode, will launch in January and offer a version of the hugely successful Yoki-michi Memorial high-school dating simulation.

Other services, such as fortune telling, will be available for an extra fee. Nintendo and Bandai are developing mobile phone adaptors for Game Boy Color and WonderSwan handhelds, respectively.
ZELDA AND LARA CROWNED BY BAFTA

Landslide for Miyamoto's masterpiece and ex-Core coders at second BAFTA awards

As predicted by Edge (E7), The Legend of Zelda: Ocarina of Time swept the BAFTA’s second Interactive Entertainment Awards. It scooped four awards – Interactivity, Innovative Game, Computer Programming, and Game of the Year.

Other notable winners included Reflections’ Driver for the Moving Image award, while the Design award went to Psygnosis (as aided by Designers’ Republic) for Wipeout 3. Rockstar picked up the Sound award for its Grand Theft Auto: London 1969 mission disc.

The most deserved award, however, went to Toby Gard and Paul Douglas, who won the Tim Berners-Lee award for Best Personal Contribution to the UK Interactive industry for their gaming heroine, Lara Croft.

Despite the worldwide success of the Tomb Raider series, Gard and Douglas’ original role has seldom been highlighted. The pair left Core in 1997 to set up their own studio, Confounding Factor. Its debut title, Gallion, is scheduled to be released by Interplay next year.

Bizarrely, Rare won the Best UK Developer award for the second year running. This was despite the fact that the company hadn’t released any games since Banjo-Kazooie back in 1998.

Gongs on TV?
An increasing number of international companies attended the awards and numbers were up on last year. BAFTA is keen to raise the event’s public profile.

"Next year we are looking to televise the ceremony. There are an awful lot of avenues still open to us and it is definitely the way ahead,” said BAFTA Award officer Helen wood.

"It was a fantastic night and certainly more successful than last year’s inaugural interactive event.” Negotiations with TV companies have already begun.

ADSL: COST UP, SPEED DOWN

BT interactive’s trial takes a turn for the worse – but it’s still ‘cheap’

BT Interactive’s ADSL trial has ended its final phase, prior to the rollout of a commercial service in spring next year. But it has angered many rivals by increasing the monthly cost of the service while lowering its performance.

As reported in Edge (E7), the initial beta trial cost £30 per month for download bandwidth of 2Mbps. The new service will cost £50 for a download bandwidth of 512kps. BT Interactive maintains that the new tariff is a much more realistic reflection of the cost of a commercial ADSL service.

Freeserve has also announced details of its ADSL trial. This will cost £60 a month for 512kps download and 256kps upload bandwidth, and be available to users in north and west London and Manchester until March. Easy.net’s trial offers a free 2Mbps/256kps service for the first three months before requiring users to sign a £2,000 six-month agreement.

The biggest barrier to a commercial service remains BT’s exchanges. By spring, 400 exchanges should be able to support the service, accounting for six million homes and businesses – 25 per cent of the UK population.
NINTENDO PREPARES FOR RANDNET
N64 finally gets online with the release of a 64DD modem in Japan

With Nintendo’s 64DD hardware finally reaching release, details have emerged concerning the system’s online aspects.

Dubbed Randnet, the online service is being provided by Nintendo and Recruit. Preorders for the special starter kit were taken from November 11. The service will go live on December 1 when the 64DD is released.

The starter pack consists of a 64DD system, a modem, a 4Mb Expansion Pak, a mouse and a Randnet access disc. Two games, Kyōhō No Dashin and Mario Artist: Paint Studio, are also included. Nintendo has yet to confirm the price of the starter kit.

Service charges have been set for various items which can be rented. The basic charge is ¥1,500 (£9) a month for people who own a 64DD and modern. At its most expensive, the package costs ¥3,300 (£19) for rental of both the 64DD, modem and connection.

Initially, only 100,000 memberships to Randnet are being offered, on a first-come, first-served basis, but only users in the Tokyo area will be able to use the service. The offer, which will end on January 11, offers multi-player games and also includes email, internet browsing and digital magazines.

Other special software downloads will be made available later in the year for games such as F-Zero X Expansion Pack, Sim City 64 and the other Mario Artist titles: Talent Studio, Polygon Studio and Sound Studio.

A year after the service is established Nintendo will release key software titles which will be available only via download.

Just say no to online artefacts
EverQuest developer 999 Studio has attempted to curtail players trading characters and property on the Net auction site eBay. "We just wanted to warn players," said Michael Lustenberger, 999’s director of marketing. "We see a lot of people getting ripped off." Some 1,400 EverQuest items and characters are on sale at eBay.

Goodbye Sega, hello Fun
London Trafalgar Segaworld has reverted back to its original owner, Funland.

The move is in line with Sega’s global retreat from arcades following large losses last year and a strategic refocusing towards Dreamcast.

Homeworked Dreams
Bit Laboratory has announced that it is working on amateur programming tool Game BASIC for next-generation machines such as Dreamcast. Its Saturn Game BASIC allowed home coders to make simple games.

Animated memories
A small Japanese developer has released downloadable code allowing Dreamcast owners to create their own bitmap virtual animations. The Windows-based program is in Japanese, but may be translated soon. More info: http://www.gameportal.net

‘ADULT’ GAMING HITS HANDHELD WORLD
Stealing cars and shooting policemen isn’t for kids, even when it’s on a Game Boy Color

The controversial Grand Theft Auto has once again come under fire from the industry’s regulatory bodies, although this time it’s the Game Boy Color version that has caused the trouble.

Despite the title’s content being significantly toned down to meet the younger age demographic of the Game Boy, the Video Standards Council still gave the game a 15+ rating. It decided that, in contrast to its own guidelines, the overall theme of the game in the case of GTA – stealing cars and shooting people – should be taken into account, not just specific scenes of violence within the game.

Take 2, the game’s publisher and new owner of DMA, appealed against the 15+ rating but the VSC’s decision was upheld. It was the first time a rating decision had been appealed against since the VSC was set up in 1994, it will now inform developers of the changes to its rating system in light of the decision.

“We felt within our right to take the overall theme into account when rating GTA,” said Laurie Hall, the VSC’s secretary general.

It may look pretty but, according to the Video Standards Council, only gamers older than 15 may indulge in the Game Boy Color version of GTA.
How can you think on your feet when your legs have been bitten off from the knee down?

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The official expansion set for Half-Life: Voted Game of the Year by over 50 international publications • New solo campaign: New killer multi-player maps - New weapons - New skins.

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What was that glow under the spin dryer? Your Lorus Fusion with Vividigi display? Looks like it was suds resistant as well as water resistant. Left by man in chauffeur’s uniform and woman in tiara who stripped and washed their clothes last Saturday at 2am

Call Beryl on (01628) 410 371
Jumping through the screen

Game worlds are becoming more realistic, but are they more believable?

Since games moved into 3D, the rules began to change, and the distance between the onscreen character and the flesh-and-blood player shrank. Now, the raison d'être for playing a game is the fantasy of being someone else – someone who drives a touring car, is a heroic warrior, goes out shooting zombies, or scores the winning goal in the world cup final. As Sony's mental wealth ad says, it's all about landing on your own moon.

Which makes it all the stranger that many games pay so little attention to this fundamental issue. It seems to be a given that a storyline knocked out by a failed English graduate, some dodgy character renders, and a celebrity tie-in will be sufficient to draw players into a role they are expected to play for 20 or 30 hours.

What most developers are misunderstanding is that games are not the same as movies or books. In these traditional media, the audience has to associate itself with the characters. For the connection to be made, they must want to get involved. But the interactivity of games turns the tables. Gamers need to be convinced that they are the protagonist. It's easy to play games that make no emotional demands, though. For as long as you can be bothered, play the game as though it is an interactive movie. Just been killed? Who cares? Just reload and try again.

But when games work, closure between player and character is total. When they are attacked, you flinch. Ever dreamed about a computer game character? Or, better still, ever had a nightmare about one?

It's something the Japanese seem to do instinctively. And it's the small touches that count. For example, Legend of Zelda, Pokémon and the Final Fantasy series allow players to personalise the name of their character, their travelling companion or pocket monsters. Suddenly, the whole game universe is changed. The real world collides with game fantasy. The rival Pokémon trainer is a doppelgänger of your brother, Rinoa in Final Fantasy VII is your girlfriend.

Western games, however, follow the traditional route of hero worship. No one could ever be Duke Nukem, James Bond or even Gordon Freeman, and frankly who wants to be? Game characters become a disguise to be worn for a few hours after work. It's no different to watching Arnie take out the Predator. But stories aren't convincing without believable character. And what character is more believable than yourself?
PRESCREEN ALPHAS
THE LATEST IN THE DUKE NUKEM AND QUAKE SERIES ENSURE IT’S A TANTALISING MONTH FOR PC GAMERS

DUKE NUKEM FOREVER

FORMAT: PC  DEVELOPER: 3D REALMS

It's been a long wait, so there was plenty to smile about when the first screens from the delayed next Duke Nukem were released. 3D Realms is currently on a big push to upgrade the game engine from Unreal to Unreal Tournament - but it still expects it will finally get the game out next summer. And to make sure that happens the codeship has halted all development work on Prey (itself a long-in-the-making title). These shots are taken from a PC running a Voodoo 3 at 1024x768 resolution. Textures are 256x256 max.
SEGA GT: HOMOLOGATION SPECIAL

Developed out of house, it's difficult to regard this as anything other than Sega's answer to Sony's Gran Turismo. Boasting the Japanese GT licence, over 100 domestic models feature (including the new Toyota MR-S, shown left), although, of course, no foreign models are included. As well as racing, the championship mode has you seeking sponsorship in order to reach the top. Online gaming features are also promised.

PROJECT VANISHING POINT

Shown previously in video-only form on Acclaim's stand at ECTS, Clockwork Games' forthcoming racer caught Edge's eye due to its use of licensed vehicles and seemingly realistic set of dynamics. Interestingly, civilian traffic also features, which leads Edge to hope PVP (working title) eventually emerges as the next 300 Need for Speed. Visually the game certainly looks on track. PlayStation2/Dreamcast versions are also being considered.
QUAKE III: ARENA

It's getting very close now, although whether id and Activision can get their monster out before Christmas remains a moot point. But before it hits retail, expect a proper demo to be released, including the three test levels already seen, a simple map for newbies, and plenty of AI-controlled bots. The latest screens display a variety of the CPU opponents gamers will be fragging against, with the bipedal Orb looking like a strong contender for the most grotesque.

KISS: PSYCHO CIRCUS

After falling out with John Romero, most of Daikatana's original development team, the so-called 'Ion Eight', joined up with Mike Wilson at Gathering of Developers. KISS: Psycho Circus is the result. Based on the graphic novel franchise and using the Lithtech 2.0 engine, KISS has the markings of a disturbing if senseless FPS. If nothing else, it certainly has the most bizarre enemies - and there are plenty of them. One level is home to more than 100 spiders which attack en masse.
MARIO PARTY 2

This sequel to last year's highly entertaining multiplayer experience offers five new stages - and 14 of its 64 mini-games are also new. Other than a few more characters and other refinements such as the possibility of using shortcuts (at a cost of five gold coins, of course), and increasing your income by betting on events, it's very much business as usual. The 256Kbit cartridge should grace Japanese game shelves from December 17.

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ZELDA GAIDEN

Only the most devoted Nintendo follower would refuse to admit that the company's 64-bit machine is in serious trouble. As such, titles like this Zelda pseudo-sequel (or even Rare's Perfect Dark), regardless of its quality, will do little to alter the machine's misfortune. Nevertheless, you'd be foolish not to look forward to another Miyamoto production.

ETERNAL ARCADIA

Divided into six main areas, each under the influence of a moon, Eternal Arcadia offers an RPG narrative inspired by Moby Dick. You move from one area to another on the Little Jack flying ship looking for Moby, a gigantic creature responsible for the captain's loss of an arm and an eye years ago.

Contact: 0207 2239067
info@flyingdutchman.co.uk
www.flyingdutchman.co.uk
THRASHER: SKATE AND DESTROY

While the developer's description of Thrasher as the Gran Turismo of skateboarding titles (whereas Tony Hawk's would be Ridge Racer) may be somewhat excessive, there's no denying this is a more technical approach than Neversoft's surprisingly accessible effort. It takes a while to get to grips with the controls, and it doesn't always look fantastic, but it should be interesting to see how the gameplay squares up after extended play.
ETERNAL RING

Edge first saw this back in E3. Then known as Rattle and Beetle, Spanish developer Chaos Effect had come to ECTS looking for a publisher. The following ECTS, Edge met the Chaos director who was showing a suitably advanced version of his PC game and had also managed to get a big publisher very interested in it. A year on things have changed again. Expect more info as soon as the infogames PR machine warms up.

Keen to take its King's Field saga to new levels, From Software is hoping that PS2 is the tool with which to achieve its vision. The world of Eternal Ring is divided into eight areas, each controlled by a dragon. Weather is calculated in realtime and in affecting your environment can reveal secret areas (an avalanche may make available a cave, for example).

SUPER 1 KARTING SIMULATION

Available for PC with a subsequent PlayStation version next year, this Interactive Entertainment-developed game concentrates on authenticity, with 11 international tracks (and bonus GP circuit) and a series of karting classes to work your way through on your way to victory. At present the karts fail to demonstrate the twitchy behaviour of real karts, and the drivers appear remarkably relaxed, although this should be fixed by the time the game is out.

BIOHAZARD CODE: VERONICA

Suffering another delay (Capcom quickly announced the December release of Biohazard Value Plus, a tarted-up DC version of Biohazard 2), Code: Veronica continues to look promising. More puzzle heavy than before, certain elements are more significant – using a lighter, for example, can now attract zombies.
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demo

TrickStyle:
9/10 - DC-UK Magazine

Redline Racer:
90% - Ultimate PC

"...with the excellent lighting, shadows, transparency, and other great visual effects, it's clear that developer Criterion Software has put a lot of effort into the 3D engine that powers all this fast-paced action."

GamePower, August 1999

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MUNCH'S ODDYSEE

Oddworld Inhabitants is combining its beautifully innovative side-scrollers with the power of PS2. Yes, it's time to welcome Abe and parping chums into the glorious world of 3D

It's a world away from the 2D side-scrolling of Abe's adventures, but thanks to the power of PlayStation2, Munch's Oddysee should keep its predecessor's quirky character but with added accessibility.

The latest Oddworld game represents a revolution that goes beyond the obvious jump from 2D to 3D. There's a switch from puzzle-oriented gameplay to the open-ended simulation of entire ecosystems – including the life cycles and social chemistry between the bizarre creatures that inhabit them. But that's a measure of freedom available when developing games for PlayStation2.

"We've allowed more onscreen characters, more elaborate behaviours and larger worlds with more AI running underneath," enthuses Lorne Lanning, Oddworld Inhabitants' president.

"In short PlayStation2 allows us to completely rethink how a game should be built, how it should look and how it should be played." And as anyone who has experienced Abe's Oddysee or Exoddus will know, that's quite a statement, as Oddworld games have never lacked innovation.

Now as one of the first non-Japanese developers to release image of its DVD-based game, it's demonstrating ambition too.

Born out of a time when Lanning and CEO Sherry McKenna found themselves working on a movie ride for Universal Studios, only to decide that games were more interesting, Oddworld Inhabitants started out intending to release a quintet of game episodes within one universe.

The first chapter was completed with the release of Abe's Exoddus. This was counted as a bonus game following the debut of Abe's Oddysee, rather than a release in its own right. Work on the second episode, Munch's Oddysee, started in late 1998. The ever-popular Abe is retained as one of the key characters. He rescues/kidnaps Munch, last surviving Gabbit, from a Glakkon medical research facility.

The Gabbits have almost been wiped out as one of the key features of Munch's Oddysee will be its elaborate herd AI. It's a world away from the 2D side-scrolling of Abe's adventures, but thanks to the power of PlayStation2, Munch's Oddysee should keep its predecessor's quirky character but with added accessibility.
Most of the favourite species of Oddworld will return in evolved 3D form although the key character is Munch, the last survivor of the Gabbids

The world is heavily populated with creatures from Abe's games reappearing in evolved 3D forms, as well as a raft of new beasts

they have been used as spare transplant parts for Glukkons suffering from lung cancer.

Despite their dysfunctional relationship, Munch and Abe have complementary attributes, even though Munch starts the game hating Abe. They eventually learn to get along and both are important to completing the game. Abe can possess living beings, while Munch, thanks to a RS232 port in the back of his head, can possess mechanical objects. He is also an amphibian, but Abe can't swim.

The rest of their world is heavily populated, with creatures from Abe's games reappearing in evolved 3D forms, as well as a raft of new beasts.

"Some of the new enemies will be much larger in scale," reveals Lanning. "Some will have strange co-dependent relationships and some will be aquatic. You'll also start seeing more herds."

Important in the success of previous games was the enthusiasm with which female gamers picked up Abe's non-confrontational missions.

"We are working on a system that helps the game's inhabitants identify where they are in the environment and also recognises what items of interest might be nearby," Lanning explains.

"Picking up an item should be as fluid as it used to be in 2D." The goal is to combine these tools with an environment that allows players to do what they want, for as long as they wish.

"We expect that once people start playing, they will find themselves getting interested in going off on their own and just treating the world like it's a terrarium full of living creatures," he says.

"People will want to nurture some things or levels for a long time, possibly days or weeks." The core plot will take about 30 hours to complete. And around nine months after the release of Munch's Oddysee, Oddworld Inhabitants will release its first online multiplayer version of the series, archly entitled Head of Odd. Thanks to Sony, Oddworld finally has the chance to go global.
DAIKATANA

The pitch was 'Quake with a storyline and two AI-controlled sidekicks'.

Three years on, the resulting game is finally approaching completion. No, really, it is...

Daikatana's third level is set in a Norwegian, plague-infested village. Weapons are medieval while enemies are based on Norse mythology

Few were surprised when John Romero led a breakaway team from the world-leading PC developer, id. But that decision was more than just a collision of personalities; the taciturn John Carmack versus the rockstar ego Romero.

Post Quake, Carmack's vision was to build a technology base to power the purest multiplayer experiences ever. But Romero wanted freedom to write genre-busting games with ambitious singleplayer stories. And so he left. And thanks to backing from Eidos, Ion Storm was born.

By the time it ships, Daikatana will have been in development for more than three years. Meantime, the bulk of its original team has left to form their own studios and the game engine has been upgraded from Quake to Quake II.

These were time-consuming obstacles to the game's completion. Lengthy development doesn't preclude success, though, as Valve and Epic discovered with Half-Life and Unreal, respectively. For what is often forgotten is that Daikatana has always been an incredibly ambitious title. More
One level involves Hiro infiltrating a high-security prison full of mean-looking convicts. Fortunately, he has an arsenal of grenade launchers and miniguns.

Each level has its own atmosphere, enemies and weapons. The double-headed, poison-splitting snake staff (above) is from ancient Greece.

It's no surprise that Daikatana's heritage and age have become evident due to its troubled development.

In the most recent build Edge played, the sidekicks' AI seemed to be in need of an overhaul. They were far too keen on standing in front of any weapon Hiro was about to wield — not the best position in a first-person game that features friendly fire. Instead, the best advertisement seems likely to be the online mode allowing three people to play cooperatively.

Daikatana's other main departure is its four-games-in-one design. Each episode is completely different in appearance, armoury and enemies. Starting in 25th century Japan, the action moves to ancient Greece where players fight mythical beasts like griffins and the Medusa, using weapons such as the Eye of Zeus. Meanwhile, in Dark Ages Norway, it's crossbows, skeletons and dwarves. Quake-style weapons and mechanoid opponents are saved until the final futuristic level. At the crux of this fantastical story is the mystical Daikatana sword which allows Hiro and his companions to time travel — something Ion Storm remains uncharacteristically coy about. It hasn't even released ingame footage of the blade yet.

But for all Romero's protests that Daikatana is designed to be a single player experience, its reputation may well depend on the reaction of the online community.

The game will look familiar enough to gain supporters. There is certainly plenty of variation in weaponry. And, as is de rigueur, it will ship with Ion Radiant, its modified Quake level editor.

A nightmare scenario remains: Kemco's port of the game could ship into America's voracious N64 market selling millions, while Ion Storm's PC version stalls on its ambition and the imminent release of Quake III: Arena.
THE WHEEL OF TIME

Take the characters from a fantasy universe, add a high-powered engine and develop for two years. The result could be a magical firstperson box of tricks.

The Wheel of Time is as much about choosing which spell to use as wiping out the enemy. Magic is indicated across the bottom on the playing screen.

Time has ended up in the mode of Hexen — a firstperson shooter with magical items and spells taking the place of the usual array of flak cannons and rocket launchers. Instead, players have the tactical choice of tackling enemies with either projectile spells such as fireballs and decay or using passive options — reflecting damage and creating minions to fight for you. There are ten types of spell, and three to six variants in each.

You can even defend an area by herding enemies into killing zones using false walls and then hitting them with spear traps and trapdoors. It’s an intriguing proposition, particularly as the plot of the singleplayer option places the player on the defensive. Some missions involve protecting your tower (you play Elayna, the head of a female order of sorceresses) against hordes of marauding monsters, while trying to regain a stolen seal.

The game also betrays something of its roots with the level design, which is of the highest quality. Sketches produced from locations described in Jordan’s books were made into models by an architect. The ruined cities and decimated interiors are as good as any levels in Unreal Tournament.

But unlike the triumphalism inherent in most FPS, the atmosphere here is tinged with a certain melancholy. And according to the game’s designer, Glen Dahlgren, the experience of playing should be more thoughtful — closer to Magic: The Gathering (the card game) than to a Quake fragfest.

The trick to staying alive is the careful mixing of offensive and defensive spells.

Format: PC
Publisher: GT Interactive
Developer: Legend
Release: December
Origin: US
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MEDAL OF HONOR

Steven Spielberg turns the war-weary knowledge gained from 'Saving Private Ryan' into an authentic GoldenEye-inspired WWII shooter

The concept behind Medal of Honor is so obvious that the game should be subtitled What Steven Did Next. After finishing 'Saving Private Ryan', Spielberg and his consultant Captain Dale Dye started to flesh out the background story for a game based in that WWII environment. Spielberg was so hands-on that he even chose the title.

The game revolves around Jimmy Patterson, an Office of Strategic Services agent, working behind German lines prior to the D-Day landings. There are 24 levels in total, and each builds linearly on the last, with the goals becoming increasingly crucial to the overall success of D-Day.

As recently seen taken to extremes in Hidden And Dangerous, everything from the weapons and uniforms to the types of mission are modelled as realistically as possible for a PlayStation game.

Apart from Spielberg's film, the other heavy influence on the game is GoldenEye. DreamWorks' development team seems to have studied Rare's masterpiece carefully and concentrated its efforts in key areas such as AI and a hierarchical animation system. As in GoldenEye, character models experience locational damage, limping when shot in the leg, for example. This also has the advantage of rewarding accurate shooting, with a single shot to the head causing instant death.

More similarities between the games include levels in which suspicious guards can set off alarms, triggering all troops into alert. Enemy AI is fearsome, too, with squad-based intelligence working well. On occasion, soldiers will even kick your grenades back at you.

Another neat touch is that some missions involve Patterson going undercover wearing a German uniform. To gain access to better-guarded areas you must find and take out high-ranking officers with a silenced pistol, in order to steal their passes.

While GoldenEye remains the finest first-person shooter ever to grace a console, recent alpha code suggests Medal of Honor is likely to gain the PlayStation subdivision of that accolade.
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SPIDER-MAN

Take one of the most popular superhero characters, grab *Tony Hawk's Skateboarding*’s engine, and stand back as your foolproof concept shapes up – it’s easy when you know how...

First seen at this year’s E3 show, Neversoft’s take on the Spider-Man franchise is looking increasingly as though it may be the first digital outing for Marvel Comics’ superhero to actually do him justice.

Using the *Tony Hawk’s Skateboarding* graphics engine, the developer has spent the last few months battling with the intricacies of having a character that can go virtually anywhere within a given environment. It has now reached the point where it can concentrate solely on the actual level and game design.

Although Neversoft is keeping quiet about gameplay specifics, *Edge* understands that you can expect all of Spider-Man’s main comic-book adversaries – old and new – to make an appearance at some point. There are also references to other superheroes – as you swing between New York’s soaring structures you may come across the Fantastic Four building.

Neversoft has insinuated that Spidey will communicate with fellow crime fighters at various points, although this is likely to happen only during cut scenes, which sadly kills any potential for the kind of alliances which the webhead has struck up on his myriad escapades.

After poring over endless comic-book art and footage of the various animated TV series, Neversoft gave up fooling around with motion capture and resorted to hand animation as a way of depicting Spider-Man’s particular movements. There are some impressive results – polygonal Spidey moves and hence looks surprisingly like the ‘real’ thing. The one thing he can’t do, due to a condition imposed by Marvel, is kill any of his opponents. (Feel free, though, to tie them up in a ball of web, violently reel them towards you and knock them unconscious, or just bounce them off a selection of geographical features for a bit.)

Spidey’s ability to tackle landscape from any angle presented Neversoft with a problem when it came to engineering a workable camera. The developer eventually decided on a system whereby obstructing become semi-transparent. When crawling on a ceiling, therefore, the camera can still look down into the room without being hampered by polygonal roofing tiles.

With another seven months to go, Neversoft appears on track to turn out a production that may even surpass the quality of the great *Tony Hawk’s Skateboarding*. Comic-book fans will attest that it’s not before time.

Neversoft is ensuring the most important elements from Spider-Man’s universe make the game. Spider sense, for instance, is taken care of via Dual Shock vibration.
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Bungie Software has always oozed ambition. And, with its latest games, *Halo* and *Oni*, and PlayStation2 in its sight, it's got the ammunition to back up its mettle.

There is a vicious spiral at the heart of computer gaming. Technology drives software, which should allow better games to be made, while hardware vendors rely on hit games to sell their boards and boxes.

It's a chicken and egg scenario – which comes first? Success seems to be a matter of luck and timing. It's a situation Bungie must understand well.

The company started out coding the Marathon series of games purely for the Mac, before expanding into writing games for the PC as well, for its moderately successful *Myth* series. Now just ahead of the rush towards next-generation consoles and fearsomely powerful PC graphics chips, the signs are good for Bungie.

It's preparing its latest games, *Oni* and *Halo*, for a mass market and has already signed a letter of intent with Sony to publish games on PlayStation2. And *Halo* was used by Nvidia to demonstrate its new GeForce chip. But Bungie is certainly not complacent.

"The core of my belief is we have to provide people with fresh experiences that they can't get anywhere else," explains Peter Tame, Bungie's newly appointed executive vice president of publishing.

"If we're not, there's no reason for us to exist. In fact, no matter whether there's a reason for us to exist, if we don't provide those experiences we won't exist."

As a medium-sized company, the bottom line is: Bungie just can't afford to ship a dud game. The brief for *Oni* and *Halo* called for them to be as innovative as possible, while appealing to the largest number of people. They have been created out of the collision of emerging technology, novel gameplay features and financial acumen. This explains why, despite being different in many respects, there are key similarities in how the separate development teams have implemented the games.

**Bungie can't afford to ship a dud game. The brief for *Oni* and *Halo* called for the company to be as innovative as possible, while appealing to the largest number of people.**

**Being there**

Crucially, considering Bungie is trying to close the gap between the player and the onscreen character, both games use a thirdperson view.

"One reason why we have chosen thirdperson is the way it draws you into your character;" says Joe Staten, Bungie's product manager.

"We want you to see your character in these worlds and then we want you to..."
Seamless interpolation between different combat animations is the key to Oni's playability. The use of guns will be strictly limited by lack of ammo.

feel that you're actually this character. Similar thinking underpinned the decision to limit game controls to the standard Quake set up -- four basic movement keys on the keyboard and the two mouse buttons for action.

For Oni this is a brave decision as its full-contact combat system includes a comprehensive set of beat 'em up moves. To deal with this, the two mouse buttons are used to trigger basic punches and kicks, while more complex actions such as throws and disarming actions are controlled by a character's proximity to an enemy and moderated by the direction of their movement.

But in Halo, combat is purely weapon and vehicle based, so the controls are used for moving, driving, flying and sailing the various craft.

The plot thickens

Other key areas that Bungie is focusing on are plot and characters. "It's okay to play a twitch game to get an adrenaline boost but there's an opportunity now to create culturally significant games," argues Tamte. "Entertainment is becoming more

smooth character animation. This has proved to be crucial for Oni's full-contact action moves where static punches must turn fluidly into flying kicks before the initial animation has been completed. Gesture is an important facet of Halo too, with the orientation and position of characters immediately showing whether they are expecting an enemy assault from a specific direction. Halo's characters can perform more than one animation at once, with the inverse kinematic system layering the separate movements to create one seamless action.

One bizarre example demonstrated to Edge is the ability of a character to fire a rifle with one hand while enthusiastically

Much of the excitement around Halo results from the wide, open spaces which make up the majority of the basic environments.
ONI

Format: PC/Mac  Publisher: Bungie  Developer: In-house  Release: Spring  Origin: US

Set in 2033, ONI revolves around Konoko, a member of an elite police unit, trying to reduce a large crime syndicate. Meaning ghost or demon in Japanese, ONI's storyline promises to be complex. As Konoko's tangled history is revealed she becomes increasingly violent. And the more violent she gets, the more powerful fighting moves will be unlocked in the game.

Cooperative characters also appear. In the beginning, Konoko will team up with police units, although as alliances shift other characters will join her. She also has a dedicated robotic sidekick called Shinatama which helps her throughout the game.

But the key gameplay feature is the attempt to make an anime-style game that integrates use of unarmed combat and guns. Bungie wants to give players the chance to jump unarmed into a room populated by a couple of guards, disarming and breaking the neck of the first in a smooth motion. Then, before the other guard can react, pick up the fallen gun and shoot him. It's a tall order. And not only because of the sophistication of the animation system required - equally important will be convincing gamers not to use firepower when the option is available.

Bungie's solution takes something of a carrot-and-stick approach. There will never be enough ammo to survive without using your fists and feet. Stealth will be important. As in Metal Gear Solid, in some missions you won't be able to use a gun. The smoothness of the animations should prove to be visual reward itself.

"We never want you to be able to go into a room and mow down everyone with a weapon," explains Staten. "What we want is for you to walk into a room containing a couple of ninjas, a couple of big elite units, and you'll have to make a decision as a player: 'I've only got this much ammunition, so who do I choose to take out?'"

"We want to set up situations where the gun is effective but it only allows you to cause damage and then you have to go hand-to-hand to finish the fight."

The only downside to ONI concerns its level editor. It has become standard for bungie games to ship with level editors so fans can create their own environments, but this won't be possible.

Early in development it was decided that, to create the incredible-looking levels, the professional drafting programme AutoCAD would be used - and obviously it would be impossible to release a $5,000 program with a $40 piece of game software.

Bungie hopes to release its importer tool and scripting editor, though, should any prospective level editors have access to the program.

From PC to PS2
One of the most striking reactions following Sony's announcement of PlayStation2 has been the wholesale rush of PC developers towards this next generation console.

Bungie is no different. It's never made a game for a console but it's suddenly keen to start trying.

Nothing has been officially announced yet, but the smart money is that a version of Halo will be developed for PlayStation2, while there's a possibility of ONI moving to Dreamcast.

Tamte appreciates this situation, although refuses to confirm Edge's speculation. "I recognise the challenges of going from the PC into the console market," he says.

"There are interface and controller issues which are different and entire gameplay issues which are very different.

"When we go into the next-generation console market our strategy will be to take the brands that we've built, the characters in the game and the personality of the game, but to have separate development teams working on the projects." Halo and ONI teams practice dual development on PC and Mac versions of their games.

Understandably, portability of code is something Bungie is keen on. It is considering novel ways of using its engine technology as well. "There are a lot of people talking to us about licensing the Halo engine, and our answer is that we are not interested," says Tamte.

"What we are interested in is if someone brings in some unique game concept that uses the Halo technology then we'll go for it."

This decision is partly to stop a gut of similar-looking games, based on the engine, flooding the market - which might damage the reputation of the original game.

Bungie wants to increase the amount of titles it publishes, from one every other year to two or three each year. And with only three in-house development teams it knows the opportunity to use excellent engine technology is the best way to attract good third-party developers.

The problem, however, will be conceiving a game more innovative than the concept Bungie has already come up with. Prospective game designers: you have been warned.

Although Halo (left) and ONI (right) offer different styles of gameplay, they are being developed in Bungie's characteristic way with playability the key issue.
First announced during Steve Jobs' keynote address at MacWorld '99, Halo is one of the most impressive games currently in development anywhere.

It includes many hot pieces of technology: deformable meshes, level of detail engine, inverse kinematics models, real-time shadows, multi-pass texturing, full physics models for all characters and vehicles, cubic environment mapping and a weather system that even models wind speed.

The basic concept behind Halo is sheer genius. The game is set on a ring-shaped planet, 100,000 miles in diameter. Looking towards the horizon you can see the curve of the world rising into the sky. And if you turn 180 degrees you'll see the curve coming back down again.

This has allowed Bungie to create a persistent singleplayer universe. There are no levels, only a planet where players will gradually gain access as they acquire and capture different vehicles.

"At Bungie we hate a lot of things but one thing we hate more than anything else is levels that are rollercoasters," stresses Staten. "You get on at the beginning and you get off at the end. There will be multiple ways to reach your objectives. You will never be stuck on one track."

This opens up a wealth of possibilities for players. Although in Halo your overall mission is to destroy the aliens on the planet, sub-goals are treated far more flexibly.

"Objectives will be your choice," says Staten. "But if you don't go and attack that alien base now, if you leave it until later, it will have become much stronger. The Halo world will continue without you."

The possibilities for the singleplayer game are vast. Bungie has yet to confirm the exact setup, but it's not thought that Halo will initially operate as a persistent online world like Ultima Online. It seems to be a certainty in the future, though.

Instead, much of the focus will be on encouraging cooperative play. Via its Bungie.net service, Bungie will ensure teams can join up for missions. One of the best examples is the three-man jeep. Some people are going to get really good at driving, or firing the 50 machine gun on the back. Some will be good at firing rocket launchers," says Tamte. Staten agrees: "It's hard to make people cooperate online when you can't see each other so we want to provide good rewards for doing so if you cooperate you get to kick more ass."

"There will be missions where if you're in a jeep attacking an enemy base you'll get wiped out. But if you fill up your jeep with people and get another jeep to come along too, you'll destroy that base."

In another nice touch, bodies, guns and even bulletholes will remain as persistent objects and have gameplay significance. For example, the disappearance of the dead bodies of your foes could alert you to the presence of a large indigenous predator. You will want to pick up the guns of your dead colleagues and attempt to capture enemy weapons. Your weapons are much better at killing humans than alien weapons and vice versa.

Bungie isn't giving away all Halo's secrets, though. When asked what happened at the edge of the world, Staten was cryptic: "There are things that exist there that make sense and make it easier to get around the ring."

**Scope for the online version should be vast.**

*The focus will be to encourage cooperative play. Via its Bungie.net service, Bungie will ensure teams can join up for missions.*

Halo's engine switches seamlessly behind indoor and outdoor environments. The game will also involve underwater elements as well as low-level flying, if the alien technology can be captured.
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CONSOLE WAR II
Edge delivers an insight into the efforts of Sony and its three rivals as they prepare to lock horns for your cash, and offers a prediction of how the gaming landscape will pan out once the shells stop flying.

This has been console wars before, of course (strictly speaking, a more accurate title for this feature would be "Console War VI"). But never on this scale. Now that Sony has undertaken the groundwork — and that's all it is, because videogaming remains a niche interest in the grand scheme of things — the wide-scale acceptance of videogaming as a form of entertainment as common as the TV and VCR in the home is but a console launch away.

However, this super-mass market does not want to have to make a decision between varying technologies. While hobbyist gamers are happy to purchase two or more systems, the super-mass market needs standardisation.

When VCR technology finally became affordable to the masses, it soon became clear that Betamax would not survive for long against VHS. The two technologies did not co-exist in the same way the N64 has alongside the PlayStation. Sony's Betamax had to go.

That is why this particular round in the war to dominate the living room will be especially bloody. It's also why Microsoft is entering the fray. Despite having not officially announced the existence of a console at the time of press, Bill Gates' crew know that a revolution is about to take place in the home, and that it's not going to happen via PCs, irrespective of how many attractively coloured boxes they're wrapped up in. No, the future is a box that sits alongside the family television, which box? That's what this feature seeks to identify; it's still early days, but as you'll see over the next nine pages, it's already possible to identify the most promising pedigree in this four-horse race.

Welcome to the revolution

After years of false starts, the set-top box revolution is almost ready to take hold. Philips and 3DO attempted and failed to bring the dream alive, but as well as failing to attract large-scale software support, both companies were attempting to invent a market in conditions that would not support it.

As society prepares to welcome the new millennium, however, it is waking up to connectivity, and the value of this component. An out-of-the-box consideration, in one form or another, to most manufacturers preparing to launch a new console — will eventually pan out and it will begin to change lives. According to IDC Research, the number of game consoles that will have shipped worldwide with Internet support will be 15m by the year 2002. As the first console to offer connectivity as standard, Dreamcast may make up a fairly significant number of those 15m, and it's already a secure vehicle for e-commerce.

According to Ken Soohoo, VP of product development at PlanetWeb, the developer of Dreamcast's Web browser, Dreamcast's 200MHz Hitachi processor is quite capable of handling the cryptography required for secure Internet commerce. "From an online security standpoint, someone accessing the Net from a Dreamcast looks exactly like someone accessing the Net from a PC," says Soohoo.

"Nintendo probably views it slightly different than a Sony or Sega would, in that we're a very traditional, pretty focused gaming company. The main thrust of our machine is going to be as a dedicated gaming console."

Microsoft isn't taking any chances in the face of the potential from Nintendo, Sony and Sega to offer services traditionally bound to PC, especially if consoles make them comfortably usable in the living room. If there's going to be a machine providing ancillary PC features and PC entertainment in the living room, Bill Gates wants it to be X-Box.

The big prize

Though videogaming will be the activity around which the next wave of consoles will be sold, every major player is strategically planning for the same trillion-dollar prize — massmarket dominance in the next millennium and ultimate control of the living room. This means eventually building out e-commerce portals, and providing promotional opportunities that target the traditional console demographic. The new systems will certainly open up ways for the hardware manufacturers to bring in non-traditional forms of revenue. And each company has a markedly different strategy for success, as will become clear over the following pages.

Winner takes all

On the face of it, the key to winning this new console war is simple: delivering the widest variety of strong games at a super-accessible price will build the foundation of consumers upon which successful networks and broadband support can be built. This means that now more than ever each console manufacturer needs to deliver an astonishing lineup and a killer game network to convince people like the readers of this magazine — the early adopters and influencers — that its system is the one you can't live without.

"Browsers and things are relatively simple to implement on these next-generation machines, but for Nintendo, we want to focus on what augments our core expertise, which is gaming."

Jim Merrick, NOA

And Sony's already planning for PlayStation2 technology to be incorporated into high-end post-PC graphics workstations being designed for high-end image-processing, for games as well as film and broadcasting. But don't expect to see the next round of consoles to be marketed as anything other than gaming machines, at least at the outset. Rather, new consoles will gradually expand into multimedia territory.

Nintendo's stance is typical. While Dolphin will certainly house technology capable of providing more than gaming, saying otherwise would directly contradict the company's mantra. Nintendo of America engine Jim Merrick toes the company line. "Browsers and things are relatively simple to implement on these next-generation machines," he says. "They are all capable of it. But for Nintendo, we really want to focus on what augments and enhances our core expertise, which is gaming."

But if its competitors are offering games and more benefits online, or DVD movie compatibility, should Nintendo consider expanding Dolphin's potential for online access?

"The simple answer is no," says Merrick.
As industry luminary Trip Hawkins recently said, “technology is becoming passe; story and emotion will be the most important determiner of success in the next generation”.

As the original PlayStation readiness itself for relegation to discount bins, lots, and younger siblings’ bedrooms, the new model is almost ready for action. The replacement machine may play original PlayStation titles, but this is a mere footnote in Sony’s overall scheme, which includes delivering the most powerful gameplaying machine ever conceived, capable of playing DVD movies just as the format is on the verge of exploding. Standalone DVD players currently external hard drive and broadband modern package in 2001 that will include the technology required to download videos, music, and games.

Why broadband? Sony is dedicating its resources to bring forth a network capable of driving new interactive experiences that go far beyond traditional games as they are perceived today. Ken Kutaguri describes this new medium as “computer entertainment.” Sony is pushing videogaming further into the realm it has touched upon with PlayStation.

Playing it broad
Beyond 2000, Sony has embraced broadband technology. Although Sony believes that a third-party partner may deliver a modem and HTML browser, the company plans to forego a narrowband HTML browser and packed-in modem, and instead plans to introduce an

Tech specs

- **CPU**: 128bit ‘Emotion Engine’ @ 294.912 MHz
- **GPU**: ‘Graphics Synthesizer’ @ 147.456 MHz
- **RAM**: 4MB VRAM embedded on chip, 32MB direct
- **Drive**: DVD-ROM (4x), CD-ROM (24x) DVD-movie compatible
- **Audio**: Sound chip, 48 hardware channels, 2MB audio RAM

Software library
While even the first wave of PlayStation2 titles are still some months away, a handful of impressive titles were on display at autumn’s Tokyo Game Show. Sony has claimed that more than 85 titles will reach Japanese gamers next year, but the real question is, how many will make the March 4 Japan launch, and how many of those will make it to the west next autumn? (Certainly, titles such as Taito’s Let’s Go By Train!, as graphically shrill as it is, will not find a welcome audience here.)

However, in that bag of 85 titles, there are certainly some gems. Tekken Tag Tournament, New Ridge Racer, Gran Turismo 2000, and Square’s impressive free-roaming brawler, The Bouncer, are just four titles that will redefine videogaming in their own way. But it’s worth noting that these games, when stripped down to their bare bones, could be PlayStation1 titles. Gamers will have to remain patient to see the kind of depth that Sony is selling its new format on back of.
Incoming software
Considering the strong support the system has already garnered in Japan, it is not surprising to see that western publishers and developers are also clamouring to get onboard. One telltale sign is Electronic Arts' immediate endorsement of the format. The world's largest thirdparty publisher is set to have several titles ready for PlayStation2's launch outside of Japan. Industry insiders have revealed that the company is working at full tilt in preparing its current franchises for the leap to PlayStation2. Perhaps wary of the catch-up game the company played with the original PlayStation, Electronic Arts is skipping Dreamcast in its entirety to focus its resources on one killer system. With a company as large as EA, changing strategies partway through production schedules simply isn't an option.

Marketing muscle
If Sony did anything especially well, it was marketing, succeeding with PlayStation in reaching a consumer base far wider than Sega or Nintendo had ever enjoyed. Sony's corporate branding remains strong (at the time of going to press, its 'mental wealth' campaign is as visible as it ever was), and in some respects Sony does not need to try too hard with PS2 because the system does a fine job in promoting itself. You had only to witness coverage from the Tokyo Game Show in Japan to understand this, but you can be sure that it will spend hand over first to retain - and grow - its market share.

Prospects?
It is nigh impossible to deny this as the massmarket platform of choice in waiting.

Forthcoming PS2 software includes highlights such as *New Ridge Racer* (top left) and *The Bouncer* (top right), but these titles do not look set to make any big gameplay strides - something Sony must address if its console is to meet the lofty expectations of hardcore gamers. Meanwhile, first-generation PS2 titles such as *Street Fighter EX3* (centre left) and T&E Soft's inevitable golf game (centre right), hardly appear to push the platform. *Eternal Ring* (above left) is From's inevitable early RPG, while *Let's Go By Train!* (above right) will be huge in Japan.
Already out on the streets and fighting for consumers’ cash, is Sega’s success story prepared to battle on into 2000 and beyond?

It remains to be seen whether Dreamcast’s modular design, whereby it ‘grows’ in parallel to the user’s needs, will be a boon or a millstone. History would dictate the latter.

Tech specs
- CPU: Hitachi SH4 200MHz
- GPU: NEC/VideoLogic CLX1 graphics chip
- RAM: 16Mb main operating RAM, 8Mb video RAM
- Audio: Yamaha N6A sound chip
- Drive: Proprietary CD-ROM, 1GB capacity
- Online: 36K(UK/Japan)/56K(U.S.) modular modem

Power
For the immediate future, Sega’s hardware obviously remains the undisputed champion. Yes, the standard joysticks are among the dodgier ever conceived, and the machine itself looks like it’s grinding on a bone at certain points during operation, but the PowerVR-based graphics chip, 16Mb of onboard RAM, and the Hitachi-engineered CPU have together provided a vehicle for one of the most explosive video games ever – Namco’s Soul Calibur. With Zip drive expansion and online play looming in the future, Dreamcast still has some distance to go before being surpassed by the impending technologies of Sony, Nintendo, and potentially Microsoft.

Software library
Sega’s launch library had strengths, but the system’s software lineup still has some glaring holes. Fans are still waiting for a driving game of note, and will have to wait until the likes of Sega GT: Homologation Special, Metropolis Street Racer, and Crazy Taxi make an appearance.

In terms of action games, meanwhile, Soul Calibur, Power Stone and Sonic Adventure are arguably the only must-have games officially available to UK gamers. With a run of releases up to Christmas including ‘highlights’ such as WWF Attitude, Worms: Armageddon and Soul Fighter, PAL Dreamcast owners face something of a barren run in quality terms.

If Sega can take any consolation, it will be that few other companies played host to anything as delightful as Soul Calibur throughout 1999.

Incoming software
With Shenmue, Dead or Alive 2 and Resident Evil: Code Veronica in the works, there are some significant titles on the horizon for Dreamcast.
owners, and many more that Sega has not yet announced. But considering the level of support that has already been announced for PlayStation2, quality Dreamcast products will be harder to come by in the future – especially from Japan, where development has slowed of late. Can Sega somehow follow Nintendo’s model, which saw the company make the N64 a significant success in the US in the absence of large-scale support?

Marketing muscle
Following a highly successful launch, word remains out on Dreamcast. Although Sony and Nintendo will be shouting their respective merits from the rooftops throughout the crucial Christmas sales period, it will be hard for both companies to drown out the buzz surrounding Sega’s new hardware. In a marketplace where hot new graphics can sell systems, Sega’s timing with Christmas around the corner is perfect. The company’s biggest obstacle will be targeting the average consumer on the street, something it has already attempted with its lifestyle ad campaigns. Faced with a PlayStation at £60 and a Dreamcast at £200, though, it’s easy to see where the layman is more likely to place his faith.

Prospects?
Sony and Nintendo intend to ship superior hardware next year, so Sega must use its year’s head start as effectively as possible. The company needs to work hard day by day, ensuring that thirdparty support stays in place and more AAA titles make it to market. Sega also needs to get its online network up and running before hype surrounding the new consoles from Sony and Nintendo swamps Dreamcast. Sega’s machine has some healthy years of life left in it, but seeing it as market leader is simply not an option right now.

New formats need strong driving games, the staple components of today’s gamers’ diets. After an exhausting delay, Dreamcast will soon play host to three – *Metropolis Street Racer* (top left), *Sega GT: Homologation Special* (top right) and *Crazy Taxi* (centre left). Crucially, the format’s online gaming potential will be tested by *Virtual On: Oratorio Tangram* (centre right), which could give Sega’s spirits a boost in Japan – at least in the short term. Meanwhile, RPG fans are left to patiently wait for *Shenmue* (above left) and *Eternal Arcadia* (above right).
DOLPHIN

Having lost the battle of the new generation to Sony, Nintendo soldiers on alongside some of the tech industry's biggest hitters

So far Nintendo has been quiet, announcing little more than partners (ArD, Matsushita, IBM, and others), and price "aggressive." The current plan is to create an inexpensive, games-only machine, and for Matsushita to create a DVD player that incorporates Dolphin technology.

Power
There hasn't been so much as a tech demo to back up Nintendo's E3 Dolphin announcement during which Howard Lincoln stated that Nintendo's company still refuses to discuss an online/gaming network. Unfortunately, the latest word is Dolphin will not be shown until Spaceworld next August. If this is true, a 2000 launch for the system in the west seems impossible. This will come as no surprise to the Nintendo watchers—it hasn't shipped a system on time since the NES in 1985.

Incoming software
Nintendo's greatest strength is its software, and Shigeru Miyamoto's teams are already at work on virtual environments that he says could be used in future Zelda or Mario titles. Rare, Retro Studios, and other companies close to Nintendo are also already at work on Dolphin titles as well. The big question is the larger third-party community, which has avoided Nintendo of late.

Nintendo's Jim Merrick thinks that situation will change: "This system is not going to have the barriers to entry that N64 did. There were various criticisms of the technology, some valid and some not, that the N64 was difficult to write for. We are addressing these on Dolphin."

Merrick says the development support staff at Nintendo of America has doubled in a year, and he believes the company is in a better position to proactively support the teams still learning Dolphin. "We've hired more people specifically for Dolphin, and we've brought in a couple of people with masters degrees in computer science to handle some of the things we expect to be seeing in terms of physics and other things."

While the company often acts like it would rather the market remain at 1987 levels (with games firmly ensconced in the realm of the children's toy), Nintendo has been capable of paradigm shifts.

Marketing muscle
The word "Nintendo" may no longer carry the same weight as it once did, but the general public still knows the name, and this year Nintendo's mariners will spend $150m in the US to create the illusion that there are years of life left in the N64. They will have some success in the States. Expect the same level of expertise for Dolphin.

Prospects?
Nintendo consistently produces innovative hardware (the analogue controller, etc) and software (Metroid, Mario et al). While the company often acts like it would rather the market remain at 1987 levels (with games firmly ensconced in the realm of the children's toy), it has, over its 110-year history, been capable of dramatic paradigm shifts. Nintendo is the only company to remain profitable after a generational shift. It has some insanely powerful strategic allies, but crucially they are in the field of hardware, not software. This issue will be of tantamount importance in the company's performance in the next-generation battle. Great software from MCL simply will not be enough.

Tech specs
- CPU 400MHz: 18-micron copper process 'Geilko Processor'
  (IBM-designed-and-manufactured subset of PowerPC)
- GPU 200MHz custom chip from ArD, featuring S3's texture compression technology and embedded DRAM
- Drive DVD by Matsushita, which will incorporate "enhanced anti-counterfeit technology"
Microsoft knows victory only too well. But how will the company take on opposition from Japan’s three leading console engineers?

By the time you read this, there’s a good chance there will have been an X-Box announcement. Insiders have intimated that the system will be announced at the annual Las Vegas Comdex, which runs from November 15-19. It is likely that the system will be positioned as console/PC hybrid designed for the living room.

Currently believed to be partnered in the X-Box project are Intel and nVidia. And while it’s well known there was a very private showing of X-Box to analysts at ECTS, the most recent person to go on record with knowledge of the device is Yoshhiro Maruyama, the vice chairman of Square EA.

While Maruyama mentioned 30X as a possible graphics chip provider for X-Box, however, it is more likely to be nVidia’s GeForce 256. It may have been the loss of the X-Box project to nVidia that forced 30X president Greg Ballard to resign in early October, since, if X-Box goes to nVidia, 30X will have failed twice to deliver its technology into a massmarket console project.

Power
Microsoft has not even admitted the system exists, coyly saying only that “we have made no announcement about that,” never mind shown as much as a tech demo. But the power of nVidia GeForce 256 is established. At 18m polygons per second, the chip is also taken to transform and lighting responsibilities, freeing the CPU to handle AI and advanced physics modelling.

Incoming software
There is no current library of specific X-Box titles, but soon after the system is announced the first X-Box-enabled PC games, which should run on both X-Box and PC, will be released. By the Christmas of the next year, some experts expect most PC games to be X-Box compliant.

Marketing muscle
Considering how much it will cost to bring this project to fruition, a comprehensive plan will be in place to convince consumers that X-Box is a worthwhile purchase. Whether that marketing push will come from Microsoft itself, or X-Box hardware partners like Dell or Gateway, is unclear, however.

Prospects?
If Microsoft and its partners can deliver something that appeals to traditional console buyers, this machine certainly has a fighting chance. However, there are problems that will need to be solved first. With an open system, multiple manufacturers, and the fact that PC titles regularly ship with bugs, Gates and chums have more to sort out than a launch date.

If, as is believed, Microsoft’s console uses GeForce and not a solution from 3Dfx, performance of these sort of levels should be expected. Crucially, nVidia’s technology offers hardware transform and lighting, which will take a significant load off the CPU.

Tech specs
- CPU: 500MHz Intel processor
- GPU: nVidia GeForce graphics processor (unconfirmed)
- RAM: Internal hard drive (memory TBA -- estimated at 6/8GB)
- OS: Modified Windows 2000 operating system
- Online: Built-in 56K modem
- Drive: DVD-ROM with proprietary coding to combat piracy
PREPARING FOR WAR

The reigning champion

Sony’s arsenal
Third party software support
Nintendo decided to continue to work with
cartridges, and Sony isn’t in, never to look back.
Right across the globe, everyone wants a slice of
the software revenue Sony’s new machine has the
potential to bring, and that’s reflected in the
amount of third parties signed to the format — over
200 worldwide. The machine doesn’t launch until
March, but over 160 games are in development.

Raw power
PS2 is the most powerful gaming device known to
man. Nintendo has even dared to claim that
Dolphin will be more potent – an ominous sign.

Consumer awareness
The PlayStation brand is as established as any in
the market, with tens of millions of devotees.

Sony’s weak spots
No.comms as standard
While PS2 will be able to deliver the obvious
parts of the equation (graphics, audio, etc), it will
not ship with a modem. Sega will have been selling
the console comms dream for over a year by the
time Sony’s machine launches, which will, if not
upset, at least affect the apple cart.

The vagaries of multimedia
Sony has created a format with design values that
lean more towards the Philips CD-I than they do
the original PlayStation. It remains to be seen how
much aesthetics affect consumers’ buying
decisions, but Sony is sending alien signals.

Software deficiencies
Emotional content? Where? Sony must deliver
soon if its loud trumpeting is to be believed.

Odds of winning the
next-generation war: 1/2 (fav)

The battle-scarred veteran

Sega’s arsenal
Being first out of the blocks
Over a million western consumers have shown
Sega that they are bored of what their PlayStations
can do, and have jumped on to the Dreamcast
bandwagon. Now, if Sega can keep it rolling...

In-house development talent
Sonic Adventure may be flawed, but the AM
departments may not be throwing new titles
on to the format by the week, but the fact
remains that some of the most imaginative
and talented game engineers are working
within the walls of Sega Japan.

The existence of X-Box/PC
If X-Box does complement the PC as it is believed
it will, then it will form another game resource for
Sega’s baby. Half-Life could kickstart a revolution.

Sega’s weak spots
Being first out of the blocks
Sega shot its bolt in hitting the Japanese market
some 16 months before Sony was willing to deal its
hand (and Nintendo even later), and the respective
age of the hardware will be brutally apparent once
PS2 coders get into their stride.

Lack of software support
Despite doing a much better job than it managed
with the Saturn, Sega has struggled to romance
developers on a truly convincing level. While
Namco prepares to launch a volley of PS2 titles, it
refuses to commit to more of Soul Calibur’s calibre.

The modular risk
Sega is intent on delivering add-on after add-on
for Dreamcast, despite its past failures. Console
gamers like standalone units, it’s that simple.

Odds of winning the
next-generation war: 7/2
A summary of what each of the four contenders will be bringing into battle, and odds on their ultimate success

The gentle giant

Nintendo's arsenal

Intellectual properties
No other company can boast such a broad and established range of characters and themes, from Link to Samus Aran, to a certain vast range of pocket-sized creatures. Nintendo does not need to waste time conceptualising new heroes or villains; its public demands more of what it knows.

Experience
Nintendo has experienced everything in this industry — but mostly vast success. Because it has been so willing to take risks, it has made a number of blunders (see Famicon disc drive, Virtual Boy, N64 carat), but those only make the company, led by the fearsome Hiroshi Yamauchi, more driven.

In-house development talent
Two words: Shigeru Miyamoto.

Nintendo's weak spots

The N64
It proved a relative success in the US, but Japanese and European consumers have been largely disenchanted with Nintendo's 64bit machine. Having been promised the world with the N64, many of these consumers have lost some faith in the Nintendo brand.

Lack of thirdparty support
Apart from Rare (in which Nintendo has 25 per cent ownership), no other thirdparty developer has delivered regular, quality releases for Nintendo's 64bit platform. Despite being offered a system that is reputedly more accessible than PS2, developers appear no more eager to wed with Nintendo now.

Dependence on in-house development talent
Two words: Shigeru Miyamoto

Odds of winning the next-generation war: 9/4

Microsoft's arsenal

The PC
Convulsed it may be, but the PC is the most used, and the most widely supported, gaming platform in existence. It is proposed that future PC releases be released in X-Box-compliant form. Were this to really kick in, Microsoft would have a console with a range of games to overshadow even Sony.

Power
Like Dreamcast, the proposed specs for X-Box derive from off-the-shelf technology. But the specs are punchy with enough power to sit comfortably above Dreamcast and not far short of PlayStation2 — enough to give Microsoft a fighting chance.

Accessibility
When were PCs games playable out of the box? Very rarely. Which is where X-Box comes in.

Microsoft's weak spots

Lack of experience
Microsoft's expertise is in hardware, not software. The company is purported to have fostered some excellent alliances, but Bill Gates may wish to have a chat over a few beers with Trip Hawkins before he jumps into this arena with both feet.

American technology doesn't cut it
An American-designed console hasn't enjoyed any form of worldwide success since the Atari VCS brought the videogaming world crashing to its knees in the '80s. A dangerous legacy.

Future-proofing considerations
Why are PCs such viable gaming platforms if they're so transformable — buying a hot new graphics card can change everything. How will X-Box fit into this established culture of change?

Odds of winning the next-generation war: 7/1
HERE IS THE FUTURE

In a nutshell, how is the war going to be won? Here’s the answer, and a Nostradamus-like look at how the aftermath will shape up.

The elements that will make or break a format in the war of the next generation are mankind, but one in particular counts above performance, cash, everything — software.

It’s no coincidence that Atari’s Jaguar and 3DO’s Multiplayer didn’t gain support of any note from Japan. Where was the commitment from SquareSoft, Namco and Capcom, three of the most important software companies in the world?

More recently, how have these companies supported the N64? Having been in bed with Nintendo for a decade, Square was quick to jump out in the mid-’90s. Namco, meanwhile, offered a couple of cute, Japan-only baseball games. And Capcom? Capcom graced Nintendo’s machine with Magical Tennis Challenge starring one Mickey Mouse. Does the software company deem the N64 something of a Mickey Mouse console? Nintendo top brass would surely rather not think about it. It’s only now that the N64 is getting Ridge Racer, some five years after it appeared on a rival platform, and Resident Evil 2, a game that’s beginning to look as rugged as the zombies that populate it.

Sony has the development world at its feet — including all the sizzler elements responsible for crimes against videogame — and this is one of the reasons why the company will sell more Playstations this Christmas than Sega will Dreamcasts. In the eyes of the layman — the guy each and every console manufacturer is attempting to lure — the armies of PlayStation games looming large over the battalions of Sega and Nintendo titles will be a signal in themselves.

Unless the company suffers some freak catastrophe, Sony will run into 2001 and beyond with software support the like of which no other company can even hope to follow. And then it can begin to work on what it’s really interested in...

The (far) future is online.

Connectivity is the future for consoles in the home, of course. But existing network setups are not yet stable enough, nor accessible enough, to be a real force in the super-mass market. Some five years after Web browsers became commonplace, Joe Average hasn’t even seen a Netscape product, let alone gained understanding of even something as fundamental as a bookmark.

Unlike its contemporaries, Sony is not interested in today’s common technology. The company’s Phil Harrison says that its “long-term strategy is broadband, what we call the ‘network digital entertainment market,’ which is a very ambitious goal, something that is going to take all our focus as a company to achieve. We will create a whole new market and then claim it. We’re basically leapfrogging what you would describe as the Internet today. What everybody knows today as the Internet, which is basically HTML, is of no interest to us in the long term.”

Sony is so confident that it will have the core videogame business nailed by the time it rolls out its broadband service in 2001 that it feels comfortable talking publicly about its post-game machine plans. Given the power of PS2, it’s hard to disagree: the real question is whether or not Ken Kutaragi’s new forms of “computer entertainment” will be the killer apps that Sony expects.

It’s easy to say that you will decide how the next-generation war will play out, but that’s simply not true. As an Edge reader, your interests will lie right across the diagram featured left. No, this one is down to Joe Average.
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ABOUT A BOY

Squeezing a quart into a pint pot is a task all too familiar to game designers. However, doing it day in, day out on ten-year-old 8bit hardware - and making a fat pile of cash out of it - is something else altogether. Edge visits a developer dedicated to exactly that...
Most startup companies that Edge visits are cut from the same cloth. A clutch of talented staff have brought experience of working at some major developer where they’ve outgrown their roots and have wanted to break out on their own.

Maybe they’ve got a hit or two under their belts and want to reap the rewards from their next effort. Maybe they’re tired of the corporate atmosphere of a big firm and want to concentrate on development. Or they crave the creative freedom to realise their masterpiece. It could be a combination of all three.

But that’s not the case with Crawfish Interactive. Set up in June 1997 by freelance programmer Cameron Sheppard, this is no ordinary, nascent videogames outfit.

After two and a half years, most companies would be nervously getting ready to release their first opus, anxiously awaiting review scores, hoping for another publishing deal.

Not so Crawfish. It is working on its 14th project and mulling over offers for a further 29 received at

Crawfish's half and half conversion of Rainbow Six is its most ambitious project and shows the kind of problems it faces day in, day out

the last ECTS. But chances are many Edge readers won’t have read a single review of any of its games.

Why? Because they’re all for that most lo-fi of consoles, the Game Boy.

Back to basics

By coincidence, Sheppard began working in the games industry in the same year – 1989 – that Nintendo launched its 8bit handheld phenomenon. After starting at that crucible of Australian videogames, Beam Software, Sheppard left his homeland in 1994, invited to the UK to freelance for Probe on a Game Boy conversion of Mortal Kombat 2.

After three years, Sheppard set up Crawfish in Probe’s stomping ground of Croydon.

Sheppard admits that being a bespoke Game Boy developer was never a definite aim. “We’ve sort of fallen into this niche because we’ve built up the tools, expertise and a reputation,” he says.

“We are getting well known. Publishers are coming to us, which is nice. A year ago we were still trying to sell the idea that we were a developer but with all this stuff under our belt now we’re established.”

All the titles Crawfish has developed have either been original titles based on licences, conversions, or curious hybrids adapting original PC and PlayStation titles to the confines of the Game Boy – half and half, as Sheppard calls them.

It’s one of these half and halves that has helped raise Crawfish’s profile of late – a port of Red Storm’s soldier sim Rainbow Six.

The game’s gone from being a firstperson
tactical shooter which used the not-inconsiderable
power of a high-end PC with 3D acceleration to
being a sprite-based, top-down conversion that
seems to use all the not-inconsiderable power of
the Game Boy Color.

What’s turned heads is that Rainbow Six on the
Game Boy, while looking nothing like the PC version,
has all the gameplay features of the original.

“To tell you the truth,” concedes senior
producer Tim Broadstock, “I think we were a bit
a bit too adventurous. It’s annoying because at
Crawfish we want to do the best we can possibly
do on the machine but, like everyone, we’ve got
our time limits.

“The publishers wanted it ready for the N64 and
PlayStation releases. We said, ‘Well, we think we can
do it,’ but now it’s come down to it, it’s such a big
task and it’s punishing us.”

Among the things punishing Crawfish’s Rainbow
Six team is the adaptation of the sniper mode. The
original used the familiar zoomed-in scope
popularised by GoldenEye, but this could never


“Everyone seems to want their fingers in all pies. People are going,
‘Oh, PlayStation2’s coming along. We’ve got to get on the
boat or we’ll miss it.’ Well, what’s wrong with missing it?”

work on the Game Boy Color. Instead, sniper mode is
a zoomed-out, scaled-down version of the same level
map. “It’s a bit fiddly and a bit hard to see, but it’s
the best it can be done,” admits Broadstock.

“We wracked our brains to find a way to do it and
this seemed the best. I sort of wish we hadn’t done
it, because there are double the headaches.

“All the collisions are based on it and anyone can
do what they can do in the normal game. It’s bad
enough having 16 missions that you’ve got to bug
test, but as you can do everything in sniper mode as
well, it’s like having two games.”

But the limitations of the machine have
helped Crawfish out in another aspect – the
right-scope mode.

The limited palette and small size of the sprites
mean they automatically blend into the scenery.

“The camouflage uniformed sprites are actually
very similar in colour and brightness to the
background. You can only see them when they’re
moving around,” explains Broadstock.

“So, what the night sight does is give the
background a dark palette and the sprites a light
palette which makes them really stand out.”

Blessing in disguise
Crawfish’s half and half conversion of Rainbow Six is
its most ambitious project and shows the kind of
problems it faces day in, day out when working with
a ten-year-old, 8bit format which was antiquated
even when it first came out.

“We take the spirit and as much of the design
as we can and do a game based on it,” Sheppard
says. This approach is now being applied to
Reflections’ Driver, and the transformation is every
bit as drastic as Rainbow Six’s.

“We asked, ‘How do we do it on Game Boy?’
We looked to see if we could do it first-person and
we could if we had three-colour buildings.

“But we don’t think that’s very impressive. It’s
a lot better having a top-down view.

“The tidy sprites and basic city blocks of this
version look more like an 8bit Grand Theft Auto than Driver, but the machine's limitations again played a part in this. Technical reasons said it had to be this scale, because of the size of the maps," adds Broadstock.

"The maps are so big that there are only certain ways we can do it. If we made the car a few pixels bigger then the overall map would be massively bigger because it's a whole city!"

But as PC Driver is so far removed from this Game Boy conversion, couldn't Crawfish - or more correctly, Driver's publisher GT Interactive - be accused of exploiting the name?

After all, the Game Boy has suffered from years of substandard platformers, loosely based on licences and bashed out with little concern for the game or the gameplay.

Sheppard is aware of this concern: "You do see some Game Boy games which are just riding on the name without any regard to what the licence is. Hopefully, people can see that we try to do our best."

Both Driver and Rainbow Six are only for the Game Boy Color. The original Boy simply couldn't cope with the size of these titles.

"Game Boy Color is only a marginal improvement over the original Game Boy, specifically," claims Broadstock. "But there's so much more you can do."

There is only so much that's possible on the machine and Broadstock and his small team are stretching it to the extreme.

The programmer who coded Godzilla reckons he's got a way of getting around the hardware limitation of 40 sprites on screen. He believes he can get about 200 on screen by doing things with interrupts. That's the next thing to play with.

A conversion of Street Fighter Alpha forced Crawfish to confront yet another limitation of the Game Boy. "I'd love to have some extra buttons," says Broadstock.

"It's a pain in the arse. Because of that, we've only got a light and a hard punch, no mediums."

Crawfish has still managed to fit in all the taunts, special moves and super specials, though, even if the timing for the control moves had to be slowed to allow for the altogether clunkier Game Boy D-pad.

The height and width of the sprites has been a problem too, because the Game Boy can only handle ten sprites in a row before flicker becomes an issue and they start blanking out.

Short and sweet
Despite all the compromises that developing for the Game Boy entails, Crawfish is more than happy with its chosen platform.

For one thing the development times are far shorter than for higher end platforms - about six months per game on average.

"It's a nice length for a project. You've got..."
enough time at the beginning to get familiar with the design and make sure it will work,” says Sheppard. “It’s great having a short turnaround. You don’t sit there for two years doing the same old thing.”

Team sizes are also small, with typically one programmer and perhaps two artists per game, along with support staff such as a musician.

“One programmer is common for Game Boy as it’s really hard to interlink stuff,” offers Broadstock. “If the programmer’s got, say, the legal screen and he thinks, ‘Oh, I’ll stuff that in that bank,’ and you have two programmers doing that, it’s like, ‘Hang on, you

“It can be a bit disheartening,” admits Sheppard. “We don’t get the exposure the higher platforms get. We put a lot of effort into it but the attitude is that it’s just a Game Boy game and we end up in a Game Boy magazine. That’s only a small thing, though.”

Broadstock has a different slant on this: “Everyone seems to want to have their fingers in all the pies. People are going, ‘Oh, PlayStation2’s coming along. We’ve got to get on the boat or we’ll miss it.’ Well, what’s wrong with missing it?”

Crawfish has certainly identified a gap in the market and filled it, but remains modest.

“I’m not saying that we’re getting so many offers because we’re brilliant,” stresses Broadstock. “It’s just that, now, every company that’s making a game wants a Game Boy Color version to go with it.”

Despite the expected resurgence of the Game Boy post-Pokémon, most publishers seem happy to farm out conversion tasks to companies such as Crawfish, perhaps sceptical of the format’s longterm survival.

Broadstock identifies another reason: “The higher end stuff on PCs is all C-based so you can get in people who haven’t really worked on games before.

“But Game Boy Color is a language of its own, a cut-down, bodge version of Z80, and if you don’t know it you’ve got to learn it.

“It’ll take a couple of months to learn, a couple of years to learn to get the best out of it. So why not go to a specialist instead?”

**World of its own**

Broadstock doesn’t believe the Game Boy is an entry-level training tool for the industry: “We’re not

“**Higher end stuff on PC is all C-based. You can get in people who haven’t worked on games. But Game Boy Color is a language of its own. It takes a couple of years to learn to get the best out of it**”

used my space: ‘No, you used my space.’ It just would not work.

“It’s totally different to, say, PlayStation programming, where you can split off the front-end and other stuff like that.

“With the Game Boy, you’ve got a CD to slap it on, you’ve got this tiny little cartridge you’ve got to fit it in.”

Sheppard and Broadstock agree that the unsophisticated nature of the format is a blessing rather than a curse.

“It’s nice to have those limitations because then you concentrate upon the gameplay,” says Sheppard.

Broadstock agrees: “Because we have boundaries. We don’t have some person at a publisher going, ‘We want to do this and that.’ We can just say, ‘Well, no. It can’t do it.’”

But surely, _Edge_ ventures, it must get frustrating, working with such old technology when everyone else is polishing their proverbial bells and whistles?

learning anything about doing games for other platforms from doing this. It’s a completely separate entity.”

From a business perspective, though, working with the Game Boy has been an invaluable learning experience for Sheppard, a stepping stone into the industry for his company.

The fast turnover of titles has helped Crawfish build relationships with publishers even if the profit margins are as small as the development times.

Sheppard sees the Game Boy and future handhelds as part of the present and future of the company but also has his sights set on bigger things.

“The plan is that what we’re doing now can fund the company,” states Sheppard.

“I would like a team or two to start on original ideas that we can develop ourselves and approach a publisher once we’ve got a decent demo together. Hopefully, that will happen next year.”
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BUT IS IT ART?

Videogames lack the intellectual credibility of art, television or film. But apart from a coterie of artists, critics and the intelligentsia, nobody knows what art is any more. So, Edge asks, what exactly is videogaming?

It's a simple enough question, you might say, if a strange one to ask. But it is a vitally important one. And nobody seems to have the time or temerity to answer it.

Developers are too busy trying to secure finance for their projects and steering them through their ever longer gestation periods. The specialist press, both trade and newsstand, has neither the writers nor the remit to explore the subject of what the videogame culture is. At least not in any detail.

And the mainstream press and the academic world, who are probably best equipped to tackle such a question, either
ignore videogames or pay them only lip service. But the question needs to be asked. This, then, is a polemic, one that tries to understand and seeks to provoke a debate.

Videogames are an immature form in many ways. We don’t so much need to ask what direction they are headed but what challenges must be overcome if they are to develop into a mass medium to match television, film or literature.

These challenges are less about overcoming technical difficulties—the usual level at which periodicals discuss games—and more about appreciating the basic limitations and possibilities.

In trying to understand the essential nature of the form, we must ask questions about reality and abstraction, emotion and detachment, freedom and control—all central to the experience of playing a game.

Questions of reality

Videogames are obsessed with reality. It has become a chief selling point. Almost every designer wants to provide experiences which, even if located in fantasy worlds, are somehow real. Games that somehow don’t feel real enough are often criticised by reviewers.

But why is this the case? Realism in other cultural forms—painting, film, television, photography—has long been accepted not as a direct representation of what the world really is but as a set of conventions adopted by the maker and recognised by the audience.

In the history of art, the introduction of perspective and the subsequent accurate depiction of anatomy became accepted as what was real from the beginning of the Renaissance in the 15th Century. This idea of real wasn’t even new, itself a revival of the classical tradition of ancient Greco-Roman art and sculpture.

This perspectival reality was considered real until Edouard Manet’s rejection of this style in the 1850s. It’s also no coincidence that Manet and his fellow Impressionists’ rejection of this form happened at roughly the same time as the invention of photography.

Its arrival meant the perspectival, anatomically correct art that had been accepted as real could suddenly be achieved with far greater fidelity in an instant. This forced artists to address what they were trying to do. Manet’s response and that of every school of art from the Impressionists through to Marcel Duchamp was to try to paint the feeling of reality.

Colours and shapes became more abstract, less an attempt to physically replicate how something appeared to the eye, more an attempt to capture how something felt emotionally to the artist and, once they’d accepted these new schools of thought, the viewer.

Take Claude Monet’s famous collection of paintings of his garden at Giverny with all those water lilies. They may resemble splodges of colour on a canvas but they capture a sensation and feeling of looking...
at the garden that, many would argue, a photograph wouldn't.

And when photography itself begat cinematography, art responded by redefining itself with the Cubist movement. Pablo Picasso and Marcel Duchamp attempted with their fractured approach to perspective to show multiplicity and movement.

Definitions of reality have helped determine the history of art up to the first part of this century, and it's the same story with film and television.

The early pioneers of cinema, such as the Lumiere brothers and Georges Melies, originally took their lead from theatre and photography, composing wide shots with little or no camera movement.

As first changed, film making and the accepted conventions of what is real for the audience developed to include things such as medium shots, moving shots and close-ups, all edited into sequences. But realism in film, as in art, is merely a convention. What is often taken as real now derives from cinéma vérité and direct cinema. These movements of the late 1950s and early 1960s, spearheaded by film makers such as DA Pennebaker, eschewed the studio filming and extensive lighting of establishment films. They shot on the streets, handheld, copying the approach of newsreel cameramen. After all, what could be more real than the news?

The shaky camera and the unfocused image have almost become clichés of what is real for television, something to give shows like 'This Life' and ' NYPD Blue' a hard-hitting, contemporary edge.

Video games are even more obsessed with the real than either art or film. Why is this? Most likely it is because they are a new cultural form. Videogames lack the intellectual credibility of film, television or art.

To offer up a mirror to the world, to make an antifiction of something we see with our own eyes is, if the history of art and film is anything to go by, a basic human need and desire. Cultural forms have been defined by their ability to get real, and compared to other forms, videogames are not yet real enough.

To draw a parallel with the history of art, videogames are, at the very least, still waiting for photography to be invented, perhaps even for the Renaissance to happen.

In the beginnings of art, form was highly abstract with cave paintings giving way to the audience of a film, the gamer is an active participant in the frame.

To be able to make a decision the player needs as much information as possible. The first-person perspective image never gives enough information. It cannot compensate for the lack of peripheral vision.

This simple problem highlights one of the major challenges facing videogames today – the reality check. As the visual and audio quality of videogames moves closer to

**Cultural forms** have been defined by their ability to get real. To offer up a mirror to the world is a basic human need and desire. Compared to other media, videogames are not yet real enough.
British, European and American videogames, with each responding to the influences in their own cultures. The decline of formats such as the ST and the Amiga – which were far more successful in the UK than in America – and the universal adoption of the PC, has led to an increasingly strong American influence on western design.

However it may be defined, realism or the lack of it will continue to be a key issue for videogames until they can match photographs for visual representation and the cinema and television in their illusion of movement.

As a visual medium, it will only be when the question of whether or not something looks real has become irrelevant that designers will be able to turn to more important considerations.

The question for designers remains the same as ever: can we represent this on screen? Only when that has been successfully answered will they be able to turn to a far more intriguing, challenging and harder question: what should we represent on screen?

Questions of freedom
How do you interact with a videogame? You use the controls, whether it’s a keyboard or a mouse, a pad or a stick. Control is at the heart of the experience. They are all about freedom and control.

Interactive movies – the fad that accompanied the large-scale adoption of CD-ROMs – has failed because players haven’t felt sufficiently in control of the proceedings. A conventional, linear narrative hasn’t offered much interaction. There weren’t enough clicks per minute.

But then there are plenty of games that fail from the other extreme. Two recent examples are Disney’s Trespasser and DMA Design’s Ionix. Both games place more emphasis on their control systems than on what actually happens. Manipulating the dummy magnet in Ionix or the wayward arm in Trespasser is as much of a challenge as the gameplay tasks.

Some strategy games offer too much control, like the football management titles that go down to minute details such as individual burger stands.

As videogames with either too little or too much control are consistently rejected by reviewers and most gamers, there is clearly a level of control that is acceptable for a mainstream audience.

Again like realism, it is partly a cultural definition. Compare the typical, control-heavy, Dungeons & Dragons-derived adventures popular in the US and Europe with the control-lite, storybook adventures popular in Japan.

That both these traditions of adventures themselves derive from literature and manga, respectively, speaks volumes for the strong ties between videogames and other cultural forms.

Whatever may be accepted as being in control, all controls in videogames serve the same end – to disguise the futility of the experience. A game offers a set of paths towards a number of possible goals.

Games give the player complete freedom to do a few things. This is clearest in an old form of videogame, say the 2D shoot ’em up or the text adventure, where interaction is limited to a small number of moves of your onscreen sprite or a small parser of recognisable words.

Giving the player ever more control and new buttons on their controllers has become another fixation in the games sales war. But surely developers are chasing another holy grail. The challenge to developers and designers today remains the same – to create the illusion of freedom in a game that by necessity has a highly determined path.

Both Trespasser and Ionix are brave experiments that try but fail to get around the deterministic nature of videogames by making the act of using the controls an experience in itself.

Creating this illusion of freedom successfully depends on the gameplay making a commitment somewhat akin to the willing suspension of disbelief of the film audience or book reader.

Gameplayers are only willing to suspend their disbelief and accept the part they have to play in the game world when the control experience strikes that right balance between too much and too little.
There have to be enough variables to initially master, then enough new variables to keep them entertained and the control experience fresh. Too many variables and only the obstinate will continue. Too few and it all becomes far too repetitive.

The variables as the game progresses may include new control options – extra moves, new weapons and so on; or they may force the player to use the existing controls in a different way – a faster moving set of Space Invaders, a more skillful football side, an icy road, a new monster.

Whatever it is, it must work incrementally, not overloading the player with too large a leap in required ability. The player must be able to progress within a reasonable amount of time, which varies between games, and reach the next set of even faster Space Invaders or an even more skillful football side. This may sound like the player is being railroaded in a calculated manner but this relative lack of freedom is far from being a milestone. It is the essence of the form.

Restrictions are the heart of any form. They are what give it form. A film is a two-hour piece of narrative with dramatic conventions that can be traced back to Aristotle. The theory about there being only seven basic stories is essentially true, as archetypal story characteristics have been identified by scholars from Aristotle onwards.

More modern exponents of this belief, such as Joseph Campbell, whose book The Hero With A Thousand Faces has become a template for Hollywood screenwriters searching to create modern myths, all seek to identify common elements to stories to find out what makes a great story.

This same principle should be applied to videogames. The key restrictions to gameplay surely have to be defined. Doing this would not compromise experiment or curtail any further development of the videogame.

Form does not have to mean formula. It seems a basic trait of humanity to seek order in cultural forms. From movies to music, from books to sports, we feel the need to classify. This could be to help us predict what experience we are going to get when we buy, see or play an item in a cultural form, or it could be related to a deeper desire to find or invent connections and order in our

The desire to be known as interactive entertainment rather than games reveals videogaming's collective cultural inferiority complex. Does it suggest other entertainment is somehow not interactive?

Cultural forms because we can't find the same order in the real world.

Without form, without defining themselves, videogames could face the same fate that art has had since Marcel Duchamp rejected the conventions of form and used found objects as his art.

From then on, art was no longer simply paintings or sculpture, it was whatever the artist deemed it to be – even nothing at all. This has left art in a bizarre situation. Apart from a coterie of artists, critics and the intelligentsia, nobody knows what art is any more.

This has led to a definite divide between the high art of contemporary artists, such as Damien Hirst, Tracey Emin and their peers, which is often widely misunderstood or scorned, and the more common art which most people choose to hang in their homes – anything from family photos to movie posters, to traditional forms of figurative paintings. It's a case of people not knowing about art but knowing what they like.

What does this mean for videogames? Well, games are already demarcated into quite clearly defined genres, in much the same way as films, television and literature.

But unlike these well established media, videogames are still largely technology-driven and their boundaries are not yet clearly outlined. Just as a technological platform becomes established it is superseded. This prevents designers from fully exploring its potential or pushing themselves and the limitations of the machine. It's surely no coincidence that many of the best titles for any games machine you care to mention appear relatively late in the machine's evolution. At its launch, no one really knows how far it can be pushed or what limitations there are to react against. Just as gamers need limitations to force them to think creatively and test themselves, so do designers. As long as designers are forced to answer technical questions they will have little time for formal or thematic ones, thus arresting the development of the medium.

Questions of emotion

On its masthead, Edge describes videogames as interactive entertainment. Should the word game and all it implies be eschewed? Children's toys, post-dinner party, social icebreakers, pointless competitions – these are what games are.

Does the term therefore suggest that other entertainment is somehow not interactive, that people simply sit back and receive films, books, music, art and television shows?

Anyone who has ever cried at a film, felt their spirits moved by a piece of music, laughed at a sitcom or been awed by a work of art is interacting with their entertainment. And in a much more profound way than that provoked by a videogame.

Like the push for ever greater realism, the desire to be known as interactive
entertainment rather than as games reveals videogaming’s collective cultural inferiority complex.

In a videogame the player is responding to visual and occasionally audio cues. A ball moves across the screen, the player moves a footballer towards it. An assassin jumps out from the shadows, the player presses a button and shoots off a rocket.

These are to a large extent purely physical responses. Emotional response is something far different and, if the whole history of man’s cultural forms is anything to go by, something people find far more fulfilling.

Anyone watching a film or reading a book can’t concentrate on it if they have to write, answer the phone, tell the children off or try to make the tea.

As videogames expect the player to constantly perform difficult tasks of manual dexterity it is no surprise that games have trouble delivering an emotional resonance at the same time.

The primary interaction when playing a videogame is not between the player and the environmental, but between the player and the emotional and spiritual themes of the experience, with the question ‘Will Rose and Jack survive?’ playing on your mind.

Playing a game such as Half-Life is a similarly exciting experience. Its underlying question is: ‘Will you, as Gordon Freeman, survive?’ The plot of Titanic is structured as most screenplays are, around rising and falling action. A barrier is placed between Jack and Rose’s love. They overcome it, only to face an even greater one.

Half-Life’s plot works in the same way, building up to set pieces such as the gigantic, sound-hunting claws and incorporating setbacks such as when Gordon is imprisoned and stripped of his weapons. But whereas Half-Life can deliver thrills, excitement, shots and suspense, Titanic does all of this and more — and generates enough tears to sink the ship all over again.

Titanic and countless other films successfully contemplate themes such as love, loss, death, compromise and failure which Half-Life and every other game does not. And it’s not just films that can do this. It’s there in almost every cultural form — music, literature, television and art.

But why is this? Is it because the themes and subjects of videogames are still those of its man, young, male demographic? Their chosen diet of action, violence, horror and sport is spread across the films and television shows they watch, the books and magazines they read and the games they play. Or is it because there is something inherent in the nature of videogames that makes it difficult or impossible to explore such themes?

Because videogames are based around physical actions triggering onscreen responses it is easy for them to simulate situations that would require split-second reactions in real life. Leaving aside sport, these are typically life-or-death situations — instances when people are forced to do rather than think.

It is easy, therefore, for videogames to
elicit the same sort of emotions as the average Jean Claude Van Damme movie.

This is not to say videogames are not an important cultural form, but if they are to become a mass medium appealing to a mainstream audience they surely must develop beyond this level.

But the very act of playing rather than watching may be what is curtailing the development of more sophisticated games dealing with different kinds of emotional experiences.

Is it possible to wed negative themes such as failure, compromise or loss to a medium that is entirely based around positive actions – pressing this button, moving this there – to successfully navigate your path?

You can't win a game by losing. The whole point is to carry out actions successfully. And by completing a level, winning a match or defeating the player has, regardless of what the game narrative might tell them, succeeded.

In this respect games are, at present, truly amoral in the same way that a jigsaw puzzle is always a challenge, its picture is of the most obscene pornography or of the most inspiring landscape. Whether you are blowing away a person or landing a big bass you are successfully doing what the game wants.

This distinction between success and failure reveals more than simply an issue of happy or sad endings. It raises possibly the most fundamental question that videogames have to confront – can a true work of art have choice?

Let's return to the example of the interactive movie. If these novelties weren't taken seriously as games, they weren't even given the time of day by the movie industry – no matter how many well-known actors appeared in them.

Videogames are based around a player completing tasks in order to achieve something. The player can fail or succeed. They can decide to go one way or another. They can win or lose the race. This choice about what happens next is in odds with traditional cultural forms.

Films, novels, short stories, paintings, songs, symphonies, plays and sculptures are all cast. The audience does not change them or have to participate for on a television or monitor, via a CD or DVD, suggests that as a form they have more in common with music, TV, film and other media than they really do.

A videogame demands to be played first and foremost. Any other considerations – themes, morals, messages – are secondary at best.

And this would appear to put videogames more on a par with pastimes such as toys on one extreme or sports on the other, rather than with other cultural forms.

And if videogames seek to be more than simply a pastime they must find a way to marry interaction with the whole range of human emotions.
Game won!

In the October edition of Edge, Virgin Net offered readers a chance to win a retro-gaming classic – an original tabletop Space Invaders machine.

We have a winner! David Hankin from Bognor Regis was the sender of the entry drawn from a hat. His retro classic (left) was dug up at the Rifleman pub in Hounslow, Middlesex. To anyone too wet behind the ears to have experienced this classic, it’s an original 1979 Atari Asteroids tabletop unit. Well loved, well worn and still in full working order, it’s a rare example of a legendary 70’s vector graphics gaming technology.

We could tell from all the other craftily snapped shots that those of you who took part enjoyed the refreshing challenge of casting aside your state-of-the-art kit to get out and about and seek out those crusty but classic games machines. Thanks to all who entered.

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Secrets and lives

Entertaining this month's Donkey Kong 64 and Rayman 2 may be, but they're also sombre glimpses of an era past, a time developers have abruptly brushed under the mainstream carpet in a market focused around maximising revenue potential. Everything is too orderly now, all too linear.

Very little, if any, lateral thought is allowed into the development process and hence none is required to complete today's platform titles. Sure, there are usually many puzzles to negotiate, but rarely do they involve anything resembling cerebral activity.

Of course, it wasn't always like this. The Marios and Sonics of yesteryear managed to keep you second guessing through every bitmap of their design. New locations and situations provided myriad exploratory possibilities for anyone prepared to stray off the carefully beaten path. Crucially, though, these games would reward digital adventurers. Those brave enough to venture off screen, drop off platform edges and leap into the unknown would often uncover hidden rooms and other bonuses.

Soon, however, designers keen to diversify their practices were hiding bonus material in the most unfeasible of places. Hardcore gamers, aware that certain developers promised many secrets within their code, would waste innumerable lives trying their best to unearth them. The satisfaction of unveiling a hidden area after careful examination of your surroundings (where subtle clues occasionally resided) remains one of videogaming's defining moments.

But, as ever, progress stepped in and brought with it change. The arrival of a third dimension has affected gameplay elements, of course, but there is more to this than simply the introduction of polygons. Sure, nearly every 3D platformer of the 32bit age has offered hidden rooms and elusive power-ups, but the context within which this is done remains remarkably, and hence disappointingly, safe. There's no pay-off for risking the life of your digital protagonist (chances are there is no concealed platform to break his fall into oblivion anyway), meaning the affair is strikingly unbalanced - too sanitised, too familiar.

Hopefully the new millennium will see developers approach this kind of game from a player's perspective, rather than dragging the current platforming template out of the drawer for another epoch of chastised offerings.

Nintendo, it's up to you to take the lead.

——

Videogames on the Edge

This month's polygonal relief

House of the Dead 2 (DC) Sega

Prolonged play has a habit of leaving you numb, but the challenge of the training mode is scarily compulsive. No-trainer gaming at its most fun.

Ocarina of Time (N64) Nintendo

As the sequel edges nearer, Link's first 64bit adventure has been hauled out of Edge's cupboard for a re-run. If only the N64 had more of this quality...

Tony Hawk's Skateb'g (PS) Activision

The controls could have been more refined but rarely has a skateboarding game offered the levels of playability found within Neversoft's Hawk license.

Wetrax (N64) Zed Two

Maybe it's the onset of a rainy autumn but after another graveyard shift, Edge's mindless pleasure has been building lakes and chasing rainbows.

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DONKEY KONG 64

Weapons such as Kong's coconut launcher are vital gameplay components, and form the focal point of the game's mostly successful multiplayer modes.

With Perfect Dark's release having slipped to April 2000 - allowing Rare breathing space to truly finish what is set to be its most accomplished title yet - it falls to Donkey Kong 64 to give the N64 a yuletide bestseller.

While the playable demos at this year's E3 and ECTS pointed to further refinements in Rare's technical mastery of the N64, the game initially appeared to be a rehash of 1998's accomplished, yet curiously soulless Banjo Kazooie.

Thankfully, this is not the case. Although DK64 shares much with Rare's previous attempt to provide a genre-defining 3D platformer, the game is more rounded and enjoyable, showing the Twycross-based developer inching ever closer to the ideal presented by Super Mario 64.

DK64 once again centres on the collection of various objects. Bananas of the golden and regular variety allow access to later levels and bosses. Coins are collected to procure special abilities; coconuts bestow magical powers, and so on.

DK64, then, is fairly complicated for an N64 title - and colossal. Yet it hangs together beautifully. Rather than opting for sprawling levels, Rare has kept the game's playing fields compact and rammed with activities, keeping tedious backtracking to a minimum.

Throw in a hefty stack of mini-games (such as mine-cart races, slot-car speedways, target ranges, herding beavers), Kong-specific weapons, Zelda-style musical instruments, jet packs and even the original Donkey Kong and Jet Pac games (the latter reproduced with a scary degree of authenticity, right down to colour clash and tinny sound effects), and DK64
The levels are varied and immaculately detailed. Rather than plumging for vast expanses, Rare has wisely opted for smaller areas that are packed with activities, secret areas and entrances to a variety of mini-games. Jet Pac (right) is a hidden bonus.

The game is perfectly paced, too. From the training ground introduction and the amount of options available, to the ultimate emphasis on reducing aimless wandering and thus pitching the player headlong into what the game offers, DK64 is the closest a third party developer has come to emulating Nintendo’s supreme understanding of game structure and the value of component parts.

Attention to detail is strong, as this panorama ably attests.

DK64 is a colossal game, yet it hangs together beautifully. Rather than opting for sprawling levels, Rare has kept the game’s playing fields compact and rammed with activities.

Admittedly, DK64 is initially overwhelming in scope. It is hardly original, simply refining what has gone before, and expanding upon it. The camera, meanwhile, is little improved over Banjo Kazooie’s, which is a crime considering how much water has gone under the bridge since Rare’s previous platformer.

And THE Games’ decision to sell the game for £60, complete with Expansion Pak (which is an essential requirement for the game to run – witness the spectacular coloured lighting and medium-resolution graphics), with no unbundled alternative, seems simply unhinged.

But these faults can’t besmirch a game so obviously geared towards offering a thoughtful, intensely engrossing and all-round entertainment-packed experience.

Indeed, this is the nearest any codestomp has come to approaching the heady heights of Super Mario 64.

But the fundamental difference between the games of Rare and Nintendo has always concerned imagination, and DK64 shows that the UK company still trails in this respect. So, ultimately this game does not offer the sheer freedom, flexibility and joy inherent in the plumber’s premier 64bit outing. In its own right, however, it’s a fine effort.

Edge rating: Eight out of ten
Urban Chaos

As videogames viewed from a third-person perspective grow ever more complex, their camera and control mechanics remain barely more complex or considered than those of Tomb Raider, now four years old.

Like its growing base of kindred titles, Urban Chaos often struggles to provide entirely intuitive control code, or apt viewpoint angles to address each ingame event. More often than not, its most challenging moments tend to occur when a player wrestles with the shortcomings of both.

Chaos does not lack scope, depth or detail. Like Grand Theft Auto, it presents a semblance of a working city to explore and, like Syphon Filter, it allows you to do so in the third-person perspective.

Its level-based structure leads you to different areas and events within its virtual city, yet rarely does it prohibit free exploration. Chaos’s principle charm is that unprompted expeditions lead to secret events and experimenting with its environments reveals many surprises. The storyline for each stage adds necessary impetus, but remains strictly a narrative pointer.

By eschewing forced, linear progression, Chaos makes some progress in the march towards replicating reality in videogames. The player is given a genuine degree of freedom; no one mission need be completed the same way twice.

A typical example would be a mission where Darcy – the player-controlled protagonist – is required to attack a group of specific assailants. She can perform Final Fight-style combos, mixing elementary punches and kicks. (During aggressive encounters, control of her switches to a Zelda-inspired system, whereby she rotates around a particular target.) But unarmed combat is rather ineffectual against multiple opponents for technical and obvious ingame reasons, so it’s often a good idea to find additional weaponry before attacking.

Grasp the required mindset and Chaos’s horizons expand. In a hurry to reach a specific area? Shoot at a car and, as its owner flees, commandeer it.

Entrance of a target house guarded by thugs armed with deadly automatic weaponry? Sneak around the back, over rooftops and pick them off one by one. In almost every instance where a player’s skills are questioned, they are given alternative

Despite its outward complexity, action is the game’s byword.

Though Darcy’s default pistol has value early on, it is just about useless against well-equipped foes. Finding suitable armaments is often the key later on.
play-based retorts. While far too many other developers clad their design briefs in the straitjacket of cinematic pretensions, Chaos, again like GTA, makes the player a contributing scriptwriter of sorts. Such freedom is liberating and empowering.

Naturally this PC iteration of Chaos has been hamstrung by the parallel development of a PlayStation version. It offers a greater draw distance, higher frame rate and higher resolutions, but at the same time it’s easy to perceive that the brief was designed to work within the Sony machine’s 2Mb memory.

Rule-ridden streets, Lego-like architecture and repetitive textures, therefore, are just three respects in which Urban Chaos fails to utilise the processing power and memory allocations of standard PCs and graphics boards.

It doesn’t look bad per se, rather just as much time fighting against the shortcomings of your pad, the ingame control mechanics, and the game camera than you do against Chaos’s many gang members.

The game will not stretch the poly-manipulating prowess of your PC and it will almost certainly engender fits of incoherent rage from those lacking the temperament to cope

Dangerous driving is allowed, rarely offering a penalty more severe than a minute energy loss after a crash. Don’t expect GTA-style physics

The player is given a genuine degree of freedom; no one mission need be completed the same way twice. Once you have grasped the required mindset, Chaos’s horizons will expand

Rutheur textsurys give a blend appearance at times – then the game springs a varied locale upon the player. Seeing the PlayStation muster this is more impressive

Format: PC (version tested)/PlayStation
Publisher: Eidos
Developer: Mucky Foot
Price: £30
Release: Out now

ostically with its control-based flaws. So why, then, does it still merit much attention? Simply because the enjoyment it delivers does so well in masking its deficiencies.

Another six months or so in development could have been profitably spent on extra, PC-specific detail, a partial overhaul of its clumsy control code and refinement of its camera routines.

As it stands, Chaos is a ‘nearly there’ title, a game whose patent quality will have you wondering, ‘What if?’ time and again.

Edge rating: Seven out of ten
Now different the videogame world would be had Ridley Scott not delivered his grim vision of the future in 'Blade Runner'. A seminal template was set, and from that moment on game designers and artists alike would fall over themselves to pick up on clichés while overlooking the spirit of their ultimate inspiration.

Cynics would argue that apocalyptic veneers and grim, impersonal locales are popular with coders simply because, hey, they're easier to draw.

The modern cityscape is alive with detail and colour, so the gunmetal gloom of Blade Runner is a far more approachable goal. There are many works within the sci-fi/fantasy remit that are to be admired. Sadly, a far greater number of derivative efforts exist.

Yes, the darkened locales in Quantic Dream's The Nomad Soul are reminiscent of the aforementioned '80s opus, and its predilection with the Big Brother hybrid of technology and dictatorial control is equally familiar. Its triumph, though, is in the nuances that mingle with such narrative staples. Its dialogue is rarely less than solid, and characters are believable. Its architecture and design lend it a distinctive appearance. There is admirable atmosphere and styling. Its creator has certainly absorbed influences, but has in no sense plagiarised.

You are the character within the game. Your soul torn from your body, your abstracted being into the bodies of others to use their strengths.

Your soul torn from your body, you begin as a bewildered inhabitant of a detective's physique in an alternative reality. You can transfer your abstracted being into the bodies of others to use their strengths.
Oddly, this area within Nomad is reminiscent of Outcast. On this evidence, is it any wonder that many developers eschew the use of voxel engines?

A training room, discovered early on, allows players to brush up on combat skills. Soul Calibur isn't. As a sub-game, though, it offers variety.

Sometimes it's rewarding to leave the game's storyline to hang, and simply enjoy exploring. The environment holds a great deal of interest.

you begin as a bewildered inhabitant of a detective's physique in an alternative reality. By means of linear progression and incidental information and events you learn the nature of your role within this world.

Later circumstances provide the chance to transfer your abstracted being into the bodies of others to use their strengths. Intriguingly, dying during certain action sequences leads to your transfer to the first ingame individual to touch the cooling corpse in which you are trapped.

Although the core of Nomad's action is pure adventure and plot-related discourse, it relies on sub-games to provide immediate drama. Its shoot 'em up sequences lie somewhere between simplistic Doom clone and System Shock 2 in complexity. Quake III they most definitely are not. Meanwhile, the occasional, cut-down beat 'em up exchange, with punch and kick exchanges in stilted combos, can be entertaining, but rarely spectacular.

By separating these asides from the main body of gameplay, Quantic Dream has made its project remarkably joypad-friendly. Your choices are defined by the nature of the ingame moment. But they represent little more than asides. Sadly, Nomad is partly victim to a mature, expansive theme at odds with a medium still in a protracted technological and creative infancy. Leave the comfort of linear tasks and proper progression and Nomad is a mess of "I don't understand," "I can't do that," and "They look too busy to talk" messages.

its illusory depth is just that: paper-thin. Prone to clumsiness, the game is artful, polished and yet flawed when viewed as a piece of entertainment software. At times, it appears less than the sum of its many parts, at other junctures so very much more. The mixed feelings it often brings about are a mark of its ambition and quality. Ironically, its attempted scope could be its greatest flaw.

It's unusual to have your critical faculties hurled through such a rollercoaster ride. It can make you wide-eyed and keen of ear, noting the outstanding quality of its soundtrack and spot FX, Bowie-sired tracks and all. To discover that what on the face of it appears little more than a gimmick turns out to be a considerable part of the game's appeal is remarkably refreshing.

But how do you address the awkward nature of player control, or the often scruffy cuts between ingame and on-rails scenes, or any other irksome issue? You grit your teeth and get on with things.

A brave endeavour that falls short of its ambition, Nomad nevertheless shows that developer Quantic Dream is one to watch.

Edge rating: Seven out of ten

Format: PC
Publisher: Eidos
Developer: Quantic Dream
Price: £30
Release: Out now
Steeped in enough controversy to sink a police department, DMA Design's original crime sensation, Grand Theft Auto, simultaneously rekindled some small, forgotten part of videogaming and fully ignited another that would become more prominent.

Holding a finger aloft in the face of the videogame industry's blind meanderings into the third dimension, GTA4 took the player on a drug-fuelled joyride into the arms of eager censors. And it was only a game.

Second time out (excluding its curious diversion through London circa 1969), GTA4 is a different beast. With its graphic design reined to a darker palette, the tone is set for a moodier lesson in the art of contemporary game making.

GTA4 shuffles its cards like a pro. Complex gameplay elements, interactive audio and realtime lighting all feature in its winning hand.

Yet from the moment the game bursts into life none of the above are shoved in the player's face. The visuals are better hued and more detailed, and the lights of emergency vehicles, plus those cast by traffic signals and other static sources, conspire to make it all seem less 2D.

For many of the gameplay elements in GTA4, the story development is one of refining those in the original title. DMA's mission was to enhance the sensation of being immersed in an active environment, with other criminals to compete with.

So you see other car-jackers waiting at junctions and the introduction of three rival gangs in each city map, all vying for supremacy. Constant among these is the Zaibatsu, who, above all else it would seem, really should not be messed with.

The addition of these groups is the most significant change to the GTA brew, and takes some adjusting to. Now you must garner favour with...
Playing the gangs against one another can result in some fractious moments

The Loonies are crazy for Mary Jane's Ice Cream. Get an Ice-Cream Van so you can access the residential area — then we will teach this idiot gang a lesson.

Unsurprisingly, compared to its PlayStation sibling, GTA2 on PC delivers many more cars and pedestrians, significantly adding to the gameplay.

You see other car-jackers waiting at junctions and the introduction of three rival gangs in each city map, all vying for supremacy. Now you must garner favour with the gangs in order to be offered jobs.

That it still manages to draw you deep into the complexities of its world, rewarding with ever more imaginative missions, is testament to the fundamental strength of its core gameplay quality.

From a conceptual standpoint, perhaps the most interesting facet of GTA2 and arguably its greatest triumph is that when cities are completed there is a sense of disappointment that these believable worlds could ever have an end.

If a further instalment in the GTA series is to appear — and word is that it will — the challenge to DMA will not be to take its game into the third dimension, but to dispose of any formalised mission structure.

Give the player toys but throw away the instruction manuals. Ask them how criminal, how wealthy, how powerful they want to be.

Finding that answer could prove the wildest ride of all. Promisingly, GTA2 is a fast cruise in the right direction.

Edge rating: Eight out of ten
Age of Empires 2 is a brilliantly constructed but unashamedly unoriginal game. Its predecessor was little more than a purified Warcraft II, restaged with an antiquities motif. Now in its turn the sequel makes little effort to break with the past.

It's a carefully groomed, risk-free enhancement of a proven formula - the sum of three years of refining an already excellent realtime strategy game. And for once this approach works. The effect is not one of seen-it-all-before routine but of an appreciable advancement in the depth and subtlety of gameplay and improvements on the original in nearly every field.

Visually, AOE2 resolutely stands by the old school of a battlefield of pixels and a fixed isometric perspective. But the colourful graphics, rendered with vibrant detail, are a pleasure to behold. What's more, their processor-friendly simplicity fosters mass battles with dozens of units per side.

Given the medieval nature of the conflict, such epic spectacle is essential and all the more pleasurable as the units available to the different civilisations have been finely balanced. Every unit maintains a viable niche in the AOE2 food chain. Stone-hurling catapults might be wheeled in to lay siege to guard towers and keeps. But they're vulnerable to fast cavalry, which is scattered by infantry, which in turn takes heavy punishment from archers, and so on, in a circular tactical battle that keenly tests the player's mental reflexes.

The combat system, in particular, benefits from intelligent revisions. The early rush which mars so many RTS games has been defeated by garrisoning. This simple order tells all units to man towers and keeps. And clad in stone, even feeble peasants have enough firepower to see off low-tech attacks.

Another sound development is the pause mode, which allows orders to be given even when it's engaged, so that the player can regroup mentally. It breaks up play but the effect is a higher degree of tactical sophistication and manoeuvres.

The resource management part of the game has been expanded. Players can now trade goods at market and speculate in stocks to improve their economic position.

Though the many additions undoubtedly make AOE2 complicated, the new features are carefully introduced so that the player never feels overwhelmed. One of its great achievements is the simplicity with which it presents so much detail.

The five campaigns and 13 civilisations extend life expectancy and reward progress deep into the game. Though AOE2 lacks brazen innovation, it is remarkable. Unlike Westwood, which seems to believe there is no need to evolve C&C's gameplay, with this title Ensemble has succeeded in delivering a grand encounter.

Edge rating: Eight out of ten
SUPREME SNOWBOARDING

Format: PC (version tested)/
Dreamcast
Publisher: infogrames
Developer: Housemarque
Price: £30
Release: Out now

Graphically, this is easily the current genre leader – some of the environments are particularly beautiful. Despite falling behind Nintendo’s supreme 1080° Snowboarding in gameplay terms, this still offers unusual levels of fun.

Eventually become available.

Naturally, climatic and daylight variants appear. And this is one particular area where Supreme easily claims supremacy over other games of the genre.

Not only does every course boast some two kilometres in length, but an actual area two kilometres squared, too, which you’re free to explore at your own leisure – there are no boundaries and no invisible walls. Until now, only 1080°’s final course had conveyed the feeling of a real mountain slope without forcing you down a predetermined route.

Supreme does this with all its tracks.

But a snowboarding game is nothing without a repertoire of tricks and this is an area Housemarque hasn’t overlooked. All the stunts are performed using combinations of the directional and Alt keys. It’s a particularly accessible system, though ultimately not as intuitive as 1080°’s – perhaps playing it on a Dreamcast joystick (once the version is out) will improve matters.

Importantly, while it doesn’t quite match the level of playability offered by the current genre-leading 64-bit competitor, Supreme has come closer than any other snowboarding title. Which is a considerable achievement in itself.

Edge rating: Seven out of ten

Crucially for a game of this type, the sensation of height during aerial manoeuvres (top), and speed once back on firm ground (above), is wonderfully established.
EDGAR TORRONTERAS’ EXTREME BIKER

The sense of speed is wonderfully achieved. Leaping high into the air has rarely been so much fun. In keeping with the game’s overall arcade-like nature, all of the courses feature hidden elements for the overly curious.

There’s something compelling about a game that allows you to negotiate gaping canyon scenery while sat astride an off-road bike. It has that perfect “one more go” factor. This is something Extreme Biker offers in abundance.

Developer Delius has implemented a gradual introduction into Edgar Torronteras’ gravity-defying world—aware that newcomers may find the combination of the handling dynamics (which are mostly thoroughly realistic) and the ability to perform stunts (which are mostly exceptionally unrealistic) a little daunting. The skill level selected determines the amount of freedom of movement the bike enjoys midair, hence restraining the ability to pull off some of the more outrageous aerial manoeuvres available.

The bike enjoys three axes of rotational movement, it’s a system that works well without feeling overly restrictive. You can progress to the momentum-laden “extreme” option with surprising ease (though the “auto land” feature is best switched off immediately as its intrusive nature has a habit of interfering with your carefully planned landing angle).

The stunt element of proceedings is equally well balanced. After the initially required adaptation period you should be able to perform some of the harder moves with unexpected confidence. In addition to the three types of bikes (125, 250 and 500cc), a custom option exists where the agility, acceleration, speed and power values of the motorcycle can be altered by allocating bike points. These are calculated as a fraction of the overall score from the main game.

It provides plenty of incentive to continue playing through the courses. These are divided into the arcade-like abandon of the motocross class, the more serious indoor supercross, and the open environments of freestyle. In total, 23 tracks are available, with a couple more promised as bonus extras. Most can also be found in the game’s tournament option.

It all works together to offer some hugely enjoyable moments which are ultimately only slightly marred by the unshakeable sensation that your bike spends a lot of its time floating above the ground (that perennial problem of so many racers) and some occasionally questionable AI from the CPU-controlled bikers. This can induce higher than normal frustration levels from having lost position as a result of their erratic on-track behaviour. But most of the time this offers great, if undemanding, recreation.

Edge rating:

Seven out of ten

Despite featuring tracks, you’re free to go off and explore the looping environment. As would be expected, replay options are extensive.
SOUL FIGHTER

Format: Dreamcast
Publisher: Piggyback/ Mindscape
Developer: Toca
Price: £40
Release: November

SOUL FIGHTER is an attempt to bring back the glorious days of Double Dragon and its ilk, but a lack of genuine innovation hampers it.

The character animation is admittedly very fine, but the design remains derivative. A few interesting creature designs would have spiced up the action.

The graphics are colourful, the effects impressively dramatic, but this does little to disguise Soul Fighter's archaic and unfocused gameplay.

The mid to late '90s have seen several attempts to reanimate the old scrolling beat 'em up genre (once popularised by Double Dragon) in 3D. Some, like Sega's SpikeOut and Zombie Revenge, have been rather good, but most have lacked sparkle. And despite showing plenty of promise when Edge last saw it (E73), this scrappy, unimaginative effort falls headlong into the latter category.

Soul Fighter is a 3D swords 'n' sorcery slasher in which you wander through six more or less linear levels fighting creatures and picking up health bonuses and weapons. There's the odd end-of-level boss to defeat here and there, and a few quite bewilderingly awful cut scenes to view, but that's about it.

There's nothing wrong with simple games so long as they're well engineered and manage to maintain interest. Soul fighter isn't and doesn't. The story is overly protracted and dull. The enemies are a limp bunch of D&D clichés. Making progress is simply a case of wildly hitting the kick, punch and 'use weapon' buttons. There's little grace here - although it is actually more difficult than it may sound because of an unintuitive control system and erratic camera.

Once you've explored a couple of levels, bashing baddies and checking treasure chests for powerups, there is little compulsion to go on. Yes, the animation is accomplished, and the backgrounds proficient, but there are no strong ideas, no changes in tempo or mood, no impressive new weapons or impressive new creatures.

The fact that you can't save your position, even between stages, further frustrates. Perhaps it's an attempt to replicate the intensity of old-school arcade gaming - the game was initially conceived as a coin-op, after all. But most console owners simply will not be spurred on by the experience in order to complete a whole game in one setting.

DC owners desperate for a scrolling beat 'em up may be tempted by this, but they really should hold out for Zombie Revenge instead.

Edge rating: Three out of ten
TUROK: RAGE WARS

Rage Wars presents a much wider variety of enemy than its two prequels. Many familiar favourites return, however, including the good old Raptor.

The Turok series, despite comprising a mere two titles, has a deserved reputation for increasingly impressive performances on the humble N64. This latest instalment fails to represent the quantum leap forward in graphical excellence that marked its prequels, but pushes forward in a more important way.

As the first deathmatch-only first-person shoot-'em up on a console, Turok: Rage Wars is a swift and surprisingly successful answer to the growing ranks of similarly styled PC titles.

While Rage Wars' deathmatch-based play is reliant on Turok 2's game engine, Iguana has tackled the multitude of problems that marked the former title's slow, uninspiring multiplayer game. Aiming has been made a great deal easier, player movement is faster, and the arenas (despite still looking rabid) are more exciting to play than Turok 2's minuscule, ladder-filled mazes.

Sensibly, each of the four varieties of deathmatch (straight bloodlust, team deathmatch, capture-the-flag and frag tag) possess their own, specially tailored arenas, ensuring that no game style suffers from an ill-suited environment.

In singleplayer, Rage Wars is enjoyably frenetic. Deathmatch levels culminate in a final boss battle featuring up to three computer-controlled bots and extra weapons and characters as rewards for success. As the first non-human opponents in a console-based deathmatch game, the bots are remarkably effective. This is often due to sheer brute force, not tactical strength, but they prove a worthy replacement for human players.

It takes time for Rage Wars to serve up a suitably meaty challenge where the bots are no longer starved of weaponry and seeing them off is more than a mere formality, but when that time comes, play is a pleasing challenge. For a few hours. Then it becomes clear that more than one controller is needed to fully appreciate the game.

In multiplayer, the game truly comes alive. The speed of play, well-defined arenas and multitude of weapons rank it near the likes of Quake II and GoldenEye. The icon-led weapon wheel, meanwhile, makes switching between guns second nature.

The arsenal range of each player creates piously unpredictable killing sprees. With weapons such as the brutal Chest Burster (which injects an alien embryo into an opposition player, leading to a Giger-style chest-bursting seconds later), Iguana's destruction-obsessed design team has once again surpassed itself.

The one-player game acts as little more than a limited training ground for the multiplayer version, so it's questionable whether the price is justified. And it's hardly the first N64 game to boast an excellent multiplayer mode (see Mario Kart and GoldenEye). But for those who can lay claim to at least one friend, it will be a worthwhile purchase.

Edge rating: Seven out of ten

Format: N64
Publisher: Acclaim
Developer: Iguana
Price: £40
Release: Out now
As a videogame pickup, the humble item of fruit has been sorely neglected in recent years. What was once the score bonus of choice in games like Pac-Man has fallen from grace in favour of the now fashionable gems and coins.

Whether or not maverick Japanese developer Treasure's plundering of old genres is what fostered the opinion that it was time for an orange and pineapple pickup revival, it has definitely had its head buried in the history books for its latest retro offering: The Exploding with Energy Invincible Bangaioh. (Even the game's surreal protagonists are known as the Cosmo Gang.)

Looking like the bastard offspring of Masaya's NES mecha shooter Assault Suits Velken and Thalamus' C64 puzzle blast Hunter's Moon, the objective of Bangaioh's numerous levels is remarkably straightforward: get the titular mecha through each timed level and face whatever boss awaits you.

Tactically, you can either go the high score route, demolishing the buildings clinging to every surface (the score counter resets after each round) and collecting yourself a fruit salad, or merely make a dash to the finish.

The resulting action can only be described as manic as the screen fills with enemies, hordes of trailing missiles, explosions and shrapnel.

Initially it may be hard to identify Bangaioh's appeal. The early missions are so easy that they seem over before they've begun. The graphics are incredibly spartan, the character graphics tiny. Even the silky smooth multidirectional scrolling backdrop is not new to those raised on a diet of 8bit Andrew Braybrook, and is limited to a mere two layers of parallax.

Only when the levels start to diversify and alternate between puzzles, mazes and open field blast-outs does the game really come alive. Then the realisation sets in: the only thing between success and failure is the player's prowess with the Bangaioh's controls.

There are no upgrades to the craft. Even powerups bar the ability to fire off a smart bomb-style multi-missile attack. Only a switch between two versions, sporting homing and bouncing projectiles respectively, offers any respite.

Limited to a 10,000-cartridge run in Japan, Treasure has once again shown that an utter disregard for gaming trends can still reap rewards. Bangaioh's storyline may be packed with more Japanese nonsense than normal but it does put up a pretty good defence for the argument that the old days of gaming were better.

Despite its obvious limitations, then, this comes highly recommended to those who still hanker after their monthly copy of Personal Computer Games.

Edge rating: Seven out of ten
Despite its blatantly lightweight visual leanings, some of Rayman 2's gameplay is fierce. But the mix of styles is hugely endearing, showing real imagination.

Arriving a fraction too late to be included in last month's Testscreens, the second installment of Ubi Soft's million-selling franchise has made it to the outside world - after almost 36 months in the making.

It's difficult to imagine true Mario fans getting genuine fulfillment from platformers featuring anything but the familiar Italian plumber and Miyamoto's unique expert touch (and that includes Donkey Kong 64, reviewed on p74), but if you're part of the crowd that cannot wait until Nintendo releases the next Mario adventure, this is at least one of the better intermittent clones. And unlike many of its counterparts, Rayman 2 can actually claim to possess one or two ideas of its own.

It's not the most finely balanced of examples, however. Along with the occasionally interesting and novel take on puzzles are the usual disappearing platforms, narrow ledges and other such platforming clichés which, when combined with the developer's insistence that you restart every section from the beginning should Rayman fall into deadly liquid or be hit by some nasty entity mid-progress, can turn the proceedings into something more than a little frustrating. Fortunately, this doesn't happen often enough to sabotage gameplay.

In addition to the occasionally refreshing new touches throughout the colourful landscapes there is a real solidity to the action. Even without the use of an Expansion Pak, much of Rayman 2's world is convincing. The superior responsiveness from the controls is equally satisfying. True, at times certain elements feel unpleasantly linear but as a decently paced, Mario-inspired platformer for the younger gamer it serves its purpose surprisingly well.

Edge rating: Seven out of ten
CRASH TEAM RACING

Format: PlayStation
Publisher: SCee
Developer: Naughty Dog
Price: £40
Release: Out now

CTR's world is divided into four areas, all of which offer four races and a boss challenge event (above). Presumably afraid of shocking the gaming community, Naughty Dog has included a clichéd environment selection.

Even that Mario Kart came out on a 16bit system eight years ago, it's nothing short of amazing that it's taken developers so long to ape the concept on a 32bit machine, particularly as there have since been two 64bit reminders of the potential available within a cartoon-style, kart-based environment (Nintendo's Mario Kart N64 update and Rare's Diddy Kong Racing).

After the unashamedly Mario Kart/DKR rip-off Speed Freaks, CTR is the second PlayStation game of this ilk to arrive in the latter half of the year (it wouldn't be Christmas without a Crash-themed game, would it?).

Unlike the former, CTR includes a few elements of its own. Not that CTR is immune to any accusations of mimicry – the weapon pickups and turbo pads dotted around the various tracks look like they're straight out of Mario Kart, as is the arcade mode's CTR cup structure. Similarly, the four-world hub arrangement (each comprising four heats followed by a boss race) and item acquisition seen in the adventure game is real DKR territory.

But by being a Crash game, CTR allows Naughty Dog to introduce some of its trademark Bandicoot design facets. While beating the opponents and collecting cups from races should ensure able players finish in a matter of hours, true completion requires you to return to every track for a series of challenges. This could mean collecting crystals before a timer runs out or gathering the letters CTR while still finishing ahead of your seven opponents, for instance.

The importance of these extra tasks (which reward you with relics and CTR tokens) won't escape anyone with the admirable determination to fully beat the game. The multiplayer battle and racing options (again previously seen in Mario Kart and DKR) do much to extend the game's longevity. These prove rather addictive additions to the already well-rounded package and add to the PlayStation's growing catalogue of four-player-compatible titles.

Admittedly, there is little here that can genuinely claim to shock through pure innovation. For those unfamiliar with either Mario Kart or Diddy Kong Racing, CTR represents a skillfully executed and satisfying departure from realism-locked racing. Others, however, may well prefer to dig out the two superior titles behind Naughty Dog's inspiration.

Edge rating: Seven out of ten
edge moves

CONTACT NEIL ABRAHAM 020 7317 2600
neil.abraham@futurenet.co.uk email

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PSX Programmer; Contract or Perm;
W. Sussex; Ev. high
At present 13 people, doubling in size. Most
famous games include FIFA and Microcosm.
Now do sports games for EA, a strategy simulation
game, Shogun, and an adventure role playing game.
We need an experienced PSX programmer. If you
got the skills the salary will impress. Ref.- 1154

3D - Next Gen; Surrey; £High for the best
Don't wait for the future, create it now! We are
developing for PSX 2 at this very moment. How?
Because we wrote the middleware. We also offer
what is undoubtedly the best 3D research
environment in Europe. To find out what's
cool in PSX 2, contact J Ref- 938

ARTISTS

Artists; Liverpool; £Neg
Top notch Playstation games developer - racing
games and shoot-em-ups. We need artists with
games experience. Photoshop 4, Softimage and
3DMax 2.5. PSX and PC experience a bonus.
Ref: 1125

PSX Artist; Midlands; £Neg + bonus
Explores 50 people; can develop for PlayStaion,
Dreamcast and Nintendo. Located in heart of
England in a rural setting. We seek at least
12 months industry experience, preferably on a
PSX title. This is low polygon and texture work.
Experience of 3DS Max, Dpaint and Photoshop
is required. Ref: 1151

Art Director; Kent; Circa £30k
Beautiful rural location, PC and console games.
Experience of games development.
A great time to join. Senior Artist with good
texture skills. Ref: 966

Senior Artist; Central London; £25k+
One of the big names in games publishing and
development. This company has recently
completed a management buyout and going
places. We need an experienced, talented artist
with animation, modelling and texture skills for
both in-game and FMV. Photoshop, Maya
and/or 3DMax. Ref- 1153

3D Artist/Animator; North East; £Neg
US owned with a reputation for groovy games.
To work on an original title, you should have
good knowledge of a 3D modelling package,
preferably 3DS Max and Photoshop.
A good art background and texturing skills are
a must. Ref: 1134

PRODUCERS

Head of Development; Home Counties;
£40-50k + car + pension + 20% bonus
A top secret organisation in the video console
hardware market. This is to manage the product
development and engineering teams. The scope
of the role also includes controlling the production
cost and representing the R&D department to the
overseas divisions. You should have a BSc and 5
years managerial experience in product
development of consumer electronic products/
toys. Marketing experience is a plus. Ref: 1149

Producer; Liverpool; £Neg
Top notch Playstation games developer - racing
games and shoot-em-ups. Games producer with
experience. This is a large adventure game.
Ref: 1126

Contact Justin Hill for programmers or
Paul Wilkes for artists and others

Programmers £16-50k • Artists £10-40k
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Programmers

Lead Programmer Senior programmer needed by highly successful developer with string of number one hits to their credit. Several projects and writing core game experience essential. AI beneficial. One of the North’s best.£25k-£32k + exceptional benefits (North)

Senior Game Programmer 3D game strategy with unique control system. Game logic and AI responsibilities. Well funded new venture. Several big name players already on board.

£35k + bonuses (South London)

Web Programmer Leading role in major new Internet online game. C/C++, HTML, Flash. £20k-30k (Yorkshire)

Freelance PC Programmer Direct X skills required to assist in completion of famous cartoon character product. In house or home based option.£30k + £40k + £60k + £40k + £60k + £40k + £60k

Programmer (x2) New project. PC strategy game. Experienced developers with open honest management style. To commence Q1 2000.£18k-28k + bonus (South West)

Dreamcast Programmers Many opportunities nationwide. Some with opportunity to work at the very heart of the development company - Japan.£25k (Excellent)

PlayStation 2 Programmers Project and vacancy notifications now coming through. High pay, call now and acquire valuable ‘next gen’ skills.£40k-45k (Kent)

PC Programmers (x2) Go to Lithuanian adventure project. Small experienced team. Excellent prospects.£40k-45k (Kent)

C/C++ Programmers (x2) Openly advertised office of well established Midlands based development house. Graduate calibre candidates sought for platform. City location.

£25k + bonus (South Yorkshire)

AI Programmers Three separate companies seek these specialist skills. Ensure you have a very high profile organisation to innovate!£25k + bonus (South Yorkshire)

PlayStation Programmer (x2) Urgent requirement for action adventure myth and magic style product. Long established company (pre Amiga).£35k to £40k (West Midlands)

PlayStation Contract Programmer Home based or in house.£25k 6-12 months

C Programmers The creators of truly ground breaking, award winning 3D products. Small team, spectacular environments. These games have influenced generations of games designers. Excellent opportunity to join select and talented team.

£30k + bonus (Cumbria)

PlayStation Programmers (x2) Experienced games programmers urgently required by well known London developer to initially port Action Adventure product from PC to PlayStation.£40k + bonus (London)

PC Programmers (x2) Hand picked team with unique structure. Starting new project. Cutting edge technology. Proven game title needed.£20k-30k (Northants)

AI Programmer Ambitious exciting company with unique technology developing highly original titles. Applicants require an up to date knowledge of latest AI techniques and a strong academic background.

£30k + bonus (South East)

EHighly competitive + profit related bonus (London)

PlayStation Programmer Action adventure/platformer. Immediate start.

£Highly generous “golden handshake” (South East)

PlayStation Programmer Experienced PSX programmer sought for new studio with newly signed publishing deal.

£50k + bonuses (South West)

C Programmers New game venture by international comms giant. Games experience and good appreciation of internet technology essential.£25k-30k + benefits (South East)

Dreamcast Programmer Real time strategy product. Hitachi SH processor or power VR experience highly advantageous. Dynamic company with impressive product portfolio, environment and working practices.£25k-30k + bonuses (South Midlands)

Assembler Programmer 1/2 to top box, net. project. Spectrum, C64 or Gameboy experience and interest in electronics ideal.£35k-40k basic (South East)

C/C++ Programmers (x2) Knowledge of Physics and AI required for PC strategy game. Part of secure multinational empire. Small team environment, well managed and funded organisation.£30k basic (London)

3D Engine Programmer Proven ability DirectX and good technical skills required by highly prestigious 3D engine company.£35k-40k basic (North)

Junior C++ Programmer Superb opportunity for academically gifted graduate. Exciting games technology applied to enhance learning and education. Ideallyawaits highly innovative product with pre-orders worldwide.£17k-19k (South)

Programmer Progressive organisation with highly innovative product require highly qualified experienced programmer with C++, Windows and 3D. 3D enables Artificial Life Systems advantageous. Creative company with leading edge technology.£25k-35k (London)

Artists

Multimedia Artists Education/Lifestyle titles. Well established company with high profile household name licences, Photoshop, Premiere, Lightwave, 3DS Max environment. 2D traditional skills also required.£25k-30k + £40k + £60k + £40k + £60k (London)

3D Studio Max Artist (x2) New project. PC Strategy game. £20k-30k (South East)

3D Studio Max Artists (x2) Creative all rounders required for new, second project team. Share and develop ideas in open relaxed environment. Award winning, influential projects.£20k-32k (South East)

Lead Artist Games experience and 3D Max essential for senior role on sports product. Central location. USA owned company.£20k-30k (California)

3D Studio Max Artists (x2) Developer utilizing cutting edge digital technology to create 3D animation.£20k-30k (South) £Highly competitive + bonuses + royalties (London)

Website Designers (x2) In house permanent roles. HTML and graphics experience essential.£15k-20k (London)

3D Studio Max Artists (x2) Low poly character experience needed - (Sci Fi / Aliens of particular interest) Graphics work in progress is absolutely stunning.£20k-30k (South)

Animulator Interactive adventure product for PC based on well known media character. Small team environment. 3D Studio Max preferred. Well established organisation.£20k-30k (South)

To £24k + bonus (West Midlands)

Graphic Artists (x2) Good all rounders needed by development house with 17 year history.£20k-30k (Yorkshire)

£High + bonuses + royalties + stock options (California)

3D Programmers Latest 3D Technology.£25-30k (South)

Excellent (Sydney & Canberra)

Programmers/Artists (USA) Well respected West Coast developer always in the market for ‘good Bits’ to join team in sunny California. Company works for major publishers, are British owned and are just 7 miles from the beaches!£65-80k + royalties, medical and legal fees

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C/C++ Programmers (Windows/Direct X/PSX/N64/Dreamcast)
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Please contact us for an application form.
Applications without a demo will not be considered. Demo's are always returned.

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Tel: 01926 311284  Fax: 01926 887209

Direct applications are always given priority over agencies.
Please submit CVs and work examples to:
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Research and Development Team

Tools and PlugIn Programmers
To be fluent in C/C++

Game Physics Programmers
To be fluent in C/C++, highly numerate.
Enthusiasm for games a definite advantage.

AI Programmers
To be fluent in C/C++.
Enthusiasm for games a definite advantage.

Audio Programmers
To be fluent in C/C++

Game Development

Color Gameboy Artists
For development of original and converted titles.

3D Background Artists
To visualise and create detailed environments.
Allround modelling, designing and texturing abilities required. Knowledge of Maya,
PowerAnimator and GameGen software an advantage but not essential.

Animators
From traditional or 3D animation backgrounds.
Knowledge of Maya an advantage but not essential.

Game Programmers
To code cutting-edge software for N64 and Next Generation Hardware.
Must be fluent in C and Assembler.
Enthusiasm for games a definite advantage.
Programmers
Artists
Producers
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A christmas card for your boss.

Dear Boss...

MERRY CHRISTMAS
This year, instead of stuffing the turkey, you can
STUFF YOUR JOB!

That's right, I'm off to Evolution Studios! Wa hey!!!!
Now I've got a couple of years experience and I'm the best
3D artist/coder/designer (delete as applicable) you're ever likely to meet,
they want me to be a part of their 'dream team' - the best people
doing the best games for the best consoles.
And I need a change - I want my ideas to really make a difference.
I want to work on a world beating next-generation driving title.
I want to be rewarded for what I do.
But most of all, I really want to enjoy what I do and have some fun!!
Not that you'd understand that, eh?
So, have a really nice Xmas and a happy new year -
I know I will!
See ya....

Send your letter to Santa, telling him what you'd like for Xmas
(and including your CV in strictest confidence) to:
Santa, c/o Lynda Whitby, Evolution Studios Ltd., Chestnut Farm,
Tarvin Rd., Frodsham, Cheshire WA6 6XN
Or call one of his little helpers on 01928 733 123.
Or visit www.evos.net to apply on-line. Merry Christmas.
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**3D Animators**
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- Low Poly + NURBS Character Design
- A traditional Art background is preferred.

**3D Animators**
- 3D Max • Softimage • Maya • Lightwave • Softimage • Maya • Lightwave • Lightwave
- Our Clients Look for Movement, Weight, Timing and Story-Telling.
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**3D Game Artists**
- 3D Max • Softimage • Maya • Lightwave • Softimage • Maya • Lightwave • Lightwave
- Our Clients Look for Movement, Weight, Timing and Story-Telling.
- Low Poly + NURBS Character Design
- A traditional Art background is preferred.

**AI/Tools Programmers**
- 12 months game AI programming or 1 game credit or better. Strong Knowledge of C++, Direct3D, 3Dfx chipset. We are also looking for engines coders. Salaries from £18K to £20K + profit shares etc.

**Playstation & Nintendo 64 Programmers**
- 12 months minimum coding on these consoles or 1 game credit or better. Yarzebo Programmers welcome.
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**Dreamcast Programmers**
- Only the best of the best wanted for this Role. (Ene + Profit Shares)

**3ds/Max, LW, Soft/ Alias 3D Artist**
- Skills in all-round Low & High Polygon modeling, animating, character design & environments
- 12K to £15K (graduates Please call first)

**Game Designers & Producers**
- Game Industry experience only (Ene)

**Game Teams Wanted**
- If you are a team of Programmers and Artists wanting to develop games for PC/PSX/N64, call us first. We are currently setting up teams.
- Game teams must have excellent track records & original game concepts.

**GameBoy Coders & Artists**
- Graduate 3D programmers 12K to £18K
- We are seeking BSC/MSc graduates with strong 3D graphics programmers skills. Candidate must submit 3D graphics programmed demo, which is compulsory.

**Seeking Private Investors for PC/PSX/N64 development**
- We are seeking private investors who can finance professional game teams developing 3D games for PC/PSX/N64 & Dreamcast. If you are interested & want to find out more CALL US. All teams have tracks records and 3D Technology.

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Programmers
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Programmers
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Programmers
£25-35K + Big Benefits (Scotland)

Artists

Artists
£High + Bonus (Oxion or Warwick)

Artists
3DS Max and Photoshop or similar texture package. To work on major sports title for the year 2000, an action adventure, a high profile football product or the 'Rolling' series.

Artists
£High (South)

3DS Max and Character Studio skills required by major developer located along the M4 corridor. Initially responsible for working on a medieval RTS game for the PC. A previous product on the PC or PSX platform is desirable.

Animators

Animators
£35K + Benefits (Scotland)

3D Studio Max 9/12.5 and Character Studio plugins. Biped and Physique required. Softimage/Maya experience also advantageous. High profile products. Unique working environment.

Artists
£25K (North West)

Good low poly modelling and texturing skills required to work on a Formula 1 racing game. Softimage and a similar (racing/lyng) product background is desirable.

Animators
£Neg (Yorkshire)

Proven character animators with good drawing ability. Lightwave or Softimage skills. Would suit recent graduate.

To apply, forward your CV (and work samples where relevant) to
Marie Harris, Zodiac Pursuit, Raines House, 9 Edgerton Court, tadcaster, LS24 9NZ.
Tel: 01937 835700 Fax: 01937 531986
Email: marie@zodiac1.demon.co.uk
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**PROGRAMMERS**

**Programmer**
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Long standing developer and publisher with award winning titles is looking for a programmer to join a new team with a fantastic licence, 3D programming skills and game development experience are essential.

**LEAD PROGRAMMER**
£40K
Developer of chart topping Flight Simulation software is looking for a senior programmer to lead a team developing a ground breaking new sim. Experience in the simulation industry is of vital importance. Strong DirectX skills an advantage.

**FOOTBALL PROGRAMMER**
£30K
Developer with a reputation for producing some of the world's best sports titles is looking for programmers with experience of the games industry. C/C++ skills and a strong interest in football will be an advantage.

**ARTISTS**

**3D Animators**
£27K
Highly regarded developer and publisher of games across all genres is looking for experienced 3D Artists and Animators. 3D Studio Max, Photoshop and traditional drawing skills will be essential. Other 3D packages will be considered.

**MAYA Animators**
£27K
Developer with high profile publishing deals is looking for animators with experience of using Maya. Experience in either the games development industry or in post production will be essential. A demo will be required prior to interview.

**PROJECT MANAGER**
£35K
World's most successful developer and publisher is looking for someone with strong project management experience. You must be able to handle a large number of external teams. Strong interpersonal skills and management experience are essential.

**ASSISTANT PROJECT MANAGER**
£18K
Experience in the games industry is essential. You will be working closely with the Project Manager. Strong communication skills and organisational ability are essential.

**PRODUCERS & DESIGNERS**

**Producer**
£30K
Developer and publisher whose name is never out of the headlines is looking for experienced producers to manage a number of external teams. Strong interpersonal skills and management experience are essential.

**Sound Designer**
£25K
World famous developer and publisher is looking for a sound designer to produce sound effects and music. Games industry experience in sound design is essential. Please note that this is not a position for a composer or audio engineer.

**ASSISTANT PRODUCER**
£18K
You will be working closely with the Producer. Strong communication skills and organisational ability are essential.

**MISCELLANEOUS**

**Developer Relations**
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Developer looking for people to provide front line support to the games development community. This is a fantastic opportunity to work with versions of DirectX before the rest of the world does.

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**MIDDLEWARE PROGRAMMERS**
£25K
Developer looking for people to work on complex solutions for the games development community. A background in tools development and strong maths and physics are essential.

**TECHNICAL ARTIST**
£30K+
Chart topping developer of triple A titles looking for a senior artist who can demonstrate a thorough understanding of the technical issues surrounding development for this console. All applications are treated with the utmost discretion.

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- Graphics Programmer
- Networking & Tools Programmer
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No agencies please.
We are currently recruiting talented individuals to join our Games Development Team, and our FMV division, Mobius Light Entertainment, in one of the most innovative and fastest growing companies in Europe.

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- Lightwave animators
- 3DS Max animators
- Level Designers

**Coders:**
- PSX Programmers - advancing to PSX2
- 3D Programmers - cutting edge core engine + physics

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For these roles you will need to have a love of digital media, experience, qualifications or raw ability

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Levels: Architectural/interior design experience or level building skills

2D: High and low resolution texture design

Illustration: Traditional media skills required for concept artwork

**PROGRAMMERS (to 45k)**
At least two years experience in C++ or a relevant degree is required, as well as a passion for games

Game: A thorough understanding of gameplay systems, preferably with commercial games writing experience

3D: A degree in mathematics/physics and a technology demo

Tools: Experience of level editors and/or engine plug-ins

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Send sample inc. low poly characters, buildings and vehicles

Level designer
Must love 3D FPS action, level design and scripting in massive landscapes

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From track to console: how cooperation is advancing today's racing titles

As technology in the home becomes more capable, game complexity naturally rises in tandem. With this in mind, it's no surprise to discover just how far Criterion Software was able to push itself in developing Suzuki Alstare Extreme Racing, its Dreamcast superlicking title.

Rarely has developer and licensee worked so closely together. But the team's initial trip to Brands Hatch brought considerable nervousness. How would the racing team treat a small group of game developers? "I thought they would just push us out of the way as these people who were building this game," remembers producer Shawnee Sequeira.

But in fact the team had a lot of time for the developer, spending the day in the pits and sharing a vast amount of privileged information. Every detail of the bikes setup was made available and enthusiasm came from both sides.

Once the main elements of the game were in place, Criterion went back to Brands Hatch in order to get feedback from the actual riders. And members of the Suzuki team were very pleased with what they saw. Their reaction to the handling of the bikes was particularly positive – although this was perhaps unsurprising considering these elements were set up almost identically to the bikes that the riders themselves were in the habit of taking out on to the real tracks. Most of the feedback, in fact, related to the way Criterion had modelled the riders: feet were being put down too early on stopping and heads were ducking too early upon accelerating – aspects that were easily addressed.

Criterion's artists were pleasantly surprised by the amount of information available to them. They used schematics, measured drawings, photos, videos and slide references with detailed measurements of every part of each bike. They even had access to Suzuki's official font for the numbering of each rider.

The lead programmer, Alex Fri, also enjoyed a wealth of material. And being a bike fan, he also found personal interest in it: "From the telemetry data certain surprising things made themselves clear, which we could actually use in the game. Like when you look at the throttle graph. You'd expect an average amount on the corners, and you wouldn't expect it to be all on or all off, but it is. You're either nailing it, or gently rolling into a corner, but very rarely in between."

Forty parameters shaped the handling of each bike, including weight, mass and moment of inertia for the wheels. Nearly all were fed in from pure Suzuki data, although there were restrictions in the process, as Fri relates: "We couldn't actually take every single figure home because they've got a proprietary software system that we couldn't run here, but we had graphs, we could see data, we could take notes, and their pit crew were amazing."

Suzuki gave Criterion an extraordinary amount of data. Given precise measurements for all bike parts, artists were able to create exquisite models (above).

I mean I could hardly keep up with them. They were just running me through their laptops showing me every last detail."

It seems that as the scale and status of racing games rise, so does the respect from their real-life counterparts. Developers are being seen less as a subservient marketing medium and more as a parallel industry, which is crucial progress.
Believe in your idea

Alfred Hitchcock once said, "There are three things that make a great film – a good script, a good script and a good script." This is also true of games. At the heart of every great game is a great game idea. I have this quote written on my PC, to remind me that no matter how cool your technology is, it’s never an end in itself.

Technology enables gameplay. Every game Elair ever makes will remain true to this belief. Having kept quiet about Republic: The Revolution for the last year, I can finally talk about it. You can decide if I’ve been true to this vision.

I first thought of the game five years ago. I was at college and, as students do, I was enjoying another one of those lazy afternoons spent talking and drinking coffee. I was playing an obscure boardgame based on a power struggle within a banana republic.

The TV and newspapers were full of powerful images of Russia’s invasion of Chechnya. It prompted memories of reading about the attempted coup in Russia and realising how insignificant the man on the street is. Then I began to ask myself about the people who make history and shape the courses of our lives. Who are they? How do they become what they are? What really happens behind the scenes? I then read a short story in Will Self’s Grey Matter, which has as its premise the idea that everyone in London is really a follower of one of eight people, whether they know it or not. The story was absurd, but very cool.

Over the next few weeks an idea began to crystallise in my mind. When I think of a game it always starts as an idea like this. I let it sit in my head for a few weeks and it evolves. I always try to boil down an idea into something that’s called a ‘high concept’ in the film industry. It’s ugly terminology, but it’s an essential idea I apply to design.

A high concept is basically a game or a film explained in a single sentence. If you can’t explain why it’s going to be cool in a sentence, don’t expect anyone else to understand what you’re on about.

Republic: The Revolution, then, is a game in which you’re a powerful faction leader and you must oust the president of the Republic – by any means.

The next stage is the most important. Explain the game to people you respect and see if they like it. This can be painful. I’m sure even Shigeru Miyamoto has had game ideas that didn’t cut it. You need the opinion of sharp people who aren’t afraid to tell you the truth because everyone thinks they can design games. I was once driven from London to Guildford by a taxi driver who was convinced he had the gaming equivalent of the alchemist’s stone. He was making a mechanised tabletop golf game in his garage and wanted to make it into a computer game. Sim Garage Golf anyone?

Another example of this can be found in the new ‘Star Wars’ film. I found myself cringing every time Jar Jar Binks appeared. George Lucas, no doubt, thought he was creating C3PO of the 90s – a loony yet endearing crap alien hero. I’m sure he thought it was a creative tour de force.

What he really could have done with was someone to say to him: “George, this is a crap idea.” Or even better: “George, I think it would be great if Maul chops Binks’ head off with a light sabre in scene two.” Throw your idea to the wolves and see what happens. There are lots of ideas. Be sure that yours is exceptional.

I took trusted friends and explained the game to them. They loved it. But could it be done? Simply put, no. Not then, anyway. What I had in mind was light years ahead of the available technology. To do this game properly would require a quantum leap in AI and graphics technology. What was the point if you couldn’t create the entire country and populate it with thousands of real, breathing people?

I didn’t want people to be abstract black dots, wandering randomly across the player’s screen. I wanted husbands, students, housewives and drunks, each living separate, plausible lives. It had to be done in 3D to do the world justice. I was dreaming. I filed the idea in the back of my mind. It just couldn’t be done. Not at that point, at least.

A year and a half ago I finally got the chance to make this game. I found an engine programmer, Tim Clarke, capable of creating the infinite polygon engine. We’ve called it Totality. With this technology we could model an entire country in 3D, down to moss in the cracks in the pavement.

Dave and I formulated an artificial intelligence technique that would allow us to have a million people in our world (hitherto a couple of thousand had been the limit). Most importantly, we had the chance to do it. How many developers have the chance to make an original game?

A game takes two life-sapping, monastic years to make. When you’re at the start it can be daunting, which is why you must be sure of two things. One, your game idea must be good. Two, you must believe in it. And that’s the easy bit. Making it happen, that’s a different story altogether...

The trials of a start-up developer: part 17

After co-founding Lionhead Studios with Peter Molyneux, Demis Hassabis set up his own development house, Elixir Studios. In the latest installment of his exclusive diary, he reveals how Republic: The Revolution, star of Edge's cover last month, was conceived...

Hassabis drew upon a vast range of influences, but the opinions of others were more vital elements.
The trials of a rock'n'roll games publisher: part seven

In the concluding part of Rockstar Games' development diary, Gary Penn, creative manager at DMA Design, the codeshop which actually pushes the buttons, takes the stage in order to ruminate over the future of the Grand Theft Auto concept now that part two is out there causing trouble.

Two years of insular endeavour later and... is that it? It's all over, as if it never happened, and now there's a void to be filled.

But first, a celebratory orgy of debauchery to compare with that in GTA 2 – only in the form of an evening of intense, unabashed machismo dimming with vomiting and violence... and followed by a well-earned break for the team.

The outside world has got its hands on the showcase and the real thing and the opinions are flying thick and fast, almost all of them appreciative. But there's no time to stand still - we still have to consider the shape of things to come.

Before we move on and archive the enormous amount of data generated during development it's too little for far too much work) or while development was underway (such as making audibly 50,000 words of text which tended to change with every new twist during play testing) or were simply too dull in the cold light of play.

GTA 2 is as deceptive as its precursor. The amount of effort involved to make it happen is often underestimated by anyone who hasn't worked on it – particularly by mechanics who scoff at the seemingly simple technology used to bring to life little people, boxes vehicles and buildings.

There are so many little parts to be manufactured and managed individually and interactively. The sum is a vast whole with an appropriate scope for error. Creating and naughtiness wider than it is deep. With GTH there's transgression - doing all those things that cannot be done in real life without facing severe reprimand. The theme and content are undeniably satisfying to the extreme.

Even without considering the sheer number of city-based games in development, it's clear that the dramatic simulation of a city environment provides enormous potential for exploitation, particularly the development of characters, stories, player roles and complex interaction.

It's also clear that even though no one else is doing it quite like DMA that's no reason to get complacent. Research is underway to assess the technical and creative implications of a suitable environment for hundreds of players – working title: Crimeworld.

We also have a full 3D city up and running but, as we discovered when we built a relatively simplistic 3D prototype during the development of GTA there are a great many new variables to address – for example the use of the camera, particularly when it's controlled by the player.

GTA just doesn't feel right when the camera angle is subjective (firstperson) or point of view (just above and behind the player toy) instead of objective (the familiar bird's-eye view) – probably because a closer camera offers less emphasis on the whole environment.

A thick layer of implication is lost when you get down to street level and see the whites of their eyes. The violence is all the more obvious which is inevitably going to raise all manner of issues with our moral guardians.

Being closer to the toy set also calls for increased aesthetic detail which will inevitably leave us with less time to exploit the toy set and rules.

GTA doesn't play so well without the objective view. It's difficult to appreciate the bustle of city life and the results of the compound interaction all around (particularly the scale of the havoc in your wake). It's impossible to see what's behind you when being chased forwards or backwards (in a vehicle or on foot, guns ablazing).

On the face of it there are no benefits to repositioning the camera – yet there's increasing pressure from all angles to reconsider, to move away from what works because it's occasionally considered technologically inadequate.

We haven't made a decision one way or another but fans of GTA can rest assured that playability will dictate the outcome.

"Research is underway to assess the technical and creative implications of a suitable environment for hundreds of players – working title: Crimeworld"
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Gallery
The art of the videogame

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Reviewed back in E32 and received a creditable eight out of ten, I-War never quite captured the British imagination, although it was favourably received across the pond. It remains popular enough, though, to warrant a special edition bundle offering the complete game with 16 new levels, more detailed information about the I-War universe, and the option to fight through the whole lot as one of the Indies, the enemy from the original game. This package is now on the shelves as Independence War: Delusion. This update takes full advantage of the prodigious increase in graphical power offered by today's PCs, adding 3D card support to complement the already impressive visuals.

Images reviewed by Matt Clark, Michael Todd, and Andy Turner using Newtek's Lightwave 3D and Particle Systems' own Renderman software.
Head of ambitious but diminutive development studio Vivid Image, Mevlut Dinc has enjoyed success and suffered failure during the 15 years he's been making games. Now, he's looking to the movies...
mashing for last year’s PC, PlayStation and N64 racer, SCARS. The problems came to a head in August this year, with the crushing decision from Eidos, Dinc’s contracted publisher, to cancel Vivic’s Street Racer 2 project months into development.

Edge caught Dinc in a reflective mood as he began work on what may be his most important game to date.

Edge: Looking back, how did you get started in the games industry?

Merv Dinc: While I was learning English at college, in Southampton, I used to work as a cable operator making communication cables. Any spare time I had was spent playing cards in the canteen, which is where I met my very good friend Venni Dos Santos, who was instrumental in my career change. Venni had a ZX81 and he would keep on about how wonderful it was and how I should consider getting one. But I completely ignored him. I just had no interest.

Edge: What changed your mind?

MD: When Venni got his ZX Spectrum he started pestering me again, saying, “Look, this is really amazing, now it’s got Colour and sound. Get one, it will help you take your mind off things, and stop you being such a miserable git.”

I thought, what the hell, I’ll get one. I got my first computer — an all-singing, all-dancing 16K ZX Spectrum, with rubber keyboard.

I think I’ve still got it somewhere! I had absolutely no idea about computing. While I was trying to master the English language I was about to learn another.

I taught myself the whole thing in just under two years and I decided in March 1985 that I was good enough to go for it. I made my first contact in the industry through a Commodore 64 programmer who was looking for a ZX Spectrum programmer to help him with the C64 conversion of 3D Ant Attack.

Edge: How do you feel the industry has changed since you joined it in 1985?

MD: The industry’s changed totally, for the better and the worse. I think the most significant change is that it is now a really big business involving big bucks and big risks. It is still too dynamic, making it difficult for it to mature.

Because of this we see a lot of companies come and go. Sometimes the really big ones, bringing in lots of muscle and money, squander it all and leave a big mess behind, hurting a lot of people in the process, especially small developers.

Edge: Do you think it’s settling down?

MD: Yes, it’s settling down now. Big companies from other industries which come to ours have learned a lot from past mistakes.
“The time is fast approaching where we can concentrate on making games attractive to both Jenny and Johnny”

The industry is now really attracting some big guns who seem to be doing a little better this time around – buying into established publishers and products rather than trying to swing their money dizzies around, signing everything they can. I also believe that they are really serious about our industry, and are making a longterm commitment to it rather than saying, “We are a big corporation and we must get involved in this amazingly dynamic and fast growing business.”

Edge: How close do you think the industry is to being truly mass market?
MD: The industry is slowly getting to the point where it becomes mass market with the convergence of online gaming, and the success of PlayStation.

We will get even closer to becoming mass market with next-gen hardware. Not just because they can play DVDs, but because of what we can create on them as games.

There will be enough to please both the three-year-old Jenny who wants to watch her ‘A Bug’s Life’ DVD for the tenth time, and ten-year-old Johnny who wants to play the Bug’s Life videogame instead.

The time is fast approaching where we can concentrate on making games attractive to both Jenny and Johnny.

Reflecting on change
Edge: How do you think it is to start out in the industry today, compared to before?
MD: It is a lot harder. A few years ago it was easier when lots of big companies were coming in and investing money in new products. That meant almost anyone with a reasonably good demo could get funding, but this has caused a lot of damage to the industry.

Now everybody is overcautious and it’s very difficult to get funding for startup companies. Everybody accepts that our money people are even more conservative than the Tories when it comes to investing in our industry.

Edge: Presumably it’s getting difficult to find talented staff?
MD: In the good old days it would just take three really talented people to start a company and develop a reasonably good title for a reasonable amount of money. I think all the reason has gone now.

You need at least 15 to 20 people and a cool million to develop something decent. It’s not a game any more – it’s real business.

It is difficult to find a couple of good people to strengthen an existing team, let alone finding 15 to 20 of them. And that’s just talking about startup companies established by experienced breakaway groups. The talented ones have no chance other than to join existing companies.

Edge: Is there a danger that the industry’s moving too fast for some to keep up with?
MD: I spent two years learning to program on the Spectrum and I knew the machine inside out. It took us guys a couple of years before we could really make the Amiga sing and dance. I think this is one of the biggest problems with our industry. Before we really learn the existing hardware we have to prepare ourselves to
This is a low

Edge: You’ve been through some rough times in the last few years, haven’t you?
MD: Well, 1994 was a great year with Street Racer. I truly enjoyed making a new game, creating something out of nothing with lots of original ideas that push the hardware to its limits. I think a lot of people underestimate the importance of pushing the hardware. The more performance it gives the more you can enhance the game.

The First Samurai and Street Racer are two good examples of this. There are amazing stages and sound effects in The First Samurai and this amazing four-player split-screen mode in Street Racer, which no one dared attempt doing until then.

Edge: What are some of the challenges you faced during the development of these games?

MD: One of the biggest challenges was deciding to make a new game from scratch. Street Racer didn’t work out as planned, but it taught us a lot about what we could achieve with the hardware. However, it also meant we had to start from scratch and build something completely new.

Edge: Did you consider making another game that was similar to Street Racer?

MD: Yes, but we felt that Street Racer was a bit too similar to the previous games we had made. We wanted to do something different, something that would set us apart from the competition.

Edge: And instead you did SCARS?

MD: Yeah, after the numerous versions of Street Racer, I decided to have a proper go at doing a racing game from scratch on PlayStation, which ended up being SCARS.

This could and should have been good, but again suffered due to staffing problems. What was otherwise a great product and technically superior on the PlayStation was let down by the track designs and the lack of gameplay polish.

Edge: Wasn’t Vivid Image developing Street Racer 2 at one point?

MD: By the end of SCARS, in 1998, we decided to do a new game based loosely on First Samurai. It would’ve been a real-time 3D arcade adventure, with lots of new ideas and innovative techniques to overcome all the problems associated with previous 3D games. We ended up starting Street Racer 2 with a view to building another team to start Samurai 3D. The problem was that Eidos really wanted the game for Christmas 1999, although everyone accepted there was only a 50-50 chance.

I thought that if this didn’t happen we could switch over to First Samurai 3D using a lot of the technology developed for Street Racer 2. It wasn’t to be. I really think that at some point Eidos decided it was Christmas or never and that was that!

Edge: At what point did you realise that things were going wrong for you?

MD: Very early on. I just did not feel comfortable doing Street Racer and Hodja at the same time. Suddenly there were two projects on the go and quite a number of people working on them. I had employed a
trainee project manager whom I could teach
the job and eventually would help run the
company, leaving time to concentrate on
the creative aspect of development.

Clearly, this guy thought he had learned
enough and left along with three other staff
members. They were stressful times and it took
a while to get back to normal. In the end Koedje
had to bite the bullet. This was creatively very
frustrating, I was not able to work on the game
that I really should have.

**Edge:** In hindsight, do you feel the
aborted Street Racer 2 project was
in fact a blessing in disguise?

**MD:** I really hope so. It was a major shock and
I really felt for the staff, I did not know how to
handle it. I tried talking to them face to face and
sent them email. It was a complete nightmare.
I am at the crossroads of my career now, and I
really want to take the correct turning.

**Edge:** What lessons have you learned?

**MD:** The most important lesson is that the days
where you could produce a great game with a
handful of like-minded people are over.
Developing games is a real business. And that
someone like myself should do nothing else
but work on the creative aspect of game
development as that's what I enjoy the
most and I'm best at doing.

**Edge:** Have your talents been wasted?

**MD:** Absolutely! I have so much to offer. I just
need the right environment where I could
concentrate on producing a great game and
if necessary help win any other products in
development. I have so many great concepts
and ideas and I really get frustrated not being
able to develop them.

**It's only a game**

**Edge:** How do you see gameplay trends
evolving in the coming years?

**MD:** The key is to remember that no matter
what we call our industry and however powerful
the hardware is we will still be making games.
We should be able to produce better games so
that they are more enhanced and accessible
and immerse the player more.

When you buy a better CD player you just
get to hear more of the music and get closer
to the sound than the engineer had intended.
It doesn't suddenly make jazz sound like rock
or vice versa. A lot of it just boils down to style
and presentation.

*Reservoir Dogs* isn't the first good violent
gangster movie. Martin Scorsese has been
successfully producing them for years. Tarantino
has brought a new style, interesting and unusual
characters and good dialogue.

**Edge:** Do you think technology is
evolving too fast?

**MD:** If you mean in terms of programming the
answer is no. Good programmers will quickly
learn the new hardware – even hardware
grounded towards 'emotion'. It's crucial that
manufacturers provide the right level of library
support. The technological jump from 32bit to
64bit or even to 128bit is not so big a transition
as it was from 16bit to 32bit, or 20 to 30.

The main problem is that we don't get
enough R&D time to explore all the
possibilities the new hardware may have to
offer. With all the marketing and excitement
about the new technology things get blown
out of proportion, sometimes raising
expectations to unattainable levels.

Everyone starts talking about millions of
polygons but what this usually means is
thousands of polygons.

**Edge:** Do you think that your
imagination is limited more by
financial or technical constraints?
MD: It has to be financial. This does not always mean lack of money; it is the pressure of having to finish a game for yesterday because tomorrow no one will buy it.

The movie game
Edge: So what’s next for Merv Dinc and Vivid Image?
MD: As the hardware becomes more powerful it enables people like me to try and explore new ideas. It’s like DVD audio — due to the much higher resolution it provides it will enable the listener to hear the details that they couldn’t before. This adds a whole new dimension.

I believe that next-gen hardware will be just about powerful enough for trying out new things and that’s what I and my core team of five people are doing.

Edge: Which is what, exactly?
MD: I’d love to tell you, but my instinct tells me not to! All I will say is that we are working on an interactive movie.

Edge: How will it differ from something like Shenmue, another ‘interactive movie’?
MD: It will differ in a big way. I’ve been thinking about doing this game for three years. This is part of the frustration.

Edge: What sort of reaction have you had?
MD: I have not told many people. I have shared some of it with Peter Molyneux. He was very excited. We’ve had some exploratory talks about a possible collaboration.

Edge: Talking of interactive movies, how do you see the relationship between Hollywood and the games industry evolving?
MD: In the near future we will start producing games like the movie production companies. The games will require proper plots, scripts, special effects, music and so on. I think the two industries will overlap. It’ll be like Pixar and Disney producing a film together.

Edge: What lessons do you think game developers should learn from movies?
MD: We can learn a lot from the movie industry — scripting, storyboarding, design, choice of music, camera and editing. I am really surprised that there aren’t more film companies coming into our industry. We already have so much in common. With the next-gen hardware it’s going to be easier to share technologies.

Edge: Do you believe that there is still a place in the games industry for a small developer such as Vivid?
MD: I think you can have a small developer with 15 to 20 people, but with strong ties to a big company.

Edge: Having faced difficulties, what do you think is wrong with the industry today?
MD: It needs to settle down to just a few superpublishers and lots of good studios, just like the movie and music industries.

The development community needs a single voice and a more creative influence on the industry. I started Society of Software Authors with Jon Dean a long time ago and we still don’t have anything like it today. Developers should talk to each other a lot more.
DONKEY KONG

Having coined a serious amount of consumer cash with *Donkey Kong Country* parts one to three on the SNES, it’s little surprise to see Rare wheeling out the great ape on the N64 (see p74). How things have changed over 18 years, though!

Because of the evolutionary nature of computer hardware over the last 25 years, one of the foibles inherent in videogame design and production has been to work around constraints. Or, as Shigeru Miyamoto and his team famously did in 1981 when they created *Donkey Kong*, work with them. Miyamoto-san sought to create a truly memorable lead character, but the 8-bit technology at his disposal could animate only diminutive sprites, and by his own admission he wasn’t much cop when it came to drawing a hairstyle with pixels. Thus, Mario gained a cap to hide his hair problem, and moved into the plumbing trade simply because putting red arms against the blue backdrop of a pair of dungarees would make their animation appear more obvious and convincing. His moustache, meanwhile, was given life simply because Miyamoto-san and co could not effectively represent mouth details.

Similarly, memory constraints forced a limit of four levels on to the game. Yet this did not prevent Miyamoto-san incorporating one particularly notable gameplay element: picking up a hammer, Mario switched into powered-up mode, something he would go on to do, in one form or another, time and again in future games.

Playing *Donkey Kong* today requires superhuman levels of patience, such is its unforgiving nature. But the old charm rarely fails to shine through.

From left to right: here comes the hammer; later levels offered more complex architecture; passing over rivets brought Kong down; the game as it appears within *DK64*

Shigeru Miyamoto’s original character sketches

Having enjoyed ‘King Kong’, Miyamoto-san shamelessly reproduced the theme in game form, prompting the threat of legal action from Universal Studios. In typical fashion, the game company resisted such triflings, and *Donkey Kong* went on to become Nintendo’s first big success outside of Japan.

Manufacturer: Nintendo 1981  Developer: In-house  Coin-op/various
The videogame world never stands still, riding the breaking wave of advancing technology. In this regular column, Edge puts the industry's progress in perspective with a look at yesteryear's headlines: five years ago this month...

Anyone wondering just how Sony's PlayStation made such an impact on the gaming world need only look at an issue of Edge such as this, which reported from the company's prelaunch press show in Tokyo in terms that can only be described as glowing. As Sega's Saturn prepared to hit Japan nearly two weeks to Sony's machine, PlayStation representatives wasted no time in putting its oversized in the hands of assembled press attendees. A credit to both the power of the hardware and the dedication of Namco's development team was Edge's verdict of a preproduction Edge Racer, going on to conclude that the PlayStation is going to be very difficult to ignore.

Despite its inexperience, Sony already had Edge melting in its palm. But Sega was having a rougher ride, its 32-bit console being examined in detail elsewhere in a slightly less enthusiastic light. Bungled architecture (hurriedly pieced together in an effort to match up to Sony's spec) was singled out as a possible stumbling block.

Still, Dave Perry (then "a Sega man at heart") was "behind Sega all the way," Which is why Shiny produced so many Saturn games. Er...

Clockwise from top left: Edge wastes little time in espousing the merits of Sony's new format (even in video form); a classic Edge hardware schematic; 3DO The Need For Speed, still the best in the series; Final Fantasy III: genius

Did they really say that?

Sega's Tom Kalinske: "Saturn will be at a price point that will not make it a massmarket item." Which rather begs the question, why bother launching it?

Did Edge really say that?

"Sadly, Edge's idea for 'Sci-Fi Naked Birds And Muscle Car Monthly' has not passed the board's initial screenings!" Blimey, a veritable side-splitter.

Testscreens (and ratings)

LBA (PC; 9/10); Bum: Cycle (CD-I; 7/10); Zeewolf (Amiga; 8/10); FFVIII (SNES; 8/10); Doom (Jag; 8/10); Soul Star (VCD; 7/10); Off-World Interceptor (SCD; 7/10); Virtua Racing Deluxe (32X; 8/10); Star Wars Arcade (32X; 8/10)

PIXEL PERFECT

Every gamer has occasional moments of sparkling excitement, be it the first time Speedball booted up, or completing Sabrewulf. Here, Jason Kingsley, MD of Rebellion (whose CV includes the likes of Aliens Vs Predator), recalls a real RPG

was about ten years old and playing games like Diplomacy and Risk at lunchtime one winter term. But I always found them to be limiting in some indefinable way.

I wanted the cavalry to be able to do different tasks in Risk; I wanted to have a navy in Diplomacy, so I spent many hours creating alternative rules, much to the delight of my friends. (The most famous instance was Nuclear Monopoly, where a player could purchase a nuclear missile and send it against another player's property, destroying it and creating a radioactive wasteland).

One day I found a magazine advert for a game called Tunnels & Trolls, a kind of poor man's Dungeons & Dragons.

I persuaded my father to write a cheque out to the mail-order company and within a few weeks this mustard-yellow rule book turned up. It was my first experience of roleplaying games and was to shape what I wanted to do in my professional life.

The thrill of creating a world for others to explore still drives me to create alternative universes, on a computer. I still have the mustard-yellow rulebook today.

Okay, it's not a videogame, but T&T's influence is undeniable

TUNNELS & TROLLS
PlayStation hits choppy waters

US: Constructed in New Zealand and shipped to the US prior to its attempt at breaking the TransAtlantic sailing record, PlayStation, the world's fastest catamaran, is the latest venture for Steve Fossett, world record-setting yachtsman and balloonist (and good friend of fellow record-hunter Richard Branson, who is also part of the crew). The current record for the 2,888-mile voyage is six days, 13 hours three minutes 52 seconds, set in 1990 by Frenchman Serge Madec.

A massive 32 metres (105ft) long, with 10,000 square feet of sail and a 40-knot top speed, PlayStation should sail from the New York Harbour to the Lizard in the UK in record time

Invasion of the pocket snatchers

UK: The impact may not have been as big as it has been previously in Japan and the US, but Nintendo's small savoury finally arrived on British soil in October, boasting almost three times as many varieties as Ho'ohz.

And Kyoto's hype machine was on hand to record the progress of the little critters (and the big guys dressed in Pikachu and Meowth costumes) from their off-loading at the Channel into the heart of London.

The following week, Pokémon Red and Blue duly took top spot in the game sales charts, despite retailing at £25 a pop, adding a few more million to the $5bn that the phenomenon has already turned over worldwide. Next up will be Pokémon Yellow, a reworking of Red and Blue which adds few new creatures but is better tied into the cartoon series.
American gunheads pack pistols

US: Not content with simply making a new level for Quake, some people go one step further. The latest example is GunFrenzy, a lightgun mode for Quake 3, which has been combined with ACT Labs GS gun system for the easiest FPS experience ever. Other games, such as Soldier of Fortune, will also support the gun. Whether it's actually worth $90 is another matter entirely.

Onward Christian fraggers

US: Sickened by the glut of Godless games, Christian developer Eternal Warriors has turned its hand to making a holy alternative. The result is The War in Heaven, a first-person shooter that attempts to incorporate Christian values with killing things.

Players choose to follow either the Divine path of Obedience or the Fallen Path of Knowledge, playing as an angel ascending the 12 levels to heaven or as a demon on a highway to hell.

Throughout, spiritual truths such as the fear of the Lord and righteousness are revealed. The game is gore and gib free too, as the developer wanted to get a teen rating from the American software board. Retail chains expect it to sell well. Whatever next?

If The War in Heaven is the next Deer Hunter PC success in the US, expect an Unreal: Prayer Meeting mission pack to follow before too long.
Racing at full tilt

UK: The latest third-party controller to try to tempt the kids away from their DualShocks is the Airpad. Boasting a range of different modes – from digital to analog and JogCon – it uses a combination of microprocessor and optical technology. Said to be particularly suited for driving, flying and action games, Edge’s personal experience suggests that it’s well suited to Wipeout-style experiences but less comfortable with traditional racing games (the absence of any form of resistance makes for a rather detached sensation). One obvious benefit of the Airpad is the ability to play using just one hand, and it is a supremely customisable unit. Definitely an acquired taste, versions of the controller for Dreamcast and PC are expected to follow.

Hacking up a Civilisation

US: With the voracious open-source community desperate for code to improve, the recent Atlanta Linux Showcase proved itself the place to be. In particular, the Loki Hack event offered 30 hackers the chance to get to grips with the guts of the Linux version of the epic Civilization: Call to Power. Prospective Kevin Mitnick had just 48 hours in which to add the most impressive new features to the game.

Hacks varied from the sensible, such as the introduction of code that allows players who have been dropped out of a networked game to rejoin as the correct civilisation, to the plain ridiculous. There was plenty of competition for the latter, with the addition of a ‘wonder’ to the game (which when completed caused all lawyers to explode) and the introduction of Tetris and Pong subgames being among the more bizarre.

Disappointingly, the winner merely added several new stealth units and modified the spy unit allowing it to infiltrate an enemy city and view all its stats. The spy died in the process.
Dreaming Japanese

UK: As previously reported (E76) the combination of Neil Gaiman and Final Fantasy artist Yoshitaka Amano in a new Sandman graphic novel is one of this year's visual highlights. Entitled Sandman: The Dream Hunters, the illustrated text format mixes text with full-page paintings from Amano-san. The artist is also expected to tour selected UK bookstores from the end of November, when the volume is released.

A tale of magic and revenge, Sandman: The Dream Hunters takes Morpheus, king of dreams into the convoluted world of ancient Japan.

The difference is clear

Japan/UK: The iMac-ing of consumer electronics is continuing apace. In Japan, four coloured Dreamcast joypads are being released, as is a full set of limited-edition Hello Kitty systems, including keyboard, console, VMU and Joypad. These will be available at the end of December in pink and blue varieties at ¥23,000 (approx. £130). Closer to home, Nintendo is attempting to kickstart the N64's wretched sales by shipping 70,000 coloured units into the UK, priced £75 each.

It's got legs (and a belly)

US: Although it sadly didn't make the transition to Europe, the Stateside advertising for UbiSoft's favourite cute-ifully charming character, Rayman, was nothing short of inspired. Edge reckons there might even be a game concept waiting to pop out somewhere.
Snappy arcade gaming

US: Continuing to push the ingenuity of the emulation community comes James Surine, part of the MAME project, who has managed to get classics games such as Pac-Man, Frogger and Donkey Kong working within the processing and memory constraints of a Kodak DC265 digital camera. Further developments should also get the code working on DC220, 260 and 290 units. He will even attempt to support sound in a future build. Check it out at: http://members.aol.com/jw/surine/

DataStream

Active subscriber base of EverQuest: 150,000 players
Number of PlayStation2 titles currently in development according to Sony: over 160
Number of levels of pressure PlayStation2's Dual Shock 2 controller can sense: 256
Percentage of Japanese gamers who thought PlayStation2 was overpriced: 85%
Percentage of Japanese gamers who would buy a PlayStation2 on its launch day: 34%
Percentage of Japanese gamers who said they would buy a 64DD on its launch day: 4%
Number of Neo-Geo Pocket Color handhelds sold in the first six weeks of its UK launch: 10,000
Number of Neo-Geo Pocket Color handhelds sold in Japan during the first week of October: 174
Value of the deal between Nintendo and IBM for the Gekko chip: making it IBM's largest single order ever: $1bn
Number of Tomb Raider IV CDs Elden is giving away during its US Pizza Hut promotion: 1m
Number of Tomb Raider IV strategy guides sold in Germany: 350,000
Capcom's advertising spend in the US for Dino Crisis (PS), Resident Evil 3: Nemesis (PS) and Resident Evil 2 (N64): $20m
Predicted increase in Capcom's profits for FY2000: 57%
Total value of the UK peripherals market in 1998: £200 million
Estimate retail value of pirated CDs seized by ELP (R) crime unit at a Cardiff car boot sale: £67,200
Number of copies of StarCraft sold in Korea: 1m
Number of official Pokémon merchandise licensees in US: 90

Is the writing on the wall for Sony?

UII: The morning after witnessing the successful Dreamcast launch in central London, Edge was surprised to receive an email from Sega's PR people containing what looked like a clumsy attempt to convince the world that a headstrong fan really had taken the fight to Sony, and in particular its head office. However, a spokesman for Sony told Edge that the graffiti incident pictured below did not in fact happen. A whiff of Photoshop trickery was evident, but the fact that the building is the HQ of Sony Music not SCEE was the cheeky on the cake.
MATTHEW SWEET
In Reverse
(Jive)
Seven albums into his investigation of guitar-led rock, Matthew Sweet’s taken his craft to new heights. With a Wall of Sound vibe on tracks like ‘Thunderstorm’, Sweet marshals an ensemble of 15 musicians. Interspersed with these epics are more retrospective ballads, such as ‘Hide’ and ‘Don’t Let Me Go On’, that have come to characterise the years he’s spent as the artist most likely to have a big hit. And if he hasn’t yet, it’s nothing to do with the quality, only market fickleness. Classic rock has never sounded so sophisticated.

JUNGLE BROTHERS
V.I.P.
(V2)
Produced and co-written with Prophets of Rage’s Alex Giordani, New York’s Jungle Brothers leap back into the fray with their ‘Very Important Party’ album. And despite the band’s hip-hop roots, Giordani seems to have brought a large variety of musical influences to bear. Everything from soul, rock, blues and big beat is attempted and guests include Huey from F.C. and Black Eyed Peas. Still, it’s the more traditional rap tracks, particularly the easy retrospection of ‘I Remember’, that work best.

IAN BROWN
Golden Greats
(Polydor)
It’s been a long year for the ex-Stone Roses man. Ever since he decided to share his thoughts on Nazis, homosexuality and whether he could fly a commercial airliner, music has taken a back seat. So it’s pleasing that ‘Golden Greats’ sees the self-styled king monkey return so robustly. Rock guitars, begg a tunes and groovy beats are all in evidence and even if the dry vocal style isn’t immediately endearing, this remains something of a second coming.

ALL TOMORROW’S PARTIES
Despite its forward-looking title, there’s a retro atmosphere pervading William Gibson’s latest take on the uneasy cyberpace world we all but invented back in the late ‘80s. This is partly due to the reintroduction of some characters from his previous books. Gibson has always liked to loosely group his books. ‘All Tomorrow’s Parties’ acts as a conclusion to the people, places and zeitgests first explored in ‘Virtual Light’ and ‘Idoru’. But where ‘Virtual Light’ was a muscular romp, counter Chevettes Washington chased around a decaying California by freelance cop Barry Rydell, ‘Idoru’ was pure information – literally a case of falling in love with a virtual being. The book resulting of a collision of these styles is enigmatic, to say the least. In many ways, much is promised in ‘All Tomorrow’s Parties’ but little happens. Maybe that’s the point.

Deep in cardboard city on a Japanese subway platform, Colin Laney saves information, seeking the mother of all nodal points, the place where the undiscovered will change. Meanwhile, out in San Francisco, Washington and Rydell find themselves drawn back to the squatter community which has taken over the Golden Gate Bridge. Killers are on the loose, working for who knows who. Even the Idoru himself, Rei To, appears, waiting for something to occur. And while there’s action, and even some sort of resolution – the word mode flesh – Gibson seems to be playing a waiting game, as if he’s already setting up for a sequel. That said, it remains one of Gibson’s most thoughtful books.

A BRIEF HISTORY OF THE FUTURE
With the number of books discussing the place and importance of the Internet currently reaching glut-sized proportions, here at last is one that treats the phenomenon in a humane and reasonable manner. Part social history, part layman’s journey of amazement, A Brief History of the Future particularly focuses on the role of information in the development of the Internet.

Starting with post-war mechanical filing systems and early computer networks, Information Cultist John Naughton stresses the social aspects of the evolving technology. Pioneers such as Tim Berners-Lee are well known for their contributions, whereas the likes of Douglas Engelbart and Paul Baran have fallen by the wayside. Yet, as Naughton stresses, from TOP/20 to email and HTML, it’s been a combined effort.

DVD: THE MATRIX
(Warner Home Video) £20
Wachowski brothers Andy and Larry’s second directorial effort (following 1996’s cl unch thriller, ‘Bound’) is not a cinematic masterpiece in narrative terms. However, it succeeds in mustering up some of the most stylishly filmed action sequences to ever emerge from a Hollywood studio. As such, and assuming you’re willing to be taken along for the ride, it’s ridiculously entertaining stuff, even with Keanu Reeves as the lead protagonist.

Owners of widescreen monitors will be pleased to find a crisp 2.35:1 anamorphic pressing waiting to fill their screens, while the Dolby Digital soundtrack should immerse even the most cynical of critics. Warner offers an impressive amount of options (as featured on the US disc) thus upgrading the disc to must-have status.
Although I have been a reader of your reliable mag for a long time, I have never really felt a need to write in about anything until now. Hopefully you can help me, since the people in charge don't seem to know.

I, like many others, am a very loyal Sega fan, and have bought a Dreamcast, and very pleased I am too. Gaming is enjoyable again, with immediate classics like Sonic and Ready 2 Rumble.

However, I recently sent an email to Sega's 'customer service' section, enquiring as to whether Soul Calibur would include a 60Hz option, following the poor conversion of Virtua Fighter 3tb. The reply was, "We cannot speak for third party developers." Terrific!

So this is the most anticipated game in the 1999 UK Dreamcast lineup, and Sega's own support team don't know if it's going to be a first-rate conversion to lure PlayStation owners away from Tekken or whether we loyal Sega fans will once more be let down by false promises of 'a new dawn in European gaming'.

I really do hope the Dreamcast is a success. I think videogames need Sega and software such as NightS and Shenmue. But I wonder how long the company can go on when important questions and issues seem to be disregarded quite flippantly.

Danny Edgar, via email

Rest assured, PAL Soul Calibur has a 50/60Hz option. Good point about Sega, though. The company seems intent on making its life difficult.

This is another letter from a big fan, with big worries about the future. Is it just me or is Sony's new PlayStation a threat to everyone? Obviously it is to Sega, Nintendo, and now Microsoft, but I think the ones who should be really worried are the programmers. The 50-story high-rise building with some cheap Sellotape and balsa wood. It won't work.

On a final note, maybe with the power of the PlayStation2 we will see a return to the drawing boards with virtual reality. With the sheer polygon-pushing abilities of the platform, near photorealistic (or at least good enough) environments will be possible for HMDs. That is, of course, only if we can tame to scale down projects because of the limitations of the PS and N64.

Whether they'll be so optimistic in two or three years' time remains to be seen, of course.

How's this for a snapshot of the general public's view of the Nintendo 64?

Last Friday, I went into Electronics Boutique to buy Rayman 2: The Great Escape. The guy serving me looked at the game, then said, "I'm sorry, I'm going to have to see some 3D - this game is only for undergrounds."

Very funny.

I am 25 years old, and so far have enjoyed every minute of my E40 game. But how many customers have been turned off the N64 if the people selling the games perceive them to be for kids?

Obviously the guy was joking - I'm not that touchy about it. I personally don't care if I play three or four decent N64 games a year, and if all of them are platform games. That's just me; I've got other things to do in between releases, and when the quality releases like JFG come out, I will relish them all the more. But it is becoming obvious from the sales figures that thousands of people don't see it that way.

If this is addressed for Dolphin, Nintendo will do well again. If Nintendo doesn't, and continues to starve gamers of steady, quality, adult releases, it will die. It's as simple as that, and it will be a crying shame if it happens.

Tony Ounsworth, via email

Just wanted to express my disappointment with the state...
of play with Nintendo 64 software.

I have been a very loyal follower of Nintendo through the ages (NES to SNES to N64) and would even go so far as to say that my brand loyalty made me ignore the PSX in favour of waiting an extra year or so for the launch of the N64.

I am, however, regularly irritated by the fact that every time I pop into any high-street retailer I spy a plethora of new, high-quality titles and an impressive back catalogue for the PSX while the N64 cupboard remains undeniably bare. The old argument from Nintendo and the N64 owner was ‘quality, not quantity’, and for a time this was almost acceptable, but now, some two to three years down the line, can Nintendo be pleased with the fact that its quality back catalogue consists of Super Mario 64, Ocarina of Time, GoldenEye and maybe a couple of other titles?

I know Jet Force Gemini is nearly with us, ditto Donkey Kong 64, Perfect Dark and perhaps a couple we don’t know about, but the fact remains that we have been waiting nearly a full year (since Ocarina’s release) for something worth £40-£50 to come out on the N64.

This, along with the fact that Sony is releasing PlayStation2 as a backwardly compatible unit (both in software and hardware terms), makes me think that Nintendo is going to have to pull something rather special out of Zelda’s hat/Mario’s cap to make me buy a Dolphin.

Right, with that off my chest I’m off down to Electronics Boutique to see the happy shoppers grab Final Fantasy VIII for 30 quid...

Christian Cecchi, via email

Isn’t there anything else Edge readers have to say? Every month these pages are filled with everyone’s own enlightened opinion on the Sony/Sega/Nintendo next-gen consoles. I don’t want to know any more. Unless you have something profound or new to say, please don’t waste columns of

‘We often look at the film industry as a guide to the future of videogames. But how many times have you watched a film where the camera got stuck?’

Silicon Valley (N64). Both of these titles display obvious problems with the camera angles but this flaw is not a permissible reason to get my money back.

We often look at the film industry as a guide to the future of videogames. But how many times have you watched a film where the camera got stuck behind a post or got so close to a wall you could see the other side?

I am sick of finding glitches and having no way to return the game. How will the developers learn if we can’t influence them with educated purchasing decisions?

Every other type of company I can think of will give you your money back if the product is less than satisfactory, even at the risk that people will abuse this setup and take back films they have watched or clothes that they have worn once.

I work for a company making DIY products which are prone to being used for a weekend and returned for a full refund. This creates a free hiring service for many people.

So a message to software developers, distributors and retailers alike. (I have no idea which party is most responsible for this situation but you are all taking advantage of it.) You are not the only industry that has to put up with non-faulty returns. By implementing this system you are not allowing consumers the rights they deserve.

It is not healthy for the future of videogames to allow this to continue. Otherwise constantly shoddy, rushed games will be released on to the market with game developers reaping the same financial rewards as if they had produced a quality game. Not everyone reads a games magazine.

Vladimir Imp, via email

But a surprisingly large number of retailers do offer quibble-free refund/exchange policies. And, oddly enough, it’s more often chains that operate this way. It’s simply a case of shopping around. (To cut coders some slack, it’s a little bit easier to manufacture a reliable stepladder than it is to engineer the latest Quake, isn’t it?)

If I have to agree with Ashley Simmons’ letter in E77. The childish rantings in your letters pages about which games are good, bad or indifferent are becoming tiresome, especially from readers of a magazine as informed and intelligent as Edge.

Equally disturbing is that much of the blame for there not being enough quality in the videogames market is placed at the door of Sony and its band of casual gamers making uninformed choices.

I own a PlayStation and a PC and I have been playing computer and videogames for more than 20 years. I bought FIFA 99 because I love football and Tekken 3 because the previous two were so good.

I have bought many other games which were hyped too much for their own good but they were still very good games (Metal Gear, Resident evil, Final Fantasy – the list goes on).
Am I a casual gamer? Do I fall for the hype and glossy posters in HMV? (Dreamcast anyone?) Do I fall for Lara’s oversized assets or buy a game because of flash graphics and long FMV sequences? Absolutely not. I’m 27, fairly well educated, have a reasonably high disposable income, and I feel I choose my games very carefully.

I have only bought one game that I was very disappointed with (Birth of the Federation on PC). I bought my PlayStation in 1995, when it was in its infancy, confident in Sony.

The games released at that time showed what the machine could do. The PlayStation has gone the distance for those people who had faith in it four years ago.

Even now there are games being released which, although not exactly cutting edge, are as playable as those available on so-called superior formats.

People rave about how the Saturn is considered the hardcore gamers’ machine. Well, last Christmas I saw a kid in Virgin with his dad looking for a new game for his Saturn (probably recommended to him by a Dixons salesman who said Sony’s machine was inferior, just as I was told), but alas there were no new games for his machine. The poor kid was in tears.

To you and some of your readers, winners and losers in the industry are just a fact of life. But to some poor kid it means a disappointing Christmas. And I think those who choose Dreamcast now will have a few disappointing Christmases in the not-too-distant future.

Some of your readers are too quick to patronise people who are willing to fork out for products they feel comfortable with, such as the PlayStation, and suggest that the mindless masses are killing the software industry, just like they killed the film industry and the music industry no doubt.

I wish Sega would concentrate on arcade machines and games because the company is so good at it. I think Sega’s consoles have at best been average.

Dreamcast is barely more powerful than an average PC with a 3D card (compared with the PlayStation, which was much more capable than the average PC in ’94).

It was amusing that Sega started talking about Dreamcast 2 three weeks before the first Dreamcast was available in the UK. Is this Sega’s way of thanking its customers for giving the company one last chance?

There will be more add-ons for Dreamcast than there are for the average home PC. I think I’ll wait for PlayStation2 if only because I expect it will have a significantly longer lifespan. Or is that just casual gamer talk? Have I been fooled by the hype?

Mark Hall, via email

To you and some of your readers, winners and losers in the industry are just a fact of life. But to some poor kid it means a disappointing Christmas.

More add-ons for DC than PC? Hardly. Anyway, for the record, Sega itself did not leak info on Dreamcast 2 to Edge. The information came from another source, which must remain anonymous. You can be very sure that Sega did not want news of the successive technology to become available to the media.

The Dreamcast is on the shelves, having survived its delay. Yet it seems some folk are still resentful. Games shop owner Terry Charleton (E77) makes much of the fact that a handful of supposedly hardcore gamers cancelled orders and went the import route (and not via him!).

Big deal – they’re not hardcore, just intolerant. Mr Charleton’s condescending attitude towards ‘nouveau’ gamers (those who started videogaming with the PlayStation’s arrival) isn’t likely to win him many customers either.

As a working adult and one of your nouveaux gamers I no longer need my dad paying my deposits or anything else. Lose the snobbery.

As for Dreamcast’s delay, would you rather see Sega release a machine with arguably its strongest selling point – affordable Internet access – not fully sorted? And contrary to Mr Charleton’s opinion, I’d say a good many Dreamcast buyers did so for precisely that aspect. The dearth of keyboards on launch day seems to suggest a keen online interest.

Yes, the Saturn failed – get over it. It’s old news. Yes, Dreamcast was late – it’s here now so get over that, and get on with it!

Chris Jones, via email

I await with interest evidence of young Mr [Demis] Hassabis’ infinite polygon engine and the changes to humanity’s understanding of the laws of physics that it will bring about.

I have been working on something which may also be of interest to you. I call it the Infinite Monkey Engine. I have developed a method of ensuring that all ingame characters will react completely realistically to any situation with which they are presented.

I have achieved this by creating a number of independent agents equal to the number of possible situations which can arise within the game.

I call these agents monkeys. At each decision point for a character I simply locate the monkey which has been presented with the character’s particular situation and apply that monkey’s actions.

As the game environment becomes more complex, I increase the number of monkeys under consideration. Ultimately I will have an infinite number of monkeys to choose from, carrying out an infinite number of actions.

It’s inevitable that one of them will be found to spew out a column of self-serving claptrap on a monthly basis. He will rightfully be declared Monkey King and worshipped by all. Good for him!

Actually, an infinite polygon engine is easy – all you need is either an infinitely slow framerate or an infinitely long preprocessing time. Or maybe just a good marketing department.

G Ushaw, via email

Let’s have a wild guess here: you’re a coder, aren’t you? Thought so.
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