

EDGE

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Nintendo's next

Dolphin and Game Boy Advance: exclusive reports

G-Surfers

How the entire planet Earth is being built inside a PS2

Sega's nightmare

Developers like it, publishers do not: where now for DC?

Criterion Studios

Inside the company striving to ease the pain of PS2 coding



PSone

Why Sony is reinventing the world's favourite videogame console





It was not so long ago that everything Sony Computer Entertainment touched turned to gold. Sure, no one really expected the company to make an entry into the world of videogame hardware manufacture and rock it to its very foundations. But since 1994, when the first ever PlayStation made the leap from Japanese store shelf to eager consumer's embrace, the company has pushed aside established veterans Nintendo and Sega like so much rubbish.

Generational transition, however, is a particularly awkward beast to fight, and it is an enemy Sony now faces squarely in the face.

Following wildly over-inflated consumer expectation, PlayStation2 was never going to replicate the impact of its precursor. Now, Sony finds itself being questioned – something it has no real experience of. Its solution? Manifold: it has announced the existence of a hard disk add-on for its 128bit platform (see p13), and underlined the fact that (with practical broadband comms still some way off) PlayStation2 will be compatible with modems in existence today. Moreover, it is pledging renewed support to the format that put it where it is today by rethinking the machine's appearance and throwing in some fashionable mobile phone connectivity to boot (see p6).

Looking at how Sega handled its Mega Drive-to-Saturn transition, bungling halfway-house launches in the form of the Mega CD and 32X along the way, it's easy to see how a company complacent with its lot can so easily fall on its backside. Nintendo, too, famously struggled to build support for its push beyond 16bit.

Were it not for the existence of X-Box, perhaps SCE would not look like a company about to encounter choppy waters. But by announcing a PS2 hard disk and shouting about modem compatibility, the company is simply matching its box up to the features of the Microsoft console format that has been so openly applauded by the industry.

Is relaunching the original PlayStation simply a matter of Sony falling back on what it knows? Even if it is, developers already heavily committed to PS2 will be hoping that the company is not spreading itself too thinly, and that massmarket consumers will not be confused by the existence of two super-similarly branded products.

One thing is certain: developers are most comfortable with just one target box, and by preparing various different models of PS2 hard drive (specifics are currently cloudy) Sony is not making its console more attractive to game creatives but in fact much less so. Its competitors should now be feeling a level of optimism much higher than when they were simply looking on, nervously wondering what this consumer tech giant could possibly bring to the videogame party back in the mid-'90s.

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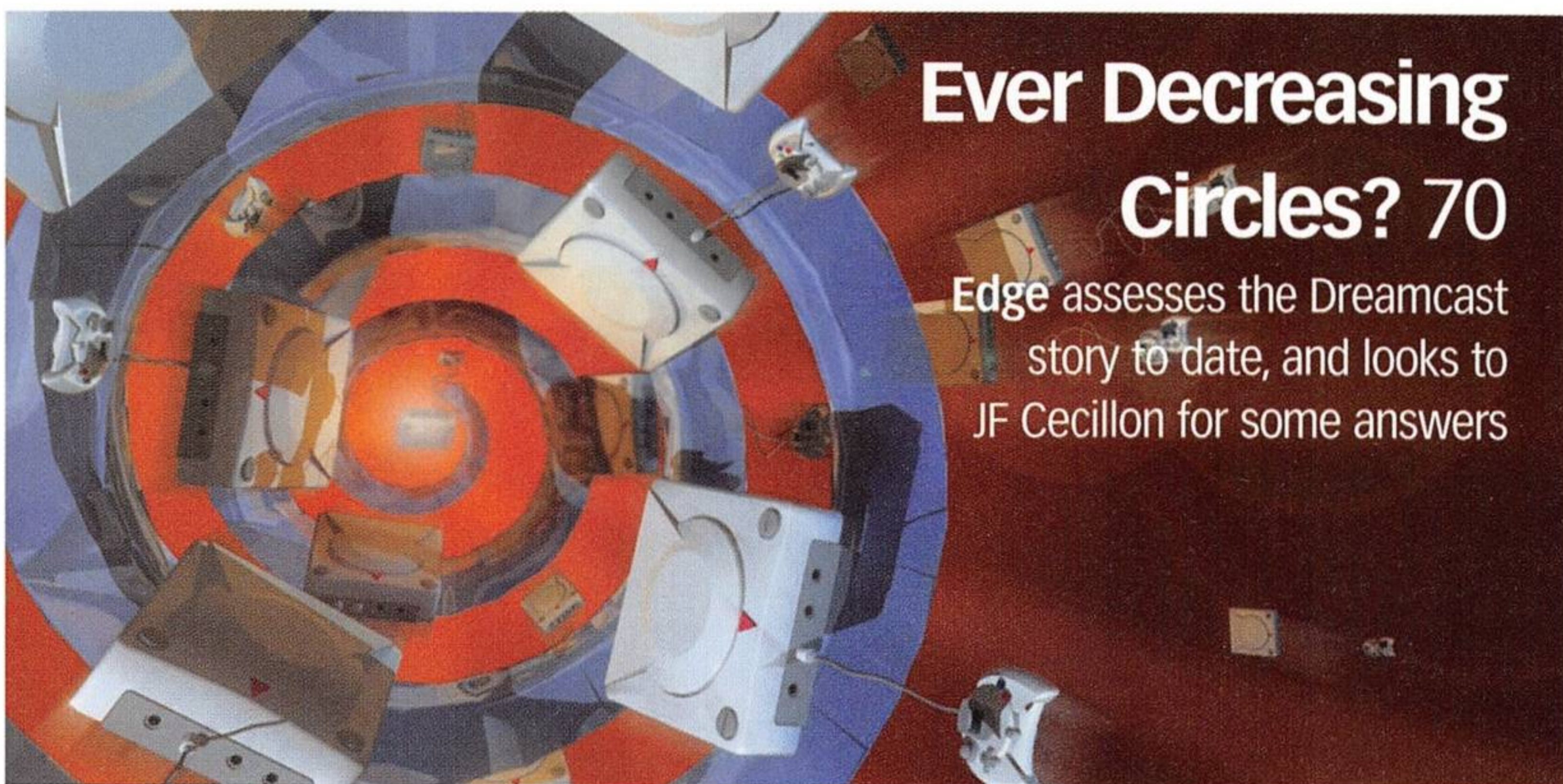
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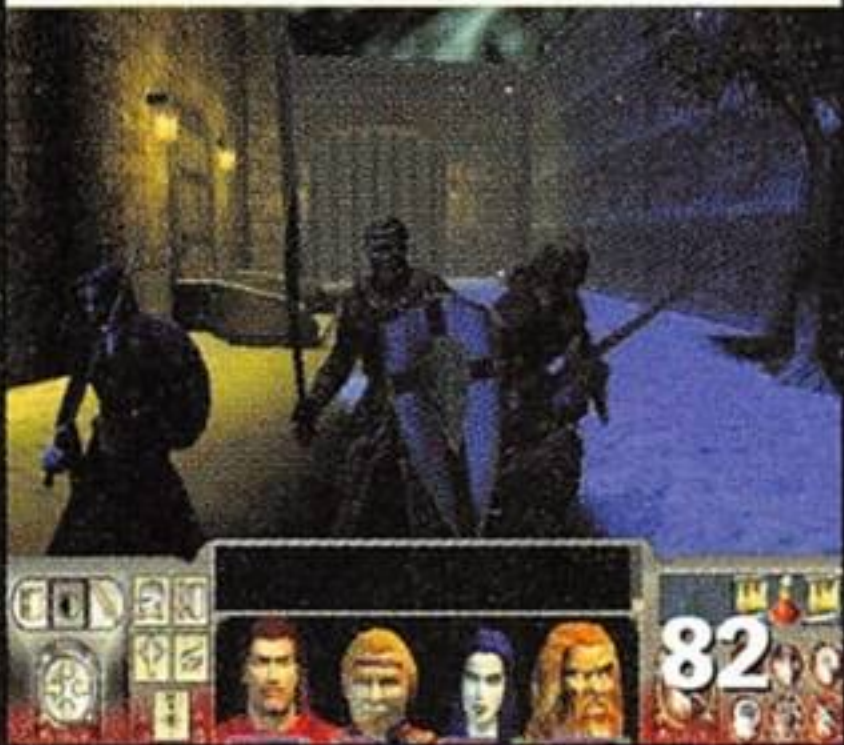
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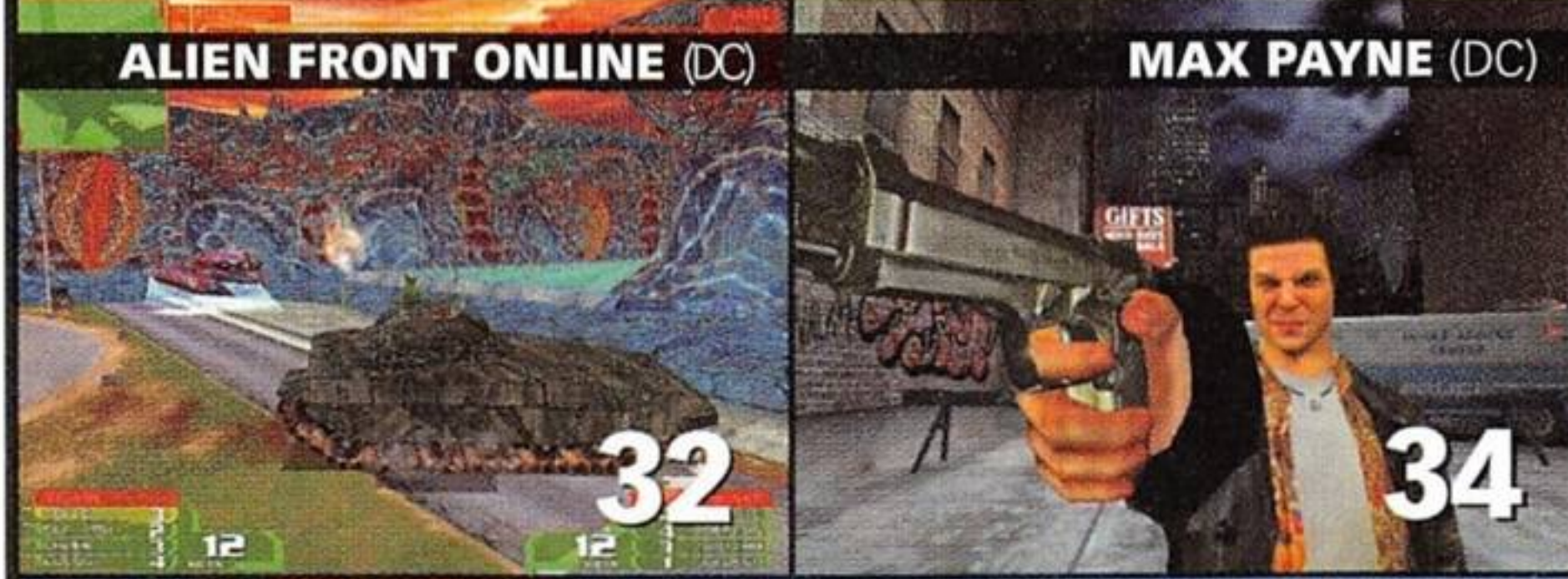


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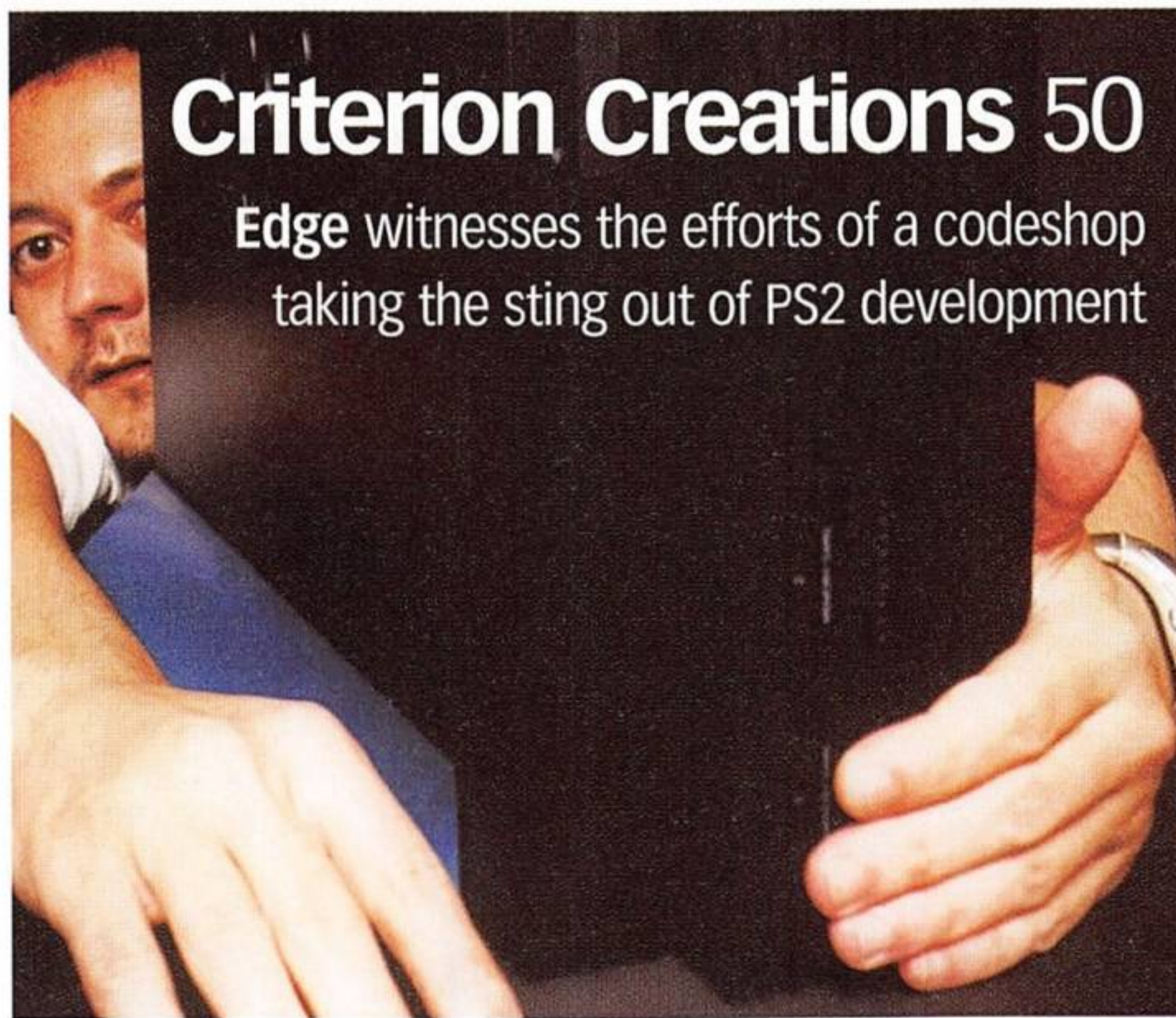
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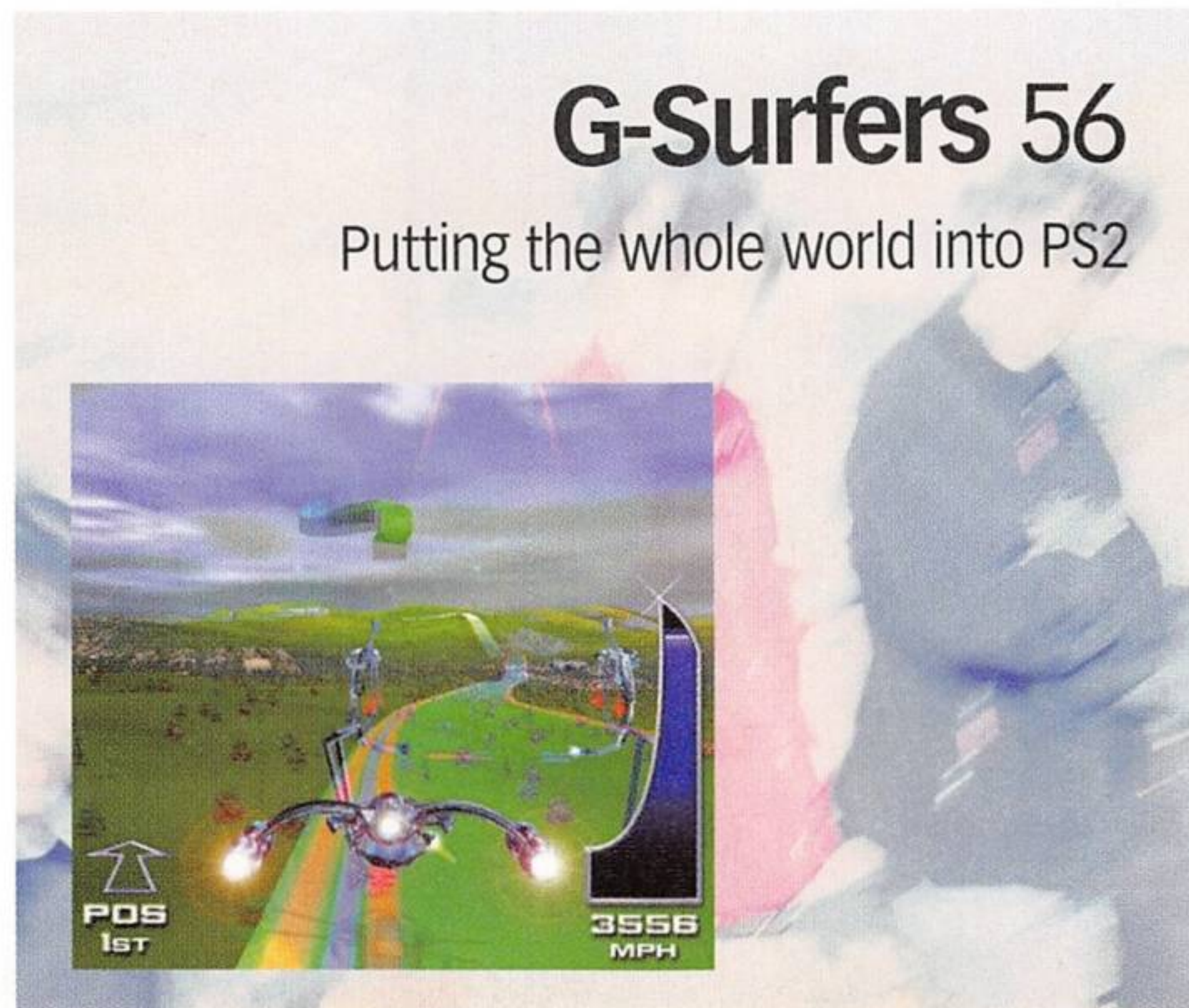
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SONY LOOKS BACKWARDS WITH NEW PLAYSTATION 1

Repackaged, rebranded 32bit console intended to drive company's fortunes in the face of Euro next-generation debut



With dimensions of 193mm (W)x38mm(H)x144mm(D), PSone is considerably smaller than the existing PS unit. It retails at ¥15,000 (€95)

Sony has released a redesigned and rebranded PlayStation for the Japanese market, with a western launch planned before the end of the year. Christened PSone, the new model boasts the same tech specs as the grey box that has now sold more than 73m units since its launch in 1994.

The new, more rounded and compact design is two thirds of the size of the original unit. An LCD monitor add-on, replete with stereo speakers system, is due to be released next spring in Japan, but, more significantly, this winter will see the Japanese release of a special adapter cable, compatible with both PSone and PS2, which will enable the units to connect to mobile phones.

With PSone set to make its Euro debut prior to the October launch of PS2, **Edge** spoke to SCEE president **Chris Deering** about the logic behind the move, as well as plans for Europe.

The reduced size of the unit has prompted some speculation that Sony is throwing its weight behind a move into the portable market, but Deering points out that this is not entirely the case. "There may be some overlap of appeal," he says, "but it's not aimed specifically at that market. It's an enhanced version of the PlayStation that's been around and has reached dozens of millions of PAL television territory homes, and for which there's an ongoing demand. Given the portability, or mobility feature, of the lighter weight PSone with its own screen, it could expand beyond home entertainment maybe into the car, or into the back yard if you've got an extension cord. There are attempts to determine whether there's a battery configuration that could eventually work with the screen feature, and if there's any way to deliver a reliable result. Of course, it makes sense for us to do that, but no specific plans have been announced."

According to Deering, the main rationale for the rebranding is simply to differentiate the machine from the newer PS2. "Since PS2 is on the map and in the stores alongside it, I think that it's quite logical to distinguish the two by calling the original PlayStation configuration PSone," he says. Nevertheless, the two remain under the umbrella of the PlayStation brand that has become ubiquitous across Europe. And with Sony diluting the focus of PS2 to extend its appeal outside the traditional hardcore gamer set, there may be a danger that releasing an older console that has been upgraded to feature network connectivity will simply confuse consumers.

Deering disagrees: "I think it will be quite obvious in the store with the two packages which is the new PS2. The timing of the arrival of PSone [in PAL territories] is closer to the timing of PS2 than it was in Japan, and so it will be necessary to make it as clear as possible which is which, but I think that as the current PlayStation in its current box works through and the only PlayStation model remaining in the stores is the new one, it should settle down and there shouldn't be any real confusion."

Indeed, he points to the possibility of households owning more than one PlayStation, and the continuing appeal of the 32bit machine at a lower price point. "We're amazed at how vibrant the demand is for PlayStation, even in the midst of all the publicity and anticipation of PS2, and it's just a function of the ubiquity of the format. Clearly, with the difference in price point with PS2, that attractiveness could apply to a much broader group of people, not only by age group but by geographic location and income level. So the positioning will be fairly broad, but if we were to force a distinction it will probably be for younger kids as maybe a second PlayStation – in the bedroom with PS2 in the living room. There's no reason to assume that there won't be some people in the 18 to 24-year-old group that will still want to own a PSone – what with the range of software – or prepare themselves with the PSone collection of titles to graduate to PS2 when they're ready, or when they can afford it. The backward compatibility feature links everything together."

Finding the content

Whether developers will continue to support the format is another question. Certainly many developers are gearing up for the launch of PS2, but the recent changes to the pricing structure of PlayStation games has demonstrated the continued willingness to embrace the format. "I think that given the installed base worldwide plus whatever PS2 adds to that as backward compatible, and whatever the additional sales of the new PSone add, there should be a very attractive market for developers to invest in, and on our map we have about as many titles coming out this year as came out last year on PSone," says Deering. "We can't see out to three or four years in the future, but from our discussions with publishers and developers, there's certainly a broad interest in continuing to write for the PSone format. And we will be doing some even in our own studios and with the affiliates that we sometimes represent on a distribution basis."

The most intriguing feature of the revised PlayStation is undoubtedly the possibility of network connectivity through a mobile phone, but unfortunately details concerning the way this will work in Europe are unclear at present. What is clear is that, in contrast to Japan, where NTT DoCoMo's iMode service is the most popular means to access the Internet, the western cellular landscape is a more fragmented one, with wireless Internet access still a largely underpenetrated technology. Nevertheless, Deering is certain that such a function will be supported in due course. "I'm not sure about the timing, but



Chris Deering is confident that network connectivity via a mobile phone will be coming to a PlayStation near you, but the European wireless landscape is more splintered than Japan's

"Given the installed base worldwide plus whatever PS2 adds to that as backward compatible... there should be a very attractive market for developers to invest in"

"I'm sure it will come to the UK and to Europe and to the States." Of course, this will depend on the network operators themselves. "There's a changing landscape with WAP," says Deering, "and on the horizon GPRS, UMTS, 3G and a few others are creeping in, so it's not as easy to anticipate which types of phones there will be cables for, and they may not necessarily be packed in with PSone – they'll probably be sold as separate accessories because of the divergence of options. We're very excited about it, and we have a lot of ideas, but it's fair to say that the map of cellphone formats in Europe and the States is far less clear than Japan, so we're not at a point in time where it makes sense for us to lock on to anything."

Sony is hedging its bets on more than one front, but it remains to be seen whether a diversified portfolio of PlayStation products is the key to success in the next-generation console market. With PS2 seemingly boasting every type of connectivity and apparently being marketed as a multimedia device, featuring DVD playback and compatibility with digital cameras, there is every danger that the company will alienate consumers who have hitherto been attracted by the simplicity of consoles. By continuing to market the original PlayStation – albeit a rebranded one – Sony runs the risk of further diluting its focus and alienating consumers. Although Japanese take-up of PS2 has set new standards for console launches, the competition that Sony will soon face will be stiffer than ever.



PS2 DVD gets remote control

Chinese company EMS, a known supplier of mod chips, has launched a PS2 remote control unit in the east. Plugged into the memory card slot, the device only works with the original PS2 DVD drivers, and automatically makes the host console's DVD playback free of all region constraints.



DOLPHIN AND GBA DETAILS EMERGE AS SPACEWORLD LOOMS

Developers share thoughts and feelings on next-generation Nintendo systems as flagship Tokyo event prepares for lift-off

Nintendo is set to demonstrate its Dolphin and Game Boy Advance hardware at Tokyo's SpaceWorld show in September, but **Edge** has gleaned information on both systems from industry sources in the run up to the event.

Dolphin dev kits have now shipped to a select bunch of codeshops. "We were surprised," revealed one source, "because the early systems we have are all Macintosh-based, as Mac systems are evidently much closer to Dolphin than PC." The PowerPC nature of the final box's CPU accounts for such architecture, yet it is proving an interesting shift for coders working on the platform. "We've had to ship in a whole load of new kit," **Edge's** source continued, "and it's created quite a stir."

Another source claimed that implementation of hardware

"The early systems we have are all Macintosh-based, as Mac systems are evidently much closer to Dolphin than PC. We've had to ship in new kit... it's created quite a stir"

effects still troubling PS2 coders are a relative simplicity on the format. Steady generation of around 10m polygons per second with texture filtering, antialiasing and other effects enabled is been reported. Such performance can clearly be equalled on Sony's machine, but only through attentive programming. As with X-Box, ease of coding seems to be high on Dolphin's spec list.

Interestingly, though, one source, working in an environment where several dev kits are in place, claims that different teams are approaching the hardware in different ways. "You have one team attempting to reach a goal one way," he claimed, "and

another team working towards much the same goal approaching it in another." He refused to be drawn on whether or not this was an illustration of any deficiency in libraries supplied by Nintendo.

Much speculation has concerned the Dolphin controller co-devised by Shigeru Miyamoto. "I know some guys here have seen it," said **Edge's** source, "but it's wrapped up in so much secrecy you'd be amazed. From what I can tell, though, it is going to be something special."

Game Boy Advance uncovered

Other leading developers have been sharing views concerning Game Boy Advance. Asked how the system stacks up, one source said: "There's not much to say about it apart from the fact that it uses an ARM CPU for everything – which is no bad thing."

The CPU – designed by Cambridge-based ARM – is a 60MHz unit. **Edge's** source continued: "The architecture's like an Amiga and a SNES, but the audio capabilities aren't quite up to the SNES. It has everything anyone ever needed for 2D work – it's not built for 3D in the traditional sense – including FMV potential. All the example code provided with the development kit is pretty crappy, but it gets the point across and I guess that's all that's necessary."

"It's kind of like the PC Engine used to be," another source told **Edge**. "You can have a large number of sprites on the screen and they scroll and they can blend, and they rotate as well, so it does Mode 7-style effects. Ultimately you can do whatever you want with the processor. It's not going to set the world alight with its CPU power, but it's sweet. It's miles more powerful than the old Game Boy, but I'm surprised it isn't even more powerful, considering the technologies that are available today."

"In terms of 2D abilities it's probably a little bit less powerful than a SNES. In terms of 3D abilities it's probably like a SNES with a SuperFX chip, so it's got crude but fair 3D abilities. There'll be some great scrolling games, but there'll also be a couple of simple 3D games on it."

Few have seen the final hardware design of the unit, although one source told **Edge** that it will feature standard Game Boy-style buttons, in addition to two shoulder buttons.

Nintendo has already announced that the Advance will feature mobile phone connectivity, enabling the download of software, chat and email. According to one developer working with the hardware, however: "We've had nothing on connectivity yet, which is a bit of a shame."

Certainly the market for mobile gaming is set to explode, with 700m network-enabled mobile phones predicted to be in worldwide circulation by 2006. It seems unlikely that Nintendo, the originator of massmarket gaming, would not be poised to seize some of the action.

Advanced software

Nintendo recently announced its first Game Boy Advance software release, *Magical Vacation*, which it has tagged a

Nintendo's future from the top

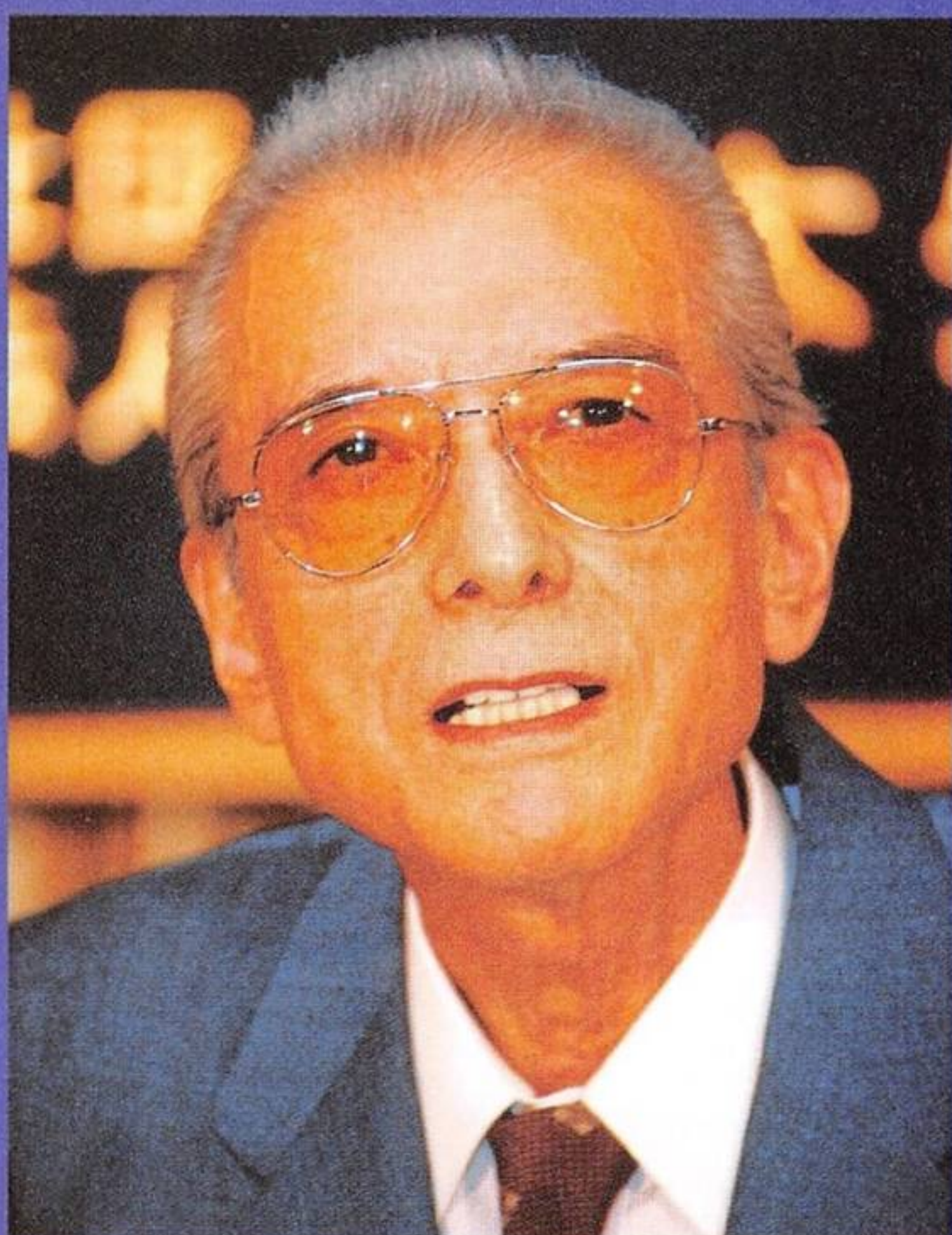
Nintendo Company Ltd chairman **Hiroshi Yamauchi** recently spoke about the company's plans for the future, not resisting the opportunity to have a dig at its competition.

He confirmed what most already knew – that Nintendo was building Internet connectivity into the box from the word outset.

Unsurprisingly, Nintendo plans to leverage its most popular franchises on the Dolphin format, with several Mario titles, and even one starring Luigi, in the works.

"We are planning to introduce an Internet business next March of April," Yamauchi-san revealed. "The first step will be online sales of a brand-new type of Pokémon cards."

In conclusion, the bullish chairman said: "If we release software for the [Dolphin] console similar to what Sony has for PlayStation2, that would be a failure."





Recent claims have estimated GBA's power at somewhere between the SNES (*Yoshi's Island*, left) and N64 (*Yoshi's Story*, right), although some coders have expressed disappointment with the unit. What is surprising is the extensive hardware allowance Nintendo has made for handling FMV footage

'communication RPG'. The company states that, 'While *Pokémon* broke new ground by encouraging RPG users to trade with and battle each other, *Magical Vacation* will facilitate the communication aspect further'.

The game is being developed by a new, Nintendo-backed venture, Brownie Brown, led by four former SquareSoft employees who, legend has it, created the seminal *Secret of Mana* (see p150). A detailed, fascinating world such as *Mana* featured, blown up to massively multiplayer scale, is a prospect to whet any gamer's appetite.

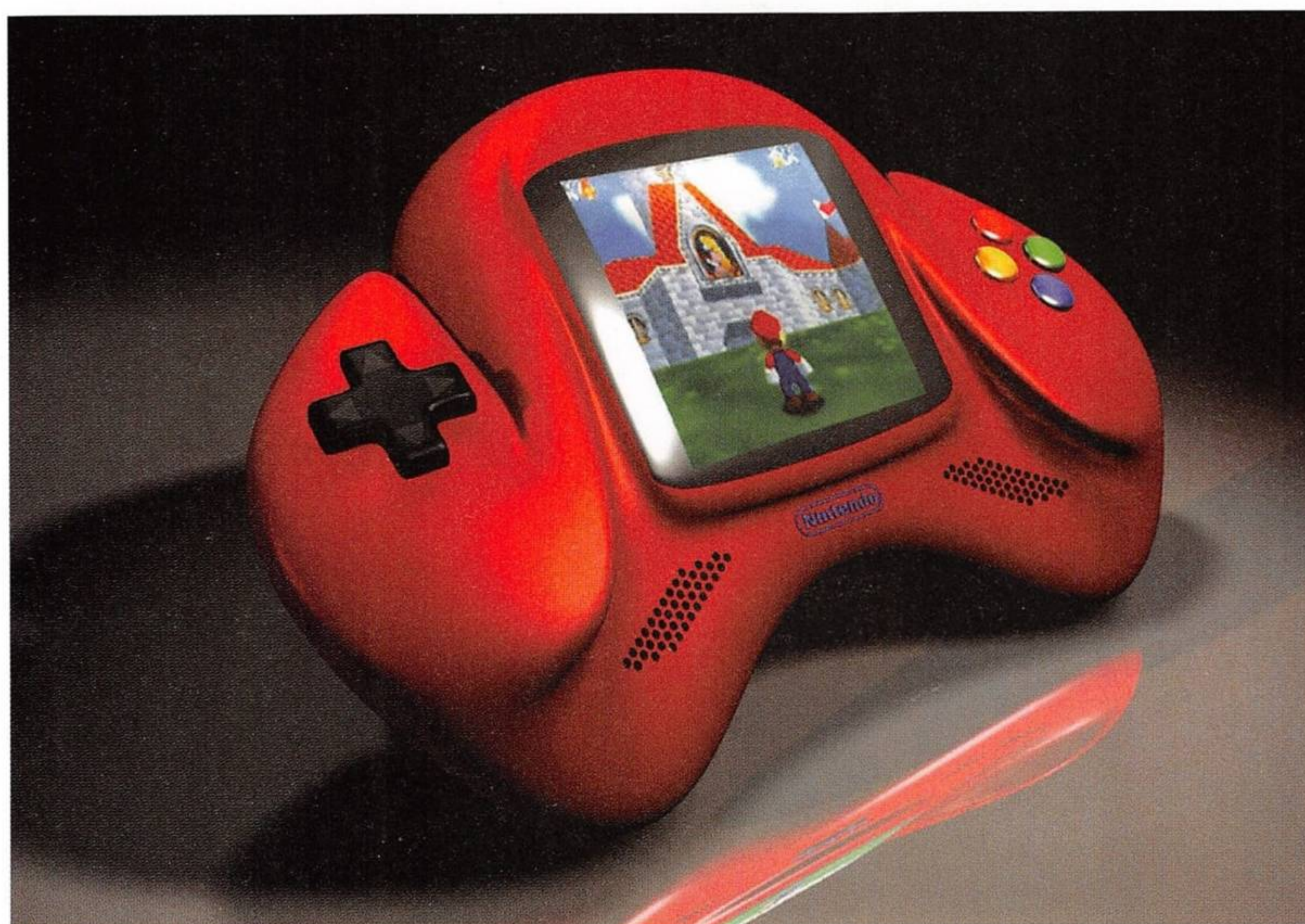
As for whether Game Boy Advance has the potential to equal its forebear's success, one leading developer is unsure: "They've sold 100 million of the old Game Boy, which is astounding. Whether they'll sell 100 million of this new Game Boy, I doubt,

because I guess the kind of people that the Game Boy market satisfies are still satisfied with that really crude, old Game Boy. Battery life and ease of use have been the most important thing for the pocket market, because that is the general gaming market – it's casual gamers, not enthusiasts. It's the real people out there.

"In terms of 2D abilities, the Advance is probably a little bit less powerful than a SNES. In terms of 3D, it's probably like a SNES with a SuperFX chip, so it's got crude but fair abilities"

I think that there will probably be better things along that will do the next big thing, whatever people need in a pocket machine. Maybe networking is that next big thing."

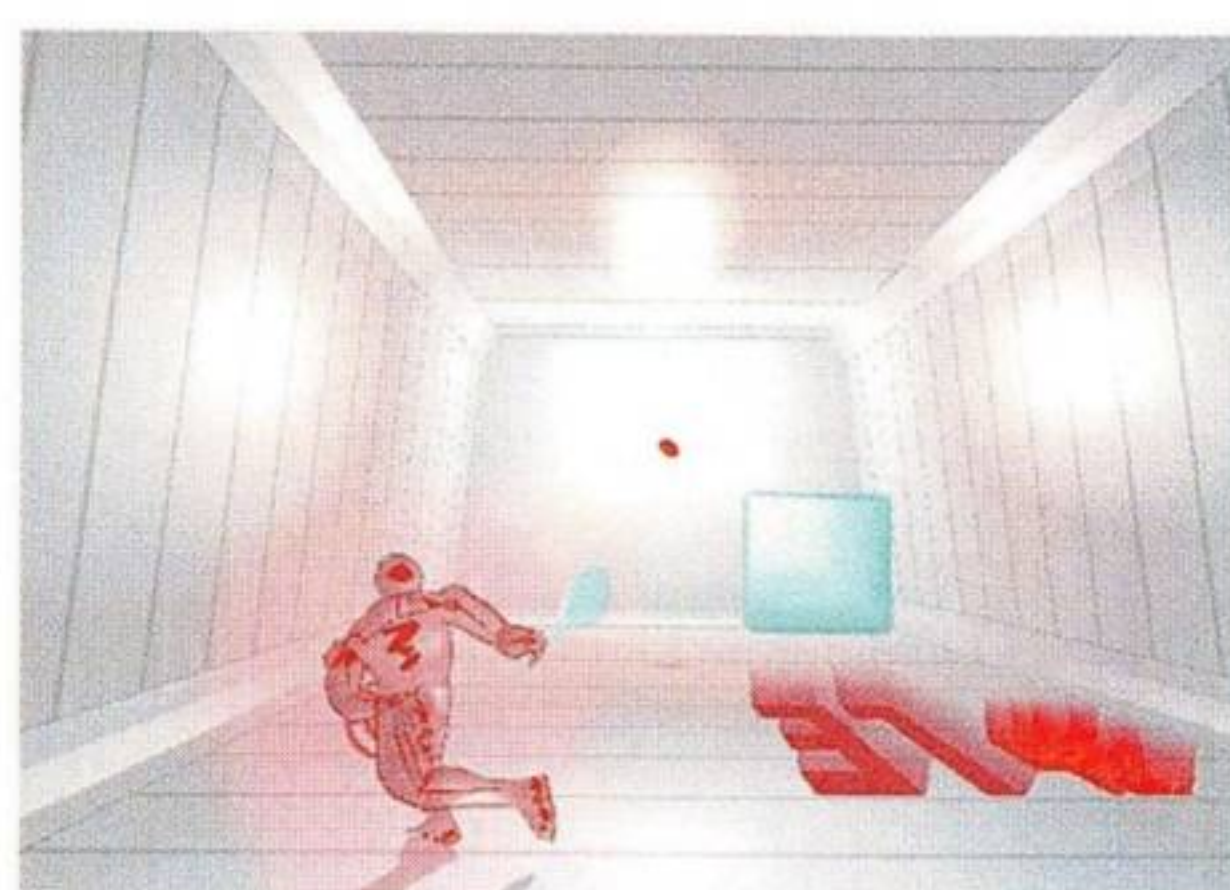
SpaceWorld will surely throw up some indicators.



No, the final unit will not look like this, although it has been confirmed that, unlike previous models of the Game Boy, GBA will be operated in a horizontal manner, much like the Lynx or Game Gear. Shoulder buttons will feature

COIN-OP TITANS UNVEIL NEW ARCADE STRATEGIES

Sega and Namco prepare for Japan's annual JAMMA coin-op showcase with private presentations



Sega's *Tokyo Bus Guide* (above right) uses the *18 Wheeler* cabinet. Industry insiders have noted both Sega and Namco's more conservative, cost-effective approach to the arcades

Just two months before the JAMMA show in Tokyo, Sega and Namco have revealed their latest round of arcade creations. With the advent of coin-op-standard graphics in home machines, the Japanese arcade market has become increasingly hard to crack, and the two giants have adopted markedly different strategies for tackling the current instability.

Sega shows its hand

On June 23, Sega showcased its latest series of eye-catching and vibrant arcade designs in keeping with current thinking, suggesting that elaboration is the true key to the Japanese gamer's pocket. The event also saw the first fruits of Sega's recently renamed AM R&D units.

Sega Rosso (formerly AM R&D#5) is responsible for the abstract puzzler *Cosmic Smash*. Inspired by 'Tron' and borrowing heavily from the classic coin-op *Arkanoid*, the simplicity of a two-button interface and pulsating colours proved an immediate success with attendees. Sega Rosso is also responsible for the long-anticipated *Star Wars Racer*. The Model 4 title has been delayed due to display problems, but it is expected to be fixed and ready to roll in most Japanese arcades by now.

Giant Gram 2000, the sequel to the popular *Giant Gram* wrestling coin-op, was proudly demonstrated by Woohoo (AM R&D#1). Though Sega has voiced concern over difficulties which have arisen over a break up of the Japanese professional wrestling federation – apparently key wrestlers are leaving to form their own association – the disruption should not affect the launch or massive popularity of the machine, scheduled for this summer.

The Amusement Vision (R&D AM#4) branch of Sega was also in attendance and it finally unveiled a playable version of the *Spikeout*-inspired *Slashout*, in networked form. The scrolling 3D beat 'em up may prove popular for a while, although moves from other developers to bring similar titles, such as Square's *The Bouncer*, to the next-gen scene may reduce its impact. Exciting rumours were also circulating that



Sega Rosso's *Cosmic Smash* instantly appealed with its recognisable gameplay and vibrant graphics

the division was working on a *Space Harrier*-styled shooter.

Although Hit Maker (AM R&D#3) failed to roll out any of its anticipated technology, representatives disclosed the titles which will be ready for JAMMA on September 3: *Crakin' DJ* will, unsurprisingly, be a BeMani-style rhythm-action game, while *Confidential Mission* sounds more intriguing, combining elements of both *Virtua Cop* and Rare's *GoldenEye*.

The resourceful Sega also used the event to launch *Tokyo Bus Guide*, which, as the name suggests, offers players the opportunity to shuttle passengers around the city's busy streets during rush hour. The game was developed by a thirdparty company called 45, and is a direct port of the Dreamcast title. Its cabinet is exactly the same as the unit produced for *18 Wheeler*, provoking speculation that Sega may be employing strategies to improve cost efficiency.

Namco on cost-cutting drive

By contrast Namco's private show in Kawasaki on June 13 showed a reversal in attitude to coin-op manufacture and marketing. After posting a disastrous 95 per cent fall in revenues for last year, Namco, once considered indestructible in the arcade marketplace, is now clearly taking a more cautious approach.

Eyebrows were first raised when *Mr. Driller 2* was unveiled. Though the game provided an interesting twoplayer mode in which your opponent's screen can be turned upside down, it was noticeable that a drop in graphical flair was evident. Namco has replaced the System 11 board of the original *Mr. Driller* with the new, cruder and cheaper System 10. The hardware uses strictly no-frills PlayStation hardware (minus CD drive, naturally), producing predictably rough-looking results. Word at the show suggested that Namco is keen to use the hardware in many more upcoming coin-op projects.

World Kicks had also undergone something of a transformation from its original guise. The elaborate deluxe model, complete with kickable 'footballs', has been a disappointing failure in the arcades. The new iteration on show loses some of the charm, though much of the expense, by merely using a ball-shaped button on the cabinet.

One notable exception to the less-is-more rule was a curious karting game, displayed in both standard and deluxe form. Although the driving game uses the System 10 board, the deluxe version is particularly interesting – sporting a real kart which moves laterally when manoeuvring around the tight corners in the game.

Though the technology is a clear throwback to the PlayStation era, Namco has nevertheless met the challenge by producing a selection of games focusing on quirky innovation rather than flashy graphics and enormous cabinets. Causing a big stir among many attendees was a pseudo-sequel to *Galaga*, employing a handheld gun to fire 'medals' at invading aliens; the medals turn into digital missiles on-screen when they reach their destination.

Such a title will clearly not make it to the UK, but its appearance at the show, along with the super-affordable System 10 titles, brought smiles to the faces of the many Japanese arcade centre operators in attendance.



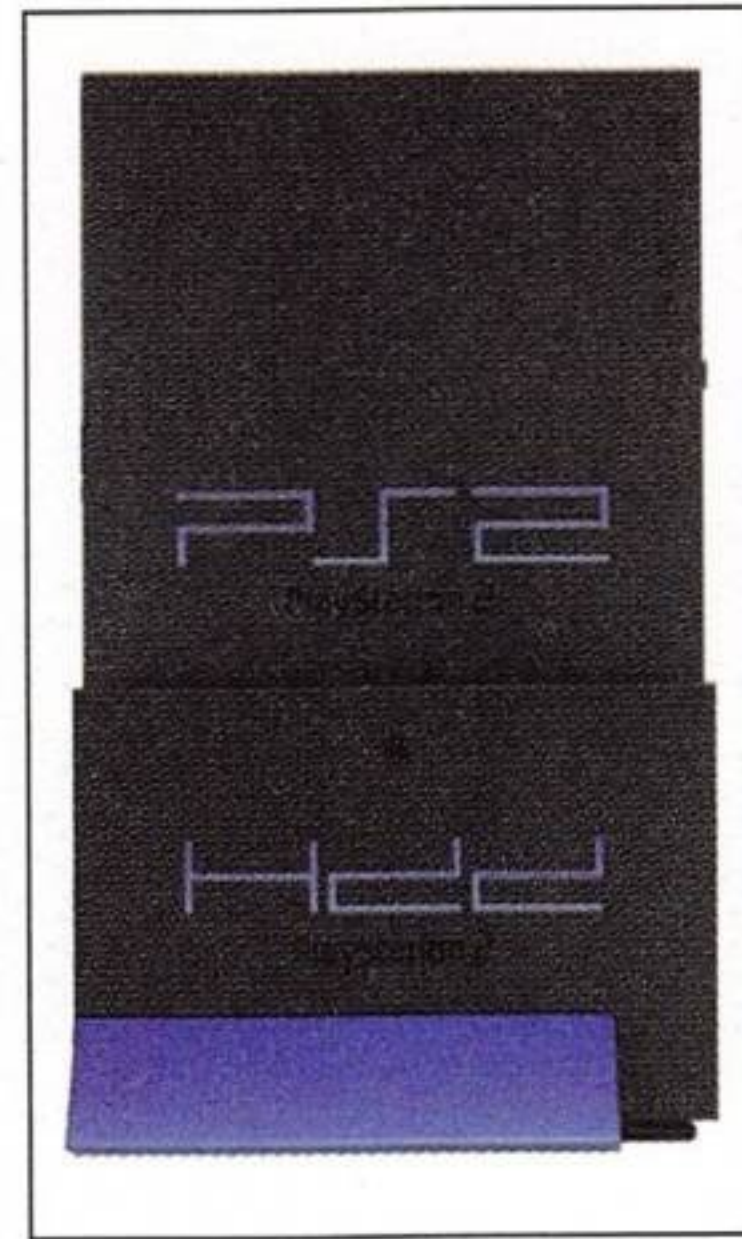
Namco's *Kart Duel* (top) was the most outstanding arcade design at its rather toned down show. Though the kart can move laterally it still uses the crude System 10 board

SONY PRESENTS HARD DISK FOR PLAYSTATION2

Japanese consumers to be given opportunity to buy large-capacity, neatly styled add-on from this winter

At the same time that it announced the rebranded PSone, Sony revealed a winter Japanese release for the PS2 Hard Disk Drive Unit (HDD). Consisting of a 'large capacity' hard disk and an Ethernet connection, the unit connects to the PS2 through its PC Card terminal interface. The hard disk resembles a miniature PS2 and exists in three different capacities. The Japanese unit is designed to sit alongside or on top of the console, though the European version of PS2 will incorporate a bay to house the unit.

Edge readers will recognise the advantages of the unit as cited by Sony. It is fast becoming modish for episodic content, downloadable levels, tracks, characters and the like to be mentioned in the same breath as broadband connectivity. But will the fact that the hard drive is not part of a unified architecture, as is the case with X-Box, deter developers from taking advantage of the feature? Not according to **Chris Deering**: "Talking two or three years out, I'm quite confident that there will be a sufficient



Import PS2 owners who wish to add a HDD unit will in all likelihood have to invest in a new stand

The hard disk resembles a miniature PS2 and is designed to sit alongside or on top of the console, though the European PS2 will incorporate a bay to house the unit

installed base of PS2 to encourage development, and if the hard drive is in a significant portion of the machines, then people will write for that feature, just like they wrote for Dual Shock when that became available – or for steering wheel and gun peripherals and other peripherals as they've come along. And there will no doubt be additional peripherals coming along."

As for how the ethernet connection will be utilised in Europe, Deering argues that regional differences in the type and penetration of broadband delivery platforms make it difficult to draw general conclusions. "It may well be that some of the features in some countries are different to some of the features in other countries, depending on whether there's massive cable penetration – as there is as a percentage of homes in Germany and Switzerland – or some other method where there's much lower cable penetration," he says. "The engineering fundamentals come from Japan and then we will deal with how to make the most commercial sense out of it by country and by region as the news unfolds."

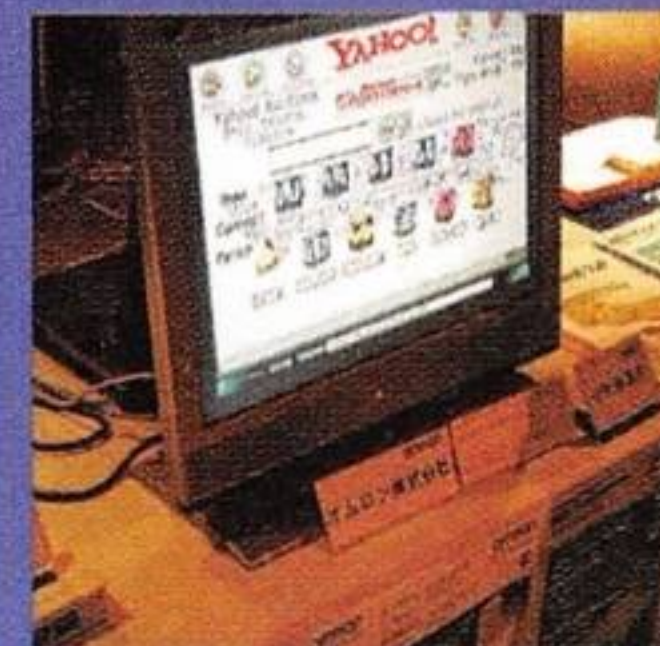
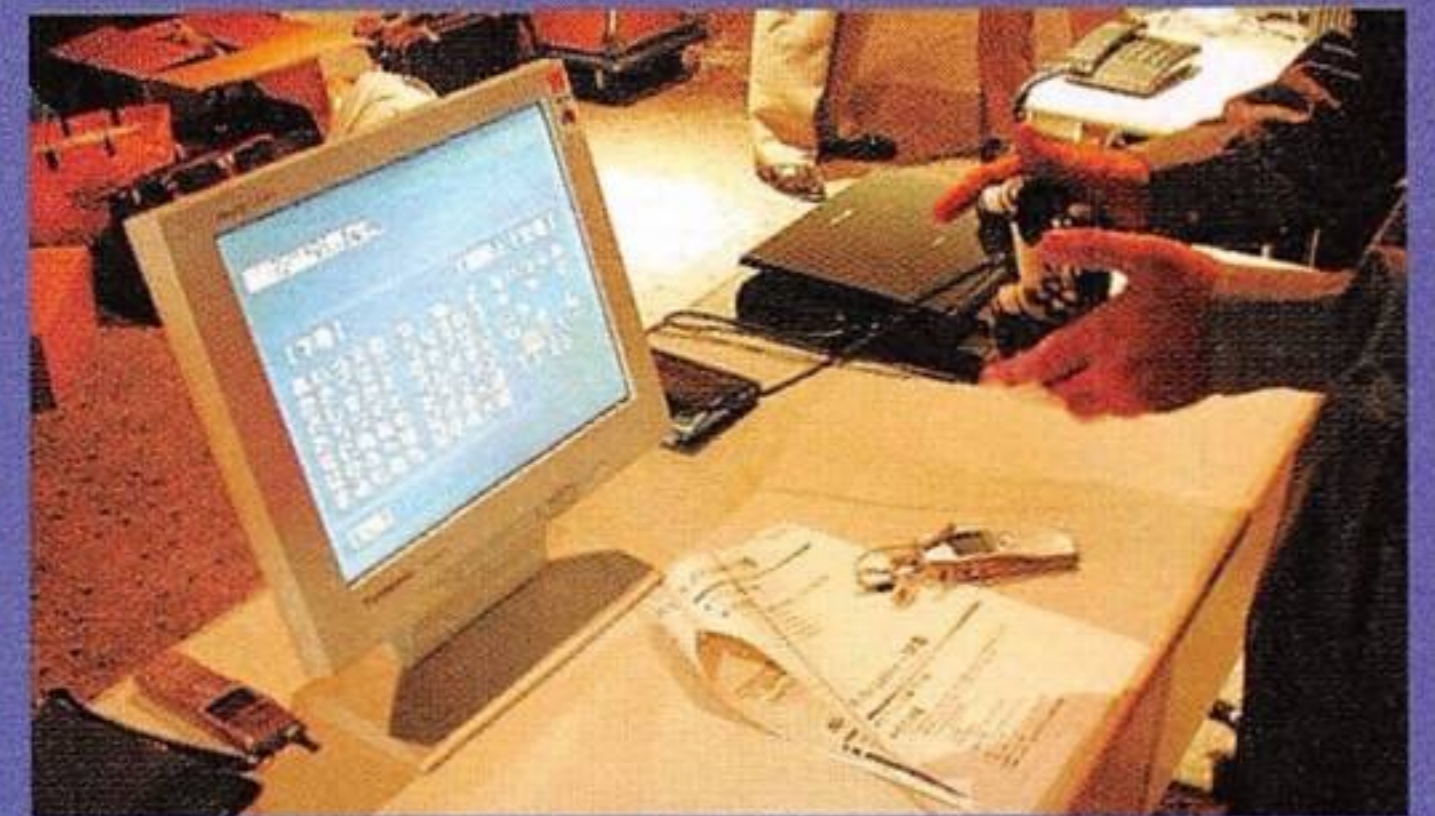
The actual capacity of the hard drives has yet to be confirmed. "It will be big," states Deering. "I am aware of a range of potential sizes, but it appears that the hard drive capacity versus cost is moving along in a similar trajectory to that of memory computing power, so it could be that over time even bigger hard drives might come along. I think the first ones will be quite ample."

He also wished to reassure gamers about the cost of the unit. "We'll do our best to make it as affordable as it can be. Right now the euro is not in fantastic shape relative to the basis on which some of the components are costed, but I think that there's a somewhat positive outlook for the euro, and we'll make it as affordable as we possibly can. That's in everybody's interest including our own."



Japan ramps up PS2 middleware

A recent middleware presentation at SCEI in Japan gave developers the opportunity to sample 3D audio components and Internet access on the system via mobile phone or USB modem (manufactured by Omron). More news next month.



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PRESCREEN

EDGE PREMIERES INTERACTIVE ENTERTAINMENT'S FRESHEST FACES

The marketing name game

Making a virtue out of the virtual

The Sydney Olympic Games are just around the corner, and fittingly this month's crop of Alphas sees a sports game eager to cash in on the media interest surrounding the event. Sega's *Virtua Athlete 2K* boasts realistic animation with bursts of addictive gameplay. Indeed, given the Dreamcast's potent poly-pushing capacity, the fluidity and authenticity with which the athletes put their shots and leap hurdles should surpass that of any other similar title which has come before. Hence the 'virtua'.

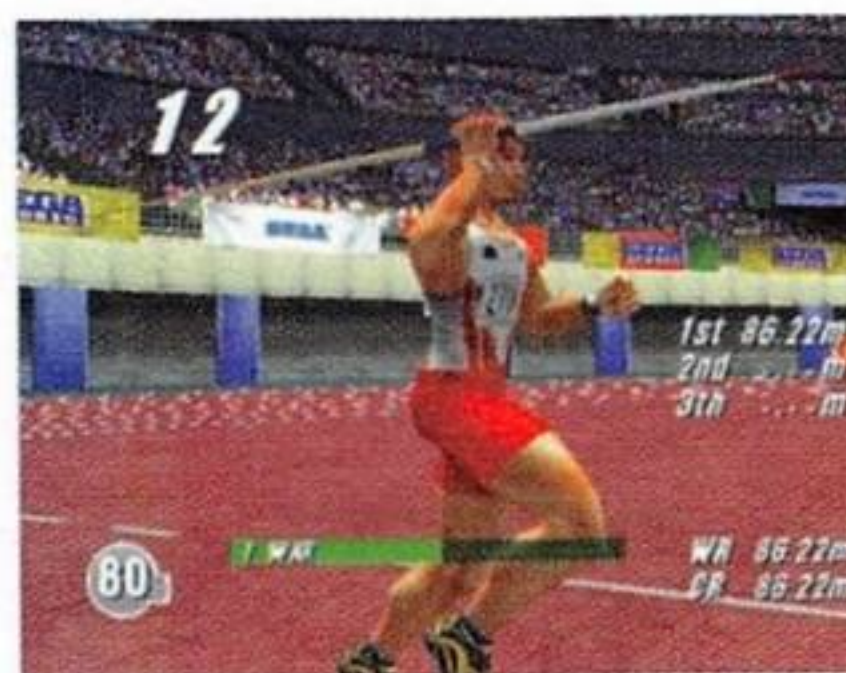
But hang on. 'Virtua' is meaningless. You naturally associate the word with a game which aims to reproduce real-world physics, but it can't be found in any dictionary. Just where did this term originate and what does it signify? The implication is that this kind of game is so lifelike, so realistic, and so accurate in its replication of the rules which govern our physical universe that the old '80s term 'virtual' simply won't do. The latter term will be forever associated with the virtual reality 'revolution', shaded vector graphics and chaps sporting over-designed helmets.

No, 'virtua'-monikered games are a different breed altogether. After the impressive debut of *Virtua Fighter* in 1994 the term was forever linked

with a new era. 'Virtua' games eschew the wireframes of the 16bit generation and replace them with ever-increasing numbers of filled polys. The 'l' was dropped and replaced with a dose of kudos. Nowadays, no publisher would touch a game sporting the word virtual in its title.

Such considerations throw up interesting propositions. Titles using the suffix '3D' are already becoming a rarer breed. When *Super Mario 64* signalled the arrival of, literally, a new perspective, everybody was keen to generate the belief that their games were just as well designed and playable. Did *Gex 3D*, *Prince of Persia 3D* and *Pitfall 3D* sell more copies due to their association with a superior game? Perhaps. Nintendo's classic didn't have to shout about its most revolutionary quality by advertising it in the title. In the wake of average platformers with linear designs and limp camera angles, consumers have begun to relate the '3D' suffix not with *Mario* but with poorly conceived gameworlds and naff marketing.

It has been some time now since **Edge** reviewed a game which actively promoted either the term virtual or 3D. Who knows, there may even come a day when the word 'FIFA' fails to shift units. You can but hope.



Sega came up with its respected moniker concept with *Virtua Fighter* (left), and is still using it today with *Virtua Athlete 2K* (centre). *Gex 3D* (right) simply sought to benefit by association

Edge's most wanted

Identifying the hottest incoming blips



Cosmic Smash

(Coin-op) Sega

Simplistic it may be, but *Cosmic Smash* is just one more illustration of Sega breaking rules and flying in the face of convention. It might just work.



Zone of the Enders

(PS2) Konami

While not as visually arresting as the developer's other PS2 game, this is nevertheless a polished title **Edge** hopes will deliver plenty.



Kart Duel

(Coin-op) Namco

Climbing into the deluxe cabinet version (shown) and being thrown around while trying to overtake the competition is just too tempting a proposition.



Virtua Athlete 2K

(DC) Sega

Carrying on where Sega's *Decathlete* series left off, this promises to offer fourplayer action only rivalled by office favourite *International Track & Field*.

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Silent Scope

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GP3

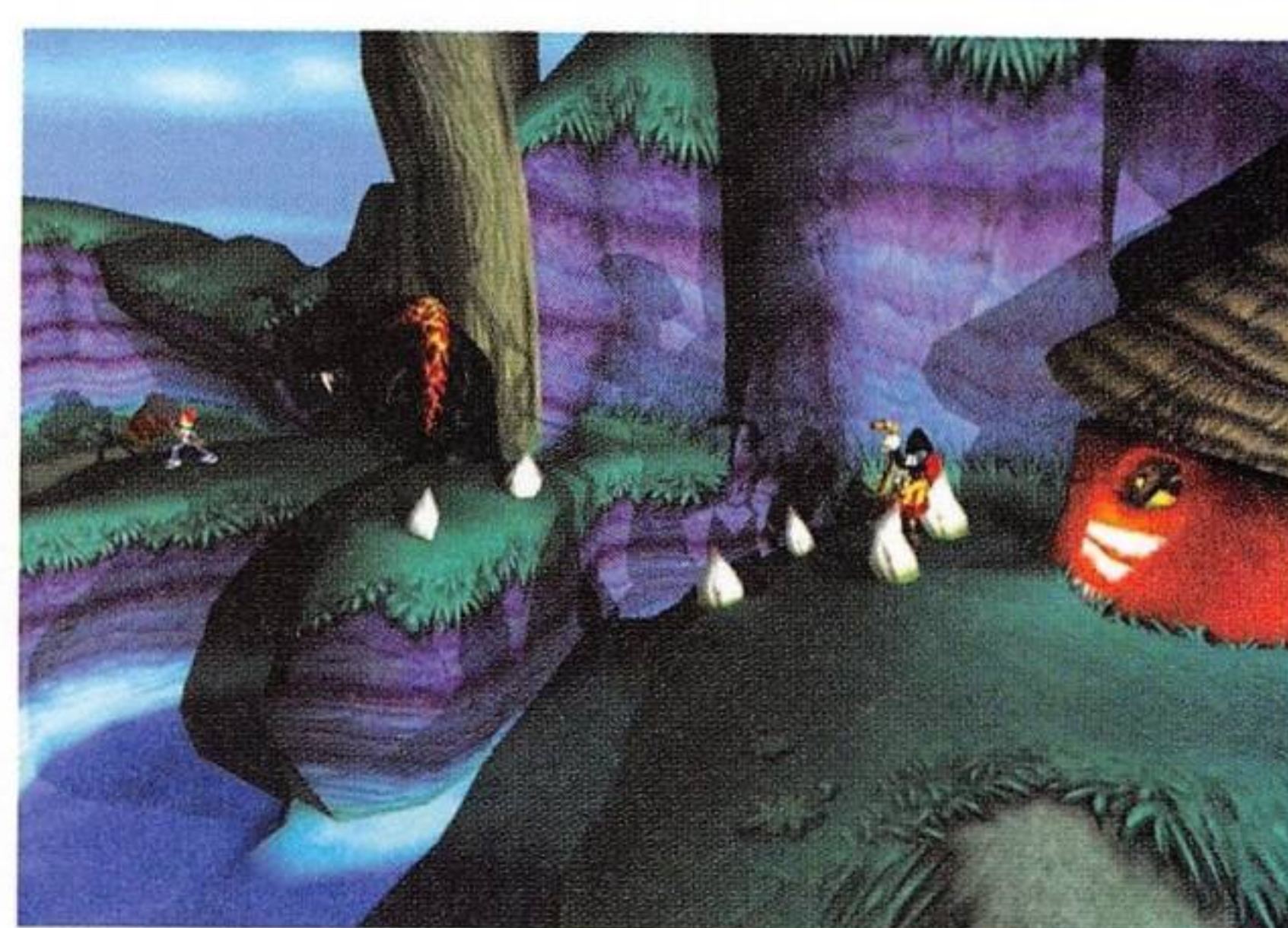
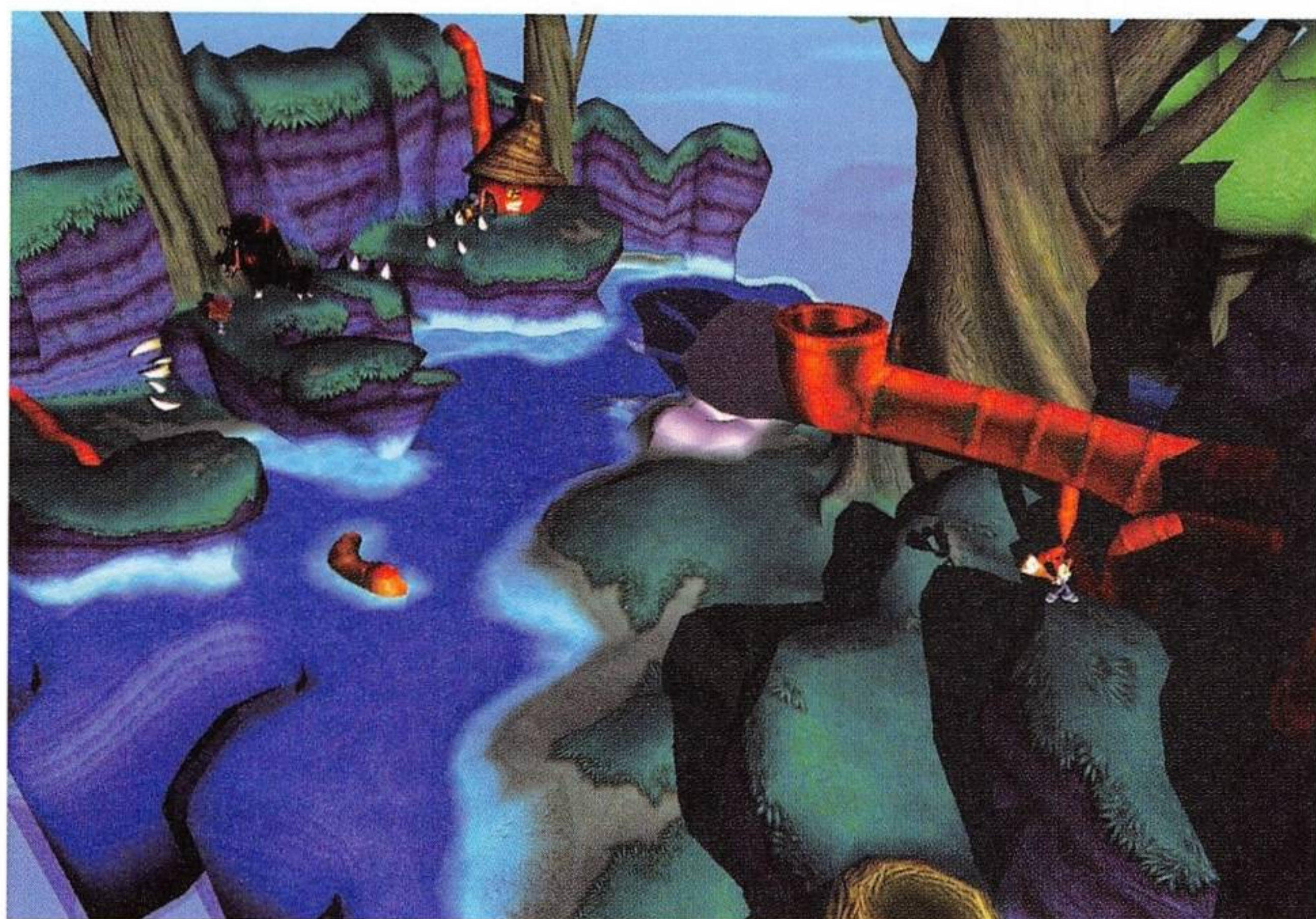
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PRESCREEN ALPHAS

ARGONAUT'S X-BOX GAME OPENS THIS MONTH'S SELECTION AS NEW TITLES FROM SEGA SHOW MUCH PROMISE

MALICE

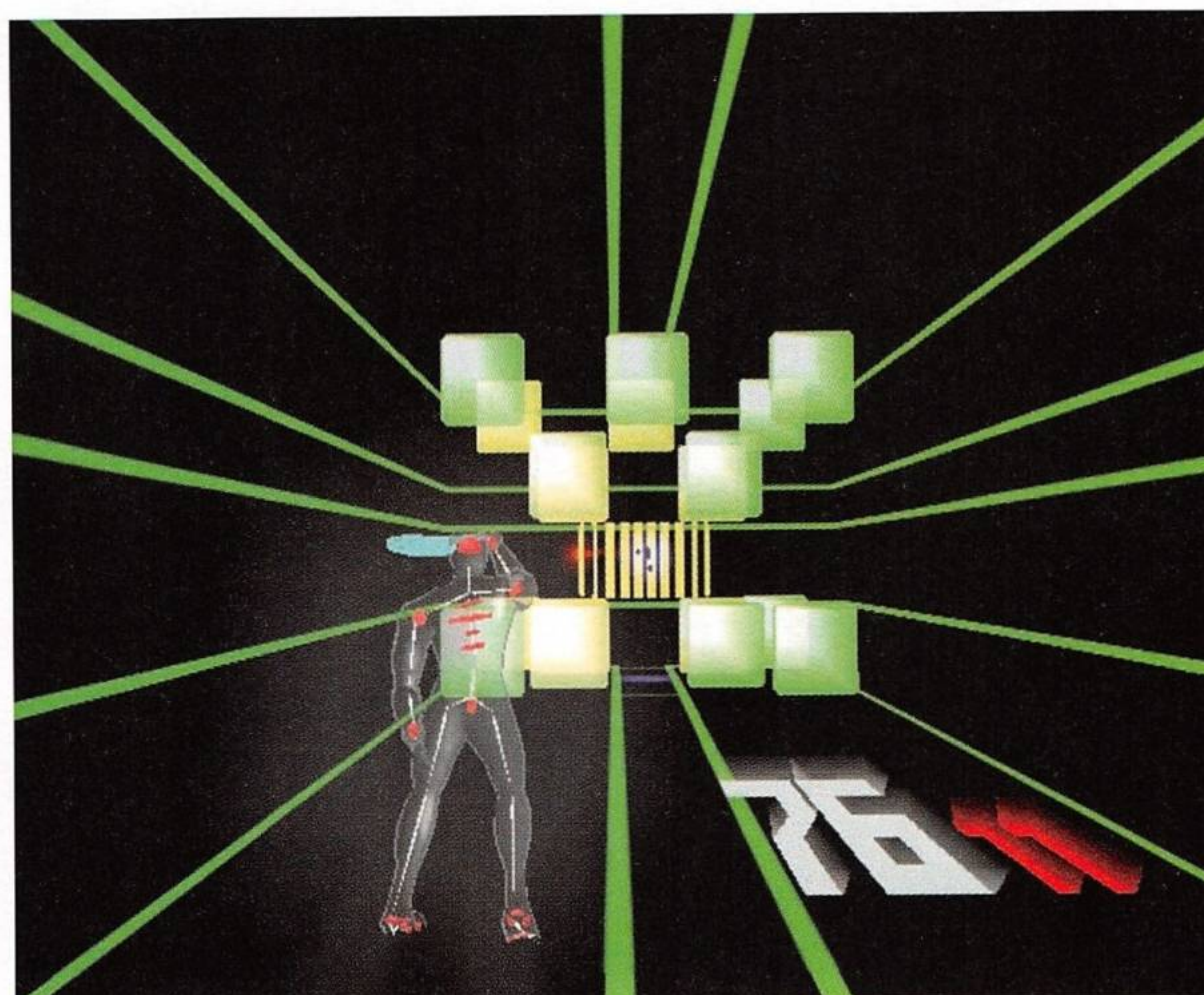
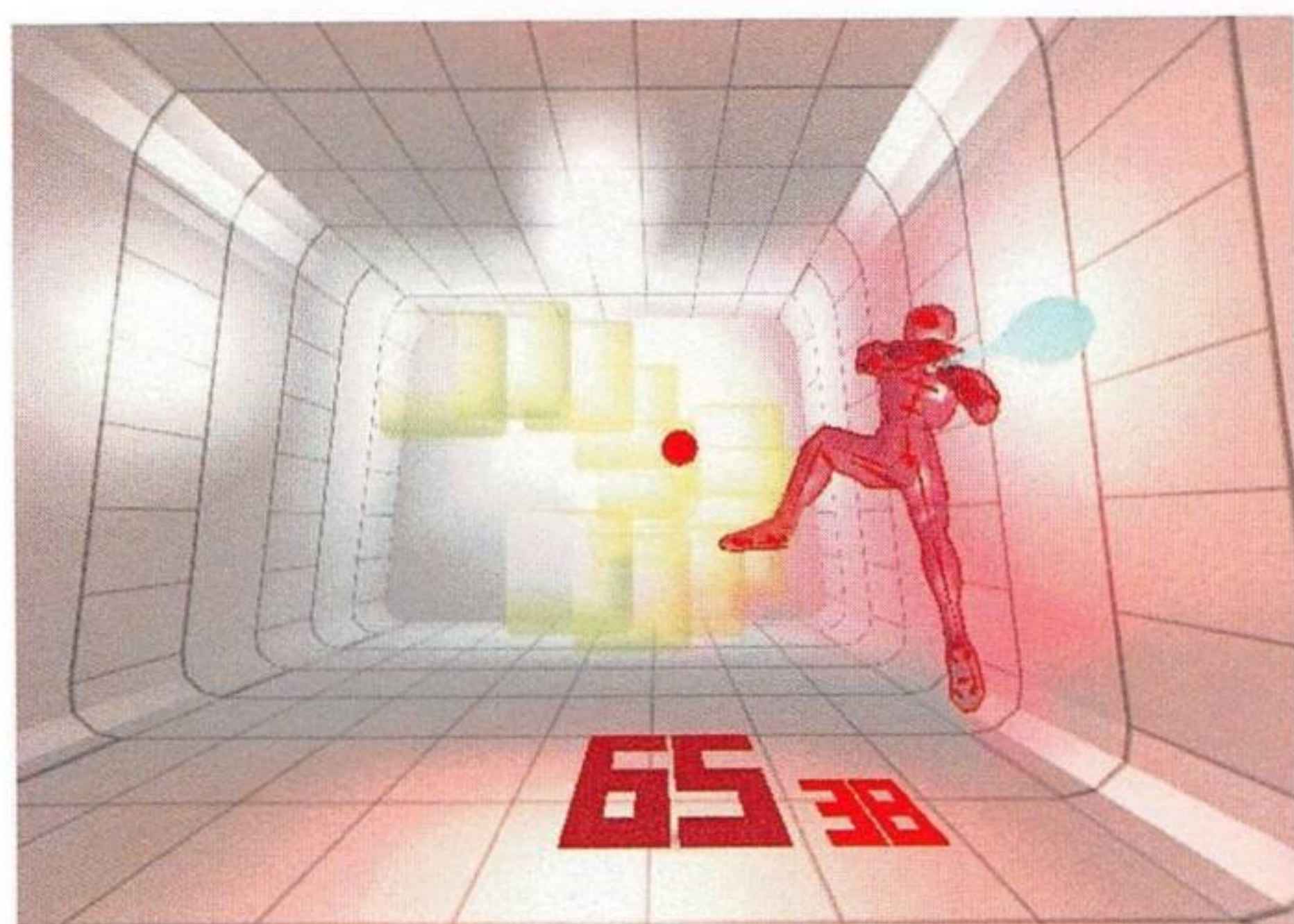
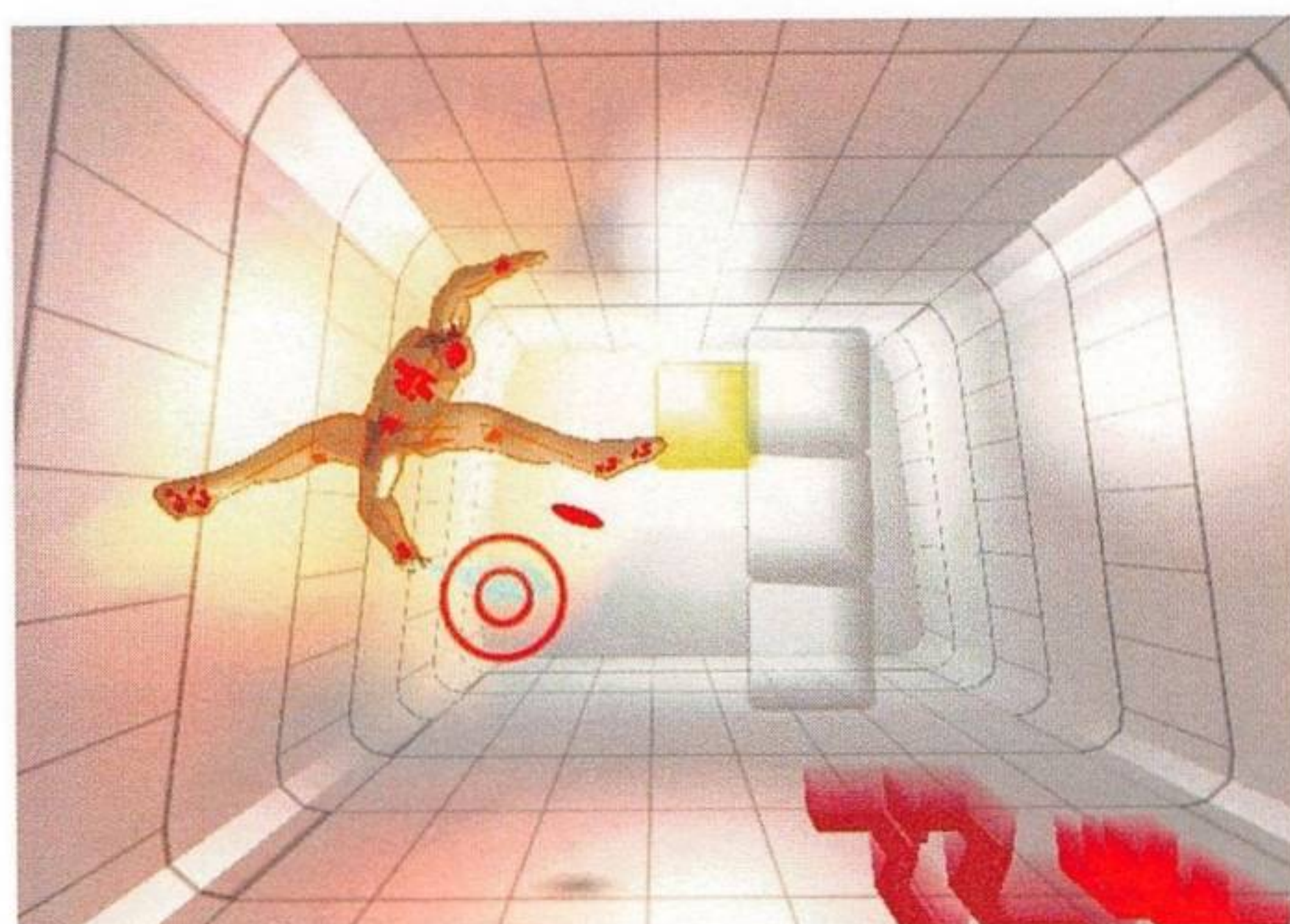
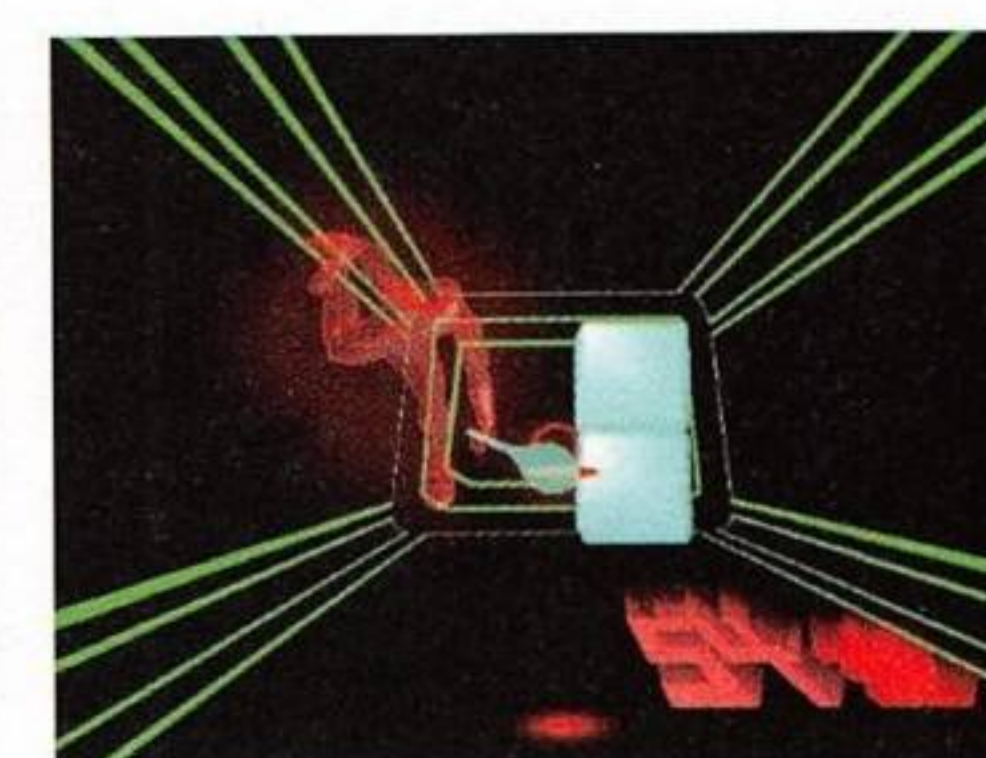
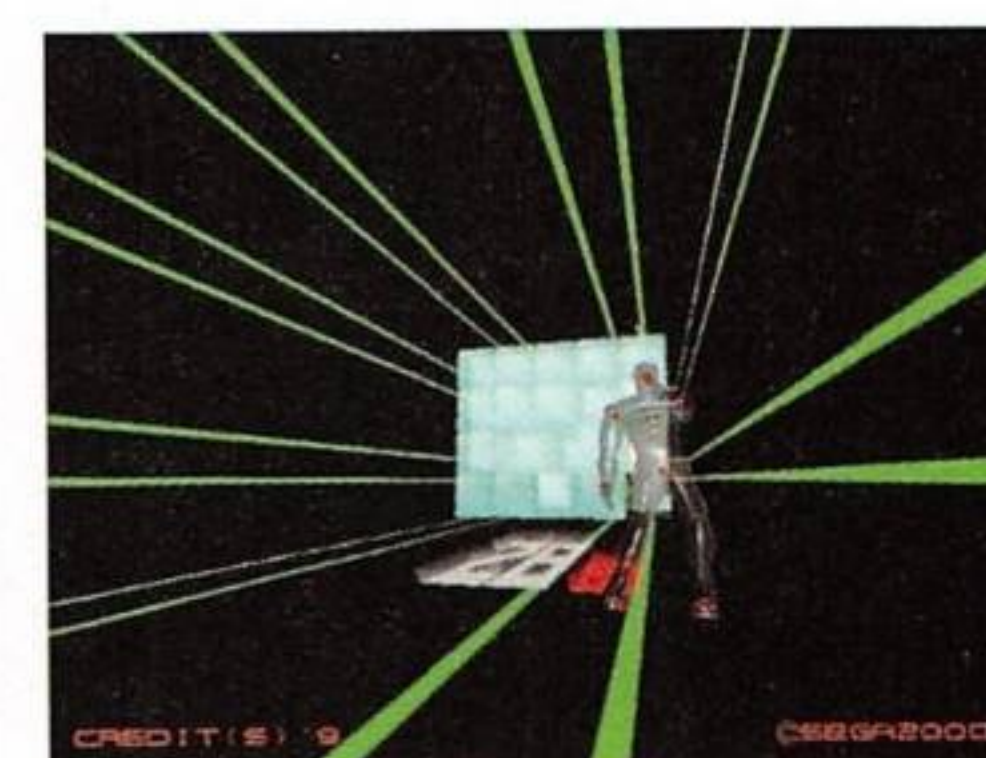
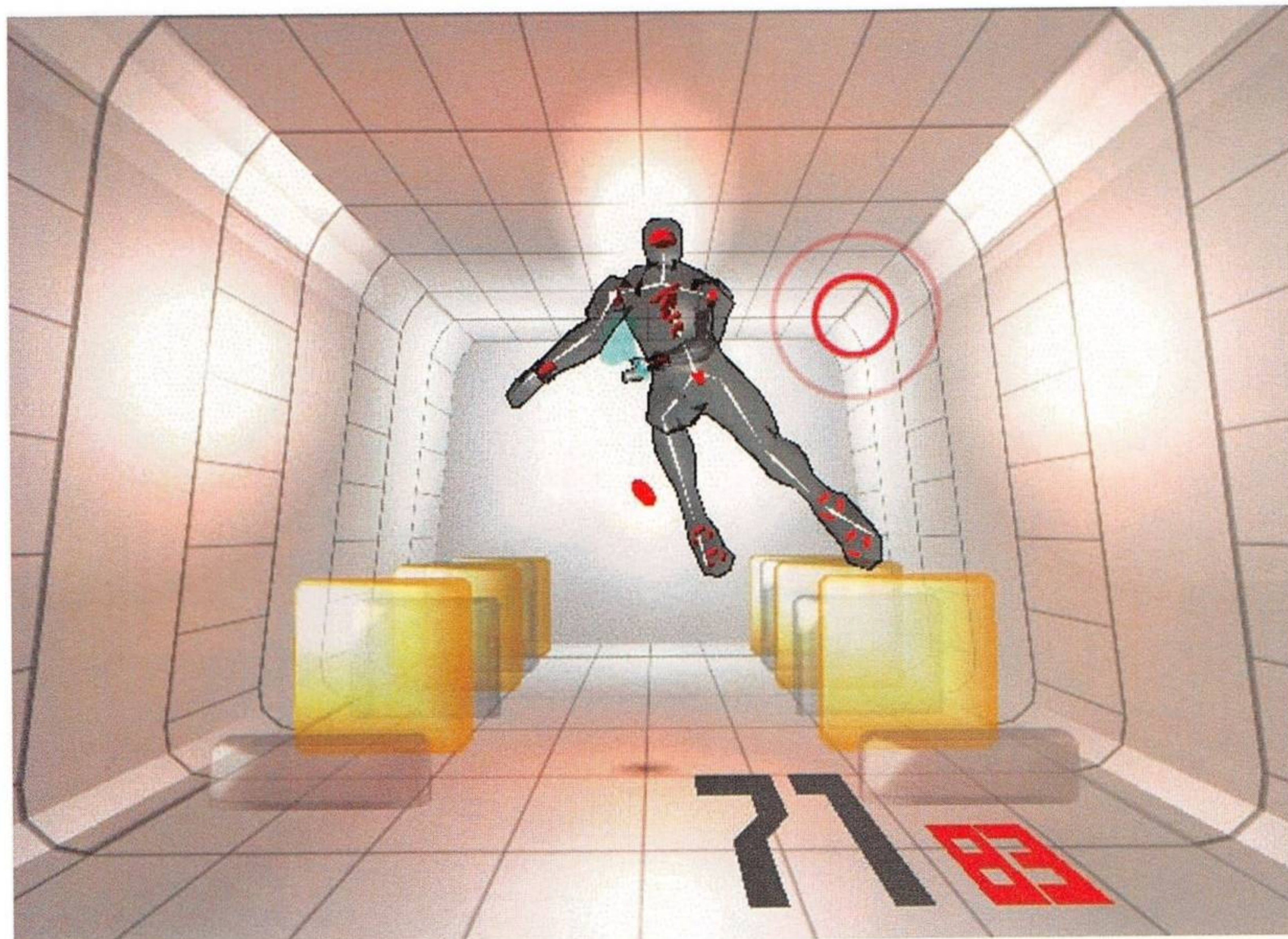
FORMAT: X-BOX DEVELOPER: ARGONAUT



These are world-exclusive shots from Argonaut's X-Box game, codenamed *Malice*. The thirdperson adventure makes use of the developer's new graphics engine, dubbed ShadowCaster due to its ability to handle up to eight independent, realtime lights. Demonstrated on a P1000 armed with nVidia's GeForce 2 card (Argonaut's Jez San claims the card pales next to X-Box's specs), *Malice* impresses. Characters cast shadows on themselves, the landscape and each other, while bump-mapping adds visual depth to the detailed textures. San is reluctant to reveal much of the game's plot, other than that it features a female character who morphs into a child and then various animals as play progresses. The mono shots here were specifically prepared to show off bump-mapping effects.

COSMIC SMASH

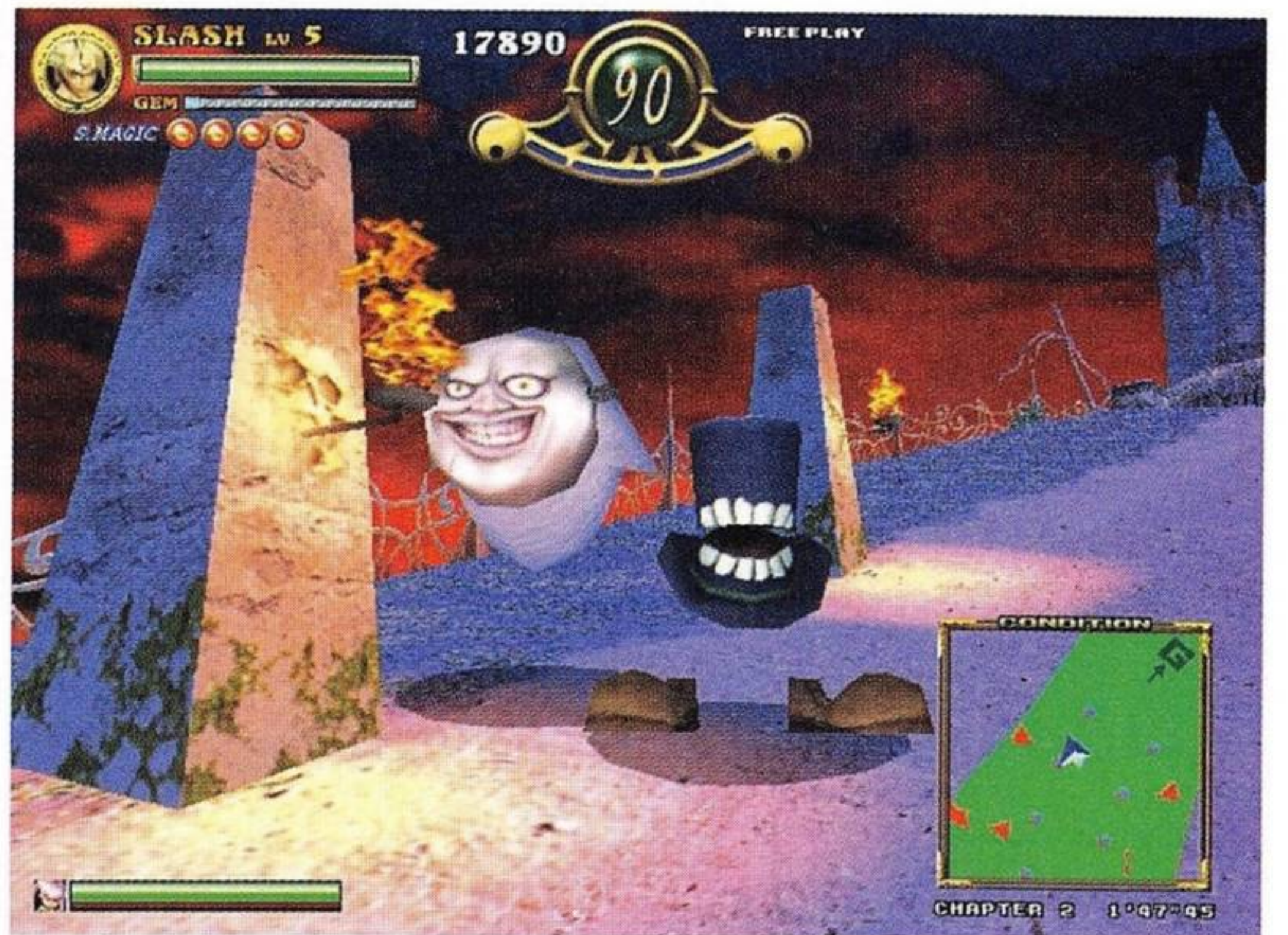
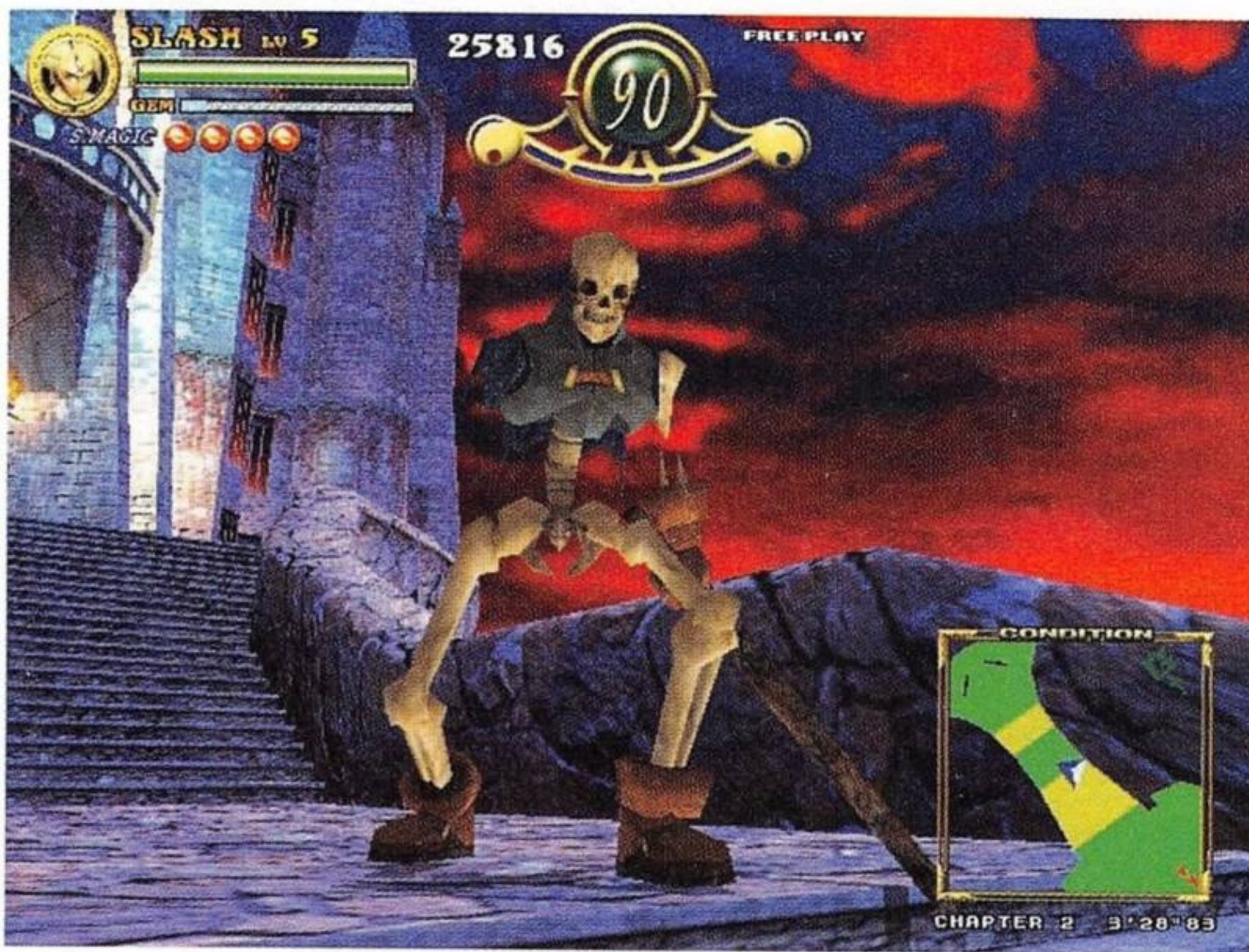
FORMAT: COIN-OP DEVELOPER: SEGA ROSSO



Inspired by Disney's 1982 special-effects-fest 'Tron', *Cosmic Smash* mixes *Arkanoid* with squash. Once placed in a closed room, your task is to destroy blocks by hitting them with a ball launched by your racket. A variety of obstacles exist – some of them move while others are not easily destroyed. As any of the surfaces can be used to rebound the ball, it's up to you to decide how to dispose of all of the blocks before the time limit runs out. Control is limited to a jump and a smash button, with special moves achieved through simultaneous use of the pair, though a time penalty ensures this feature isn't abused. Though simplistic, the visual style complements the action commendably and is another example of Sega's continued commitment to injecting new ideas into a coin-op market desperately in need of invigoration.

SLASHOUT

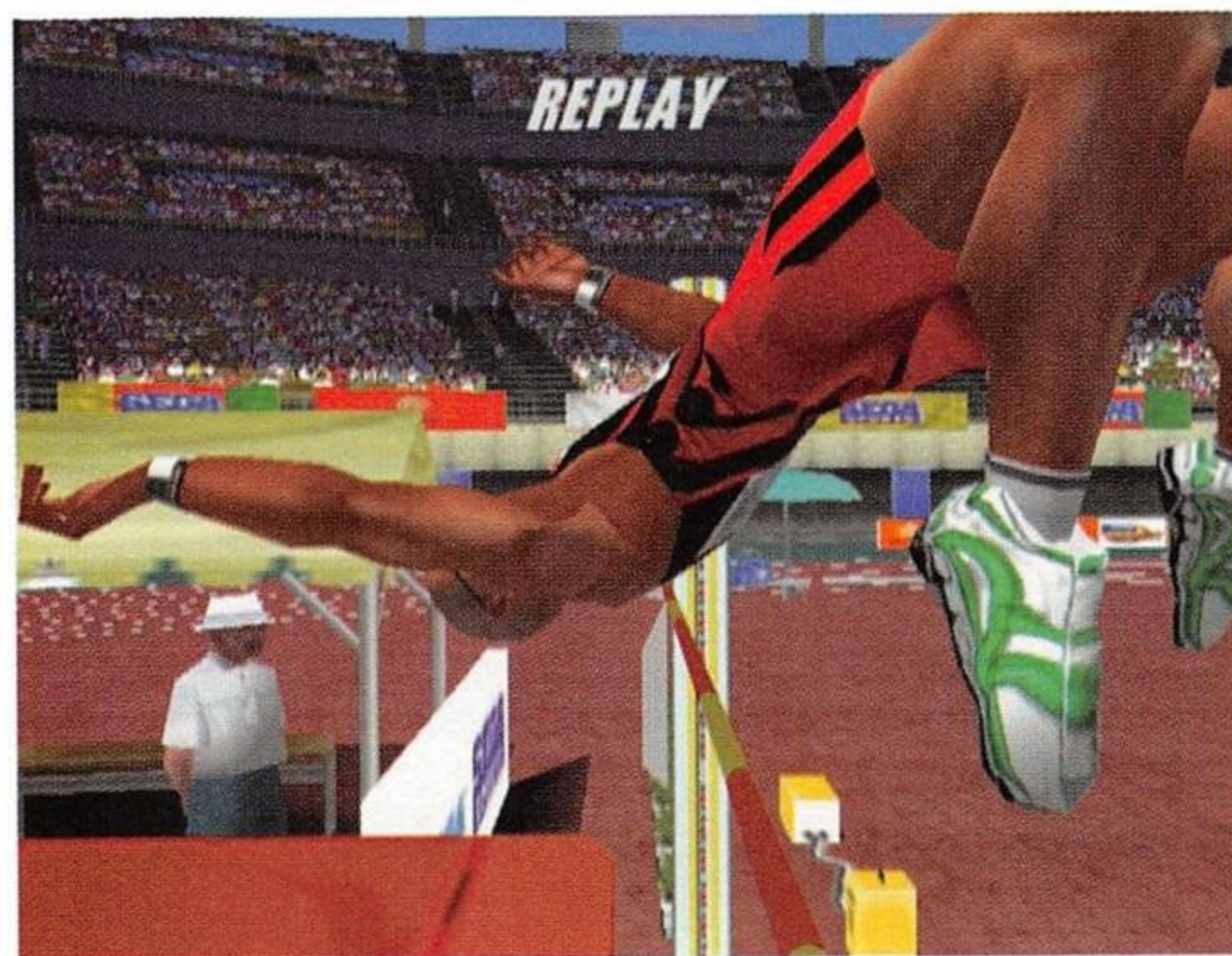
FORMAT: COIN-OP DEVELOPER: SEGA SOFT 4



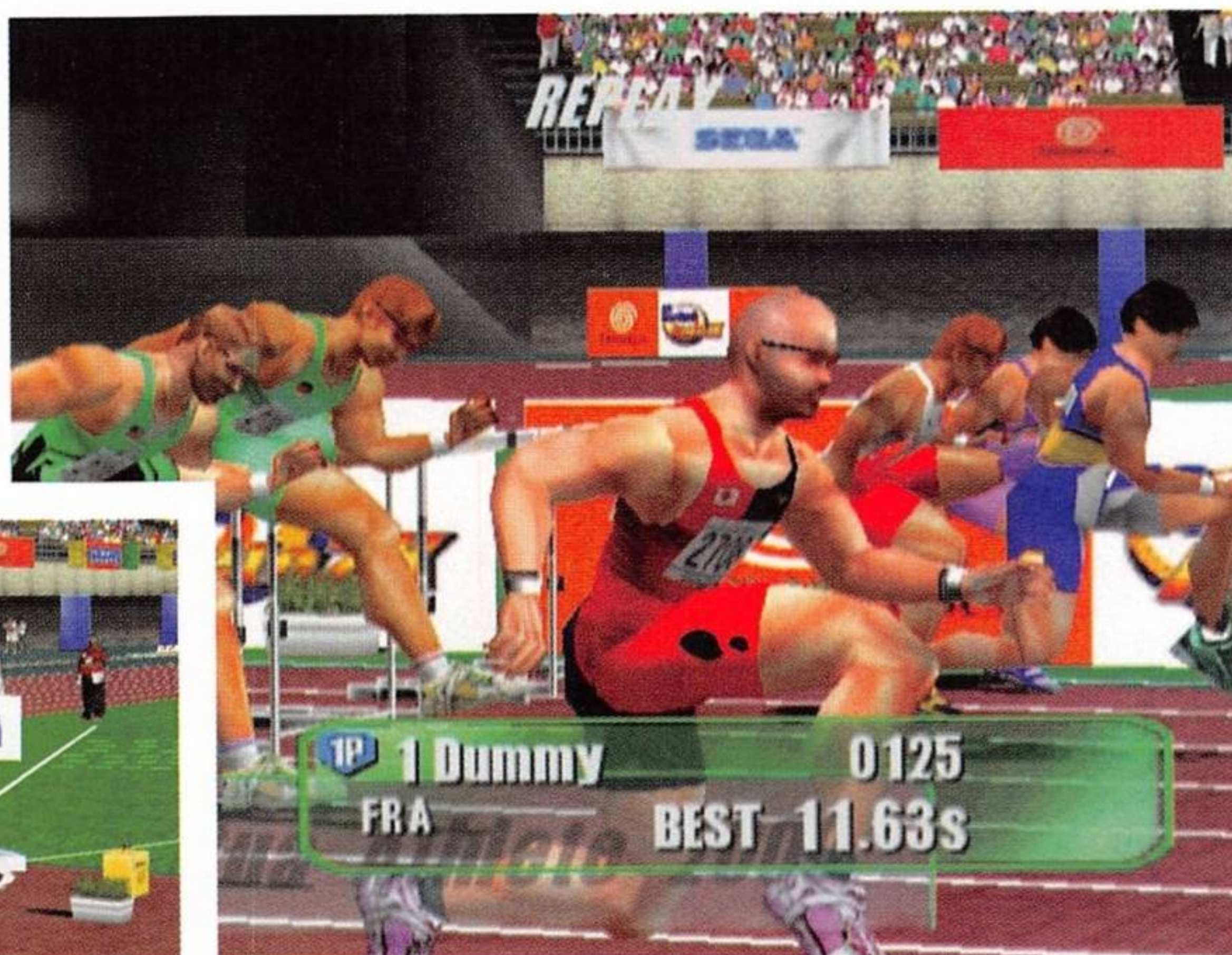
This sequel to *Spikeout* is a scrolling 3D beat 'em up in the same vein as the original, though with the action transplanted to a fantastical setting. No more fighting with bare hands or an iron bar, as each of four characters available are equipped with a blade to hack their way through eight stages populated with some 40 types of assailant – of which four can appear onscreen at any one time. Multiple paths add replay value, and a variety of items provide character upgrades, including access to magic, which becomes more important as the game progresses and the bosses become harder to fell.

VIRTUA ATHLETE 2K

FORMAT: DC DEVELOPER: AMUSEMENT VISION



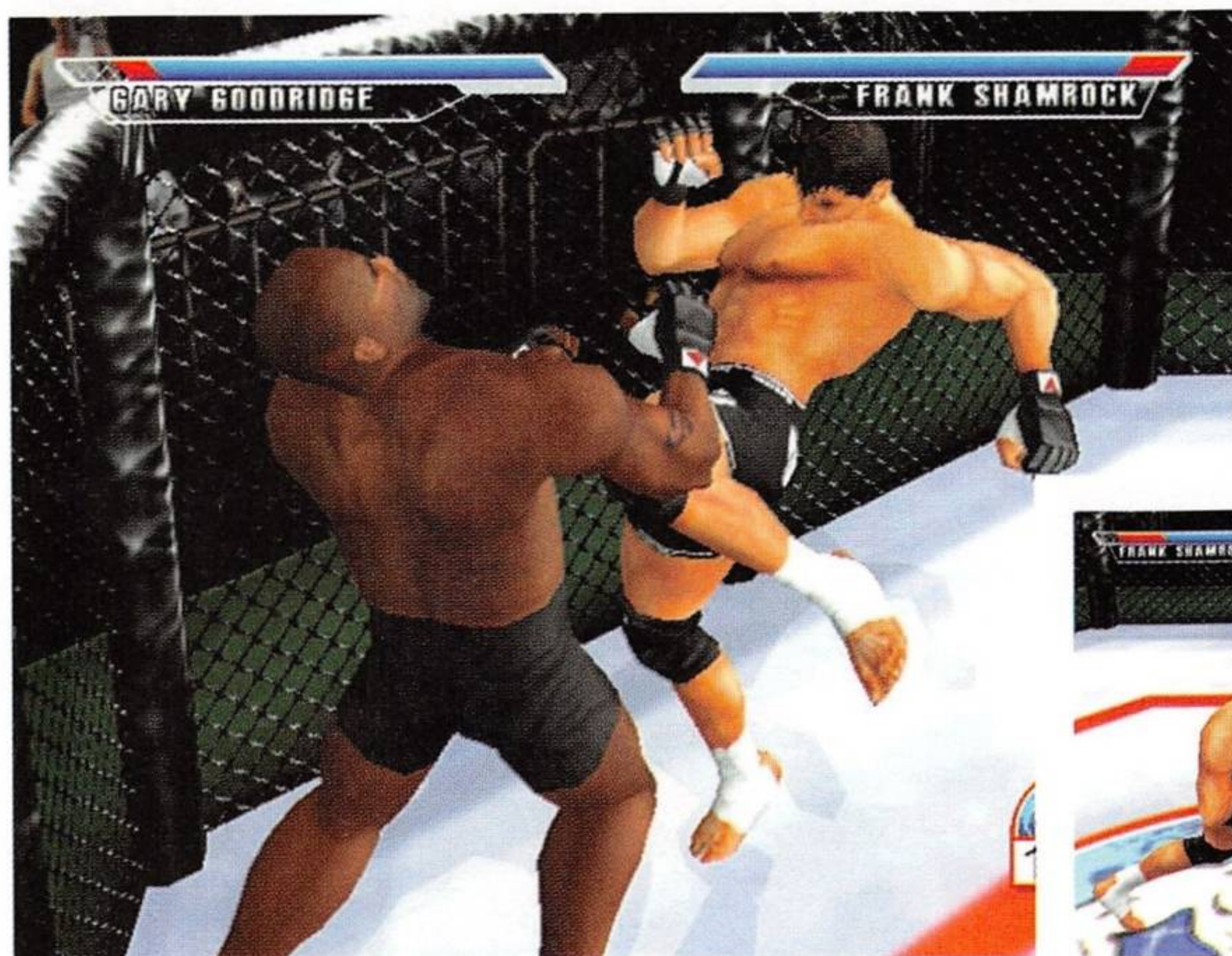
Although Eidos has snapped up the official licence to the Sydney Games, Sega's *Virtua Athlete* is set to be released in time to cash in on the hype surrounding the 27th Olympiad. Motion-captured athletes will participate in seven disciplines: 100m sprint, 110m hurdles, 1,500m, long jump, high jump, shot put and javelin. While the controls are unlikely to deviate too far from the norm in the track and field genre, and fourplayer support is standard, scores can be posted on the Internet to obtain a worldwide ranking, and ghosts can be downloaded to compete with offline. The characteristics of athletes can also be tweaked by the player, intriguingly, by selecting three sports from a range of 90 in which they have trained.



ULTIMATE FIGHTING CHAMPIONSHIP

FORMAT: DC DEVELOPER: CRAVE ENTERTAINMENT

For a game based on such a fundamentally dodgy 'sport' (it is banned from all but a handful of states in America), *UFC* is a massively ambitious fighting game, promising a total of 3,000 moves and 1,200 combos from 34 different styles of combat – all of which purportedly used in the real thing. From sampling early code it's clear the developer is taking the task seriously: animation is fluid, fighter models are realistic, and the solidity felt when a successful blow is landed is unlike few other beat 'em ups. Control is vaguely *Tekken*-esque, with two buttons assigned to each side of the body (for left and right punches and kicks), and the variety of fighting disciplines promises to deliver a massively varied game.



TRUCK KYOSOKYOKU

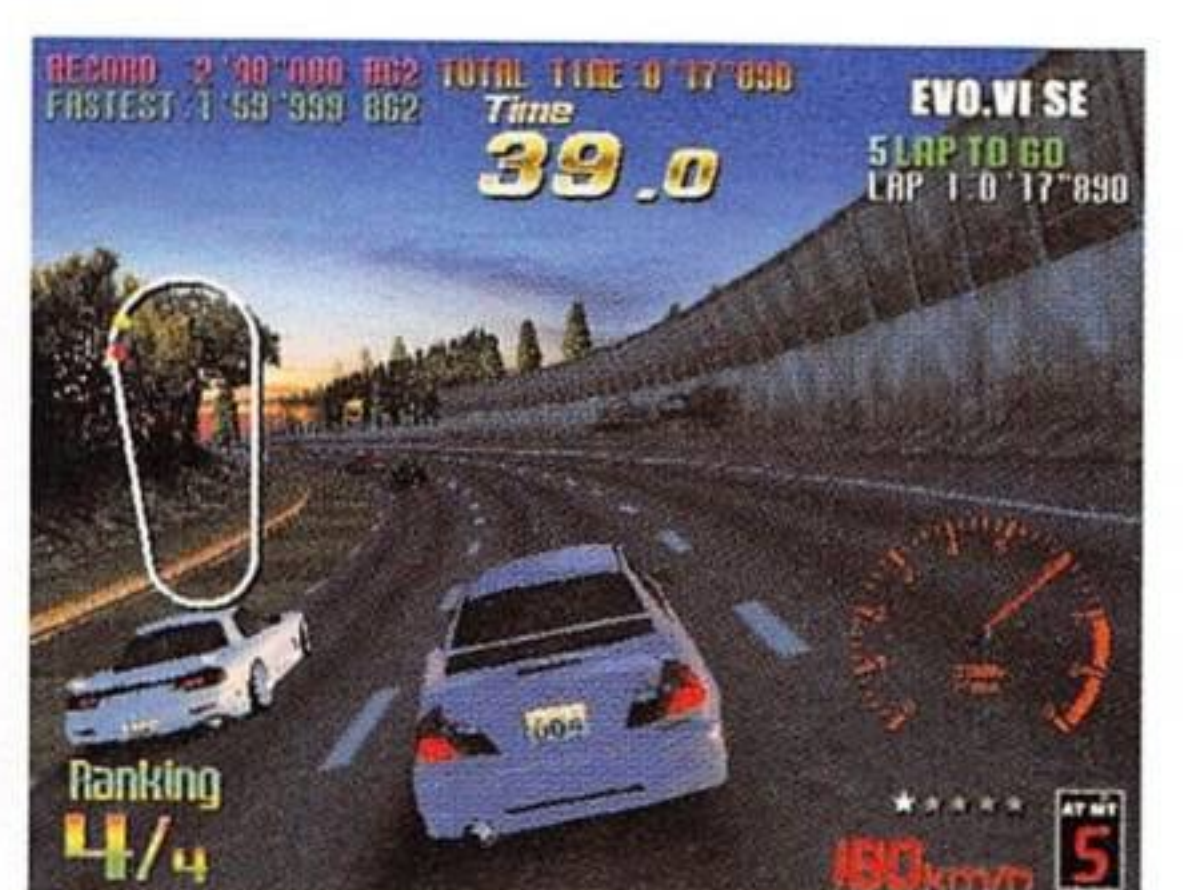
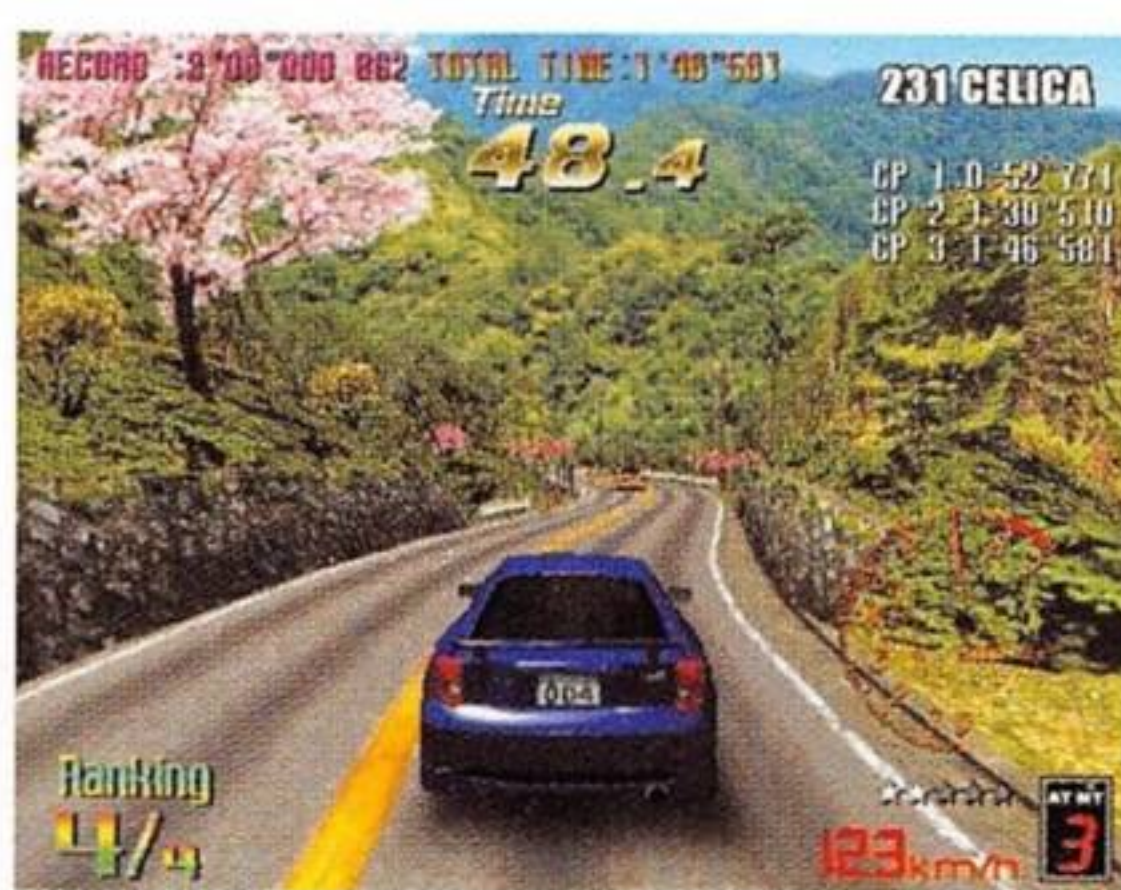
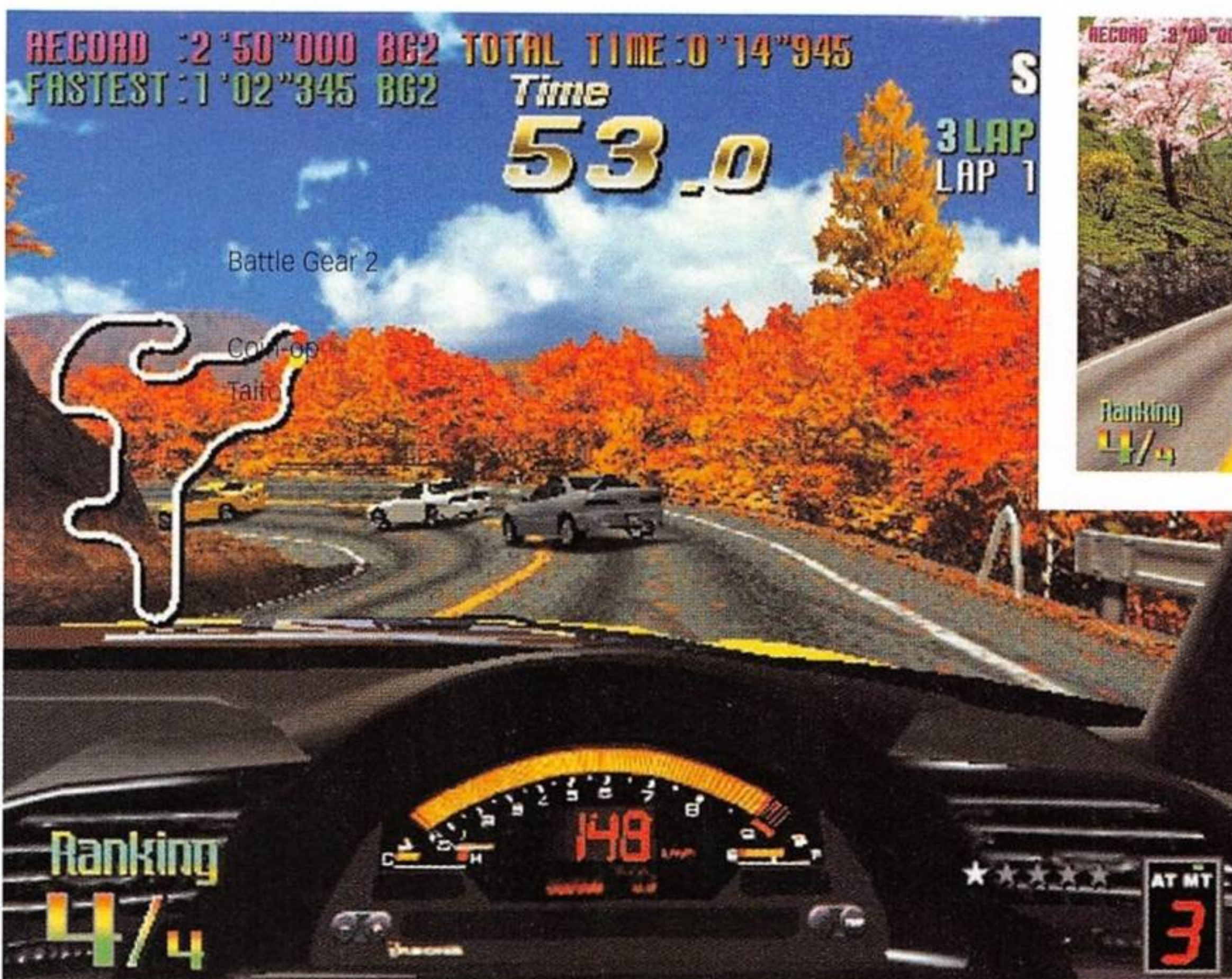
FORMAT: COIN-OP DEVELOPER: NAMCO

Roughly translated as *Crazy Truck Driver* (or *Truck Symphony*, if deciphered phonetically), this lorry racing title is one of two new Namco coin-ops using a standard PlayStation1 board instead of the usual PS-enhanced System 11 and 12 arcade boards the publisher has used in the past (for the *Tekken* series, for instance). The PS roots are evident in the visuals, though as with *Kart Duel* (another PS-powered coin-op, see p10), they serve their purpose surprisingly well. As with Sega's *18 Wheeler*, the cabinet features an oversized steering wheel that makes everyone look a bit daft, though most will be too engrossed to care. Despite the screenshot, **Edge** can assure you that running over cats is not the game's main objective.



BATTLE GEAR 2

FORMAT: COIN-OP DEVELOPER: TAITO

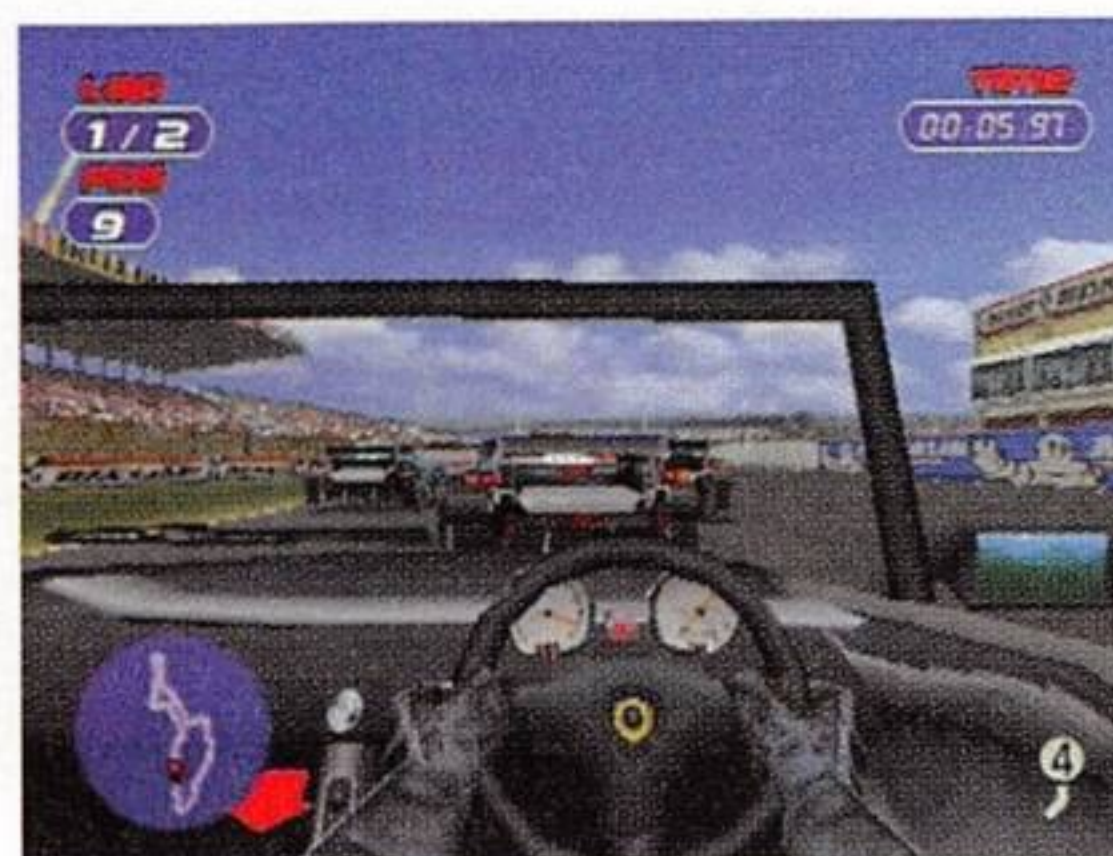
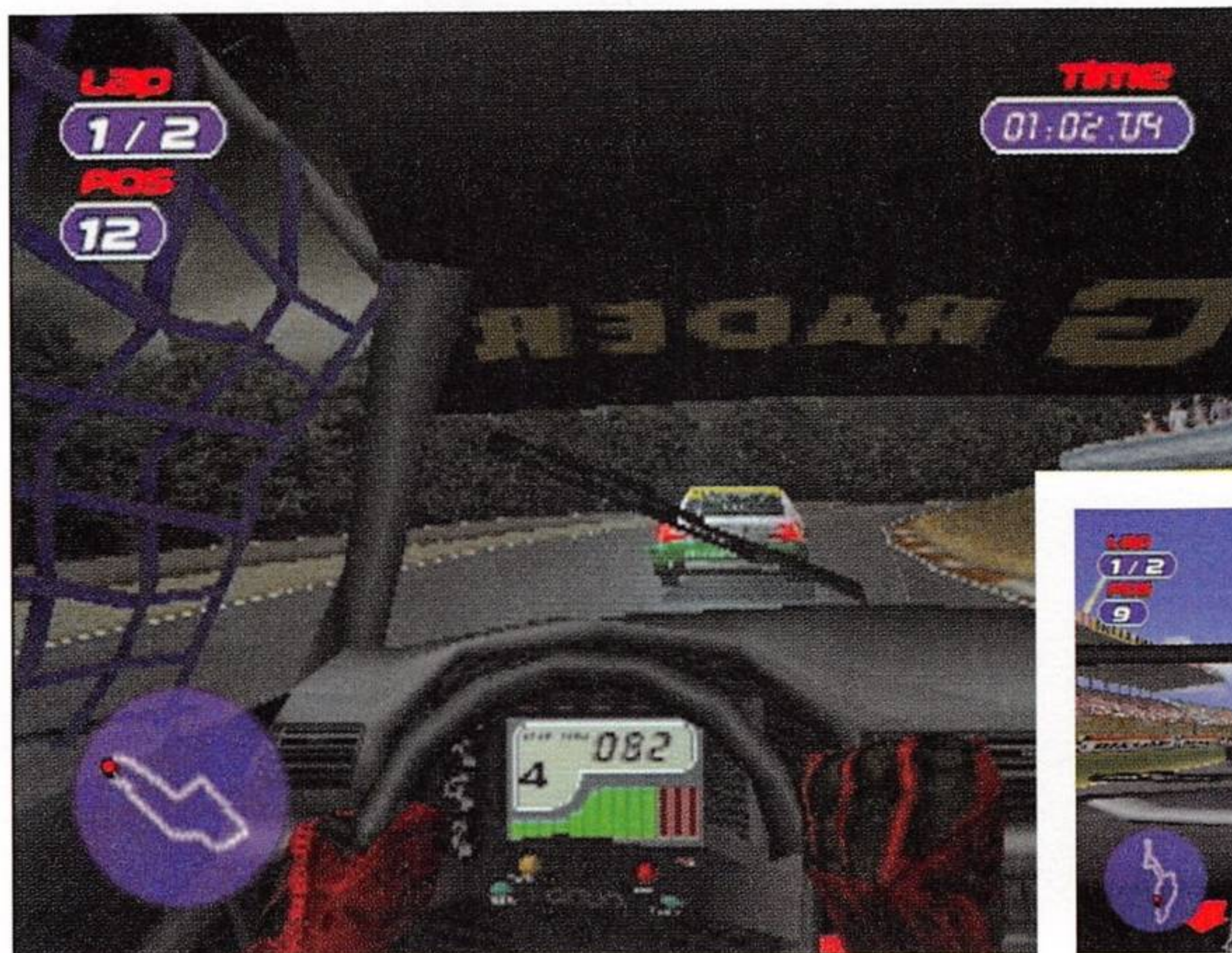
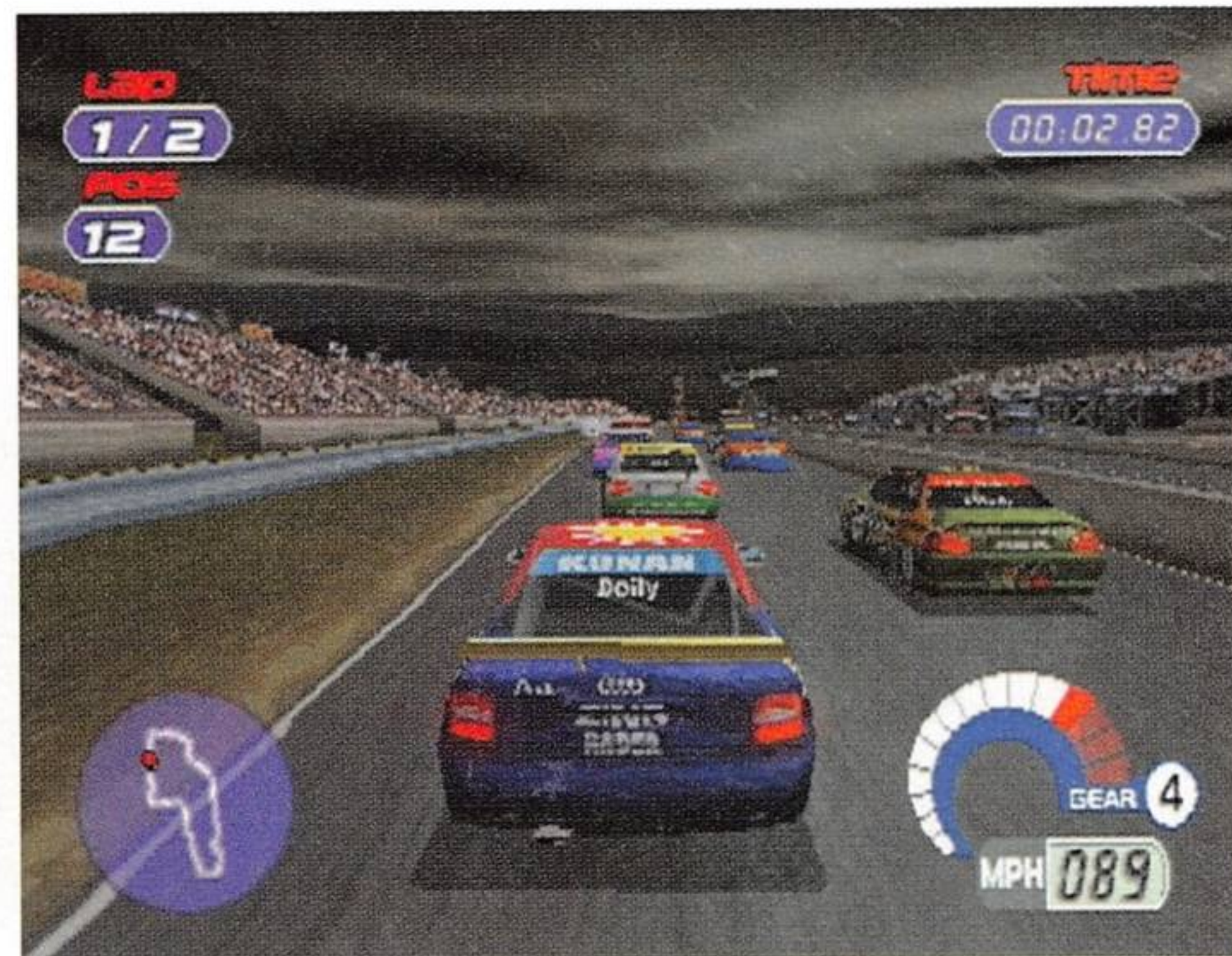


After relative success with the first instalment released some 17 months ago, Taito returns with an improved sequel. The principle of GT-class racing remains, with 29 cars from six manufacturers (divided into three power classes) hurtling through seven tracks depicting typical Japanese landscapes. Control, though simple, is addictive and fun. A one and two player cabinet version is offered, while link options allow four player action, but the antisocial will be happy to learn the game includes a Time Attack mode for solo play. Should you post a fastest lap a password appears which you can post on Taito's Web site.

TOCA WORLD TOURING CARS

FORMAT: PS DEVELOPER: CODEMASTERS

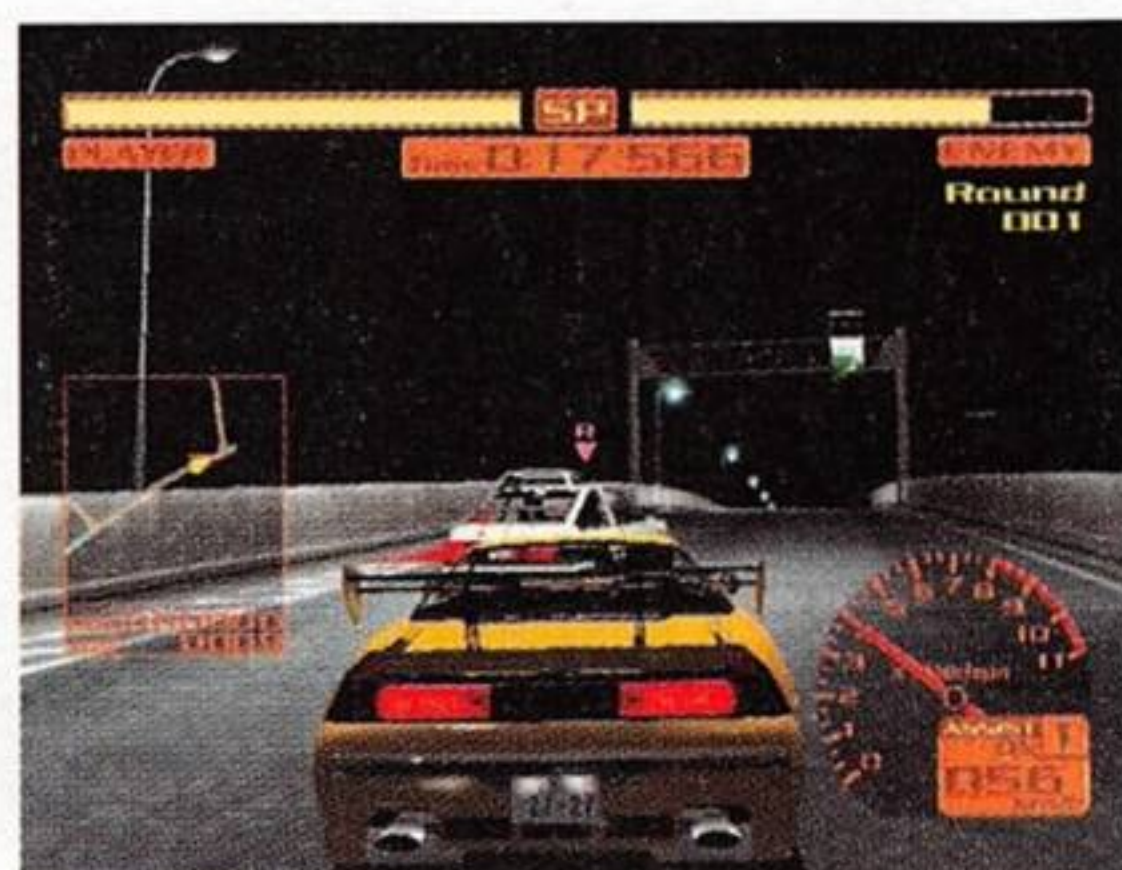
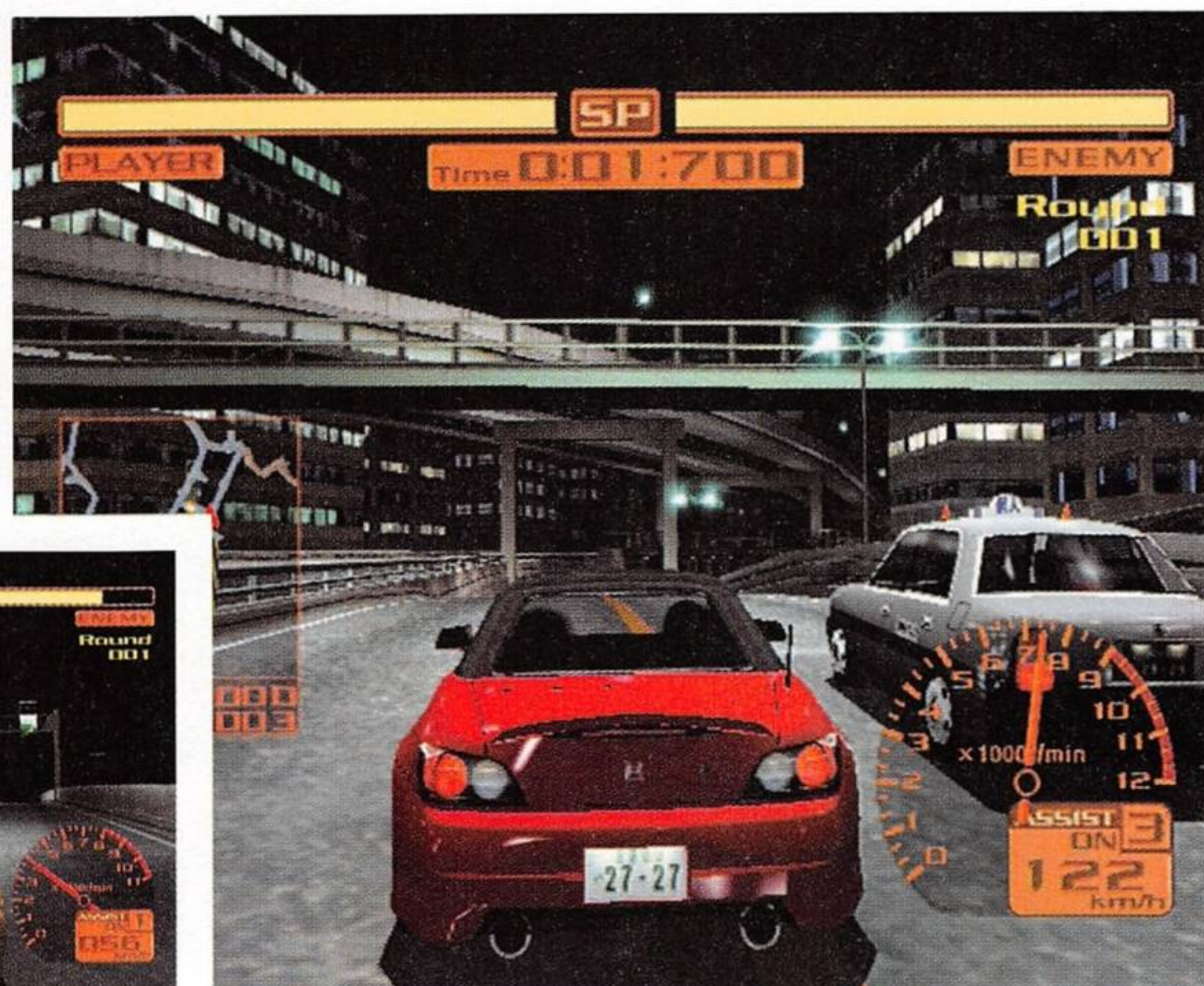
Due out on August 25, the game Codemasters believes to be the greatest racer ever written for PlayStation1 should be finished by the time you read this. While **Edge** obviously cannot currently confirm the developer's bold claim, the preview builds that have arrived in the office over the last few months have at least been massively promising. Handling may be a little too twitchy for some (certainly when viewing the action from the 'chase cam') but it's more a matter of getting used to it than anything else. Car and track selection is extensive and the various racing options – spread across five continents – easily make this the *TOCA* series' most complete package yet. Expect an **Edge** review soon.



SHUTOKOU HIGHWAY BATTLE 2

FORMAT: DC DEVELOPER: GENKI

Arriving a whisker too late to be included in this month's testscreens, the sequel to Genki's massively disappointing racing venture appears to have undergone a major service. Handling – one of the original's fundamental flaws – is now more responsive, with cars gripping the asphalt far more convincingly. And, of course, the visuals have been massively improved, with even better use of lighting than its predecessor, while maintaining its fluid frame rate. Track length, another criticism of *Shutokou 1*, is also boosted (to a healthy 150km). However, a twoplayer mode is nowhere to be seen. Review next month.

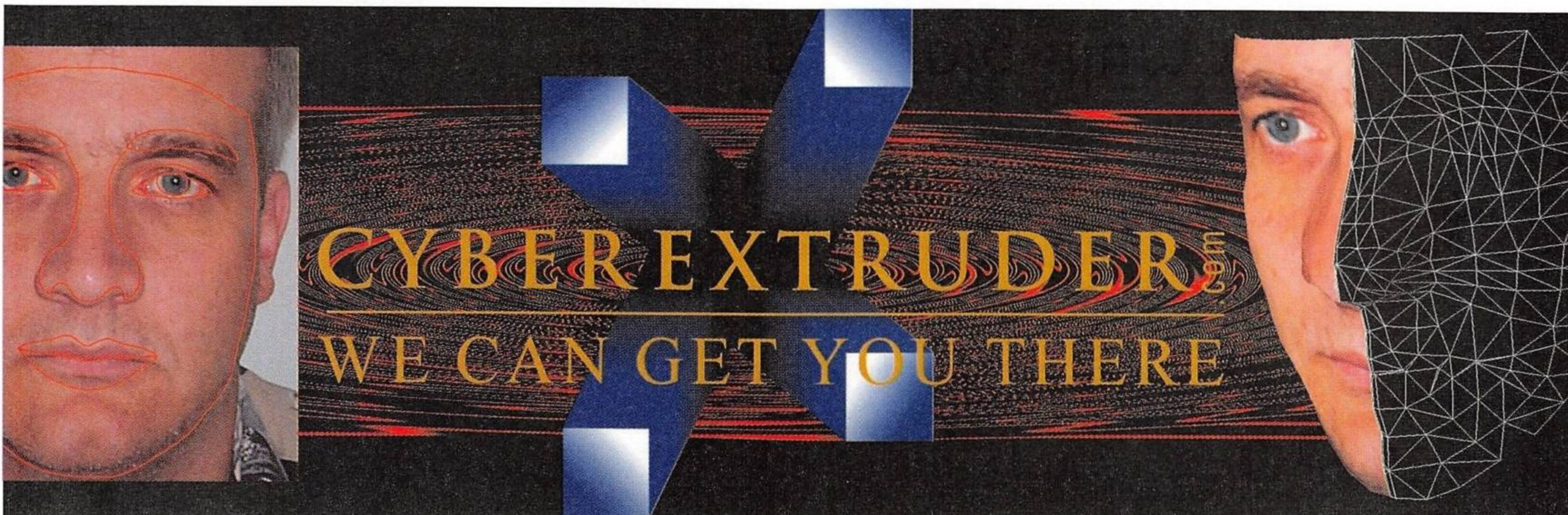
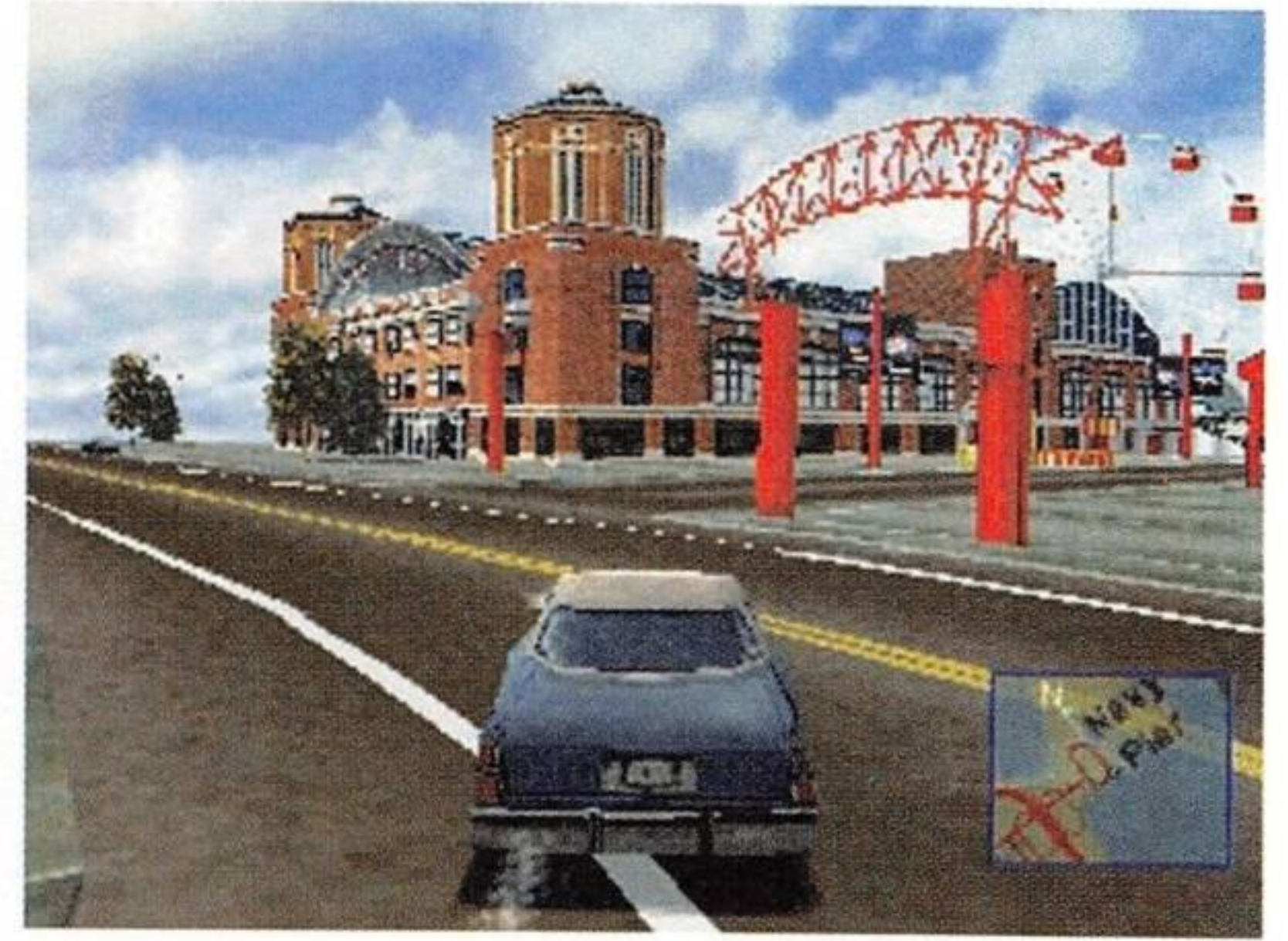


DRIVER 2

FORMAT: PLAYSTATION DEVELOPER: REFLECTIONS

When **Edge** visited Reflections' studios, the most innovative feature of *Driver 2* was still at the drawing-board stage. The ability to exit your vehicle and enter other cars, flick switches or disarm bombs is still very much under construction. Just how much these elements will add to

Driver remains to be seen, although it's likely that they'll simply boil down to simple event triggers. The driving element of the game plays magnificently, and other additions include a twoplayer splitscreen, curved roads and extra vehicles including fire engines and a school bus.



NASCAR 2001

FORMAT: PS2 DEVELOPER: EA

No one will suffer heart seizure from the realisation that previous NASCAR instalments on a variety of consoles have always been held back by technical limitations more than any other problem. True, dynamics have been questionable at best, though you could argue that to also be hardware related. On PlayStation2, however, developers have none of the above excuses. With this in mind, EA is attempting to create the most exciting representation of this explosive race series to date. Improved visuals, better AI (each car has a routine based on one of the 33 licensed drivers), enhanced physics, extensive damage options and effects should provide you with all of the 'Days of Thunder' moments your cardiac muscle can take.



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INSANE

FORMAT: PC DEVELOPER: INVICTUS

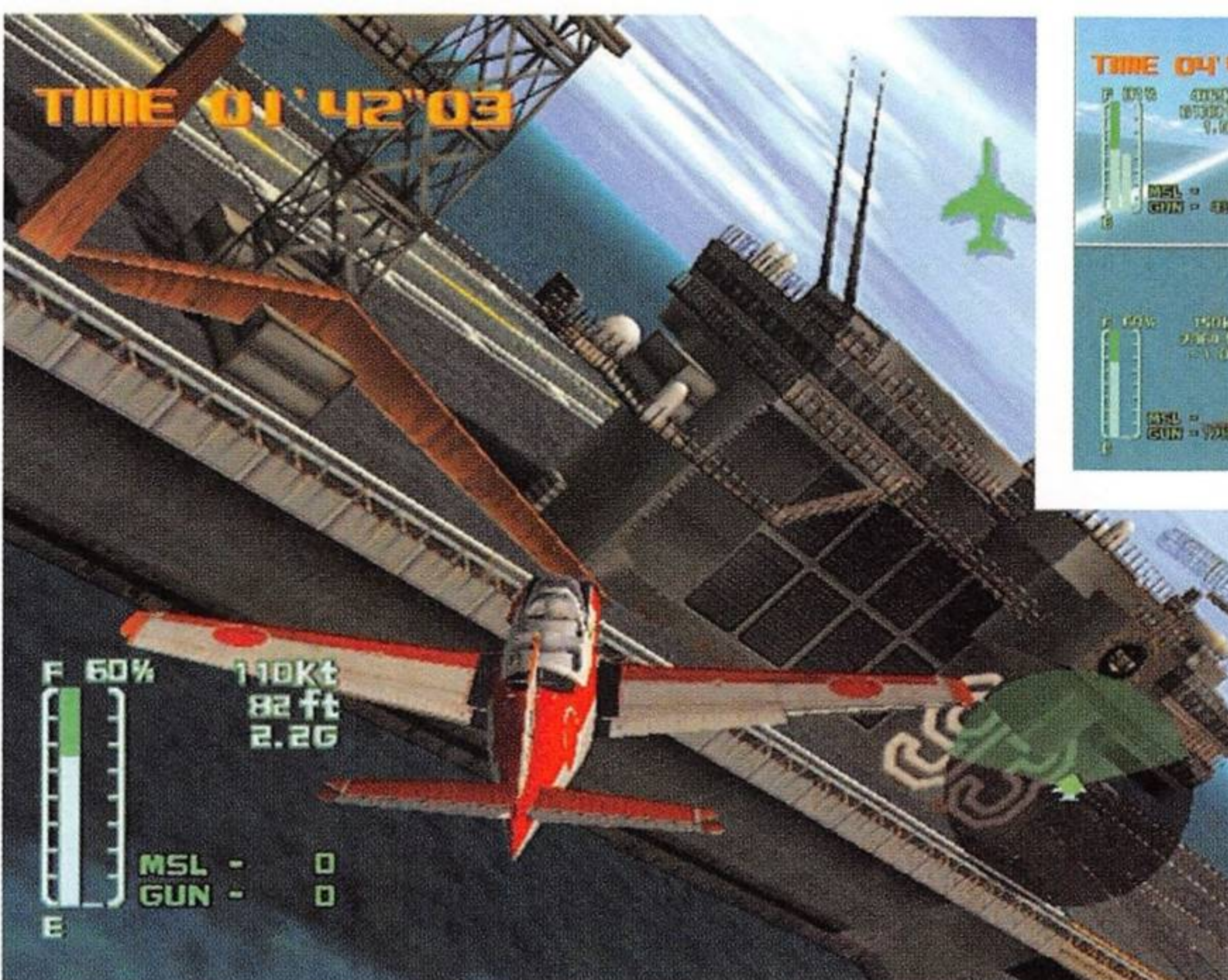


Designed specifically with online and LAN play in mind, this Codemasters-published racer promises to deliver frantic off-road competition as players choose a weapon from a selection of dynamically differing jeeps, trucks, or military vehicles. The open environments – which even feature wandering herds of buffalo – offer some bumpy rides as each driver picks a route of his/her choice, and range from the wintry feel of California's Yosemite Park to the searing heat of an African desert. Play modes include Capture the Flag and Soccer games as well as the Jamboree option – a race through a series of randomly placed gates where it's up to you to work out the quickest and safest way of getting from one to the next.



AEROWINGS 2

FORMAT: DREAMCAST DEVELOPER: CRI



One of the first Dreamcast titles to make it to market, the original *Aerowings* was praised for its detailed environments, but most gamers simply could not see the appeal in formation flying for points. 'Give us some things to shoot', they wailed. And that's exactly what developer CRI has done, throwing all manner of foe at players who must work their way up through the aeronautical food chain, from prop-driven crates to fully fledged jets. The game's extensive training mode, taking gamers through every essential flying discipline, proves not to be the chore it looks on paper but in fact strangely addictive.



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THE MECHSMITH

FORMAT: PS2 DEVELOPER: DDS

An action/simulation hybrid, *The Mechsmith* should offer an unusual degree of robot customisation, allowing you to design and fit new parts to your fighting machine. Every new design can be tested by undergoing training options and in-game battle sequences retain the 3D perspective while also enabling you to instruct your robot with basic commands.



THE SIMS: LIVIN' IT UP

FORMAT: PC DEVELOPER: MAXIS

This official add-on provides new situations and objects to extend the quirky humour of the original. New careers include Paranormal, Hacker and Journalist. Alien abductions and roach infestations add spice, as does a chemistry set that can have unpredictable results. New architectural styles include a castle aesthetic and a retro style that harks back to '60s chic.



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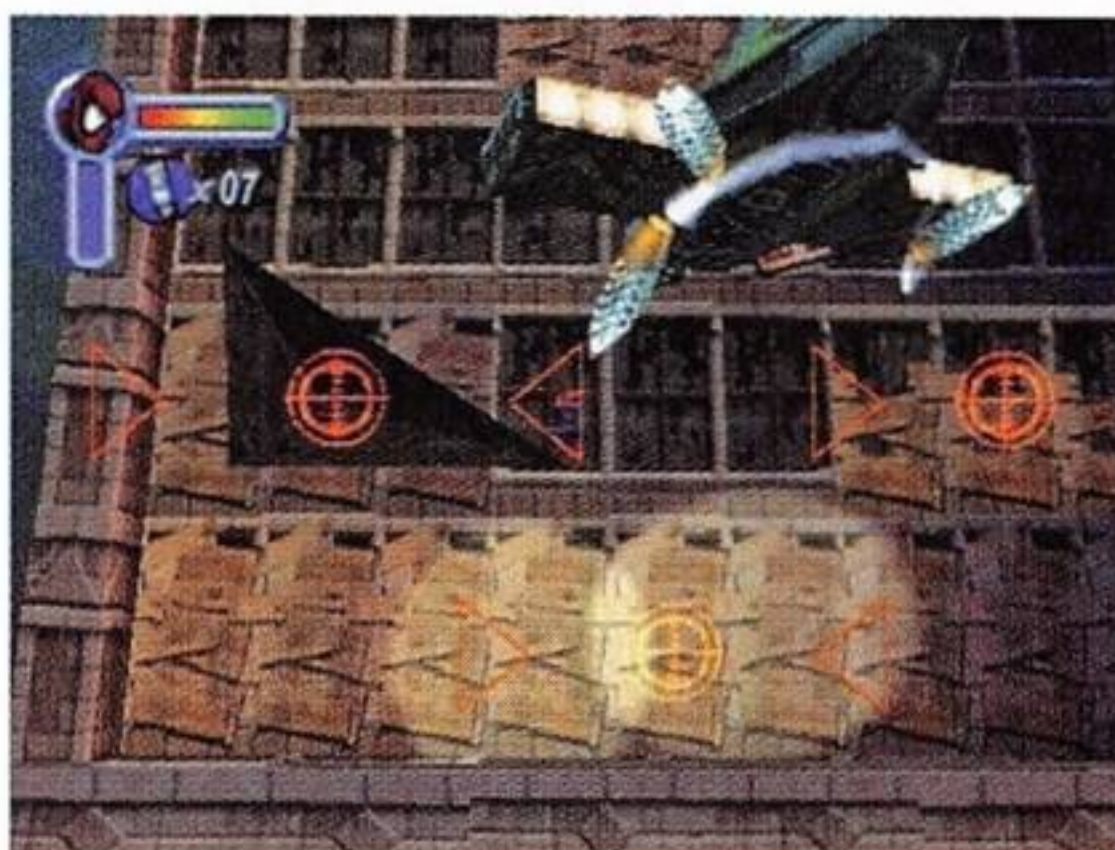
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SPIDER-MAN

FORMAT: PLAYSTATION DEVELOPER: NEVERSOFT



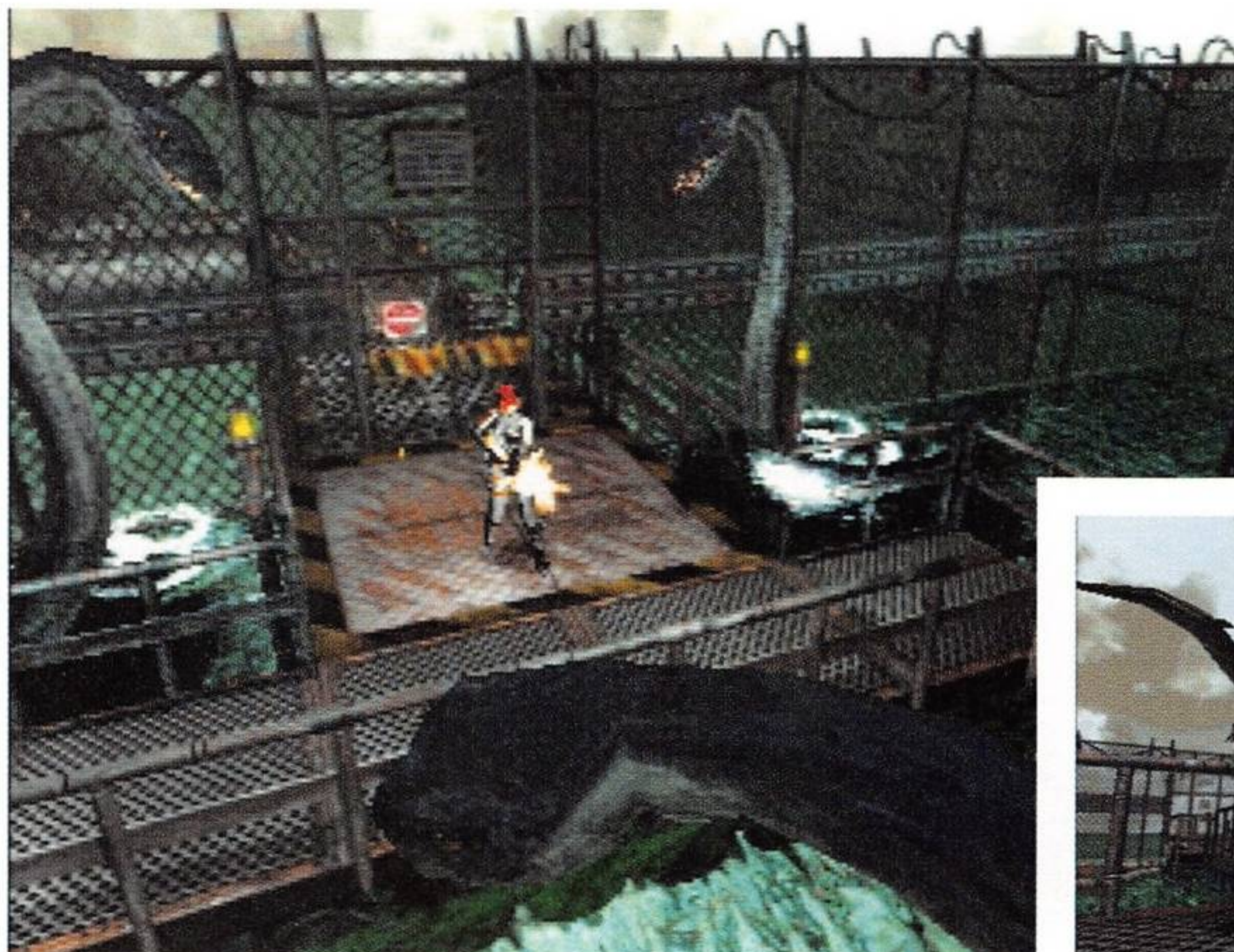
Regular readers of **Edge** will be familiar with the progress that NeverSoft is making with its interpretation of the famous webslinger, but Marvel fans will also be pleased to know that Stan Lee will be voicing over the action. The developer has confirmed voice acting will be provided by the cast of '80s cartoon 'Spiderman and His Amazing Friends'. With the roster of bad guys nearer being finalised, it is looking unlikely that the Green Goblin and Dr Doom will make an appearance in the game, but this news should be tempered by the fact that the line-up includes Dr Octopus and remains strong.



DINO CRISIS 2

FORMAT: PS DEVELOPER: CAPCOM

Undeterred by the failure of the original to make the kind of impact many had expected, Capcom has decided to have another shot at the dinosaur extermination genre. Surprisingly, this instalment won't undergo a 128bit makeover, deciding instead to sink its claws firmly into PlayStation1. Reverting back to the prerendered landscapes of *Resident Evil*, the emphasis on combat has been enhanced and aggressive behaviour is rewarded with points. Some combo and counter elements also sneak in. Set on a military base, you can get your hands on a varied and powerful range of weaponry. A male character joins Regina and an underwater level is expected to make the final version, due in the autumn.





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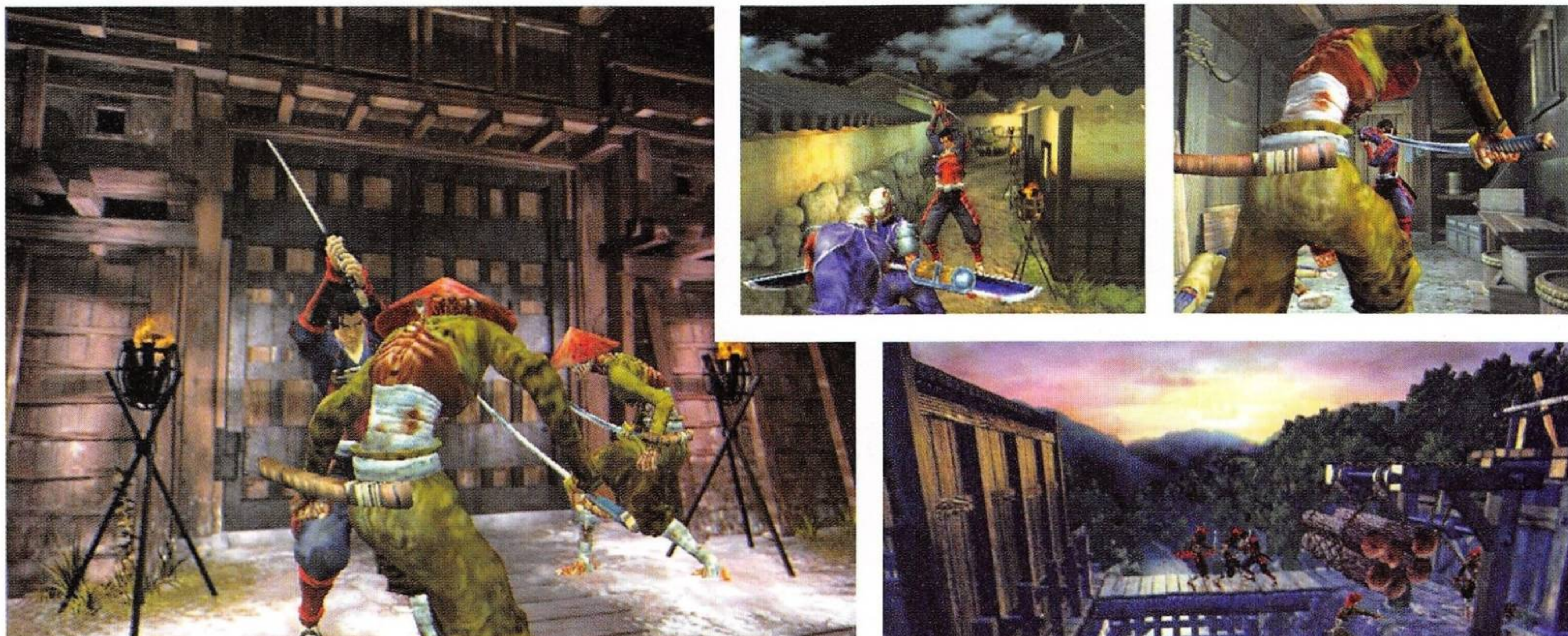
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concentrating on what really matters...the game itself

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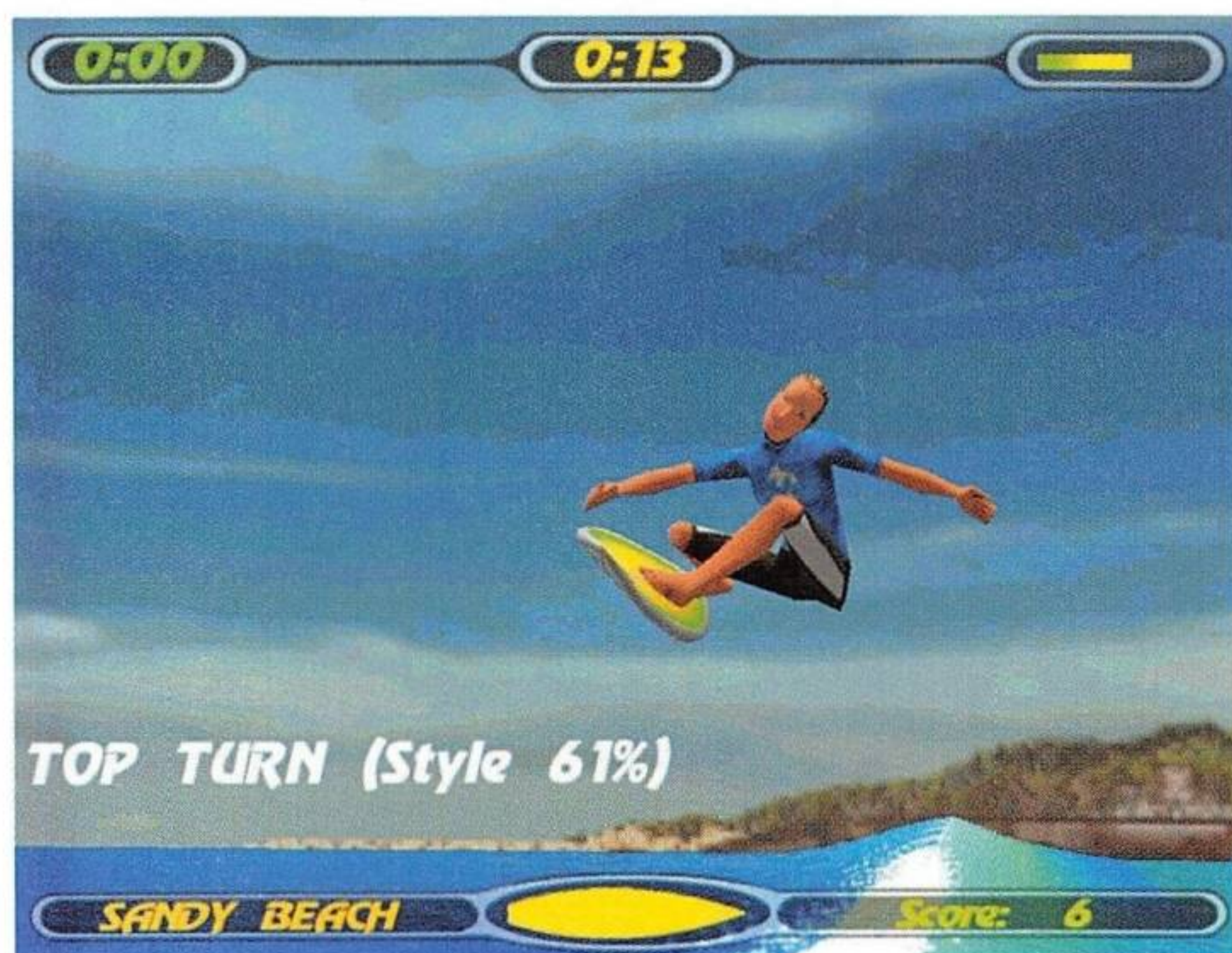
FORMAT: PS2 DEVELOPER: CAPCOM



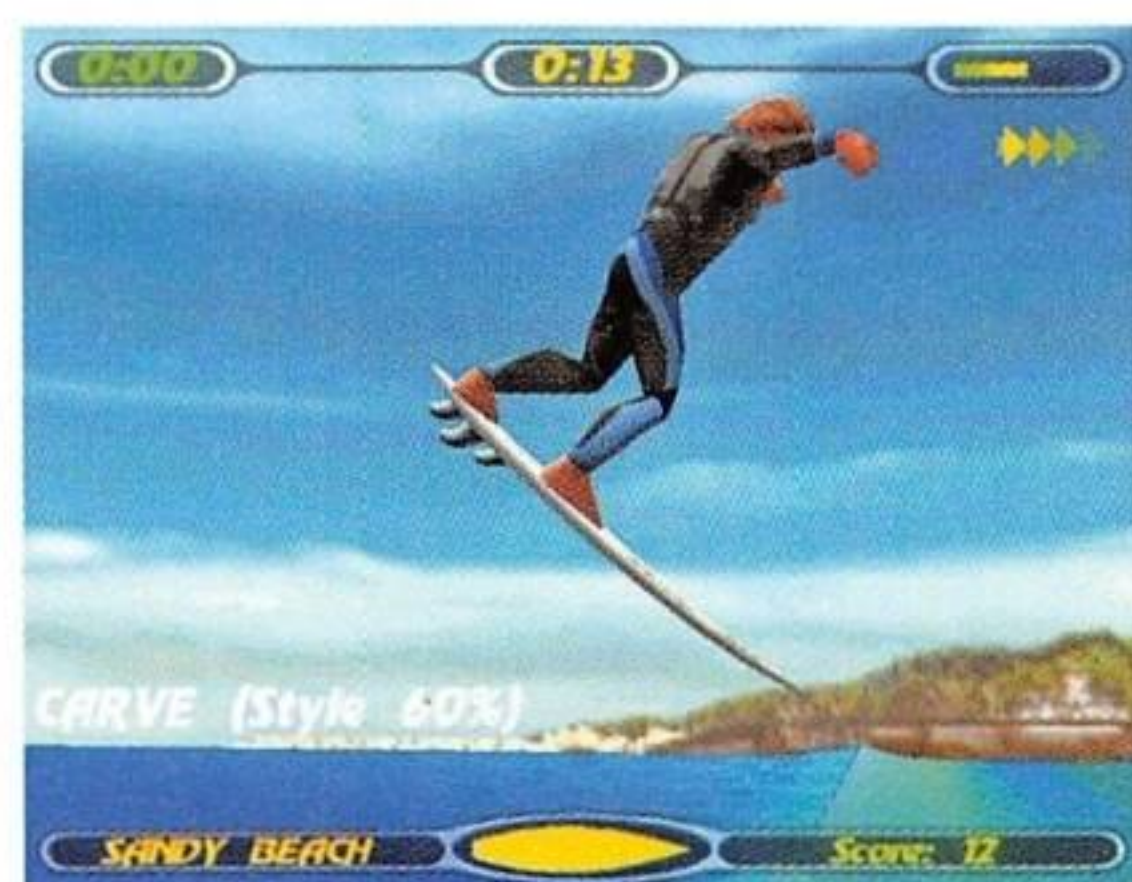
Originally a PS1 title, Capcom decided to port this project across to PS2. It then toyed with the idea of realtime 3D backgrounds before deciding to stick to a prerendered approach, relying on set camera angles to convey the dramatic elements usually associated with roving views. An impressive amount of detail has gone into making the backgrounds resemble medieval Japan. These are animated and offer some interaction (slash a rope to set a trap). Motion capture is used throughout, but characters still look at odds with the landscape. Collecting element stones unlocks special attacks and powers, and you sometimes have to help friendly samurai out of trouble. Expect further improvements before release.

BILLABONG PRO SURFING

FORMAT: DC/PS/PC DEVELOPER: KROME STUDIOS



Australia-based Krome Studios is leading the inevitable charge of surfing games coming your way, with this licensed effort expected to ride in come September time. Control, the most fundamental aspect of all board-based games, is at this stage already intuitive, allowing complete novices to catch and ride waves in a reasonably competent manner. Mastering tricks (a three button and D-pad set up) is another matter, of course. Eight authentic riders of both sexes are included, complete with personal board and signature move. Different beaches offer a variety of waves, from beginner breaks to challenging ten-foot monsters. Various play modes should ensure digital surfers get enough longevity.





DESTRUCTION DERBY RAW

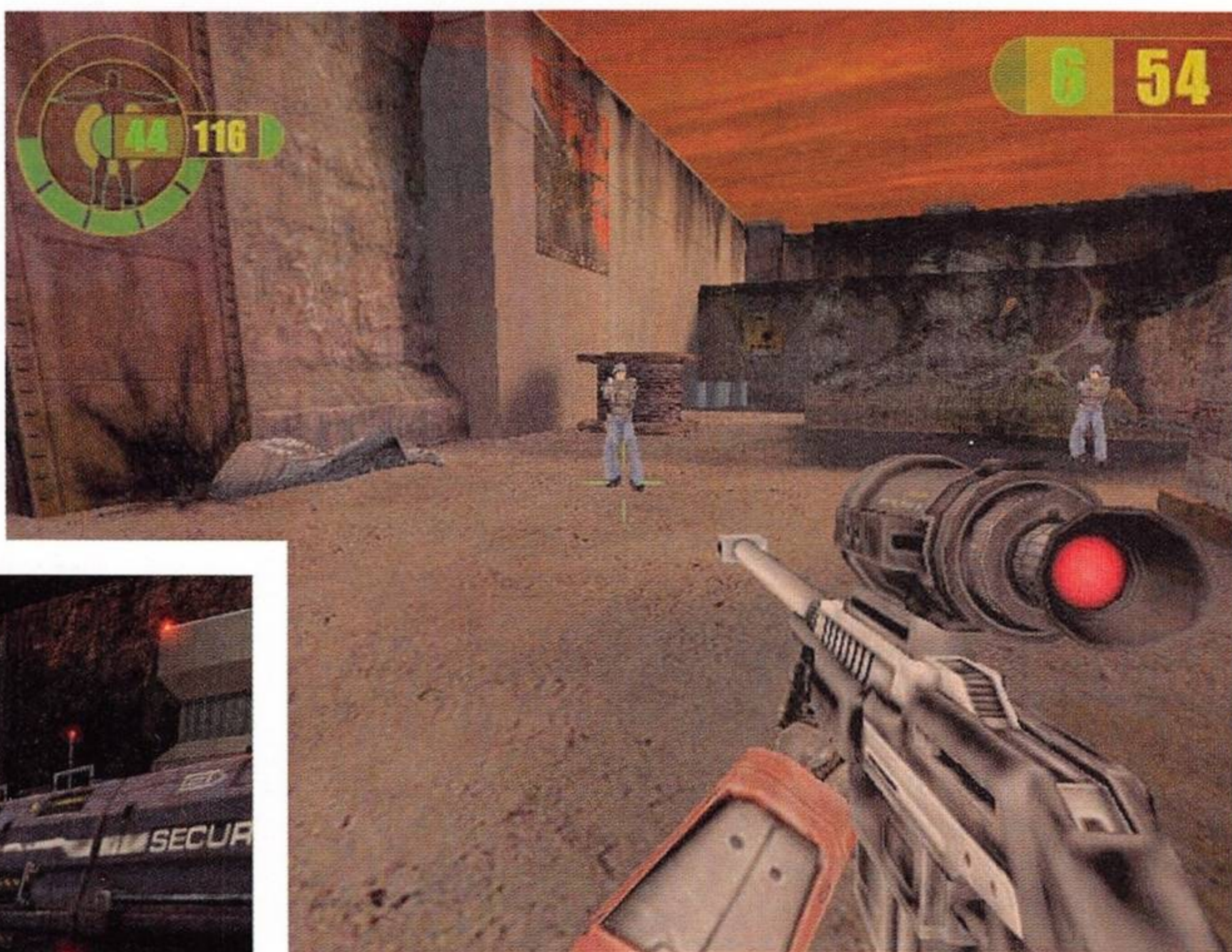
Typical Sunday morning. Washed the car, took the wife for a nice drive. Floored it into the first car I saw. Handbrake turned into the side of another, bullseye. Then rammed some bloke off the road into a wall. Got back about six & had a nice cup of tea. Smashing.

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RED FACTION

Just when the firstperson shooter was looking tired, a game turns up with an engine overhaul which is genuinely exciting and may reinvigorate gameplay



Enemy AI was impressive in the demo that Edge was shown, adding to the pseudo realism created by the interactive environments provided by the Geo-Mod engine

The full range of weaponry to appear in the game has yet to be finalised, but the rocket launcher (above) looks certain to make the final cut

It isn't going too far to say that the firstperson shooter has become slightly moribund of late. *Daikatana* was a caricature of what can go wrong with game development, but it also bore the exaggerated traits of a stale genre. Ion Storm isn't the only developer guilty of over-reliance on a licensed engine, inadequate

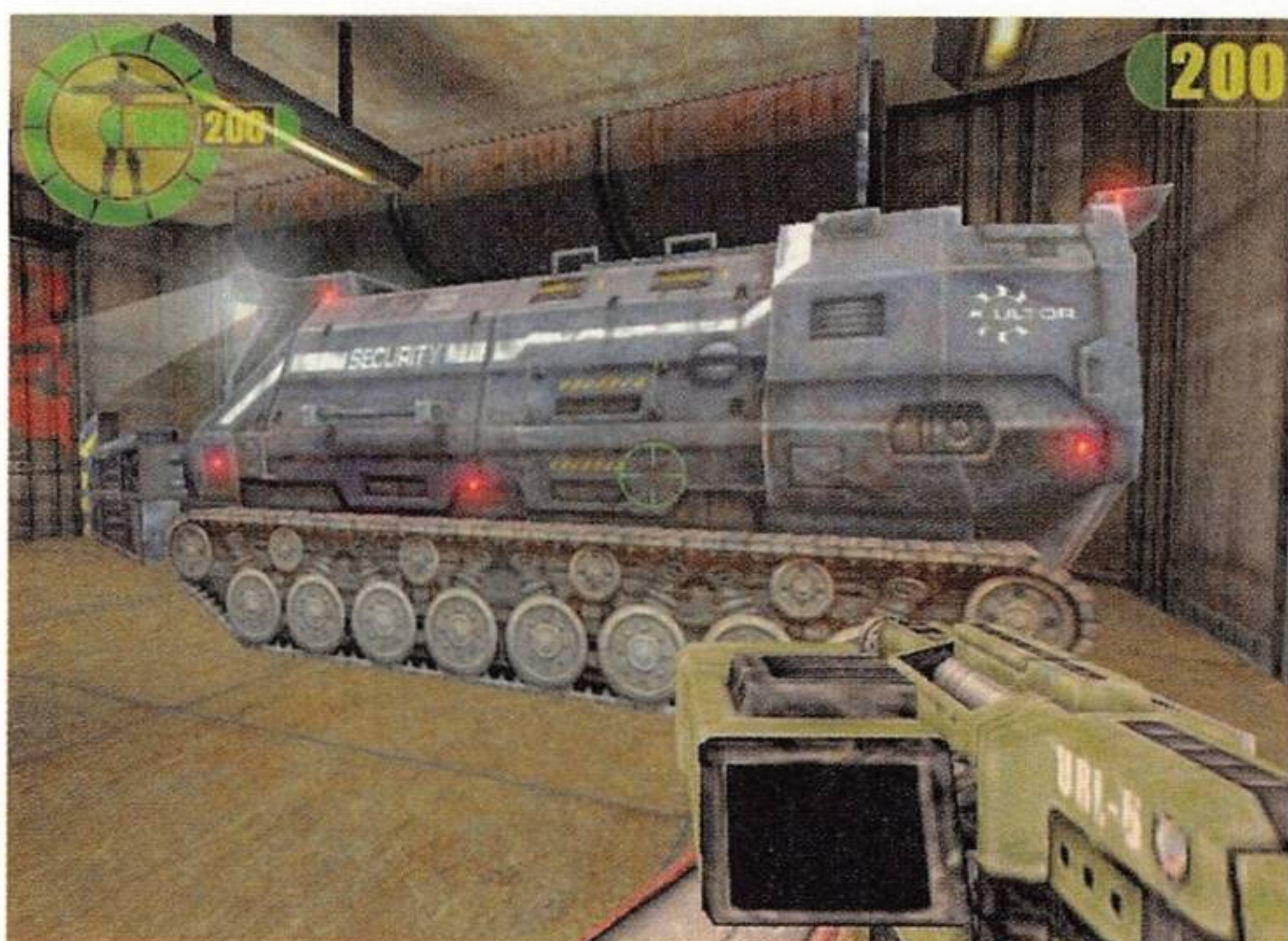
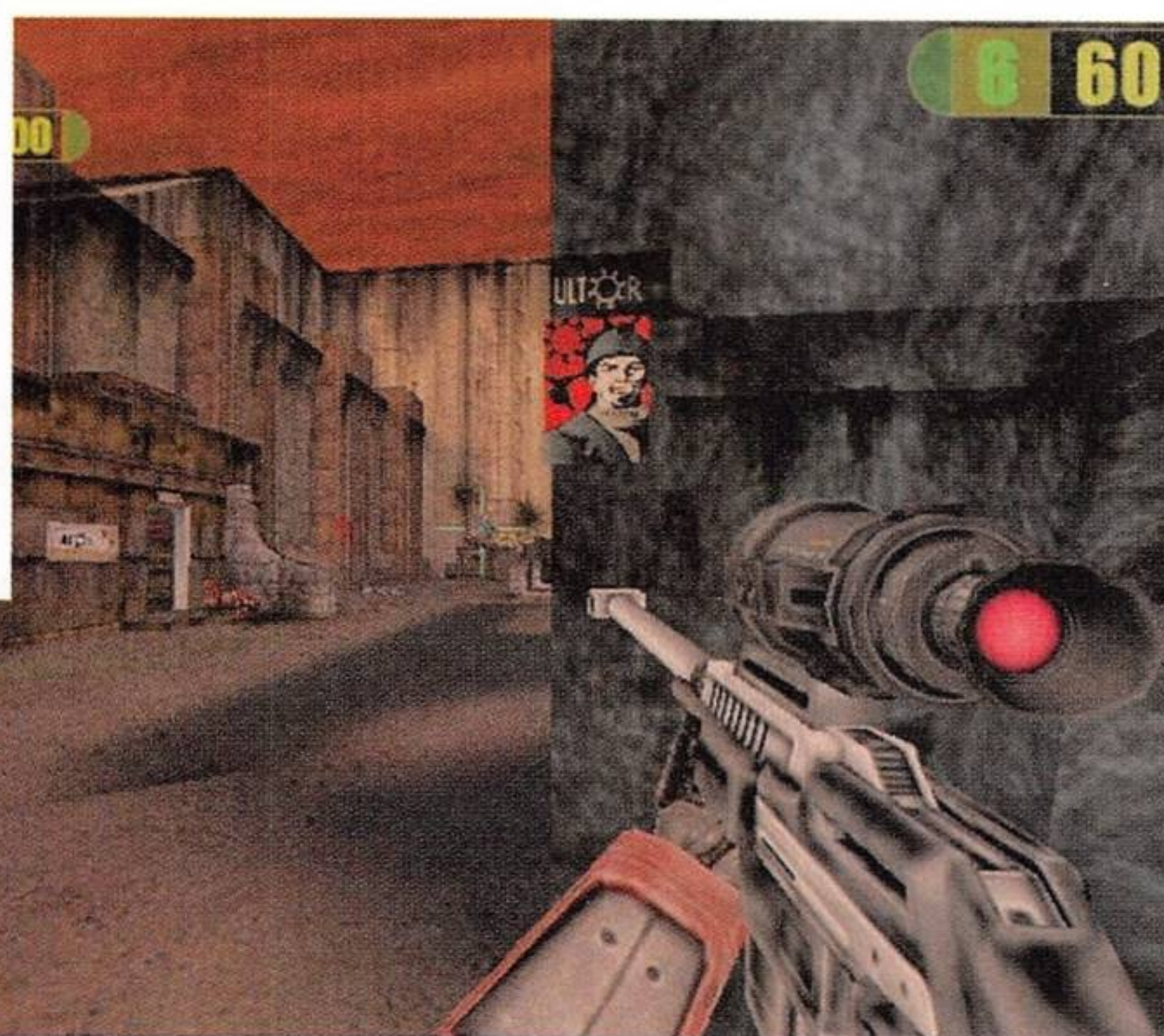
enter the fray, but with a proprietary engine and a more balanced commitment to both oneplayer narrative and multiplayer modes the title may even manage to live up to the buzz it generated at E3. *Red Faction* started life as *Descent 4*, but after some months of work, developer Volition decided to create an entirely

Not only does the game possess de rigeur dynamic lighting, particle effects and location-based damage... but a truly interactive environment

Format: PlayStation/PC/Mac
 Publisher: T•HQ
 Developer: Volition
 Release: Q1 2001
 Origin: US

AI, loosely strung together narrative and inefficient level design. By resuscitating *Doom*, id Software is looking to past glories, and even the finer proponents of the genre – *Quake III Arena* and *Unreal Tournament* – have abandoned any pretence at maintaining a oneplayer game. *Red Faction* is one of the latest attempts to

new game. Not only does the game possess de rigeur dynamic lighting, particle effects and location-based damage, but the Geo-Mod engine's main selling point is a truly interactive – and destructible – environment. In contrast to the largely cosmetic effect of *Soldier of Fortune's* gore zones – which were



This APC, equipped with both a chaingun and rocket launcher, is one of several vehicles that players can use to trash their surroundings

By taking out a gunner with a headshot players are free to use the superior firepower of the now-unoccupied gun emplacement against his opponents

tacked onto the *Quake II* engine – the impact the Geo-Mod has on gameplay should prove substantial. Rocket launchers can be used to dig trenches for cover, or to tunnel through or under walls. Buildings such as watchtowers can be taken out by shooting away supports, and lava flows can be redirected to trap unwary pursuers. Remarkably, enemy AI looks set to enhance these effects, with adversaries seeking out cover and responding quickly to collapsing scenery.



Mars is depicted as a typically war-torn environment in *Red Faction*. When the walls begin to fall down this becomes more pronounced

This new dynamic should also give firstperson 'find switch' puzzles a welcome facelift.

The weaponry that players will use to destroy their surroundings appears to be more akin to the conventional arsenal of *Soldier of Fortune* than the outlandish variety seen in *Quake III*, including a sniper rifle and rocket launcher among others. Interestingly, the latter includes a thermograph, allowing users to find their target from behind walls, or even from under bridges and ledges. In another leap away from firstperson orthodoxy, eight to ten vehicles will be made available. A submarine is likely to appear, as well as an APC, which should have fascinating implications for multiplayer games.

Indeed, when the game is finished it should contain several multiplayer modes. Unfortunately, it is unlikely that PlayStation2 owners will benefit from network support despite recent news that thirdparty USB modems will be able to provide connectivity. Which may mean that PS2 fiends will also be denied the chance to tinker with the proprietary level editor. Nevertheless, solace should be taken in the fact that the oneplayer game looks equally captivating, with a well-developed – if somewhat clichéd – plot. The player adopts the role of Parker, an inexperienced miner based in a complex on Mars. In the midst of a workers' uprising against an oppressive regime, Parker is identified as a ringleader and must fight his way out.

Judging from the amount of positive feedback circulating at E3, it would appear that aficionados of firstperson shooters are keenly anticipating the advent of a more believably pliable environment. But it's the combination of such new concepts with the traditional multiplayer strengths of the genre and a *Half-Life*-style focus on the oneplayer experience that really whets the appetite.



The action is framed by cut-scenes of the mining colony at the heart of the plot. These are already looking as effective as you might expect



ALIEN FRONT ONLINE

Sega invites you to work as part of a four-strong team from home or the arcade and take the part of the recently arrived Triclops alien forces or the humans seeking to banish them



Although they are determined to wreak havoc on both coasts of the US, targeting New York and San Francisco, the Triclops soon head for Tokyo

San Francisco simultaneously. From there, a swift flight across the Pacific looks likely, with Tokyo representing the most obvious target. Understandably annoyed by this intrusion, the US deploys its finest Army and Marine armoured battalions.

Controlling these units couldn't be simpler: in the arcade version you have a wheel to steer with, there are two thumb buttons for strafing manoeuvres, a left and right foot pedal (reverse/forward, respectively), as well as main and sub-weapon trigger controls. In the home the DC joystick easily adapts all of these functions. Conveniently, alien mechs can also be manipulated in the same simple – and therefore intuitive – manner.

Not only can all of the scenery be destroyed, this is also necessary, as doing so reveals power-ups and health packs. So, you may have blasted a skyscraper using your tank's shell-fed cannon (or laser in the alien mech) and revealed one of two sub-weapons for your vehicle: powerful tow

Sega intends to enable gamers based at home or the arcade to work as part of teams of four, complete with voice links to plan attacks

Seemingly convinced that the nations of the world could unite without quarrel against the common threat of extra-terrestrial invaders, Sega has devised a game based on that very premise. *Alien Front Online* takes place a mere 22 years from now, when, after landing their two-legged, technologically advanced mech units in Washington, the Triclops alien forces plan to leave the capital behind and cause bicoastal havoc in the US by descending on New York and

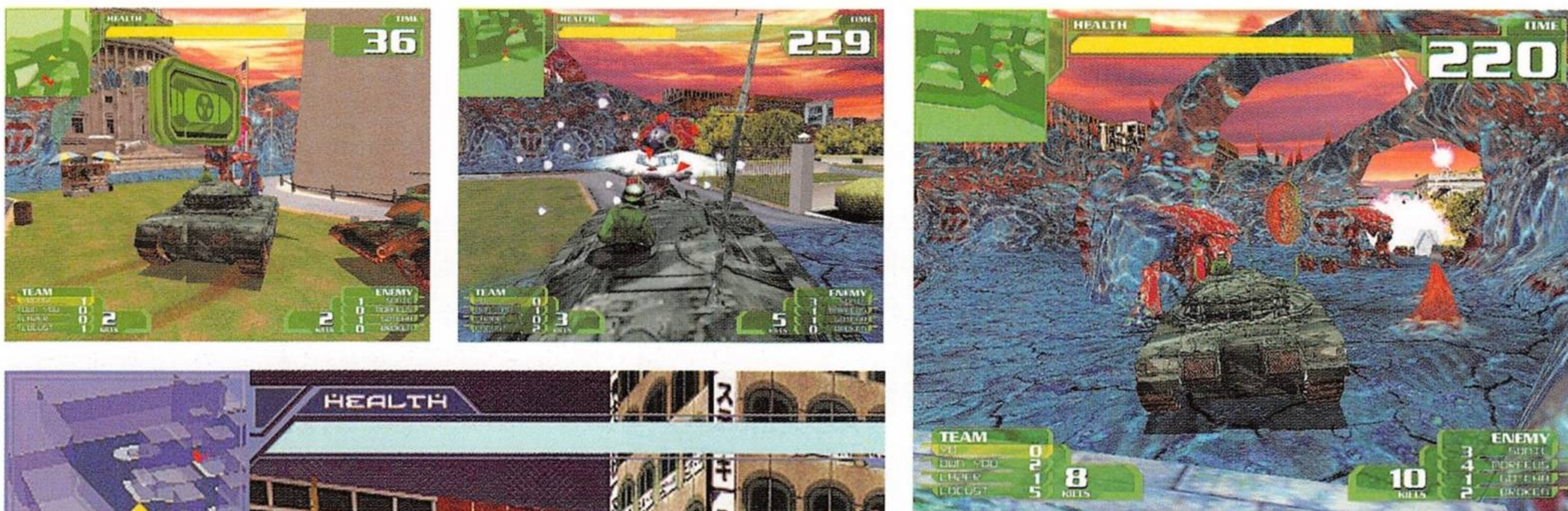
Format: Dreamcast/coin-op

Publisher: Sega

Developer: In-house

Release: TBC

Origin: Japan



In addition to the basic weapons (shell-fed cannon and mech laser), power-ups – including hovering homing missiles and the gravity ball, which tosses opponents high into the air before slamming them to earth – can be picked up through the game

Depending on the side you play – extra-terrestrial Triclops or the brave boys of the Army and Marine Core – different vehicles of war await you. The Triclops attack aboard mechs, humans opt for tanks, but both are straightforward to control

missiles (limited to dual or quad packs), or a grenade launcher. Alien ships also have access to secondary armament in the form of hovering homing missiles or the gravity ball, which immobilises an enemy before tossing it up in the air and slamming it back to earth. Finding and collecting these power-ups is an obvious advantage as the basic weapons, while perfectly functional, lack the bite the additional firepower can provide.

Simultaneous coin-op/home play follows a four-versus-four structure, with members of the same team being able to communicate with each other via cabinet-mounted microphones (in the arcade) or the microphone unit from *Seaman* (in the home) for fine-tuned strategic attacks on the opposition. The headsets provided for the

Dreamcast game at E3 didn't appear to be working consistently yet. Scoring is simple: the team with the most kills wins.

Interestingly, with an arcade broadband arcade network currently being created in both the US and Japan, Sega would appear to be planning to use the Internet as a way of consolidating its troubled arcade sector with its home userbase, growing both sides of the business.

Whatever the business strategy, simple controls, decent visuals, and fast, frantic and addictive gameplay should guarantee *Alien Front Online* success, even if Europe's fewer arcades and current 33.6Kps modems make the prospect somewhat less enticing than on the other side of the Atlantic.



Not only can the scenery be destroyed, but advantage in the form of power-ups and health packs can be revealed by doing so



MAX PAYNE

Another videogame inspired by cinematic techniques enters the FPS arena. Will Remedy Entertainment's choreographed violence bring something special to the genre?



Current code provides some impressive sequences. Double press in a particular direction and Max will perform a John Woo-inspired manoeuvre



Much hysteria has surrounded the textures and animation provided by the MAX-FX software. The flapping trenchcoat is impressive



Ten main villainous bosses are out to thwart your progress. Dramatic death scenes can be assured

Set in New York during one of the worst blizzards in history, *Max Payne* will attempt to combine the strength of a *Half-Life*-quality narrative with improvements to the usual FPS action genre. As the title suggests, *Max Payne* will not be a game to compromise on violence. In fact, Finnish developer Remedy Entertainment intends to use it as one of the game's major selling points. But, unlike Raven's hyper-realistic gorefest *Soldier of Fortune*, the gun heroics displayed in *Max Payne* are to be at least partly conveyed with a balletic artistry borrowed in no small way from 'The Matrix'.

The developer has been particularly keen to show off its own Max-FX technology, which has resulted in a number of impressive effects. Fire a gun in a given location and the camera will follow the bullet to its target. Enter a room full of Mafia henchmen and the game segues into slow motion, enabling the player to target his opponents as they reach for their weapons. Shells are ejected from the handgun in dramatic slow-mo while injured enemies writhe in pain. "Our technological approach gives the game a cinematic feel," reveals project leader **Petri Jarvilehto**. "However, we realise the engine is for nothing if the game does not push the envelope. We are going for action that will have the power and impact of a John Woo film."

How much these elements will add to the overall gameplay will be interesting to see, and while the plot – which has an undercover revenge motif – is hardly fresh, the code revealed so far has generated a good deal of anticipation. Fortunately, Remedy is to release versions of its MaxED level editor, ParticleFX editor and Actor FX technology with the game to allow a generous amount of game modification. Special effects, level editing, environment mapping and character generation will all be possible with this flexible system.

Max Payne and its beautification of killing will no doubt draw condemnation from some quarters, yet it may still be a step forward from multiple hit locations and the increasingly realistic representation of internal organs beloved of other FPS titles.



Max Payne includes three dominant acts each split into six large locations. Remedy admits that the plot is linear, so as to drive the strong narrative on

Format: DC/PC/PS2
 Publisher: Rockstar/Take 2
 Developer: Remedy Entertainment
 Release: Spring 2001
 Origin: Finland



SILENT SCOPE

Jet-piloting terrorists, semi-naked ladies and Tom & Jerry. But can Konami's inspired coin-op have the same impact in its peripheral-free home form?



While, with set pieces like the one above, the playability of *Silent Scope* isn't open to question, its longevity in the home could prove a problem



Konami has already built a wide range of assignments into the game, but an all-new Original mode should extend these further

If you momentarily blank out the slightly worrying memory of the Yakuza type with 100 per cent head shot rate that **Edge** came across in one of Tokyo's arcades last year, and assuming you're not one of the socially maladjusted individuals with easy access to firearms that are currently dragging videogames into the headlines on the other side of the Atlantic, there is much to enjoy with lightgun titles. Longevity will always be an issue, yet the more accomplished examples of the genre, such as *Time Crisis* or *The House of the Dead 2*, manage to retain a high degree of replayability – something that the majority of their peers fail to match.

In its coin-op form *Silent Scope* was one of the titles that ranked up there with the lightgun classics, and was a phenomenal success as a result. Still, it shouldn't shock you to learn that the console versions of the game will not come with a full-sized sniper rifle attached, plastic or otherwise. Instead, you make do with your trusty joypad, and playability appears to have been only mildly hampered in the peripheral transition. The left shoulder button operates the sniper camera (which appears at the centre of the screen) while the right hand side takes care of the bullet delivery. It's a compromise that works remarkably well, though **Edge** has found the PS2 analogue

Focus on the semi-clad sunbathing beauties and you pick up a bonus life

controls overly twitchy – although you always have the option to tweak the sensitivity levels.

Also included in the game is an additional original option to complement its faithful arcade conversion. While details of the former remain unconfirmed, the latter offers three modes. Time Attack has you sniping through all of the game's arcade levels, the Shooting Range lets you test your aiming skills on the unpredictable nature of watermelon and cardboard targets, while the Story mode carves a route through the available levels. At certain points you get to select your next assignment, which can be anything from taking out a crazed pilot in charge of a Harrier Jump Jet or parachuting into a heavily guarded mansion under the relative cover of night, to skulking through Bond-esque secret warehouses (complete with appropriate submarine dock) and a poolside shoot-out involving a knife-wielding duo by the name of Tom and Jerry.

Even with the alternate routes built into the game, *Silent Scope's* longevity is not necessarily assured, which is why **Edge** is keen to uncover what Konami has in store for the Original mode. Expect an update soon.



While the full-sized rifle is gone, the Dreamcast and PS2 analogue sticks manoeuvre the sights surprisingly well

Format: DC/PS2

Publisher: Konami

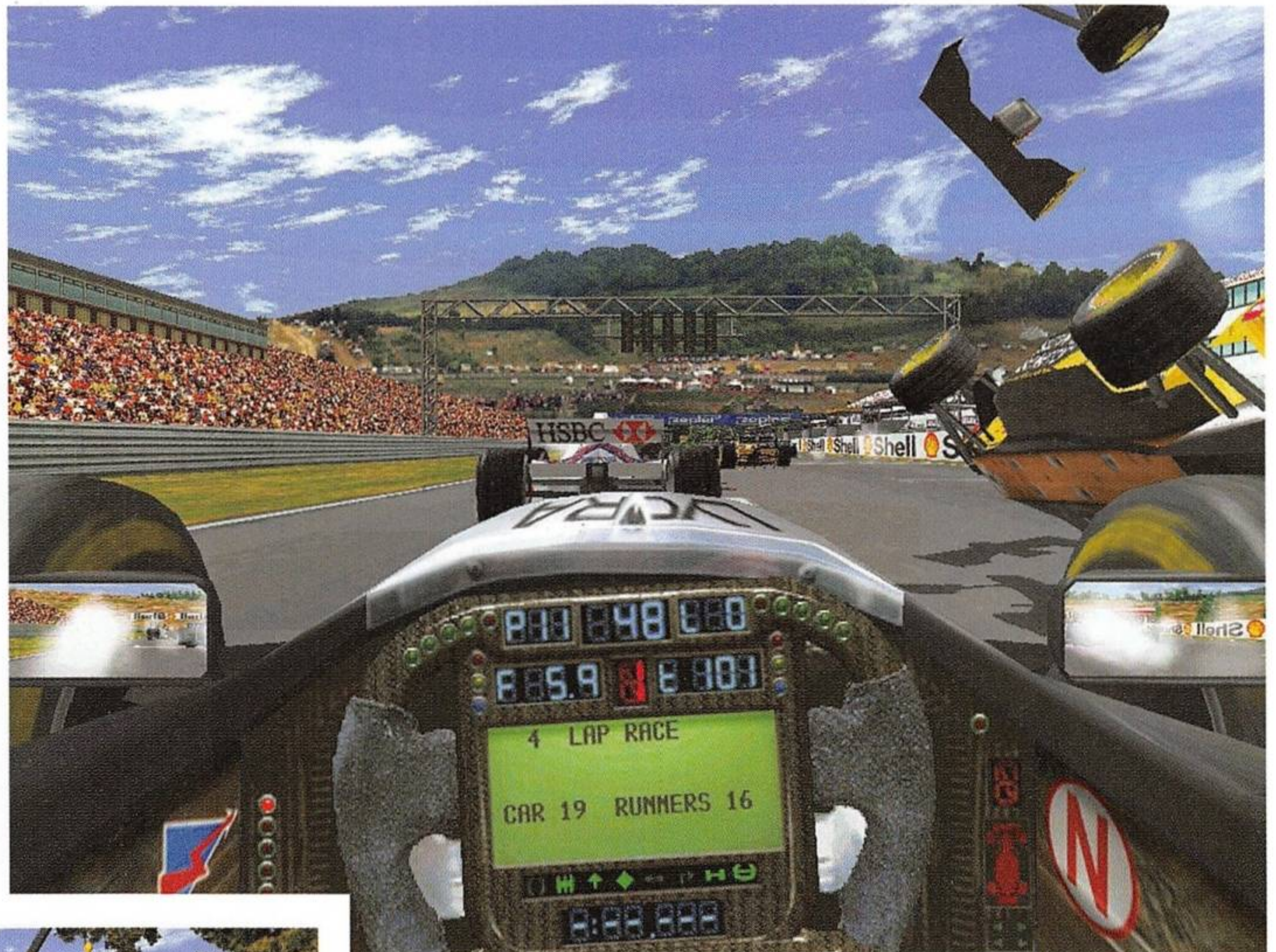
Developer: In-house

Release: November

Origin: Japan

GP3

The most anticipated F1 game of recent times is finally assembled and ready to make its racing debut. **Edge** takes a final look before the definitive test drive



Controlling 700-odd bhp on a wet track with all of the assists off requires sublime levels of wheel/pedal fluidity. Best of luck

The blinding spray effect from following another car in the rain is superbly conveyed (top left). Full damage is an option, of course (main)

it continues where the other two left off, improving every aspect of an already considerably standard-setting racing package.

The version **Edge** has played is considerably more advanced than the E3 build. While the dynamic weather has been better implemented (the developer felt the track looked too mirror-like when wet and has hence reduced the intensity of the effect), the main addition is force feedback support, which works superbly, simulating steering load, violent deceleration and sudden loss of traction with delicately balanced aplomb. The resulting F1 drive is unequalled in the virtual world, offering the level of playability that Crammond devotees have come to expect from a simulation bearing his name.

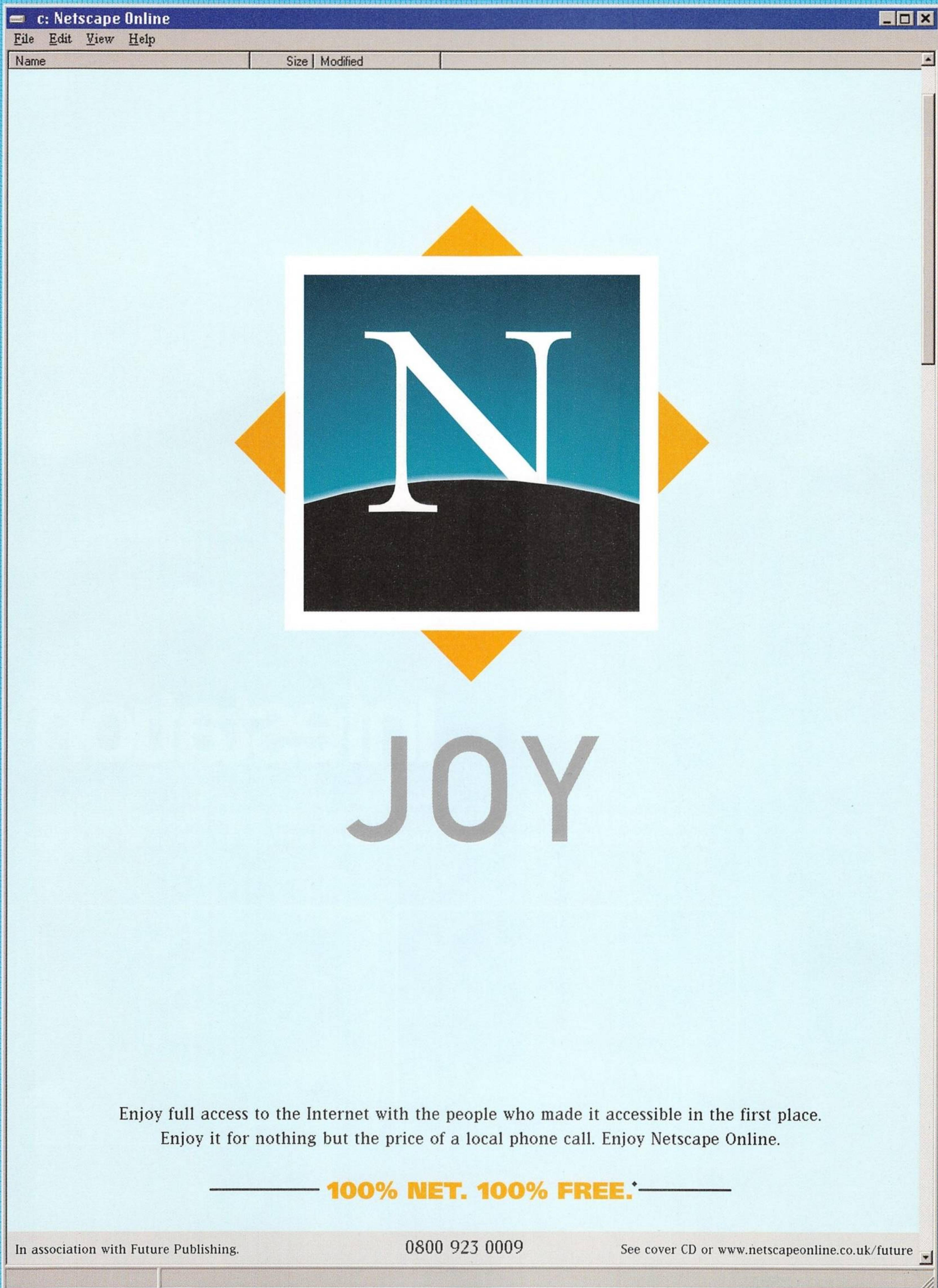
Yet from now on they won't have to wait years between instalments as Microprose, seemingly unconcerned with the congestion affecting F1 games, is looking to release annual updates. That aside, with (at the time of writing) 170,000 UK pre-orders already secured, the developer's extensive collaboration with F1 team Arrows appears to have paid off. To borrow the slogan of that team's sponsor, the future looks bright for Crammond and crew.



There is no pace car in GP3 – the option would have required an extra set of dynamics and time constraints intruded

Format: PC
 Publisher: Microprose
 Developer: Geoff Crammond and co
 Release: July 28
 Origin: UK





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Infestation

It's based in a house, a very big house, in the county, but that hasn't stopped Frontier Developments turning out some startling space exploration games. *Edge* journeyed to the outer reaches of the galaxy aboard the latest title from the team now working on *Elite 4*



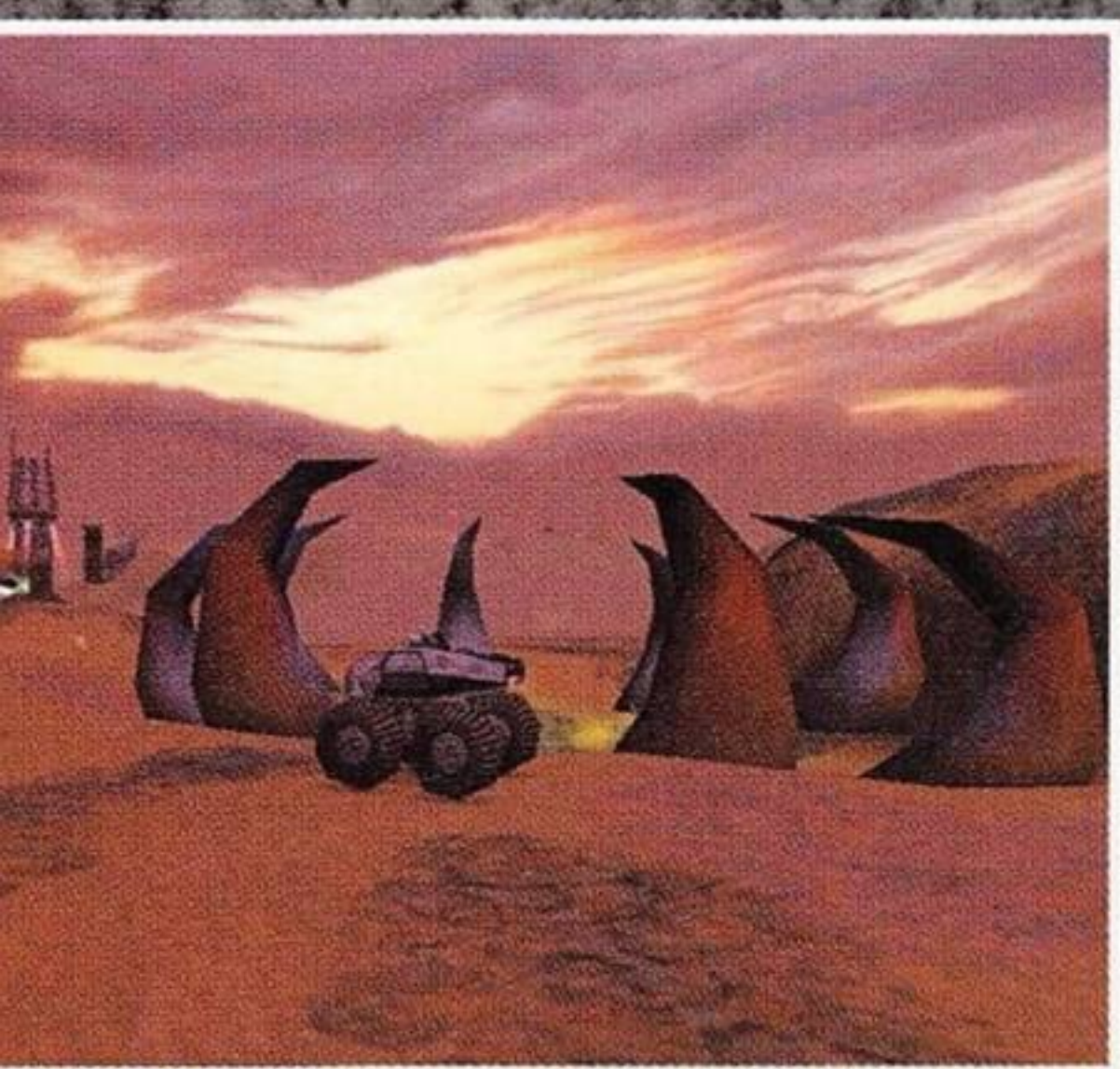
Format: PC/PlayStation

Publisher: Ubisoft

Developer: Frontier Developments

Release: August

Origin: UK



Apart from the oddcroft and converted barn there are few buildings to be spotted across the flat landscape that surrounds the aptly named Frontier Developments headquarters, which is situated in a village just outside Cambridge. If someone was to be transported down to the front door of Saxon Farm they would be forgiven for thinking that **David Braben's** crew of coders and artists – 17 in all – were on the edge of the habitable world.

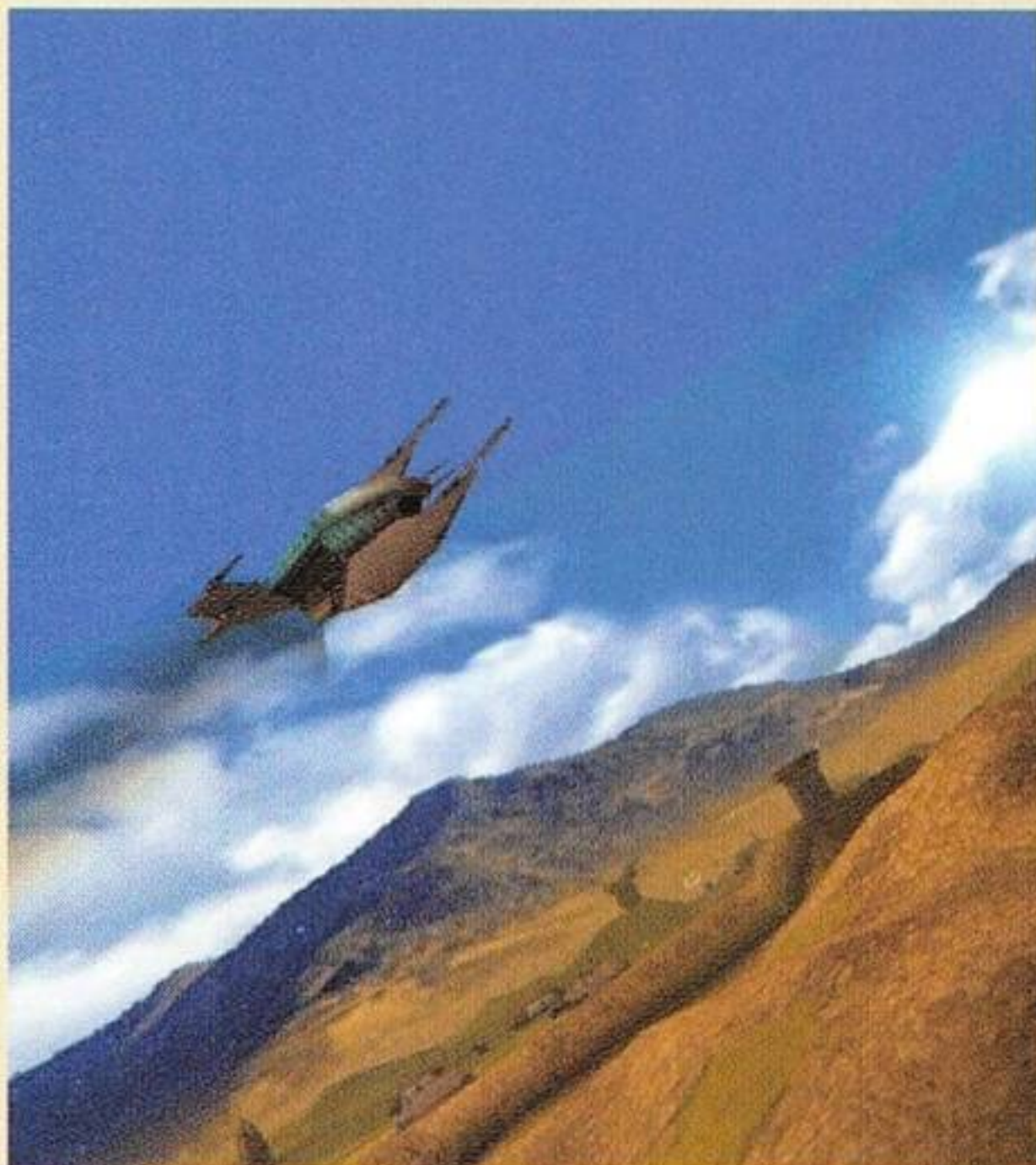
A lunchbreak in between interviews and a photo shoot underlines the idyllic, if somewhat parochial, location from which such futuristic titles as *V2000*, *Virus* and the revered *Elite* series emerged. We try the local pub, but it has stopped serving food – it is 1:45pm, and Tuesday, it appears, is a popular day for the locals (and, yes, a slight hush did descend as our group entered the lounge area). The only alternative is to try the nearby post office. Basic cheese and ham sandwiches are knocked up for us. It is cashier Doris' 30th wedding anniversary, and after a slight delay as a bouquet of flowers arrives and a regular asks for the delivery of a parcel to be cancelled, sustenance for the afternoon ahead is provided. Once outside, sandwich in hand, Braben smiles mischievously. "Have you seen

"The League of Gentlemen?" he enquires. He clearly knows the territory well.

The contrast couldn't be more pronounced between this quiet locale and Frontier's preference for producing games which require the player to compete and negotiate through sprawling worlds populated by a multitude of alien creatures. *Infestation* is, in many ways, a close brother to the engaging *V2000*. Where the latter asked the player to

If someone was to be transported down to the front door of Saxon Farm, they could be forgiven for thinking David Braben's crew were on the edge of the habitable world

prevent and eventually destroy the source of a deadly virus spreading through peaceful territories, *Infestation* sees the human colonies attacked by a race of vicious aliens. Warp gate technology has facilitated this intergalactic expansion for the human race. However, the very technology which established the empire ironically provides the greatest threat for its downfall. The pernicious alien race (Braben decided to leave them nameless) swarms through the gates and puts an abrupt stop to your own plans to expand



The landscapes displayed on the PC version are stunning, and combine real-world terrain with more outlandish fauna and flora



your influence though the galaxy

The plot may not be the most original, but, in Frontier's defence, the storyline merely acts as a backdrop to the action, which crosses many genres. "One of the problems the industry gets sucked into is these niches which are determined by publishing demands," laments Braben. "We've just gone through a phase of firstperson shooters which are amazingly similar to one another – a big shame. Why not populate game space with something new?" Accordingly, *Infestation* will not fit

neatly into any given category. Ostensibly it is a thirdperson shooting action game with firstperson elements and leanings towards exploration. But there are also strong resource-management elements thrown into the mix to provide a strategic dimension to the action.

"There are three coloured crystals which can be collected – a certain percentage of each need to be used for a particular resource," explains **James Dixon**, *Infestation's* project leader. What these do is to power up versatile ACAM vehicles, which can be used to overcome problems which confront the player. Five vehicle types will be available: standard four-wheelers, the 'Big Wheel', hovercraft, trucks and helicopters. It cannot be emphasised enough how much such adaptable craft add to the gameplay.

"With any game it's about being strict and rewarding the player at the right moments," continues Dixon, who is keen to emphasise the depth that such a component brings to the title. "Once you have the ability to mutate your vehicle you can alter it as much as you like for strategical purposes. If

you are in a flying vehicle, you can reach otherwise inaccessible areas, whereas the Big Wheel machine will safely guide you across water hazards."

Such elements should see the title avoid the pitfalls that have dogged similar games, such as *Red Dog*. Argonaut's derivative title palled after lengthy play partly because of the repetitive action. Present code already communicates the sense of achievement provided by being able to constantly evolve your vehicle. The puzzles and challenges faced by the player have been incorporated equally as well.

"Problems can be approached in a number of ways," says Dixon. "On one planet you must develop your technology to destroy an alien installation. One way may be to produce a limpet mine, place it on the side of a vehicle going into the base and watch it take out its own facility"

Discussing such cold-blooded strategies in Frontier Developments' boardroom, which is more like a country house kitchen, only serves to highlight the tranquil working environment. But the company is at pains to stress that its remote location doesn't lead to a



"We've just gone through a phase of firstperson shooters which are amazingly similar to one another. Why not populate game space with something new?"



The alien race has no name. Like other Frontier games, such as V2000, the enemy is identifiable by its looming presence and destructive powers

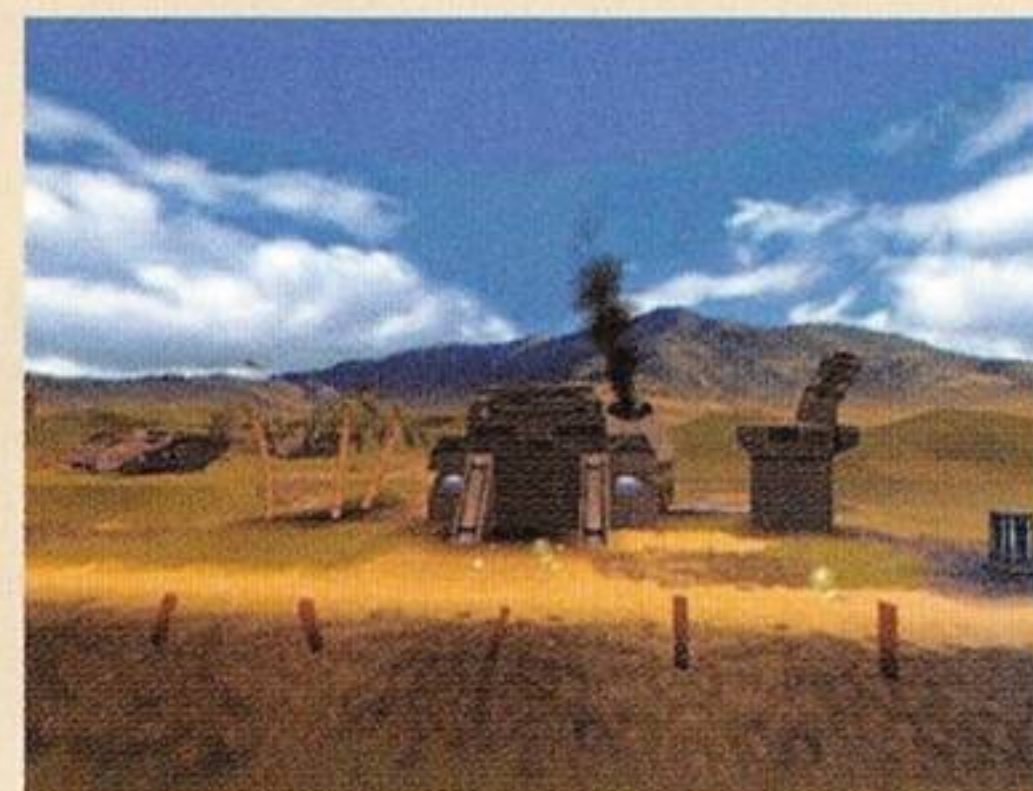
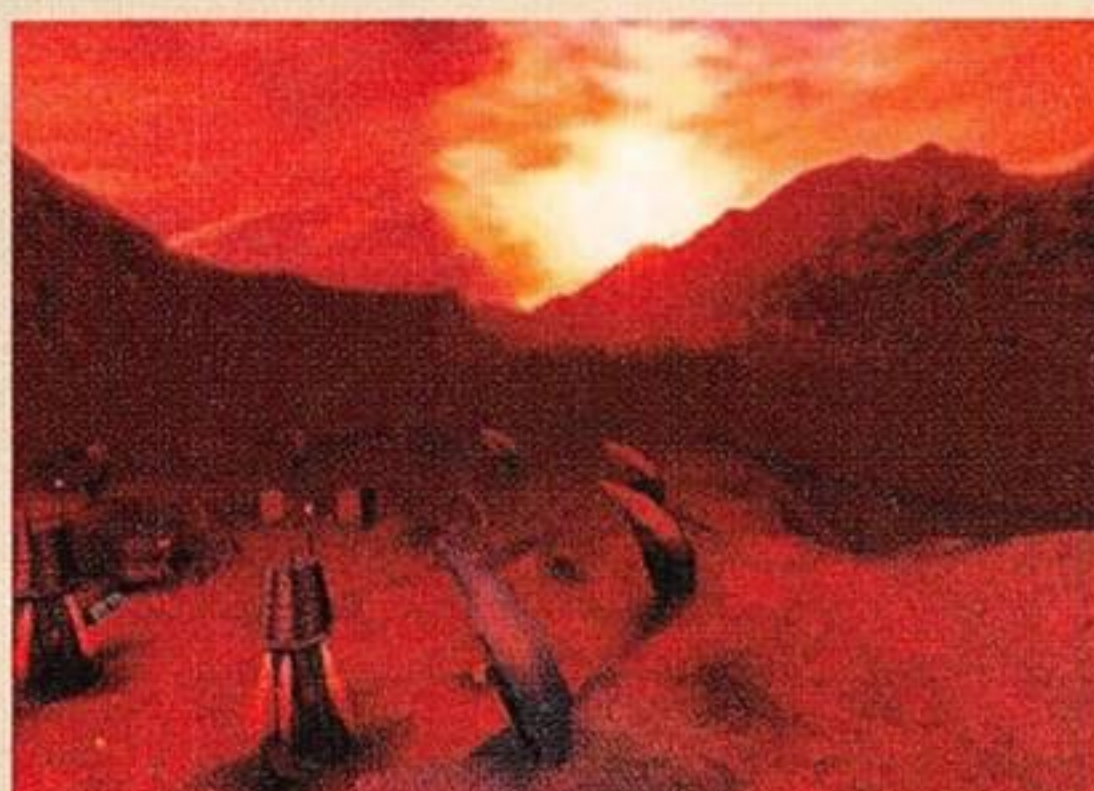
distancing from the market. "We do look at what other people are doing and would never cut ourselves off from other influences," Braben insists. "What irritates me more is when a developer gets something *nearly* right – and don't get me wrong, this happens to us too." Accordingly Frontier Developments has considered the differing markets for the PC and PlayStation. "More of the resource-management elements are automated for PlayStation," confirms Dixon. He maintains that the game will be more instant and immediate, though no less taxing for it.

The structure of the game has ensured that more than one planet at a time can be tackled. Cleverly, the warp gates can be activated by picking up friendly scientists (lightbulbs hover above their heads when a new technology has been thought up) and moving them to operate the star field. Apart from the training planet and the first level, each location will offer the player the chance to warp to several locations, preventing the usual linear monotony. All this ties in with location, so on a Mars-type planet there will be more red crystals than blue, on an icy planet more blue than green. So you have to plan where to pick up certain crystals to allow further exploration. As the game advances you will even be able to develop the technology to mine the crystals.

After taking time out to be interviewed, Braben shows **Edge** around the converted farm which has become his

development home. The working environment is not as unconventional as you might expect. Apart from windows which look out onto large expanses of greenbelt and Braben's dog, Gem, which lurks tentatively under his table (not keen on journalists, apparently), the scene is much the same as any development room the world over. The atmosphere is cordial and there are clearly benefits to be had working in such quiet surrounds, but the Frontier team needs to expand to accommodate and tackle the challenges posed by PlayStation2. "We need talent to come out here," Braben says. "Response to recent adverts has been poor." Agency work is hardly **Edge**'s line, though the chance of working on Frontier Developments' most promising and anticipated title, *Elite 4*, would seem an exciting prospect for any coder.

The opportunity of meeting the whole team leads Frontier neatly onto the subject of the multiplayer aspects of *Infestation*. Admittedly, **Edge** expected the typical add-on to the oneplayer experience, but Braben has clearly put a lot of thought into the online dimension. "I think it's really important for the future. For me it's a whole new area that we have to concentrate on, and with *Infestation* we wanted it to be fun and balanced." The ability of the vehicles to mutate has clearly allowed for a range of multiplayer game styles. Eight are available, ranging from capture-the-flag arenas to football. The



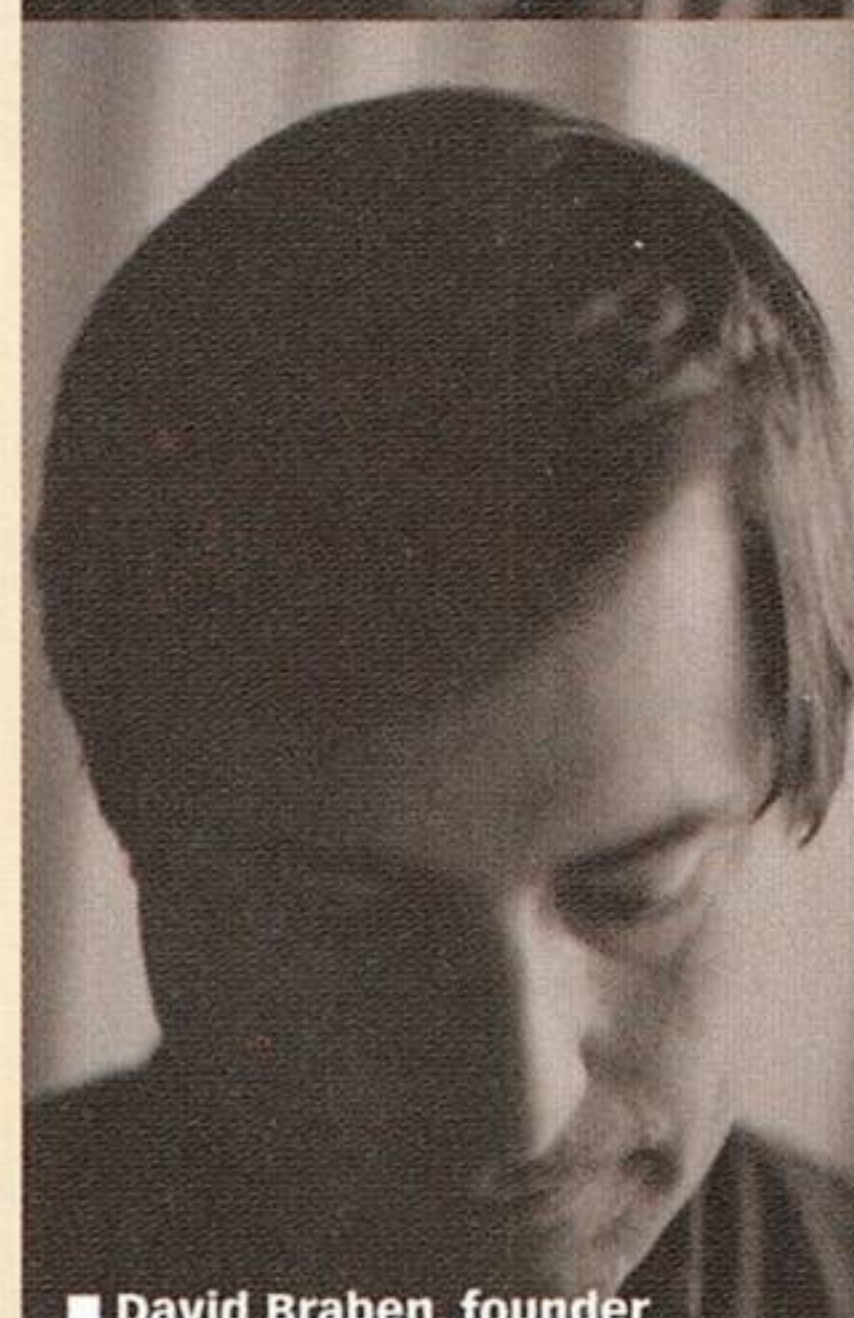
Resource management will spice up the gameplay by requiring players to collect differing colours of crystals. Colours will depend on the planet type



■ James Dixon, project leader



■ David Braben, founder



■ Jonny Watts, lead artist

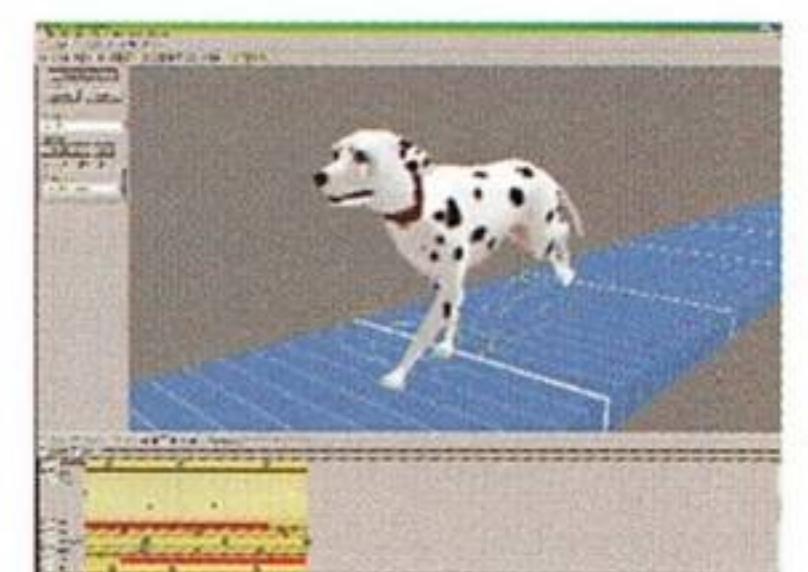


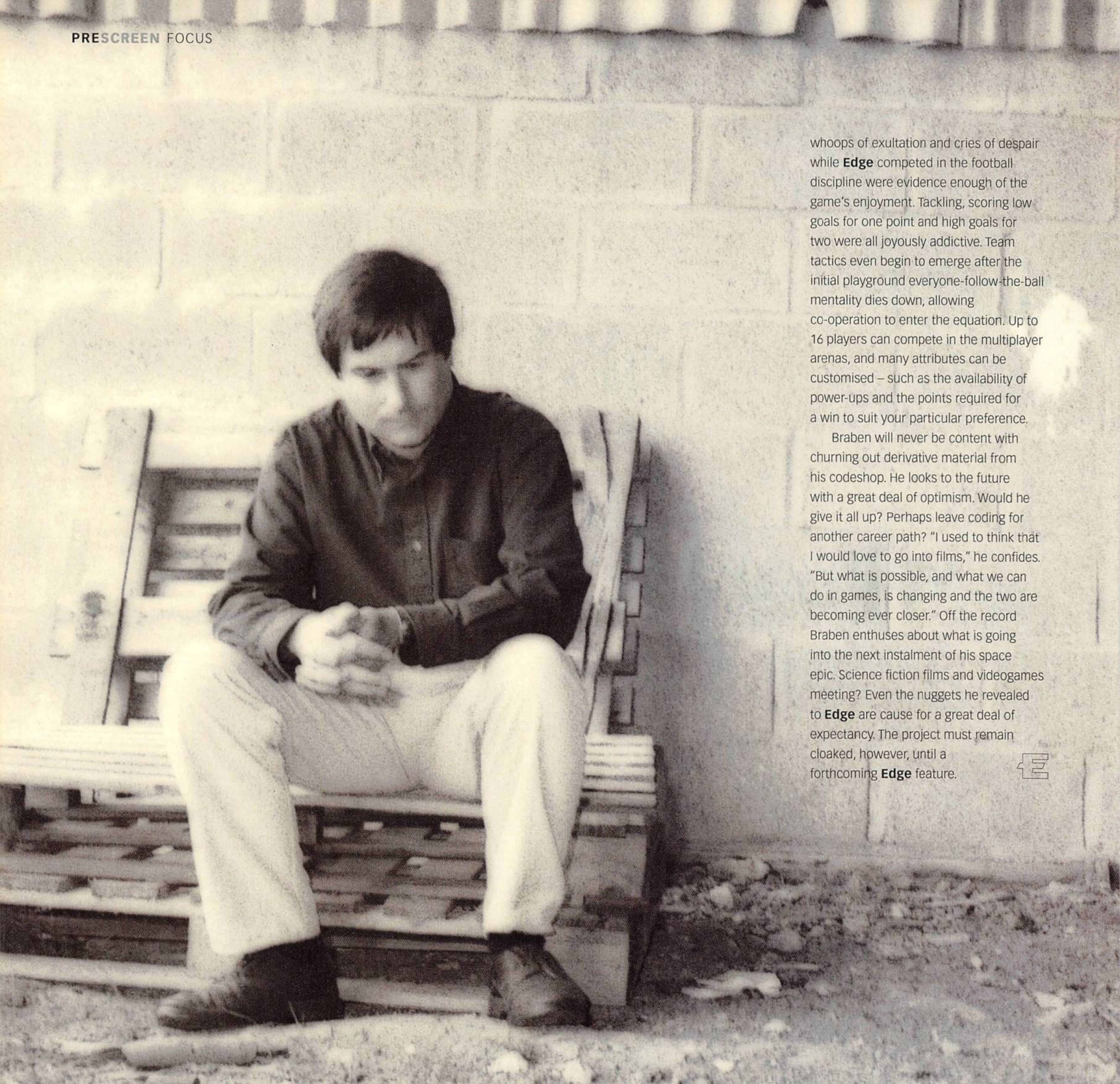
Merlin Animation

Frontier Developments has been putting in the hours to perfect a potentially revolutionary animation application. "We've spent a lot of time out of the limelight," acknowledges Braben. "Though what we can show you privately is a huge step ahead of anything coming out at the moment."

The Merlin Animation System breaks away from traditional motion-capture technology to bring a previously unimaginable fluidity and spontaneity to character movement. Screenshots can't do the program justice. The Dalmation dog featured below not only walks, sits and wags its tail with a dynamism which impressed **Edge**, but it also responds intuitively to its immediate surroundings. Manipulate the framework cues around the dog and it follows with an eerie accuracy. Eyes, mouth and ears can move independently and objects, such as a bouncing ball, can be 'perceived' and followed by the animal. Gradients and obstacles are also responded to in a more realistic manner, which will hopefully put an end to clumsy 'wall bouncing'.

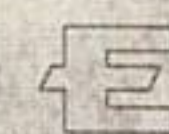
Much has been made of Sony's Emotion Engine and how, if at all, this area can be tapped in the future. Braben sincerely believes that animation and facial kinematics are the way forward. A 'ghost' is the word he uses to describe characters walking through present game environments. Expect a future **Edge** feature exploring Merlin Animation and its potential influence on game development.





whoops of exultation and cries of despair while **Edge** competed in the football discipline were evidence enough of the game's enjoyment. Tackling, scoring low goals for one point and high goals for two were all joyously addictive. Team tactics even begin to emerge after the initial playground everyone-follow-the-ball mentality dies down, allowing co-operation to enter the equation. Up to 16 players can compete in the multiplayer arenas, and many attributes can be customised – such as the availability of power-ups and the points required for a win to suit your particular preference.

Braben will never be content with churning out derivative material from his codeshop. He looks to the future with a great deal of optimism. Would he give it all up? Perhaps leave coding for another career path? "I used to think that I would love to go into films," he confides. "But what is possible, and what we can do in games, is changing and the two are becoming ever closer." Off the record Braben enthuses about what is going into the next instalment of his space epic. Science fiction films and videogames meeting? Even the nuggets he revealed to **Edge** are cause for a great deal of expectancy. The project must remain cloaked, however, until a forthcoming **Edge** feature.



Elite 4

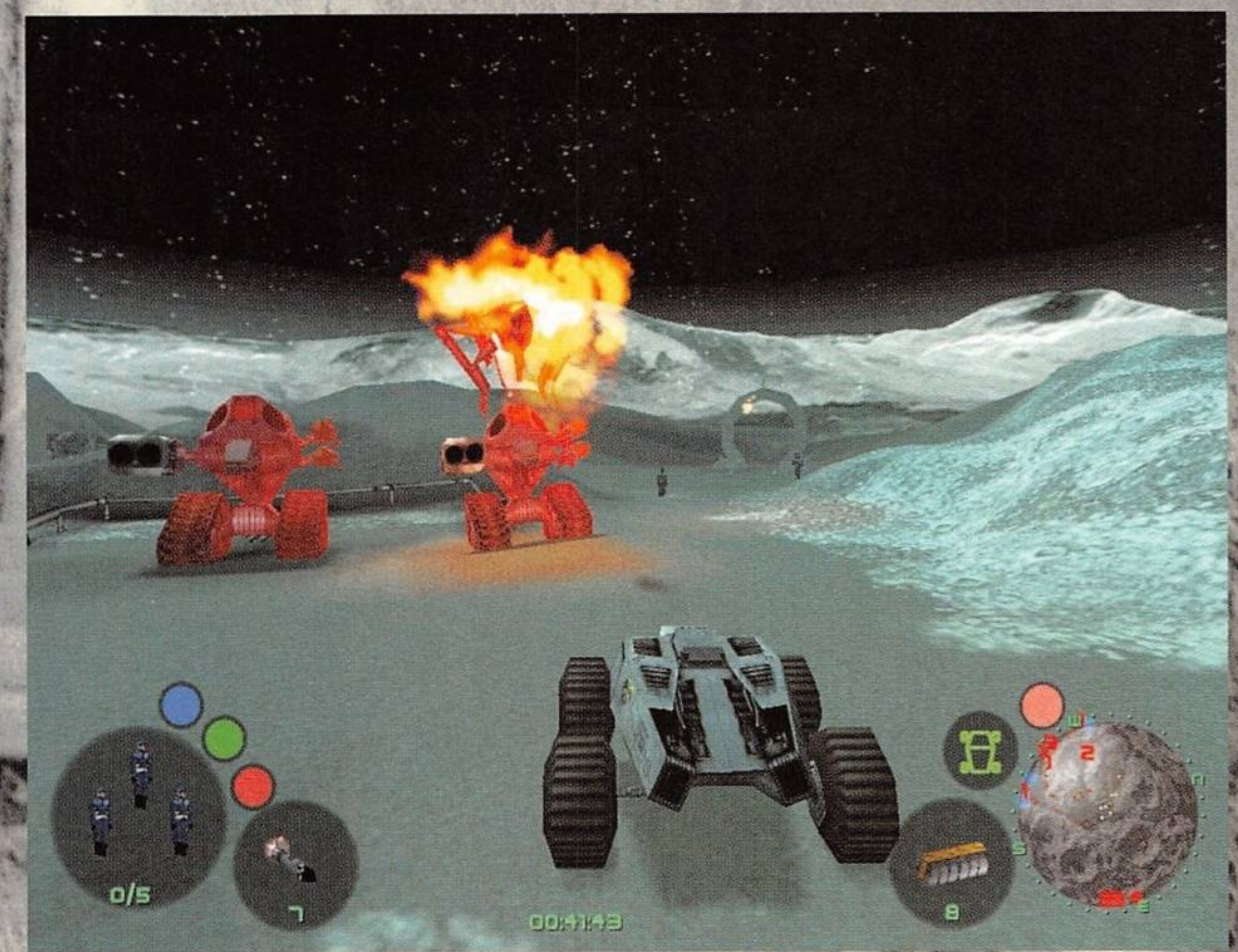
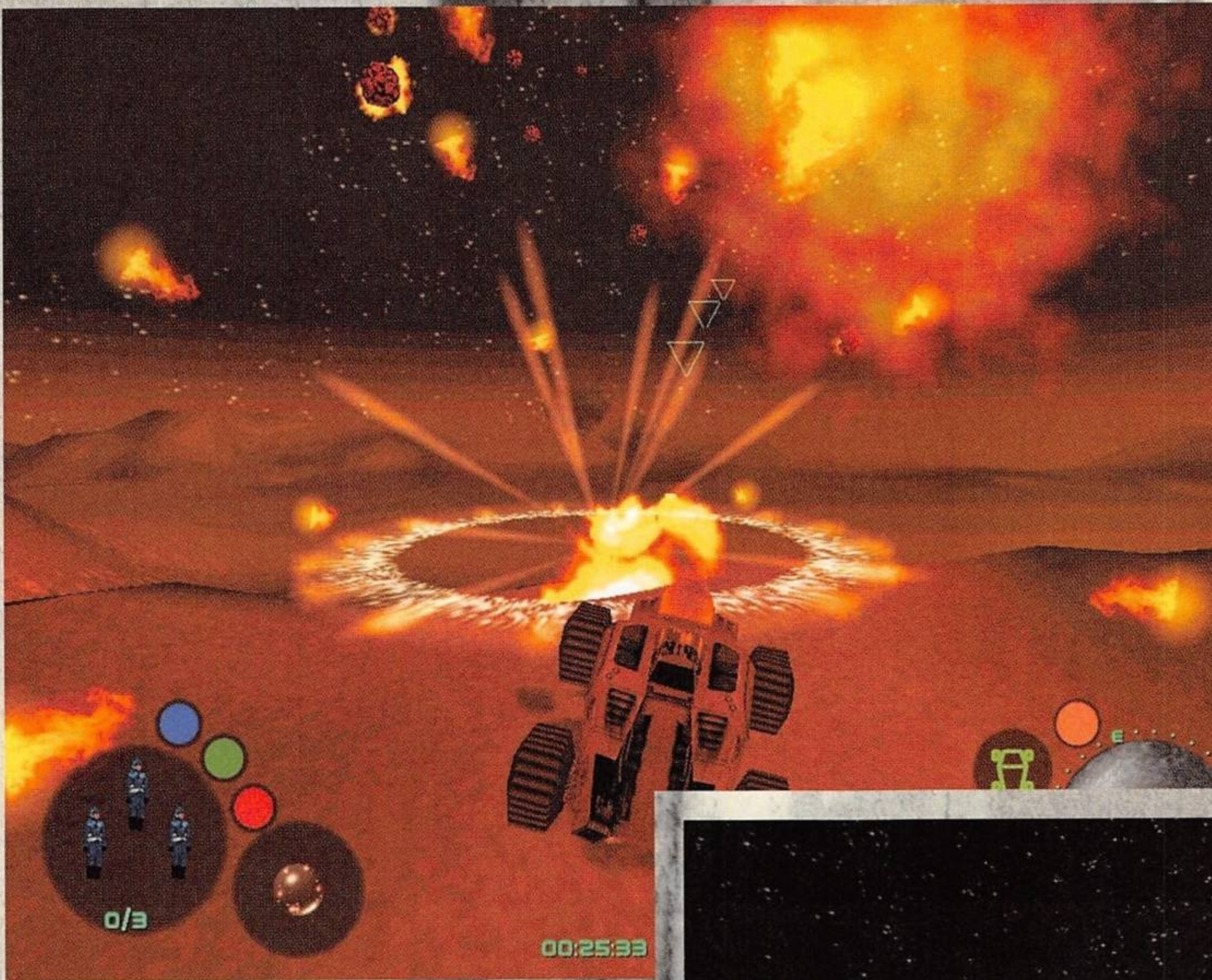
On the record, all David Braben is willing to divulge is that *Elite 4* will use online technology and will be "a complete contrast" to what has gone before. "The problem I've had in the past," says Braben, "is talking too much to magazines. That can backfire."

There is definitely a feeling among fans that Braben can still improve upon the original. The problems with *Elite 3*, the now defunct Gametek, and the resultant falling out with co-author Ian Bell haven't helped. "The legal stuff really spoilt it for me," says Braben, "even though I finally won the case last year, which is why I haven't gone back to *Elite* for so long"



The popular space station docking sequence of *Elite* may not return in *Elite 4*, and sweeping changes in approach and style are expected to usher in a new era. Braben will not be disclosing secrets for some time

"I used to think that I would love to go into films, but what is possible, and what we can do in games is changing, and the two are becoming ever closer"



The explosions and lighting effects enhance the solidity of the environments. A great deal of variety is brought to the game by, eventually, providing the player with a uniquely mutable craft. Weapons and gadgets all have their strategical uses, from simple plasma cannons to stun and limpet mines

Zone of



Format: PlayStation2

Publisher: Konami

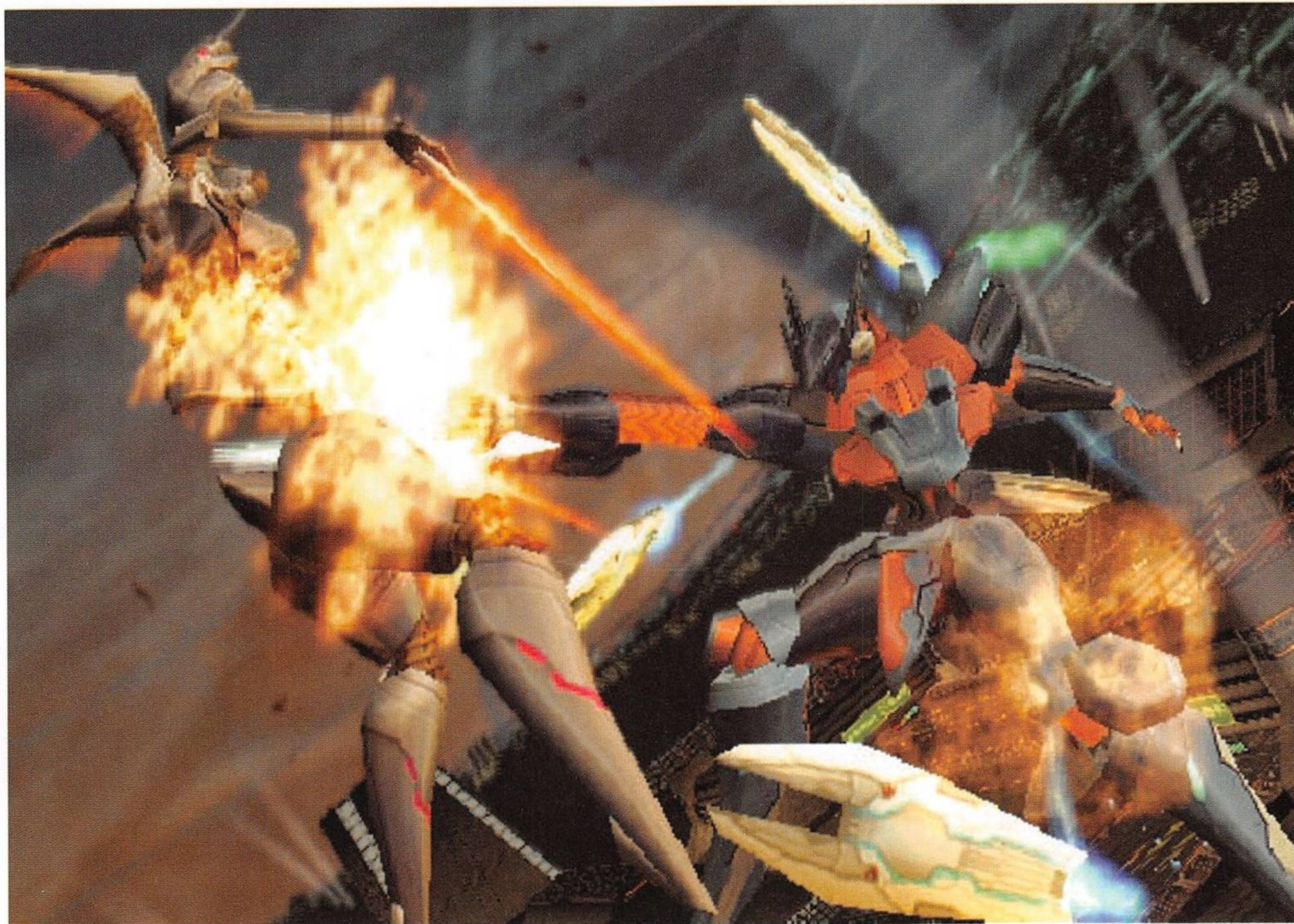
Developer: In-house

Release: End 2000

Origin: Japan

theEnders

Mecha, moral choices and the *Metal Gear Solid 2* team feature in this forthcoming Konami PlayStation2 title. Director Noriaki Okamura talks through his vision with Edge

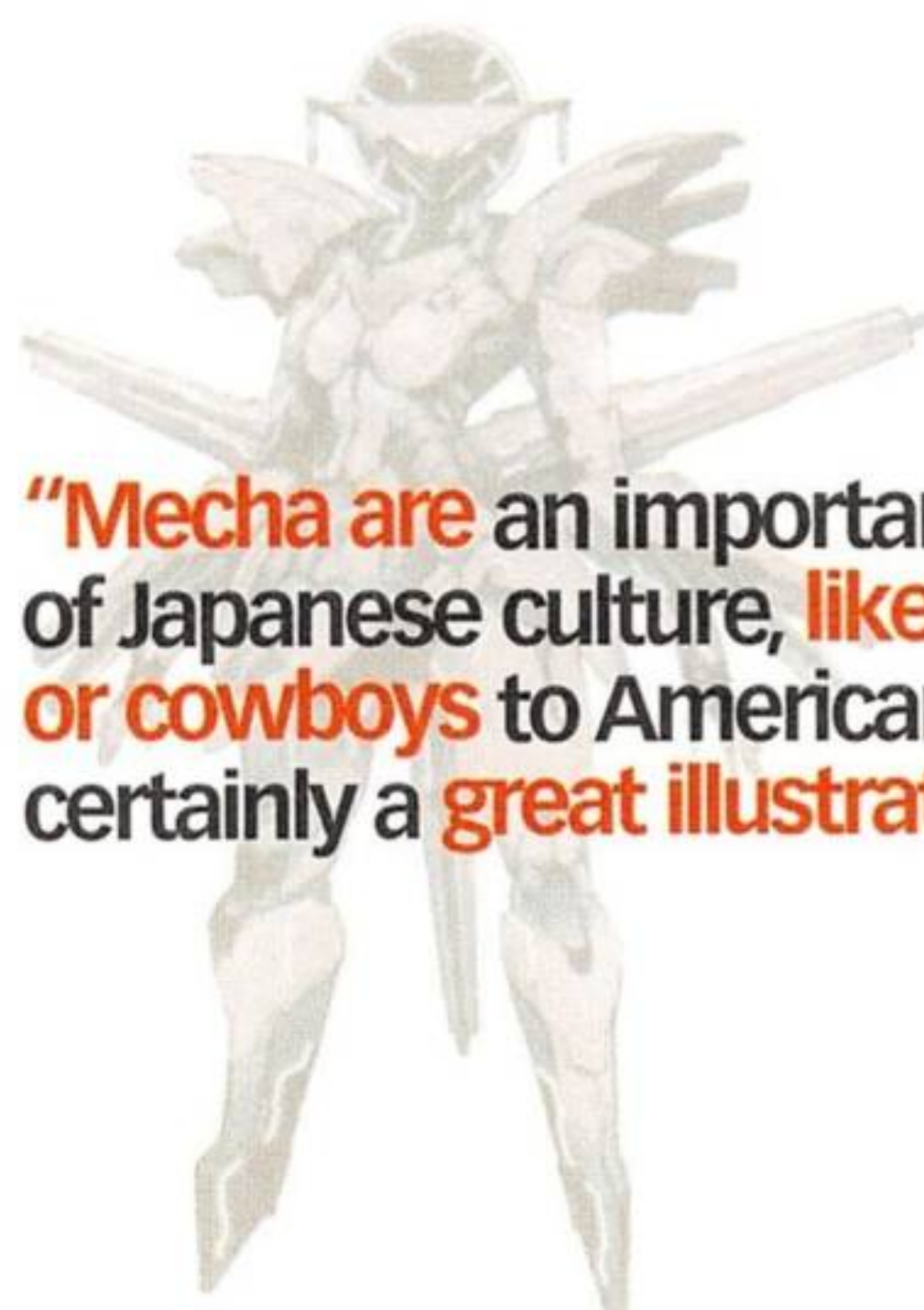


The dramatic encounters between stylised mecha take place above inhabited cities, forcing players to make a series of moral choices to prevent collateral damage. Visually, *ZoE* is a melange of influences, from the unique designs of Yoji Shinkawa to more conventional anime, such as the 'Gundam' series

Amid the glare of publicity surrounding *Metal Gear Solid 2* at E3 in May, one of the few other titles to impress on PlayStation2 was another Konami game, *Zone of the Enders*. Perhaps this should come as no surprise considering the involvement of key *MGS* players Hideo Kojima and Yoji Shinkawa. And given the long and fruitful associations of mecha anime and the Japanese videogame industry, it is also unsurprising that the game features giant humanoid robots. **Noriaki Okamura**, director and scenario writer on the title, explains the cultural significance of the stylised automata: "Mecha are an important part of

Japanese culture, like samurai, or cowboys to Americans. *ZoE* is certainly a great illustration of this Japanese mechanical culture with a strong taste of Japanese animation."

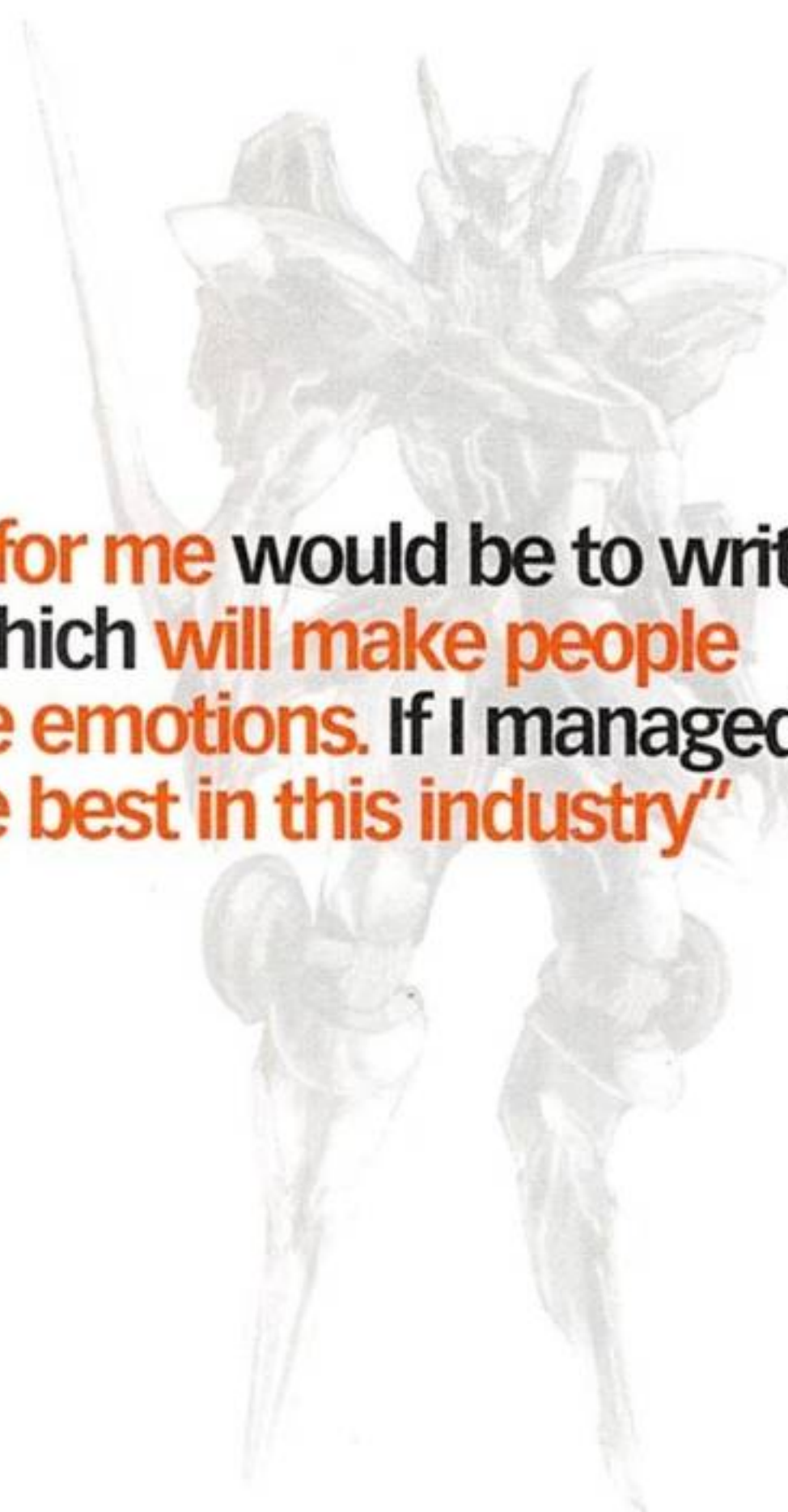
As well as the *MGS* stalwarts on the *ZoE* team – Kojima-san is producer and Shinkawa-san is mechanical designer – Konami has blended together people with an impressive array of backgrounds. "It is possible to divide my team into three groups," explains Okamura-san. "About a third of the team comes from Japanese animation. These people are very skilled and most of the projects they've worked on are very famous ('Gundam', 'Studio Ghibli', etc).



"Mecha are an important part of Japanese culture, like samurai, or cowboys to Americans. *ZoE* is certainly a great illustration of this"



"The ultimate goal for me would be to write a game scenario which will make people cry through intense emotions. If I managed that, I would be the best in this industry"



Another third has worked in the videogame industry for a long time, while the remaining group includes people from a number of very different backgrounds, including the Japanese space agency, NASDA."

Ostensibly a mecha action game, *ZoE* attempts to set itself apart from the rest of the pack by placing an absorbing storyline at the heart of the gameplay, rather than just tacking it on to provide some rationale for combat. "In standard games you complete a stage and then you have a cinematic cut-scene, followed by the next stage. In such a case, I prefer to skip the action parts and watch the scenario," continues Okamura-san. "In *ZoE* I want to take another approach, in which the player is totally immersed in the scenario. According to the player's choices, the story changes in realtime." He goes on

to describe the three main protagonists: Leo Stenbuck, a 14-year-old boy who is thrust by circumstance into piloting his mecha in the defence of Jupiter-orbiting space colony Antilia; his main adversary, Viola; and Celvice Klein, a supporting character for Leo.

"This very tense human drama is taking place in a space colony: a little oasis of life in the cold emptiness of space," explains the director. "Moreover, war is going on and people are fighting with gigantic robots in this fragile environment. As you can imagine, every move or attack that you make with your robot causes destruction around you. If using a bomb will destroy your enemy, what about the city? I would like the player to think about every action he will take." While some mecha have weak points that make it easier to minimise civilian casualties – notably the cockpit

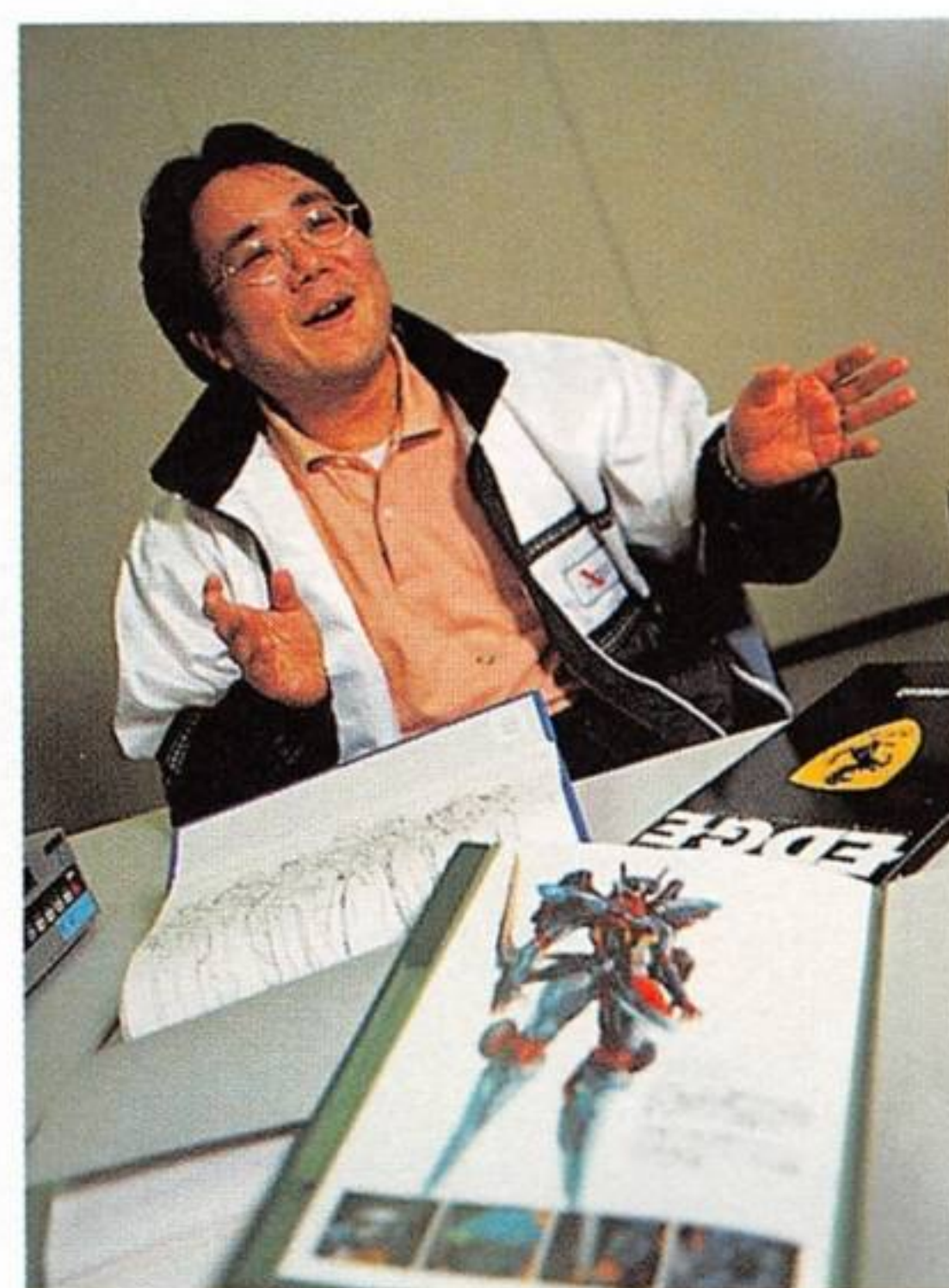


"Viola (centre) is a very sad person, who lives in her past. She has no will to live, but to die. Celvice (top) supports Leo (above) by her strong will to live," explains Okamura-san (left)

The proliferation of mecha-based videogames have so far been unable to capture the human drama that is the hallmark of their anime counterparts. Okamura-san wants *ZoE* to be different



Photography: Hiroki Izumi



Weapons will be automatically selected according to the distance between mecha, and there are a number of special attacks

of piloted mecha – this is not always the case, imposing constraints upon the tactics used in any bout of combat.

Antilia consists of a long, circular strip that Leo can traverse by air. Scattered about its surface are a number of towns and other locations that are represented in greater detail. Throughout the game, players will have to make moral choices about exploring the map, as Okamura-san elaborates: "The player can travel freely. He may prefer to go to a location because he knows a secret item is present there. But the scenario will also require the player to address emergencies. So he will have to face a dilemma: if he goes to confront the enemy he may not get the item, but if he does go to get it, the town may be entirely destroyed. According to these choices, the story will take on a different aspect. I want the

player to experience the world he has entered. So, I would like him to really understand what he is doing and to face difficult choices. Protecting lives is not that simple. *ZoE* will have a single story but a very flexible way to experience it. The player is part of *ZoE*'s human drama, so he will have significant consequences on the way the scenario develops."

Combat is reminiscent of a 3D beat 'em up. Although nothing has been decided yet, the possibility of including a twoplayer versus mode is being considered. The mecha's primary weapons are controlled by one button, at both short and long ranges, while another shoots secondary weapons, which can be customised. A third button is used in combination with the other two to produce special moves. Despite the similarities to games like *Virtual On*, it is intended that the combat will be



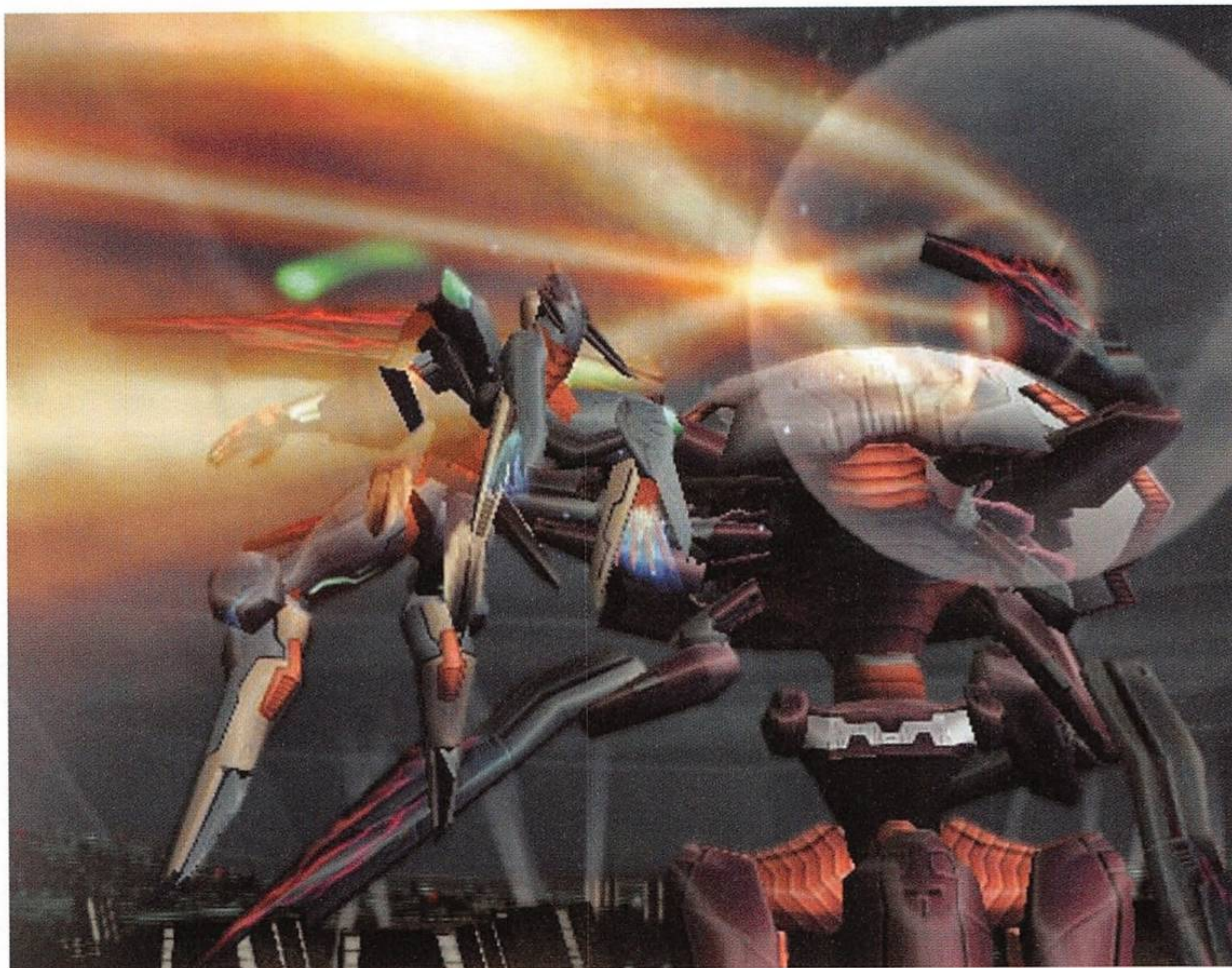
Improved rendering and better textures are on the way, but Okamura-san sees lavish graphics merely as a means to an end: "I think there is a way to express emotion through polygons. The scenario supports the visual side of the game, but as emotions flow with the game the cold polygons disappear"

much more accessible, and a dynamic camera will make novice mecha pilots feel much more at home. Indeed, as Okamura-san reveals, this was a crucial issue for the game's producer: "Kojima-san told me he does not want to make such mecha games because he does not feel comfortable with the issue of camera angles. He added that if he cannot enjoy the game, he would terminate the project! The game should be enjoyed by a large audience, so I had to study a system which will be easily understood by light users." The method decided upon consists of an automatic lock-on system, with the camera switching if necessary to keep the player's adversaries on screen. In the case of bouts with multiple enemies, the player can revert to a lock on button for a greater degree of control.

Given that part of the team is drawn from the world of mecha anime, it is to be expected that graphics are impressive. "From the very beginning, I wanted to make a Japanese animation game," stresses the director. "This was my fundamental idea. There are no motion captures in the game. All movements have been studied and reproduced in 3D by the same artists that have worked on major animation series or movies. So when you look at the game in motion, you will easily recognise the Japanese animation aesthetic by the movements and the camera angles. It is quite a similar process to that on *Metal Gear Solid*, which is why the game possesses such a cinematic visual impact." Mecha are constructed from around 3,000 polygons, and Okamura-san is optimistic that there will be up to ten onscreen at

"When you look at the game in motion, you will easily recognise the Japanese animation aesthetic by the movements and the camera angles. It is quite a similar process to MGS"

any one time. Background detail will include traffic. However, not everything is finished yet. "In fact, there are many elements and effects to add," he elaborates. "The final version will be quite different and will feature better rendering, better textures, better shadings." Yoji Shinkawa's involvement has no doubt also helped, as Okamura-san enthuses: "On *Metal Gear Solid 1 & 2*, he delivered a very realistic design style but *MGS* is based on a realistic



Kojima-san hopes that fluid camera movement will widen the appeal of *ZoE*

military atmosphere, so he had to work within constraints. For *ZoE* we let him to do what he wanted to do. And the results are gorgeous."

Whether the pedigree of Shinkawa-san is enough to extend the appeal of *ZoE* to casual European gamers remains to be seen, but by attempting to attract support for the game from beyond the hardcore of mecha fans, Konami may



Some mecha feature Achilles-like chinks in their armour, allowing them to be taken out swiftly and with minimal harm to bystanders

invite more widespread support for this hitherto esoteric genre. In the context of the paucity of games that fulfil the hype surrounding the much-vaunted Emotion Engine, Okamura-san's bold attempt to place ethics at the heart of the game experience deserves notice. "The ultimate goal for me would be to write a game scenario which will make people cry through intense emotions. If I managed that, I would be the best in this industry."



Criterion's

Edge gets its hands dirty with the men at work building middleware construction tools for PlayStation2 developers

creations





Criterion's star has risen in the east, twinkling in the green and blue activity lights of PlayStation2. With the videogame industry scrabbling around inside Sony's new box of tricks, bamboozled by its complexity, the middleware tools that Criterion makes seem to have come of age. An off-the-shelf 3D engine that's currently in its third incarnation, *Renderware* has celebrated its newfound appeal with two fresh products spun from the core code, *Rendervision* and *Renderengine*, and some new additions to its central product.

Where once developers shied away from the prospect of using bought-in technology, the sheer horsepower of PlayStation2 – coupled with the problems in harnessing it – has caused a reappraisal of the situation by the game industry. As Criterion MD

Renderware

There's an array of text layouts floating in layers on the screen, all at various stages of transparency or alpha-blend. Intermingled with the various fonts are winding lines which reveal themselves to be filled with perfectly blended colours as David Lau-Kee zooms through the crisply scaled text. This is one of *Renderware's* latest additions: a 2D graphics handler that's completely resolution-independent, capable of scaling, stretching and animating visuals, fulfilling the same function in a game engine that Adobe's *Postscript* does in the publishing world.

Those who've encountered Adobe's *Illustrator*, or one of its rivals such as *Freehand*, will be intimate with the power of bezier curves and the EPS format. Fonts, graphic outlines, fills and blends are dealt with on a resolution-independent basis. On the Web the best parallel is Macromedia's *Flash* technology. Doing the same in the game world lends the potential for, at the least, far more interactive menus. And some beautifully crisp 2D games.

Lau-Kee relates that the thinking is a reversal of how 2D is often considered in the 3D age, that Criterion's approach is 3D-plus-2D, treating 2D visuals in a three-dimensional way, making use of next-gen benefits such as transparency and alpha-blending. The results are certainly attractive, and could lead to a new style in graphics, perhaps joining Sega's cel shading animation technique (seen in *Jet Grind Radio*) in the visual vanguard.

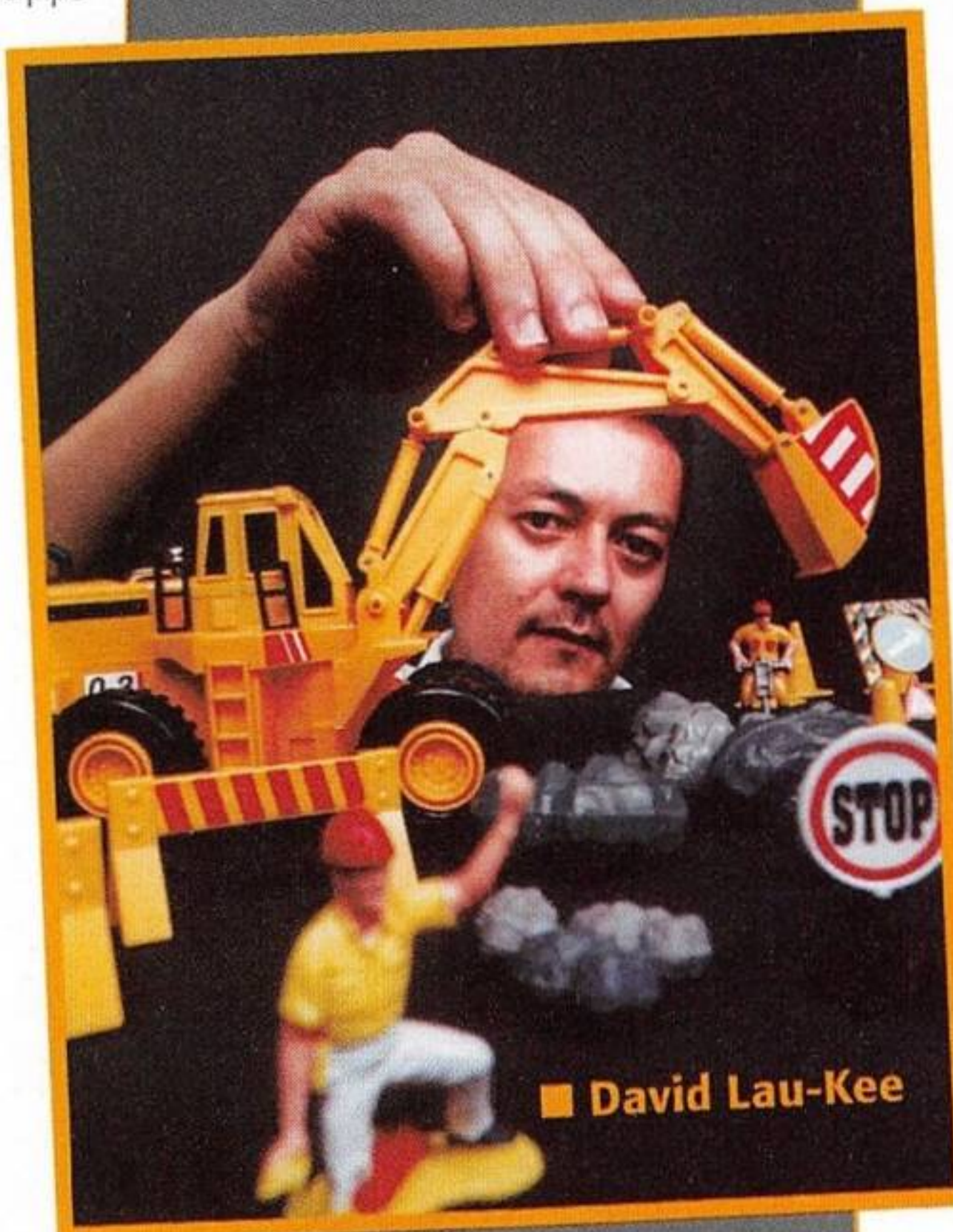
On other fronts, the implementation of what Lau-Kee dubs a 'Powerpipe' is the focus of much passion for him and the Technologies team. Its purpose is to free the order in which events happen in the generation of game visuals, and – crucially – it allows the operation of procedural nodes. This was espoused in E85 by Sony evangelist Phil Harrison (a copy of the interview lies open on Lau-Kee's desk when *Edge* visits) as being the true road to capturing PS2's power, and procedural generation of textures and objects from fractal mathematics is an exciting prospect for the technically minded.

Lau-Kee explains the process with an example: "One single particle perhaps blooms up into something that's the shape of a snowflake. I haven't transformed all the vertices for the snowflake, because I got it to the end [of the 'Powerpipe'] and transformed them there and then." So a single algorithm contains all the information for making a snowflake appear – it doesn't exist as a texture map, or a pre-designed combination of polygons. Similarly, texture maps can be generated at the end of Criterion's 'Powerpipe' – from pure maths – not carried all the way through as a large chunk of information.

"I don't believe it will negate the need for more traditional ways of doing things; they will always exist, and they will be used in parallel," says Lau-Kee. "I think you'll see more and more effort going into these special purpose nodes, for generating procedurally what things look like, without a doubt. And you can see that because of the way these new architectures are going, in terms of the compute power distributed through the system that you can make use of."

With Beta copies of the 'Powerpipe'-enabled version of *Renderware* already in the hands of Criterion's top-tier customers, the wheels are already in motion for widespread use of the technology. "There's still the process of trying to learn about it at the moment. What we're lacking at the moment is detailed documentation that allows others to step through it," admits Lau-Kee. "At that level anybody who's got *Renderware* will have the capability to do that. Whether they're able to use that capability depends entirely on their ability as programmers." Consider the gauntlet well and truly thrown down – by both Criterion and Sony.

"The springboard from which people can move on is more powerful. It doesn't mean they're going to make a great jump. They could get on and bounce off into the middle of nowhere. It's kind of out of our hands"



Rendervision

The most immediate and tangible advance in Criterion's new work with *Renderware* is one of those inventions it's hard to imagine life without after it has arrived. Dubbed *Rendervision*, it is, in simple form, a 3D engine that allows an animation created in a traditional software package such as *3DS Max* or *Maya* to be run in realtime on a host platform – in this instance PlayStation2.

"The game designers and artists upstairs were like, 'Show us it when it's done,'" recalls David Lau-Kee. "We took artwork that had been produced for an AVI, and ran that through it. It was early and so there were glitches and this that and the other, but instantly they were saying, 'Shit, yeah, we can see it now! And they wanted it'"

Edge was treated to several demos of *Renderware* in action while at Criterion, starting with the movie that was created for *Stunt Squad*. Notionally a sequel to the Dreamcast launch game *TrickStyle*, *Stunt Squad* features a gameplay system that is much modified from that of its predecessor. The immediacy of seeing *Stunt Squad* running on PS2, albeit in rolling demo form, lends its fresh conceptual direction a weight several orders of magnitude greater than any *PowerPoint* presentation. Publishers have been suitably impressed.

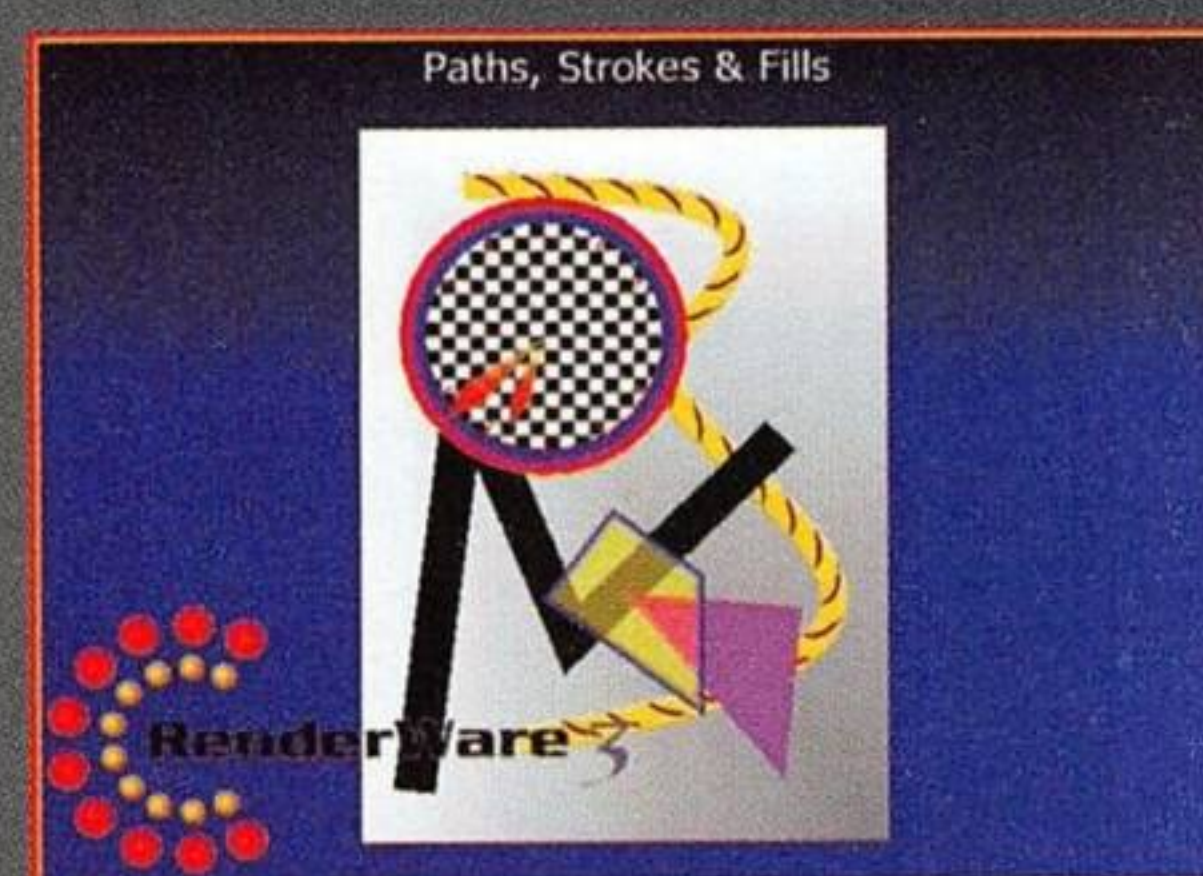
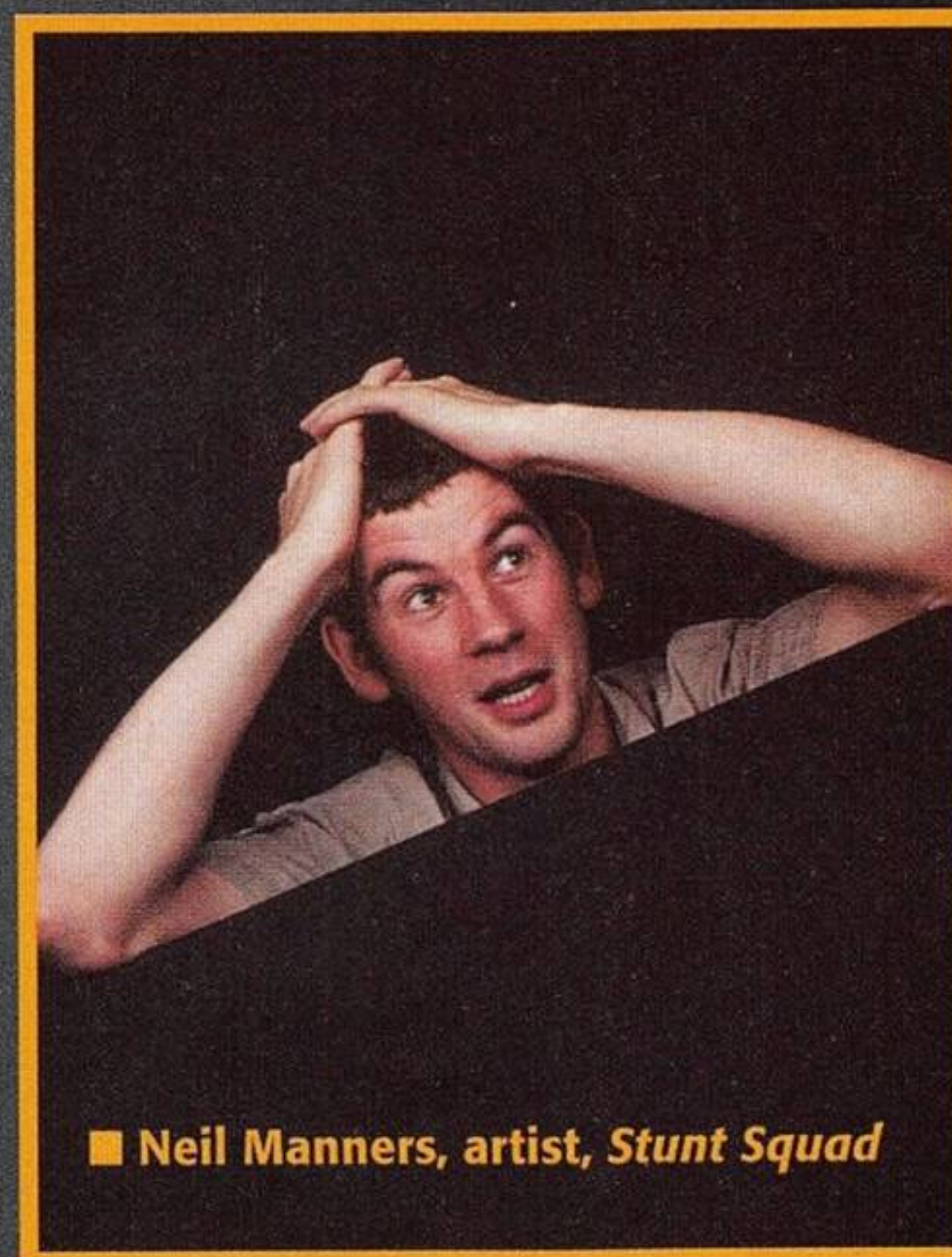
"That's entirely what rapid prototyping is about," says Lau-Kee, "what *Rendervision* is about. It's to allow you to get all the insight into the stuff that you might think about at the end of the project, bring it forward so that you get that insight really early on. You might continue down that line, but you know consciously that you've made a decision to do that"

There is scope for much more to come from *Rendervision*. Already it is possible to move a camera around objects and maps in realtime on PS2, not just run through preset animations. Much more interactivity is planned. "Within the authoring tools you'll be able to do things like set up trigger points, get in the player," Lau-Kee eagerly explains. "And that essentially will be the framework for the entire game, and you'll add to that to make the game itself"

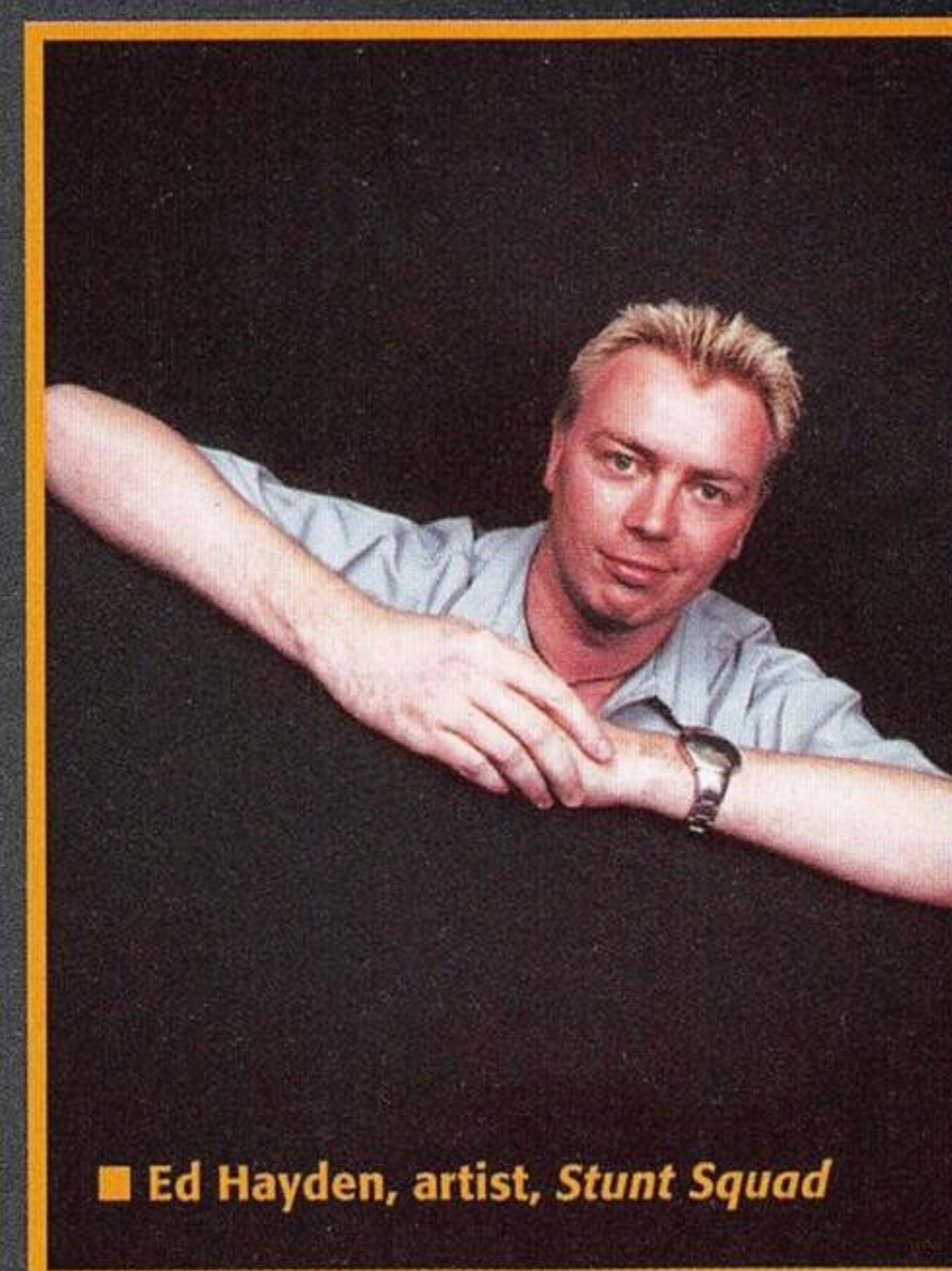
Talk of a game construction kit blooming out from *Rendervision* rings true with Criterion's thinking. "I see a sliding scale," agrees Lau-Kee. "At one end there's construction kit-type stuff, in the sense that it's point and click; change parameters, change how things are interacting. Some great content will be produced from that side of things. I think there's huge scope for episodic content, where you want to get the framework up and going, and then you want to go through it again and again, changing the content, getting the next episode together."

He also feels that *Rendervision* deserves a place in the hearts of Japan's epic makers. "It'll be used as a high-end professional power tool, where people are free to be considering the higher concepts of a bigger notion of how the game's going to be – that all-encompassing sense that you need if you're going to build something like *Final Fantasy*. And for that you need all the tools you can get."

Talk of episodic content suggests that Criterion may have an important role in the vast, broadband future. So does Lau-Kee see a possible *Rendernet* product on the horizon? "I think absolutely there is, and that product is primarily about how you co-ordinate these assets, the graphics side, or sound, music or speech, orchestrate them and then squirts them down a pipe to the playing end," he enthuses. "If you look at what we're doing with the *Rendervision* stuff, in terms of opening up the file format, we'll be adding scope in there for video, audio, and then what have you got? Well, in effect you've got something that produces this broadband stream for you."



The torus (top) demonstrates auto surface refinement, a new feature in *Renderware*, introducing extra polys as objects approach the camera. An aspect of the *RenderVision* middleware component is its 2D handling capacity (above), which zooms, stretches and manipulates flat imagery with ease



David Lau-Kee puts it: "There's a lot of stuff, an awful lot of stuff that's in development using *Renderware*." It is no longer seen as a hindrance, but as a help.

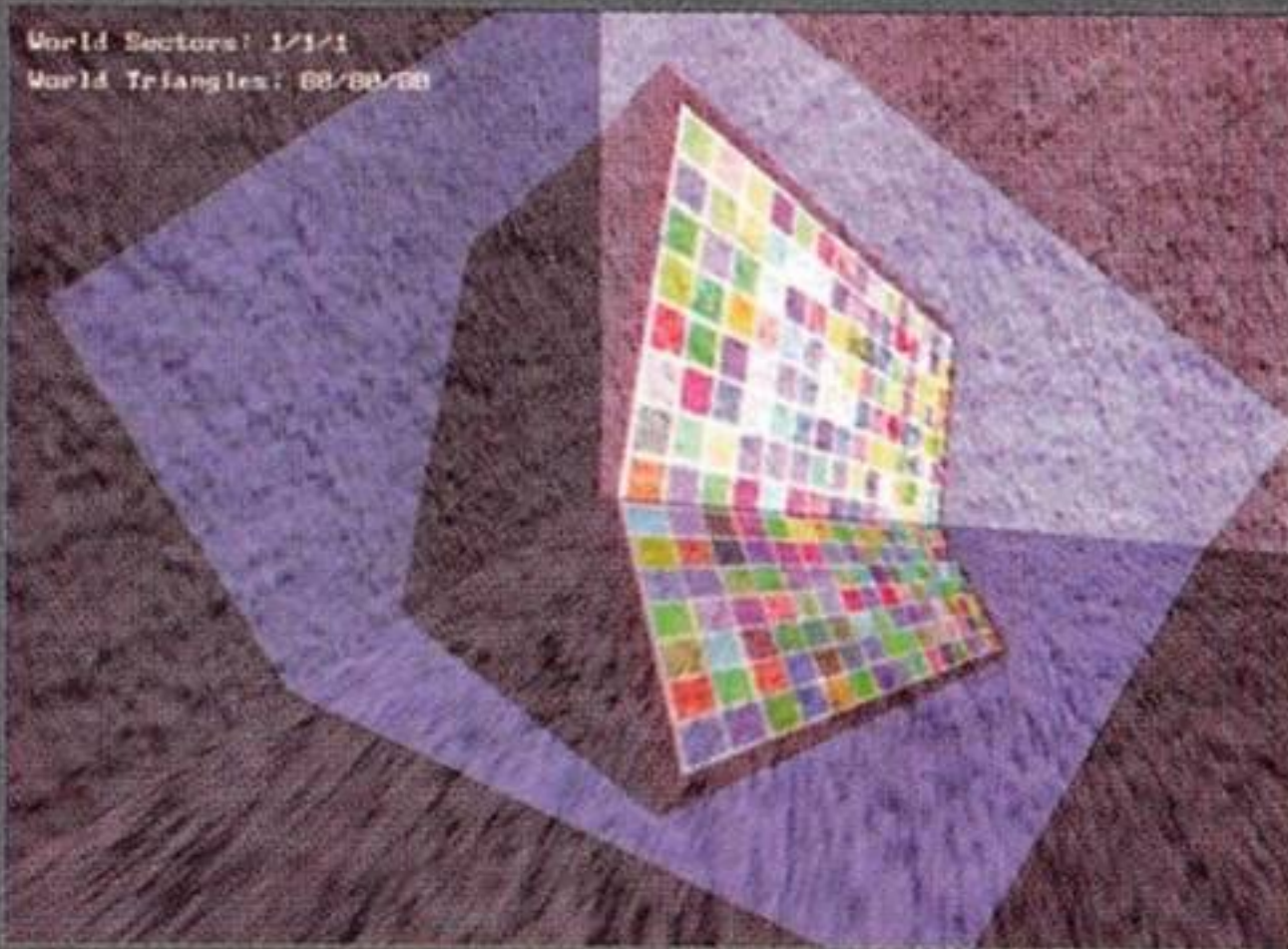
"The whole issue is that without these tools, without the help, without the middleware, what are you going to do? How are you going to do it?" quizzes Lau-Kee. "As a developer you have to make a fundamental choice about whether you want to produce a great game that people love, or whether you want to play around with technology. That's what it's coming down to these days."

That does not mean, however, that the days of the coder are numbered. Far from it. "We've been thinking about putting *Renderware* out with a big label on the front saying 'some programming required'. Unless you're capable of getting in there and using your skills and creativity, from a programming perspective, it's not going to work," he explains. "The performance scepticism has gone away a great deal," he adds, "though there continues to be a need to educate people about best practice. Our efforts these days are more focused in terms of working with developers, explaining to them how things work in certain ways."

Having to deal with over-ambitious developers can hold its problems, too. "Fundamentally, if you want something that's got ten gigs of textures in it, something's got to give. Either you're going to take a performance hit because you're swapping textures up and down, or you're going to have to cut down on the size of them," Lau-Kee points out. "Yet to an extent we carry some of the responsibility and some of the blame for them not being able to do it because of the basic parameters of the platform."

Lau-Kee is keen to convey the message that the ever-growing *Renderware* suite of products are purely enablers, tools with which to fashion better games. "You'll be able to produce a range of games quite straightforwardly using it. But you will also want the flexibility to get in there and change things," he says. "It's the same thing as the *Quake* engine: having the *Quake* engine doesn't mean you're going to come up with a great game – it means certain things will work for you, and you can focus what it doesn't provide for you, because that's the creative aspect to it."

As for PlayStation2's tangled technical web, Lau-Kee is surprisingly modest about the benefits Criterion offers. "There are lots of smart people out there, they'll get their heads around it. The question is, do you want them to be spending all their time getting their heads around it?" And that is the real core of what middleware is all about. He illustrates this by explaining that: "You could have someone who's a real specialist on the vector units,



Renderware at work (from top): a cartoon-style character with flat colour use; a cube rendered to a texture, then projected on to geometry (through Criterion's 'PowerPipe'); a selection of reflection-mapped fish; and streaming video projected upon geometry

Renderengine

Stopping part way through **Edge's** tour of Criterion's HQ, it's hard to focus attention on what Lau-Kee is saying. There's something rather unexpected running on a widescreen plasma display over his shoulder. One of his key coders is fiddling with a joypad, steering a camera around the opening scenes from Valve's seminal PC shooter *Half-Life*. On PlayStation2.

This is *Renderengine*, a specific, firstperson 3D game engine extrapolated from Criterion's core *Renderware* code. Its purpose is clear: to demonstrate to developers that the potential of *Renderware* can be spun into any desired genre. Non-generic behavioural hooks have been woven into the code – triggers that will be used to activate specific pieces of programming – allowing programmers rapid access to the basic building blocks of the firstperson genre, such as doors, triggers and switches.

"We took what we saw to be a superb example of the genre – in this case it was *Half-Life* – and we looked at the level files that were produced, the .PAK files," explains Lau-Kee. "Essentially we've implemented stuff that allows us to completely parse those files, handle anything that's encoded in those files. And that gives you the confidence that what you have at engine level is going to be capable, in the right hands," he pauses for effect, "of producing a game that's as good as something we thought was terrific"

As with *Renderware*, Criterion's emphasis has been to retain an open approach to the code, leaving the path clear for developers to tweak, add and enhance in whichever ways they wish. "*Renderengine* puts out something which is a framework," Lau-Kee explains. "That framework is filled in with certain things, and you might be happy with all those things. It might be that you want to change the framework – just get in there and change it"

In terms of Lau-Kee's overall strategy for the growth of *Renderware*, *Renderengine* is only an intermediate step toward a greater goal: the development of a superengine.

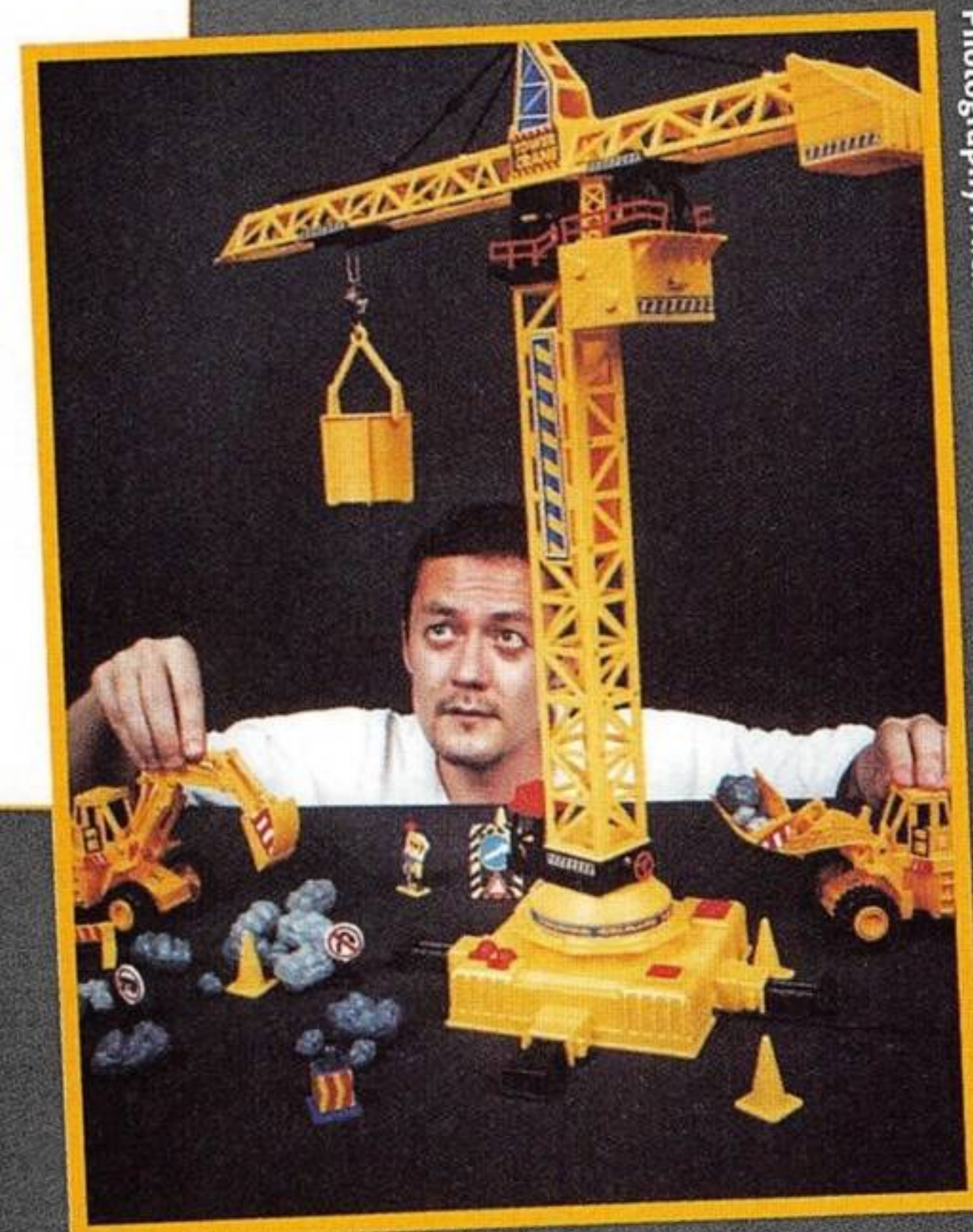
"It [*Renderengine*] contributes to generalising from a specific game engine, taking the concepts which are valid across a number of genres and being able to place them down as automatic features for what we're thinking of as a superengine. As in, it's not tied to one specific genre.

"What we may well do, using a desktop publishing analogy, is say: here's the superengine, here are a number of templates; here's a template for a firstperson shooter, here's one for a platform game, here's one for something else." The implications of this are complex and demanding for Criterion, and Lau-Kee drifts away for a moment, winding through his thoughts.

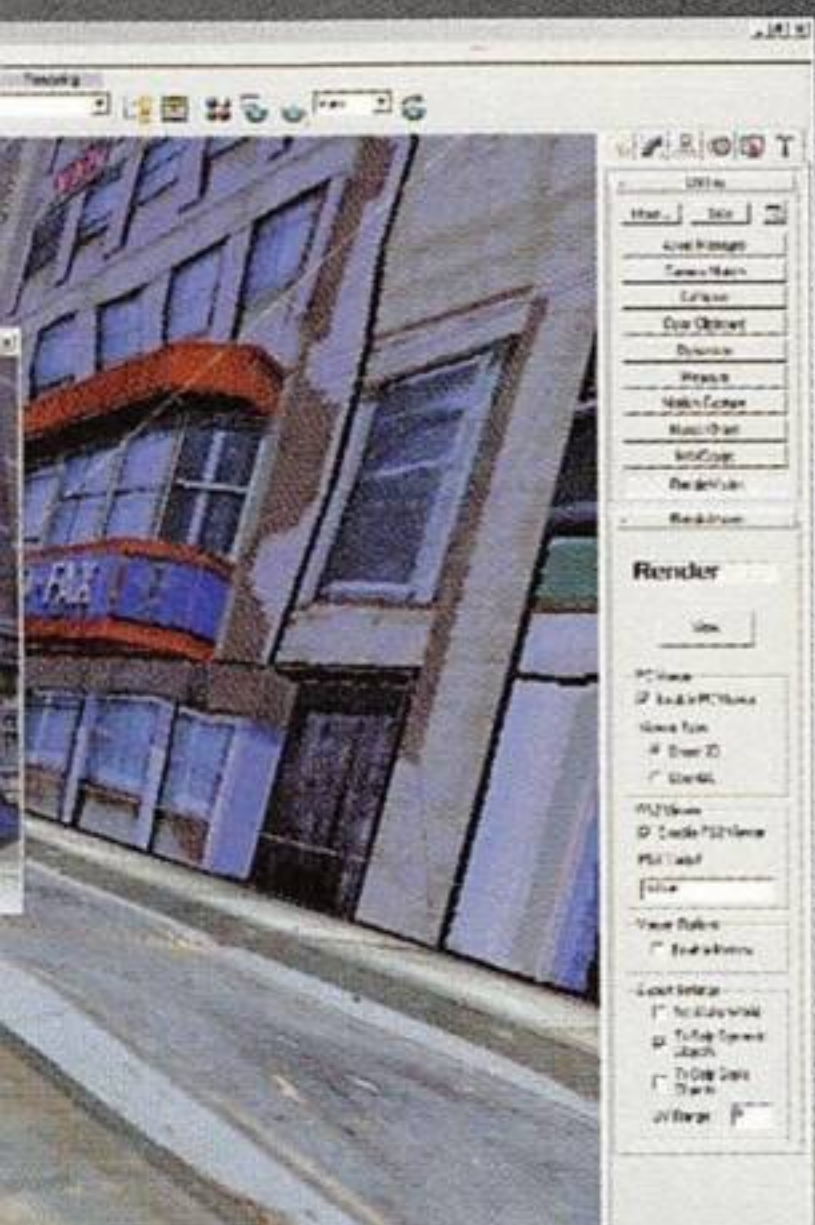
Discussion of *Renderengine's* essential similarity to what has happened with id Software's 3D engines over the years brings him back. "In my mind, that's the single most astonishing result of what the id guys did – they figured out early on that having that high level of abstraction wouldn't take away from the game, it would allow them to make a better game." He bubbles with praise for the Texan codewarriors. "They were thinking about these game construction tools and toolkits and producing great results when the rest of the world was thinking that you could never do stuff like that, or it wouldn't be flexible enough for you to do decent stuff. Well, rubbish."

While *Half-Life* is a superb validation of licensing specific 3D engines, surely there's a worry that a raft of me-too games will grow from a shared root? Lau-Kee, understandably, passes on this point. "You have the game engine in there, and that's your starting point, but in terms of making a great game it's the creativity of the guys who are working on it that matters."

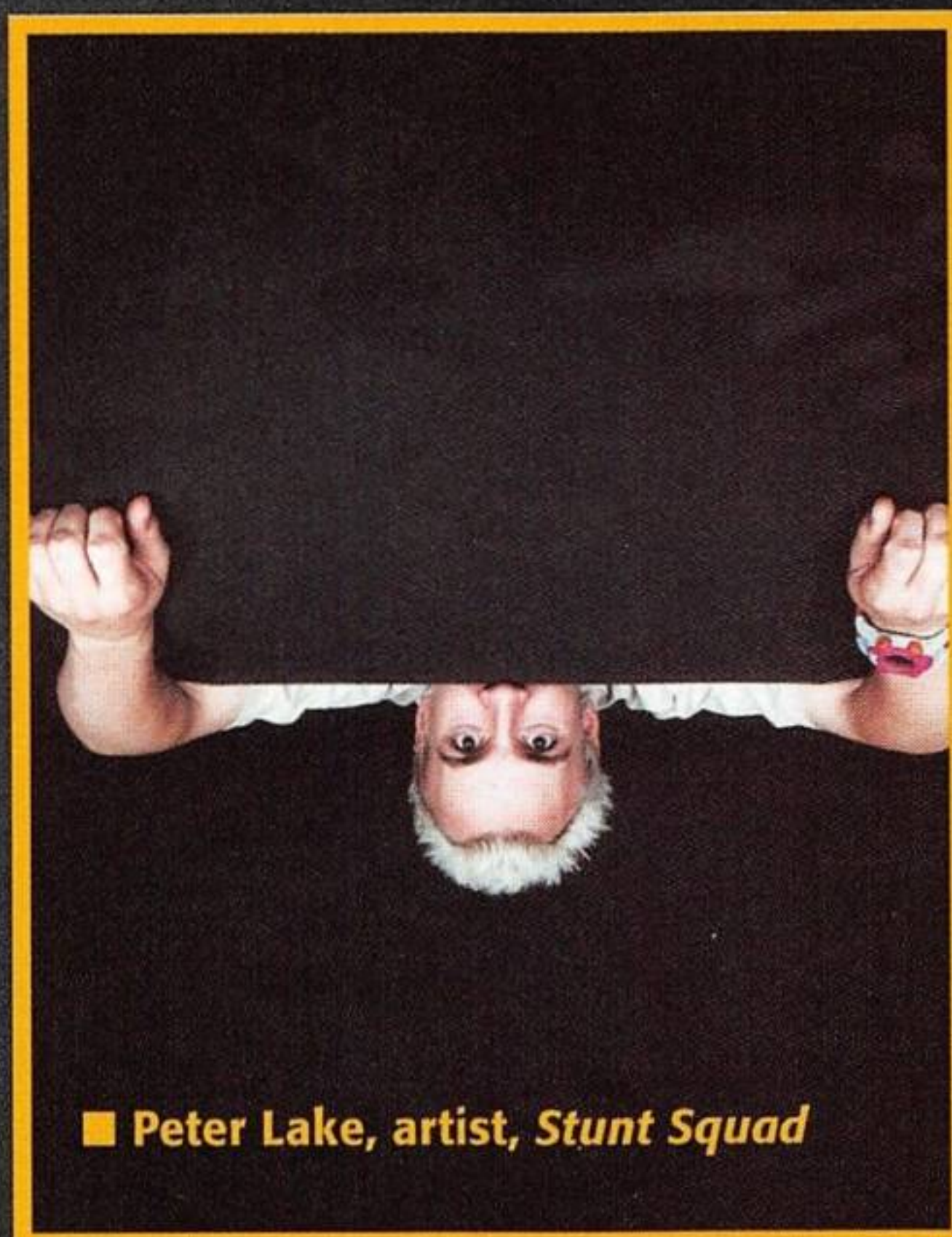
He reaches for an analogy. "The springboard from which people can move on is more powerful. It doesn't mean they're going to make a great jump. They could get on and bounce off into the middle of nowhere. It's kind of out of our hands."



Photography: Nick Wilson



Criterion's next game project, *Stunt Squad*, is shown here (top) in its *Rendervision* incarnation on PS2, and in its *3D Studio Max* incarnation (centre). The ease of getting something up and running from conceptual work is staggering. The component is adaptable to any form of visual representation (above)



■ Peter Lake, artist, *Stunt Squad*

and somebody else who's a real specialist on DMA – how to orchestrate things. To expect one person to know all those areas hugely intimately, the way they could with previous systems, is expecting too much."

Although strongly allied to Sony at the moment, *Renderware* is clearly a platform-independent app, having already been used in Criterion's own Dreamcast titles *TrickStyle* and *Deep Fighter*. "Our stance is that we're interested in working with game developers. We find ourselves tied more to them and what they want from us, than we are to a particular format," Lau-Kee elaborates. "If there's a lot of pressure for us to be moving in a particular direction because that's what our customer base wants – it's down to us to give them what they want"

As Lau-Kee reels through the current three hot properties on videogaming's Monopoly board – PS2, X-Box and Dolphin – it seems clear that those customers have already submitted a few requests, but he refuses to be drawn on any specific deals, saying only that: "Other platforms are really interesting to us." Aside from PS2 TOOL dev kits (sat in steel cages bolted to the office floor. "They're \$20,000 a time, and that's only the deposit"), there are other curious, nameless boxes dotted around Criterion's building. Something is afoot, Watson...

With the core product proving its use anew each day, the potential is there for *Renderware* to be spun into further areas of development. "*Renderware* allows us to produce ever more sophisticated and useful tools – and *Rendervision* is an example of that," Lau-Kee points out. "There are some other things that are vitally important in a game – audio, maybe the physics stuff, the networking stuff. Anything we can do to produce power tools is a good thing.

"And so yes, you will see more and more integration and better coexistence between our set of products and other technologies that either we don't show you directly ourselves or other people don't show. You'll see the whole thing coming together."

Criterion Technologies has come a long way in the last few years, as has its sister game studio, not least in understanding its position in the grand scheme of things. "The great technology is the beginning of the process, rather than being the end of the process like it was five or six years ago," smiles Lau-Kee. "We learnt a lot along the way about how to dispense with our arrogance that we could do everything, and to understand that we're just part of the puzzle. Our job is to produce things that allow other people to do their thing. The time is right for it to happen."



G-Surfers

There's nothing strange in creating a world for a videogame, but developer Blade Interactive has set its sights on accurately representing the whole of planet Earth on PlayStation2. Edge tapped into the thoughts of the team busy playing God

Format: PlayStation2

Publisher: TBC

Developer: Blade Interactive

Release: TBC

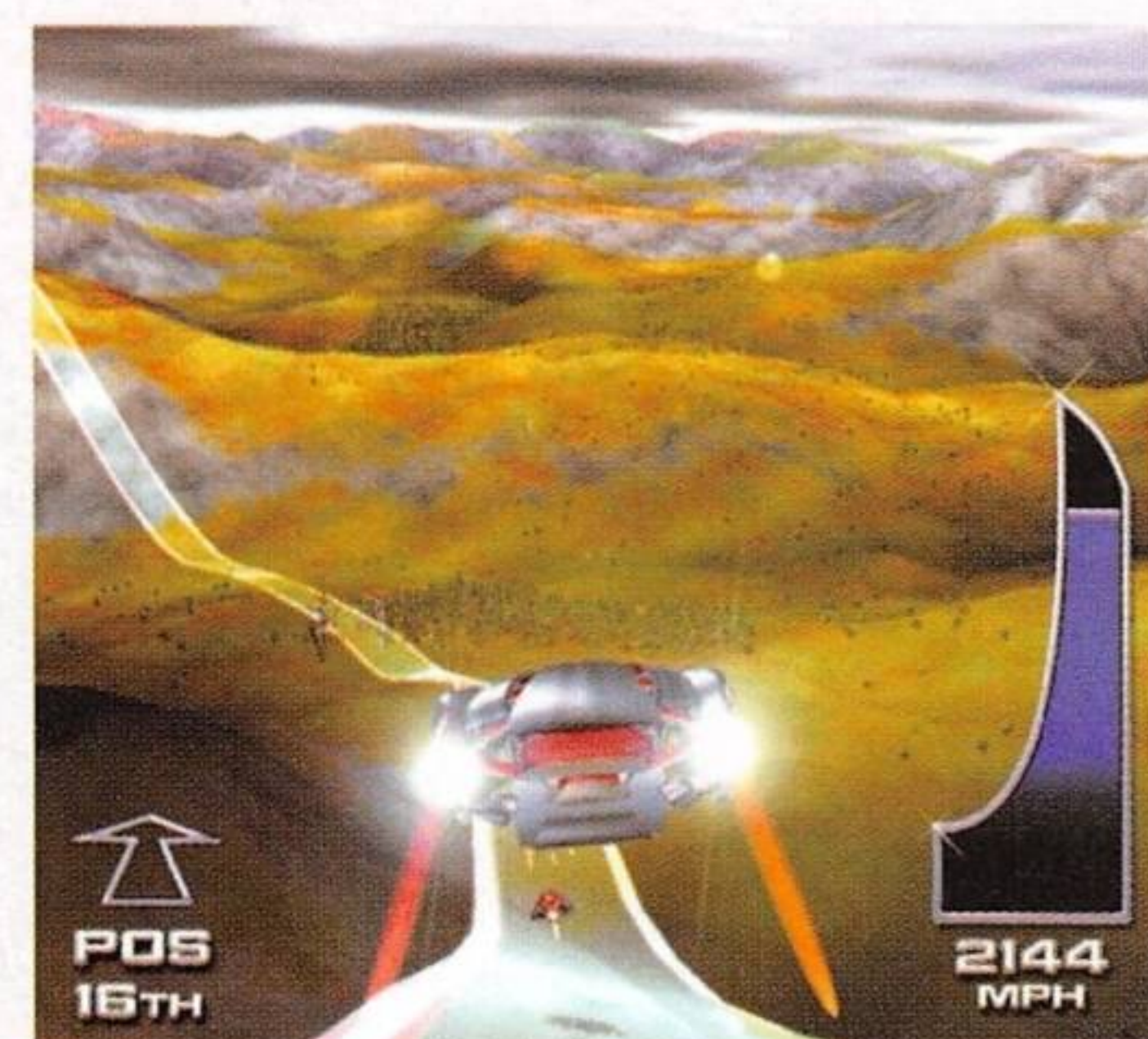
Origin: UK

Edge readers will be only too familiar with the grandiloquent boasts of developers who claim to be pushing back the frontiers of technology, defining new genres and modes of gameplay in the process. The frequency with which such assertions founder under scrutiny seems not to deter the next pretender in line. Every so often, though, closer examination can bear extraordinary fruit. Elixir's *Republic* is a classic example based on its E3 reception, not least because of the scepticism it provoked when it made its debut in these pages.

In light of the weak performance of software for PlayStation2 since its launch in Japan, it is difficult not to be sceptical when presented with the concept of a game for the console that features a representation of the entirety of planet Earth – all 2.2 trillion polygons of it, in game form. Especially when it originates from a little known codeshop in Manchester. But it is now the turn of Blade Interactive's *G-Surfers* to endure rigorous analysis.

Blade was set up some 18 months ago with the specific aim of developing next generation titles. Having cut its teeth on the well-received PlayStation title *World Championship Snooker*, published by Codemasters, the team is now free to do just that. **Edge** spoke to managing director **Debbie Jones**, as well as development director **Gary Leach**, R&D director **Huw Lloyd**, and game designer and programmer **Mike Singleton**. The majority of the team – which boasts several physics PhDs – worked on the aforementioned snooker title, but it is Singleton who is most likely to be known to **Edge** readers familiar with such titles as *Lords of Midnight*, released in 1984 for the ZX Spectrum, and *Midwinter*.

Singleton's vast experience has not, however, deterred the team from the apparent folly of attempting to include the whole of the planet in one game. Ostensibly a futuristic racing game akin to

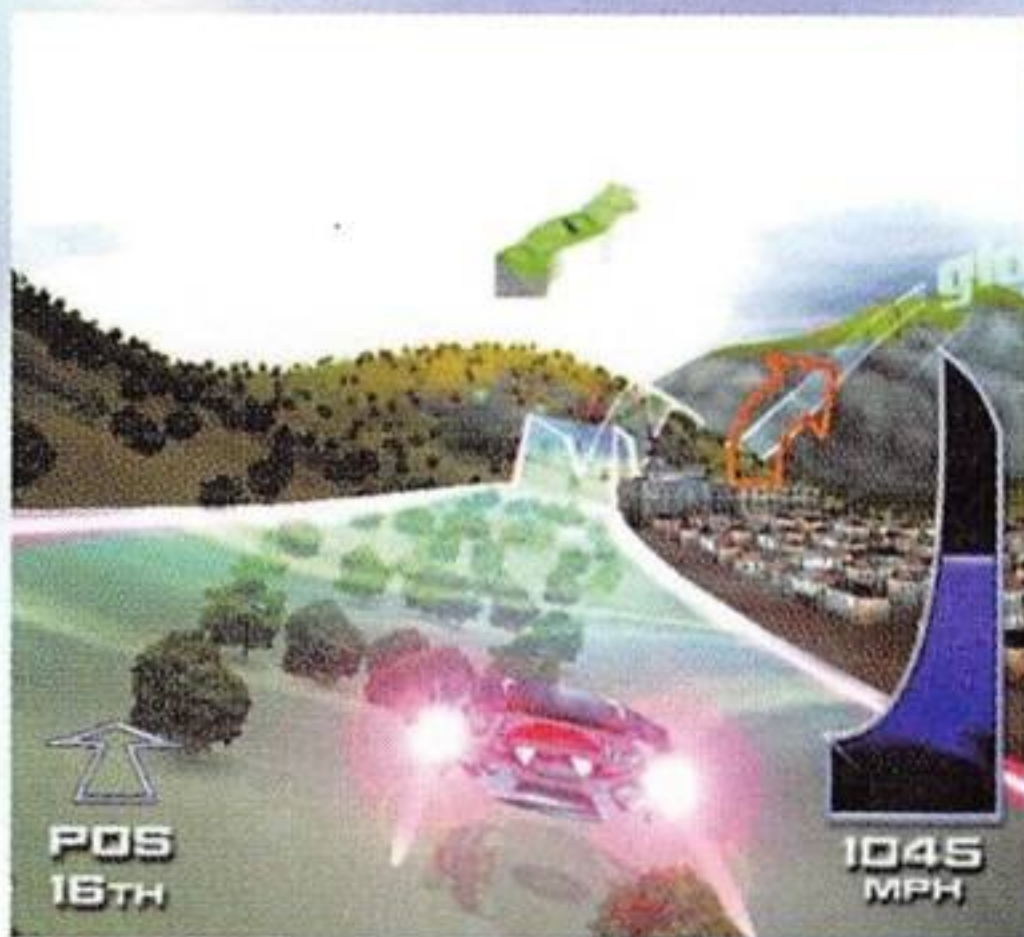


In Free Flight mode (top) players are free to tour the planet, viewing landmark buildings such as St Paul's. During races (centre and above) the onus is on staying on the track and passing waypoints

Wipeout, G-Surfers features craft that hover above Earth's surface and travel at up to 7,000mph. But for the concept to work, it is essential that the planet is convincingly portrayed. Blade is confident that its engine is up to the task. The procedural generation of a landscape is one of the PlayStation2 capabilities that, while mooted by Phil Harrison, has been noticeably absent from any titles appearing so far for the platform. No doubt there are other developers working on such an approach, but Blade is among the first, and

It is difficult not to be sceptical when presented with the concept of a game that features a representation of the entirety of planet Earth – all 2.2 trillion polygons of it

Although the game is shown at an early stage, in the finished version futuristic laser hoardings will dot the courses. The depiction of navigation aids have also yet to be finalised



seems to be making good ground. "Fundamentally it's done on a block-by-block basis," outlines Leach, describing the generation of a deformable mesh that lies at the heart of the engine. "Huw's system generates a list of block stats we want to mesh out, and then we have a core vector unit routine which blasts through them and takes four high points. Through interpolation we generate that bit of mesh, and at the same time the CPU and vector unit nought are being used to generate the vectors they go under." Surprisingly, the team does not envisage the need for a hard drive to provide its engine with persistence. "To a limited extent we can deform the landscape just by storing a list of deformation points, and when you come to render it you just use them to move the vertices down. And because those are quite small you can just store them on a memory card."



Draw distances are another impressive aspect of the code, with the current engine supporting views of 32km. Objects in the distance are initially composed of few polygons, but as the camera nears them this number gradually increases, with breathtaking results.

Getting the detail right

The use of satellite data enables the engine to produce a topographically sound representation of the Earth. Jones is keen to point out that this results in even more inspiring vistas: "When you fly through London you'll see the Thames, you'll see the landmark buildings like the Houses of Parliament. We'd be here until 3000 if we did every last building. I mean, all the planetary scale is impossible. What you can do, though, is take raw data as to the footprint size of the city and the building types within that, and then procedurally generate them along road systems. The road systems that run through the cities are the real road systems, and the procedural planting of buildings plants them along the road network. What we did was to take a load of accurate data – which are height points on the planet's surface – and Huw then produced an engine which interpolates those and fills the gaps in between them. But it doesn't really end there, because we needed then to get different sets of data for things like roads, rivers, the procedural textures to what the landscape is like in that part of the world, and that process is still ongoing because obviously there are a lot of procedural textures you need to generate for a world." Indeed, without procedural texturing it would be far too great a task to incorporate the scale that is featured in the game.



Debbie Jones

Photography: Martin Tompson

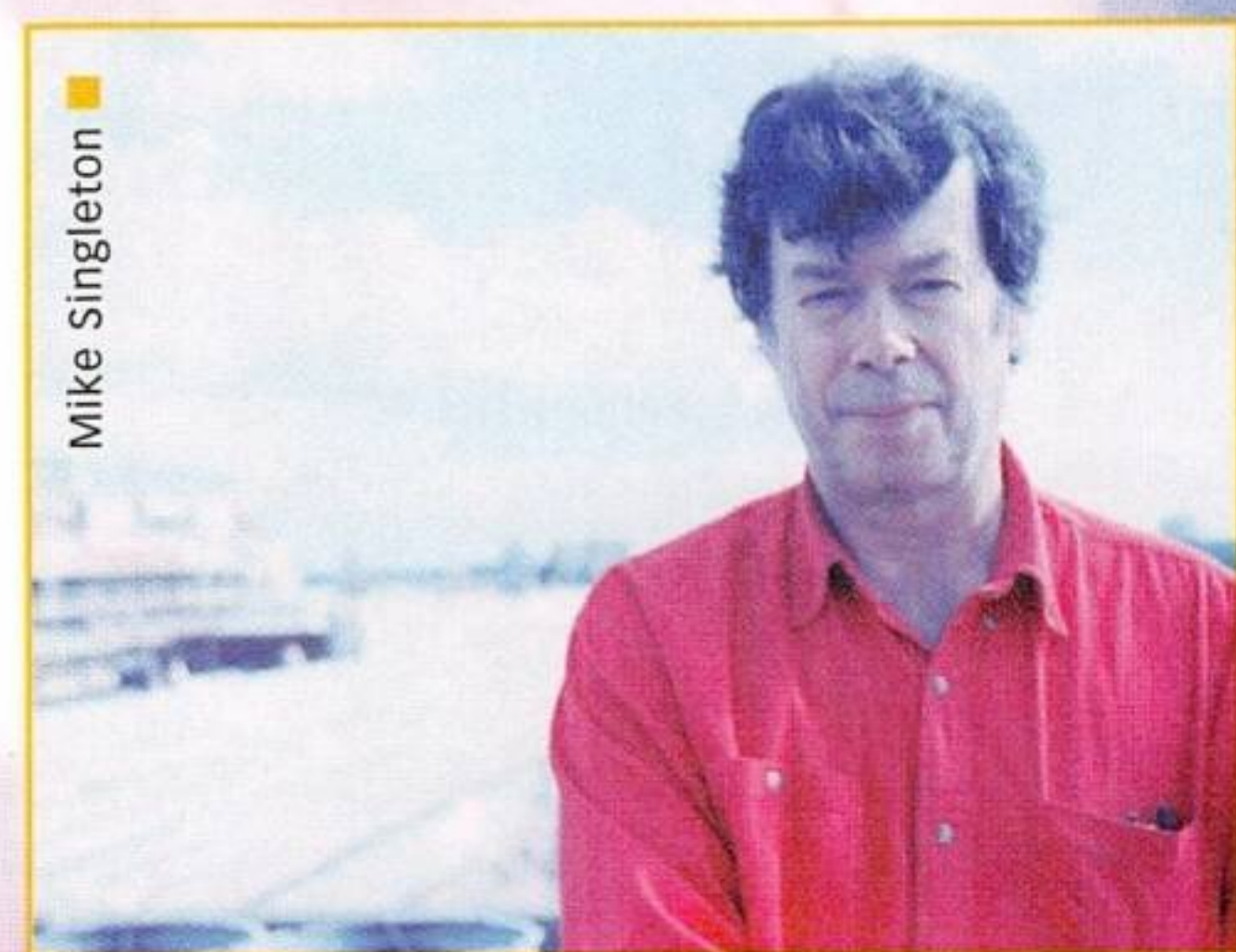


"One fact that I worked out the other day," says Lloyd, "is that if you exported the mesh textures and put it on CDs in jewel cases and stacked it, it would be a kilometre-and-a-half high. It's the sort of game that you can either ship in a box that's the cube root of a kilometre and a half or you can come up with it procedurally. So we decided on the obvious route."

Putting miles on the engine

It is, therefore, easy to see why Blade won't be confining such endeavour to just one game, or indeed a single planet. "The engine is not just designed for *G-Surfers*," Lloyd continues. "It's designed for an ongoing series of games of which *G-Surfers* is one of the first to take advantage." Jones is more sanguine: "Nobody's done anything like this in terms of scale and vision and it's an experience in itself, because we now have free reign to design perfect gameplay of tracks in a realworld environment. But I mean the flexibility of the landscapes – it can actually go out almost to planetary scale, miles above the surface, and zoom into the actual surface – is stunning, so to do something like a future space trading game or something of that nature where you're actually visiting alien planets is possible. We can produce realtime landscapes of planetary size, so you can fly to the surface and see what that particular world is like and just give each one different criteria for the creation of terrain. Not to mention other bodies in the solar system."

Perhaps with this in mind, objects that are placed using the engine are given a 'birthday'. "Whenever you place an object, as well as deciding its position and size it's also fairly easy to give it a birthday, so that as the clock winds forwards, as you're rendering these objects you check their birthday. So if it's a tree, it gets



bigger, for example," explains Lloyd. Another example, which is perhaps more appropriate for a space trading game as mentioned above, is a population centre that can vary in size over time.

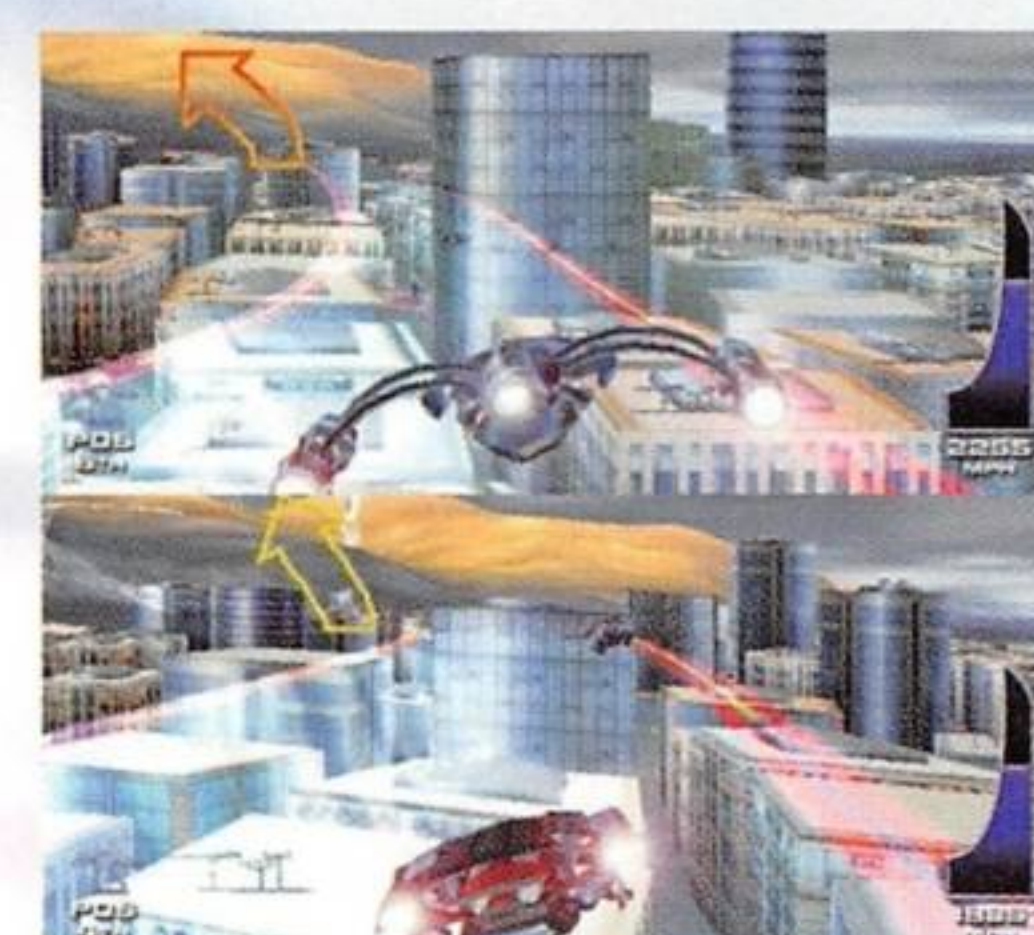
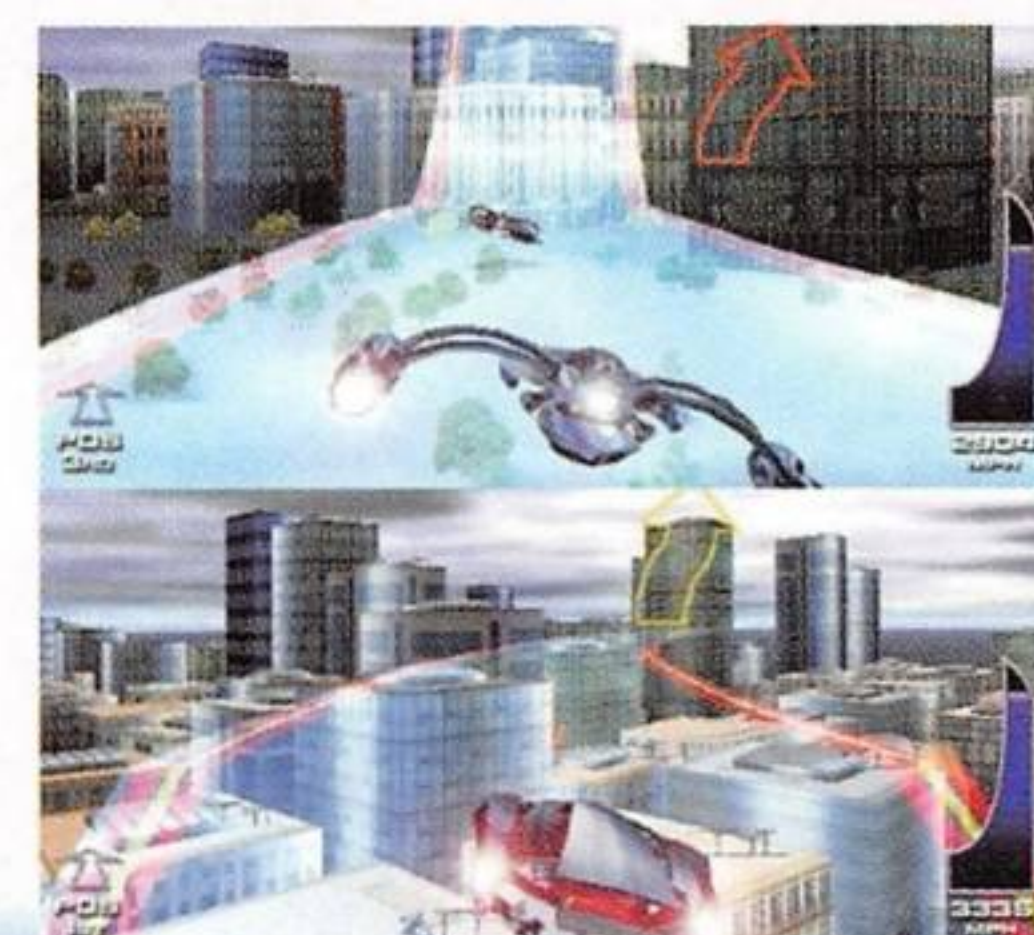
The course of *G-Surfers'* development has seen several unforeseen obstacles overcome, standing the team in good stead for future iterations of the engine. "One of the things that we've been spending quite a lot of time looking at is that there's a lot of stuff from the classic 3D rendering textures based around offline processes, prerendered scenes and stuff, and we've been going through that working out what we can do in realtime," says Leach. The combination of several planar data sets to form a seamless sphere is another

task that required Blade's programmers to think outside the box, and which, according to Leach, had Lloyd tearing his hair out for some time.

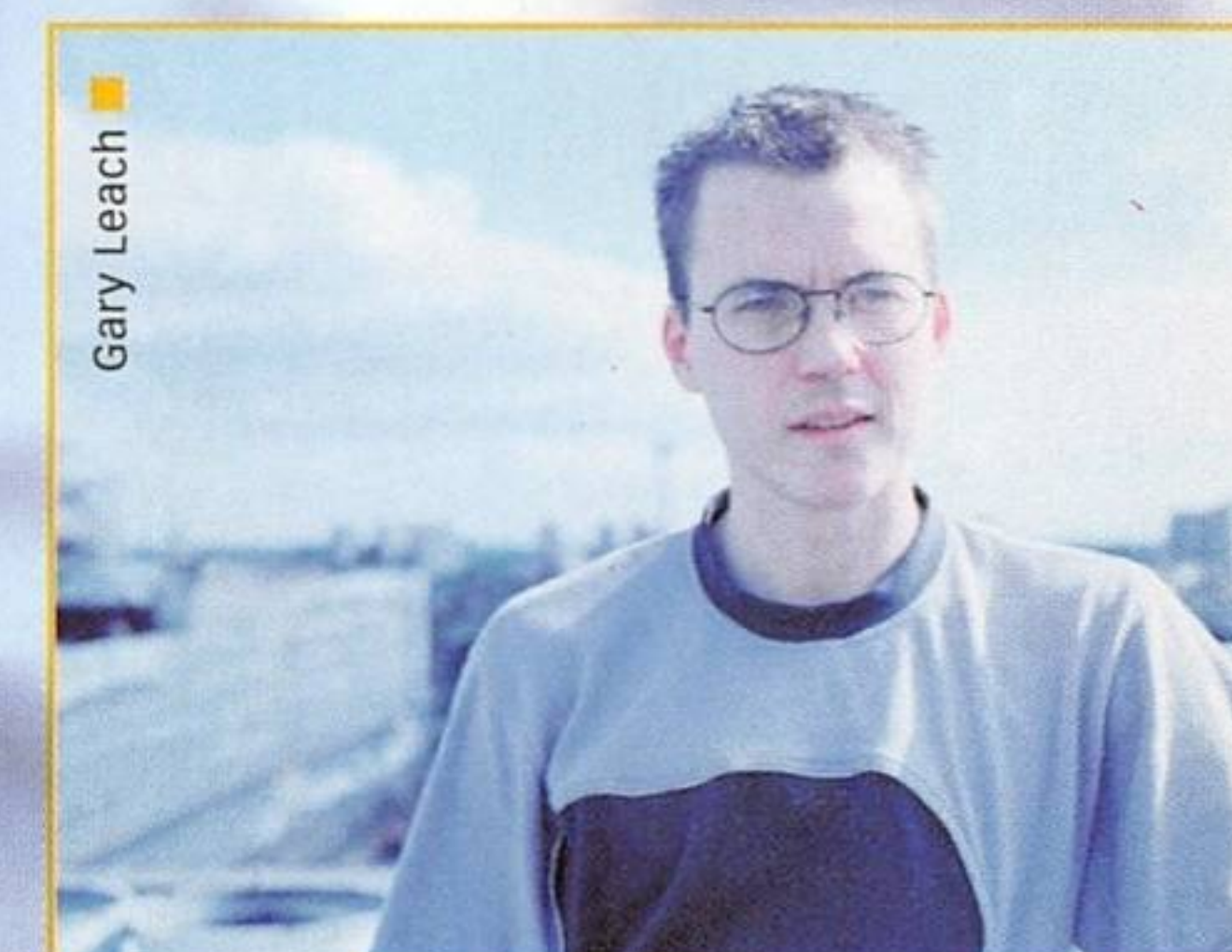
PlayStation2 problems

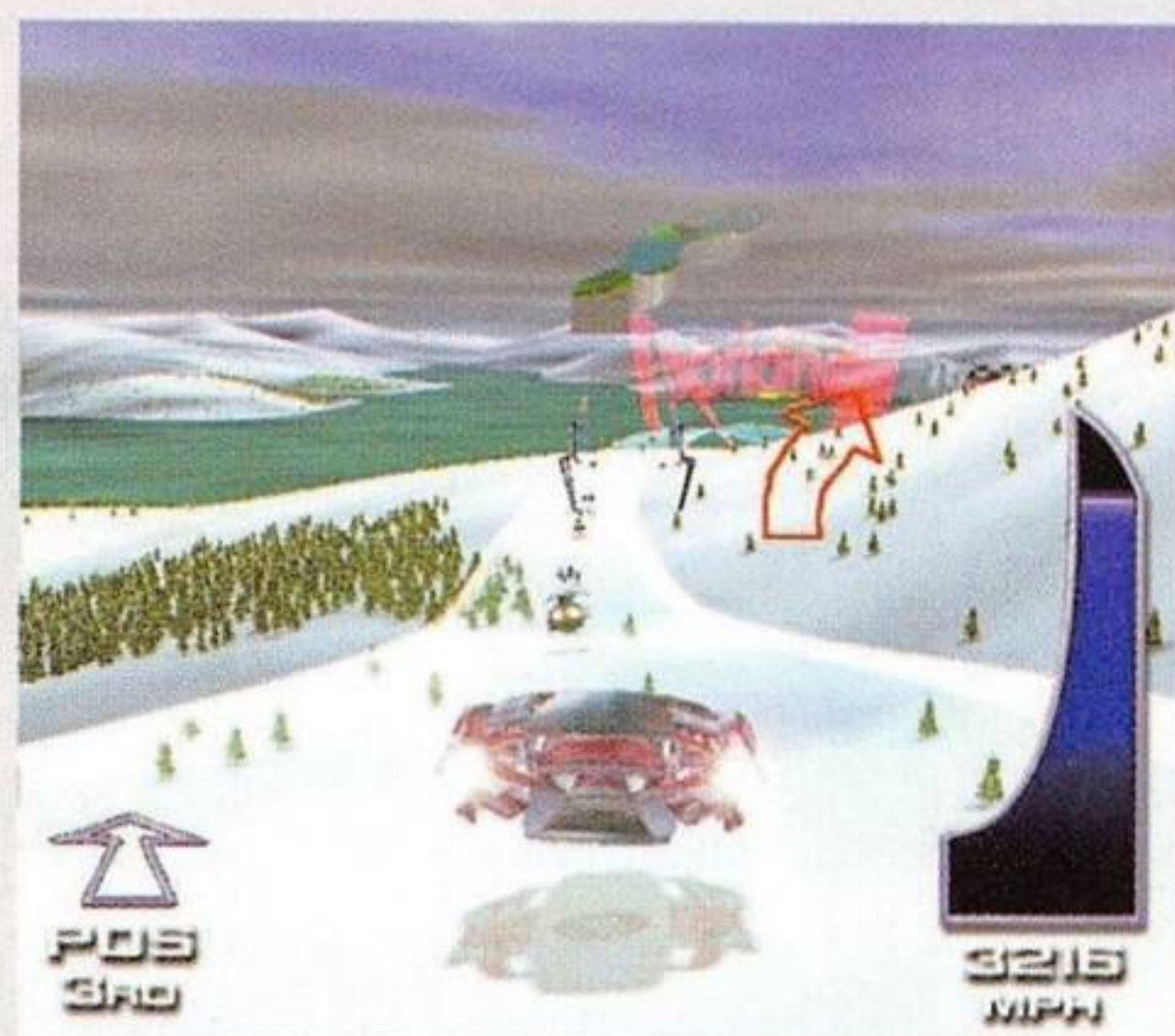
Developing for PlayStation2 has presented its own set of problems, too, though Blade was well placed to take advantage of the experience of Singleton and the youthful enthusiasm of Leach. "To get the best out of it you need to not just be an assembly language coder, but you need to love assembly language coding," argues Leach. "Because you've got these two streams going on in the vector unit model; you've got to interleave them and you've got to be thinking all the time about how to use the vectors. You've got to love it, really – not only the programming, but the architecture. You can use it very simply: vector unit one does the rendering and the other one does the game control. That's not going to get you much out of it. You need to be thinking in terms of DMA listings, interruptings and timings. You know, the kind of stuff that used to be done on the Amiga and ST." Singleton adds: "I can't see someone who has just done C getting to grips with something like vector units."

Not that the platform is without problems for which assembly language coding doesn't help. The random-number generator is one example, though in this case Leach is forgiving: "I don't think it's designed to be used as a pure random number generator. I think it's just designed to be used as well as a random-number generator to get a random effect." Nevertheless, the team has been constrained, as Leach explains: "One of the things that we're



Splitscreen multiplayer games will have to suffice in place of networked games. The nature of multiplayer modes is still to be determined, but head to head is a certainty





The combination of a geographically accurate playing surface and a unique handling system results in some interesting challenges, such as tracks that cling to the sides of mountains. The use of the craft's side thrusters in such instances will be necessary to keep to the track



struggling with a little bit is memory on the PS2, which is not overly fast. So we're having to put quite a lot of time into some sophisticated memory management systems." As a result the team remains open-minded about developing for other platforms. "The things we're doing at the moment are starting to really push what PS2 can do," claims Leach. "We're not really doing something that PS2 is best at. We're just doing what we want to do for the future, and so really it makes no sense at all to stick to PS2. We have to take it beyond that. Each time you take a little extra step forward and get slightly better RAM and various things, it's all going to help." The engine itself is fairly versatile and should be ported to other platforms quite easily. "The core of the technology has been developed on the PC, and one of the feedback processes that we have is that Huw puts together a nice bit of code and I will redesign it so we come back with something that works well on the PS2," explains Leach. "We have about 90 per cent of the code completely portable, and it really doesn't make any difference what machine you're running it on, and then ten per cent - like the vector unit stuff - obviously that's not portable, you'd need to rewrite that for any other platform." Though Jones is keen to stress that Blade will not be responsible for any shortcuts taken should *G-Surfers* be ported to any other next-generation platforms.

The gameplay/graphics balance

Another area in which Blade is determined not to take any shortcuts is gameplay, as Leach explains: "Although it sounds like we're putting everything into the technology behind it, we've got about half of the team on the technology and half the team on the game, and they're more or less going independently now. We've got to the stage where Mike's heading up



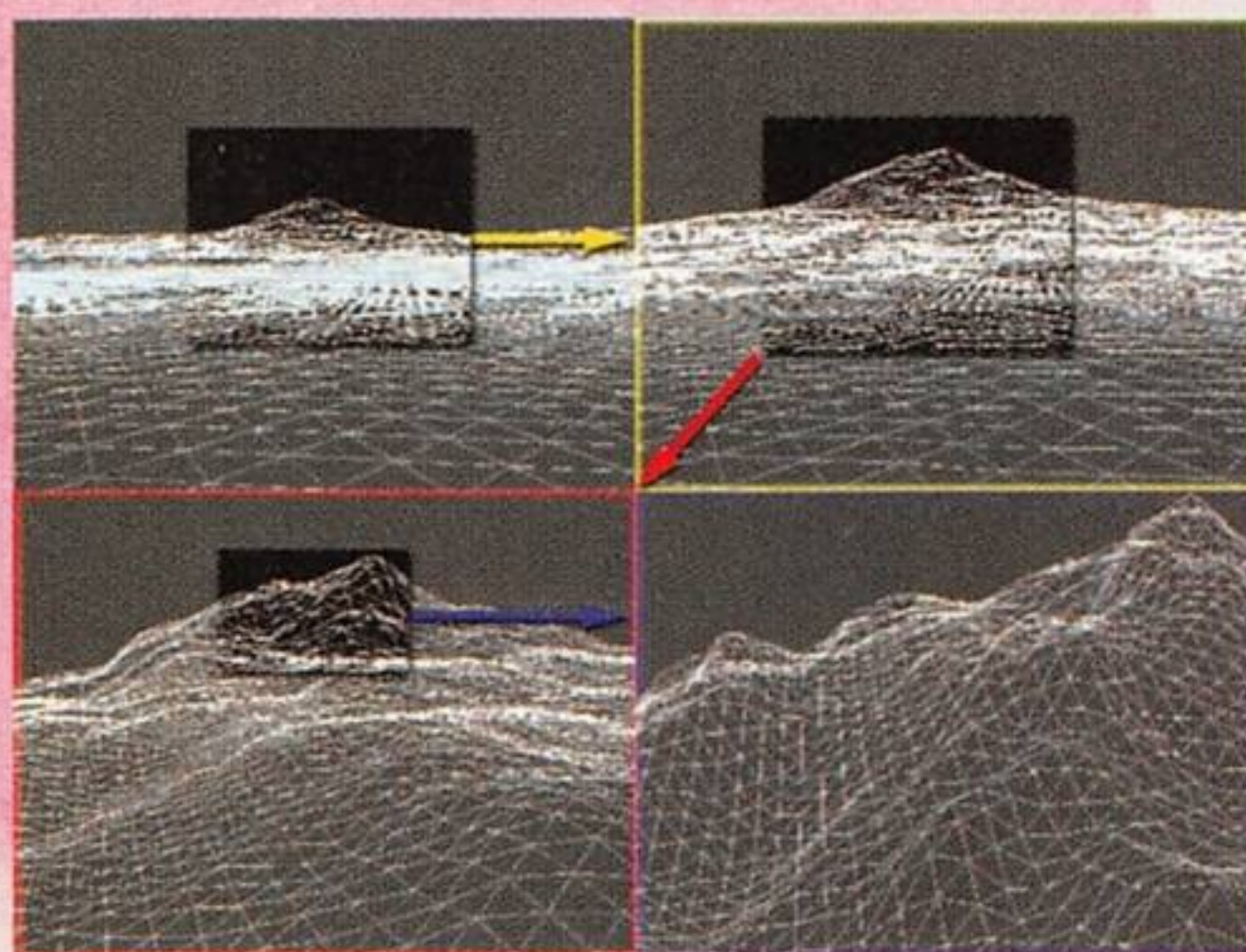
the game side, and he can be without reference to what we're doing vis-à-vis adding new features to the game and stuff. So while Huw and I are really pushing this technology, the rest of the game is being developed alongside of it." Singleton's seasoned wisdom will no doubt help "There are a lot of similar elements to my previous work – particularly something like *Midwinter*," he explains. "We had a huge range of vehicles in that, ranging from submarines, through to tanks and planes. All of that requires pseudo physics in order for it to feel right, not necessarily to be right. It's the gameplay feel of it. It's fictional physics, if you

"In one of the levels we designed in Japan you slam into Mount Fuji at about 4,000mph. That's enough to propel you a mile or so in the air, and you bounce clear over Nagoya"

like. Physics doesn't really exist, so you've got to get something to suspend this disbelief." And he has been comprehensive in his approach to finding that something, as Jones points out: "What we've done is we've started from several very sound gameplay principles and we've designed the courses. Our chaps have taken apart every major racing game that's been done, in terms of the number of times you need to brake, the number of times per second or minute you need to brake, the incidence of corners, the incidence of bad corners. What we've tried to do is lay down a blueprint for the easy, medium and hard courses, and then design those parameters around realworld data." She is also keen to stress that the structure of the game is sound. The basic race mode features a huge number of courses and vehicles. Indeed the realworld setting provides its own gameplay hooks: "In one of the levels we designed in Japan you slam into Mt Fuji at about 4,000mph. That's enough to propel you a mile or so in the air, and you bounce clear over Nagoya. It's an experience. There is no other engine that will give you anything like that flexibility, and by the same token, you've got levels that dip down to street level – flying through LA."

In addition to basic acceleration and turning controls, ships are equipped with side thrusters to assist handling. Courses are punctuated by the usual raft of power-ups and obstacles, such as mines. But in case players are disappointed by not being able to stop and admire the scenery, a free-fly mode is also available, in which the whole world can be explored. It is also planned that further vehicles and power-ups can be unlocked through diligent exploration.

G-Surfers is undoubtedly an impressive advert for the technical capability of PlayStation2, and will serve as a wake-up call to developers who persist in treating the console as a mere upgrade of its 32bit precursor. But gamers will judge the title on gameplay alone – and this factor is still very much a work in progress. According to Singleton, "the latest revision was to try and exaggerate the rollercoaster feel of it, but most people think we've gone too far in that direction so we're going to have to tone it down again." Apparently people were getting queasy.



This sequence illustrates the procedural generation of the wireframe mesh that makes up the landscape. Based on actual satellite data, distant objects are constructed from a small number of polygons, with this amount increasing as the object moves closer to the foreground. Although topographically accurate and featuring authentic roads and rivers, unfortunately you won't be able to fly over your own house, but landmark buildings will feature in the game



There is still work to be done on the textures that will be used in the finished game, but, even so, these screenshots demonstrate a high level of detail



THE HOUSE THAT





T EA BUILT



Forget sheds on grimy industrial estates, EA Europe's new 'daylight and latte' studio complex is a breath of fresh air. **Edge** paid a visit to the 'campus' to see what all the fuss is all about

The little computer people are unhappy. They hate commuting into their shabby office. The journey is long. The traffic's horrible. They have to get their snacks from a sandwich van. They are burgled regularly. Some suffer from Sick Building Syndrome. They feel tired. They get home late. And they're miles away from the nearest decent espresso machine. Their needs are rising, their mood souring and not even Will Wright's success can cheer them up. It's a scandalous state of affairs, but no – this isn't a snapshot of **Edge's** increasingly experimental approach to *The Sims*. Instead, it was the situation that had been brewing at Electronic Arts, the game's publisher, over the past couple of years.

Despite being Europe's largest games company, with annual sales of \$500m, the



◀ company had a problem. It was the biggest, but was it the place where the best people wanted to work? But, being EA, the solution was as impressive as its domination of the games industry. Three years after drawing up a design brief, EA's sparkling new £20 million European HQ is now officially open. And it looks more like a bonus that appears at the end of Wright's *SimCity 3000* than anything from his people simulator.

New way to work

While the address of the new building – 2000, Hillswood Drive – sounds like it should be an exclusive Silicon Valley locale, it actually sits neatly within the greenery of a Surrey business park. Dominating the view, the gentle arcing front of the steel and glass structure and the wooden decking give it a slightly nautical feel. Two 50-foot panels can even be rolled out to allow access to a man-made lake that runs the length of the building. Designed by Britain's pre-eminent architect and the man behind the new Wembley Stadium, **Lord Norman Foster**, the

Perhaps the only downside to this glass-and-steel monster is its location: with staff now having to commute, the down-the-pub-for-beer-after-work culture has been eroded. This, it is said, has resulted in a number of resignations of late



campus, as it is called, is more concerned with the well-being of its inhabitants than high-performance architecture, however. "This building is about communication between individuals and breaking down barriers between individuals and teams," says Foster, explaining the

underlying social engineering of the project.

Not only has EA conglomerated its three UK offices, mixing suited marketing execs with bover-booted developers, but it has set up an egalitarian environment in which everyone eats in the same

restaurant and has free access to the gym. No one has a separate office, everyone works in the same open-plan cubicles. No one has a desk with a view, everyone shares the daylight that floods in. There are plenty of spaces for informal meetings, as well as the usual

selection of top-of-the-range presentation rooms.

This sharing of facilities allows for more integration between the 520 staff. Previously the 250 Guildford-based developers were separate from the rest of the company. There is something





Shades of *GoldenEye* surround the lavish £20m construction

◀ refreshing seeing the two cultures mix for the first time. "Sometimes he wears a dog collar," remarks one exec, pointing out a particularly gothically inspired coder. She almost seems impressed.

Building for growth

"Our success is about our people. I can't think of another industry where you are totally dependent upon the minds of the people who work for you," explains EA Europe's MD **David Gardner**, or 'DG' as he is known to the employees. And yes, even he is the proud possessor of a standard cubicle without window view – although he will admit to having the best flat-screen monitor



The company games area (right) encourages employees to indulge in play even when they're away from their desks



(one of the advantages of being a board member). Yet as he takes **Edge** on a guided tour, it's clear that he's serious about the impact he expects it to make. "Has the quality of your work improved since you've moved here?" he asks a marketing man, who's demoing a Japanese PS2 version of *FIFA*. "Absolutely," comes the reply. The only person with a bad thing to say about the building is Lord Foster himself. He's annoyed with the failure of the glue on some of the Spanish wooden floor tiles. "They've told me new ones are on the way," he apologises. But EA's staff are enthusiastic about their



new working environment.

The food in the restaurant is excellent and cheap. There's a shop selling papers, sweets, toothpaste and other bits and pieces. Lakeside barbeques will be organised on summer Friday evenings. There's a software and hardware library (staff also get ten free EA games a year), a floodlit five-a-side football pitch, a coffee bar and the EA-themed sports bar. Ironically, considering EA's reluctance to publish for Dreamcast, *Sega Rally 2* and *Virtua Striker* nestle next to a table football in the games room. "Sega do make the best arcade games," Gardner

"This building is **about communication** between individuals and **breaking down barriers** between individuals and teams"



Norman Foster's plans (above) represent just the first stage of EA's construction – a mirror-image version of the site is set to be built opposite the original. The five-a-side pitch (below) is used every single lunchtime





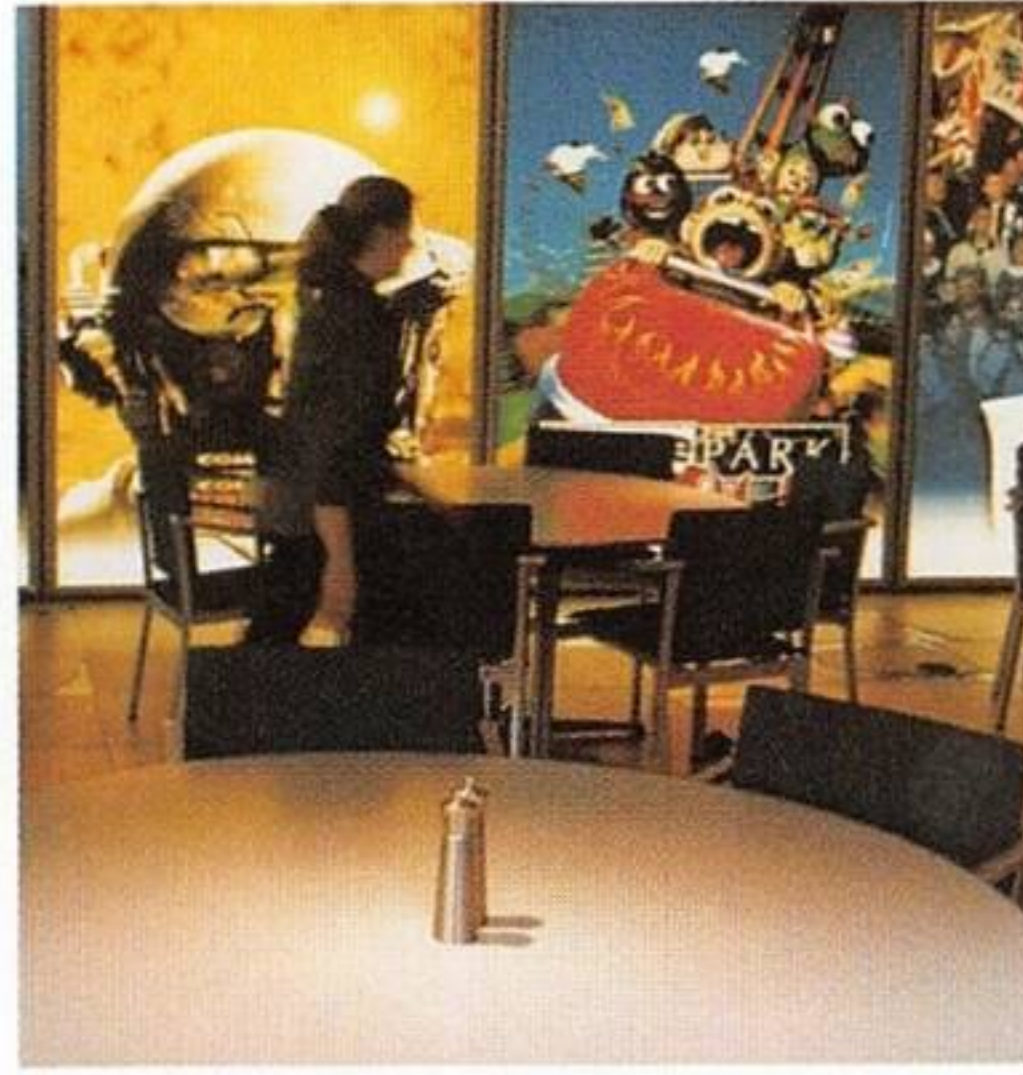
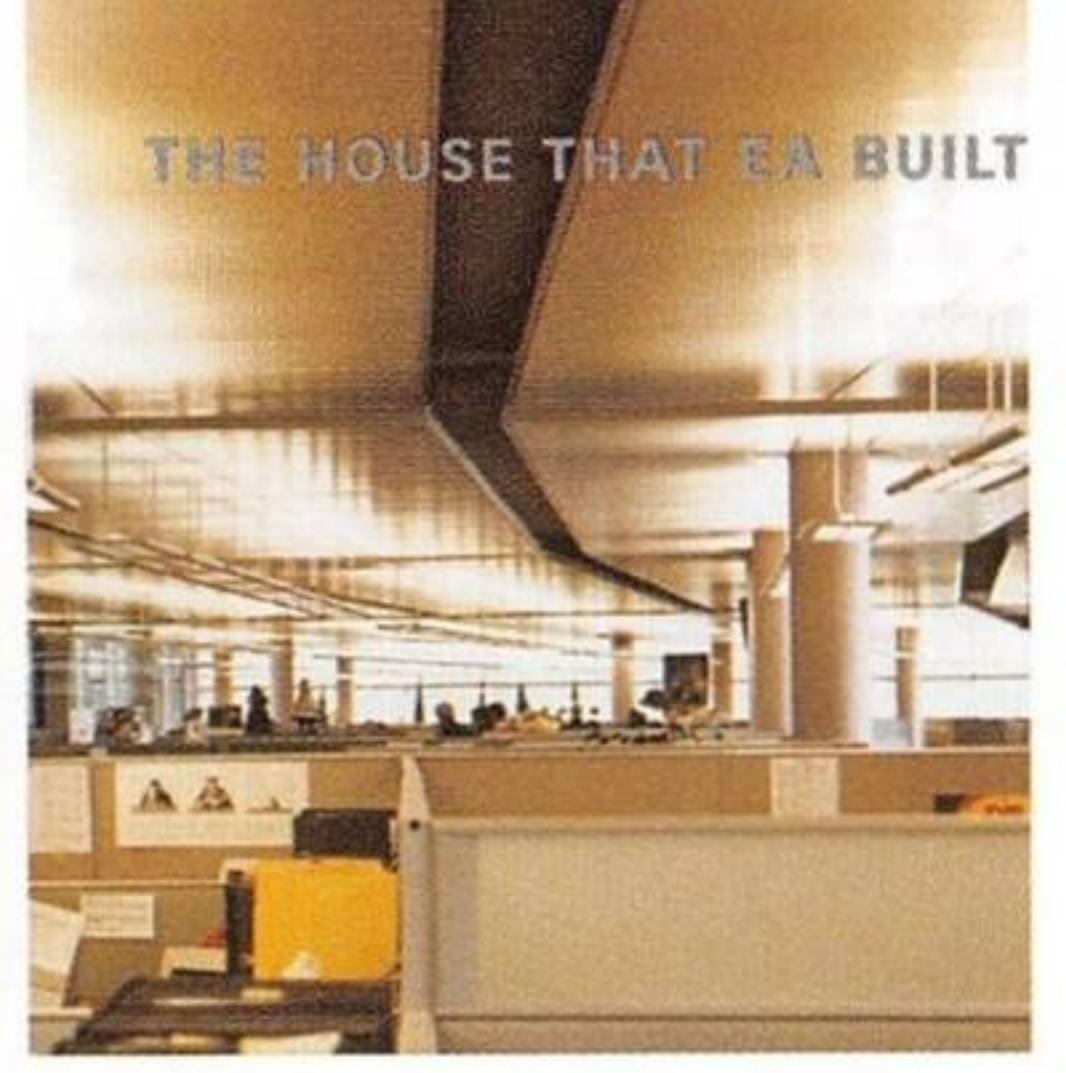
Even lowly post-room staff get perks (above). The in-house gymnasium (below) encourages the fight against the ill effects of pizza and Coke



Campus statistics

- The workforce spent 770 days (based on working 24 hours, seven days a week) building the campus, compared to the 410 days it took to build the Empire State Building.
- The three-and-a-half storey sliding doors that form part of the Eiffel front curved wall are thought to be the first to use aircraft hangar door mechanisms outside of an actual aircraft hangar.
- The total area of EA is built on 55,000m², nearly double the size of Canary Wharf station on the Jubilee Line, which is 31,500 m².
- Four hundred and sixty four tons of steel were used; this is double the weight of the Statue of Liberty (which weighs 225 tons).

- The current number of employees could field 102 five-a-side teams on the EA Sports football pitch on campus.
- Norman Foster continues a proud tradition of architecture with EA's campus. It sits on what were once the grounds of Bottley's Manor, designed by Kenton Grouse (architect of 10, Downing Street).
- The average three-bedroom semi-detached house has an average annual fuel bill of £500. The energy-saving features incorporated into the design of campus will save an estimated £50,000, or the energy required to run 100 households for a year.



concedes. Staff don't even use cash to make purchases, thanks to a smart card system that takes the accumulative monthly amount directly from their wages.

There's even a system whereby online orders to the local Waitrose are delivered in insulated containers to a dedicated cold storage room by 4.30pm to ease the burden of the weekly shop. "I save two hours a week," says Gardner, before revealing that he actually spends the time he saves in the office.

In fact, the only minor problems with the campus seem to be the lack of a smoking area for those who need a nicotine fix and the rejection of planning permission for a dormitory for teams during development crunches. Apart from that, it's full speed ahead. Plans are already underway for phase two of the development, which would see a mirror-image of the campus constructed next to the original and connected by aerial walkways. "This building isn't a symbol of how far we've come but how far we need to go. It is a platform for our future," states Gardner. Predictably EA expects to have released about a dozen PS2 titles by Christmas, including F1 titles currently under development in Surrey. And while it's unlikely that the new office environment will be apparent to the millions who will strap themselves into Schumacher's Ferrari for a videogame spin around Monaco, it's good to know that EA's little computer people are finally getting sunlight, satisfaction and a good cappuccino.

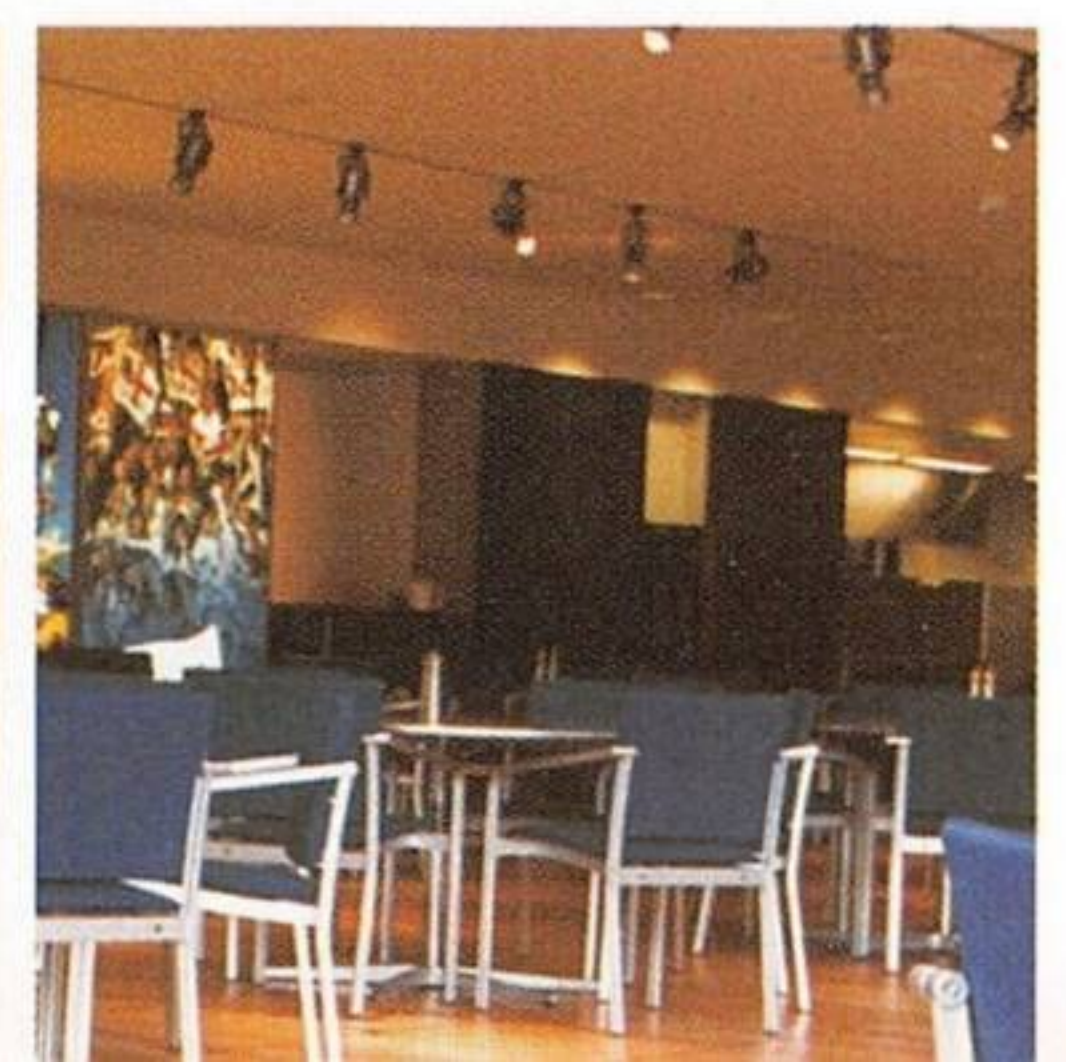
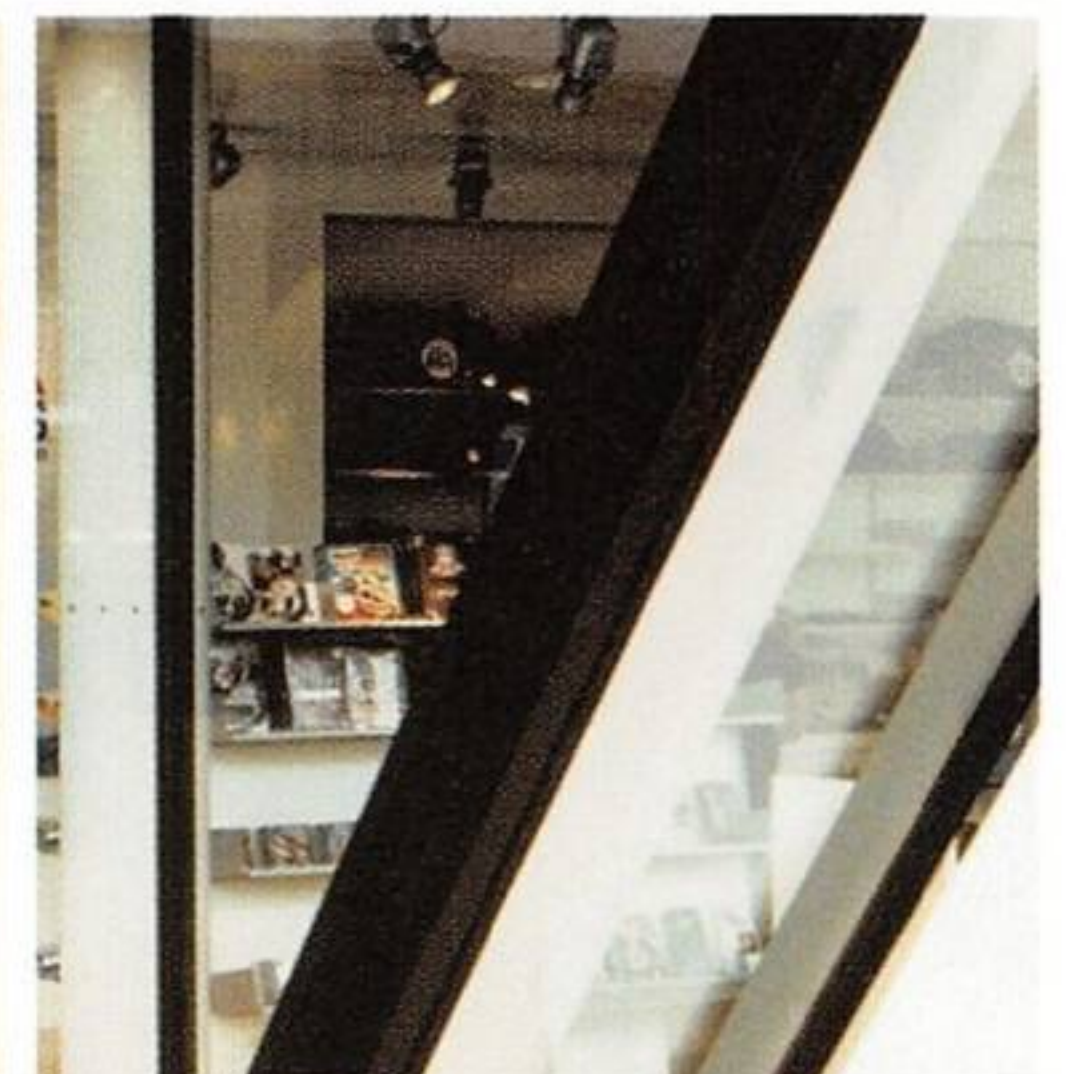
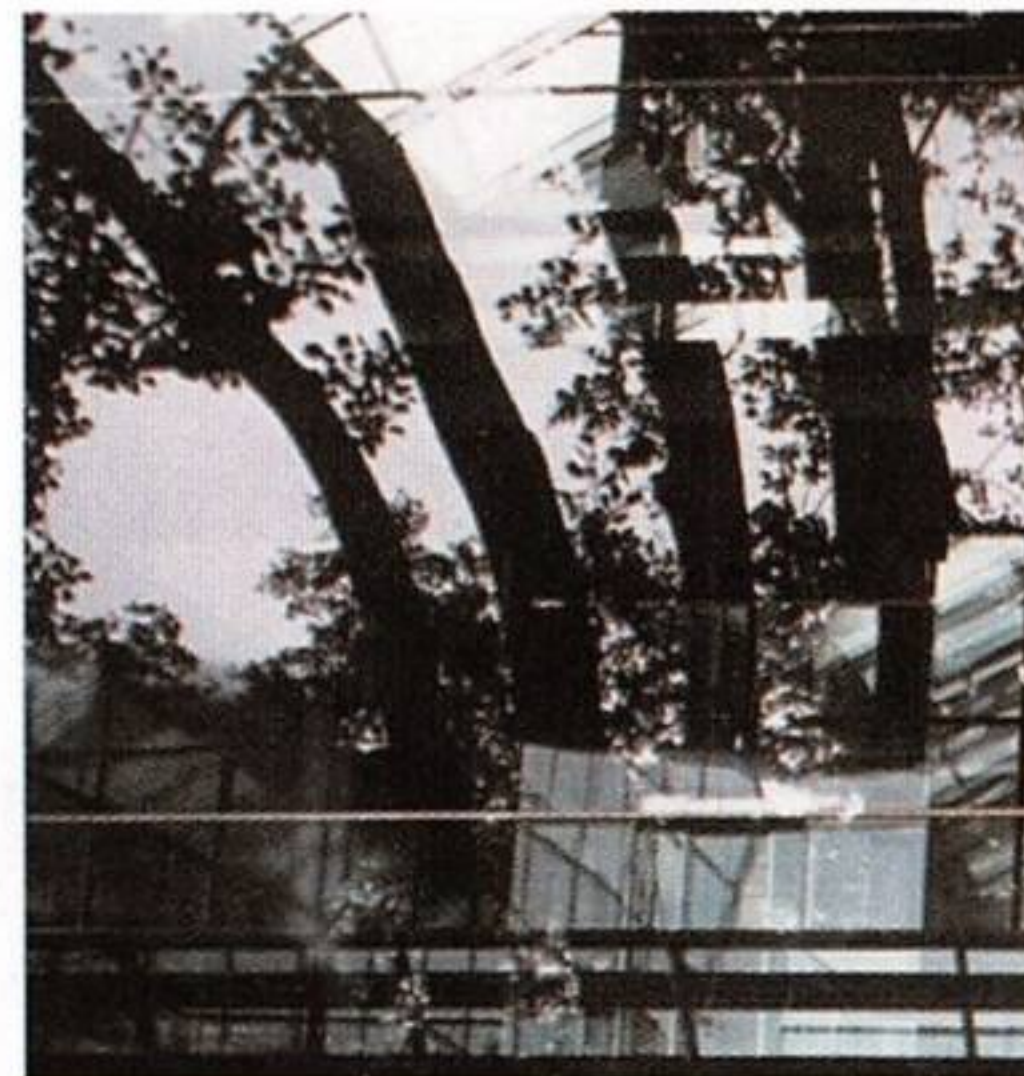
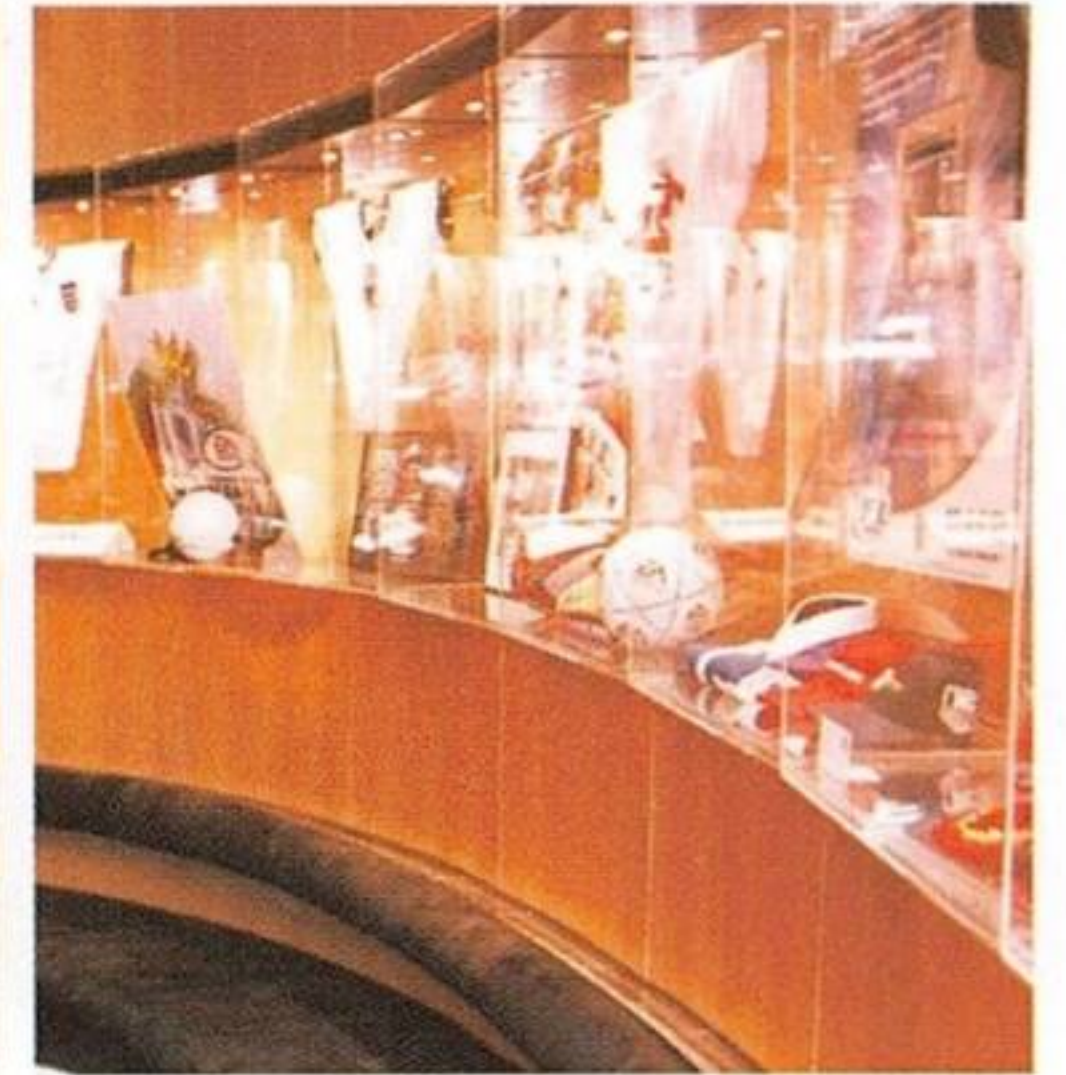
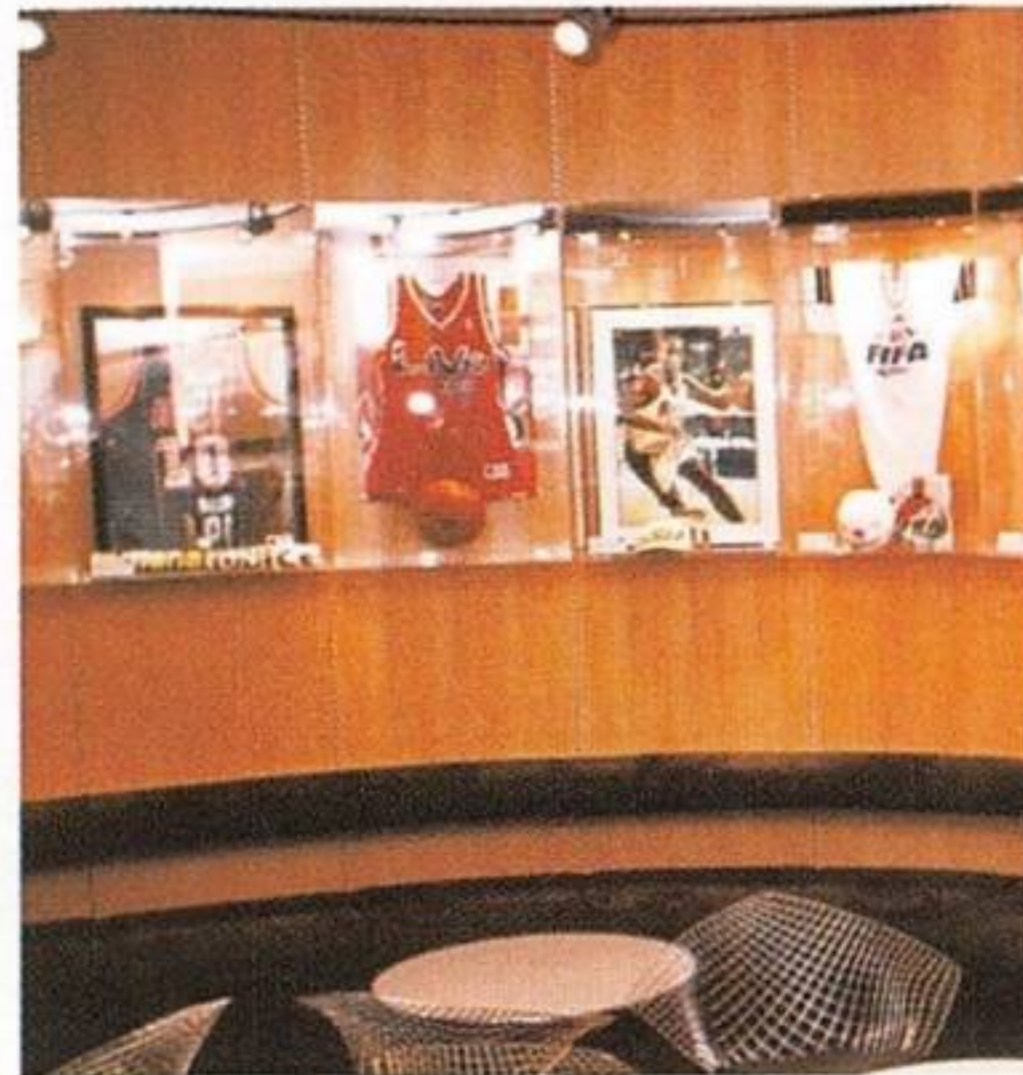




Illustration: Matt Petch

Ever decreasing circles?

By the time PS2 launches here, Sega will have had a 12-month head start. But just how much progress has its Dreamcast made? **Edge** investigates

If Sega's latest domestic hardware venture fails – as the Mega CD, 32X and Saturn (respectable 'second place' billing in Japan notwithstanding) did – it's hard to imagine the company raising the capital or, more importantly, the industry support to try again. Few dispute its clout as a developer of software, and no one could question its might within the coin-op sector. But, even now, the abysmal performance of the Saturn in the west serves to hamper Sega's credibility.

From day one, it was clear that the original PlayStation was the superior poly-pushing machine. As industry legend has it, the Saturn's 3D functionality was 'bolted on' at a late juncture in its R&D stage. Codeshops were aghast at its confusing architecture and Sega's recalcitrant approach to releasing development tools. Sony, by contrast, made every effort to woo talent. The remainder of the story is the stuff of videogaming legend: Sega paid dearly for its arrogance and the PlayStation became the console of choice, with Saturn conversions farmed out to jobbing codeshops paid to port within restrictive timeframes. Is it any wonder, then, that Saturn software was so consistently a pale reflection of its PS equivalent?

On paper, there exists a second technological gap between Dreamcast and PlayStation2, the latter clearly boasting superior specs. Ironically, though, it has been the Japanese debut of PlayStation2 that has highlighted the Dreamcast's capabilities; Sega, seeking credibility, is seeing it conferred by an unusual source. *Soul Calibur*, as readers tell **Edge** over and over, does not just play better than *Tekken Tag Tournament* and *Street Fighter EX2*, it is technically better. It may be the case that PlayStation2 is more powerful than Dreamcast to the power of 'x', but who, exactly, has the ability or resources to exploit that additional horsepower right now?

In many respects, Sega has – no matter how inadvertently you may consider it – stolen Sony's thunder. The leap from sprite-oriented 16bit machines to poly-pushing 32bits was pronounced; this current transition less so. Bar a few high-profile titles, the two things that separate the majority of next-generation games from their predecessors are pretty, yet elementary: higher frame rates and better resolutions. At present there are few industry practitioners who have the imagination or resources to truly put the extra processing power to any other use. Dreamcast's launch software in Japan, as risible as certain titles may have been to play, was

impressive; the games were smooth, with crisp resolutions. Sony's machine, following more than a year later, has had less impact as a consequence. For the past year, there has been a legion of pundits and hardcore gamers willing, at the slightest provocation, to espouse the inconceivable, incredible merits of PlayStation2. The reality, however impressive in principle, has been mundane to date.

However, as much as Sega may enjoy this minor PR coup, it will have to fight much harder to win subsequent battles. The first batch of PlayStation2 titles may be underwhelming, but the format's potential remains huge. More importantly, it has the backing of almost every major industry player. And, with Microsoft and Nintendo currently making firm plans for their new machines, Sega will find it harder than ever to acquire the only thing that will assure it of a significant market share: great games.

//The PC/DC current//

The fortunes of Dreamcast are symbiotically linked with those of the PC CD-ROM software market. As the conversion process from PC to DC is relatively painless and can easily be delegated to low-profile, low-rent teams, internal or external, almost every major publisher has a back catalogue of software ready, in effect, to release. Apologists perceive this as a masterstroke, while critics – however sympathetic to Sega they may be – regard it as giving licence for publishers to dump half-rate, or at least unrefined, PC ports on to shelves at little cost.

In truth, the ease with which prime PC titles can be converted to Dreamcast could still be the making of Sega's machine. Unlike Sony, which commands support to rival that enjoyed by Nintendo in its NES heyday, Sega must prove itself. With the N64, a number of publishers adopted a 'wait and see' policy – and a quick glance at the quality (and quantity) of thirdparty releases over the years demonstrates the impact that caution had on the fortunes of the N64. But, unlike that machine, the Dreamcast doesn't have a highly 'individual' architecture. If a PC version of a major title exists, there can be a DC iteration. It is an easy machine to develop for. Even codeshops working directly to the metal – bypassing the oft-derided WinCE OS – claim that Sega's console is an eminently approachable format.

Having titles like *Black & White*, *Half-Life* and *Quake III: Arena* in its portfolio should greatly benefit Sega. The PC market has grown immeasurably in sophistication (although not in retail performance) over recent years. Being able to tap into a ready source of quality titles is a considerable bonus. Whether PC games will suit the



Soul Calibur (left) is the game that underlined both the power of DC hardware and Sega's eagerness to get quality on to the platform. But will *Chu Chu Rocket* (below) serve to validate its big move online?



somewhat limited palate of the 'mainstream' gamer remains to be seen, but who would confidently bet against the likes of *Galleon*, *Hidden & Dangerous* or *Grand Prix 3* causing a stir?

In the eyes of the industry, though, conversions don't represent true commitment. Although few would dispute the quality of firstparty projects like *Shenmue* or *Sonic Adventure*, Sega needs top-notch thirdparty titles programmed specifically for Dreamcast. It needs its own *Metal Gear Solid* or *ISS Pro Evolution* – games that practically enjoin the attention of gamers, irrespective of the console that they actually own. The company needs pillar titles from high-profile sources of the calibre of Namco, Capcom and Konami to wholeheartedly pledge their support. To have a publishing behemoth like Electronic Arts state to the industry – months after a successful launch, and with continued achievement Stateside – that it is still 'evaluating the platform' is a huge blow to Sega's legitimacy as a console heavyweight. In *Soul Calibur*, it can claim to have the best fighting game on any format, but it needs more than that.

Moreover, Sega must make every effort to ensure that its cornerstone online strategy captures the imagination of the paying public. The basic Dreamcast package is far from unattractive. For a £200 outlay – sure to fall later this year, despite chief executive Jean-François Cedillon's current intimation to the contrary – a consumer receives an

Internet-ready machine at a fraction of the cost of an iMac or mid-range PC. Although unspectacular (and occasionally unwieldy), the Dreamcast's browser software is relatively easy to use, especially when compared to the intractable, potentially incomprehensible vagaries of a Windows-based PC. But do consumers know that? And isn't there a real danger that the massmarket views (and will continue to regard) the Dreamcast as a toy, rather than a tool?

Sega is backing the Internet, Sony the burgeoning DVD format. Both tactics have their merits and drawbacks. The key issue for Sega, though, is how console gamers will regard online gaming. There is no doubt that the failure to provide software with engaging online functionality from day one has been an embarrassment. To make an area of interactive entertainment that remains the domain of the hardcore gamer a key aspect of the Dreamcast manifesto and to then fail to deliver has been a PR disaster.

//The complications of life online//

There is the possibility, of course, that Sega is backing the right horse, but in the wrong race. Online gaming is fraught with complications. *Edge* has no doubt that Sega's network will be secure and, compared to PC-based online gaming, fast and relatively easy to use. But there are more pressing, endemic issues. A 33K modem – or, for that matter, the 56K model available in the US – is regarded by many as being insufficient for action games. It's a widely

//Lies, damned lies and sales statistics//

Since its impressive debut, sales of Dreamcast consoles have been disappointingly low. Despite calls from retail for the company to reduce its £200 RRP – and aggressive discounting tactics by online stores keen to build

user bases – Sega UK remains tight-lipped about any plans it may have to adopt a mainstream-friendly price point. The arrival of PS2 will surely herald a £50 drop, but could that, given recent performance, be too little, too late?

	Oct '99	Nov '99	Dec '99	Jan '00	Feb '00	Mar '00	April '00	May '00	Total sales	Avg sales per month
//PlayStation//	115,830	253,047	506,325	99,803	87,267	78,278	64,673	46,622	1,251,845	156,480 units
//N64//	10,767	23,933	54,427	13,900	6,627	6,135	10,990	9,205	135,984	16,998 units
//Dreamcast//	101,083	48,133	87,222	12,650	8,527	9,198	7,898	5,752	280,463	35,057 units
//GB Pocket//	20,766	44,089	82,986	10,667	10,423	18,562	17,458	12,055	217,006	27,125 units
//GB Color//	42,243	115,770	238,915	41,218	47,747	63,637	61,213	58,898	669,641	83,705 units

held belief that the massmarket has embraced gaming as it has moved away from the abstractions of old. As technology has improved, games have become more believable, polished, approachable. What, then, would this audience make of *Quake III: Arena* figures lurching from point to point during an online deathmatch? Or a racing game where cars jerk from one point on the track to another in the blink of an eye?

There are financial issues, too. Although the Dreamcast's Internet connectivity is essentially 'free', local calls aren't. Daytime play is prohibitively expensive to all but the hardcore. Off-peak play, though, is rather more affordable. Conceptually, it compares favourably with other recreational activities on a pound-for-pound ratio – renting a video, going to a club, and so forth. Only a fool would argue that gamers will embrace this philosophy, however. Should (and can) Sega join the current stampede to offer subscription-based 'free' online access or gaming? In Europe, that would mean sacrificing the cut of call revenue it currently receives – and there's no guarantee that partner BT will play ball on this issue before the end of 2000. Besides, to impress the mainstream audience with its pioneering online gaming, Sega needs a killer app – and *Chu Chu Rocket*, despite its charms, is unlikely to be it.

Telephone-using habits in the UK still differ from those in the States. As execrable as BT's 'ET' series of ads may be, the underlying message of its domestic-oriented narrative is rather more subtle: it's okay to use the telephone, whispers the telecommunications giant. There are still many homes with a single telephone, second lines remain the exception, rather than the rule, and the cost of calls is still perceived as

//The Dreamcast can go online, could work admirably well as a set-top box and can be more than a simple games console... but the company needs a broader consumer base//

expensive. So where can the market that Sega is targeting be found? Will gamers still living at home with their parents be allowed to dominate the home phone line? Is it likely that the average parent will pay the premium to BT for a second line and the additional quarterly rental fee? Will 20-somethings in shared, rented accommodation do likewise? Prior to the arrival of broadband technology, these issues matter. There is a danger that cries of 'get off the bloody phone' will drown out Sega's invitation to play online.

Adding to these questions, what of Sega's understandable desire to capitalise on the ecommerce potential of Dreamcast? At present, Dream Arena (the fixed online portal where all Dreamcast users begin after dial-up) offers precious little content and features. Prior to its forthcoming relaunch, it is eminently unexciting. Sega's belief that it can compete with other portals and the cream of ecommerce is bound to elicit cynicism from both sides of the commercial fence. Few would doubt the company's ability to flog videogame-related paraphernalia, but beyond that, Sega's expertise is unproven. A careful choice of partners in such a venture would help, but it is debatable that there are enough customers au fait with online shopping at present to support healthy balance sheets – having two pockets to fill may have a deleterious effect on Sega's ability to be competitive. As a long-term objective, ecommerce is both desirable and practical. But it won't become a pillar of Sega Europe's business overnight.

//Set-top box status//

It has long been apparent that the successors to the PlayStation, Saturn and N64 would harbour aspirations of set-top box status. In the gaming marketplace, 'multimedia' is a Ratner-esque faux pas; a virtual epithet that hardware manufacturers are loathe to speak. The irony is that claims that once seemed far-fetched when uttered by Phillips, 3DO and Commodore are practically at the point of fruition with a new class of machines. From DVD to basic Internet access, telecommunications gadgetry to – inevitably – digital TV, the conceptual has become the concrete.

So, yes: Dreamcast can go online, could work admirably well as a set-top box and can be more than a simple games console. But could it be that Sega has forgotten the wisdom behind the Trojan Horse premise? As Cecillon asserts in his *Edge* interview (see p76), Sega Europe is not obsessed with market share. But if its online gaming and other Internet-related strategies are to flourish, the company needs a broader consumer base. The arrival of *Resident Evil: Code Veronica* saw an upsurge in Dreamcast software sales. Such high-profile titles are vital. The launch of Sega's online gaming strategy this year will hardly harm the Dreamcast's fortunes. But there are no guarantees that the wider market will pay or, indeed, play – while late, the service could, paradoxically, be too early.

Sega claims that a quarter of a million European users have registered for the Dream Arena service. This figure begs the question: why have the remaining 500,000-plus European Dreamcast owners not yet registered? Signing up for Dream Arena is something that users do the very first time they connect to Sega's service. How many of

the 250,000 are connecting regularly? Even the PC market in Europe still lacks a subscription-based online game with a regular user base in six figures. Is there any evidence to suggest that Dreamcast owners will embrace online gaming more readily?

It may sound obvious, but games are the key to Dreamcast's future. The software industry is surprisingly political. Sony, the master of spin, commands a high level of approval from the development community. Conversely, Sega's stock is not high. Its hardcore exponents are vociferous, but are outnumbered by those who bang the PlayStation drum. While the Dreamcast hardware brings approval, PlayStation2 inspires excitement.

In terms of developer and publisher support, Sony holds the aces. Nintendo's firstparty software is the best in the world, while X-Box – still an ethereal amalgam of tech specs, corporate bluster and whimsical punditry – has the weight of the Microsoft empire behind it. Sega, granted, is not without its resources, but even competing head to head with Sony is an enormous trial. How, then, will it cope with the Dolphin and X-Box snapping at its heels? Sega must recapture the guerrilla mentality that typified its powerful assault on Nintendo's pre-eminence during the 16bit era. It must organize a strategy to take its online gaming ideal to the masses. Dreamcast must be established as a genuine force throughout the rest of 2000. Next year will probably be too late.

//The money snapshot//

With the launch of PlayStation2 imminent, Sega's biggest battle could be to retain its current 'favoured position' in terms of shelf space. Don't laugh: it's a relevant point. While PC and PlayStation software/hardware currently dominates retail space, Dreamcast – as a new, exciting format – currently receives a greater proportion of shop floor than its revenue would afford it if it were an older, established machine. With the N64 enjoying an Indian summer (with the success of *Pokémon Stadium* and *Perfect Dark*), and PlayStation2 mere months away, Sega has to work fast to convince the retail trade that Dreamcast will become ever more profitable.

//Performance of major console formats in 2000 to time of writing//

Total PS sales from Jan '00 to May '00: 376,643
 Total N64 sales from Jan '00 to May '00: 46,857
 Total DC sales from Jan '00 to May '00: 44,025
 Total GBP sales from Jan '00 to May '00: 69,165
 Total GBC sales from Jan '00 to May '00: 272,713

As a simple (yet illuminating) exercise, *Edge* offers the following scenario:

If every individual to have bought a Dreamcast, PlayStation or N64 this year has also invested an additional £100 in software and peripherals, how much in the way of revenue have these 'new' users contributed to the industry as a whole?

PlayStation sales revenue

Hypothetical £100 per new user: £37,664,300
 Unit sales revenue (based on £80 RRP): £30,131,440
 Total revenue to all involved industry parties as a whole: £67,795,740

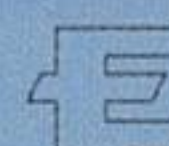
Nintendo 64 sales revenue

Hypothetical £100 per new user: £4,685,700
 N64 hardware sales (based on £80 RRP): £3,748,560
 Total revenue to all involved industry parties as a whole: £8,434,260

Dreamcast sales revenue

Hypothetical £100 per new user: £4,402,500
 DC hardware sales (based on £200 RRP): £8,805,000
 Total revenue to all involved industry parties as a whole: £13,207,500

Of course, this is an elementary exercise, and in no way, shape or form should be construed as hard fact. There are many things it simply doesn't take into account. But it does lend credence to the accepted wisdom that Sony is where the money is at. Sega will have to fight tooth and nail to retain its current high-profile presence within retail this Christmas...



//Sega in the eyes of the industry//

Back in the days of the Saturn the development community complained of Sega's attitude, decamping to Sony's new way of doing things. **Edge** polled a selection of industry figures in order to get an idea of how Sega is now perceived

There are some great sports and arcade style games for this system, like *Soul Calibur*, *NFL2K* and *Crazy Taxi*. Unfortunately, the newer machines like PS2 and X-Box are more in line with our particular needs and experience – **so for in-house we're developing for those instead**

Mark Rein, vice president, Epic Games

With the power of the Dreamcast, for the price of a Dreamcast, it would seem foolish to ignore it. However, the games-playing public may be tempted by the raw power of the newer consoles alone – we are in their hands, and can only produce the best products we can

Martyn Chudley, managing director, Bizarre Creations

Sega have made the same mistake again – getting their technology to the market first, but having a definitive lack of killer titles **to back it up**

Chris Gray, lead programmer, Headfirst Productions

The Dreamcast is on a technical par with the PlayStation2. What Sega needs is an inspired advertising assault **to go up against Sony**

Daniel Leyden, programmer, DMA Design

The Dreamcast is dead, it just doesn't know it yet

Billy Thomson, level designer, DMA Design

Sega seems to have lost its way. They had a great head start but they've blown their lead. They don't return phone calls or emails, and they don't market their games properly. **It's sad... that they almost had a chance, but now I fear their chance has gone**

Jez San, chief executive officer, Argonaut Games plc

Sega need some big exclusive titles and they need them fast. *Shenmue* seems to be the only one on the horizon and that won't be enough

Demis Hassabis, MD and lead designer, Elixir Studios

The Dreamcast is to games what the arcades were to entertainment

Rik Alexander, producer, Hasbro Interactive

A year ago I had written off Dreamcast. This Christmas I pencilled it back in after playing *NFL2K* and *Soul Calibur*. **Who knows by 2001? But I think it's got at least a couple of good years**

Chris Roberts, chief executive officer, Digital Anvil

With the massmarket acceptance of consoles, loyalty is not an issue: Dreamcast will be dropped by the public as soon as they can get hold of PS2 and X-Box

Chris Satchell, technical manager, Silicon Dreams

The only chance Sega have is online gaming and nothing I've seen so far suggests they know this

Joe McDonagh, designer, Elixir Studios

Dreamcast is a far more developer-friendly platform than PS2 and that fact will have profound long-term impact on the quality and quantity of games for the two platforms

Toby Gard, creative director, Confounding Factor

I like the Dreamcast, but then I like Sega full stop. I believe both Sega and Nintendo produce good, playable games **whereas Sony seem to be more impressed with quantity rather than quality**

Darren Drabwell, senior producer, Silicon Dreams

The Dreamcast is a machine that has loads of potential; it's easy for us to develop games, it's fast enough to make those games look good, **and development kits aren't too expensive**

Jason Kingsley, chief executive officer and creative director, Rebellion

The latest in a long, long line of small technological marvels which we struggle to come to terms with **before it becomes obsolete**

Ken Fee, lead artist, DMA Design

The Dreamcast is a great machine and it has a significant head start over the other consoles, but online gaming will be the key to Dreamcast's success. **The X-Box might actually help Dreamcast...**

Chris Kingsley, CTO (aka technical director), Rebellion

Dreamcast is a success, but now needs to use every marketing and pricing weapon at its disposal to **press home its advantage**

Brian Woodhouse, producer, Bizarre Creations

Right now, Sega needs the Dreamcast even more than the gamers need it. Maybe they should buy some Microsoft shares if they want to have the cash to fight **in the console behemoth bloodbath that is going to happen in 2001**

David Perry, president, Shiny Entertainment

The Dreamcast is, well, fine. It's small, it's neat, it has a funky triangular orange light and corners that look like they've been ironed... oh, and some good games too

Richard Ralfe, game designer, DMA Design

Now, we know that there is no big tech gap between DC and PS2, but the DC is easier to program **and will be always cheaper than the PS2**

Frederick Raynal, creative director, No Cliché

Who cares? Go outside and get some fresh air

Jared Carr, lead artist, Digital Anvil

Multiplayer network capability is the biggest advance in gaming since polygon graphics; **I'm sure Sega can demonstrate this with the Dreamcast this year**

Mark Craig, senior programmer, Bizarre Creations

Not the stop-gap measure that most people thought, but an excellent **and powerful machine in its own right**

Donald Robertson, artist, DMA Design

Dreamcast is here and now, it is perceived as a next-gen console by the public, but needs to capitalise on its potential as an online games machine **with the ability to set the trend that others will follow**

Gavin Cheshire, managing director, Silicon Dreams

//Sega Europe CEO Jean-François Cecillon//

Dreamcast has been on sale in Europe for nine months, during which time it has enjoyed the privileged position of being the sole next-gen console on the domestic market. All that is set to end on October 26, when Sony lets PlayStation2 out of the traps, so **Edge** asked Sega Europe CEO **Jean-François Cecillon** to reflect on how he feels the company has performed to date, and to outline his strategy for the battle ahead.

Edge: While there has obviously been an uptum in people's opinion of Sega since the Saturn era, would you agree that there is still work to be done on how people perceive the company?

Jean François Cecillon: Yes, there's always very much work to be done in that respect. Once you pass beyond the first stage of [attracting] the people who believe in you whatever happens, then you go to the second level – hardcore gamers, who are the ones who kind of believe in you but then they want you to show them that they are right to do so. So we've reached the first two stages. There are roughly – for Sega – a bit under one million [gamers] in Europe. I guess that we reached enough of them, 80 or 90 per cent.

The next step is to expand the community to the people who like games, who like the gaming activity, but are not hardcore gamers. They need to be convinced by a bit more than just one or two good games. They want to understand that you are developing the machine, in real terms, to its full potential. You need to reassure them, to explain to them how to use it, what to do with it and why they should purchase it. They want to know that you will still be here for the next season, for the season after next and so on. They don't just want that, they need to be helped – and that's what we are doing now.

We are launching our first online game and taking a very special approach to it, actually. We have decided to give it away to all the Dreamcast owners: all the ones who are registered on Dream Arena already – more than a quarter of a million in Europe – to the other half a million Dreamcast owners who haven't registered yet, and to new owners up until the end of August. It's a real spring/summer campaign, backed up by what, for Sega, is a huge marketing investment. We are spending roughly ten million euros in Europe to back up this campaign. So, that will give us an opportunity to enlarge the community of Dreamcast owners in Europe.

The next step is to go to a different category of people who want to buy the best-selling game but at a reduced price. Then, come September, we have to think what do

we do with the price of the machine and the software. But I'm not a fan of low prices at all. You know, I think there is a right price for the right product and that should not be re-evaluated or reassessed every three or four months. I guess it's better to do what we're doing now, which is to basically band those products, accessories, peripherals or anything else in the future to the machine, and keep a certain price point. We don't want to go always, every three months, for market share, market share, market share.

Now, the community extension which we are looking to catch from September and October are those guys who will buy *Sonic*, but not for £40. These guys, the usual good gamers, most of them want to buy two or three games for less than £100. They don't want to pay more than that. We need to address this and to address it well. To build the community, we have some fantastic new games in September and October.

Finally, we will consolidate with the online community. There is not an exception between the core gamers and the online community. They are not separate people. Very often they are the same guys, and there's a strong intersection. But there are also some new people who are coming online for entertainment activity, where offline gaming is not what they are looking for. There are also some new people who understand the Internet, email, chat rooms – so Dreamcast is a proposition which suits, whereas buying software and playing offline on their TV was never something that actually interested them. So we can see a different community.

So, in answer to your question, community management – in the pure sense of it, not mercantile management but just how to manage a community so that these communities stick with you – is obviously something that is always in our minds.

//The power of Chu//

Edge: So *Chu Chu Rocket* is, in effect, a Trojan Horse – a foot in the door for Sega's online gaming strategy? Do you believe that the gamer who plays *Chu Chu Rocket* online will, as a consequence, be better disposed towards spending £40 on *Quake III Arena* or *Black & White*?

JFC: Yes, it's something like this but philosophically it's...

Edge: ... giving something back?

JFC: Yes. This is the first time ever that a console, a games console, is offering online gaming in the major markets



of Europe. It's the very, very first time, so we should never overestimate people's ability to immediately understand what we have been working on for the last two years. So it's a new thing, a new terminology, a new activity. If we were to tell these guys: 'You buy a console for £199, and then you buy a game for £40, and then you're going to buy a modem and this and that...' No, it's not like that for us. For £199 you get a console, you also get a good game free, a modem free, you have a browser free, and you have the access free, and if that is not enough, then...

I think that you need to make it very easy for people. To play, you take the game, put it in, do this, do that, you play – you access the online community. So it's very easy for people because you know people have five minutes in their life for your proposition. If that's not right, if it's too complicated, or there are server problems, they take panic and they take flight. We want to make it work.

This is the reason we are giving *Chu Chu Rocket* away for free. If we do the right job now, there will still be some hiccups and some problems with new technologies. When you're pioneering a new technology or a new activity, you know there are always problems, several problems, but there will even be problems we can't conceive today. You know what? We're going to fix them, and then we're going to evolve and we're going to carry on developing these technologies and these activities.

Of course, the bigger games, or rather the more weighty games, like *Quake* or *Black & White*, those sort of games won't be free. But we're trying to find out a system which is just not: 'Go to the store, buy it for £40, play'. There must be a system which is a

bit smarter than this to strengthen the feeling of community for online games.

//Paying to play//

Edge: So, in effect, you are considering 'pay to play'?

JFC: We are considering every option today, absolutely every option. Pay for play, subscriptions on a monthly or daily basis. I consider every option today to make it accessible to consumers when we launch something new.

Edge: There are those who have suggested that, with its commitment to online gaming and Internet-related activities, Sega might be attempting to woo a market that does not really exist just yet in a mainstream sense. Could it be that you are preaching to the converted? That the mainstream is not ready for online gaming and, more pressingly, vice versa – that online gaming is not yet sophisticated enough to beguile Joe Public?

JFC: There's always, in every new thing that you do, there's always a danger that people reject it, or it's too early. Sometimes, you've just missed the train. You've got to get the timing right, but you never really know if it's the very, very best timing. What you know is when you are ready to offer it, and you must take this proposition by saying 'OK, we cannot have this now. Dreamcast was launched as a games console that can offer the Internet, email, chat rooms, online gaming. Then we had people asking us: "Where is the online gaming?" Well, now we *do* have online gaming now, and people say it's too early? It always happens like this.

I cannot answer this question. If it's too early today, it will be 'less too early' in six months and 'less too early' in one year. But by then we will have several games on the marketplace and have the experience of all that, and we will have the experience of and the knowledge of online gaming, marketing, playability, distribution, connectivity and community. We're going to have all these concepts in place or much more advanced than any other competitor at that time. We're going to have 12

months of pioneering over them.

Do you know what the definition of a pioneer is in America? In America, they say: 'A pioneer is a guy taking the arrows in his back. The ones who follow, they just walk on in and carry on, so it's never the first one that discovers something. In that sense, PC developers are the pioneers of online gaming, now we are coming with the console. We have our servers all in place, we have our own games, and we have our own independence in delivering our product, which is very important. We don't depend on anybody else, we just depend on ourselves, which is critical, which is important for security.

Now, what really matters is the continuity. Today is very early? I don't think it is. It doesn't really matter. Today, we come onto the marketplace. Let's see: in 18 months where will we be and where will our competitors be? So, this is really the first step to Christmas 2001 when we might have X-Box, or maybe Dolphin – but perhaps not until 2002, which is what I hear now. So it will be our third Christmas, and the second Christmas for PlayStation2. They can be bigger, they can be better – it doesn't matter. It is online gaming that is our core proposition, in terms of eservices, in terms of online browsing, we will be well equipped to fight in our corporate position. At the same time, we won't be able to fight on the DVD side. But we will have Dream Eye – our video camera – and we'll have MP3, and other

accessories. Dreamcast will be involved in set-top box operations somewhere down the road, because everyone talks about Dreamcast as a set-top box, they're talking about PlayStation2 as a set-top box – well, this is logic.

I think we are well equipped to fulfil our potential in our marketplace. Our priority is interactive entertainment.

We are migrating from being an offline gaming company to being an online gaming company. We are at that stage. You know, 2001 is our first test. If we pass that one successfully, we are sorted.

Edge: For online gaming to appeal to the masses, there needs to be a big change in the way it is paid for. Metered calls, after all, are not conducive to lengthy play sessions.

JFC: I agree. It is a critical point. It's something that might stop certain people going for online gaming today – and I understand that. We have addressed this issue with BT – as you know, our pan-European partner – and we have discussed setting up special schemes. It is absolutely unfair for people to pay for something they don't see. It's psychological for the consumer. You don't want to pay for the telephone charge, the amount it costs today. It's ridiculous. It's anti-massmarket, it's anti-economic... it's just a short-term, greedy gain. BT are at the forefront of broadband development, which I think is very good, and we are obviously involved.

People will know that for £30-£50 a month we're going to have some special games. You want to play this game? Click here: £2. You want to play that game for half an hour? £1.25. You want to do this? It's pay-per-play, 'x' per minute. You want a monthly subscription? It's £12.50, £25. They know how much they will spend, and they know how much they will get for that. Today, with the various charges – peak time, night time, Sundays, Mondays – it's set up just to confuse everybody. For us it's going to be: 'This is what you pay, period. Now enjoy your night!'

//Development hell?//

Edge: As part of this feature, **Edge** has polled people within the development community on their opinions of Dreamcast. Jez San laments Sega's attitude towards developers, and expresses the opinion that the format had a chance, and that chance has gone. How do you feel about that?

JFC: When someone of that quality, of that importance in the business, says such statements I'm sure he has very good reasons. He's a guy I very much respect, because he's proved to everyone that he can make it, so I have no more to say about that. I'd rather speak to him about it face to face and answer directly, rather than going through **Edge**. Well, we both respect the magazine, and both he and I read it, but I'd rather reply face to face.

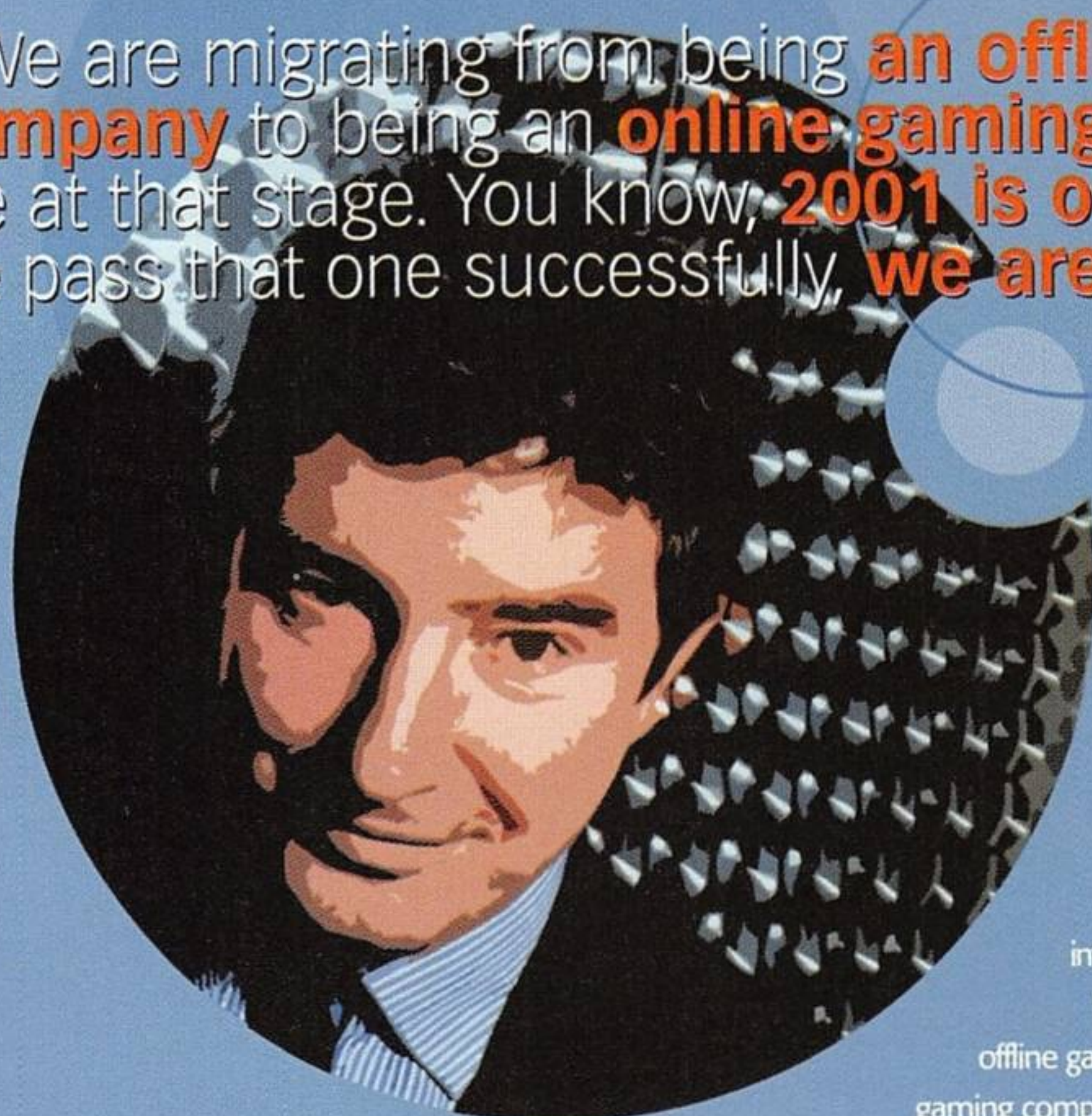
Edge: But isn't it still the case that Sega's stock within the development community is not as high as that of Sony? Sega and Nintendo were accused – with the Saturn and N64 respectively – of keeping the 'best' tools for 'own brand' products and favoured developers. Sony gave everything to its licensees. How have you been addressing the fact that certain quarters of the industry are better disposed towards Sony than Sega?

JFC: That isn't happening with Dreamcast – it is very easy to develop for. They have all the tools that we have. When Sony developed the PlayStation they didn't have in-house teams, so they needed the third parties, and to work well with them to get the games. They actually did very well. Now, maybe Sega was arrogant with the Saturn – I have no reason to disbelieve that – but with the Dreamcast, there was no arrogance. The development process is much easier on Dreamcast than it is on PlayStation2. As far as we are concerned, we have been very open and very accessible with developers.

Edge: Will the continued absence of certain key gaming franchises hurt Dreamcast in the long term?

JFC: There are two things we don't have and I regret it very much – *Final Fantasy* and *FIFA*. It was nothing to do with the European operations of EA or Square or Sega Europe. I have no comment to make about who might have made those decisions but, in Europe, we have fantastic relationships. And I know they would love to work with us.

//We are migrating from being an offline gaming company to being an online gaming company. We are at that stage. You know, 2001 is our first test. If we pass that one successfully, we are sorted//



Edge: *FIFA*, though criticised by hardcore gamers, is a brand that the mainstream has truly embraced. It's noteworthy that Konami's vastly superior *ISS* series, lacking an official licence, can barely compete in Europe. Football games are important in the European market. What is Sega doing to address the non-appearance of *FIFA*?

JFC: We started research in January and we spoke to hundreds of people, fans and players, and we came up with a 'best football game in the world' concept. We've given it to our studios in Japan and we're working on it. But I can't say any more than that.

Edge: Opinions have been expressed that Sega's problems in Japan and Europe...

JFC: In Europe? I have never heard that. I spoke to three journalists last week who asked about how did I feel about the troubles in Japan, given our success in Europe.

//Market share? Who cares//

Edge: Sega's showing at E3 was, even in the opinion of pro-Sony, Microsoft and Nintendo quarters, rather impressive. The quality of certain titles was unquestionable. Even so, many observers, professional or otherwise, are expressing the view that PlayStation2 will arrive this autumn, and vastly outperform Dreamcast.

JFC: They won't. I'm trying to get Sega Europe out of this infernal logic. Look, I'm not here to say: "Look! More market share!" I'm absolutely totally uninterested by this. It's better for Sega to find its own market. Its market might be half a million year one, two million year two, three million year three, eight million year five, and then collapse. I'm not here for that.

Offline gaming business is not what we are here for. We are here for offline gaming, but we are also here to develop online gaming and the Internet side of the business. That will take a few years. Dream Arena is not a subsidiary of Sega Europe, it's a whole new company. It's another Sega Europe, if you like, which will fly on wings and develop its own business. This is so important for us.

I'll tell you another thing: I have a huge respect for Sony, but their performance is not as good as expected. Is *Tekken Tag* better than *Soul Calibur*? No, it's not better. Are they going to have enough units to do a million in Europe day one? No, they are not. How many are they going to get in the UK before Christmas? Maybe 150,000 or 200,000. In Europe, they'll have no more than 750,000 to 800,000 before Christmas. And that's no better than we did last year. Are they going to go online? No, not yet. Will they have DVD? Yes. Will they have more marketing money? Yes, five times more than Sega. I'm not here flex my muscles. It's not what the issue is. The issue is: what is my market? I have to know this if I'm going to capture every consumer in this market and make it valuable. If

I get 25 per cent of the market, or rather, I don't get 75 per cent, I don't care. It's not about market share. That's not what I'm here for.

I'm here to develop new businesses and find new consumers. Now, we have *Sega GT*, *MSR* and *Virtua Tennis* coming out in September, which is fantastic. Of course, they are amazing games. They're not like triple-A... they're quadruple-A. This will demonstrate that the 128bit Dreamcast is as good as the other one, the PS2. On this one there's a draw. In terms of units, we're going to get more than them because we're in year two and they are just launching.

But what matters for Sony is the long term. They want to shift 60 million PlayStation2s worldwide over the next three or four years. That's their long term. To promote their DVDs, their video, their music – this is their strategy. This

//The market for us today is not simply the gaming market; the competition today is not PlayStation2 versus Dreamcast. For us, it's AOL, it's Freeserve, it's any portal which is going for entertainment//

is what matters to them. The market for us today is not simply the gaming market; the competition today is not PlayStation2 versus Dreamcast. For us, it's AOL, it's Freeserve, it's any portal which is going for entertainment.

You can't settle for one market any more. You can't just throw stuff at the wall and what sticks, sticks any more. You've got to make sure that this sticks on this wall, that sticks on that wall, and this is why I'm totally cool about it all. We react, we resolve and we move on.

Edge: But wouldn't you agree that 'offline' software is still tremendously important? And that it is, in effect, Sega's foot in the door – that the online aspects of Dreamcast won't take off if the market doesn't appreciate the oneplayer software?

JFC: Of course it is. Content has always been what makes Sega great.

//Selling dream games//

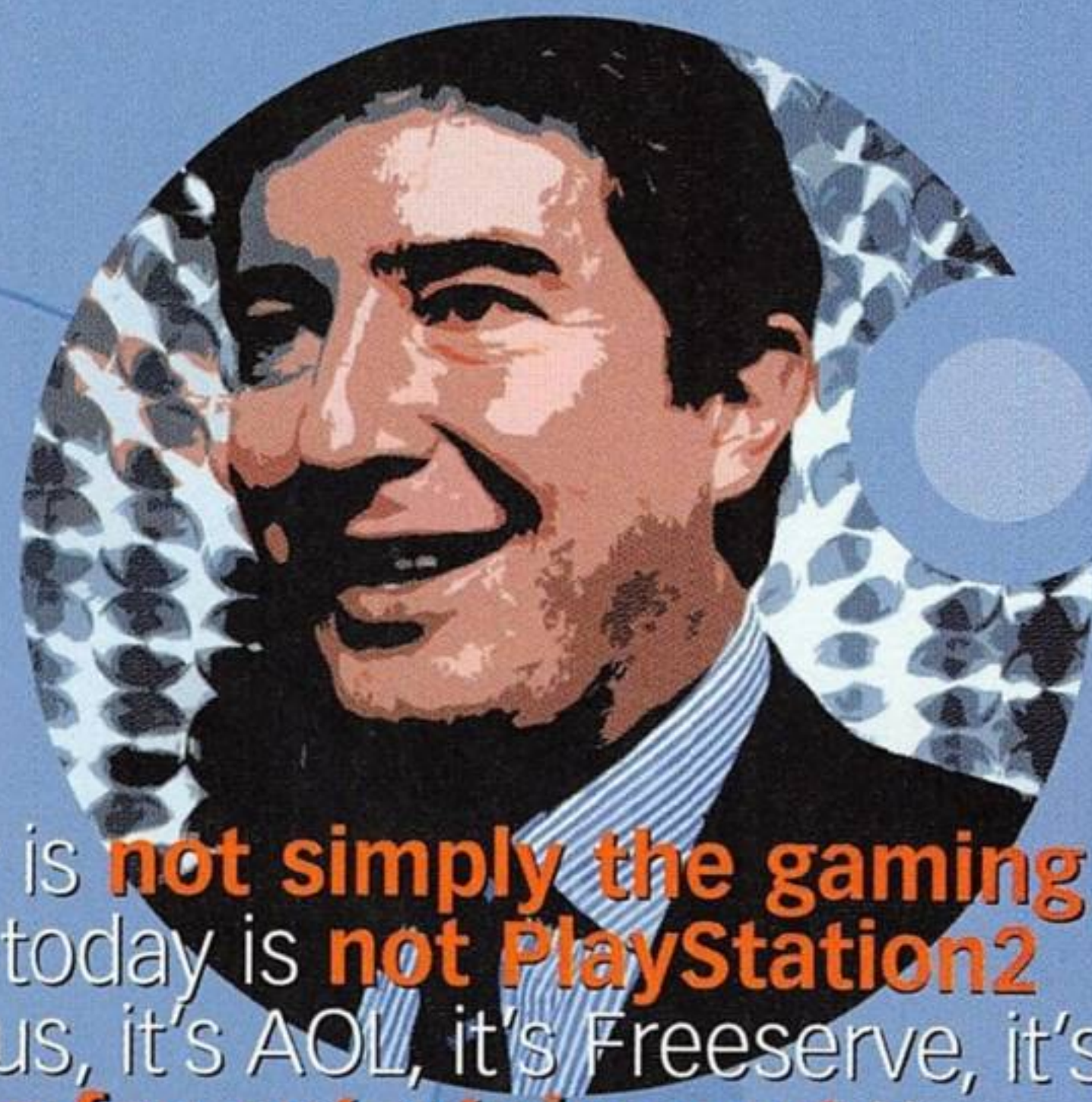
Edge: But at the moment Sega's performance in the software charts is not fantastic, is it? [At the time of writing, ChartTrack's weekly breakdown of 'software by format' sales put Dreamcast behind the N64 – itself lagging behind the Game Boy and, up front, the PlayStation.]

JFC: It's an issue of installed base. The charts? I don't care. When we have several million – no, it's not the issue – so, what do I do? Spend £100,000 more on television this weekend? Who reads the charts? Twelve guys! Why do I want to spend money to please them? I'm spending money to develop my marketplace.

The market is moving. I move with the market. If I can shift 50,000 units, but I lose a million pounds, I'm not going to do that – why should I? This is my attitude, as otherwise in the first two years you become suicidal.

Edge: Making ecommerce an integral part of your strategy – via Dream Arena – is completely understandable, but isn't there a danger that a large part of your market simply won't be able to use it? Dreamcast owners under the age of 18, for example, will not have the requisite credit card.

JFC: There are ways. I understand that a large part of the market, the Christmas market, is under 18 – a huge part of the market – but every business finds a way to reach them. We will. There are ways.



Edge: One problem online portals have to struggle with is how to position their content in an editorial sense. The language of the hardcore gamer, after all, is not that of the auntie going online to buy a Christmas present.

JFC: I don't think we are marketing from seven to 77 years old. Maybe in five years, but not today. Sega is such a heavy brand to carry: Sega has such a history, Sega is this cutting-edge thing. I don't want to be doing like this brand, that brand – it is Sega. It's not like Sony.

I don't know. Nintendo is very kids-oriented. For my kids, I've had to spend a fortune on *Pokémon*. You can tell my colleagues in Nintendo Europe that I spend a fortune. My kids are mad on *Pokémon*, they have a roomful of *Pokémon*. Great job. But it's not Sega. It could be Sega, but it could be another company doing that sort of stuff. But in terms of bringing content to Dream Arena, I'm not sure that my market is seven to 77. We're going to be using the Sega brand, but I don't think that going full speed all over the place is the right thing to do.

The resources that I have are not unlimited. I'm not going to throw away millions of pounds this Christmas on getting aunties to visit. And I don't think they are going to visit just yet, anyway.

Edge: Arsenal, the Premiership team that you sponsor, was runner-up in two competitions last season. Would you be satisfied with a similar performance for Dreamcast?

JFC: Second out of 20, you are happy; second out of four – there were never four before. I might be third or fourth for online gaming, which I really doubt I will be, actually. If I'm second to PlayStation offline and second to AOL in Internet access, second to EA in online gaming... if I'm second in four or five markets, am I a loser or a deputy winner?

Edge: And, finally, what of X-Box?

JFC: I think Microsoft are now contemplating the reality which is the business model of the offline gaming industry as we knew it. But it has changed in terms of its economic structure. That is where they are now – and they won't launch before 2002.

Their success will depend on the market they want to reach. I have established my market – I know where I want to go. And we have competitors everywhere. It's a fact of life.



//Epilogue: reasons to be cheerful//

Despite its obvious woes in Japan, the looming spectre of the PlayStation2 launch in the west, and the unproven nature of its Internet strategy, Sega has reason to look to the future with optimism. Over the next nine months it has an eclectic release schedule, packed with software that can be described as the envy of any publisher. Diverse, consummately professional in terms of execution, and remarkably innovative in a few choice instances, it is no coincidence that Sega's line-up was received with near-universal acclaim at E3.

In *F355 Challenge* and *Metropolis Street Racer* it has two forthcoming racing games of undeniable potential. Whereas the platform game and beat 'em up genres were the staples of 16bit gaming, the advent of 32bit poly-pushing technology finally allowed the driving genre to fulfil its potential in a domestic environment. Sega's Dreamcast, like the N64 before it, has suffered the ignominy of an après-launch dearth of top racing titles. While Video System's *FIWGP* port is not without its charm, *Sega Rally 2* was old before its launch. With the PlayStation offering titles such as *Rally Championship*, *Colin McRae Rally*, *TOCA* and *Gran Turismo*, Sega has not yet had the opportunity to impress upon the public the difference high frame rates, draw distances and resolutions can make. Now it can – and must.

Another significant challenge for Sega is how it can market unique titles like *Seaman*, *Jet Grind Radio* and – to a lesser extent – *Space Channel 5*. After the Dreamcast's launch, it is rumoured that Sega expected *Soul Calibur* to be its biggest pre-*Shenmue* hit. Despite having a finger on the pulse where software is concerned, Sega was reportedly nonplussed – but certainly not displeased – when *Seaman* earned that particular accolade with more than half a million sales in Japan.

The continuing success of *Pokémon* software and a brief (but lucrative) flirtation with Tamagotchi hardware suggest that there is a real market in the west for the 'nurturing' genre. How capably Sega can introduce the quirky, offbeat *Seaman* to comparatively conservative UK gamers remains to be seen. Its androgynous appeal could help Sega woo the perennially under-represented, under-exploited female market.

//There is no disputing that certain aspects of Sega's pre-launch planning speak of subtle genius. The Naomi arcade board and the ease of conversion from the PC are dual masterstrokes//

widespread media coverage are a must.

Jet Grind Radio, on the other hand, is a title of more tangible potency. With its wonderfully distinct appearance and styling, it is eye candy of the sweetest kind. Widespread reporting within the specialist press of it as '... a cross between *Tony Hawk's Skateboarding* and *Crazy Taxi*' do not do it justice. If any of Sega's Holy Trinity of unconventional 'hip' titles will capture the imagination of the gaming public, *Jet Grind Radio* is the one. But, again, Sega must be prepared to loosen its purse strings if a wider market is to know, let alone care, about its merits.

Another feather in Sega's cap is that its handful of top-rank PC ports are poised to arrive later this year. *Quake III: Arena*, obviously, is a bedrock of its plans for online gaming. It will be equally suitable and desirable – on the proviso the questionable AI routines of its PC incarnation are revised – as a oneplayer title. But can Sega's standard

//Software market share//

Given that the N64 has an installed user base of 1.55 million users in the UK, and that the PlayStation is knocking on the door of six million owners, the Dreamcast's 280,463 installed units (as at the end of May) puts it at a disadvantage whenever retail charts are published. Individually, Dreamcast titles have struggled to make a dent in ChartTrack's All Formats

Top 20 (the chart below relates percentage of market share by platform, by month), with a few notable exceptions – *Code: Veronica* being the most recent. That said, Dreamcast's share of total software sales is hardly terrible. If the company can use its exciting autumn/winter line-up to full effect, the future, for both hardware and software sales, could look markedly brighter.

	Oct '99	Nov '99	Dec '99	Jan '00	Feb '00	Mar '00	Apr '00	May '00
//PlayStation//	63	69.1	66.9	70.2	70.4	63.4	62.5	60.4
//N64//	7.5	7.4	11.9	9.9	6.6	6.2	11.9	7.8
//GB Color//	3.1	4.5	6.4	6.5	5.6	7.5	7.2	10.3
//Dreamcast//	17	10.4	8.5	10.3	7.6	9.9	6.7	8.2

Space Channel 5, similarly, is capable of turning 'mainstream' heads. Granted, it is short and has limited appeal as a singleplayer title, but the game is a real showpiece for the versatility of the Dreamcast, and one that might help lure much-coveted 20-somethings (the slice of the market upon which, of course, Sega's embryonic Internet strategy will rely). The question is: can Sega successfully promote the game in the UK, given that Sony failed with the similarly charming *PaRappa*? If Sega is to succeed, a discount RRP and

33.6K modem do it justice in Europe? Opinions differ. It is possible that the disparities between online play and a smooth, oneplayer mode could leave gamers feeling cold towards the former. As with *Black & White*, it is certain that Sega will be better served by presenting both titles as fantastic games that can, if players so wish, be played online. To punt them as online games that have a oneplayer dimension could prove disastrous.

There is no disputing the fact that certain aspects of Sega's pre-launch planning speak of subtle genius. The Naomi arcade board and the ease of conversions between Dreamcast and PC represent a dual masterstroke. Both are (and will be) ready sources of pillar titles. Irrespective of their origins, who would gainsay the likes of *Half-Life*, *Dead or Alive 2* and *Power Stone 2*?

Sega has the games. That is beyond question. But does the wider market know that?

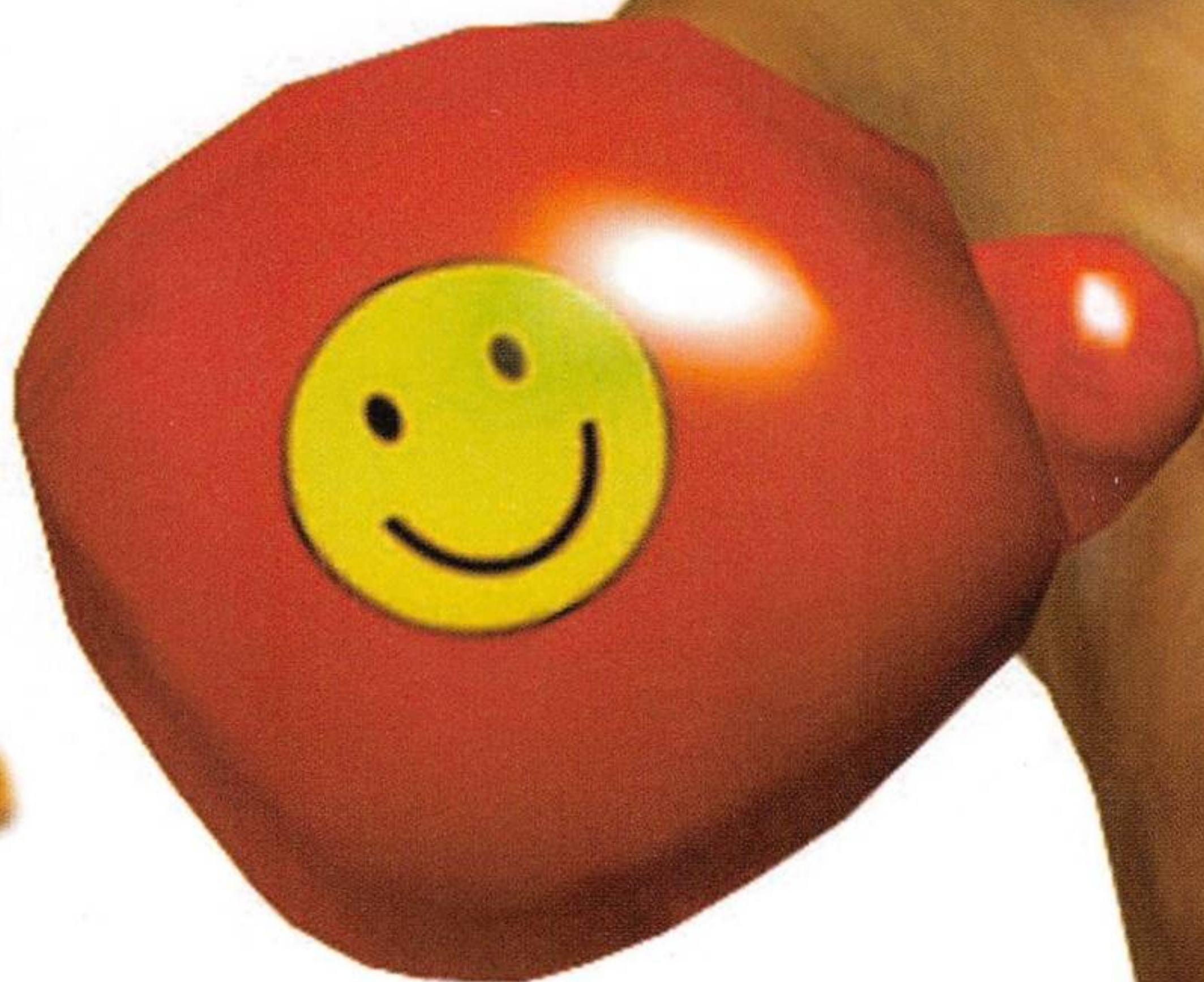


READY 2 RUMBLE

ROUND 2

The very latest info on Midway's boxing sequel. New characters and features revealed. The team interviewed...

PLUS! Marvel Vs Capcom 2 and Samba De Amigo reviewed. Ferrari 355 Challenge, Virtua Tennis, WWF Royal Rumble, F1 WGP2 previewed



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AND! The most comprehensive news section known to man, a complete guide to Tony Hawk's Skateboarding and more!

THE DREAMCAST MAGAZINE
DC-UK



**THE SEGA DREAMCAST SOURCE
RELEASE #12 BOARDING FRIDAY JULY 6**

TESTSCREEN

The definitive monthly assessment of the world's latest videogames

Bright lights, dull city

The days of bedroom or garage coders spending days Sellotaped to their chairs, eyelids propped open with matchsticks and fingers stapled to the keyboard all for the love of getting a few white blocks moving around a cathode-ray tube are all but gone. To some, videogaming nowadays is all about money, passion having fallen by the wayside.

The more videogames permeate the massmarket, the bigger the financial implications and the wider the tactics employed by those looking to relieve you of your gaming funds. Everyone is out there looking for a sure thing – their own *FIFA*, something that can be tweaked and trundled out year upon year with guaranteed returns from witless punters.

Fortunately, the likes of Codemasters, Rare, and Nintendo (for example) seem to have an unerring ability to deliver cash cows that just happen to be wrapped up in great gameplay packages, too. These publishers aren't simply playing the numbers game.

But the problem with a massmarket approach isn't simply a case of shop shelves stacked to the roof with games sporting numbers after their titles, it's also a question of choice. More specifically, originality is the issue. Take *Mr. Driller* (see p90). Of all the games reviewed this month, Namco's cute little puzzler is the finest by a country mile. But will its quality be

translated into supernova success at retail? Well, probably not here in Europe. (It has been an enormous hit in its native Japan, but then the marked difference between these two markets does not need pointing out.) It's a similar situation with *Fantavision*, **Edge's** first (and arguably only) choice on PlayStation2, a game that is as refreshing as it is enjoyable. But has it made the top three best-selling PS2 titles to date? No.

While a company such as SCEI is in a financial position to be able to allow its internal development teams to come up with original ideas such as *PaRappa the Rapper*, *Ape Escape* and the forthcoming *TVDJ* (formerly *Be On Edge*), other publishers will look at the poor performance (in the west, at least) of these titles and be further discouraged to stray away from the safety of the licence/sequel formula.

A few years ago, an Infogrames developer told **Edge** that the money his company made every Christmas from the release of semi-developed games boasting Smurfs, Asterix and Lucky Luke licences allowed riskier, yet original, projects such as *Outcast* to be given the green light. However, at the rate publishers appear to be shying away from original concepts, soon gamers may simply end up stuck with the former.



From left: *Fantavision*, *Mario Party* and *Messiah* – enjoyable titles the like of which may become extinct due to limited sales and a lack of willingness among publishers to hedge bets on originality

Every issue, **Edge** evaluates the best, most interesting, hyped, innovative or promising games on a scale of ten, where five naturally represents the middle value. A game receiving a 'seven out of ten', for example, is a very competent title with noticeable flaws but which should still appeal to a considerable range of players. It does, after all, score two points above average and should therefore not be considered as such.

Edge's rating system is fair, progressive and balanced. An average game deserves an average mark – not, as many believe, seven out of ten.

Videogames on the Edge

This month, **Edge** has been mostly playing...



Tony Hawk's 2 (PS) Activision

Hawkster fever hit this month as a preview build featuring extensive play options arrived in the post. The quest for the highest-scoring round continues.



TOCA WTC (PS) Codemasters

Another preview – though almost complete – disc to have kept people away from their desks as *TOCA's* best game to date proved hugely addictive stuff.



Metal Gear Solid (GBC) Konami

An excellent conversion maintains the best bits of the series, but of course with added portability. As with all GBC games, good eyesight is an advantage.



Perfect Dark (N64) Rare

Rare's phenomenal FPS continues to impress, and the N64 is lapping up the attention. Multiplayer is this month's preferred play mode for the **Edge** team.

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VAMPIRE



When the action moves to a contemporary setting, Christof and his coterie of vampires benefit from an arsenal that includes chainsaws and machetes



Combat is badly paced, the action happening too fast to make full use of vampiric powers, or indeed to control wayward members of the party



Storyteller mode (top) enables players to design chronicles, but still emphasises hack and slash. Hopefully creative players will get closer to the spirit of the *World of Darkness*

Vampire: The Masquerade is a popular pen-and-paper RPG that places emphasis on character development and strong narrative. As a result, Nihilistic's interpretation had been widely anticipated, thanks to the strong licence and the promise of a unique, rewarding multiplayer experience. Ultimately, though, the game fails to do the franchise justice, and can't compete with the sophisticated likes of *Baldur's Gate*.

The oneplayer game opens in the 12th century, with the player adopting the role of Christof Romuald, a crusading knight. Although at first the character is a devout human, it isn't long before he is embraced by the ranks of the undead, commencing a convoluted narrative that encompasses medieval Prague and Vienna, modern-day London and New York, unrequited love, and Christof's attempt to come to terms with the loss of his religion.

The first thing players will notice after some quite stunning graphics are a number of historical inaccuracies and a lazy use of stereotypes that make it difficult for

the player to suspend disbelief. The irony of a medieval 'knight' speaking with an American accent punctuated with 'thou haths', lamenting the fact that he hasn't heard a French accent for some time, is clearly lost on Nihilistic. And when the plot moves the action to London, the player is greeted with a 'stoik 'n' kidnee pai' cockney that hasn't seen the light of day since Mary Poppins.

On first impressions the game's interface appears to be both intuitive and fluid, but this is quickly dispelled as soon as combat commences. The mainstay of Christof's undead powers is his ability to use several 'disciplines' that convey a number of special effects, ranging from

increased speed and power to distance attacks and the ability to 'charm' opponents. During the heat of battle, it is next to impossible to use these effectively, or to use items from the character's inventory, resulting in reductive point-and-click combat. And when Christof's coterie of undead bloodsuckers is joined by other vampires, combat becomes even more of a lottery. The AI of these members simply beggars belief. Each discipline costs a certain amount of blood to activate, and when vampires run out of blood, the chance that they will lose control and go berserk steadily increases. This does not, however, deter your fellow coterie members from rapidly using up their



Vampire suffers from trying too hard to capture the subtle nuances of White Wolf's World of Darkness, resulting in a plot that is impenetrable to non-fans

precious reserves of plasma to overcome a succession of minor opponents, leaving them vulnerable against superior challengers. Combined with the fact that the game can only be saved at certain points that are few and far between, this becomes a significant design flaw.

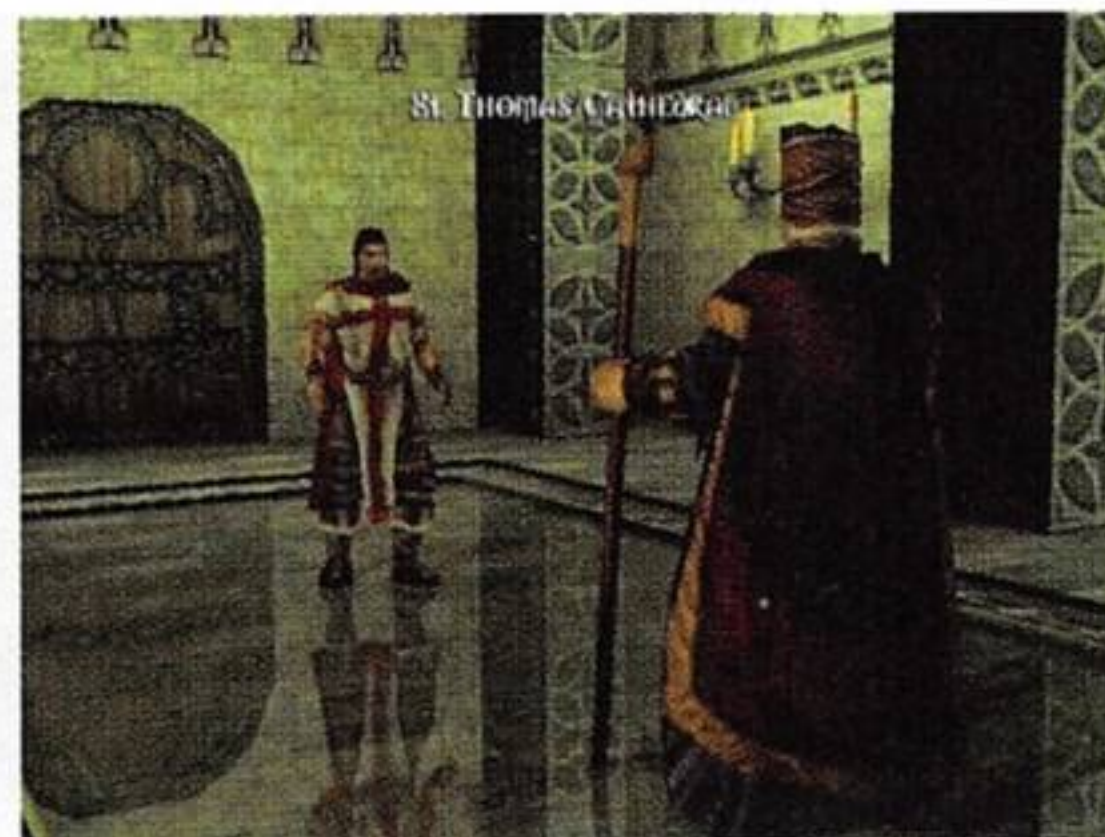
Enemy AI is also worthy of mention, but again, for all the wrong reasons. Bad guys remain stationary until a coterie member is close enough to activate them, though in general they can be seen far in advance of this. In theory this would, of course, make it impossible to be ambushed, but in practice coterie members recklessly charge down corridors, with the effect that the party is swiftly overrun by the sheer numerical superiority of adversaries.

Although this list of design abuses sounds comprehensive, perhaps the biggest fault of the game is in the overall structure, which repeatedly deprives the player of any degree of choice. At three or four key moments during the long cut-scenes that are scattered throughout the game Christof is offered a choice of dialogue, though this is purely cosmetic and doesn't have any effect on gameplay. The upshot is always

that Christof is dispatched to some location or other, consisting of three or four levels in which the object is to kill all enemies and pick up items and cash. There is very rarely more than one choice of which location to go to, as most areas are inaccessible until a cut-scene opens them up, as

is the case with the New York sewers that are mysteriously 'locked' until a certain NPC has been spoken to. There is no degree of choice over who joins Christof's coterie, and there are literally no puzzles in the game.

This litany of misjudgements results in nothing more than an abject failure to convey the spirit of the pen-and-paper original. The dramatic discourse between the desire to retain a shred of humanity and the need to feed on the blood of innocents is not well represented in the game, and nor is the suspense created by the impending arrival of sunrise. In fact there is only one – pre-scripted – example of the arrival



During the game, experience can be spent on improving attributes and learning disciplines, including Fireball and other distance attacks

The oneplayer game opens **in the 12th century, with the player adopting the role of a crusading knight**, although it isn't long before he is **embraced by the ranks of the undead**

of daytime in the game after Christof's embrace, and predictably it is a challenge just to ensure that coterie members do not wander out of the shadows, oblivious to the danger.

It is to be hoped that Vampire's multiplayer framework will enable online storytellers to remedy Nihilistic's naïve game design, but this will require a considerable amount of creativity, because the tools that are provided to create multiplayer chronicles bear too many of the faults of the oneplayer game.

A missed opportunity.



Edge rating:

Four out of ten

Format: PC

Publisher: Activision

Developer: Nihilistic

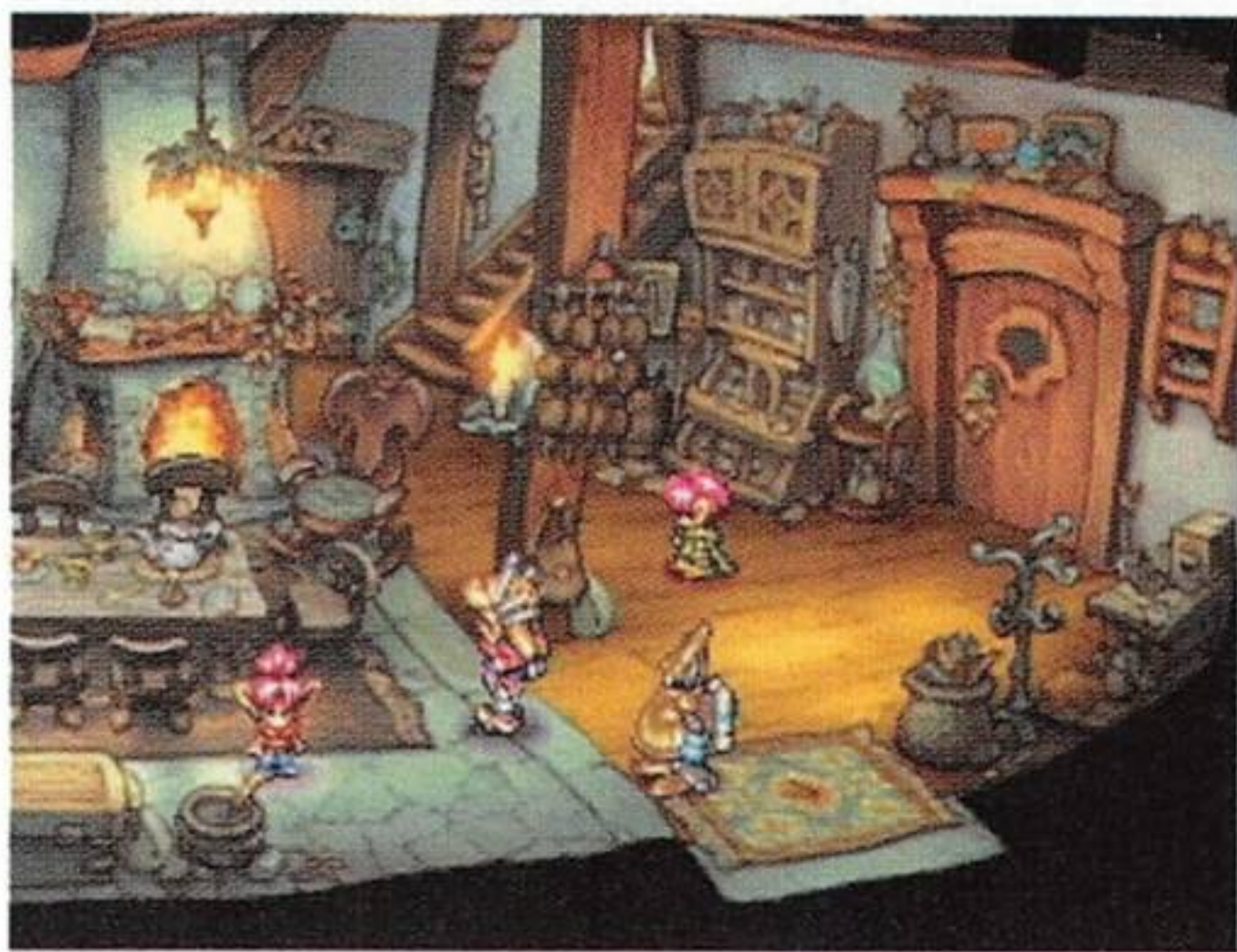
Price: £40

Release: Out now



Equipment can be purchased during the game, though with the amount of items that can be found there is little need to shell out

LEGEND OF MANA



Build up your power bar to unleash special techniques like this Orbital Blade, then watch *Mana's* ever-cute critters run for cover

Solve the Tiny Sorcerers sub-quest and you'll enlist the pink-haired Pumpkin twins as apprentices. If the AI wasn't so poor, this might have been worthwhile

When Square Europe announced that *Chrono Cross*, *Legend of Mana* and *Dew Prism* were not scheduled for European release, you could stand anywhere on the coast and hear booing in several different languages. To be fair, though, there's no reason for Square to expect any of these titles to sell better than the troubled *SaGa Frontier 2*. Not even *Legend of Mana – Seiken Densetsu 4*.

Many players still have fond recollections of *Seiken Densetsu 2*, aka *Secret of Mana*, the 1993 SNES action RPG that introduced Square's craftsmanship to a wider audience. *Seiken Densetsu 3* was eagerly anticipated, but never appeared outside Japan. Now, seven years on, and taken at face value, *Legend of Mana* will likely do nothing but disappoint fans. All the trappings look

familiar, from the weapons techniques to the bouncing Rabites, but this isn't really a *Mana* game.

For starters, Square has lost the plot – literally. There is no central narrative, with the entire storyline of the game structured around discovering and completing some 67 sub-plots and side-stories. Occasionally you'll get glimpses of the bigger picture, but the overall goal of reviving the Mana Tree remains vague. While there's arguably plenty to do, this particular experiment doesn't pay off. It's very easy to lose track of where you're supposed to be, and there's little dramatic impetus to drive you on when things start to drag. *LoM's* fantasy world can still ooze charm, localisation aside, but an overdose of whimsy in the cute characterisation also warns you that moments of dark, emotional string-pulling aren't on the cards.

The world itself has to be built from scratch in a new Land Make system. Successful completion of

Square has lost the plot – literally. There is no central narrative narrative, with the entire storyline **of the game structured around discovering and completing** some 67 sub-plots and side-stories



Although it retains *Seiken Densetsu 3*'s Capcom-esque megabosses, the challenge is non-existent. Any reward for clever play is seriously undermined

a quest will usually earn you an artefact, and dropping this on the world map creates a new realm to visit. This is more important than it seems at first, as the placement determines the difficulty level of the creatures therein, but it deals another blow to any persistent gameworld.

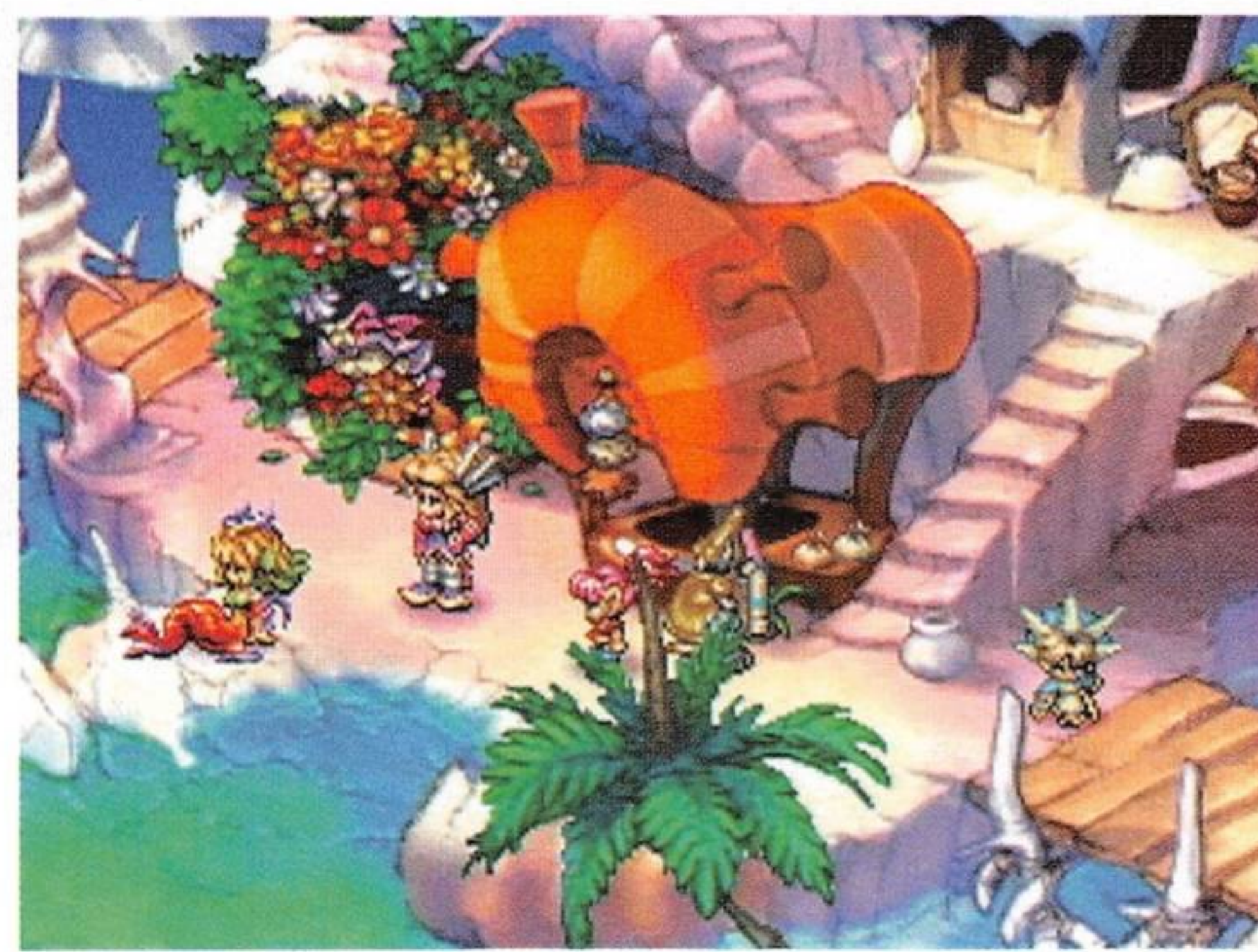
Let's admit that *SOM*'s combat was largely derivative of *Zelda III*, offering both an overhead forced-perspective view and a range of attacks based on holding down the buttons to charge up your weapon. *LoM* has been reduced to a more primitive side-on view where you only attack left and right, and plays remarkably like a scrolling beat 'em up in that you can press single or combined buttons for instant moves, or just whack away for preset combos to build up your Special meter. The moves can be fun, but the tiny characters scrum together in such a tight space, with so many effects shooting off, that it can be hard to tell who's getting the hits in. Movement on the z-axis – in and out of the screen – is also a problem, as the game requires perfect alignment for those lunges and thrusts to connect. A second player may grab a pad and join in when NPCs or pet monsters are

in tow, but the inability to customise them reinforces *LoM* as a solo venture, unlike previous *Mana* games.

Other casualties of poor implementation include some terrible AI, with your partners opting for inaction as the most popular combat move. *SOM*'s Ring Menu interface – one of the finest console GUIs ever devised, no less – has been wastefully subsumed into some unintuitive page-based nonsense.

Even the usual HP/MP system has been dropped. Instead of roaming free, the monsters attack in fixed, *Chrono Trigger*-style episodes. Enemies explode in a generous shower of food, coins and EXP gems à la *Power Stone* when defeated, whereupon your energy bar is entirely restored for the next fight. If the lack of challenge strikes you as patronising, wait until you see the infinite continues for beating bosses.

The experiments don't stop there. Your home base includes: a monster corral, for raising fighting pets from eggs; an orchard, for growing magical veg; a smithy, for forging your own weapons; and even a laboratory, for building and programming a 'golem' robot buddy. But the complexity of these combination games asks for a



The unfortunately named holiday resort of Polpota puts up a vibrant, technicolour argument in support of the quality of 'trad' 2D graphics

considerable investment of effort that doesn't match the rewards, and you aren't penalised for ignoring them. Indeed, *Legend of Mana*'s problem is that its new ideas are mere indulgences with niche appeal: the majority of the fun quotient resides in exploring them, and finding all the secrets can turn into a game in itself. But for the fans, this won't make up for the elements Square has dropped.

On a sad note, it's odd to consider that *Legend of Mana* may signal the end of an age for high-quality 2D graphics, for a time at least. Its delicious backdrops and visual gags serve as a reminder that 3D is as much a style as it is a medium, and the technology has a long way to go before it can capture the intricate exaggerations afforded by the traditional animation and hand-drawn artistry on show here.



Edge rating:

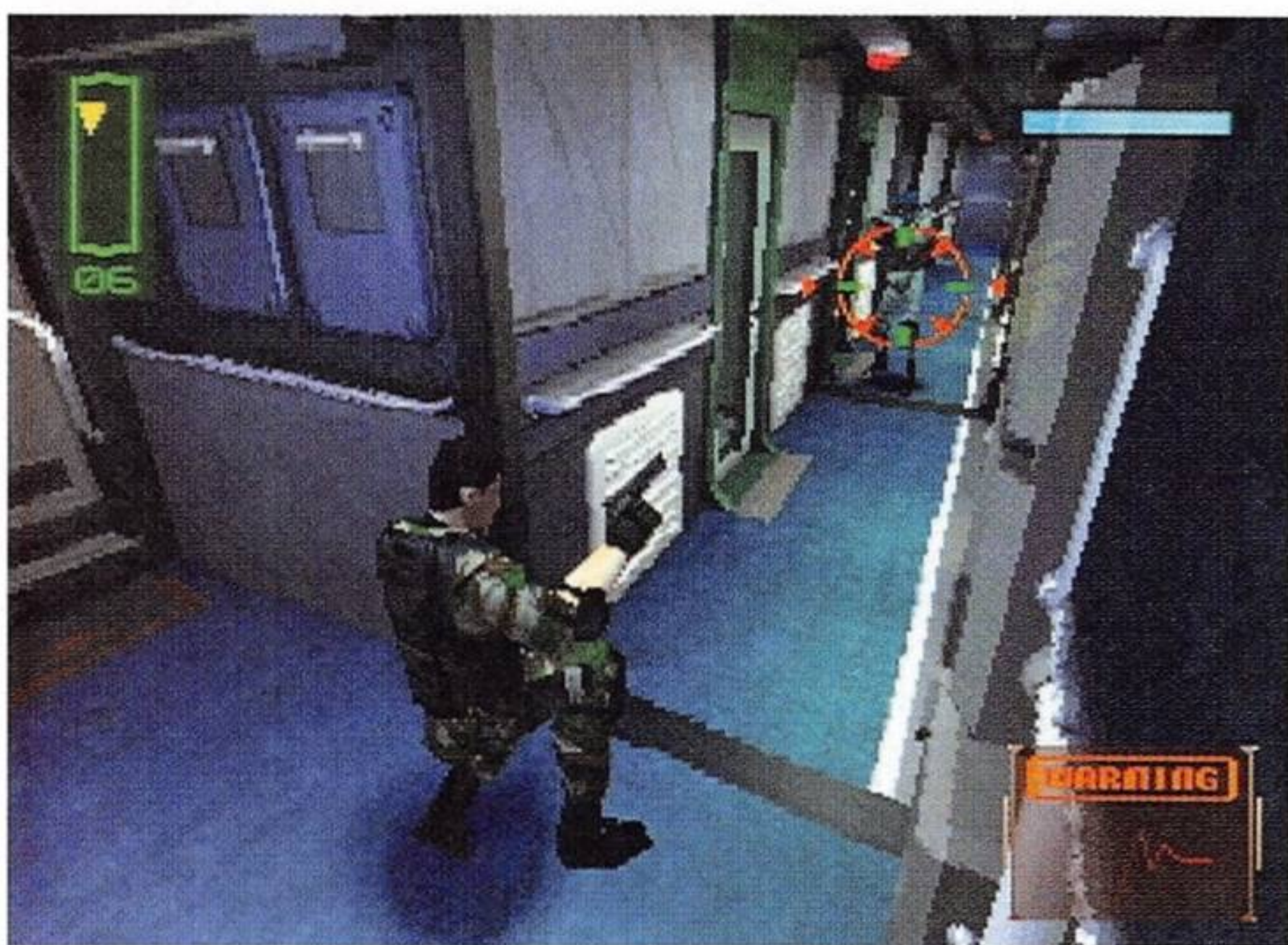
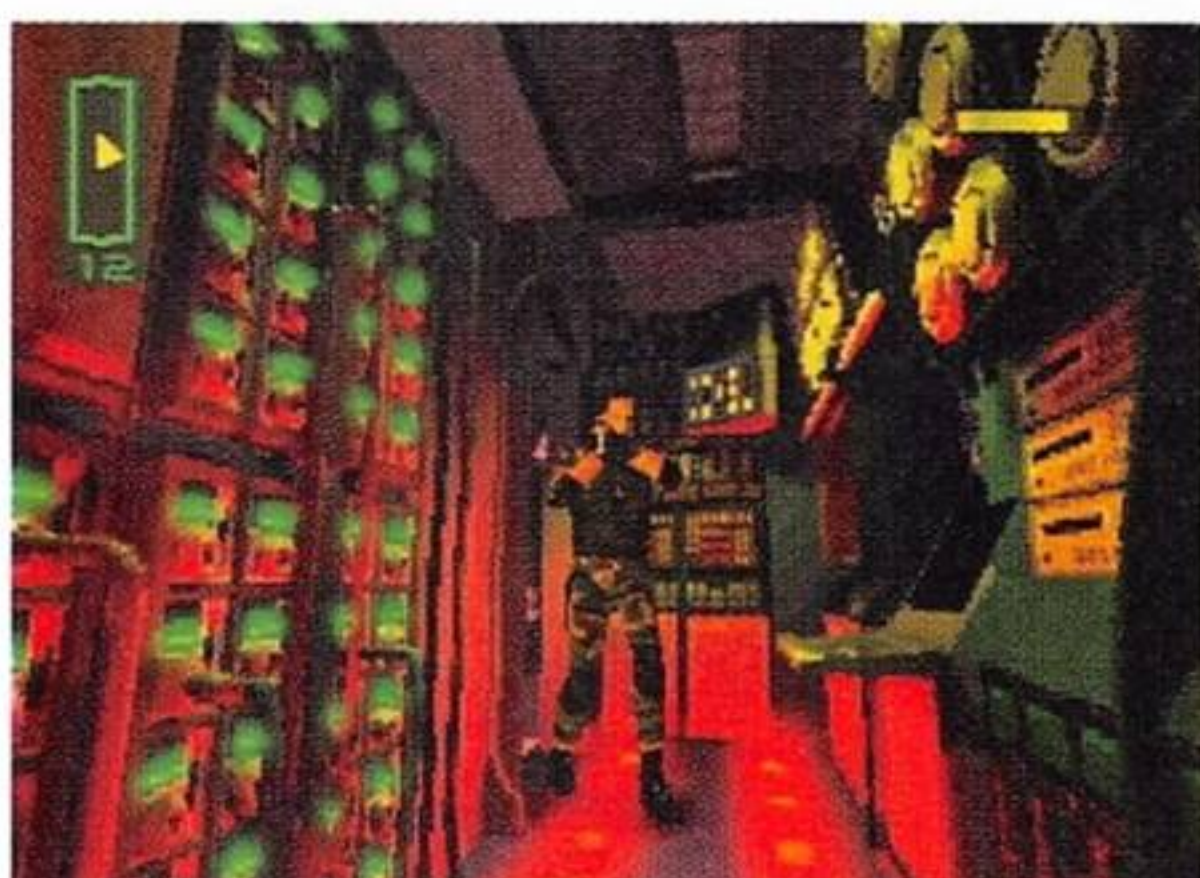
Six out of ten

Format: PlayStation
 Publisher: Square America
 Developer: SquareSoft
 Price: \$40 (£27)
 Release: Out now (US)



Freeform exploration has given way to levels, mini-quests and a DIY world map generated by using the new Land Make system

CHASE THE EXPRESS



Advancing adversaries are often announced by a mini cut-scene, meaning you can prepare to roll out and shoot them down

Bosses (above left) are few and far between, and the only shooting in the meantime involves picking off terrorists, who often spawn from nowhere

Like action movies, action videogames have the opportunity tap into the deep seam of unreconstructed, adrenalised macho bull that made stars of Arnie and Sly, and countless millions of dollars for Hollywood. That same blend of animal cunning, physical ability and happy

recourse to firepower worked its magic on the *Syphon Filter* series, which seemed to be a hit before anyone deigned to notice it had been released, and at first glance *Chase The Express* looks to want to do the same.

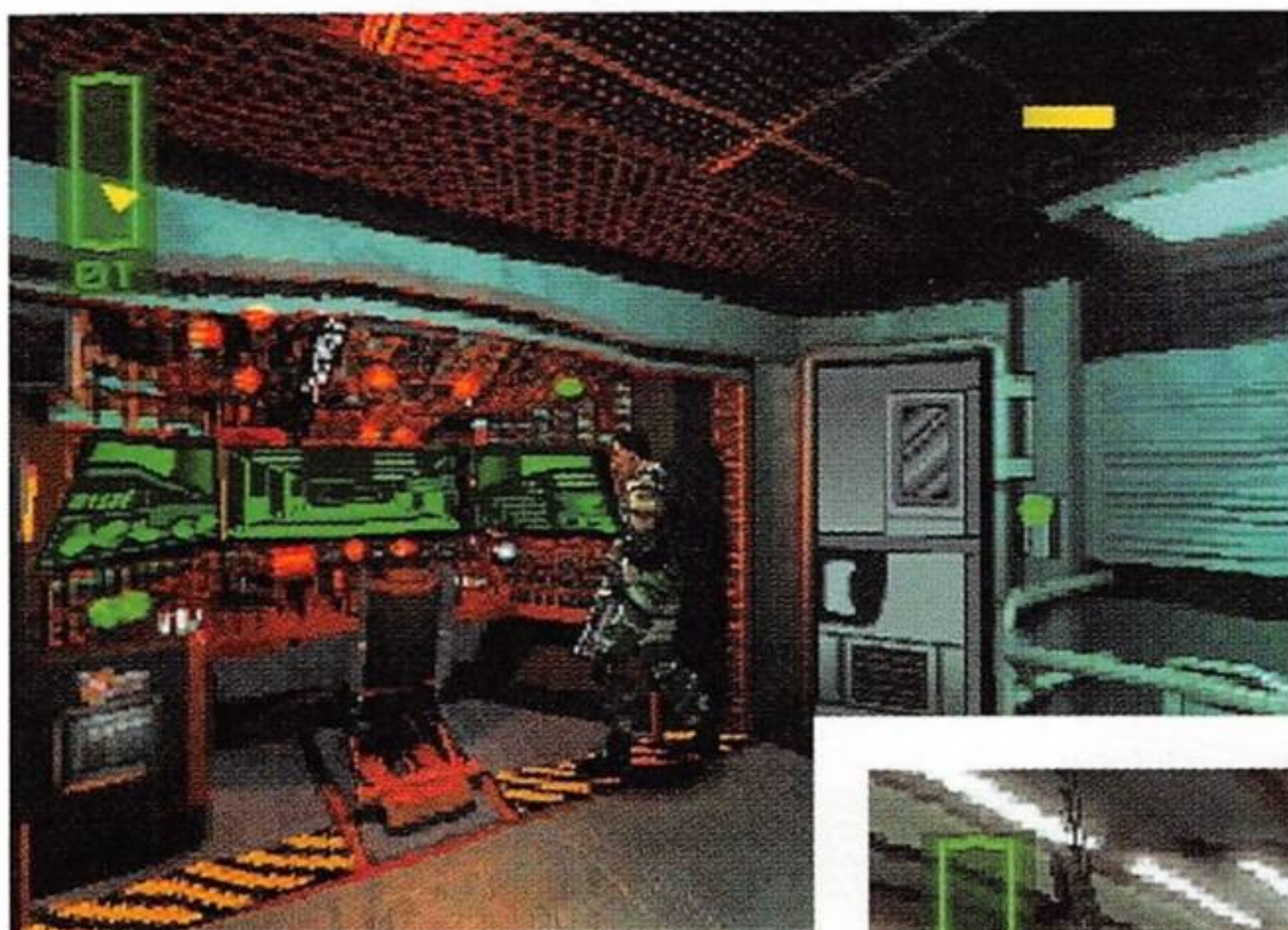
The plot is what action fans would rate as promisingly lowbrow, with the concept of terrorists hijacking a train containing vital information/ weapons/VIPs more than a little reminiscent of the deeply obvious *Under Siege 2*. The player controls NATO lieutenant Jack Morton, who, as the last surviving good-guy soldier on the Blue Harvest train travelling from St Petersburg to Paris, must take on the massed ranks of the Knights of the Apocalypse cell, save the French ambassador to Russia and his family, and – as it later emerges – prevent the European Union states being reduced

to a nuclear wasteland.

This is all well and good, but once you get hold of the controls you realise that there is no way the hero is going to impress with his manly ways. The analogue stick which lent Gabe Logan such fluidity of movement flops flaccid and useless in the joypad, developer Sugar & Rockets having opted for the D-pad forward/back, wheel-to-the-left/right approach. When he does walk, run, roll, duck or turn through 180°, the hero seems to float inches off the floor.

However, it's when the combat starts that you really begin to suspect the developer had no intention whatsoever of putting together an action romp. The targeting system is straight out of survival horror, with the player having no recourse to firstperson finesse. As a result Morton often has to be edged from side to side in a firefight to get the terrorists in his sights. Distressingly, the fixed cameras have a tendency to place his adversaries just out of shot, requiring

Rather than taking advantage of the obviously claustrophobic setting of a train, *Chase The Express* subjects the player to endless hours of traipsing along soon-familiar corridors

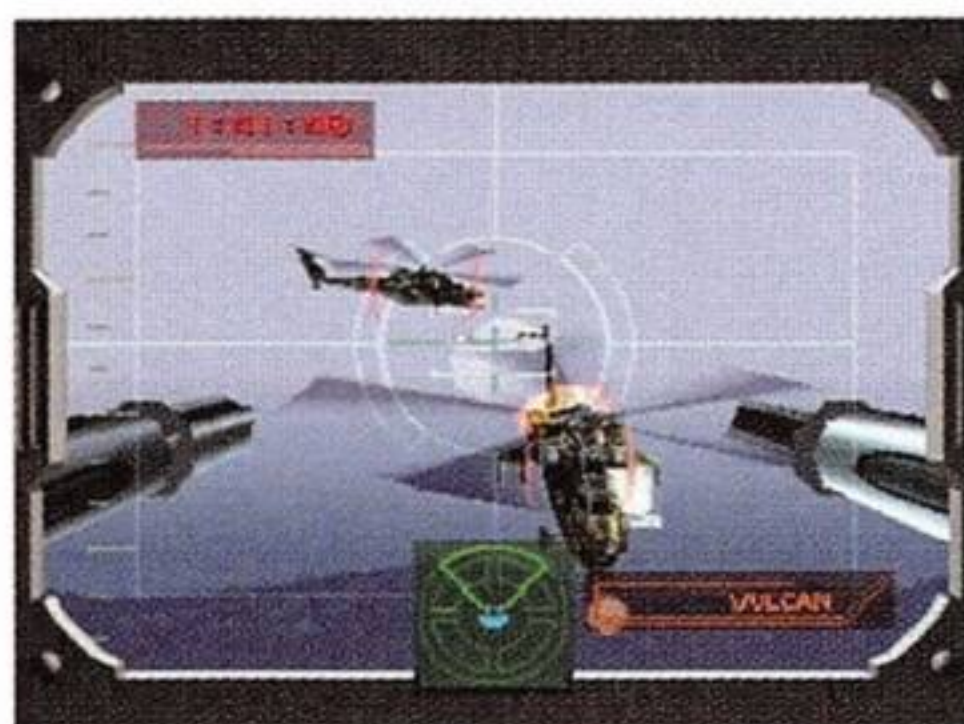


While the interior of the train features some impressive detail, not enough is made of the setting, begging the question of why it was selected at all

a quick sprint into a hail of bullets to stand a chance. In keeping with the survival horror theme, ammo is scarce and the inventory system is less forgiving than Rambo on the rampage – leading to Morton suffering the ignominy of having to slip off to the gents (which serves as a save point/resource store) when things start hotting up.

Which, sadly, is a rare occurrence. Rather than taking advantage of the obviously claustrophobic setting of a train, developing a similarly tense atmosphere to *Resident Evil* or *Silent Hill*, *Chase The Express* subjects the player to endless traipsing along soon-familiar corridors – made all the more infuriating by long loading times between carriages, and shifting cameras. There are even occasions when mini cut-scenes trumpet the arrival of a patrolling terrorist.

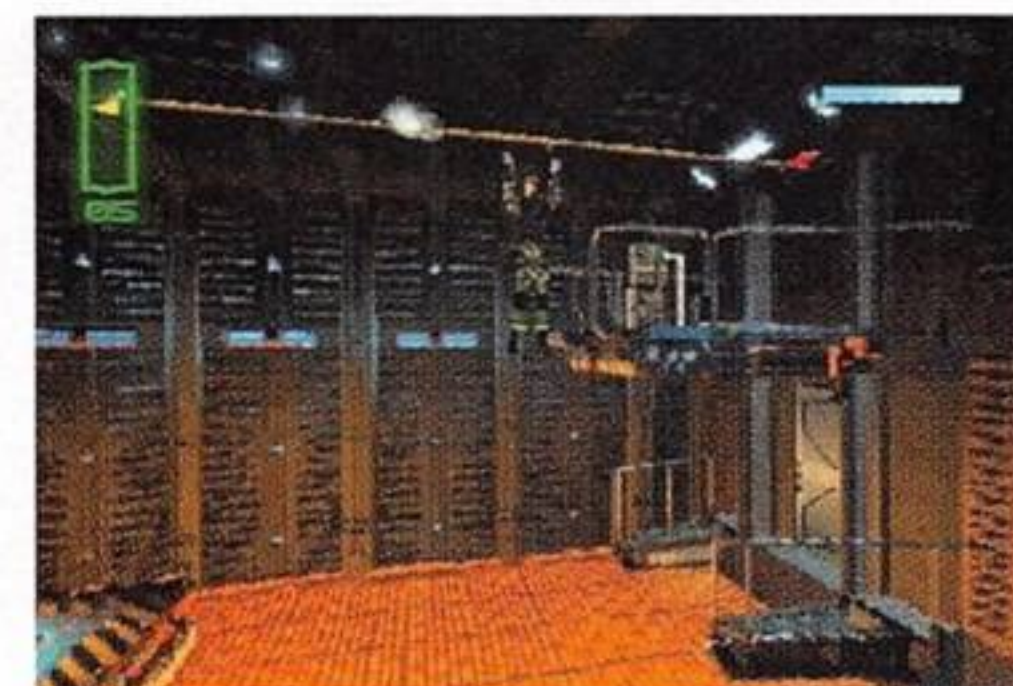
The problems that are presented



It's rare you get the chance to get your hands on real firepower



While there are some interesting set-pieces, like a 'puzzle' that require the combination of a crossbow and rope to solve, or a gas chamber (above right), for the most part the game consists of fighting through carriages



aren't solved by the ruthless application of violence, but more often than not thanks to a pass key, a slip of paper or a computer disc. The only time the player needs to summon any real degree of aggression is against the four bosses in the game, confrontations that merely serve to underline the limitations of the control system. This results in a longing for levels to be capped by stand-out sub-games that offer you the opportunity to gun down helicopters or try your hand at driving a train, rather than still more uninspiring gunplay. This feeling soon leads to the terrorist presence on the train seeming like more of an irritation than the driving force behind the action.

Compounding this, there are several possible endings besides Morton catching a bullet – some of which can hinge on as little as

neglecting to pick up a single memo. While the concept of the way you play affecting the way the game will end is a worthy one, and the theme of thinking about other people's needs is, interestingly, key to success in *Chase The Express*, this sits uncomfortably with such a straightforward storyline, which already has myriad 'twists' built into it. In this case, given the fundamental problems with the gameplay, you're just glad it's all over.

One plus is that this will come around sooner rather than later, with the game taking little more than six hours to complete. While this was perceived as a problem with *Metal Gear Solid*, it seems unlikely anyone will get involved enough in *Chase The Express* to care.



Edge rating:

Three out of ten

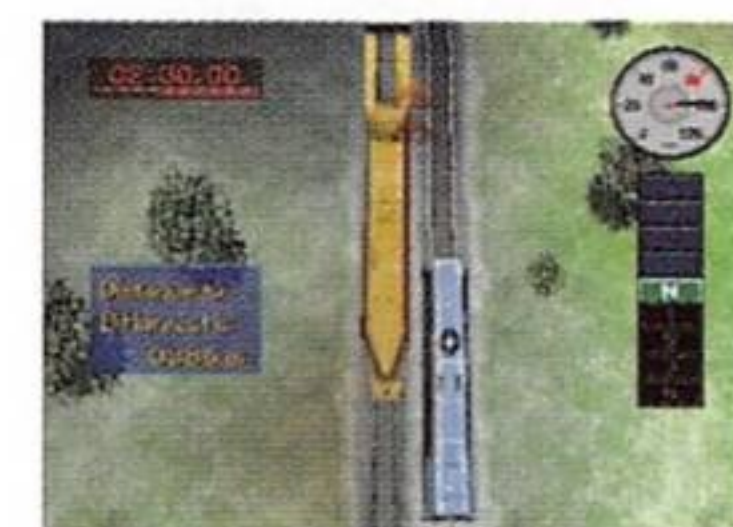
Format: PlayStation

Publisher: SCEE

Developer: Sugar & Rockets

Price: £35

Release: Out now



The sub-games offer welcome respite from the game proper. The tough traindriving mode (top) is a classic example, and is compellingly tricky

MOHO



Pressing the block and attack buttons simultaneously causes this impressive 'swirl' manoeuvre. It can only be used when the red 'rage' gauge flashes



MoHo offers seven varieties of game styles to prevent monotony. Those which prove the most fun require you to keep your momentum, as in the racing arenas

When confronted with a product deemed wildly inventive, Tom Hanks' character in 'Big' looks puzzled, holds up his hand and questions the item's interest to a child: "I just don't get it," he confesses to the gathering of corporate bigwigs. A similar question might be asked of *MoHo*. It isn't that the gameplay mechanic or overall concept is difficult to understand – although screenshots fail to communicate these aspects – more that the frustrations in the fundamental design weren't identified at an earlier stage.

Lost Toys' first title is admirable for its bold approach, but in the attempt to introduce something new in look and style a misjudgement seems to have been made at the drawing-board stage. Time restrictions or coding difficulties haven't resulted in a poor representation of the early blueprints – the overall look and feel of the game is praiseworthy and seems close to the original concept. Rather, it is the game mechanics which fail to inspire that crucial element of fun. The



The combat for the most part is sluggish. Once an enemy unleashes an attack it is difficult to break free, and blocking proves too inconsistent

problem is mainly that the player must repeatedly attempt short levels. Not only is this infuriating, it also causes the game to lose rhythm.

The game takes place in futuristic gladiatorial arenas controlled by an oppressive regime. Convicted of a heinous crime and punished by having his legs amputated, your character must win his freedom by completing

each level within a strict time limit. This cleverly allows a well-implemented rollerball mechanism to power your character. Once the nine prisons – each comprising anywhere between four and ten arenas – have been completed, the final prison is unlocked.

Five characters are selectable at the outset, each having different



To keep that vital first-place position opponents can be elbowed aside. However, like many of the combat moves this proves almost random in its effect. Concentrating on your own course and direction is more rewarding



Format: PlayStation

Publisher: Take 2

Developer: Lost Toys

Price: £30

Release: August

skills and attributes to suit your style of play. One will be better equipped to do battle in the fighting arenas, while another will be more capable of negotiating the precarious platforms. The variety of game styles on offer is at least varied enough to prevent total exasperation. From Last Man Standing through to King of the Hill to a standard Race format, seven game styles are available, which helps delay the onset of monotony.

If all this sounds negative, then it should be made clear that there is a good deal of pleasure to be sucked out of *MoHo* if you're a fan of quick-fix twitch gaming. Arenas are generally short enough to complete within two minutes, and while some will infuriate by requiring up to 50 attempts, others can be completed on the first go. Achieving gold coins by finishing the level under a very strict time limit opens up bonus games, such as golf, and even an extra character – the evil doctor who is responsible for severing the legs of the contestants. An even more exacting time to beat (the Lost Toys team's own record) is there for those looking for more punishment.

MoHo's greatest attribute is the motion given to your character around the vibrant arenas. The

movement is translated well, and once your gladiator picks up speed the momentum feels and responds to your commands incisively. Unfortunately, *MoHo*'s arenas are

Lost Toys' first title is **admirable for its bold approach,** but in the attempt to introduce something new in look and style a misjudgement seems to have **been made at the drawing board**

too short and there are too many obstacles (from spikes to laser cannons) to thwart your progress. Having to constantly attempt to recover momentum after being hit by a random missile coming from a location out of your view limits the potential joy such physics promise. Inertia games of the past, such as the delightful *Marble Madness* and the divine *Spindizzy*, kept such annoyances to a minimum by allowing a skilled player to keep the flow going through longer levels. Too many *MoHo* arenas, especially the Run The Gauntlet levels where ledges and platforms must be leaped across, actively require the player to stop and start in a punctuated fashion.

Some mention must go to the graphical effects, which impress throughout. The morphing of the

landscape, an effect produced when explosions ripple the terrain, are not only visually glorious but both help and hinder the player at key moments. Previously unscaleable hills can be crested after surfing a landscape wave; an effect which adds greatly to the otherwise basic gameplay.

It is in the annoying old skool-style negotiation of ridiculously precarious platforms while being assailed by random missiles off screen that *MoHo* becomes too infuriating to bear. Like Josh Baskin in 'Big' contemplating a plastic skyscraper which inexplicably transforms into a human, players are invited to ask: "Well, where's the fun in that?"



Edge rating:

Six out of ten



The twoplayer split-screen games do little to make up for *MoHo*'s shortcomings. It's just too difficult to see the path ahead of you

MR. DRILLER

Format: PS (reviewed)/DC

Publisher: Namco

Developer: In-house

Price: \$20 (£14)

Release: Out now (US)

June 29 (Japan)



The game's apparent simplicity – connecting like-coloured blocks brings reward – is its beauty



The PlayStation's hi-res mode is employed to present crisp graphics that stun the eye with their summer-day colours and strangely tactile flavour



In the same way that *Mr. Driller* had arcade-goers gleefully feeding 50p pieces into the cabinet, the home version should see your couch time soar

Bouncing into place alongside classic Japanese puzzlers *Puzzle Bobble* and *Puyo Puyo*, Namco's coin-op curio *Mr. Driller* is a perfect illustration of why 2D gaming shouldn't be allowed to die. Of the eight action buttons present on a PlayStation joystick, this game uses one: steering a path down through stages of different size coloured blocks, you drill to clear a path.

As blocks are removed from the pile, those above tremor for a moment and then drop down – squashing you if you're underneath. If they pass another chunk of the same colour, they attach themselves to form a combined lump. When these lumps exceed four pieces or more, they disappear; the larger the block, the higher the points awarded.

Broken into depths of 500ft, the stages vary in style, some with many small blocks to others where huge chunks in two hues must be drilled before Driller plummets 50 or 60ft. All the while, the hero's air supply diminishes, requiring replenishment from oxygen capsules buried around the levels. These are trapped by ever-more-fiendish arrangements of 'X-blocks'. Attempt to bore through one of these and you'll be punished by losing as much air as a capsule gives.

So the compelling elements of *Mr.*

Driller are the simple attractions of classic arcade gaming: speed, points, survival and dexterity. At first the obvious thing to do is plough down through the levels, aiming for the beginner's 2,500ft target (opting for the 5,000ft expert setting presents a far tougher challenge). While this target may be reached fairly easily, the corresponding score will be low. Clearing large sections of blocks, creating high-scoring connections, is where the game's real pleasure lies.

In addition to the arcade version's 2,500 and 5,000ft options, Time Attack and Survival modes feature for the home. Strangely, the obvious addition of a twoplayer race mode hasn't been made. That's a real shame, as it

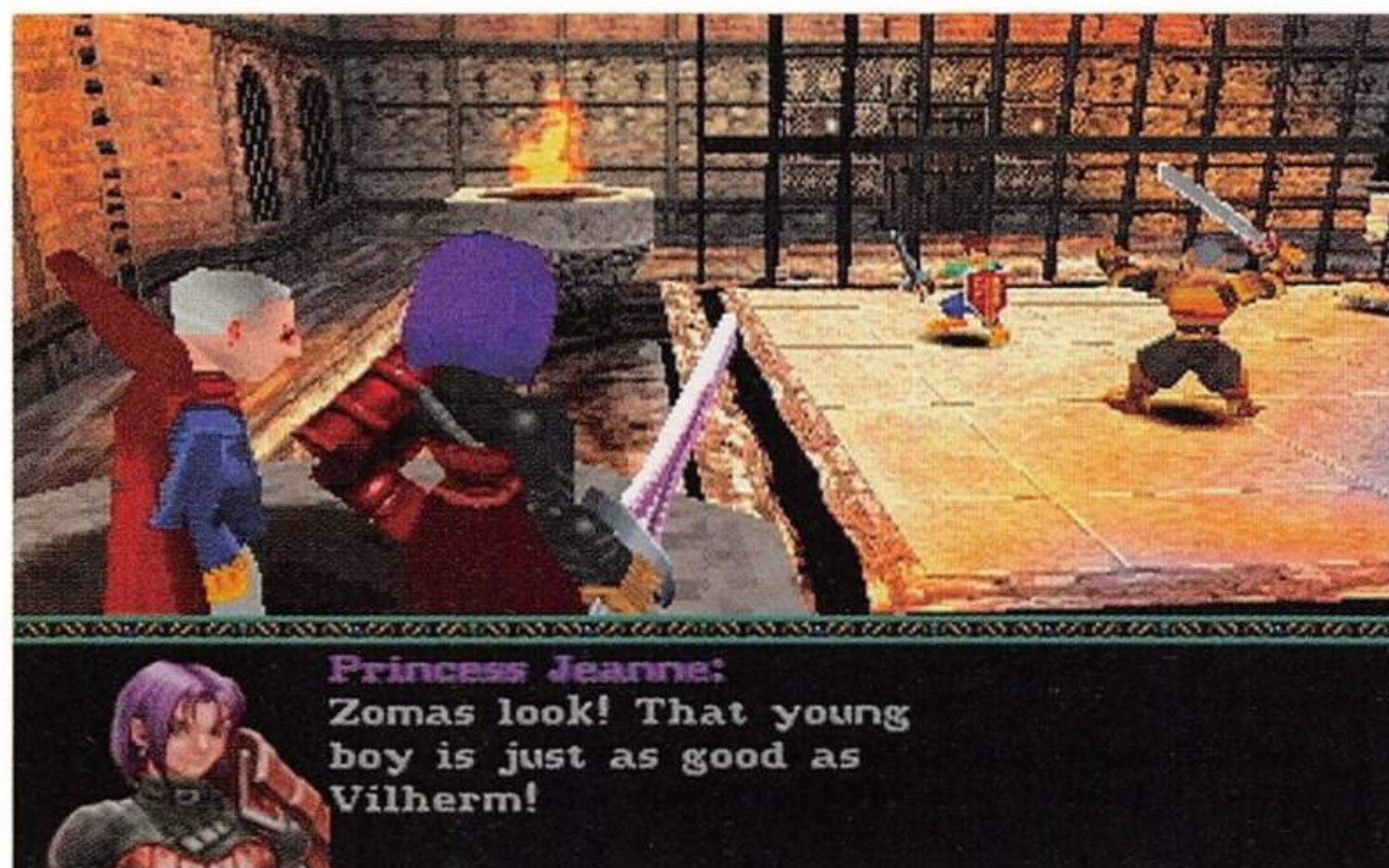
deprives *Mr. Driller* of the quality competitive play offered by Taito's seminal *Puzzle Bobble*.

Nevertheless, Namco has wrought a minor gameplay miracle with *Mr. Driller*. Comparisons with *Tetris* aren't really relevant – it lacks the underlying logical brilliance of that game. This is more a piece of classic Japanese 2D puzzling squeezed through a wormhole into the 21st Century. As with *Puzzle Bobble*, there is a near-mindless compulsion in *Mr. Driller*, placing the player in a tunnel-like gaming 'zone'. Drill, dodge, drill, drill, dodge...

Edge rating:

Eight out of ten

DRAGON VALOR



Format: PlayStation

Publisher: SCEE

Developer: Namco

Price: £35

Release: Out now

It is only during the boss encounters that *Dragon Valor's* combat becomes a little more involved, but it does adhere to a strictly hit-and-run brief. Unfortunately, by designating 'no movement' as the means of blocking, the designers effectively stifled any possibility of a simple combat system

The kindest way to describe *Dragon Valor* is 'comfortable'. Unspectacular and barely refined as it may be, its eminently familiar content makes it an easy title to play. But with similar games – new and old – making decent bids for your time, it's hard to justify investing in the few muted hours of entertainment this Namco release has to offer.

Best described as a hybrid of *Golden Axe*, *Ocarina of Time* and, to a lesser extent, inoffensive PlayStation platformer *Klonoa*, *Dragon Valor* is an action adventure with an episodic approach. Doling out action on a level-by-level basis, it is brazenly



The puzzles are depressingly familiar. Oh, for some innovation

derivative, the gaming equivalent of déjà vu: you get the feeling that you've played it before, a decade ago, and it was better then. The features recognisably lifted from Miyamoto adventures only highlight its dearth of creativity – the attempt only serves to underline the game's flaws.

Dragon Valor's lack of ambition is galling considering its level-based design and fixed camera give license for any number of spectacular set-pieces. Realising that, you can't fail to find the indeterminate battles and elementary switch puzzles decidedly unsatisfying. Its combat sequences – which represent the lion's share of the action – are basic, by-the-numbers events. Admittedly, your character has a few move sequences and magical attacks to call upon, but in practice their existence is arbitrary. It soon becomes apparent that the most effective way to win battles is to use a simple three-press attack combo, retreat briefly to allow an opponent's period of après-kicking invulnerability to pass, and repeat ad nauseam. Very

rarely is it necessary to experiment with this effective recipe.

Furthermore, the pace of *Dragon Valor* is awful. Each bite-sized area is a self-contained environment. Exit one locale and there is a distinct pause that can last as long as a few seconds before play resumes, which becomes enormously irritating. Its various traps and hazards, similarly, disrupt the flow of the action. There are too many devices – like falling pillars, and concealed spikes springing from floors – that demand that you pause for a patience-sapping moment in order to pass unscathed.

And what of its execrable plot sequences and below-average aesthetics? Feel free to discover these for yourself. *Dragon Valor's* workmanlike use of genre mainstays gives it a fleeting value; hardcore gamers may find themselves briefly engrossed. But the emphasis must be placed on briefly.



Edge rating:

Three out of ten



You can't speed up the dialogue in the game, and as a result are likely to skip entire sequences, depriving the action of its narrative context

FRONT MISSION 3

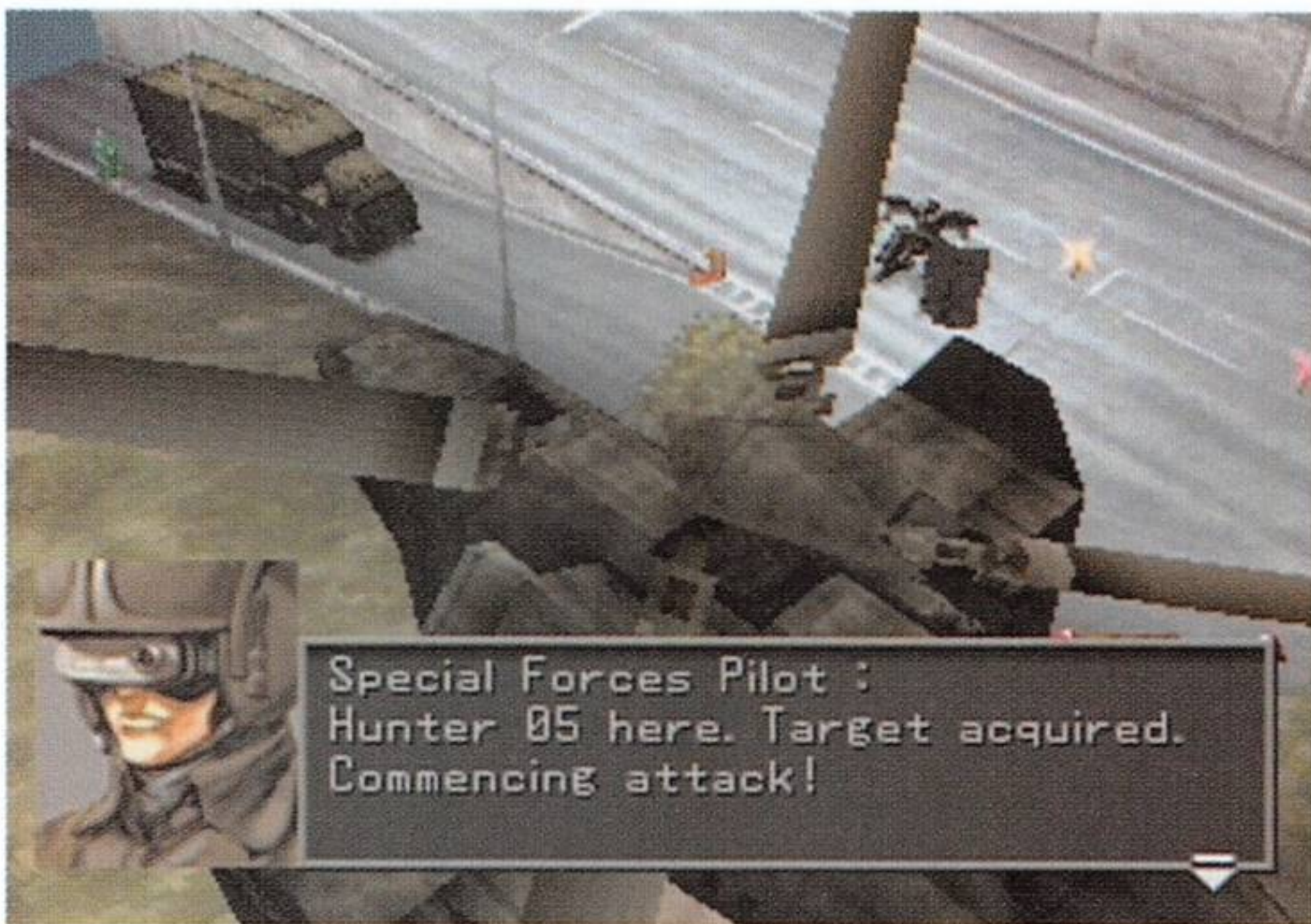
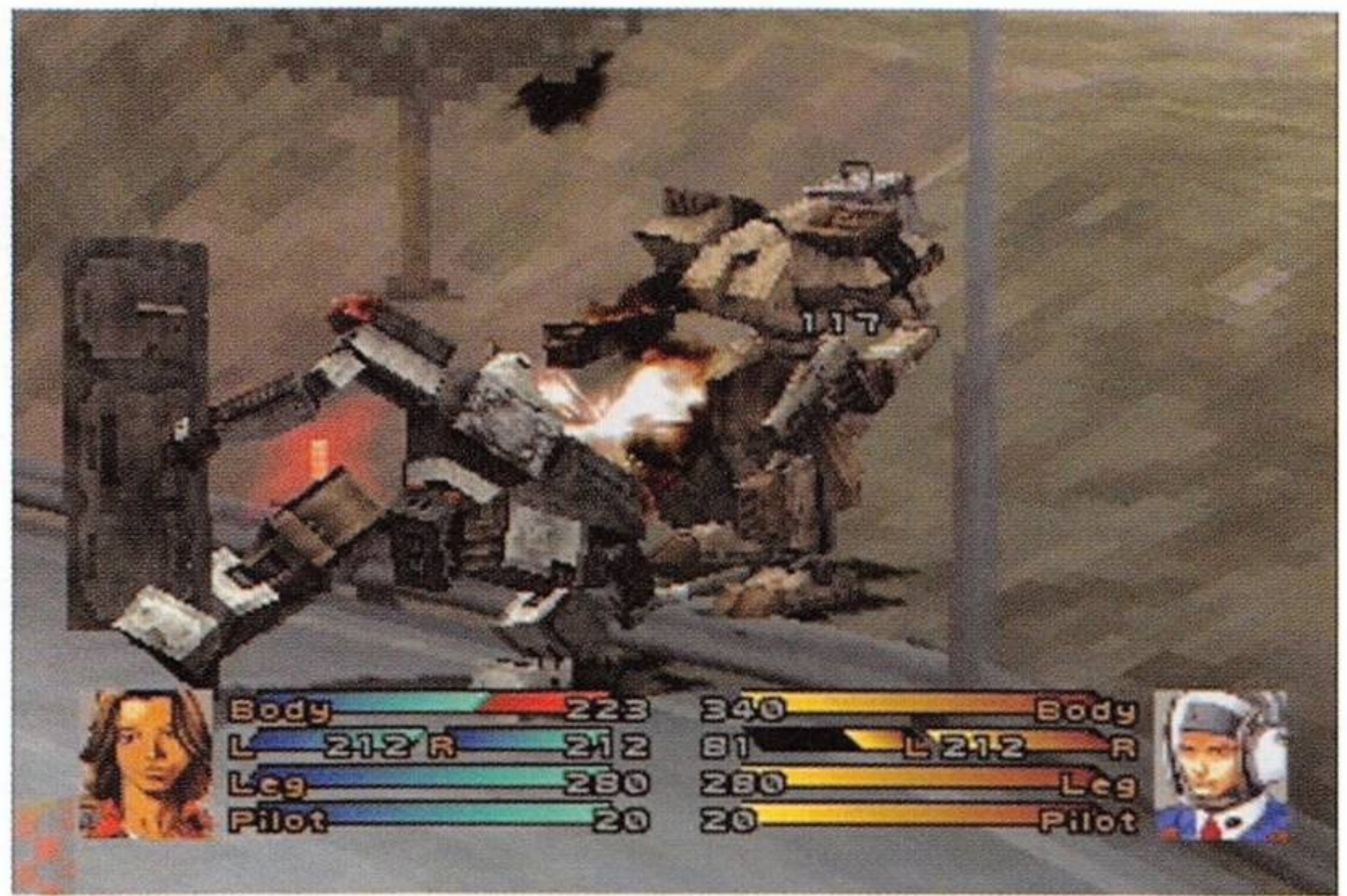
Format: PlayStation

Publisher: Square Europe

Developer: SquareSoft

Price: £35

Release: Out now



Missions are now shorter, with fewer Wanzers involved in the action, but the two intertwining storylines can still offer as many as 40-60 hours of play each

The tactical reliability of skills such as Zoom and Stun is undermined by the random way that they are used, even by experienced pilots



A simulated 'Internet' enables you to send mail, read up on background history, or even download pirated military software

Clamber inside that armoured exoskeleton and you're the biggest kid on the block; as hard as steel, with auto-cannons for arms. It doesn't take a psychologist to grasp the allure of mecha, a factor that transforms *Front Mission 3* into something more enjoyable than your average tank battle wargame.

The essence of the game's turn-based strategy roleplay has changed little since the series debuted on Super Famicom in 1995. Once described as an isometric *Shining Force*, the move-and-fire gameplay now bears contemporary comparison

with Konami's *Vandal Hearts*. A new Action Point system determines your ability to counter enemy attacks, and the price paid for *Front Mission 3*'s snappier skirmishes is that you're never given more than a handful of mechs to deploy on the battlefield.

The scenario focuses on the political instability of a new federal union in the Pacific Rim, with a credible near-future feel that's sadly undermined by some slow and often nonsensical plot development. The depiction of urban warzones is especially notable for its banality, perfectly underlining the extraordinary size and power of your Wanzer mechs by juxtaposing traffic cones, road signs and pleasingly destructible family hatchbacks. Once you escape the tutorials, the individual missions are sufficiently varied in objectives and special events that you can't help playing on to see what happens next.

So why is *Front Mission 3* still a disappointment? For some followers it would have to be the loss of industrial grittiness in favour of upbeat futurism, or the replacement of flashback-haunted mercenary characters with young, dislikeable college hotshots. Up to a third of your time can be spent in the configuration menus, customising your Wanzers, so others may regret the cartoon simplification

of those lovingly detailed hardware lists that used to make mission-interlude shopping so addictive.

A criticism of the series as a whole is that after just a few hours of play you'll have seen all the tactical possibilities at your disposal. There's none of the learning progression of wargames that gradually release more sophisticated units and abilities, so it's simply a matter of grasping the basics and applying them over and over. Given Square's pitch that this is an 'introductory level' instalment, newcomers will also find the unintuitive interface to rely on fathomless nested menus, while the screen shouts at you with so many frightening statistics that curious novices will drop the pad as quickly as if it had winked at them.

It may not possess the sophistication of *FF Tactics* or the cult status of *Super Robot Taisen*, but *Front Mission 3* offers a more dedicated, playable form of console strategy than any recent PC port. Quite how the mech fights remain so watchable after 100 identical exchanges is both a conundrum and a testament to the game's obsessive core appeal.



One of the more convincing elements of the game is how realistic the cityscapes are, and how they lend your mecha a real sense of scale

Edge rating:

Six out of ten

edge moves

Datascope

GAMES PEOPLE

PROGRAMMERS

Five programmers- Electronic Arts Canada; \$Can high

Famous for its sports games amongst others, this division of a world leading publisher/ developer is based in possibly the world's most beautiful city - Vancouver. We urgently seek five experienced games (of similar) programmers for a wrestling game. Salaries will be at a premium for this. Vancouver is a beautiful city and relocating there is, for many people, an opportunity of a lifetime. Ref: 1622

Platform Engineers & Games Programmers Central London; £40-£50k

This is a researched based company working on the next generation of multi-media enabled mobile phones. Think "broadband playstation in your palm". They are now doing an internet game for a dominant European online entertainment portal. They are looking for Engineers with advanced C++, strong object orientated design skills, knowledge of EPOC OS and/or ARM assembler an advantage. Strong academic grounding preferred. Ref:-1616

Programmers Buckinghamshire; £DOE

This company is one of the three leading companies producing games and other software for the emerging hand held software market. They are at the forefront of WAP technology. They are currently recruiting programmers of various levels. Strong C++ or Java needed. For team leader position, at least 3 years' experience is needed. A good degree in an appropriate discipline or sufficient experience to demonstrate the ability to solve complex problems is a prerequisite. Ref:-1619

Technology Engineer Cambridge; £25-30k

A leading edge 3D and AI technology group. They concentrate on artificial life games. The latest game is 3D in the same genre as Creatures. They need a technology Engineer to work on several PS2 and potentially X-box games. Three years' industry experience, C++ skills, Direct 3D and/ or Open GL and an understanding of how 3D rendering works at a low level. Ref:- 1587

Programmer Cheshire; £DOE+ benefits

Makes video games for SEGA, Psygnosis, Disney. Games include Toy Story, Muppets Racing and A Bugs Life. They are currently working on a PSX cartoon racing game. They are looking for a

programmer with industry experience, 3D background, strong maths/physics, DirectX, D3D. Ref:- 1598

Senior Team Leader Midlands; £40-50k

This company is headed by a veteran games man. They are working on a adventure sports game. This position is to spear-head three games for top end PCs, PS2 and X-Box. The games include: a snooker game with an internet feature, a driving game and a 3D space shoot-em-up game. This is a big position in a great company. Opportunities like this are rare and we only want the best people, please. Ref:-1466

Games Programmers- Bizarre Creators Liverpool; £DOE

This is the company that created the record-breaking Formula 1 game. They now focus on next generation consoles with games such as Metropolis Street Racer and Fur Fighters. We are looking for programmers of all levels with a passion for games. This is an exciting fun company. Ref:-1526

PRODUCERS

Senior Business Analyst London; £60

This blue chip company has ground breaking products in the pipeline and the backing of some of the UK's legendary games creators. The role is to research and analyse data in relation to gaming consoles, peripherals and console software within Europe. This is a senior position and is crucial to the launch of the company's product. Ref:-1559

International Product Development Manager London:£35 to £45+benefits

The great stockmarket internet success story. The company floated a few months ago to great acclaim. The company sells games via the web as well as other activities- hosting a community, playing games online and interactive TV. It is well run, financially solid and has a great future. It is headed by an industry legend. They are establishing themselves as a leader on-line distributor of games and requires an International Product Development Manager to fulfil this aim. The ideal candidate will have a project management background, a good understanding of internet technologies, enthusiasm for games and excellent communication skills. Another language would be useful. Ref:-1605

ARTISTS

Lead Artist either Sheffield or London: £DOE

One of the biggest game and interactive entertainment developers. With studios all over the world, and a number in the UK this company develops a range of AAA titles across genre and platforms. They are looking for a lead Artist to supervise the quality of the whole graphics elements of their games from initial concept design to final commercial mastering. 2D/3D experience, fluency in usual art tools and good experience of licensor constraints required. Ref:-1569

Various Artists Midlands; £DOE

This company are currently working on a First Person Horror Action/ Adventure game. There are currently 18 people in their development team and they are looking to expand. They need a character Modeler, a background Modeler and a Texture Artist all with 3D experience. Ref 1612

Artist x 2 Surry; £ DOE+ possible relocation fee

This is a brand new company with a pedigree backing. Their game is a fast-paced combat game set on a dynamic, morphable and beautiful world, where players develop tremendously destructive powers so that they can rip the world in two. We are looking for an Animator and a Senior Artist. Industry experience and bucket loads of talent essential. Ref:-1565

Artists Central London; £DOE

They are now an independent, highly regarded development group. They like well qualified, bright graduates. We need a real time graphic artist. The ideal candidate will have experience of using 2D and 3D packages, experience of modelling and texturing low/ medium poly and love of computer games! Ref:-1524

Artists Isle of Wight; £DOE

Based on the Isle of Wight this firm is developing exciting new games including the recent rave release, Carmageddon. They are famous for their extreme gameplay. New offices in July with lovely sea views. Excellent working environment. They need Artists at various levels for a project. Good 2D/3D skills, photoshop, illustrator and Maya, Ref:-1590

Contact **Julien Hofer** for programmers or **Paul Wilkes** for artists and others

Programmers £16-50k • Artists £10-40k
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YOU ONLY LIVE ONCE!

Twice would of course be better but the reality is that you get just one shot at most things in life. Career choices are often little different - ill-informed or poor choices can prove very costly. As the longest established (1989) and largest games consultancy in the UK we've been around long enough to know the good guys from the bad guys. By registering with us you can benefit directly from 11 years of hard earned experience. Why run the risk of a speculative or direct application to a company you may not have heard of or know little about? Allow us to represent your career interests - especially as many well known companies now use our services exclusively. If we aren't aware of you, quite simply you cannot be considered for these or many of our other unadvertised opportunities.

PROGRAMMERS

C/C++ programmer £30K + royalties London Highly innovative organisation with exciting new genre. Experience in progressive meshes, metaballs advantageous. Knowledge of highly optimised algorithms via research of generating organic forms is absolutely ideal. Ref - D:BDH/P

Programmers/Senior Programmers £30-50K Basic+royalties+Pre ipo Share options Market leader in mobile entertainment, seek very best to join highly talented team developing games for next generation broadband hand held devices. Highly attractive opportunity and salary package. Be part of the revolution! Ref - D:CHD/P

C/C++ Java Programmer £Neg+ Forthcoming share options South East Develop on line games for blue chip multinational emphasis on FUN and playability - typical product lifecycle 5-6 months. Newly qualified graduates considered. Ref - D:JF/P

INTERNET ONLINE PROGRAMMER £35K - £40K + Bonuses North Multiplayer space game for famous publisher. DirectX and industry experience essential. AI beneficial. Ref - CGA:P

XBox Xbox Xbox - many requirements nationally. Possibly one of the best career moves you'll make - just do it.

C,C++ PROGRAMMER £30K - £40K Basic North London Interactive TV project. Exciting growth area. Knowledge of user interfaces and plug in's advantageous. Ref - CGC:P

COLOUR GAMEBOY PROGRAMMERS - Many vacancies nationally and a few internationally. Advance work and some home based options.

3D SOFTWARE DEVELOPERS £ Excellent South East England, Sunny California & Texas Possibly the greatest 3D graphics company on the planet wish to "Hire" Programmers with DirectX and Open GL. Immediate openings. Create great content working in conjunction with external developers.

PC/XBOX PROGRAMMER £30K - £40K London Innovative original company with unique strategy action product. Jaw dropping graphics. New DirectX project. Ref - EH:P

PLAYSTATION/3D PROGRAMMER £40,000 Basic + Bonus Leeds Action adventure genre. Newly created role. Exclusive and unadvertised. Ref - BJJ:P

C++/AI PROGRAMMER £16K - £30K South East PC strategy product. Sequel to best seller. Multi player/network coding beneficial. Experienced directors, great working atmosphere. Newly qualified graduates considered. Ref - CCJ:P

INTERNET PROGRAMMERS £40K - £50K + Stock Options Central London Unbelievable opportunity for C++, Java developers with games and internet background or interest. Superb benefits include action outings, adventure trips, free tickets for the footie, celebration parties, training courses in exotic locations etc. Work hard play hard ethic, plus one of the best working environments around and flexible hours. Exclusive Ref - CDJ:P

AI PROGRAMMER £30K - £32K + Royalties London New cutting edge technology company seek background in evolutionary AI/Biology, fuzzy logic, route finding, flocking etc. Excellent opportunity to assist design and implement own comprehensive AI system. Ref - BDH:P

PLAYSTATION 2 PROGRAMMERS Project and vacancy notifications now coming through thick and fast. Call now and acquire valuable "next gen" skills.

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ARTISTS

3D Studio Max Artist £17-25K Somerset Expanding multimedia company with a learning /training bias. Great location. Leave the city behind. Ref - D:BHJ/A

Stylized Artist C25K London Unique artist oozing a distinctive style required for developing unusual environments and life forms. New V.C. funded co with genius designer Ref - D:BDH/A

Traditional Animators £Neg London If you can animate this company will train on computers. Rare opportunity to address market shift to 3D computer graphics. Ref - D:BA/A

3D Studio Max Artist £28-30K London Sci-fi project for Playstation 2. New title famous developer. Exclusive. Ref - D:BGH/A

2D ARTISTS - Lots of opportunities Nationally for Gameboy, WAP Graphical content for Mobile devices, and general in game texturing work.

LEAD ARTIST (Cartoon Style) £25K - £32K London New office of established Northern developer. Emphasis on quality with in-depth knowledge of the cartoon/animated games universe. Ref - CGJ:G

GRAPHIC ARTIST £18K - £28K + Profit Share + Pension + Royalties North West Playstation2 game. Nurbs/Polygon modelling skills sought. Small friendly working environment set in Countryside. Ref - JD:G

ANIMATOR £35K - £40K London Small development studio with affiliation to high profile industry visionary. Highly talented team. Ref - BDF:G

3D STUDIO MAX ANIMATOR c£30K + Benefits Yorkshire Every product ever produced a number one - a class act. RPG/adventure genre defying game. Very talented creative team. Beautiful location. Ref - CBB:G

MAYA/ALIAS ANIMATORS £25K - £30K + Bonuses London Sequel to best seller. Mo Cap knowledge beneficial. Large, secure and well respected organisation. Ref - CCJ:G

MANAGEMENT

EXTERNAL AND INTERNAL PRODUCERS £Neg North and Scotland Fancy a change? Why not try the on line/hand held sector? Several clients seek game production experience and good Man Management skills. Ref - CHA:M

Creative Producers, £Excellent + probable share options. London Visionary company with strong focus. TV or games production experience ideal for the new interactive TV world. Key role in production team for English content for a global market. Ref - D:BHB/P

Project Managers/Producers (X2) £40-50K+Royalties+Pre IPO Share options Market leader in development of technology and games for mobile platforms require ambitious games producer with strong leadership & organisational skills. Superb opportunity with package to match. Ref - D:CHD/P

Producer, £30-35k + co. car + bonuses. Midlands. Sports brand management company, with rights to major world events. Key role. Prestigious group. Self motivated & dedicated professional needed. Ref - D:CHE/P

Senior Producer £Neg+"large Co" benefits London Industry experience essential for well respected leading global player. Major licensed within group. Streetwise professionals needed now! Ref - D:131/P

SENIOR PRODUCER £ to late 30's + Bonus + Benefits Yorkshire Internationally renowned organisation working on multiple platforms including Xbox and Playstation2, require experienced Producer to manage projects in a variety of genres including major prestigious licences. New requirement. Ref - BDB:M

PRODUCERS £Neg South East Totally original product with visually stunning graphics. Creative flair needed, preferably with design exposure. Talented team. Ref - EH:M

PROJECT MANAGERS/PRODUCERS/SENIOR MANAGERS £High + share options (typically) Lots of exciting new opportunities (mainly southern based) for games managers seeking career move into New Media, WAP, Mobile platforms Etc.

EXECUTIVE PRODUCER £35K - £40K North Internal and external responsibilities. Senior role working with some of the best known licences in the business. Ref - BDB:M

OTHERS

Designers/Level Designers £16-25K North Flair for creative writing needed for PS2 character based action product. Small team environment. Well funded co. Ref - D:BFC/D

LEVEL/GAMES DESIGNERS (X3) £16K - £28K + Bonuses London New project. RPG/RTS genre. Company are a splinter group from a major publisher with own autonomy and budget, working on their second project. Creative individuals with good ideas and commercial acumen required. Ref D:CH:O

GAME DESIGNERS £40K - £45K + Bonuses Midlands Experienced creative ideas people sought by successful profitable developer with a string of number one hits to their credit. Project Managers, Producers and existing Designers alike all favourably considered. Ref - ED:O

OVERSEAS

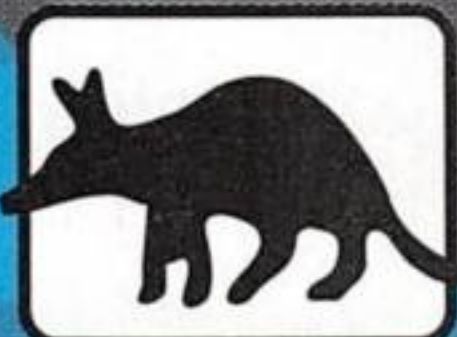
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LEAD PROGRAMMER - SOUTH £TO 40K
Fluency in C/C++ and a proven track record in the games industry are a must. Strong maths, 3D and physics skills are vital and experience of leading a team at a senior level is preferred. REF: 0109P30

SENIOR PROGRAMMER - LONDON £TO 40K
Three years experience and at least one successful title to your credit are required. An ability to make a difference will set you aside from the rest of the bunch. REF: 0109P25

PSX/PSX 2 PROGRAMMER - NORTH £NEG
Joining a highly experienced team, you'll be required to exhibit strong C and C++ skills as well as some assembler knowledge. Previous games industry experience is a given as is enthusiasm. REF: 0109P18

PROGRAMMERS - MIDLANDS £TO 35K
PC and Console programmers with a minimum of 2 years industry experience and 1 published game are wanted. Assembler and C experience is beneficial. A grounding in console development a distinct advantage. REF: 0109P17

ARTISTS

ARTIST - NORTH £25K+
Low polygon modelling and strong texturing skills are essential for this role. Your 3DS Max and Photoshop experience will be put to great use in this challenging and exciting environment. REF: 0109A03

ANIMATOR - MIDLANDS £TO 35K
An animator with experience of working on at least one AAA title and an ability to demonstrate good all-round artistic skills is required. An understanding of the limits of consoles in the creation of 3D graphics is essential. REF: 0109A02

3D ARTIST - SOUTH £30K+
A visionary modeller with texturing and basic animation skills is necessary for this position with ambitious developer. A strong working knowledge of both 3DS Max and Photoshop would be highly beneficial. REF: 0109A10

MAYA ANIMATOR - LONDON £NEG
Multi-platform developer seeks Maya Animator with a strong portfolio of published products to show. Previous games industry experience is expected, as is demo reel of your previous work. REF: 0109A13

PROJECT MANAGERS/ PRODUCERS

PROJECT MANAGER - SOUTH £35K+
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PRODUCER - NORTH £TO 40K
Experience of managing small teams, preferably for at least a couple of years, is a skill required for this post. An ability to motivate, good communication skills and an analytical approach to problem solving would help. REF: 0109PE007/008

SENIOR PRODUCER - LONDON £NEG
Previous experience of managing teams and projects is essential for this role. Ideally you will have an understanding of the technical processes involved in developing a game from concept to completion. REF: 0109PE006

PRODUCER - SOUTH £30K+
An experienced Producer is required to lead a team developing an arcade product for the next generation of consoles. As expected, it would be essential for you to have good communication skills and an ability to solve problems. REF: 0109PE002

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JAVA PROGRAMMER - LONDON £30K+
Must have production proof experience of the following technologies: Java Server Pages, Servlets, Sockets/Network programming and JDBC essential. Excellent demonstrable skills in HTML, Javascript and other web scripting languages. REF: 0109P31

WEB DEVELOPER - LONDON £NEG
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HTML DEVELOPER/DESIGNER - SOUTH £TO 30K
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WEB MASTER - LONDON £TO 30K
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For more information please contact Paul Chapman or Terry Haynes on 020 8423 3400

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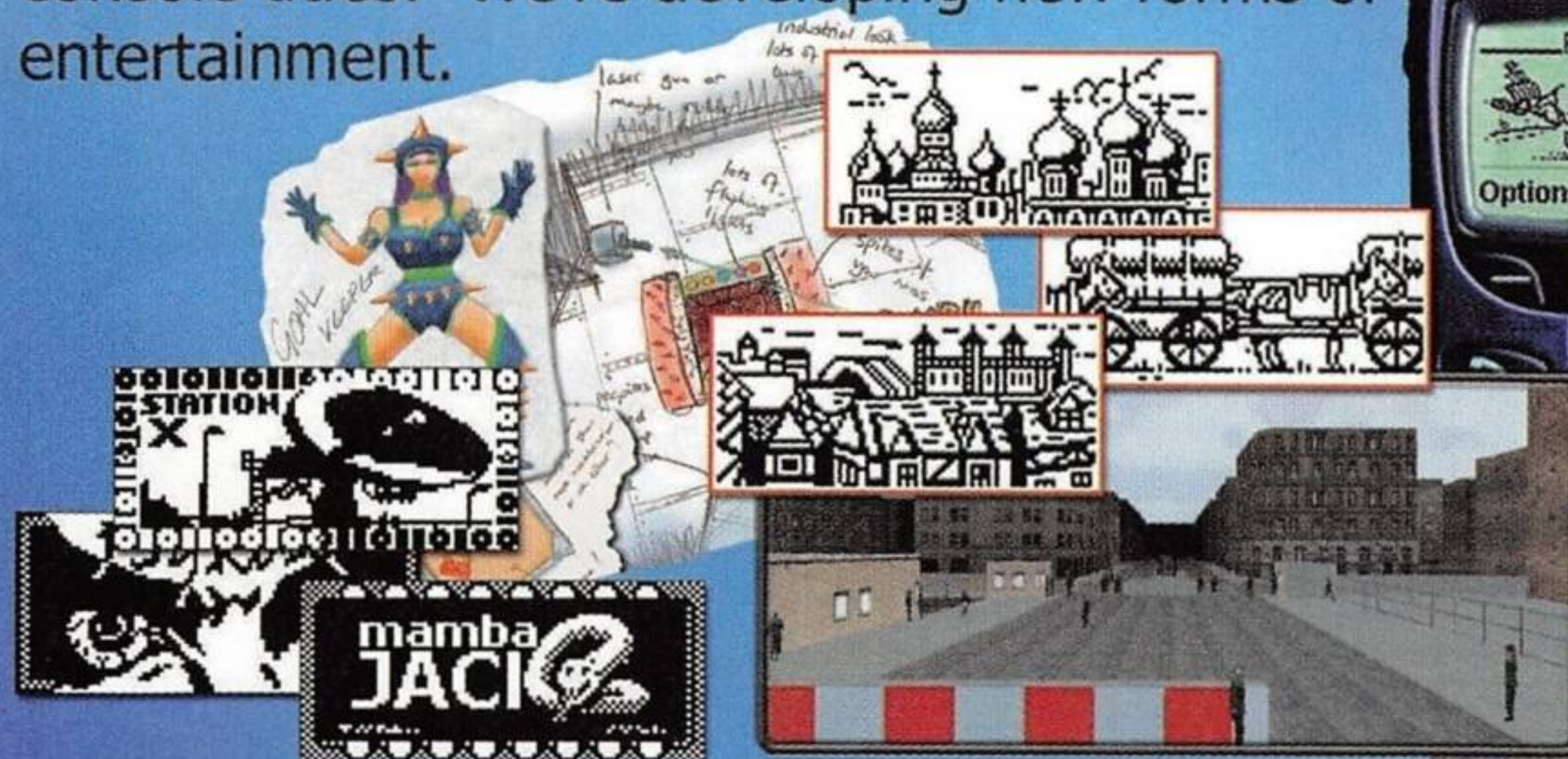
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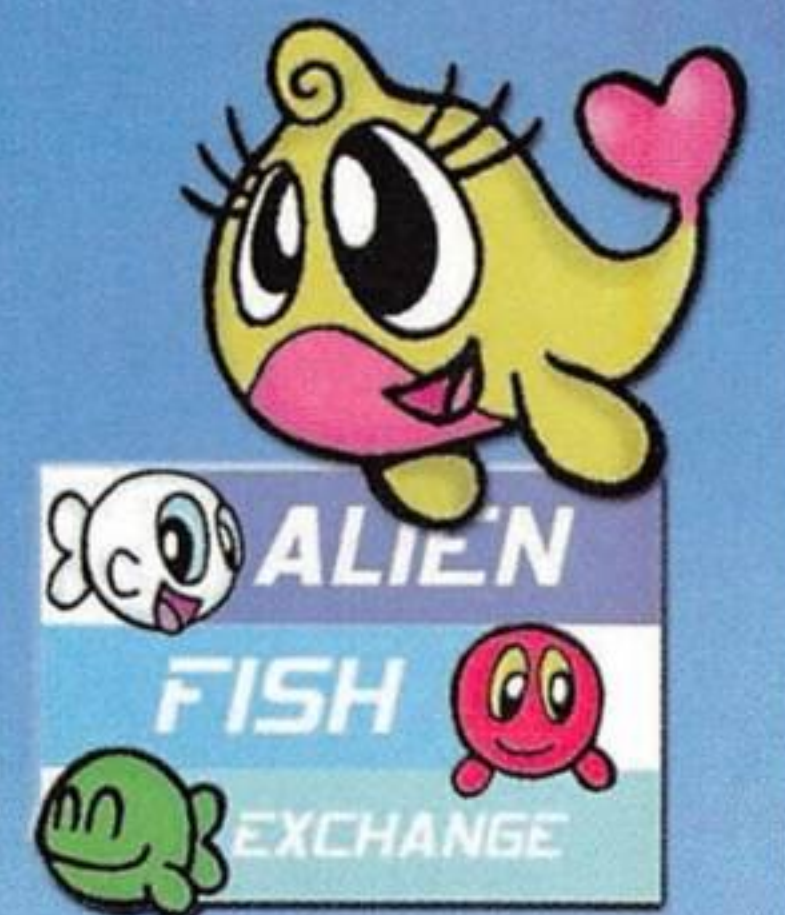
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You will design games and interactive content for digital TV, mobile phones, and Web. Originality and enthusiasm are as valuable as experience. Cambridge. Salary negotiable.

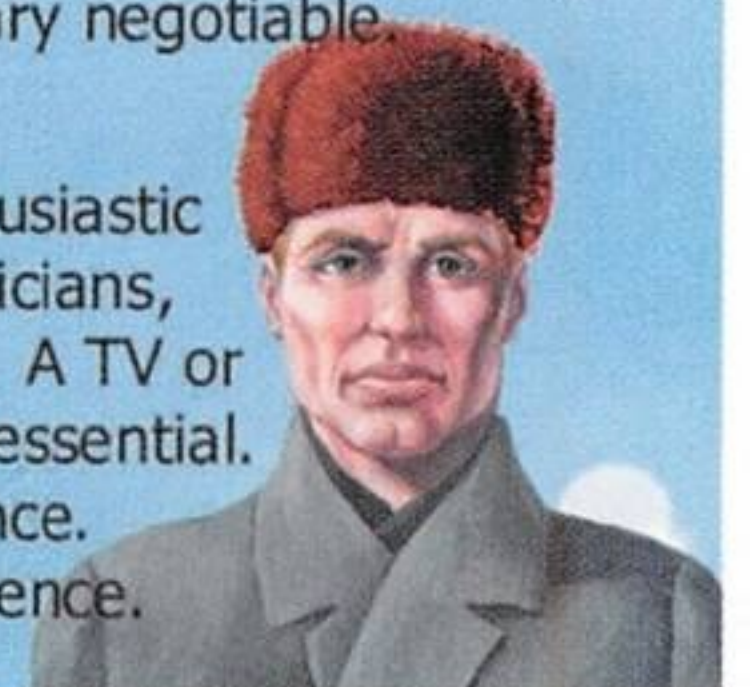
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You will be responsible for sales of nGame content to telcos, TV channels, and other media outlets worldwide. Experience essential. Cambridge or London. Salary negotiable.

We're also looking for innovative, enthusiastic artists, animators, writers, video technicians, software engineers and programmers. A TV or media background will help but is not essential. Cambridge, work from home or freelance. Salary dependent on ability and experience.



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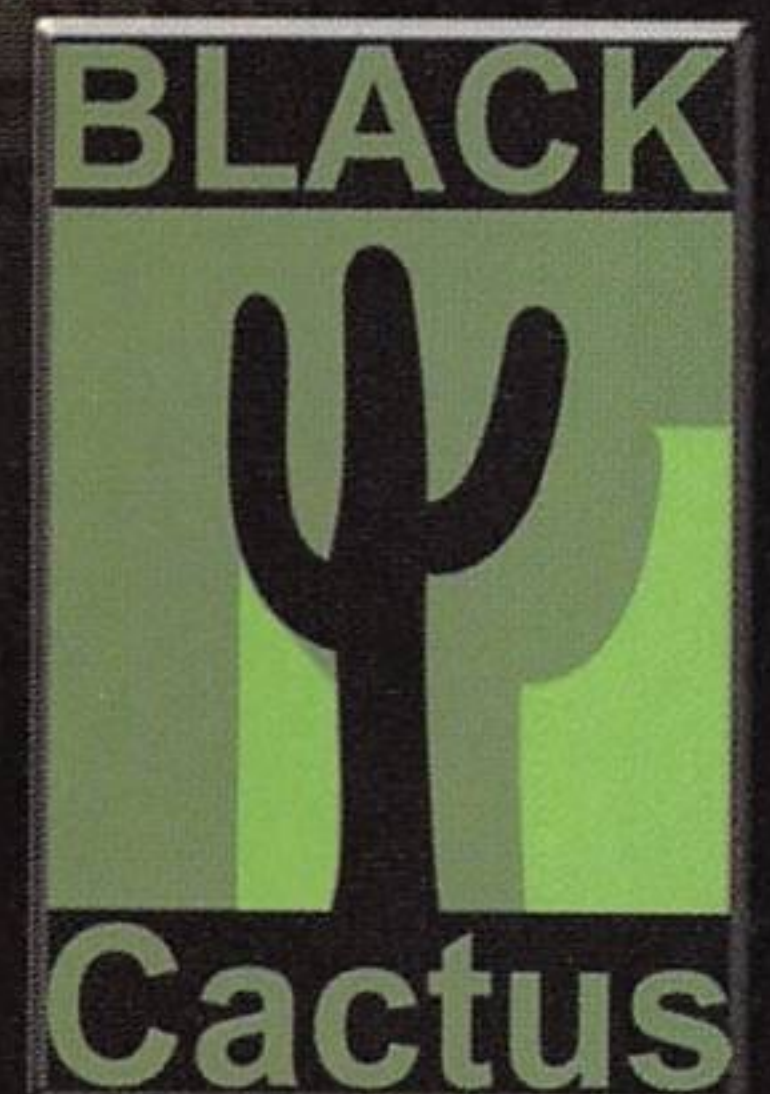
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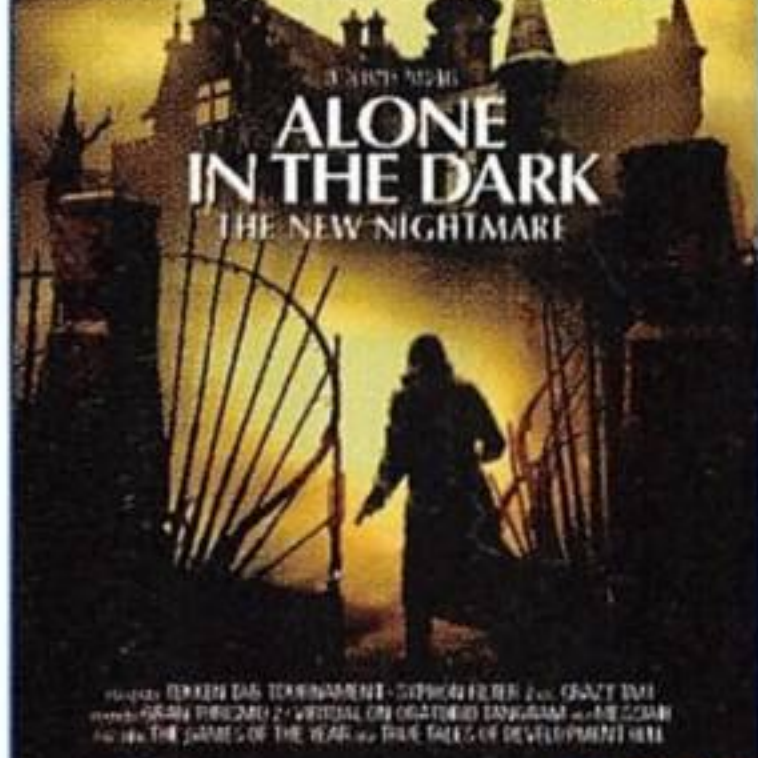
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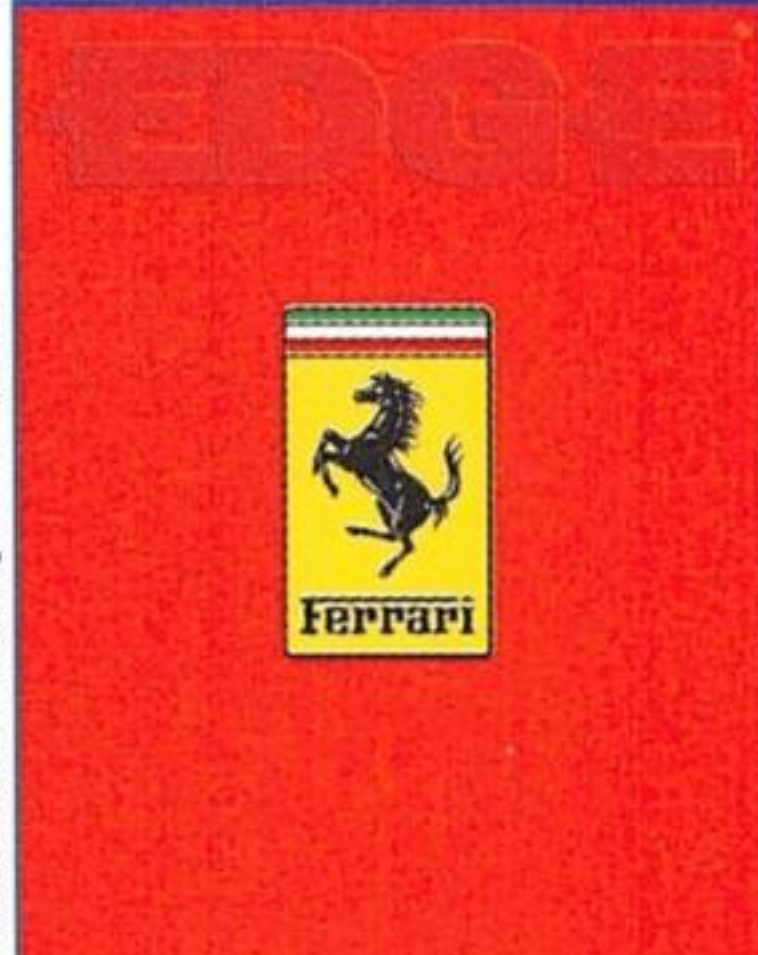
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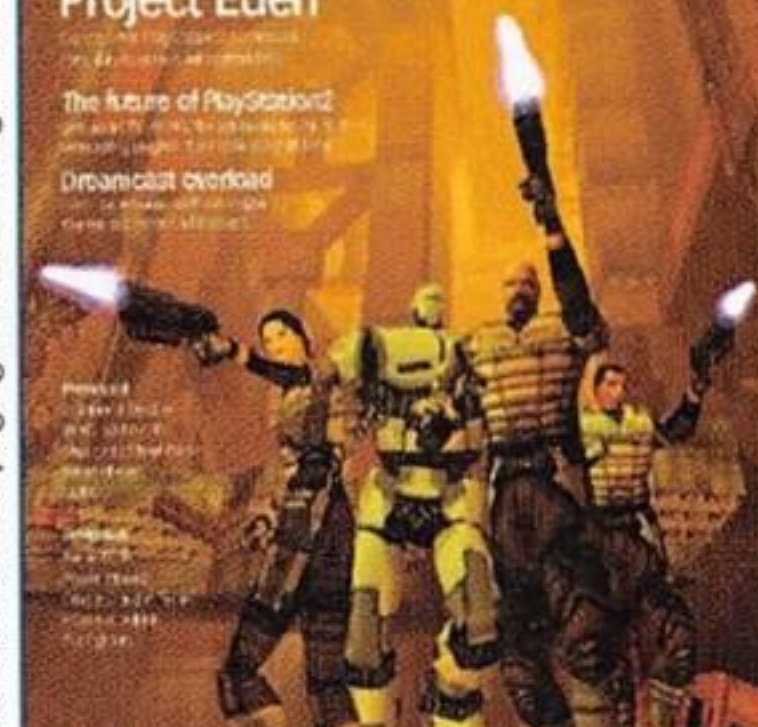
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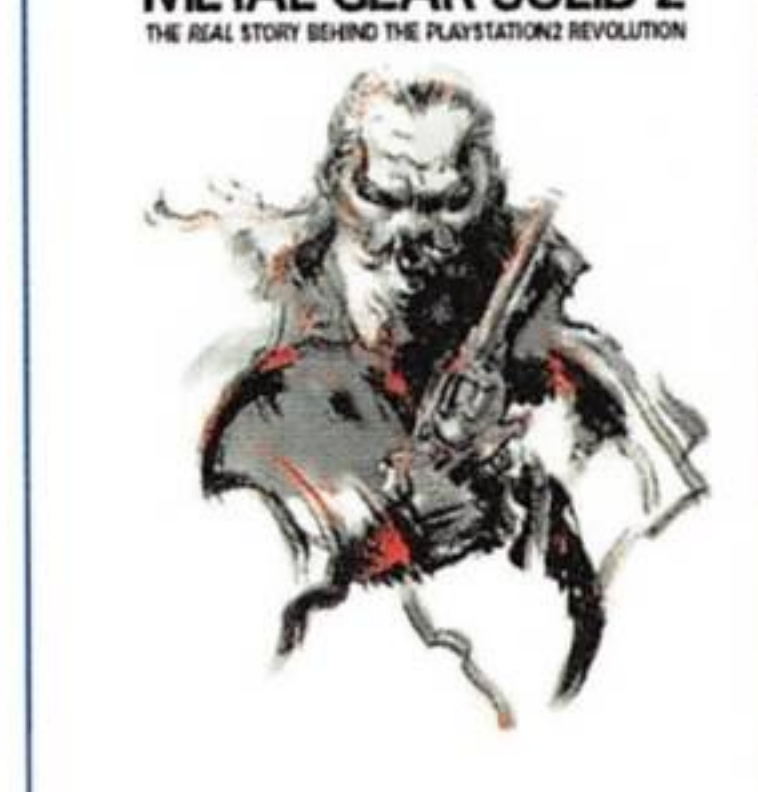
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ISSUE 81 FEBRUARY 2000

News Dreamcast spearheads Japan's set-top revolution; PlayStation sales triumph; VM Labs announces hardware partners; Elixir and MathEngine's play-as-you-learn plans revealed
Prescreen *Syphon Filter 2*; *F1 2000*; *MediEvil 2*; *Beetle Crazy Cup*; *Evolva*; *Devil Inside*; *Crazy Taxi*
Prescreen focus *Tekken Tag Tournament*; *Alone in the Dark IV*
Testscreen *Gran Turismo 2*; *Virtual On Oratorio Tangram*; *Messiah*; *Quake III: Arena*; *Jo Jo's Bizarre Adventure*; *SFIII: W Impact*; *Space Channel 5*; *Maken X*; *Runabout 2*
Features Edge's guide to the games to watch in 2000; true tales of development hell

ISSUE 82 MARCH 2000

News Square unveils ambitious plans for its online future. On the eve of PS2's launch, Nintendo talks Dolphin. Plus a full report from the ATEI show
Prescreen *Power Stone 2*; *Driving Emotion Type-S*; *Perfect Dark*; *Ground Control*; *Carmageddon TDR2000*; *Evergrace*; *Micro Maniacs*; *Thief 2: The Metal Age*
Prescreen focus *Speedball 2100*; *Shenmue*
Testscreen *The Sims*; *Nox*; *Crazy Taxi*; *Rollcage Stage II*; *Beetle Crazy Cup*; *Berserk*; *Mario Party 2*
Features The Edge Awards 2000 salutes the cream of the crop; Size matters – Edge explores a new trend in gaming, the explosion of bulky titles and the due ramifications on videogaming

ISSUE 83 APRIL 2000

News In a month of shows, Edge reports from Tokyo's PlayStation2 Festival and details plans for the console's European release; Milla 2000 show report; Infogrames chief calls for games shrinkage
Prescreen *In Cold Blood*; *Star Wars Racer*; *Vanishing Point*; *World Touring Cars*; *Deus Ex*; *Carmageddon TDR 2000*; *Project IGI*
Prescreen focus *Rieselled*; *Commandos 2*; *Heart Of Stone*; *Praetorians*
Testscreen *Biohazard Code: Veronica*; *Syphon Filter 2*; *Sega GT Homologation Special*; *Micro Maniacs*; *Fear Effect*
Features Edge meets the new wave of US dev talent; the art of storytelling examined

ISSUE 84 MAY 2000

News Microsoft unveils its X-Box technology – Edge was there to see it in action; full report on how the PlayStation2 launch rocked Tokyo; Sega steals limelight at the spring Tokyo Game Show
Prescreen *Time Splinters*; *World Sports Cars*; *Wipeout Fusion*; *Dropship*; *Mujura's Mask*; *Tokyo Highway Battle 2*; *Eldorado Gate*; *Star Wars Racer*; *Vagrant Story*; *Virtua Tennis*
Prescreen focus *Jet Set Radio*; *Phantasy Star Online*; *Samba de Amigo*; *Ferrari 360 Challenge*
Testscreen *Tekken Tag Tournament*; *Street Fighter EX3*; *Ridge Racer V*; *Fantavision*; *Dead or Alive 2*; *MDK2*; *Evolva*; *Soldier of Fortune*; *Strider Hiryu 1&2*; *F1 2000*

ISSUE 85 JUNE 2000

News Sega Europe outlines Dreamcast online plans; new research into possible links between violence and videogames; new wave of PC 3D video cards; BT to launch broadband service
Prescreen *Metropolis Street Racer*; *Seven Blades*; *Mario Tennis 64*; *Commandos 2*; *Street Fighter III*; *Project IGI*; *Final Fantasy IX*; *Tony Hawk's Pro Skater 2*; *MoHo*; *Alien Resurrection*
Prescreen focus *World Sports Cars*; *Shadow of Destiny*; *Project Eden*
Testscreen *Perfect Dark*; *Driving Emotion Type-S*; *Powerstone 2*; *Fur Fighters*; *Ecco the Dolphin*; *Dogs of War*; *Shogun*; *Kirby 64*
Features Sony's Phil Harrison talks PlayStation2

ISSUE 86 JULY 2000

News X-Box specs are ramped up; new technology for Sega coin-ops; *MGS 2* stuns E3; interim online solution for PS2; Sega shake-up; Dreamcast bleem!; Molyneux to quit PC for X-Box
Prescreen *Stunt Squad*; *SRC*; *Silent Scope*; *Stunt GP*; *Deus Ex*; *Evil Twin*; *Planet Of The Apes*; *F1 WGP II*; *Vanishing Point*; *Virtua Tennis*
Prescreen focus The team behind *Metal Gear Solid 2* tells all; Edge sees Liquid RTS *Battle Realms*; the *7 Blades* team talks cinema in games
Prescreen specials The Edge report on how PlayStation2, PlayStation, Dreamcast, PC and N64 fared at the Electronic Entertainment Expo
Testscreen *Vagrant Story*; *Colin McRae Rally 2.0*; *Excitebike 64*; *In Cold Blood*; *Daikatana*; *Super Runabout*; *Samba de Amigo*

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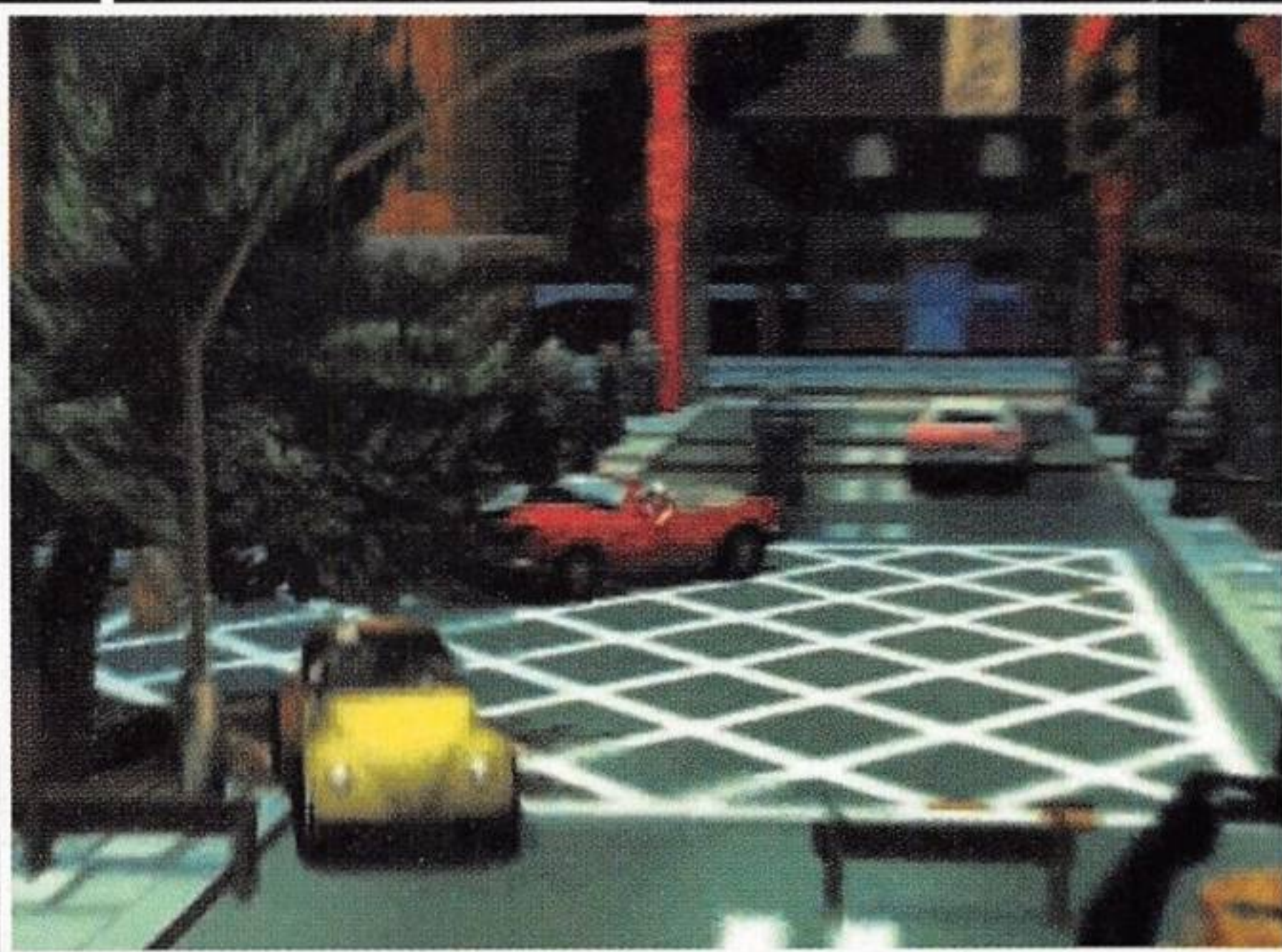
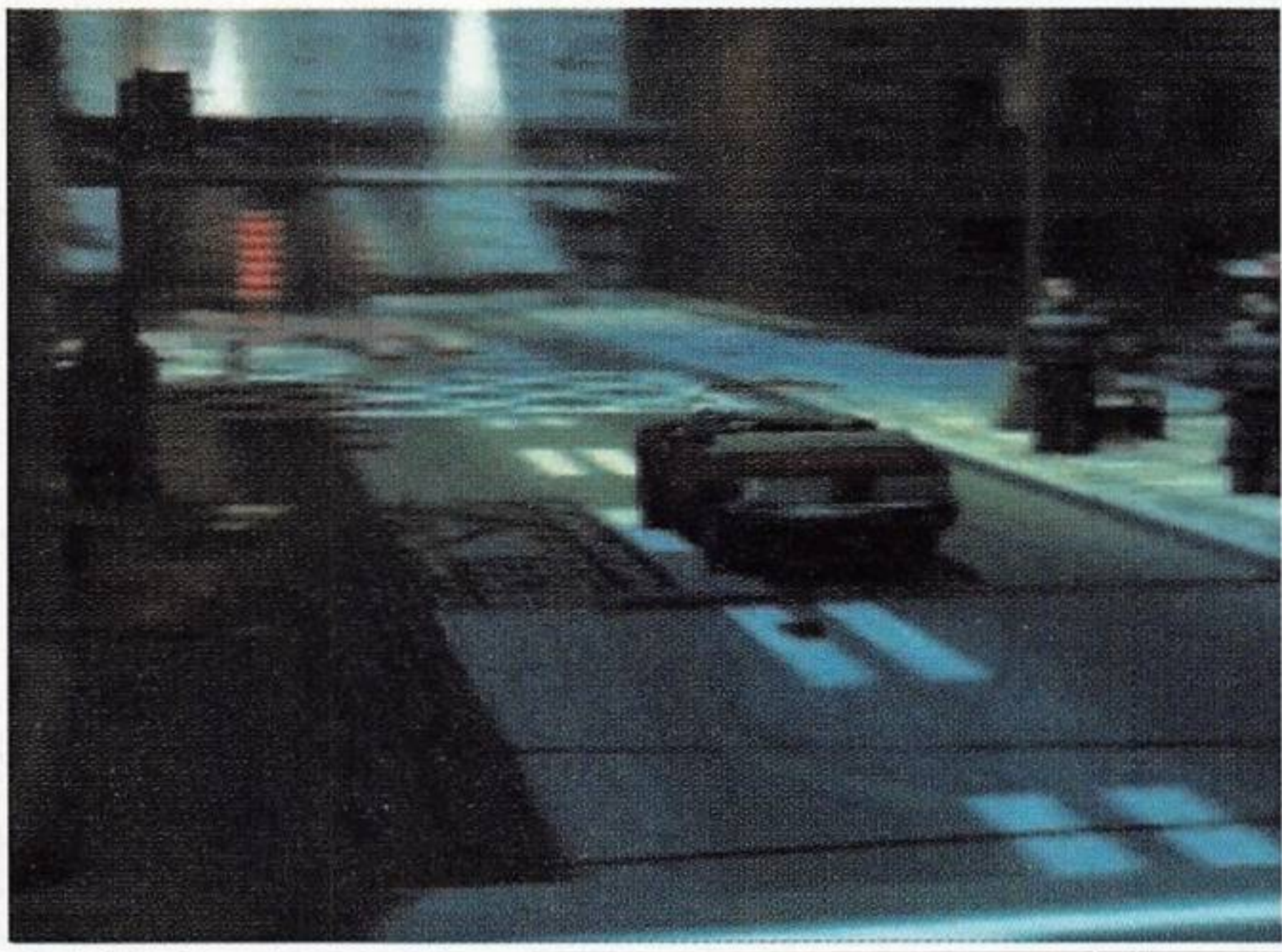
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RED VISION



sharp minds

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Your challenge, working with our graphic artists, will be to produce plug-ins for 3DS Max, Maya, SoftImage and Lightwave to integrate with the RenderWare runtime to produce ground breaking real-time graphics. You must therefore be creative and customer focused with strong C or C++ programming skills, and a clear understanding of 3D graphics. Appreciation of the needs of the games industry will be useful.

SPECIAL EFFECTS DEVELOPER £25-35K

You'll be at the heart of the core RenderWare development team and will design and implement state-of-the-art graphic effects for current and next generation games platforms (such as PlayStation® 2 or other next generation games). Superb C programming skills and 3D graphics knowledge will be backed by real commitment. If you read Siggraph papers in bed – you'd be perfect. And if you have a games background so much the better.

ENGINE DEVELOPER £20-35K

Working alongside the best developers in the business, you'll help drive the development of the next generation RenderWare product, market leader in its sector. You'll need outstanding C programming and 3D graphics skills, possibly gained in the games sector.

SENIOR ARTISTS £25-35K

Your challenge is simple. To produce state-of-the-art graphics on next generation platforms working closely with our Applications Development Engineers. We want you to push graphics techniques to the limits so you must be innovative and commercially focused. Experience of either 3DS Max, Maya, SoftImage or Lightwave is essential and a games or movie industry background would be an advantage.

There are superb rewards for all these roles including an attractive salary that you'll find hard to match plus a range of other attractive benefits. As for the prospects, they're outstanding as you'll be part of a world-leading 3D graphics technology company that's part of Canon Inc.

To learn more visit www.csl.com/sharpminds

Think one of these roles would suit you? Then please e-mail your CV to chrisc@recallrecruit.com, telling us which role(s) you are interested in. We'll reply with an application pack including further details of these exciting new positions and how to apply.

PlayStation is a registered trademark of Sony Computer Entertainment Inc.

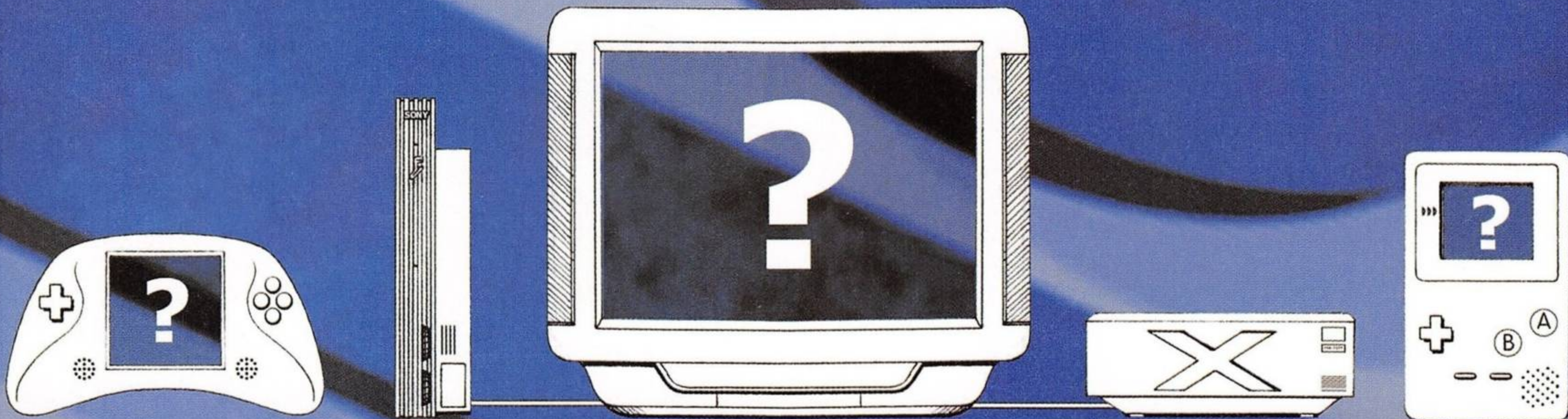


HotGen Studios are hiring...

...the following people to work on original high profile titles and major licensed properties

Programmers
Artists
Animators
Modellers
Game Designers
Producers
Associate Producers

Can you fill these spaces...



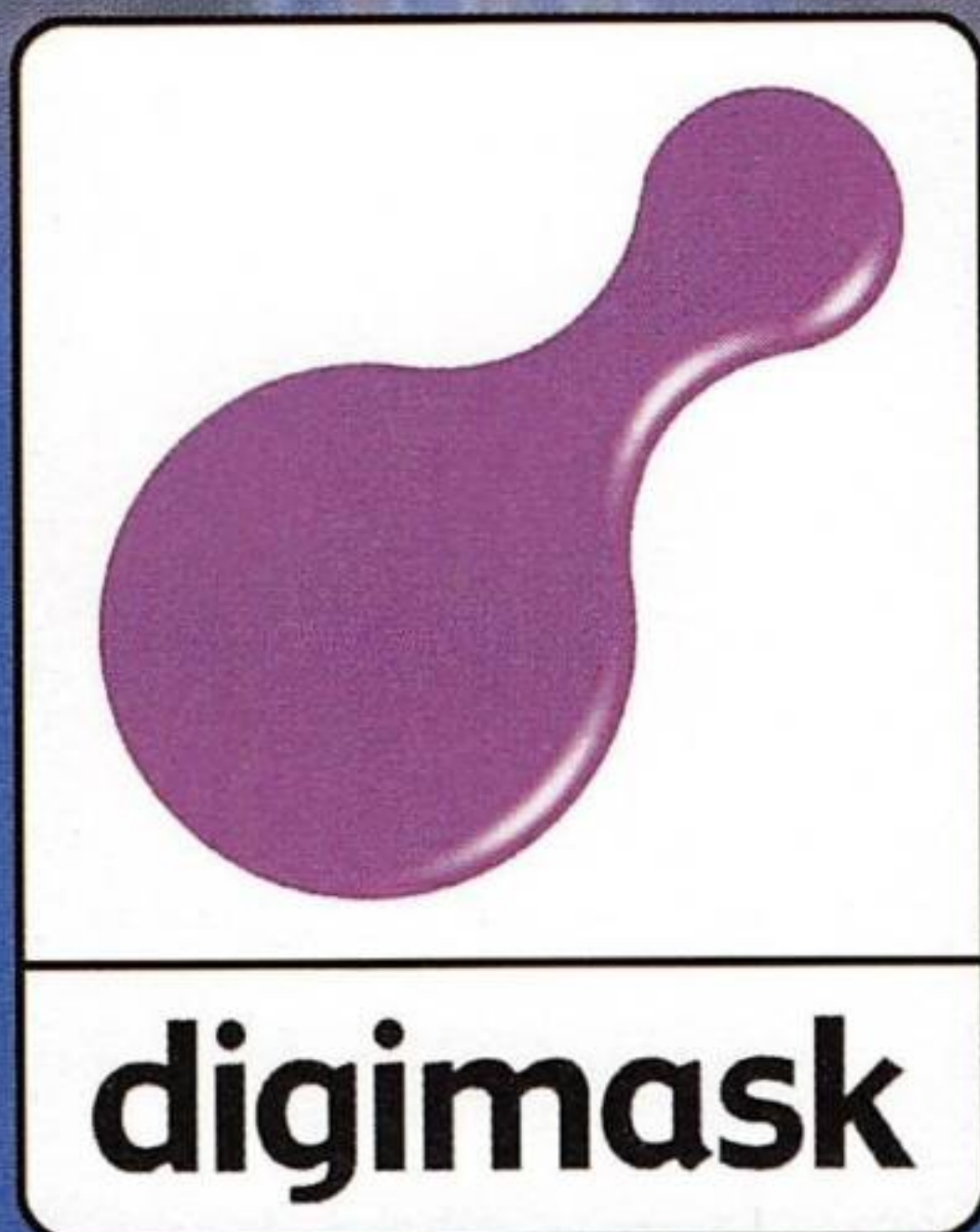
To apply, please send a CV and/or work examples to: Human Resources, HotGen Studios Ltd, NLA Tower, 12-16 Addiscombe Road, Croydon, Surrey, CR0 0XT, United Kingdom, or e-mail us at: jobs@hotgen.com.



Competitive salary plus benefits for succesful candidates.

Datascope

GAMES PEOPLE



Programmers S W London: various levels: £20-45k

Digimask, a new company that's rapidly growing, is headed by three of the most influential personalities in the UK games industry. They specialise in 3-d facial capture, modelling and animation technology for games, web sites and other applications. The excitement and publicity surrounding their product has raised their profile significantly in the past few months. They are seeking researchers and software engineers to further develop their technology. Skills in which they are interested include surface modelling, advanced animation and 3-d web plugin exporters. This is a fantastic opportunity to be involved in the creation of a genuinely innovative and world class product.

You must, please, send your CV to Julien Hofer at:

Datascope Recruitment
104 Great Portland Street,
London W1N 5PE

Tel: 020-7580 6018
Fax: 020-7580 6068
E-mail: info@datascope.co.uk

For many more job opportunities please visit:
www.datascope.co.uk

DATASCOPE
RECRUITMENT

Datascope

GAMES PEOPLE



WAP and Internet games, Surrey £18-30k

This is the on-line games division of Canon. They create downloadable fun, action packed and simple games. The beauty is that 6 months after joining them, your game could be a massive hit! But you have to be very bright, innovative and fast. (And, incidentally, the company is going to float and this will add to the excitement). We now have the following opportunities at various levels ranging from £18k for graduates to £30k for people with experience:

On-line Games Programmer

We need C/C++, games experience and ideally Java. This is actually a fabulous opportunity to become really influential, really quickly!

Web Developer

We want someone to join forces with the Website Co-ordinator to develop and maintain the company's web site. You must have passion for the Web and Games and able to react quickly and efficiently under pressure in a team environment. At least 1+ year of commercial web experience is required.

*Applicants will only be considered via Datascope.
You must, please, send your CV to David Rowden at:*

Datascope Recruitment
104 Great Portland Street,
London W1N 5PE

Tel: 020-7580 6018
Fax: 020-7580 6068
E-mail: info@datascope.co.uk

For many more job opportunities please visit:
www.datascope.co.uk

DATASCOPE
RECRUITMENT



Manchester Sheffield Leeds

We are currently looking for the following staff to compliment one of the largest internal development facilities worldwide. You will work on challenging and exciting games for both the current and next generation platforms in an excellent office environment.

We are one of the most dynamic and fastest growing companies in the industry offering clearly defined career paths for all employees. An excellent remuneration package is on offer including an *Attractive Salary* as well as a *Completion* and *Product Performance* related *Bonus Scheme*. A range of benefits including a *Pension Scheme*, *Life Assurance*, *Private Medical Care*, *Permanent Health Insurance* and *Critical Illness Insurance* are also provided.

EXPERIENCED PROGRAMMERS

We are looking for experienced programmers with at least one published title to their name. Both extreme tech-heads and team leaders with management and coding skills should apply.

ARTISTS

We need both 2D and 3D artists. 2D artists should have experience in Photoshop, Illustrator or similar packages. For 3D artists experience in 3D Studio MAX, Maya or another major 3D package is essential. A good portfolio is crucial and ideally should be submitted on CD or VHS with the application.

DESIGNERS

You will have a fantastic understanding of games, good communication skills, an annoying eye for detail and the ability to describe the indescribable. You should submit either a preliminary game design or a critique of an existing game with your application.

PRODUCERS

Producers will have experience of people management and/or project management, but not necessarily from within the games business. You'll love games, be able to motivate people and have the ability to solve complex problems - all in your lunch hour!

If your career's stalled and you're looking for new opportunities we have positions open in Manchester, Sheffield and Leeds. Opportunities also exist in France, Australia and the USA.

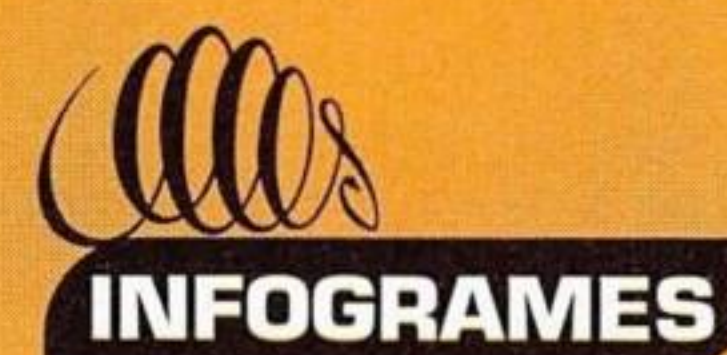
CV's and portfolios to:

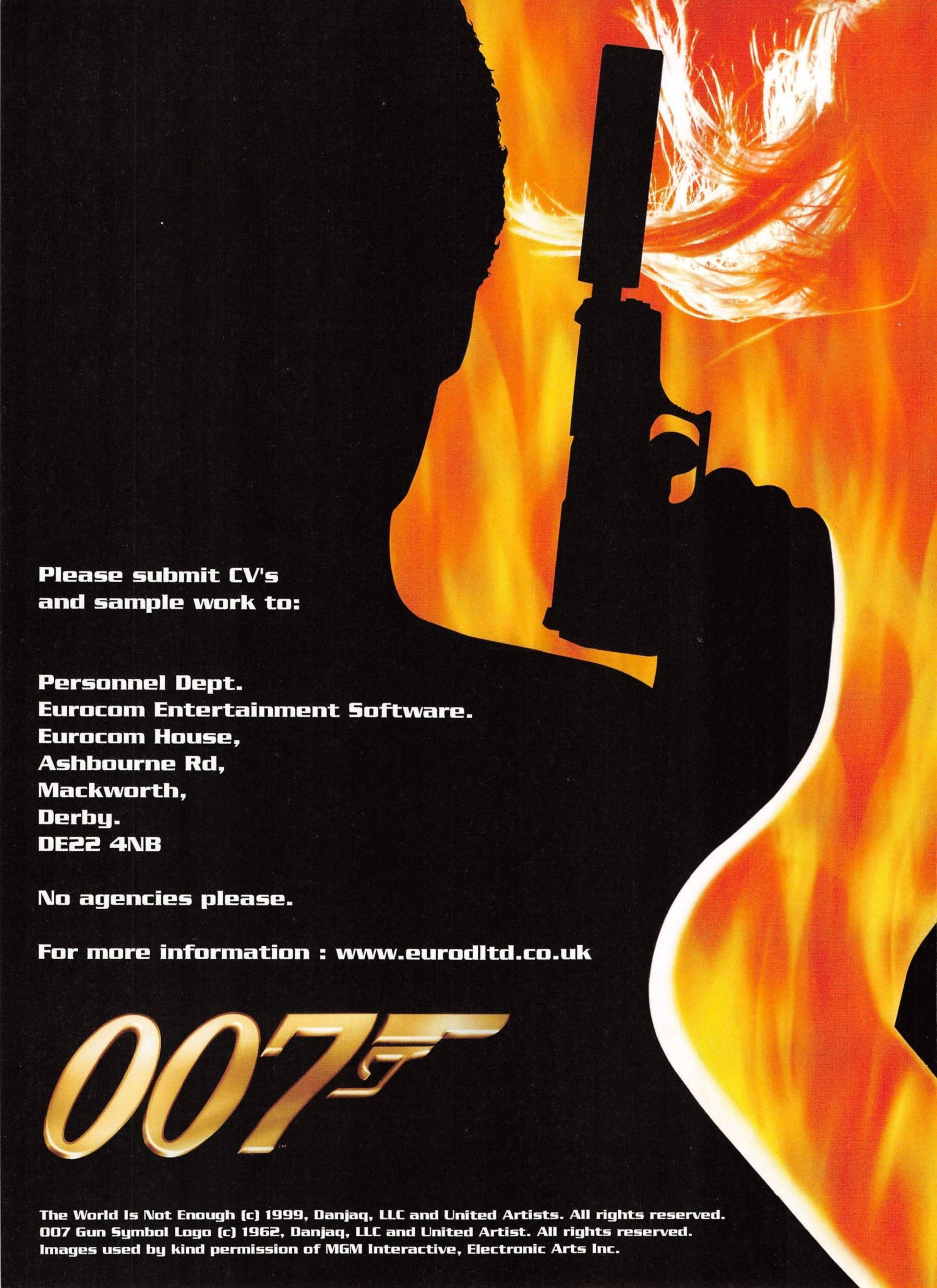
Christine Johnson
Infogrames Studios Ltd
The Green House
33 Bowdon St
Sheffield
S1 4HA
United Kingdom

email: cjohnson@uk.infogrames.com

All portfolios will be returned on request.

UNITED KINGDOM FRANCE AUSTRALIA USA





**Please submit CV's
and sample work to:**

**Personnel Dept.
Eurocom Entertainment Software.
Eurocom House,
Ashbourne Rd,
Mackworth,
Derby.
DE22 4NB**

No agencies please.

For more information : www.eurodltd.co.uk

007

The World Is Not Enough (c) 1999, Danjaq, LLC and United Artists. All rights reserved.
007 Gun Symbol Logo (c) 1962, Danjaq, LLC and United Artist. All rights reserved.
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Eurocom Entertainment Software are known for developing games based on the biggest characters in the entertainment business. Now we need the very best to join our existing teams in developing a blockbuster suite of titles on all major gaming platforms.

We are currently seeking the following:

Programmers

- * C programmers for existing and future platforms.
- * C/ARM programmers for AGB work.
- * Z80 programmers for GBC work.

Level Designers

- * Designers required for fps and platform genres.

Artists

- * 2D pixel artists.
- * 3D high polygon artists.
- * 3D animators.
- * Real-time special effects artist.

EUROCOM
ENTERTAINMENT
SOFTWARE

Web Coders

HTML, Java, Flash

Experienced Programmers

C/C++, Direct X, 2d and 3D Graphics

Utility / Tool Programmers

To produce Windows-based utilities for in-house use

Artists

Designers and High and Low Polygon Modellers

Sound Effects

Sound Effects Design, Creation and Editing

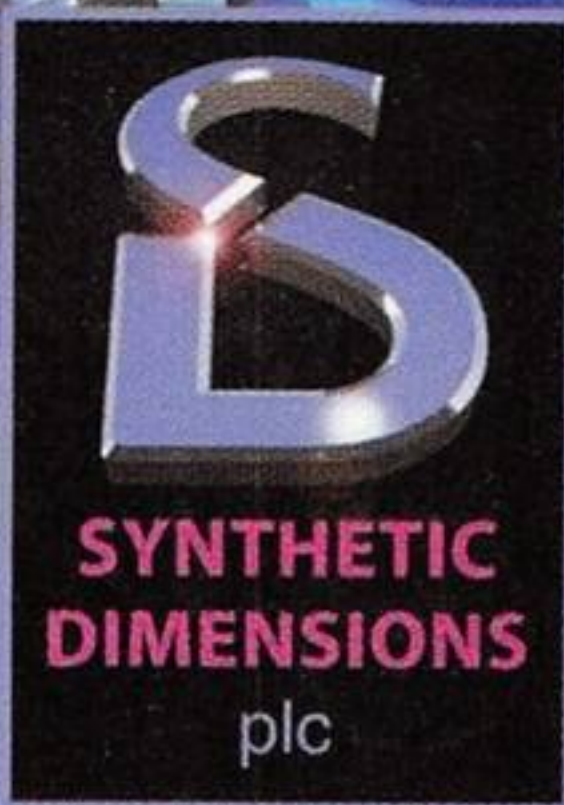
After a spectacular year of success including flotation on the OFEX trading facility; awards; newspaper, magazine and television coverage and achieving the Investors in People standard, Synthetic Dimensions plc are now embarking on a radical expansion program.

We have one CGI television series in production and two more in development.

We have three original computer games in development and have been approached to develop other licensed properties. We are in discussion with several interactive television companies about providing original interactive content.

Part of our company philosophy is to allow staff to determine their own career paths and objectives. In practice this means that, where possible, we enable migration between projects.

If you are looking for a career with a company that will respect your unique skills and enthusiasm, and gives you the opportunity to fulfil your ambitions, then send your CV, demo or showreel to;



Recruitment Synthetic Dimensions plc The Chubb Buildings Fryer St. Wolverhampton WV1 1HT
Application forms can be downloaded on our website: www.syndime.com

We advise that, in the interests of both parties, applicants do not send their own game design concepts to us. Synthetic Dimensions plc do not deal with employment agencies.

For full job descriptions please visit

www.opmjjobs.com

Artists

Senior Designer	London	to £Open
Designer	London	to £Open
3D Artist	North West	to £Open
3D Artist	E Midlands	to £30k
3D Artist	South Midlands	to £16k
Texture Artist	South Midlands	to £18k
Senior Animator	London	to £Open
Artworkers	South West	to £Open
Artist	Newcastle	to £Open
Artist	North	to £Open
Texture Artist	London	to £Open
Animators x 2	East Anglia	to £Open
Animators x 2	Scotland	to £Open
Artist x 2	Scotland	to £Open
3D Artist FMV	London	to £Open
2D and 3D Artist	Liverpool	to £Open
Lead Artist	East Anglia	to £Open
3D Artist	South	to £Open
Lead Artist	Oxon	to £Open
3D Animator	West	to £35k
3D Artist x 11	West	to £35k
3D Artist	Midlands	to £25k
Artists	South East	to £Open
Lead Artist	Essex	to £Open
Artist	South East	to £25k
Animator	North West	to £30k
Background Artist	North West	to £30k
3D Artist	North	to £35k
Artist x 4	Midlands	to £35k
Designer x 2	South East	to £30k
Project Artist	Scotland	to £23k
Project Lead Artist	Scotland	to £30k
3D Artist	Scotland	to £30k
3D Artist/Animator	London	to £Open
Graphic Web Designer	South Coast	to £29k
Artist	North	to £18k
Design Artist	North	to £18k
3D Animator	London	to £Open
Bitmap Artist	South East	to £18k
3D Animator	North	to £35k
Low Poly Artist	North West	to £25k
PSX2 Tech Artist	London	to £35k
Artist	Midlands	to £25k
Trainee Artist	South East	to £18k
Artist	South East	to £25k
Artist	Midlands	to £35k
Lead Artist	South East	to £30k
Lead Artist	London	to £Open

Programmers

Web Designer	Oxford	to £Open
C++ Programmer	Midlands	to £20k
Programmer	North East	to £Open
Tools Programmer	London	to £Open
Nextgen Programmers x 10	South	to £all levels
Nextgen Programmers x 10	West	to £all levels
3D Software Engineer	South East	to £35k
3D Programmers x 3	South East	to £Open
Software Engineer	South East	to £Open
Console Programmers x 2	South East	to £Open
Lead Programmer x 2	South East	to £Open
Senior Programmers x 6	Midlands	to £35k
Lead Programmer	Midlands	to £45k
Lead PSX2 Programmer	Midlands	to £45k
Programmers	Midlands	to £40k
Programmers	North West	to £35k
Tools Programmer	North East	to £35k

Games Programmer	North East	to £35k
Programmer x 2	Midlands	to £35k
Programmer	South East	to £40k +
Lead 3D Programmer	London	to £70k
Dreamcast Programmer	South West	to £34k
Lead Programmer	Scotland	to £40k
A1 Programmer	Scotland	to £35k
PSX2 Tools Programmer	Midlands	to £30k
Install Shield Programmer	South East	to £18k
Software Engineer	West Midlands	to £Open
Programmers	London	to £Open
Lead Tools Programmer	London	to £Open
Console Programmers	South East	to £Open
Graduate Programmers	London	to £Open
Programmers - On Line	South East	to £35k
PSX2 Programmers	London	to £35k
Programmers	London	to £35k
Programmers x 6	Manchester	to £35k
Lead Programmer PSX	South East	to £35k
Programmer C++	Leeds	to £Open
System Tool Engineer	Scotland	to £Open
Programmer	North	to £Open
PS Programmer x 2	North	to £Open
PSX Programmer	Scotland	to £Open
Lead Programmers/Grad	North West	to £Open
PS2 Programmers	London	to £Open
Windows Programmer	South	to £30k
Dreamcast Programmer	North West	ref 426
Open	ref 533	
Comms Programmer	South	ref 527
to £30k	ref 524	
Lead Programmer	North	ref 506
to £Open	ref 503	
Gameboy Programmer	North	ref 502
to £20k	ref 474	
Lead Software Developer	North	ref 436
to £35k	ref 427	
ref 292		
Senior Development Management		
Project Manager	Midlands	ref 419
to £25k	ref 417	
ref 413		
Games Development Manager	London	ref 628
Producer	Liverpool	ref 615
to £35k	ref 609	
Producer	East Sussex	ref 607
to £35k	ref 606	
Content Manager Temporary	London	ref 605
to £35k	ref 604	
Games Development Manager	London	ref 589
to £35k	ref 588	
Games Concept Dev Manager	London	ref 564
to £35k	ref 560	
Strategic Relations Manager	London	ref 543
to £40k	ref 535	
Assistant Producer	London	ref 509
to £25k	ref 505	
Internal Producer	London	ref 504
to £40k	ref 497	
Internal Producer	London	ref 489
to £40k	ref 437	
Internal Producer	London	ref 429
to £40k	ref 428	
Internal Producer	London	ref 363
to £40k	ref 337	
Internal Producer	London	ref 310
to £40k	ref 294	
Internal Producer	London	ref 285
to £40k	ref 217	

"I have found that OPM offers the best and most efficient recruitment service around. Thoroughly professional and responsive at all times, they are able to answer any questions we have regarding candidates. I am confident of the service OPM have tailored to my company's specific needs."

Archer Maclean, Managing Director, Awesome Developments

"OPM are the best agency we're using, and we're using a lot! They consistently supply First Class candidates at all levels. We have hired exactly the staff we were looking for without wasting time interviewing unqualified people. They always provide efficient professional feedback and are very responsive. This company has their finger on the pulse and delivers what we want when we want it."

Margaret Clarke, HR Manager, Hasbro/Europress

"I have worked with quite a few agencies in my time but OPM stands out as a world class company totally dedicated to client satisfaction."

Morten Brodersen, Lead Programmer

"Of the five different agencies I contacted, only two bothered to reply. One of these was OPM Response who quickly found me a suitable position."

Tony Smith, Gameboy Artist

"OPM response provides a supportive, fast and efficient service. Thanks for the help in finding a job."

Nigel Apperty, Artist

"Excellent service, and found my perfect job."

Joanne Harrod, Graduate Programmer

"OPM Response found me a great job in under two weeks. Give them a ring!"

Andy Nye, Artist

"OPM is an indispensable part of our HR system. Climax is expanding at a phenomenal rate and that expansion is largely due to the excellent service provided by OPM. Fast, Efficient, Friendly and Professional. A truly excellent company."

Chris Hadley, Development Director Climax Productions

"From the moment I was first contacted by OPM I felt that it was a very helpful company and keen in helping me to get a good job. In a short while OPM managed to arrange quite a few interviews for me. The company treated me nicely. Thanks to them I soon found a job that satisfied my expectations. They care and give the best to their customers. Thanks."

Ileana

"OPM were very prompt in replying to my application, and within a fortnight had secured me an interview. The staff were very helpful in preparing me for the interview, and carrying me through to the final offer. I was very pleased to have used OPM Response, and would recommend their services to anyone."

Mark Davies

"OPM provided me with a friendly, efficient service that placed me in a fantastic job! I couldn't have asked them to do more. Thanks"

Andy Trowers Senior Designer

To discuss your company's recruitment needs and/or to submit your CV for Management vacancies to Kim Adcock for Art and Design to Maura Magee, supporting material, (jpeg/avi format, zipped please) and Programming/Online Rob Whinney including preferred locations, salary requirements

Please contact-

kim@opmjjobs.com Senior Development
rob@opmjjobs.com Programming, On-line and QA
maura@opmjjobs.com Art & Design
info@opmjjobs.com General Enquires

Please note our NEW ADDRESS

OPM Response Ltd

1st Floor

Colchester Town Station

St Botolphs Corner

Colchester

Essex

CO2 7EF

Tel: 01206 544044

Fax: 01206 547198



FOR DEVELOPMENT

THE POWER BEHIND THE INDUSTRY

DISILLUSIONED?

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WORKING ON UNINSPIRING GAMES FOR UNINSPIRING COMPANIES?

EVER FEEL LIKE YOU'RE JUST A NUMBER?

At Climax we believe that the most precious asset a company has are the creative staff who make games happen. That's why we pride ourselves on ensuring that everyone in the company works within a creative environment and has the resources needed to realise their potential.

We work with the industry's biggest names on a wide range of AAA titles – from sports to real-time strategy, from racing to RPG. We can offer you the opportunity to work on cutting edge (and commercially successful) products at either our Fareham or Brighton studios.

With the release of 14 Climax-developed titles this year – each of them a tribute to the hard work our teams put into them – we are Europe's largest independent developer. Our project management ensures that our games are seen through to completion, not canned halfway through development. Our teams are structured so that every member has a voice and that they compete against the best in the world, not each other.

If this sounds like the kind of place you'd rather be working at then why not refresh your career and contact us today. We need talented and dedicated people to join us on our mission to be the world's premier provider of digital entertainment. We currently have vacancies across the board at all levels within our Fareham and Brighton development studios. Contact us at the address below and help shape the face of the industry.

PLEASE SEND ALL CVS AND DEMOS, STATING STUDIO PREFERENCE TO:

HR Dept.
CLIMAX,
Fareham Heights,
Standard Way,
Fareham,
Hants
PO16 8XT
UK

Tel: +44 (0)1329 827777
Fax: +44 (0)1329 828777

Website: <http://www.climax.co.uk>

<http://www.climax.co.uk>

CLIMAX



Red Storm



PlayStation 2



Dreamcast



PC CD



GAME BOY COLOR



NINTENDO



Come to Gameloft, it's great!

Guildford, Surrey

Take an exclusive, custom-written, multiplayer community match up application that's all set to revolutionise gaming, combine it with an up-to-the-minute website providing the finest game, music, film and lifestyle content – and you come somewhere near GameLoft.com.

An international company, GameLoft.com is in the process of setting up offices worldwide in order to tailor content and services to gamers in each country.

And that's where you come in. GameLoft UK is currently seeking a variety of staff to take up residence in their exotic Guildford penthouse offices. Yes, Guildford - the only place to be SO Britsoft that it receives more mentions in Edge than bilinear-triple-mapped-bump-filtering!

30 minutes from London Waterloo by train, 9 miles from the M25 and replete with more pubs that you can shake a beer-soaked stick at – Guildford makes for an ideal working environment.

Web Editors "Games and Technology" and "Music" Salary to £25K ref G5

These Editors will be members of the online content-creation team, responsible for finding information – either online or in the real world – filtering out that which would interest gamers and writing about it. Devoted gamers will be inspired by their informative industry updates and insights.

The preferred candidates will have a passion for games and good writing skills – a background in an appropriate industry (eg games, music, journalism etc) would be an advantage.

Graphic Artist Salary to £25K ref G3

You will be responsible for creating 2D and 3D Designs and images for the GameLoft site. Proficient in Shockwave Flash and Adobe Photoshop you will bring your individual artistic flair to generate the graphic quality on the site.

Web Master Salary to £25K ref G1

A website guru is needed to build and administer GameLoft's websites. The job will involve working with the content-creation team and graphic artists in order to assemble and maintain the online presence. This will be an excellent opportunity to interact with our other webmasters around the world, sharing tips and tricks.

The candidate will have a love of games, a proven HTML and technical background. Skills in PERL, MYSQL and PHP would be a definite advantage.

On-line Technical Support/Web Hosts Salary to £15K ref G2

You will be the ears and eyes of GameLoft. Communicating with gamers via our chat application, games and e-mail; providing guidance and help, and finding out what the public want – then making constructive suggestions for improving and changing GameLoft.

You will be an avid gamer and internet-beast with patience and a good customer service nature. A history of spending far too much time in chat rooms and IRC would be an advantage.

Interested candidates should send a full CV with letter and sample urls, where appropriate, to our retained recruitment consultants telling us why you want to work for this leading computer games service provider:

Email Pascal Cranney or David Smith of Interactive Selection at gameloft@talk21.com

Interactive Selection, Interactive House, 4 Emma Terrace, The Drive, London SW20 8QL, UK fax: +44 208 944 8100

GameLoft.com

More details at: <http://www.Games-JOBS.com>

"recruitment in interactive entertainment"



The word on the street is 'Codemasters'. We're the people who brought the world Colin McRae Rally 2.0, LMA Manager and Micro Maniacs – the latest in a long line of hits that have seen us grow into the funkiest £100m business you're ever likely to encounter. We're setting the pace on **Playstation2** and **Dreamcast** consoles, exploring the Internet and other new media avenues, and gearing up for further expansion. We're just missing a few people to make our wildest dreams come true.

DESIGNERS & ARTISTS

We're looking for 3D Character Animators, Modellers and FMV Artists who know animation, texturing and polygon modelling inside-out. Photoshop and 3D packages are your playthings as you create one masterpiece after another.

GAMES DESIGNERS

With at least one release already on your CV, you know what it takes to guide a game from concept to market. Now raise the stakes. Brains, imagination and drive come as standard.

PROGRAMMERS

The pace will leave you breathless. We're after a relevant 2:1 or industry experience, superb C or C++ skills, and ideally knowledge of DirectX and Playstation programming.

Come on home to Codemasters. To apply, write with examples of your work to

recruitment@codemasters.com,
or to Stephen Harrison-Mirfield,
Codemasters Ltd, PO Box 6,
Leamington Spa,
Warwickshire CV32 0SH.



GENIUS AT PLAY



Lecturers/Senior Lecturers in Visualisation

(3 posts)
up to £30,636

As the Opportunity
University, we are
committed to
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from every section
of the community to
study and work in
the University and
to encouraging
excellence in
research, teaching
and consultancy.

Assuming a key role in this award-winning and rapidly expanding subject area, you will teach across a wide range of HND, Degree and Masters programmes. You will be educated to at least Degree level and will be able to demonstrate expertise in one or more of the following:

- Traditional animation
- Graphics/games programming
- Graphics design
- Scriptwriting
- Games art, games design
- Video editing

You will ideally have some relevant teaching or commercial experience together with a keen interest in research.

We offer an excellent package which includes the opportunity to study part-time for further academic qualifications and the University's PGCE qualification, a Teaching, Learning and Research portfolio of workshops, 35 days holiday per annum, contributory pension scheme, Library, IT, sport and nursery facilities and a whole host of other benefits.

Job Reference 1376

Closing date: 8th August 2000, 12.00 noon.

Interview date: 24th August 2000.

Application forms and further details are available from the Personnel Department, Middlesbrough, TS1 3BA. Tel: 01642 342200 (24 hours) or email: jobs@tees.ac.uk



INVESTORS IN PEOPLE

XBOX PROGRAMMER

Salary - Negotiable (dependent on experience)

Musts

- Capabilities with 3D technologies on the PC platform
- Knowledge of Direct3D
- Track record in games industry
- Fluent in C/C++
- Good team and working ethics
- Understanding of 3D technologies

Advantages

- Familiarity with Visual C/C++
- Assembly experience
- Familiarity with DirectX

AI PROGRAMMER

Salary - Negotiable (dependent on experience)

Musts

- Track record in games industry
- Fluent in C/C++
- Good team and working ethics a must.

Advantages

- Good working knowledge of maths
- Assembly experience
- Familiarity with Visual C/C++
- Good knowledge of common AI algorithms (A*, Dykstra etc.)
- Interest in advanced behavioural methodologies
- Understanding of strategic and rule based tactical systems
- Qualifications in A.I. programming

Respond to:

E-mail your CV to Collette Murphy at: collette@metier.co.uk or fax your CV on 0131 467 8001.

Alternatively send your CV to Métier, 9 Rosebery Crescent, Edinburgh EH12 5JP.

If you would like more information please call us on

0131 467 8000



Métier

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999: LONDON: ARTIST: £20-40,000+ BONUS

Magical opportunity to join leading developer. PSX2 titles, either futuristic war or gothic adventure style game. Ideal skills = Maya, Alias. Great prospects.

1214: NEWCASTLE: 2D & 3D ARTIST: ALL LEVELS TO £50K PACKAGE

Blindin' company to have on your CV. Driving games extraordinaire. Pure talent need only apply. 2D & 3D skills in any: Maya, Lightwave, Softimage, Character Studio, 3DS Max. Texture, modelling and animation opportunities.

1000E: LONDON OR MANCHESTER; DESIGNER: £MEGA

Passionate about games? Are your ideas better? Must have worked in games industry. Creating Next-Gen. epic story line titles. Company with excellent track record.

1270: LEAMINGTON SPA: ARTIST/PROGRAMMER: GRADUATE-> LEAD: £NEG

Supersonic company and technology. Driving and strategy titles. Programmers in any: C,C++, DirectX. Artists in any: 3DS Max, Photoshop. Hit published titles - get the recognition you deserve.

926: SURREY: ARTISTS/PROGRAMMERS: £20-40,000 BASIC + BENS + BONUS

One of UK's leading independent original game developers. AAA flight and racing titles. Programmers = C, C++, Java or DirectX. Artists = 3DS Max and Photoshop. Great team and great pay.

1286: CAMBRIDGE: ARTIST: £FANTASTIC

Brand new project, 3rd person action adventure genre. Team leading possibilities. Maya, creativity and animation skills desirable. Let your creativity reproduce here.

998: HOME OR LONDON OR CAMBRIDGE: GAME BOY/WAP ARTISTS & PROGRAMMERS £NEG

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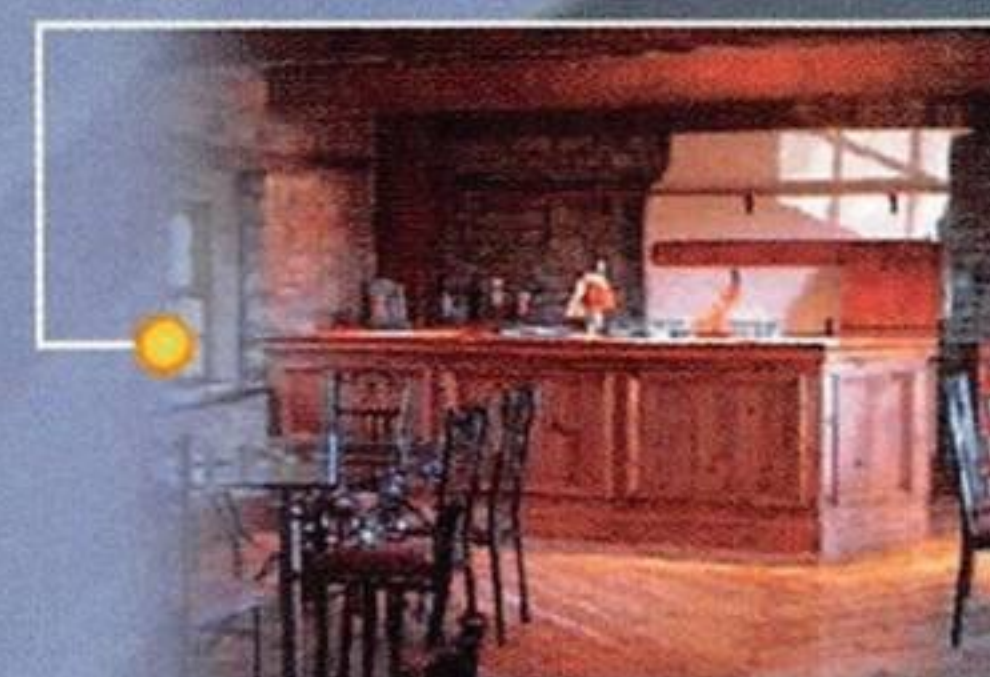
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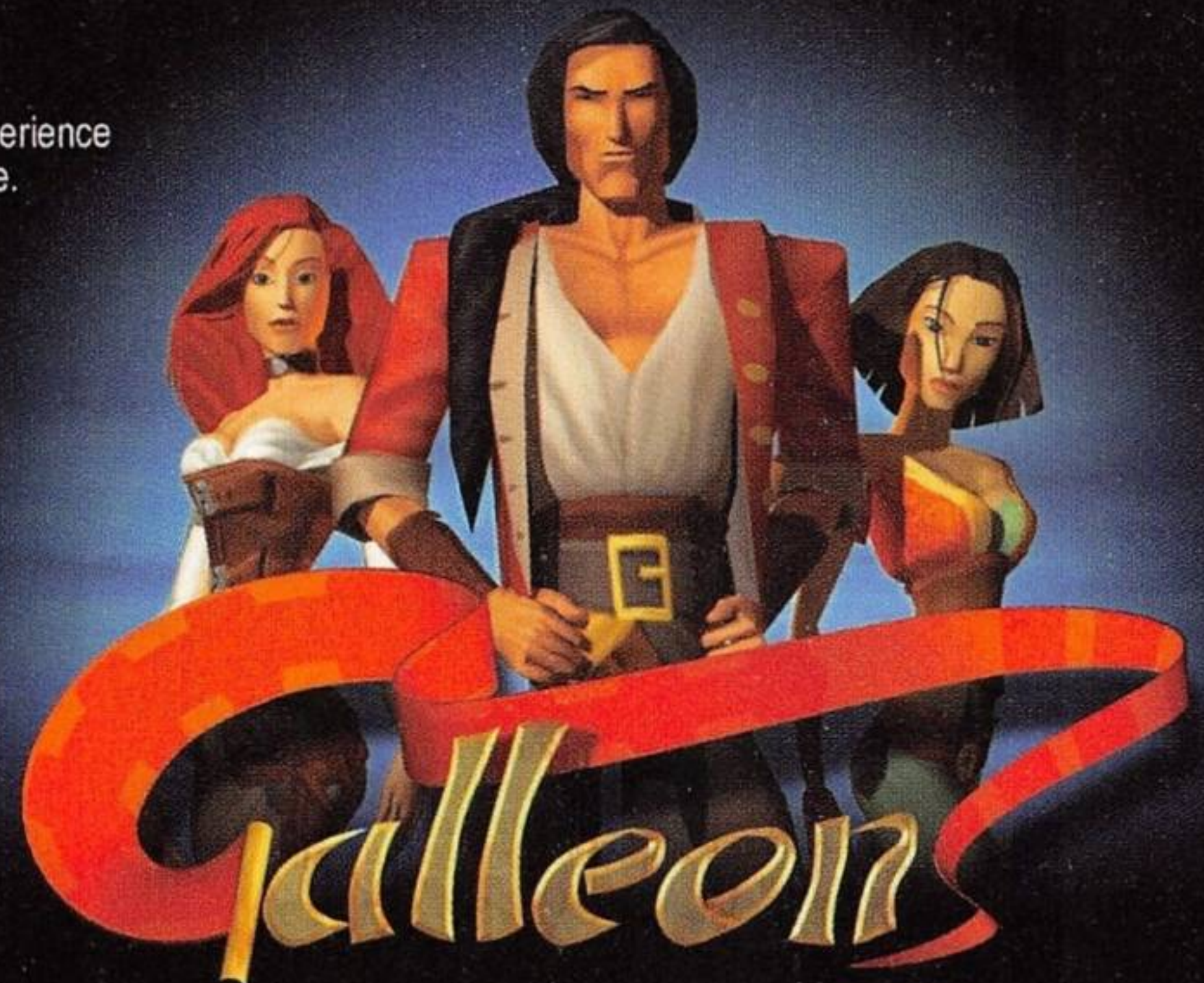
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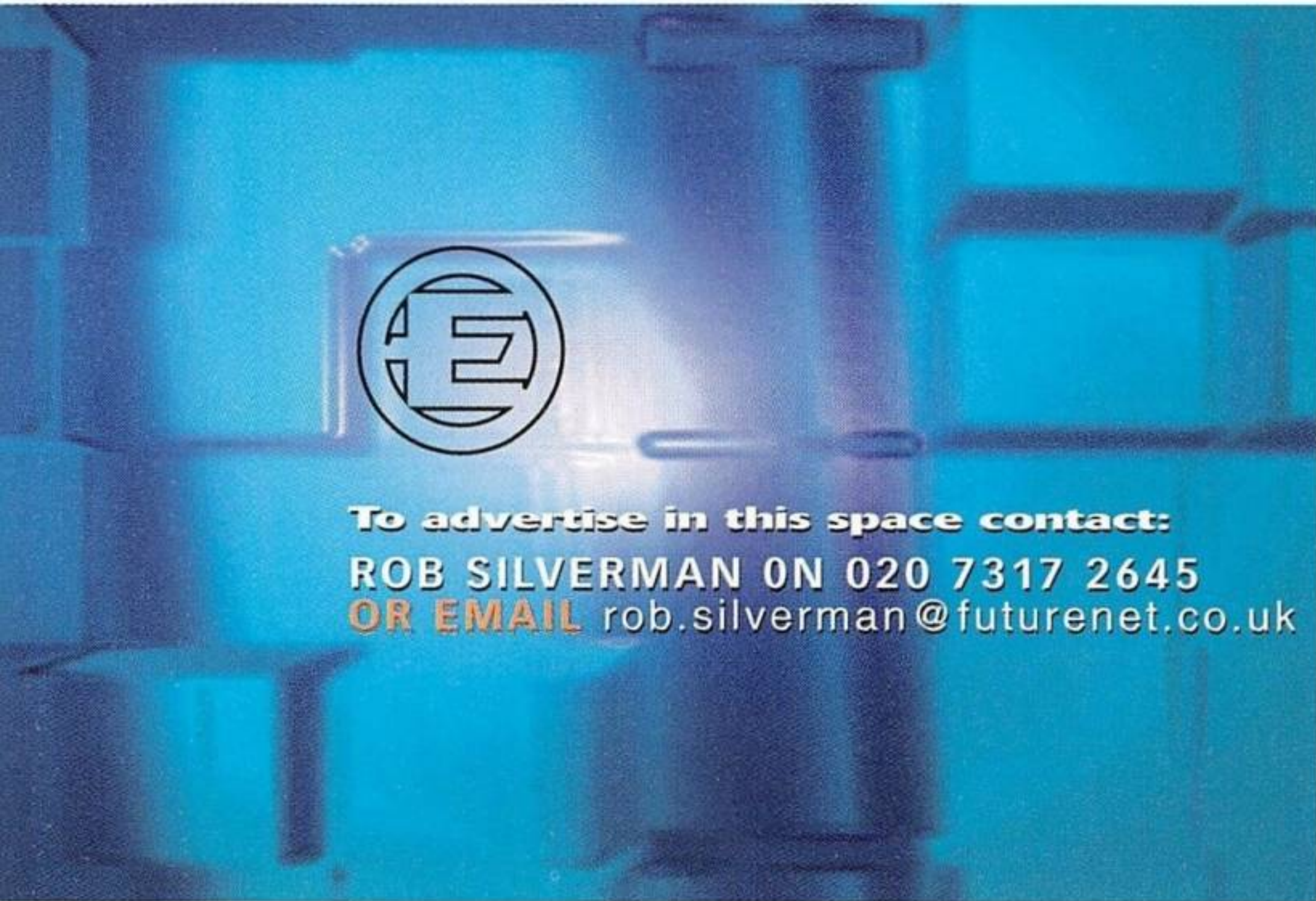
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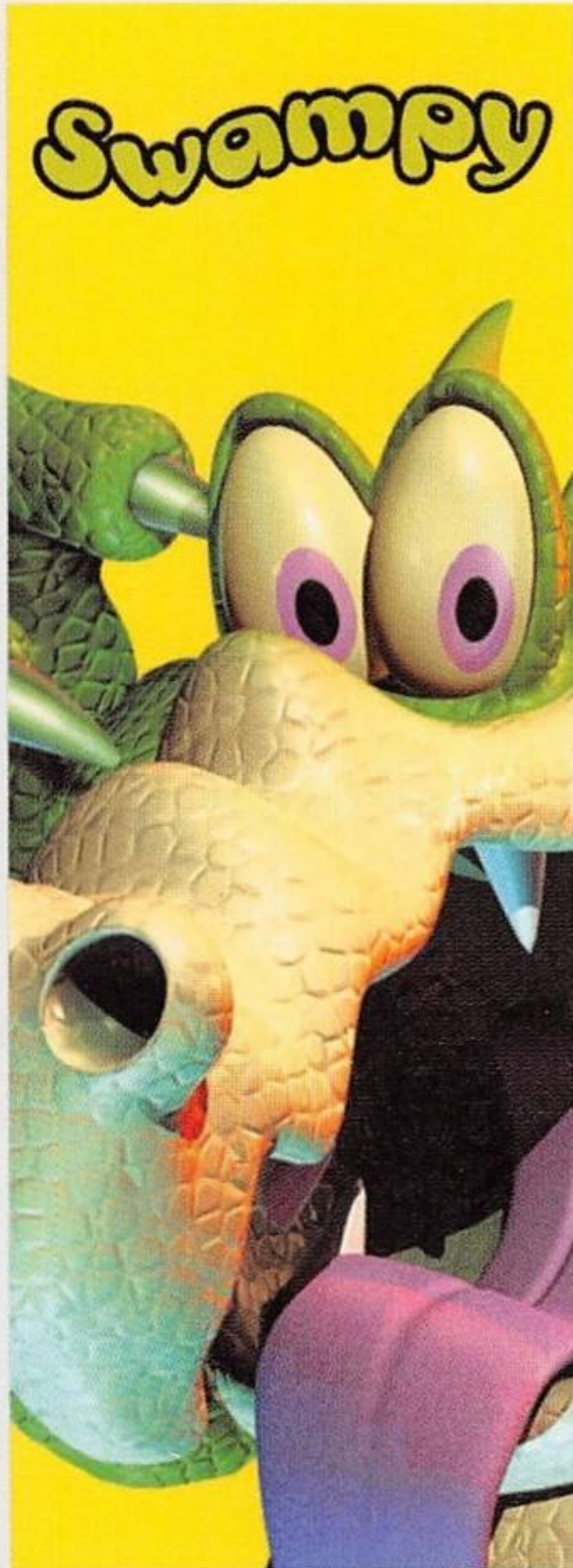
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- BEHIND-THE-SCENES REPORT
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In issue one, we went behind the scenes on *Dinosaur* and the *Starship Troopers* TV show

Welcome to this *3D World* taster supplement. It has been designed very carefully to give readers of *Edge* insight into its brand-new sister title, *3D World*.

Available monthly at £5 on the news-stand, our publication covers the creation of 3D artwork and animation for television, film and advertising, as well as the games industry.

Edge is a games-oriented title, so for inclusion in this supplement we've chosen two features dealing specifically with the design and creation of game graphics. The *Metropolis Street Racer* article looks at how the Liverpool developer Bizarre Creations constructed massive 3D race game tracks based on the real-life city centres of London, San Francisco and Tokyo. Meanwhile, in *Console Curve*, we talk to six game graphics insiders about what the new breed of superconsoles will mean for artists in this industry. Plus you'll find *3D Studio MAX* tips and Q&As that are typical of the kind included in every issue of *3D World*.

There is sometimes a tendency for designers working in film and TV effects studios to look down their noses at those in the games industry – as though the number of polygons you use is a measure of talent. However, with ever-increasing convergence between these industries, and the fact that the same skill sets are required, this is an outmoded view to take. Part of *3D World's* mission is to make that point fortuitously as we provide coverage of the various sectors of the 3D industry.

We hope you enjoy this supplement. And if you're not a game artist, please pass it on to the graphics team in your organisation.

Garrick Webster

Garrick Webster
Editor

FEATURE

3D World
003

“IT'S ARGUABLY THE MOST GRAPHICALLY ambitious road-racing game ever devised”

EUROPEAN

London

Tokyo

STREET RACER»

With its new Sega Dreamcast racing game, developer Bizarre Creations has accurately recreated the streets of San Francisco, London and Tokyo. *3D World* takes in the sights

BY MARK RAMSHAW

Game developers used to be concerned primarily with simulating, or at the very least emulating, the physical aspects of real-life driving when creating car-racing games. Recreating visual nuances of real-life driving environments was simply beyond the capabilities of the hardware. Not any more. Games such as *Driver* and *Midtown Madness* have utilised the power of the PlayStation and PC to model the layout and look of real city locations. Now Brit developer Bizarre Creations is putting the finishing touches to *Metropolis Street Racer* for the Sega Dreamcast console system. With stunning recreations of areas within three major cities, it's arguably the most graphically ambitious road-racing game ever devised.

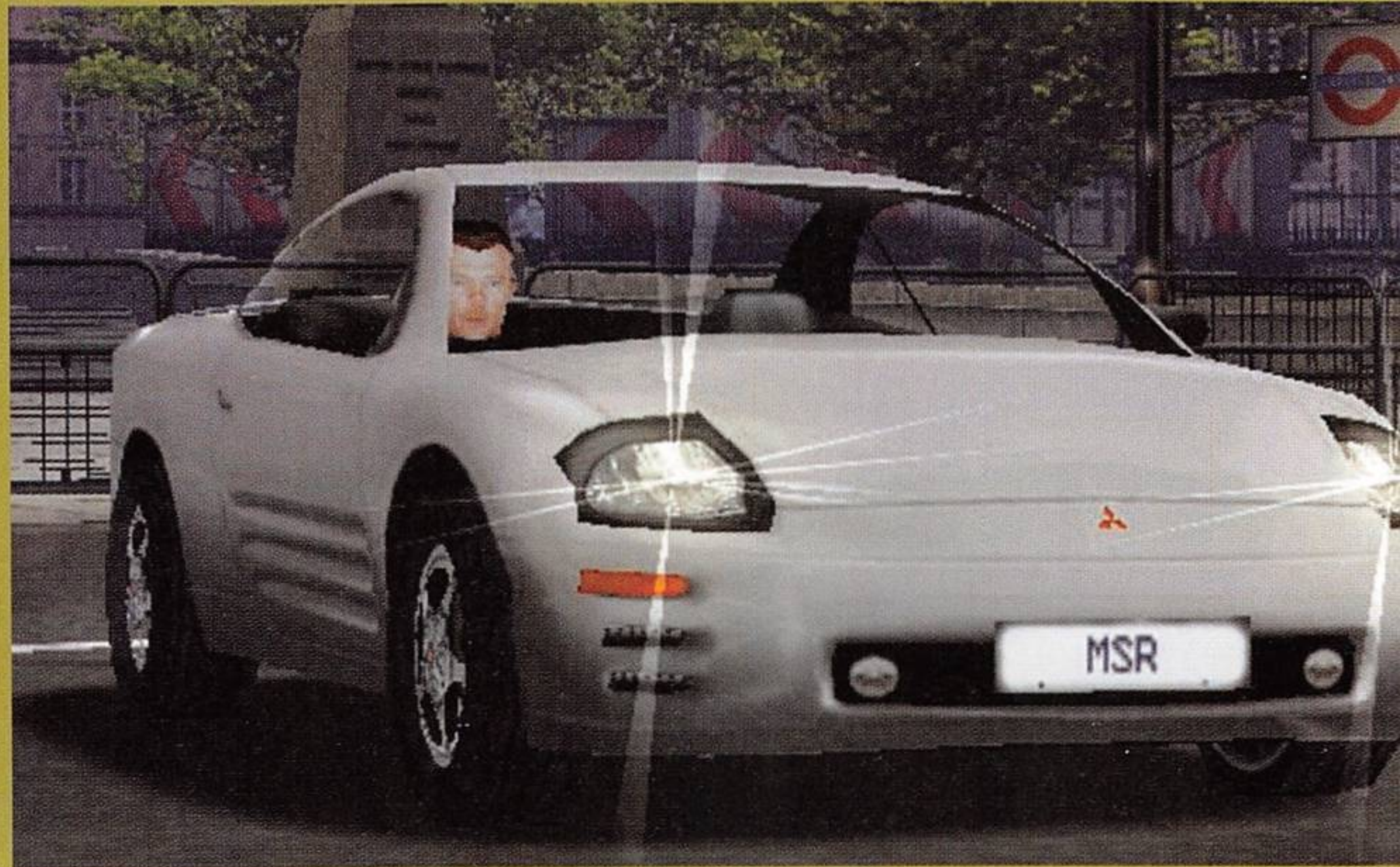
Initially, Bizarre Creations was approached by Sega to create a 'city-based driving game' for its new console system. The idea of modelling real locations naturally followed. "It took about six months to actually make the decision," reckons lead artist Jon Dugdale. "It was a scary thought as complexity was always going to be a problem if we were to build a living, breathing environment."

THE WAY FORWARD WAS TO BUILD AREAS IN 3D WITH PHOTOREALISTIC TEXTURES

JON DUGDALE

The decision was then taken to use photography rather than hand-drawn textures. "Because of this complexity it was decided that photography would fill the gap when we ran out of polys and would also free up the time it would have taken to produce hand-drawn textures," says Jon. Quality was also an issue, with photography offering a consistent level of detail difficult to achieve with hand-drawn art. The next step was to head for Liverpool city centre where test shots were taken.

"One thing that was obvious from the beginning was that a city would require multiple routes. To justify this we had to build the front, side and back of each route," says Jon. A higher polygon count was clearly needed, but attempting to build using more complex models soon proved too time-consuming. "This was a major turning point. The quality was fine but the work rate was too slow. To speed things up we needed to find a method of quickly producing lots of detail. After returning from a research trip to Trafalgar Square we decided to build the entire Square to see how long something of this complexity and size would take. The process was much quicker than



ABOVE Vehicles are lit in real-time, with specular highlighting, shadowing and a reflection map adding detail.

MIDDLE Animated adverts are placed on various billboards using real-time streaming techniques.

FAR RIGHT The 12 vehicles modelled include the Audi TT, Rover MGF and TVR Chimera.

building modules and produced an enhanced level of credibility which we had so far been lacking," says Jon.

Following this test, the Bizarre artists decided to go with a system whereby major landmarks were built, then the gaps between them filled with more generic modules. But even this proved unsatisfactory: "A freshly designed module could not compete side-by-side with two, three or 400 years' worth of quality and credibility. So the only way forward was to build an entire area of a city in 3D with photorealistic textures," explains Jon.

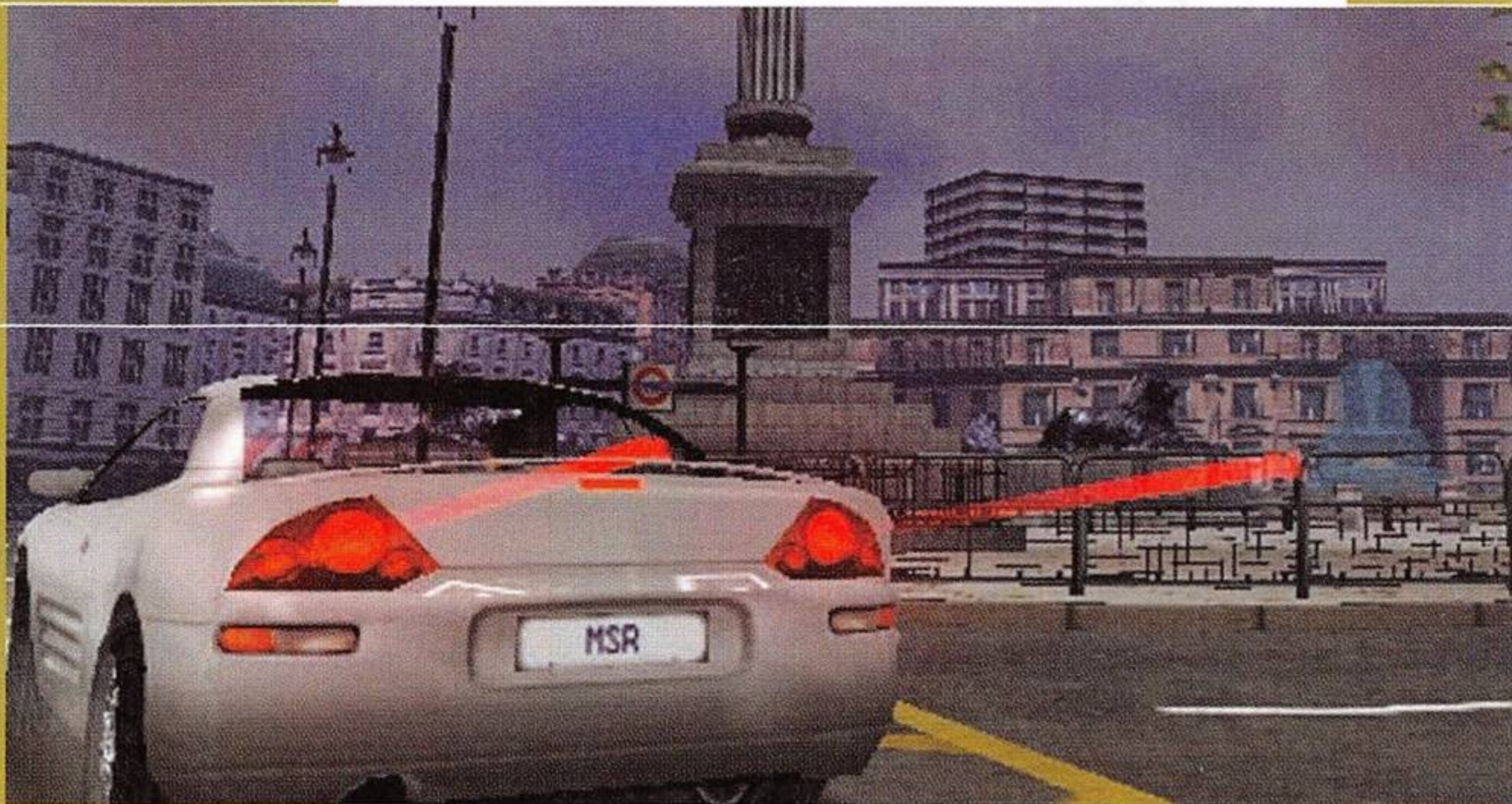
Work scouting locations and collecting materials could finally begin. London, Tokyo and San Francisco were

SOMEWHERE, IN THE SPRAWLING METROPOLIS

METROPOLIS STREET RACER uses city-based locations rather than linear tracks as the venue for the racing action. Modelling nine areas over three famous locales has not been easy. Three cities were chosen for representation in the game, with three areas per city, each measuring around 2km square. Each is accurate to within one metre, with height samples every 16 metres to ensure they're as realistic as possible. The first stage of the digitisation process was to take data from street maps of the areas used. Aerial photos provided more visual information, then they went to street level...



A 360-degree panorama of reference shots was taken at every junction. Video footage was shot to complement the photography, ensuring the art team had source material.



chosen as the venues for the game's race events because of their range of familiar sites and also because the trio cover the three main territories the game is to be sold in. Three areas per city, each measuring approximately two square kilometres, provided the main focus: Trafalgar, Westminster and St James' Park in London; Shibuya, Shinjuku and Asakusa in Tokyo; Fisherman's Wharf, The Financial District, and Pacific Heights in San Francisco.

The first step involved a couple of weeks of office-based research for each location, followed by about a month spent in the city taking photographs and reference video footage. "The prints were scanned directly into *Photoshop*.

and reworked into a square format so the Dreamcast compression system could be used," says Jon. "This was a relatively simple process that required a few translations such as perspective, skew, rotate, and flip. Unwanted elements were simply cut and pasted out of the image. As for lighting and shadows, we simply didn't worry about it when taking the photos. These problems were dealt with in *Photoshop*."

FLEXIBLE MEMORY

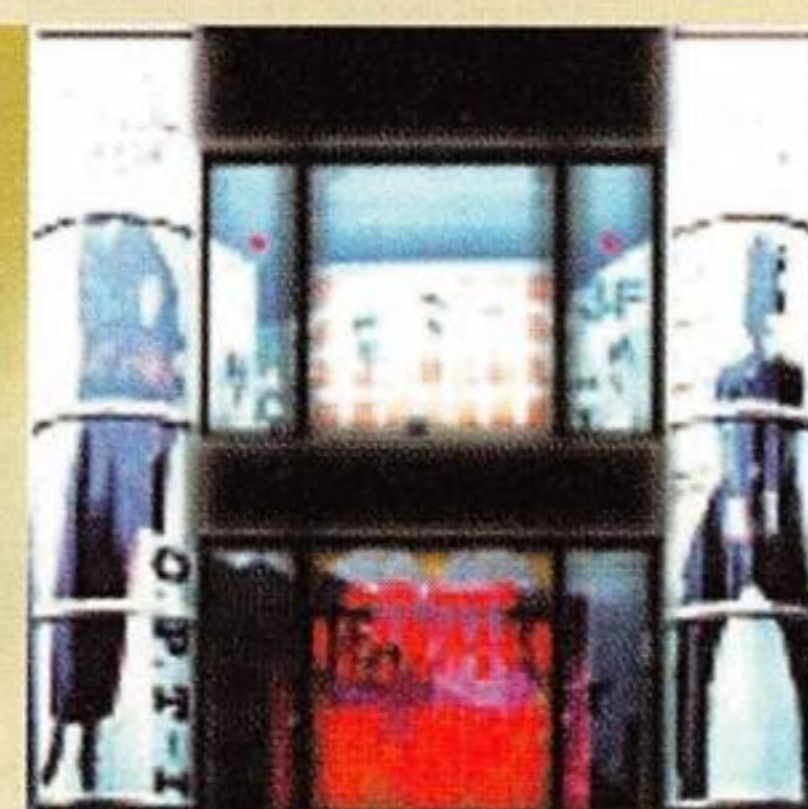
The Dreamcast's generous and flexible video memory system enables developers to be divided between screen and texture storage as they see fit. "We generally have around 4MB of textures in memory at any one time, on top of which the Dreamcast's proprietary compression algorithm, VQ Compression, gives us a compression ratio of around 8:1 on our highest resolution textures with no noticeable drop in quality," says Jon. As a result, *Metropolis* is able to use a larger number of higher-resolution textures in 16-bit colour format and store them all in memory, negating the need for texture swapping in real-time. Of course, obtaining the building textures for each city wasn't



2 Following the general research shots, close-ups of each featured building were shot. A single image was used to cover the first three or four metres of a building, then one or more shots for detail above that point.



3 A texture created from the shot in the bottom right of the last step. Any traces of pedestrians were removed, colour-balance issues addressed and any unnecessary shadow detail eliminated, all using *Photoshop*.



4 This is a night-time version of the same texture. *Metropolis* tracks the day and night cycles using the Dreamcast's own internal clock. Day-to-dusk changes are recreated with ambience, depthcue and sky texture transitions.





the only challenge for Bizarre's team of artists. It was also necessary to turn every featured building into an accurate polygon-based model (right down to one-metre accuracy) and to ensure that all the height changes within each city area were replicated. *Softimage* was used to model buildings, which involved using the reference photographs and video footage as well as street maps for each location, while height details were provided by local libraries – the data sampled every 16 metres.

Creating such visually complex and realistic race environments has clearly been a mammoth task. 34,000 photographs were taken in total, as well as 40 hours' worth of video footage. With an additional two months needed to process the textures, plus extra modelling work, each single area has consumed at least six months of valuable development time. "We had no idea how long it would take because we were still exploring the Dreamcast technology," explains Jon. "But I think we were always going to use real locations once we saw the results. It was a long slog but hopefully the results are worth it."

TOP Although there is some texture repetition, the range of individual buildings and familiar monuments ensures each city area is convincing.

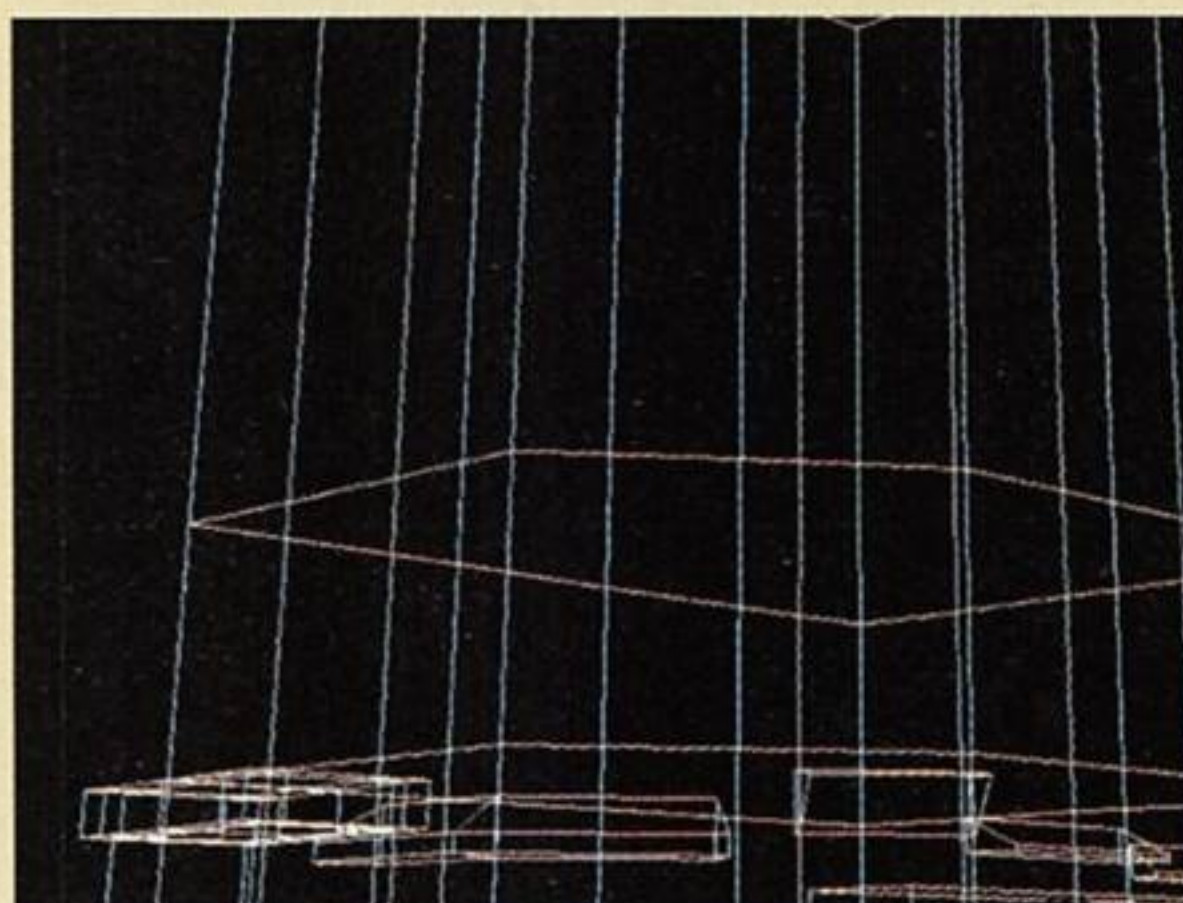
THE CAR'S ALSO THE STAR

ENSURING THAT THE QUALITY of the vehicles in *Metropolis Street Racer* matches the standards set by the urban environments has obviously been crucial. An average of 3,500 polygons was used to model each of the 12 open-topped sports vehicles. Unlike the building textures, the ones for the cars were hand-drawn, thus ensuring that real-time lighting effects looked right. "Cars are incorporated into the scene using highlight maps and real-time directional shading based on an omni-directional sun," says Jon. "Also, because the cars have thousands of different colours, we have greyscale images that can be tinted to the manufacturers' official colours. The highlight maps mimic the specularity of the light source acting on the car."



Metropolis Street Racer is released in the UK on the Dreamcast platform in September. For further information about Bizarre Creations, visit its site at www.bizarrecrations.com

SOMEWHERE, IN THE SPRAWLING METROPOLIS – CONTINUED



5 The wireframe model created to mirror the building seen in step three. To ensure a reasonable degree of 3D architectural accuracy, the reference photos of buildings were taken from as many angles as possible.



6 The same model is transformed once the heavily treated textures are applied. *Softimage* was used for 3D modelling work, with Bizarre Creations using its own purpose-designed package, *MetGP*, for placing data such as circuit splines into the game.



7 Here's the building as it appears in-game, during a night-time race. Further lighting effects enhance the scene, with car models of around 3,500 polygons further detailed using specular highlighting, shadows and a reflection map.

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DVD

THE CONSOLE CURVE

Each new generation of consoles pushes gaming to ever greater heights. With three new, dedicated games systems on the horizon, we talk to six graphics experts from the industry about how these machines will affect game artists

BY MARK RAMSHAW

20M Poly/Sec

Modern

There are few industries where technological advances have such a dramatic impact on the companies working to create related media. Movie, television and audio innovations tend merely to affect delivery. But with the video games industry, a new platform has the power to change the way software is created – how it looks, feels and plays.

Sega's Dreamcast may have ushered in the new wave of games consoles, but it's the triumvirate of Microsoft's X-Box, Nintendo's Dolphin, and Sony's PlayStation 2 systems now creating the buzz amongst both gamers and game creators. A world away from the console systems of the last decade, the power delivered by their central

processors and graphics chips yields as much as a tenfold increase in raw 3D power over the previous generation of machines.

The casual observer would be forgiven for wondering what all the fuss is about. Modern PCs use fast CPUs, after all, while the wide range of dedicated 3D graphics boards available includes models offering excellent processing power and even on-board transform and lighting (T&L) calculations. But it's important to note that consoles still reach a different, more aesthetically demanding market. And, crucially, the custom-designed graphics chips to be used in the X-Box, Dolphin and PlayStation 2 all sport specialised features previously unavailable to game artists.

As Mark Atkinson at Computer Artworks says, "In recent years, 3D graphics on PC and console platforms has been limited to what the hardware can do, making many games look rather similar. However, the customisation possible on these next-generation platforms will mean a return to more innovation and diversity in 3D graphics, and the only limits will be the talent and imagination of the programmers and artists making the games."

POLYGON POWER

It's the increased polygon-shifting power allied to a range of texture and per-pixel manipulations on the new consoles that has game artists so excited. The most obvious changes in game art will involve using models

game art will involve models of a complexity once reserved for pre-rendered footage

of a complexity previously reserved for pre-rendered footage. Game environments will also increase in detail, with near horizons, pre-lit and pre-shadowed landscapes, and texture repetitions becoming less commonplace. And all this will be visible on screen without grinding frame-rate hiccups and slowdowns commonly associated with graphically intensive software.

Nobody pretends that these new machines will be able to generate scenes on a par with those created on graphics workstations running *Softimage*, *3D Studio MAX* et al. For now at least, pre-rendered cut scenes will be a staple of video games, particularly with all three of the new machines making use of a disc rather than cartridge format. But the gap between the quality of real-time and pre-rendered scenes is certainly getting narrower.

Such possibilities understandably make some artists nervous. Higher polygon counts and the ability to portray everything in such increased detail suggests a massively

increased workload, with far larger art teams per title, higher development costs and greater risks. Yet the reality is that most modelling work for in-game objects is already done by creating high-detail designs in a 3D package which are then simplified for use in-game. The extra power in these new consoles will simply mean that more of the original model detail can be preserved.

The first of the new machines to arrive will be the Sony PlayStation 2, with a UK launch scheduled for October. On paper, its 300MHz processor and 38MB of memory don't indicate a revolution in gaming, but the possibilities of a 150MHz custom graphics chip (and, crucially, a pair of vector processors to power it) capable of delivering 66 million polygons-per-second throughput is already bearing fruit with games such as *Metal Gear Solid 2*.

WHAT'S IN THE BOX?

Microsoft's X-Box, due in the autumn of next year, is much more closely modelled on PC architecture, based around a 733MHz Intel processor, with support from 64MB of memory plus an 8GB hard drive. It's claimed that the graphics chip, purpose-designed by NVIDIA, will be around twice as powerful as the graphics processing unit in the PlayStation 2, delivering some 300MHz of processing power, capable of shifting 200 million polys per second (and with a memory bandwidth of 6.4GB per second also doubling the transfer rate of the PS2). Even high-definition TV compatibility is promised, with resolutions up to 1920x1080 pixels.

And then there's the Dolphin. Originally scheduled for launch this year, now delayed until some undetermined time in 2001 (full development kits are only now being delivered), it's already generating a great deal of interest, despite Nintendo's fumbling of its last console, the N64. The known specs don't seem to warrant the wait – a 400MHz IBM Gekko (Power PC-based) processor, a memory bandwidth of 3.2GB per second, and a custom graphics chip (courtesy of ArtX) running at 200MHz

Name ▶ Jerome D'aviau de Piolan

Job Title ▶ Art coach – *Fifth Element*

Company ▶ Kalisto

Working on ▶ Unknown

"On one hand, the amount of data to fill a DVD, and fulfil the dreams of gamers, is getting positively enormous. So we need more designs, larger worlds, richer stories, more interactions, better graphics, better sound and better music. And all this means bigger teams and huge budgets, but the same deadlines. On the other hand, new gameplay has to be developed to take advantage of all the wonderful features. Because each generation of console brings its own new type of gameplay, having some more 'already-seen-a-thousand-times-on-PSX-3D-games' won't be enough."

Name ▶ Hideo Kojima

Job Title ▶ Director

Company ▶ Konami

Working on ▶ *Metal Gear Solid 2*

"With *Metal Gear Solid 2*, unlike conventional game graphics, it's not really the designers' abilities that create the graphics. What we are pursuing with *MGS2* is drawing with the program, rather than creating graphics by relying on animation patterns determined by animators. What we are trying to achieve is the 'realisation of lyricism using physical simulation'. In *MGS2*, for example, the waving bandanna of Solid Snake is achieved with physical simulation. Designers make modifications to what has been created by the physical simulation to make the motion look cool."

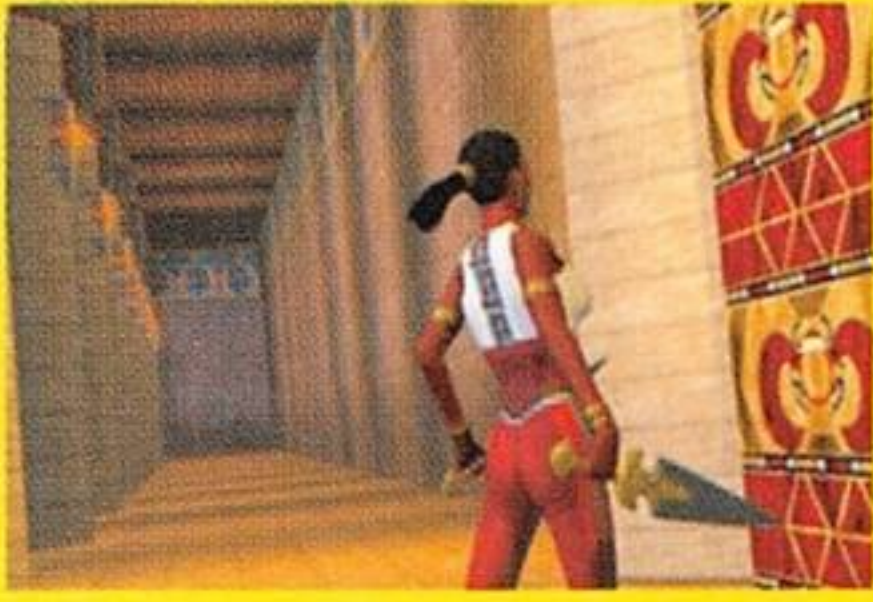
Name ▶ Damon Conn

Job Title ▶ Lead artist

Company ▶ Seven Studios

Working on ▶ *Legion*

"Our artists are excited about the raw poly-pushing power that the PlayStation 2 offers. Our characters are at least 5,000 polys. Because our game is mainly about masses of warriors colliding in huge battles, we're going to throw a lot of polygons on to the screen. On top of all that, we have particles, blood, smoke and flames in abundance. We come from PC development, so this is a pleasant surprise. We remember the days of the 500-poly main character and the 2D sprite animations for special effects. The PlayStation 2 has given us the power to complete an ambitious game without compromise."



suggest no more than an equal for Sony's machine, which will benefit from an eight- to twelve-month headstart. Nevertheless, Nintendo's Axel Herr is confident the system performance will better Sony's machine by some margin. "In terms of graphics, we came up with extremely fast chip architecture that, according to our technicians, will be 33 per cent above the projected performance data of PlayStation 2. That's easily twice as fast as Dreamcast," says Axel.

RAW DEAL

Of course, raw performance is only half the story. Each custom graphics chip will also deliver a range of unique features to aid the 3D artist. Mark Atkinson discusses the vertex and pixel shading of the X-Box as a useful tool. "These enable the developer to directly program the 3D hardware's texture-blending operations and the lighting pipeline, making possible the sorts of custom-rendering effects that have been described as 'one step closer' to *RenderMan*," says Mark.

"Both the X-Box and PlayStation 2 work extremely well with higher-order surfaces, and curved surfaces such as Bezier patches," adds Fred Gill at games developer, Attention To Detail. Fred also sees PlayStation 2's support for procedural objects as another particularly exciting development. "It provides the ability to describe a tree model in program code and generate a tree in real-time based on a set of parameters, such as height, leaf density, branch distribution, colour and so on. Using techniques

FROM LEFT Nintendo's *Dolphin* is a real unknown quantity. Very much under wraps, developers are unable to disclose any details about the machine at the moment. Nevertheless, US developer Saffire has released this early technology demo.

Legion from Seven Studios, formed by ex-Westwood Studios staff. Previous credits include *Command & Conquer*.

Although the hardware won't actually be available for a year, Microsoft has unveiled several graphical demos for its new machine.

While scenes such as this one from *Metal Gear Solid 2* are graphically comparable to many pre-rendered animated scenes, Hideo Kojima of Konami doesn't believe we've seen the last of rolling sequences: "Real-time demos in no way can fight against real footage and CG movies played on a DVD."

such as this enables the PlayStation 2 to create forests full of trees on the fly," explains Fred.

NEW TRENDS

The introduction of such features points to a further trend for game artists to consider. While it's undoubtedly the work of 2D and 3D artists that defines the overall visual style and quality of a game, the mathematically based elements of a 3D engine are set to play an ever larger role than before.

Lighting, shadowing, and texture manipulation have traditionally been pre-calculated, but increased 3D processing power make it possible to generate these, as well as the form of the aforementioned procedural objects, in real-time. 3D programmers are therefore set to play a much more prominent role, necessitating a closer working relationship between the coding and art departments in the future.

At this stage, the jury is still out on which machine will really be graphically superior, much less which will ultimately take the lion's share of the market. What is clear is 3D artists are going to have a ball with these new toysets. "The 'total immersion' everyone talks about is my quest," concludes Jerome D'aviau de Piolant at French development studio Kalisto, "Because these consoles enable amazingly detailed characters, environments and visual effects, which in turn enable real-time graphics to make a huge leap closer to pre-rendered ones. It's a dream that might come true."

Name ▶ Fred Gill

Job Title ▶ Technical director

Company ▶ Attention To Detail

Working on ▶ Unknown



"The PS2 architecture is parallel in nature and offers immense and flexible floating-point capability. This enables us to render scenes of great complexity and incorporate realistic physical behaviours – for example, we can model cloth on a character. The cloth moves based on the physical movement of the character as real cloth does – it isn't just a pre-canned animation. X-Box has some amazing per-pixel effects that enable us to create realistic-looking surfaces with bump mapping, Phong shading, cubic environment mapping and per-pixel effects. The scenes will be amazing."

Name ▶ Mark Atkinson

Job Title ▶ Co-founder and director

Company ▶ Computer Artworks

Working on ▶ Unknown



"With X-Box, probably the most significant technical features will be the programmable pixel shaders and vertex shaders. Another exciting feature being introduced in DX8 is support for high-order surfaces such as Bezier and B-spline patches. In combination with dynamic level of detail and the hardware T&L, this will lead to unprecedented levels of detail in terms of raw geometry even before the pixel shaders get to work. With PS2, programmability will be one of its key strengths. The co-processors are flexible and how they are used is entirely up to the developer."

Name ▶ Don Seegmiller

Job Title ▶ Art director

Company ▶ Saffire

Working on ▶ Undisclosed titles for Nintendo Dolphin



"Up to this point we have been somewhat limited with what we have been able to do artistically. That is changing. We will be able to use much higher-resolution 3D models, which make it possible to animate facial expressions, simulate speech and use varied and subtle musculature to enliven characters. We'll also be able to make the environments in our games much more realistic or fantastic. Fire and smoke will behave more like the real thing. This is just the beginning when we consider things such as water, wind and other environmental factors that we haven't been able to do justice to yet."

20 TIPS

Presenting 20 tips to help you work faster and smarter in *3D Studio MAX*. Every issue of *3D World* includes tutorials, tips and advice for 3D artists **BY PETE DRAPER**

INTERFACE & VIEWPORTS

01 SCHEMATIC VIEW

This nifty little tool enables you to create hierarchies, modify an object's properties and quickly navigate to objects and their stack all in one window, without having to manually select objects to do so. You simply double-click on the object's modifier stack node to navigate directly to it.

02 KEYBOARD CONFIGURATION

Life seems easier when you're able to use keyboard short-cuts; it's quicker to execute, quicker for the computer to work out (less items to 'draw out' such as menus) and gives your other hand a bit of exercise! With *MAX 3*, additional short-cuts have been assigned for the most commonly used features, and these can be customised to your own requirements.

03 MIDDLE MOUSE BUTTON

It is very useful to have a mouse that features a wheel as the middle button. Simply use the wheel for interactive zoom or press [Ctrl], [Alt] and the middle mouse button; depress the wheel to pan or [Shift] and the middle mouse button, and hold [Ctrl] as well to pan faster. Holding [Alt] and the middle-mouse button enables interactive rotation.

04 SPECIAL MENUS

By holding down [Ctrl], [Alt] or [Shift] and right-

clicking in a Viewport, you can quickly select a menu that is specialised to the area the pointer is over, or for the selected item, such as Select Mode, Quick Render etc. Hold down [Ctrl], right-click in the active viewport and select Customise Menu to insert additional options using MAXscript.

FILING

05 OPENING PROBLEM FILES

If a scene won't open, chances are it's due to a plug-in not being loaded, an object has become corrupted, or *MAX* can't open the scene fast enough (ie off a slow network, copy it to a local drive to open). Merge the scene an object at a time until the corrupted object has been discovered, or x-ref in the objects/scene and then merge from within the x-ref dialogue box. Merge environment settings if also required.

06 SUMMARY INFORMATION

Handy to determine what plug-ins (or wayward plug-ins) have been used directly or indirectly in the current scene. This also enables you to enter summary information for the scene and to view the current scene information, such as face count or material assigned. This information can also be saved out as text for filing.

MODELLING

07 INCREASING SPINNER VALUES

To save working out the sum of a spinner value

and the amount you want to increase it by, either in your head or by using a calculator, enter [R] and the amount to increase by (r50, for example), completely replacing the text in the spinner, and the spinner value will automatically update on pressing [Enter].

08 REFERENCE CLONING

This enables you to modify the mesh without affecting the original, but also enables you to amend the original (and therefore the cloned mesh) if something was omitted from both. Handy when you want to see both end results if a major amendment was performed to the clone, but don't want to keep activating and deactivating Show End Result for each modifier when working with only the original if you have to amend something further down the stack.

ANIMATION

09 GHOSTING

Found in the view pulldown menu, ghosting displays wireframe copies of an animated object for a specified number of frames before or after (or both) the current frame. This is used to analyse the objects motion etc, with tighter ghosting indicating slower motion and wider-spaced ghosting indicating faster motion. Ghosting parameters can be amended in the Viewport tab in the Preferences dialogue box.

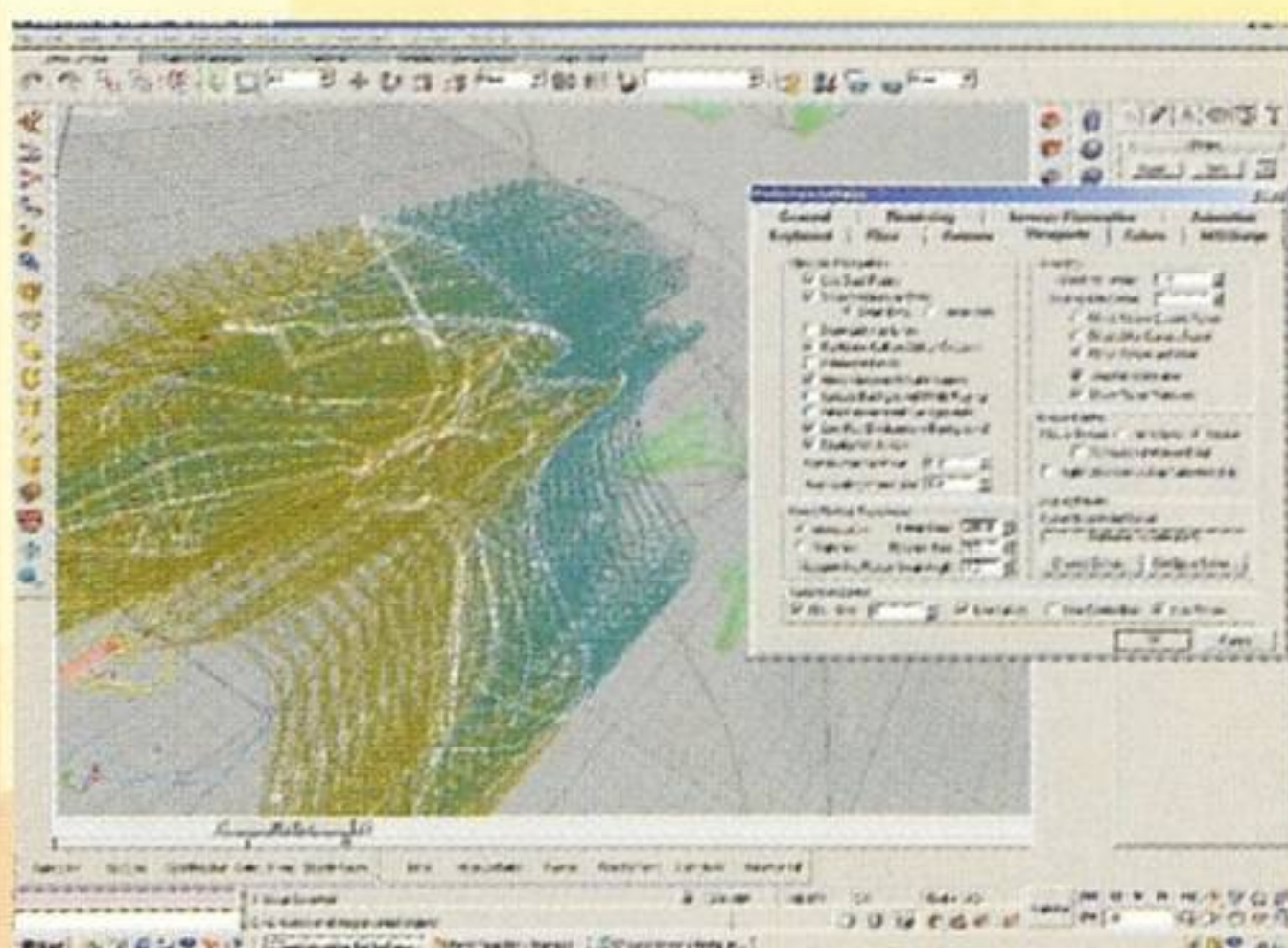
10 TIME TAGS

To keep track of key events in your animations, insert Time Tags at relevant keys or at specific instances along the timeline when an important event occurs. These act like those little yellow sticky pieces of paper that adorn your monitor, and pop-up when the frame it's been assigned to is the current one. These also act as markers giving you the ability to jump to a specific frame where a keyframe may not necessarily exist.

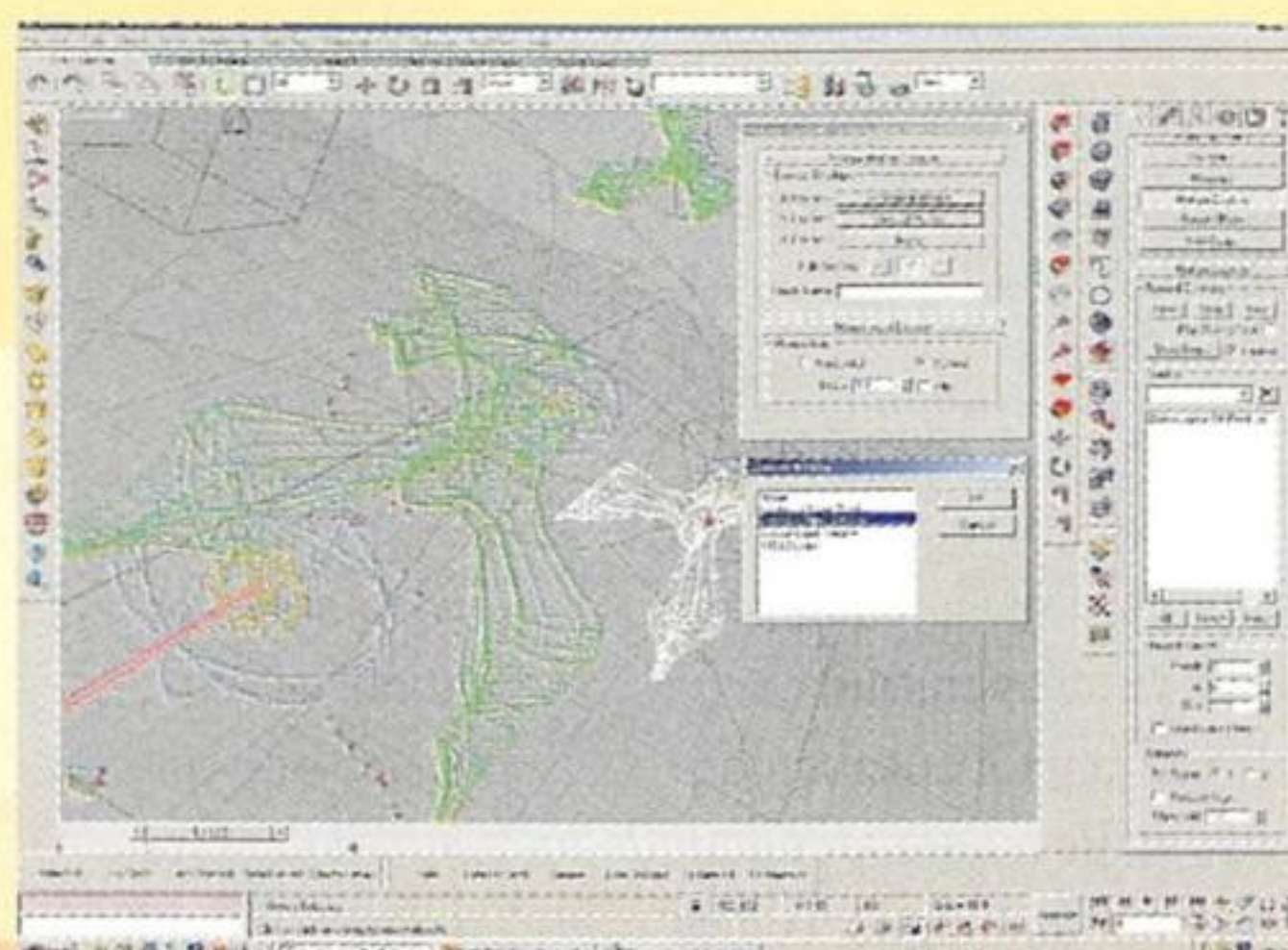
11 MOTION CAPTURE

CONTROLLER & UTILITY

Ideal for including a much more natural feel to an animation as you record the motion of an



09 Ghosting is a quick way to view the selected object's motion speed using wireframe copies.



11 Real-time motion capture creates transformations and can also be used within virtually any property.

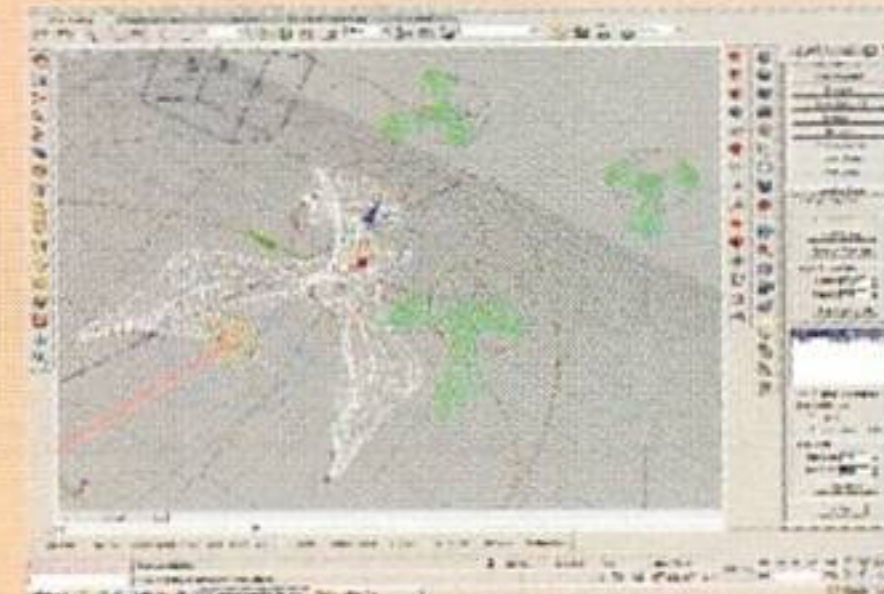
19 LOD UTILITY

THE LEVEL OF DETAIL UTILITY enables you to automatically replace hi-poly objects with low-poly objects depending on their size in the rendered image. At least two copies of the same object are required to switch to; one method is using the low-poly object created by box-modelling before applying Meshsmooth. Move and align the objects to the same co-ordinates and group them. Select the LOD Utility, Create New Set and select the grouped objects. The Utility will analyse the group and list the objects in order of the amount of faces in each object, setting near and far limits for each one.

These settings should be OK as they stand, but you may want to manually tweak the limits (either in number of pixels or percentage of screen – taken across the diagonal) if the resulting render displays a low-poly object instead of a high one.

By default, the object with the lowest poly count will only be displayed in the scene (this can be amended for any object to be displayed) which makes viewports redraw faster. However, if you decide to clone the LOD'd group, you will need to set up LOD again for the new group. Additionally, when the output

render size is amended from, say 640x480 to 320x240, LOD will update and use a lower-poly object due to the image size. This utility is ideal for space battle scenes with ships flying around in the distance. They can all be clones of one group, all with LOD to keep poly counts down, and should a few ships fly to the foreground, MAX will update the displayed meshes.



Set up LOD by setting percentage or pixels-viewed limits on the objects in the group.



The final render. The three background ships are low-poly, the foreground one is hi-poly.

object or turn objects on or off on the fly. Easy to set up, supports virtually any input device and its controller can be assigned to almost any element within an object, it's possible to easily hand-animate objects throughout the entire animation, from limb motion to blinking eyelids.

MATERIALS

12 RECEIVING SHADOWS ON 100 PER CENT SELF-ILLUMINATED MATERIALS

Shadows can't normally be received by 100 per cent self-illuminated materials. A partial way round this is to create a Blend material with the 100 per cent self-illuminated material in one slot and a less-illuminated copy in the second, and use a falloff material with shadow/light as the mask. To darken the shadow, decrease the illumination value of the 'darker' material.

13 MATERIALS VS MESHES

If at all possible, use materials over meshes. If your scene is highly complex, rendering times will be noticeably reduced by replacing meshes with mapped low-poly objects. It's worthwhile rendering off your high-poly scene as an RLA file, extracting the z-buffer image and using it as a bump map/material displacement for the texture applied to the low-poly object.

LIGHTS & CAMERAS

14 POSITIONING LIGHTS

Position lights quickly by using the Place Highlight tool on a sphere in a shaded view that has a wire material assigned and covers the area to be lit in the scene. This enables you to exactly position the lighting by viewing the effects on other scene items. The lighting positions can then be manually tweaked for optimum results.

This is a good place to experiment with different light positions to gain a feel for the atmosphere of a scene.

15 CREATING SOFT RAYTRACED SHADOWS

There are several ways to produce this, but the most effective result is to link the light to a dummy following a path of a flat helix with large beginning and small ending radius that completes the motion in one frame. Render times will be high because the feather effect is generated by scene-motion blur, and this needs to be as high as required.

16 POSITIONING CAMERAS

It is much easier to set up and position a perspective viewport than a camera, but when a scene requires a camera viewport, set up the view in perspective, select the camera to be matched and select Match Camera to View in the Views pulldown menu. This feature can also be animated; check on Animate, pan to a different frame, reposition the perspective viewport and redo Match Camera to View.

RENDERING

17 COMPOSITING

If you find that rendering times for your total scene are astronomical, try breaking it up into layers and compositing later. The time taken to do this would be lower than the time it would take to render the scene in one pass with everything included.

18 RENDERING & MEMORY

If you cancel a render, MAX may report that it can't begin another render due to lack of memory. This is because MAX will not free the

memory allocated to the cancelled render until it is restarted or another frame has completed rendering. The only way around this without restarting MAX is to render a small frame with very low detail, allowing MAX to complete the frame, freeing up the memory.



If you've found this selection of tips helpful, check out 3D World issue one for the full gamut of 50. Take a look at our site at www.3dworldmag.com

20 DIFFERENT STROKES

SIMILAR TO KEYBOARD shortcuts, Strokes are generally designed to be used by owners of MAX with graphic tablets or pens. As with keyboard shortcuts, virtually any operation that MAX performs – be it applying a modifier, restricting to a specific direction, or opening up a dialogue box, can be performed without even clicking on a button. Strokes is a feature that enables you to draw on the screen while pressing the third button on your pointing device to perform an operation. For example, you may have set up a Stroke to limit a transformation to the y axis. By holding down the third button on your mouse/pen and drawing the shape required to perform this operation (something relating to the operation in question – a 'Y' in this case, for example), the specific tool or operation will be selected; even selecting an object and performing the operation if the stroke drawn encircles the object.

Strokes can be enabled in Customise, Preferences, Preferences dialog, Viewport, Mouse Control group, Stroke, and can be defined by holding [Ctrl] and drawing the stroke using the third button.

Q&A

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You find more Q&A advice on our Web site at www.3dworldmag.com



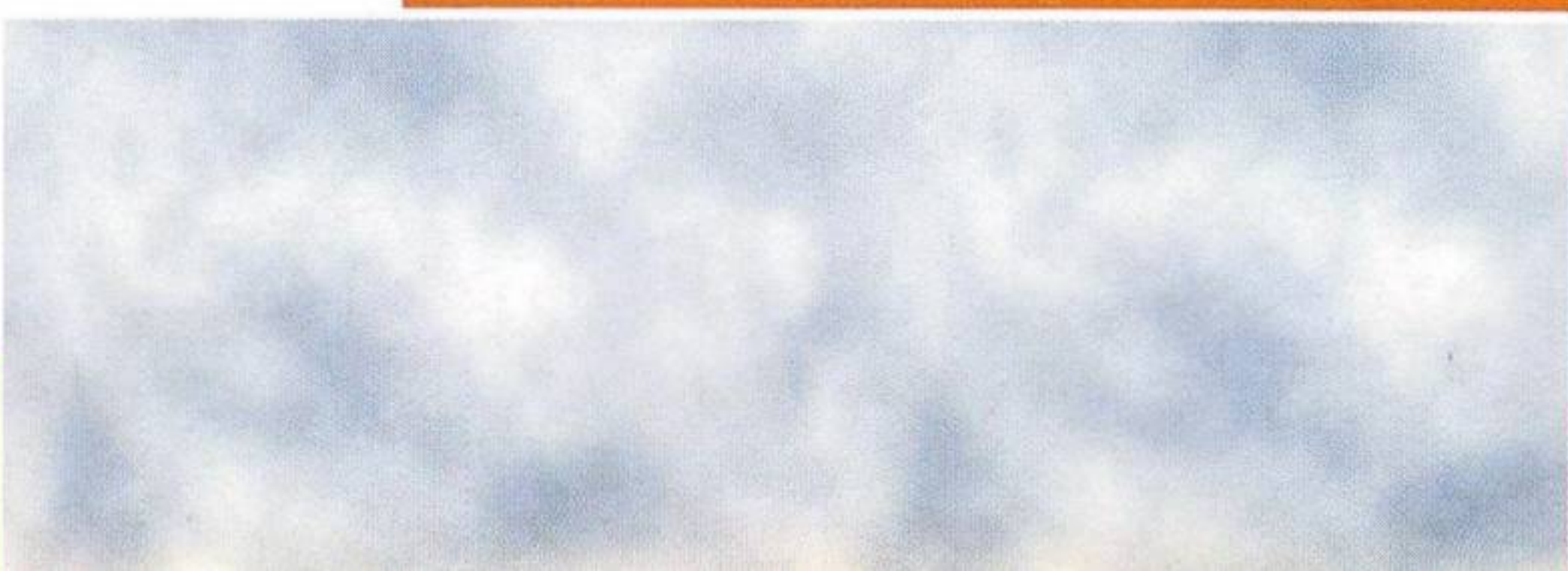
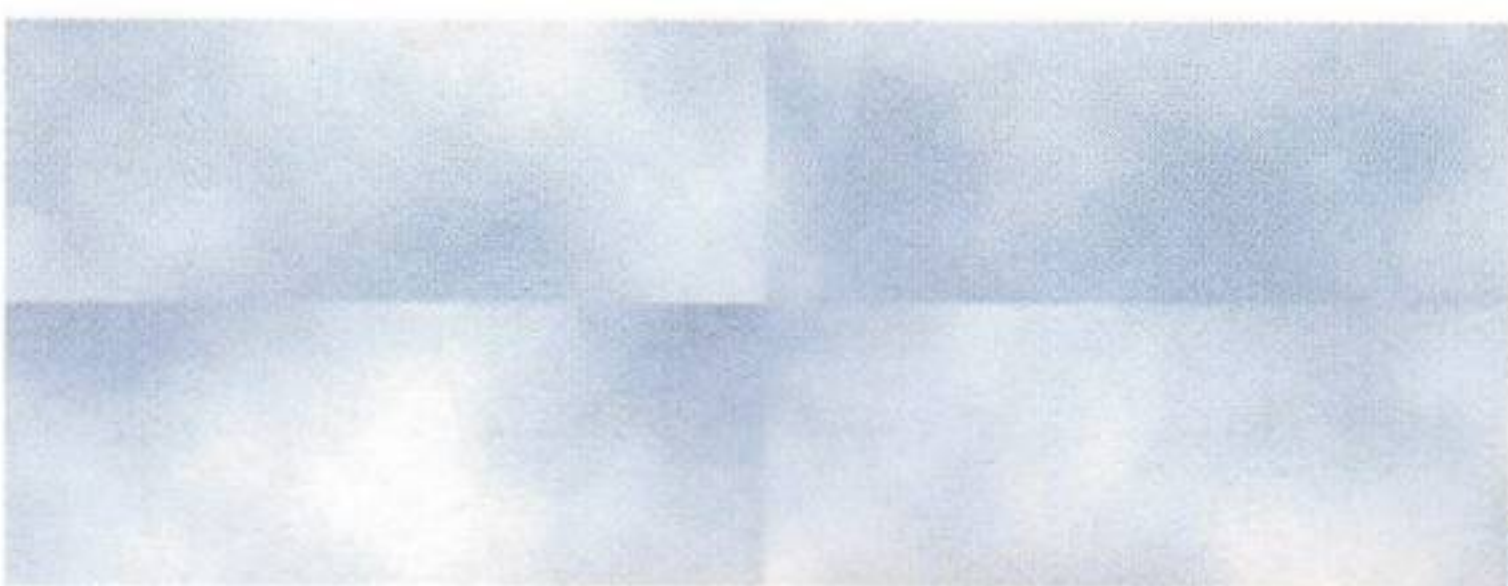
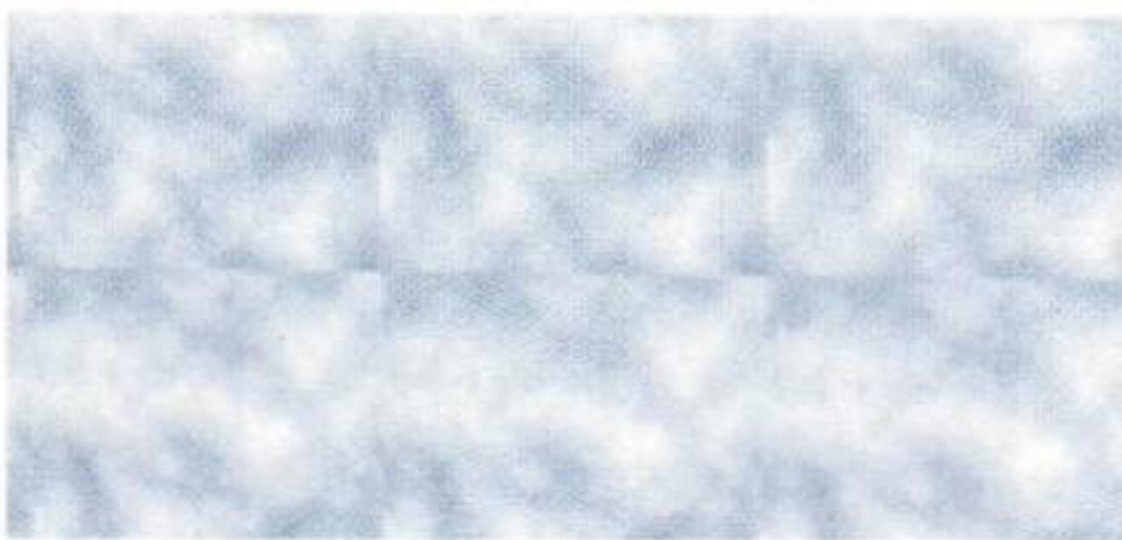
When I use photos as texture sources and apply them to an object, I get an ugly checkerboard effect. How do I create seamless textures?

AVERY CORNISH, NEW YORK

FROM TOP Result of tiled unaltered texture – notice ugly seams throughout.

Result of Offset Filter placing seams squarely in the middle to be ironed out.

Result of seamless texture; impossible to tell where one tile ends and the next begins.



The term 'Canned Textures' refers to textures that come as part of a 3D package. These textures work well to quickly block out a desired look, but employers and experienced 3D artists can easily differentiate between stock textures and originals. Subsequently, in order to display peak-quality final images, it's a good idea to develop and create original textures for 3D projects.

In creating original textures there are a variety of sources. Some textures are created from photographs, while others come from traditionally or digitally painted sources. The problem with most of these sources is that they have distinct edges where the image ends. When these images become colour, bump and specular maps, your 3D application of choice will use the map over the shape until it runs out of source material, then it will 'tile' the same image over again. When one copy of the image ends and the other begins, there appears a visual and unsightly seam. The result is a tiled look that simply doesn't scan with what we expect

in nature. Because these seams are right on the edge of the images, it's tough to paint one side to match the other. The trick to banishing those unsightly seams is to be able to see them in the middle of the image and paint over them.

To do this, use the Offset Filter (Filter>Other>Offset) in *Photoshop*. When the filter is selected, a dialogue box appears. Making sure that the Wrap Around option is checked, select a value for both the Horizontal and Vertical that is roughly half the length and height (respectively) of your source image. The resulting image has the seams placed squarely in the middle of the image. Because the image was 'wrapped around', be assured that the edges of the image now match up.

Use the Rubber Stamp tool to stamp out the seams. Option-click (to establish an origin) on an area of your image that has no seams but is similar to the seamed area. Then, move the Rubber Stamp tool over your seam, click and drag and the tool copies the area you've selected as an origin. You probably want to select several different origins along the way to make a truly random cover-up. Regular patterns are usually unavoidable in non-procedural textures, but can be put-off by staggering sources.

After the visual seams have been worked out, be sure to repeat the Offset Filter to see if there are any new seams. Often, in the process of working and painting out extant seams, new seams are created, especially if a lot of the work has been performed near the edges of the image. If new seams exist, Rubber Stamp them out.

Repeat until no seams are present upon offset. Further, make sure that any bump, displacement, specular or other maps due to be created should be produced from this new seamless source.

BY ADAM WATKINS



Is there a quick, painless way of animating a very complex character without too much time-consuming effort?

KENNETH PHOCK, COLORADO

a It's frequently the case that by the time you've set up your character and got all the inverse kinematics and deformations working, it's simply too slow to animate with. The problem is that every time you drag the mouse to move its leg, your software has to perform massive calculations – finding the IK solution, calculating expressions, deforming the geometry and adding effects such as secondary animation. Add to that the fact that in order to test-render, your model may use render-intensive bump maps and lighting effects. When animating, you're typically uninterested in these sorts of effects. You want to be able to concentrate on getting the best possible performance out of the character with just enough visual feedback to guide you.

If you've seen work-in-progress footage of *Toy Story* or *Walking with Dinosaurs*, you'll have noticed that they animate with a very simple low-resolution test version of the character then transpose all the animation to the full version. Big studios often write complex scripts to copy all the animation from a simple model to the full-resolution version, but you can do very similar things on a much smaller scale.

First, you can lose all the surfaces and textures. There's no harm in working on a plain white model, and it makes test renders much easier. Your software may enable you

to replace your object with a different saved version, without changing any of the animation parameters. If so, you can also replace the model with a lower-resolution version. If you're using NURBS, then you might just set the surfaces to a much lower subdivision setting, or use a version with less detail.

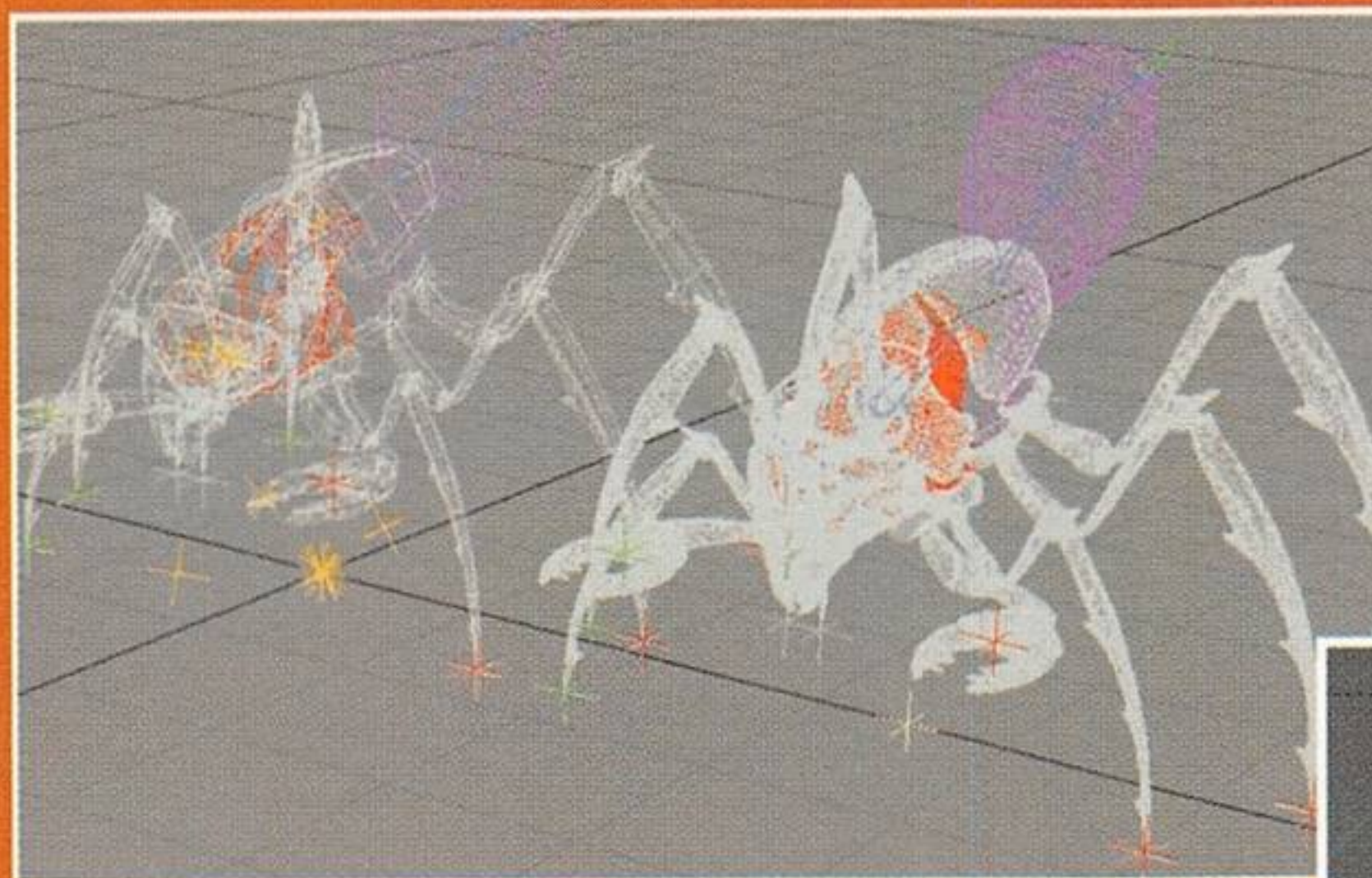
One technique I've used is to create low-res versions of a model saved in a different directory. By renaming the directories, I can load the same scene with either full-res or low-res parts. Be wary of simply hiding parts of the model. You may find that although you can't see them, they're still being considered by the software when you drag the time slider, thereby slowing you down.

You can also remove characters from the scene they're in and animate them in isolation. Set up a scene with just the low-res character, the camera, two simple lights and maybe the floor. If your character needs to walk up the stairs or something, make a rough version of the stairs and load that to mark its position.

If your character is going to interact with anything else happening in the scene, you can animate that first and then animate the character's reaction. Similarly, it's possible to separate facial and body animation.

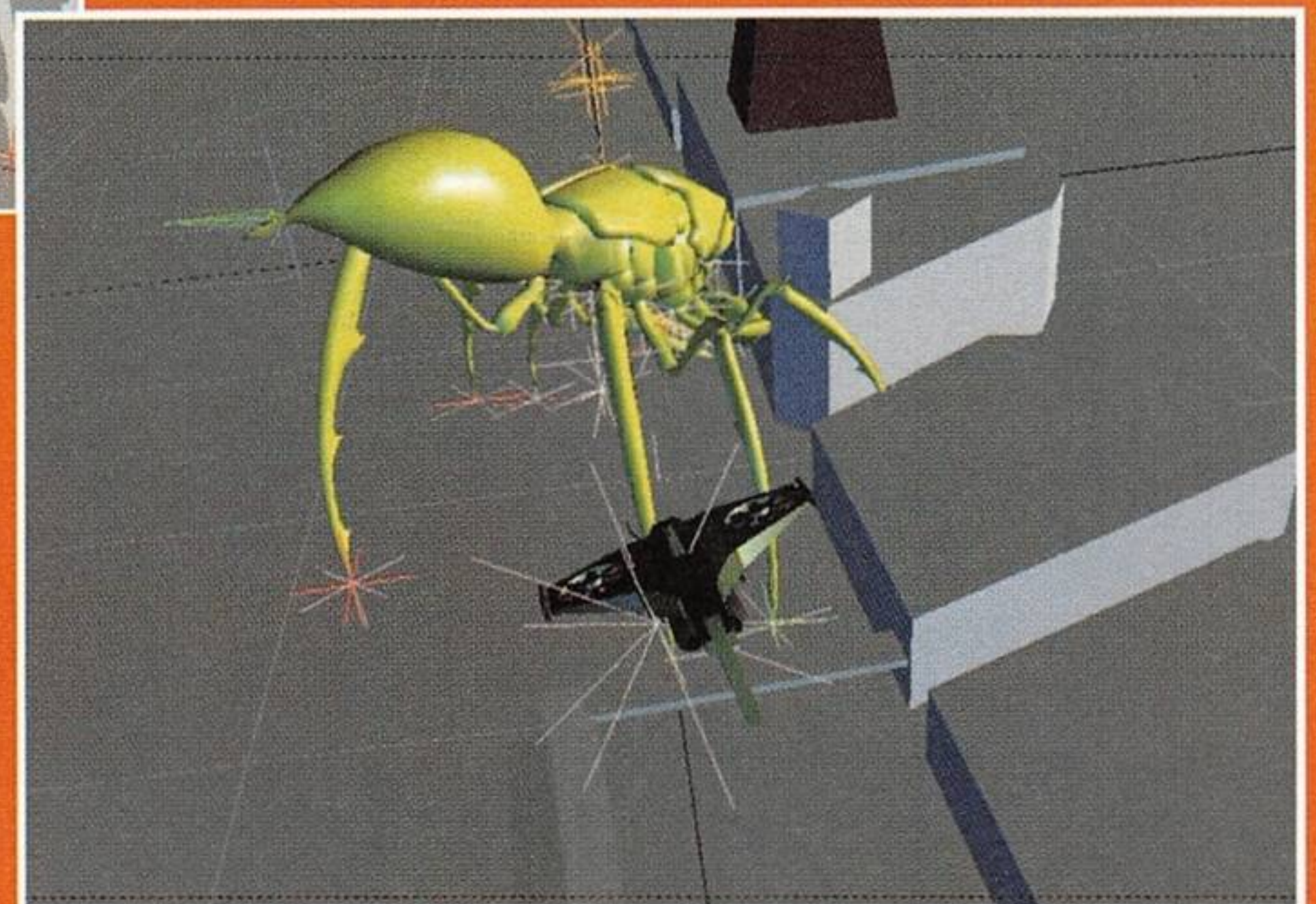
Try animating the facial animation in a separate scene, then loading that on to the body animation. Whatever you do, remember that you still need to be able to read the characters' expressions and gauge their performance. By concentrating on these elements and removing other distractions, you should be able to create great animation very quickly.

BY BENJAMIN SMITH



ABOVE On the right, the full-resolution mesh; on the left, the low res used for animation.

RIGHT The low-res mesh is animated around simple scenery and imported into the final scene.



If you have a question for our 3D experts, simply send it to us at 3dw.qanda@futurenet.co.uk. You find Q&A advice in every issue of *3D World*, and even more on our Web site at www.3dworldmag.com

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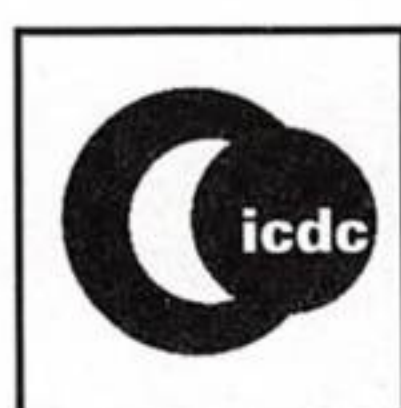


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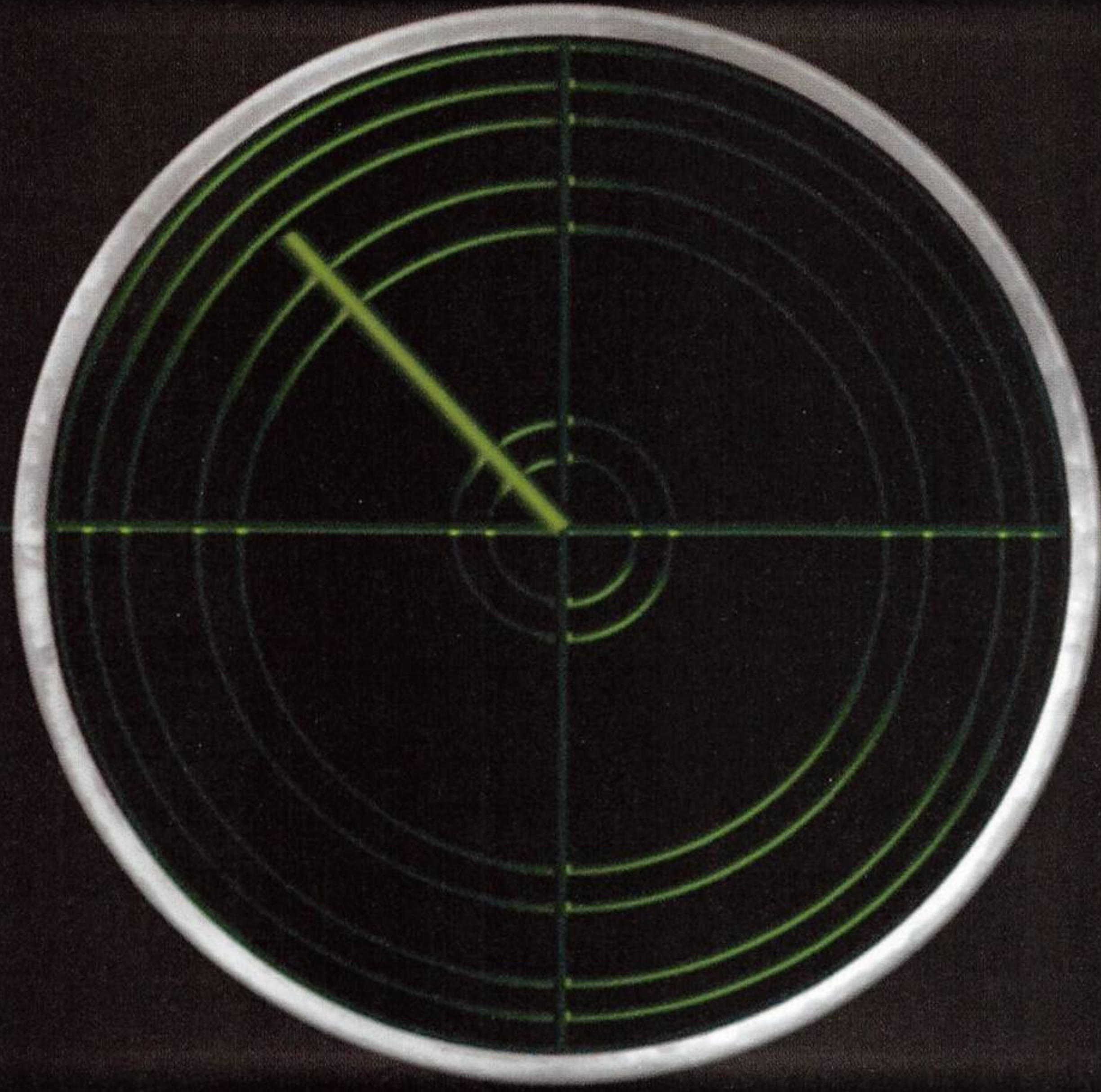
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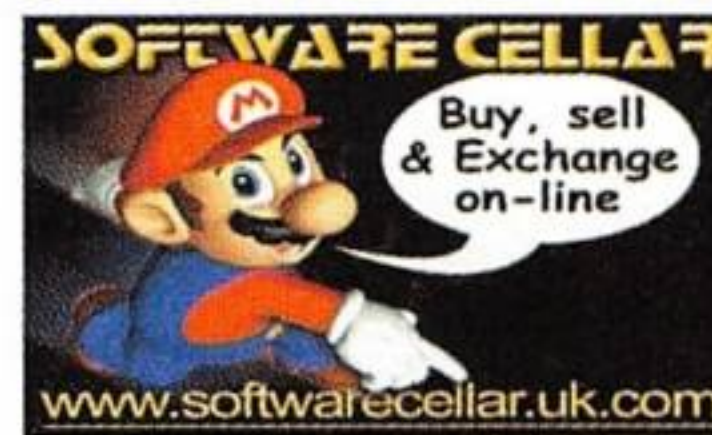
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SECRET OF MANA

As the American import of part four in the *Seiken Densetsu* series arrives in the **Edge** office for review (see p84), it's time to reflect upon the game that ignited the legend, a unique episode in the development of adventure gaming in the 16bit era



As in just about every game with RPG elements, developing the power of your weapons was a crucial gameplay element (above). In a neat twist, your attacking styles changed as you went



It may not scream glitz today, but in the early '90s *Secret of Mana* showcased some of the most beautiful graphics seen on a home format. Animation was slim, but detail strong

Final Fantasy II may have warmed American tastes to the subtle delights of Japanese RPGs in 1992, but it was 1993's *Secret Of Mana* that truly paved the way for the success of SquareSoft's adventure titles thereafter. Following *Zelda III*'s lead, the game offered a classically styled fantasy tale played out with action-led combat, although it bore more strategic elements than Nintendo's work, with tweakable party behaviour and an ample treasure chest full of different styles of armour, weapons and types of magic.

Uniquely, beyond these obvious riches lay a gameplay system which, with a multitap in place, allowed three players to participate simultaneously, taking the roles of the lead hero, his imp-like friend, and the heroine of the piece.

Throw in sparkling audio (the Japanese soundtrack CD release was huge in its day), a supremely effective 'ring'-based interface, and around 50 hours' worth of gameplay, and you have one of 16bit gaming's finest.



A sense of humour revealed itself when your characters needed to get from one part of the map to another in a hurry. Gratuitous use of Mode 7 scaling was a bonus

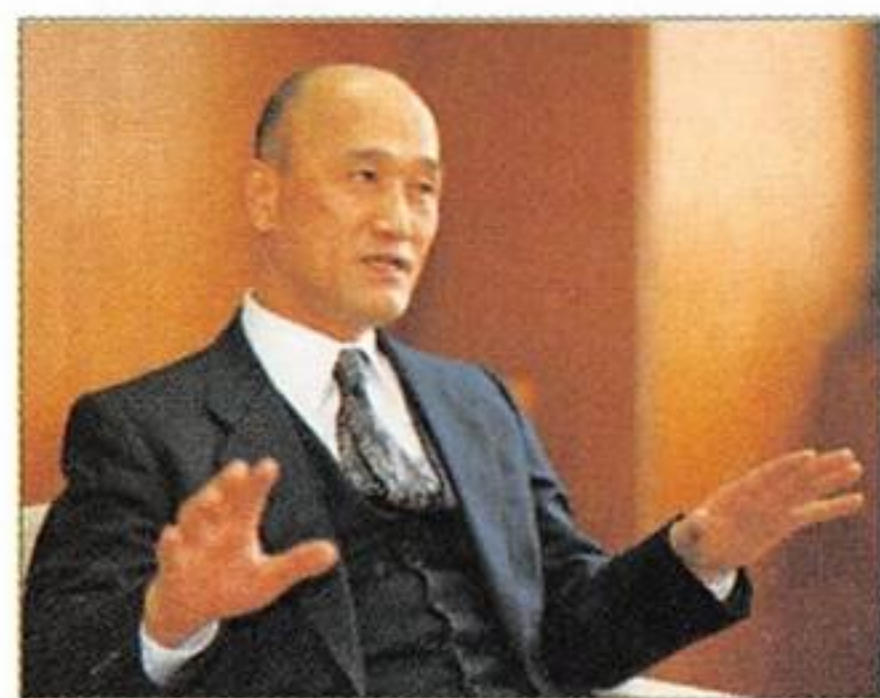
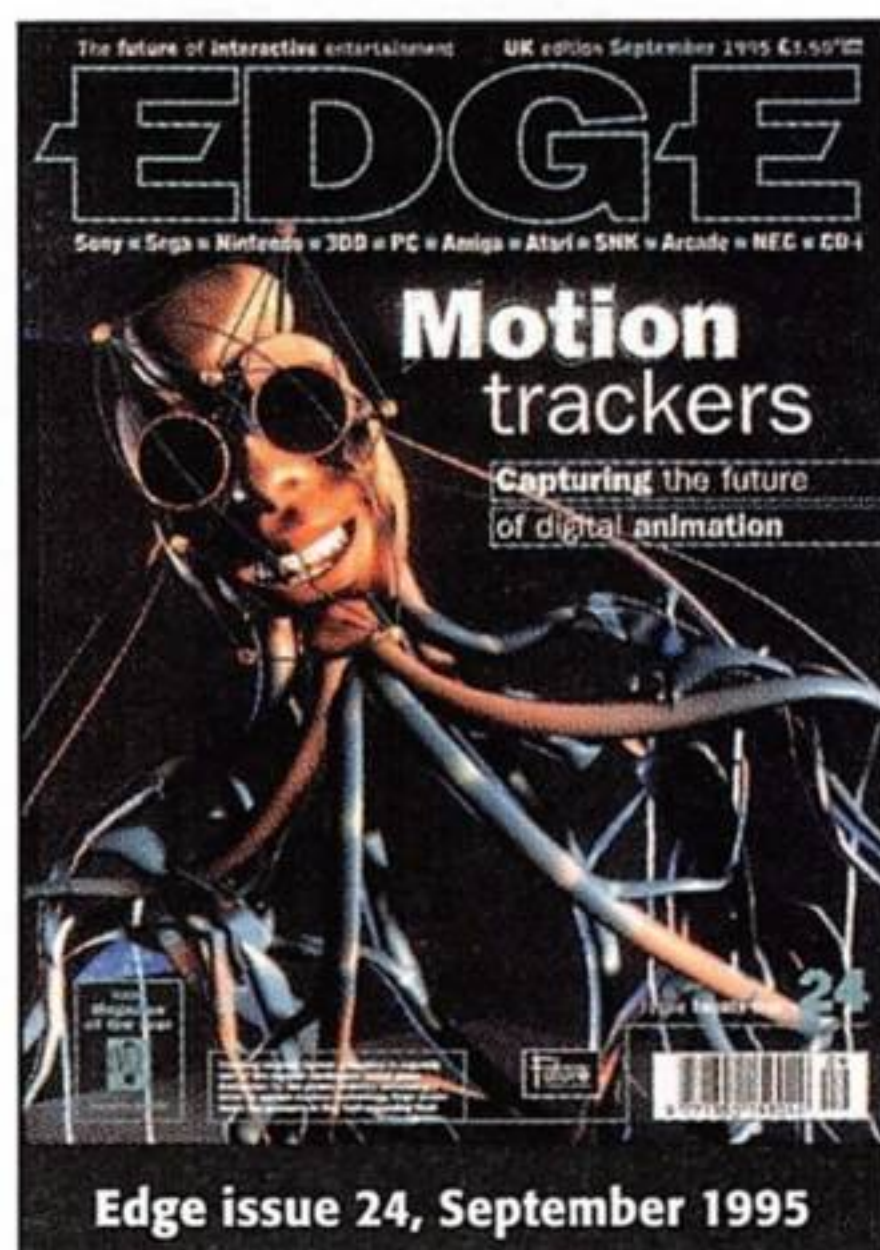
Manufacturer: SquareSoft

1993

SNES

EDGEVIEW

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

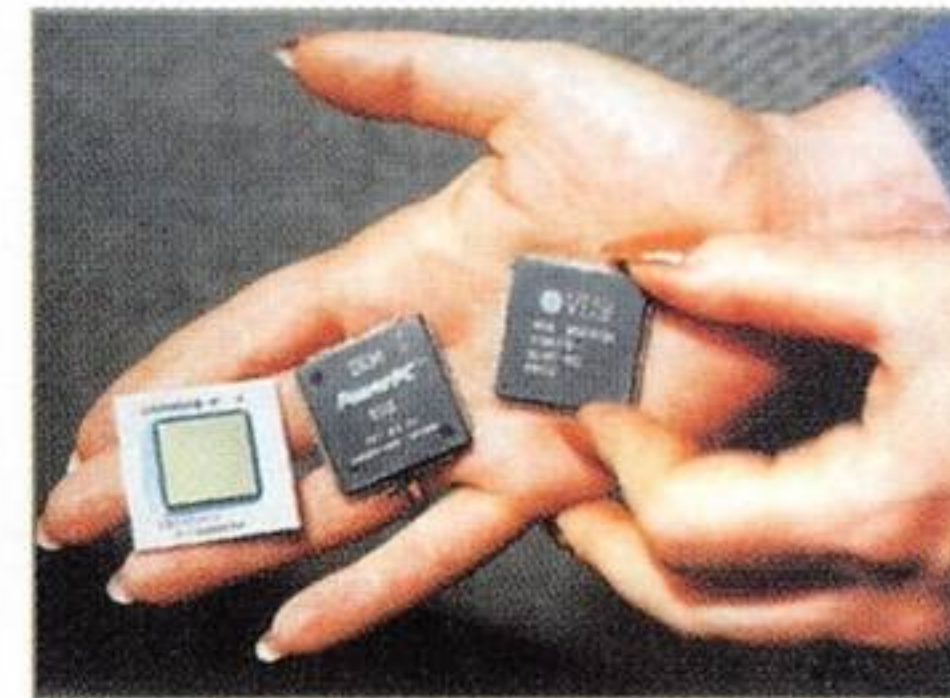
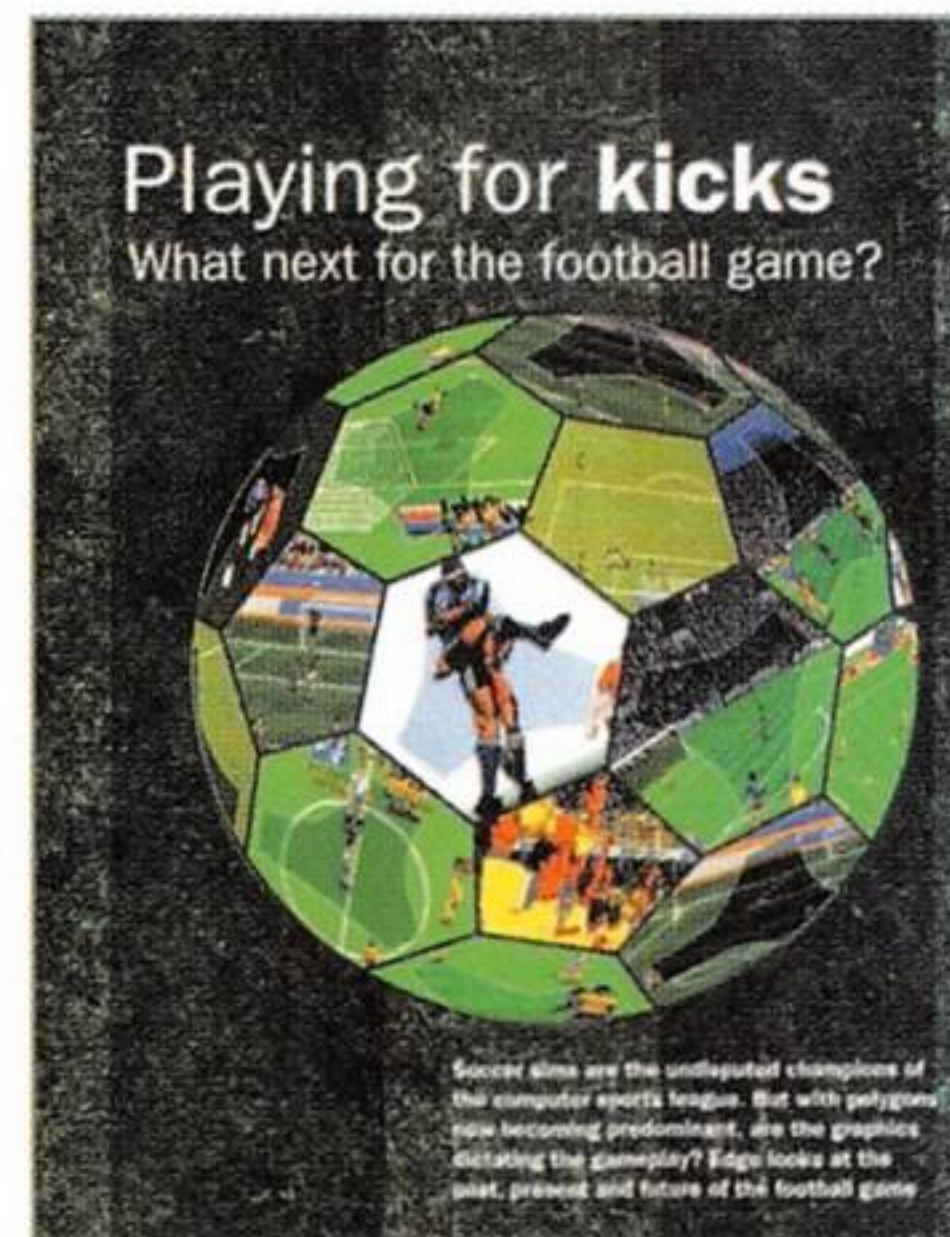


"How will we make the N64 a success?" asks NCL PR guru Hiroshi Imanishi. "Just like that"

Virtual reality was once the buzz term of choice to work **Edge** into a lather, but this month it was the turn of motion-capture, **E24**'s cover showing off an abstract, somewhat sinister image in an effort to demonstrate advances in the field. Inside, an eight-page feature outlined the benefits such techniques could bring to gaming before allowing one industry bod to conclude, suggesting that its potential lay in bringing 'more of yourself into cyberspace' ('The Lawnmower Man' must have still been impacting some three years after release).

News this month included the appearance of the first wave of Virtual Boy software, including *Mario's Dream Tennis* ('a standard tennis game'), *Red Alarm* ('combines *Starfox* with *Tempest 2000*'), and *Galactic Pinball* ('one of the better Virtual Boy titles'). Despite the lacklustre nature of the system and its software, **Edge** attempted to extinguish consumer doubts with the well-chosen words: 'Remember, they said the Game Boy would never catch on'. However, the writer fails to mention who 'they' were.

Finally, **E24**'s big interview was with Nintendo's PR manager. Hey, if Miyamoto-san's not available...



Clockwise from top left: SNES platformer *Yoshi's Island* is treated to a four-page preview; yes, that is a football game round-up you see in **Edge**; capturing motion capture; M2's graphics, CPU and CD controller chips

Did they really say that?

NCL's PR manager **Hiroshi Imanishi**: "Initially Nintendo will not be inviting thirdparties to produce [N64] games... Sony... pushed thirdparties to begin [producing] games before the [hardware] release... This is absurd"

Did Edge really say that?

'Nintendo's... commitment to 16bit gaming could prove to be a winning hand'

Testscreens (and ratings)

Terminal Velocity (PC; 8/10), *Super Sidekicks 3* (Neo-Geo CD; 6/10), *Ace Combat* (PlayStation; 5/10), *FX Fighter* (6/10), *Virtua Fighter Remix* (Saturn; 9/10), *Shin Shinobi Den* (Saturn; 4/10)

PIXELPERFECT

Every gamer has occasional moments of sparkling excitement, be it the first time *Speedball* booted up, or completing *Sabrewulf*. This month **Wil Overton**, an artist at Rare's HQ in Twycross, remembers a particularly daft slice of '80s gaming

While my best mate plumped for a proper(ish) keyboard and a grown-up(ish) version of *BASIC*, it was *Knight Lore* that initially swayed me to Uncle Clive's side during the great Commodore vs Sinclair war of the '80s. But it wasn't long before the lure of multicoloured sprites and multichannel music made defection seem like a mighty fine prospect and I lay the blame fairly and squarely at the feet of Andrew Braybrook.

Surprisingly, though, it wasn't the trademark bevel edges of *Uridium* or the finely honed originality of *Paradroid* that prised a second-hand C64 from another mate and kept me trapped in my bedroom for weeks, but the joy that was *Gribbly's Day Out*.

The premise was simple (as it always was in

those days): zip the strange one-footed frog thing – Gribbly Gribbly – around the silky smooth, eight-way-scrolling level, avoiding the electrified barriers that would zap your psi energy while trying to pick up stranded Griblets and drop them off in a safe cave. Eight Griblets and the level was done; take too long and a particularly vicious black crab affair would come a huntin' and whup your hide. It was all devilishly hard thanks to Gribbly's inertia but oh so playable.

It's one of the only 'retro' games I love just as much now as I did in the days of programming looping rude messages on the displays in Dixons or crashing machines with a well-placed POKE. Well, that and Lee Braine's *Where's My Bones?*, but that's another story entirely.



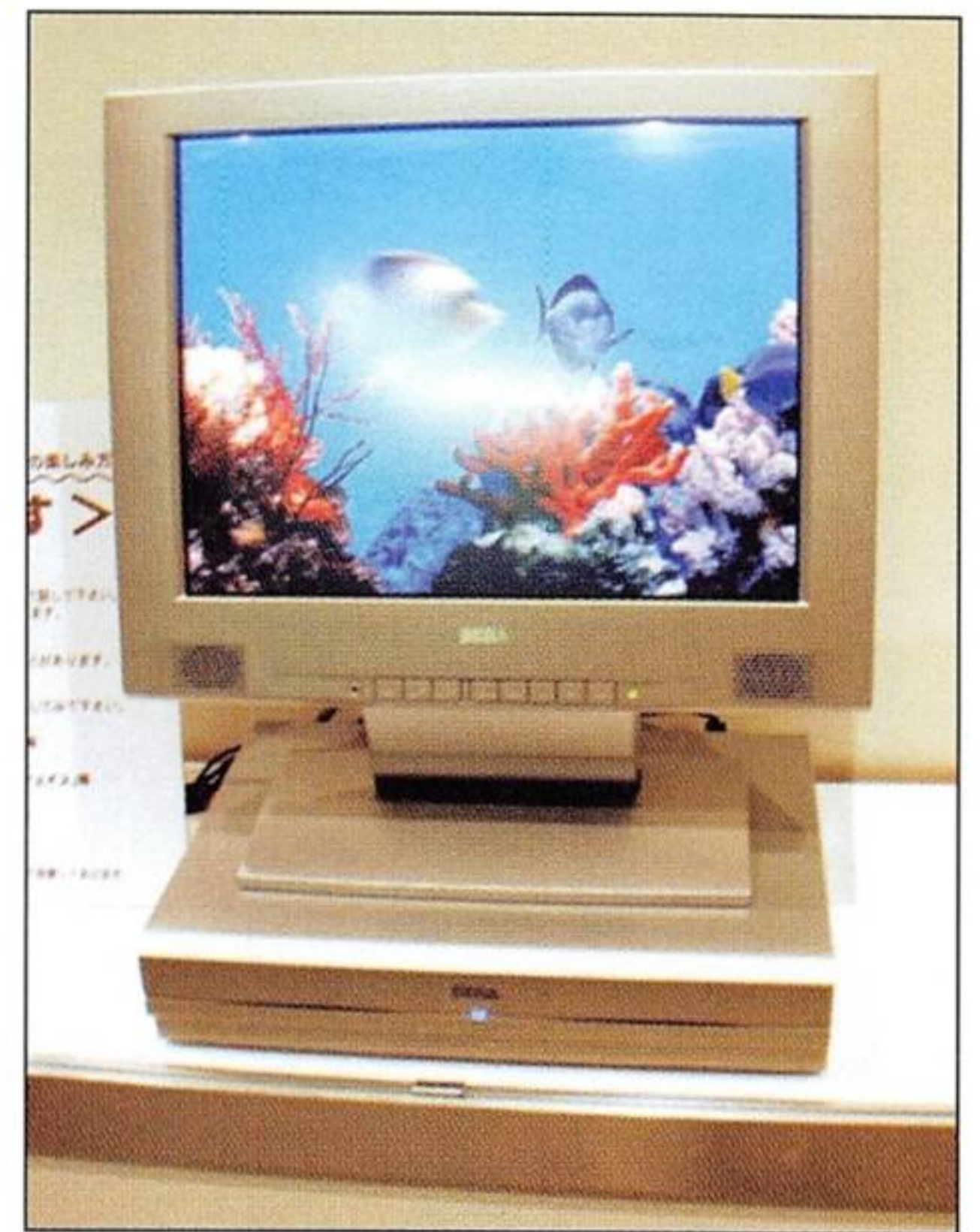
Nintendo-head Wil Overton once filled his C64 gaming hours with *Gribbly's Day Out*





Sega cooks up fish and chips

Japan: Released on June 20 and costing ¥498,000 (approx £3,120), Sega's *Fish Life* is destined to become one of the more novel videogame-related conversation pieces – even in Japanese homes. Sporting a 15-inch TFT LCD display and using a speech-recognition system, *Fish Life* boasts the ability to be more versatile yet much less messy than the typical aquarium. Drawing patterns on the screen causes the fish to run after the shape, and merely 'touching' a fish causes its name to appear on the screen. It is even possible to speak commands to make the aquatic life dance. Sega hopes that the technology will be used in restaurants, libraries and, bizzarely, aquariums.



Sega has been demoing this type of technology at coin-op trade fairs in Japan for some time now, but *Fish Life* is a version aimed at the home that has everything

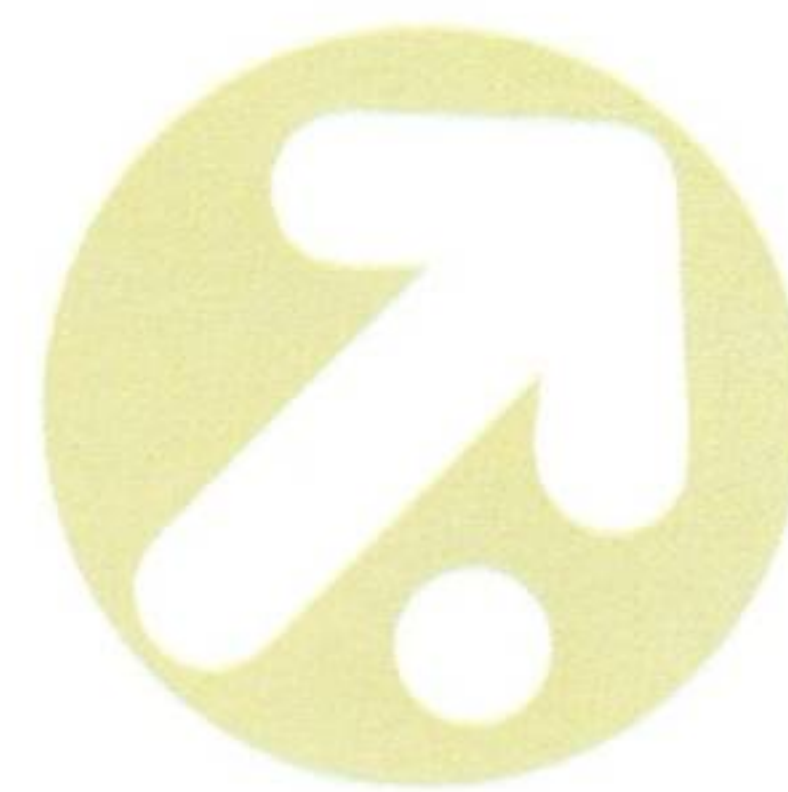
Pokémon invades Virgin territory

UK: Hot on the heels of selling more than one million copies in less than ten days in the US – making it the fastest-selling videogame ever – *Pokémon Yellow* was recently hailed in an odd fashion by Virgin Megastores, with the main window of its Oxford Street store given a yellow makeover in order to publicise the UK launch of the latest chapter in the phenomenon. Pokéfans were also treated to a sighting of Pikachu, as he unveiled the display at midday on the day of launch. **Stephen Lynn**, Virgin Megastore's marketing manager for games and mobile phones, said: "Judging from the success of today, we will be looking to do similar stunts and activity around other product launches." Here's looking forward to the inevitable sequel to *Soldier of Fortune*.



Pikachu puffs up with pride as it becomes clear that whatever *Pokémon* touches turns to gold



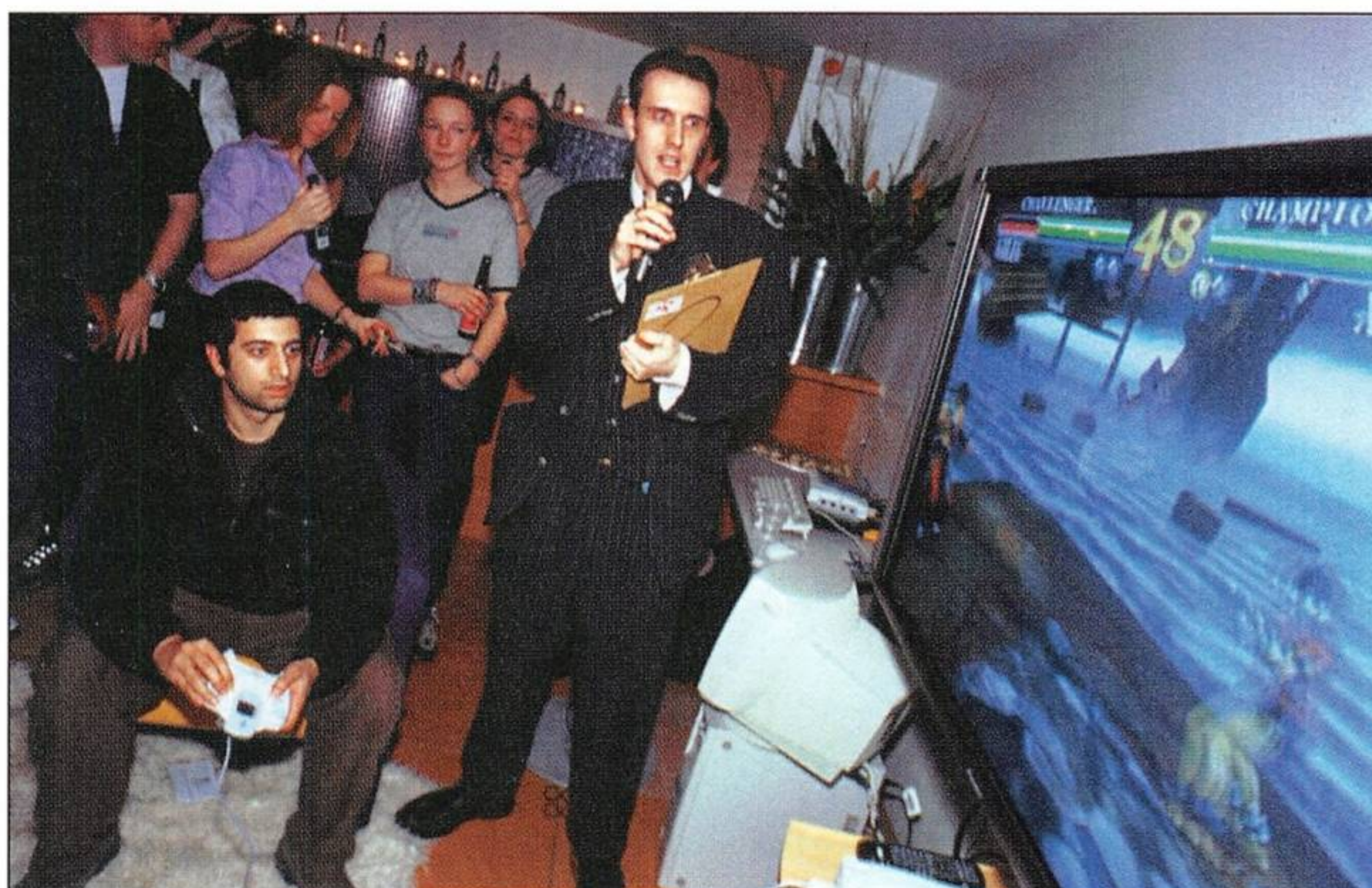


Professional gamers sought for cash reward

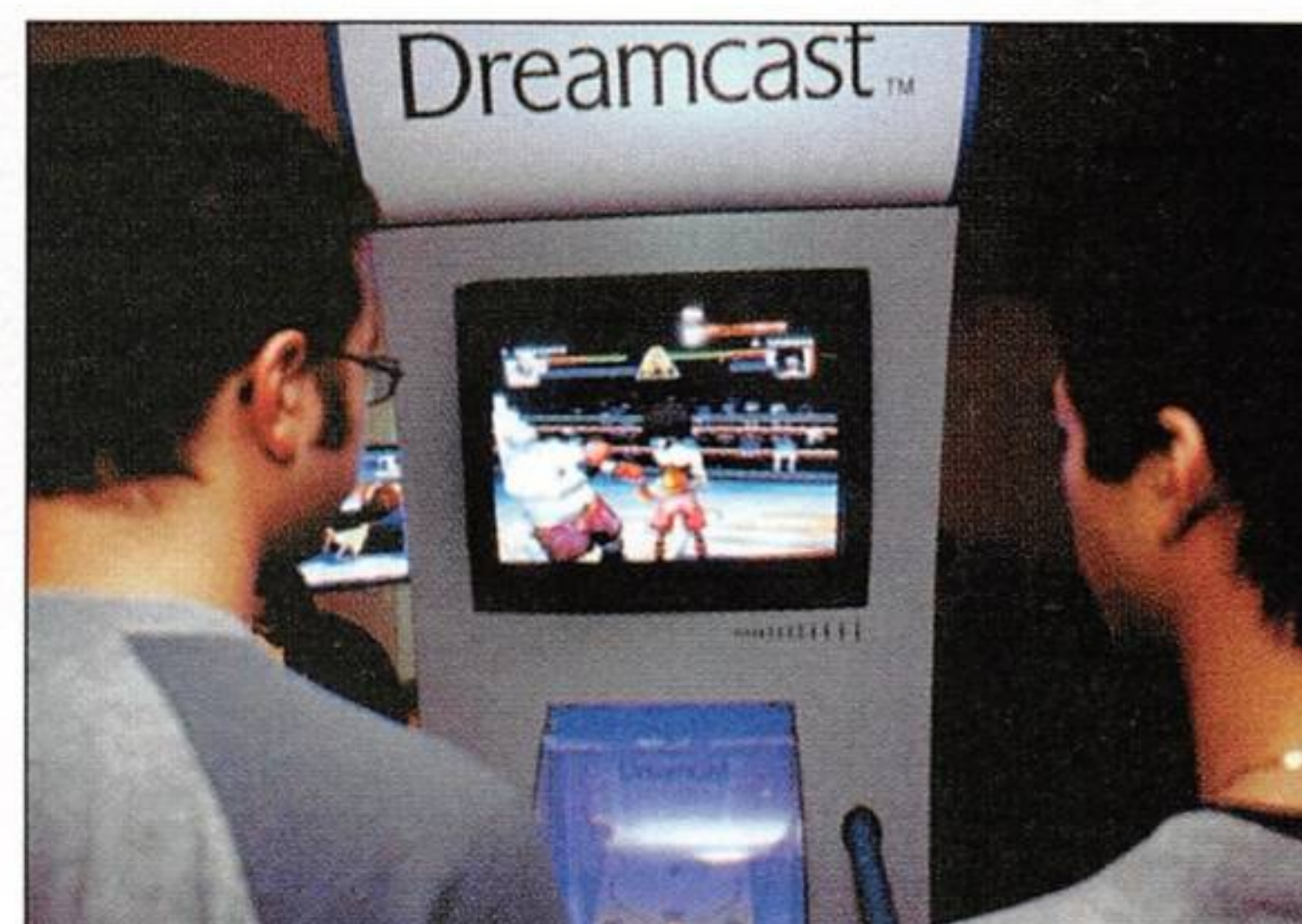
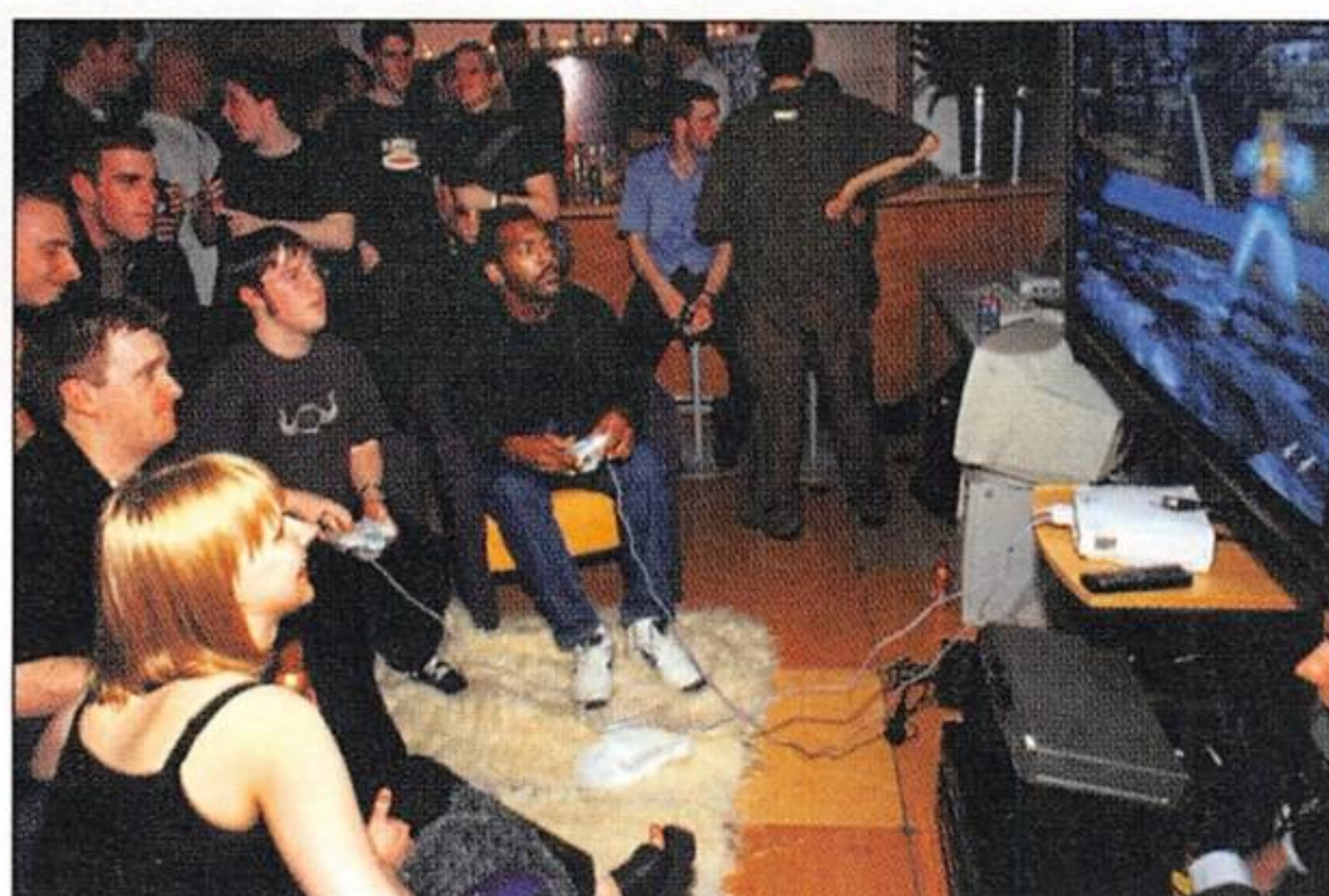
UK: The race is on to find Britain's finest, most skillful and charismatic gamer. (Well, the first two, anyway.) Independent competitions sponsored by Gameplay and Electronics Boutique will tap into the medium's increasing popularity and, it is hoped, spawn a new generation of 'professional' gamers.

Gameplay's N64, PlayStation and Dreamcast tournaments are for over-15s only, and boast cash prizes totalling £15,000. Regional heat winners at Cardiff (August 5), Glasgow (August 12), Leeds (August 19) and London (September 9) will win £250 and go on to the grand final in September. Telephone 020 7388 0004 or sign up at www.ukconsolechamps.com to take part.

Meanwhile, the SCGC 2000 (Scottish Computer Games Championship), based in Perth, runs over the weekend of July 28-30, and caters for both junior and senior age categories. Prizes include Sega Dreamcasts, games and vouchers from the sponsors. One of the UK's finest *Quake* players, Razza, will also be in attendance to take on challengers. Call 01738 813330 or consult www.infernal.co.uk for further information.



Gameplay's event, in its inaugural year, eschews the PC in favour of catering for gamers familiar with the N64, PlayStation and Dreamcast. But the rewards are great, and it is set to become the standard-bearer for gaming championships in the UK



electronics boutique

SCGC 2000, sponsored by Electronics Boutique, is the event of choice for gamers living north of the border.





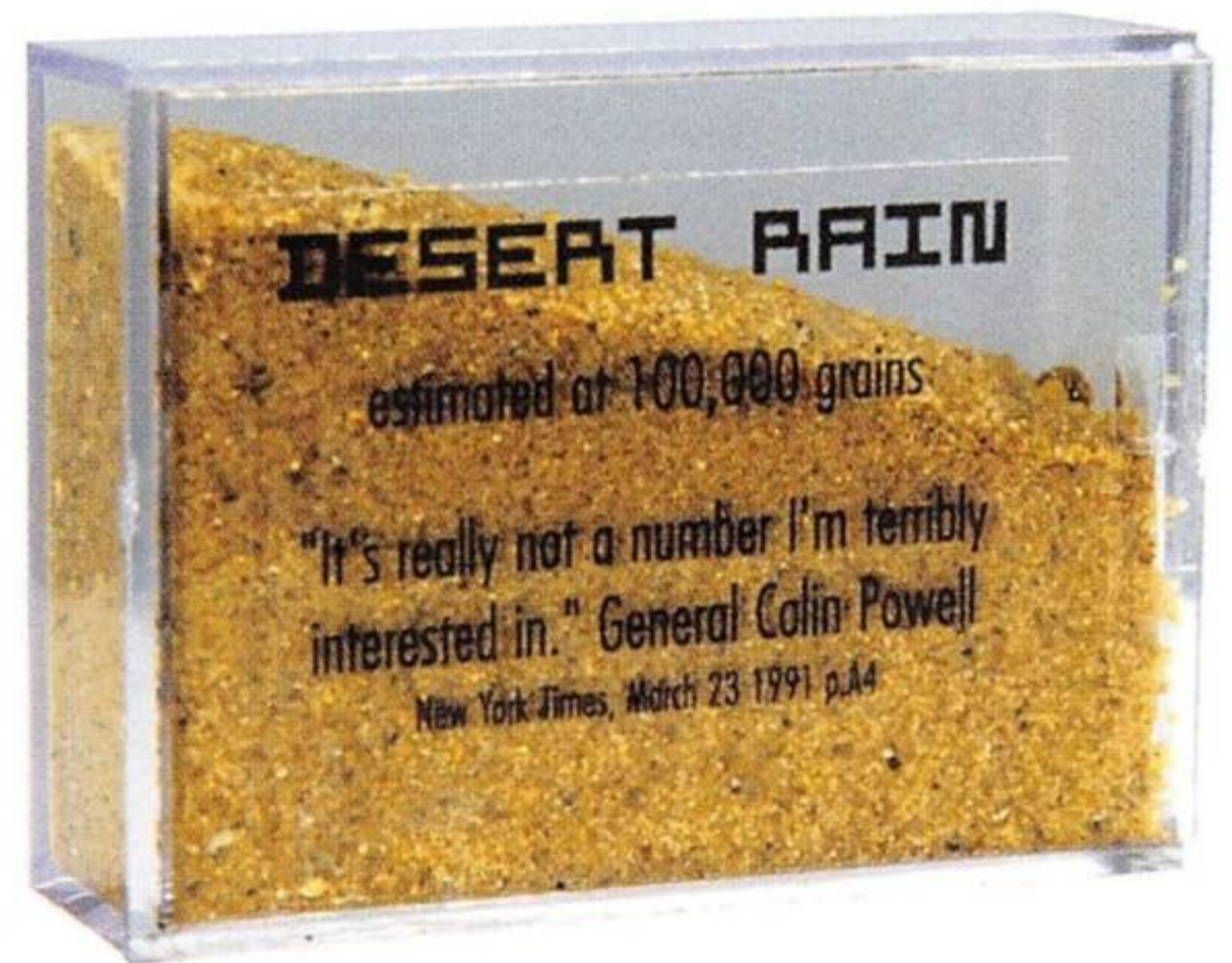
Art meets war meets videogaming

UK: Developed over the course of a two-year collaboration between provocative artists Blast Theory and the University of Nottingham's Computer Research Group, 'Desert Rain' is an art installation that combines elements of videogames and performance art to investigate the theme of media obfuscation during the Gulf War. Blast Theory's previous work, 'Kidnap', subjected two members of the public to 48-hour surveillance and posted the results live on the Internet, and was well received by critics and audiences alike.



'Desert Rain' is equally deserving of recognition. Up to six participants at a time enter cubicles in which a virtual landscape is projected on to a fine mist and are given 30 minutes to make contact with a target individual, communicating with the other participants by headset. The abstract landscape and the distortion of landscape by refraction contribute to a sense of disorientation, and after the event video footage depicts individuals relating conflicting views of the war.

For those who missed the production when it visited Bristol, London and Glasgow, there is still a chance to view the installation when it returns to Manchester at the end of September. More information can be found at www.blasttheory.co.uk

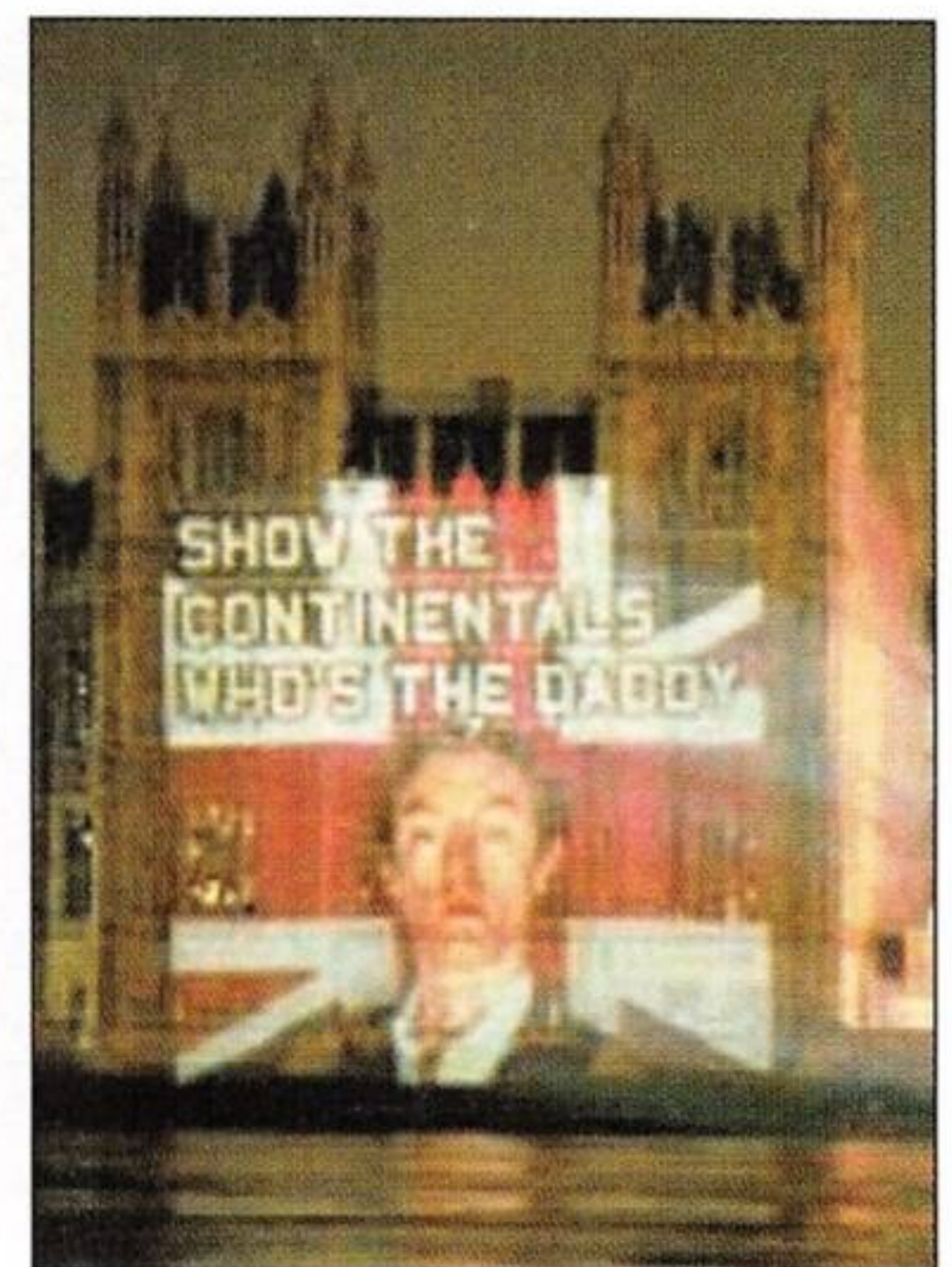
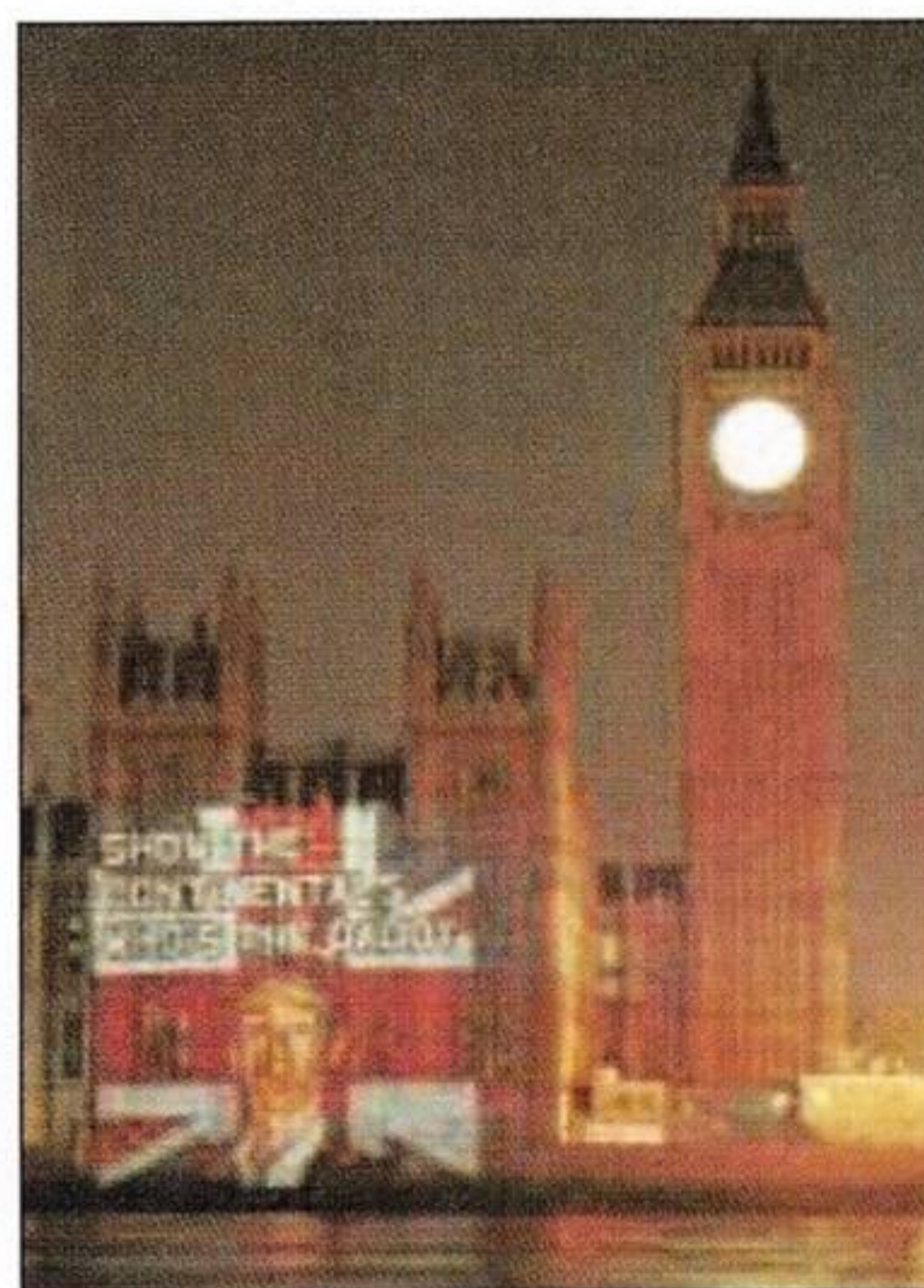
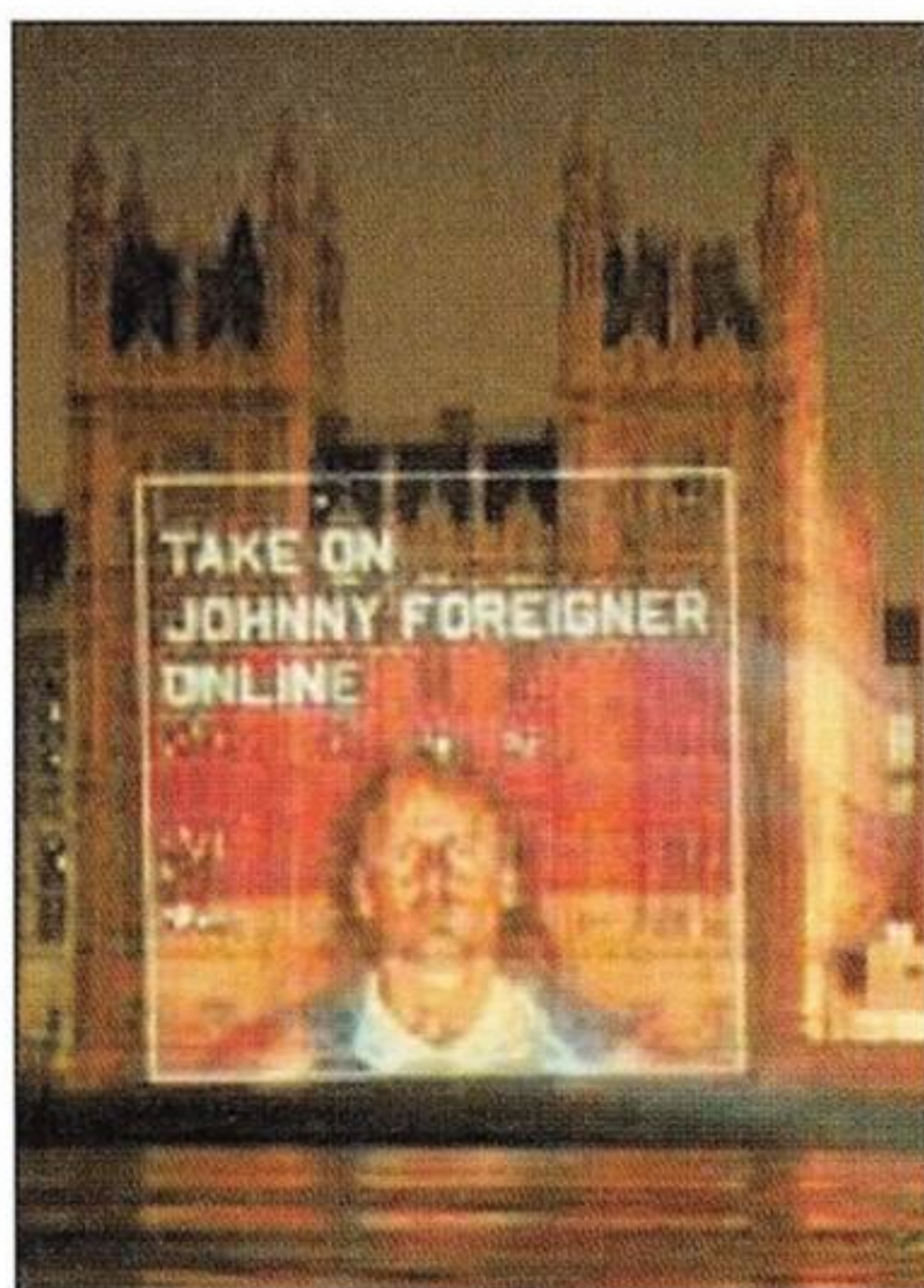


Teams of six must navigate their way through 'Desert Rain', attempting to locate a target before extricating themselves from the situation

Sega's Euro 2000 campaign proves hit and miss

UK: Though not quite generating the same level of hype as Gail Porter's behind, Sega's decision to project images taken from its recent Euro 2000 ads on to the Houses of Parliament at least shows commitment. The ads, showing 'comic' representations of national stereotypes, have not been met with enthusiasm from all quarters,

however. The ITC advised Sega to alter one of the commercials, which features Germans eating sausages, driving VWs and sporting mullets. The tag line 'Come and have a go if you think you're hard enough' was considered insensitive given the violence at the competition. It has been replaced with 'Get ready to be – how you say? – sick as a parrot'



Not content with simply recycling every hackneyed racial stereotype going, Sega's marketing bods delivered the coup de grâce – aping *FHM*





Valid reason to visit Millennium Dome found

UK: BT and technology company AvatarMe have provided gamers with a reason of sorts to visit the Millennium Dome. Visitors to BT's Talk Zone will be able to enter one of three AvatarBooths and generate a 3D image of themselves, which can then be downloaded from www.bt.com/talkzone or www.avatar.me. Initially avatars will consist of 2,500 polygons, but from this month users will be able to download avatars that feature variable levels of detail – from 600 polygons up to 40,000.

BT envisages a wide range of uses for these avatars, from purchasing clothes over the Net to online dating, but the most rewarding will undoubtedly be multiplayer gaming. Avatar files can currently be converted for use in *Quake III: Arena* and *The Sims*, but AvatarMe plans to support a wide range of genres in the future, both by offering a conversion service on its site and by sending out dev kits that will enable games to be designed for use with the file format. The big advantage that this technology has over competitors like *Digimask* and *CyberExtruder* is that the whole body is captured, and, as **Edge** can testify, this makes all the difference.



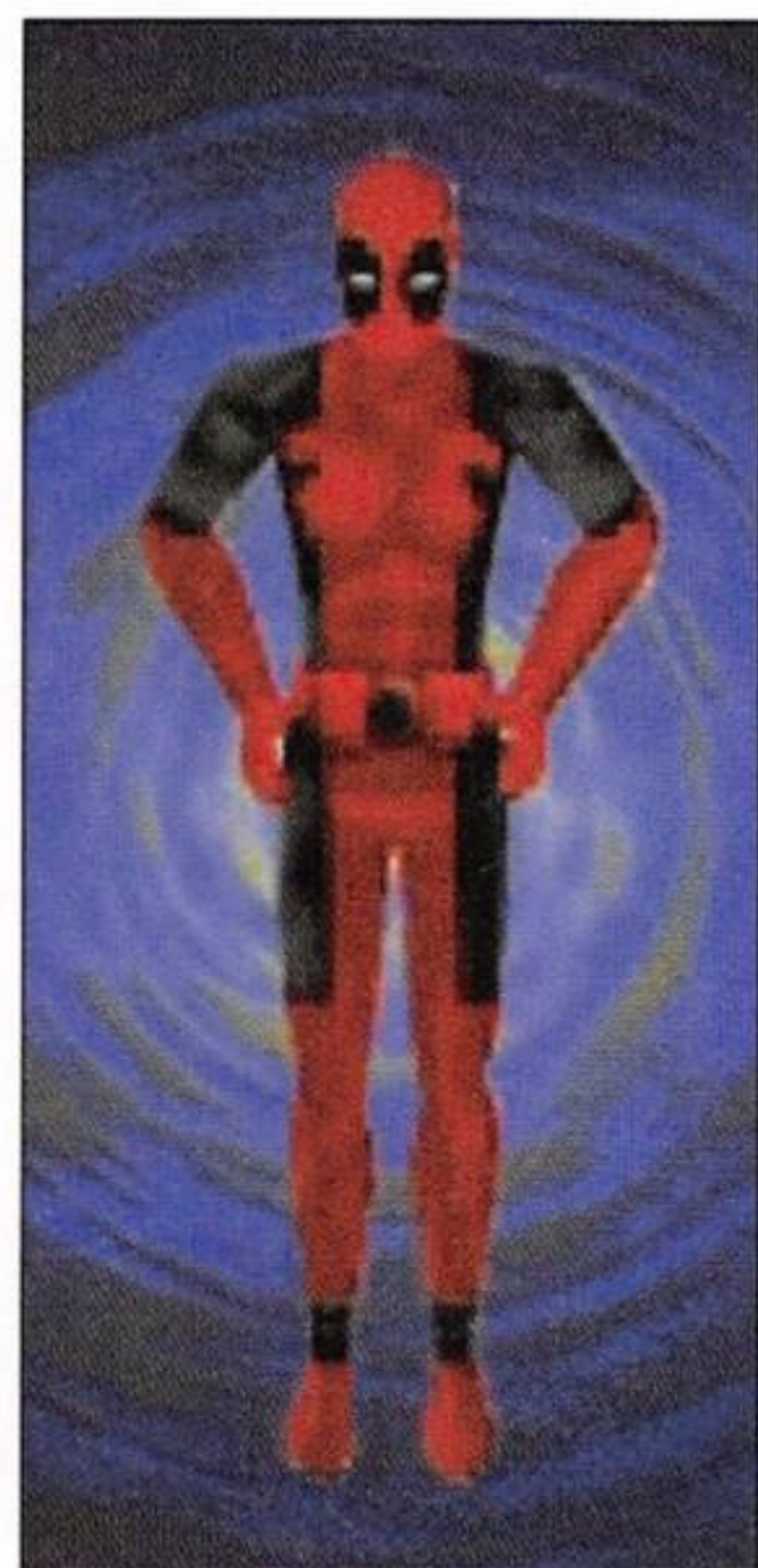
The results AvatarMe can come up with can be shockingly realistic, as the Taurus model (above) attests. It's the full body that does it

Superheroes come to a street near you

US: Kitchen-sink dramas will soon be a thing of the past in Maxis' *The Sims*. X-Men skins can now be downloaded for use in the game and currently range from the popular Cyclops to the more obscure Deadpool. Created using *Photoshop*, the skins come courtesy of Jared Benson and can be located at <http://members.home.net/skindex/main.htm>. Although no special powers will actually be on display, the prospect of Magneto preparing sausages for the barbecue will surely be too tempting for some.



Shades of 'Stella Street' come to *The Sims* with superhero skins. But with avatar technology gearing up, surely you'll soon be able to play as yourself?





Videogames makes a stir on Broadway



The links between videogames and cinema encouraged Nottingham's Broadway cinema to host the Screenplay weekend, which it hopes will evolve into an annual event

UK: As part of Nottingham's archive film and television festival Out of Sight, the Broadway cinema in the city recently hosted Screenplay, a weekend devoted to the relationship between videogames and cinema technology. Attendees were able to play networked PC games courtesy of local company Lan Arena, as well as *Sega Rally* on a big screen, and there was an exhibition of retro gaming machines ranging from the Sinclair ZX81 to the BBC Micro.

The chief attraction, though, was 'New Worlds, New Spaces', a forum hosted by artist Frank Abbott. Several members of the videogame industry attended the debate to discuss the history and development of



videogames, including Steven Poole, author of 'Trigger Happy', David Doak and Karl Hilton, respectively managing director and art director of Free Radical Design, and Paul Carruthers, MD of Climax's new Nottingham studio.

The forum featured some very informed discussion and well-conceived footage. Frank Abbot put together several montages, the highlights of which were a comparison of the pod-racing sequence from *Star Wars: Episode I* and the LucasArts videogame, and a piece comparing live-action footage of an individual viewing a painting in an art gallery with Lara Croft's ingame attempts to do the same.

Broadway has plans to develop Screenplay into a regular annual event.

Gaming takes to the piste

UK: Guillemot is to add to its array of console peripherals with the Thrustmaster Snowboard. A potential crowd pleaser after parties, the snowboard device will enable players to navigate the *1080°*-style virtual slopes of the future. Still undergoing adjustments – mainly to make it look more like a snowboard that a plastic-looking skateboard – expect the device, for the PlayStation and PS2, to make some impact.



No longer will home-surfing gamers have to take their chances aboard the ironing board

DataStream



Number of Nintendo Game Boys sold since 1988: **100,000,000**
Number of Game Boys sold every three seconds: **one**
Number of formats *Elite* coded for: **17**
Game which has most impressed Shigeru Miyamoto recently:

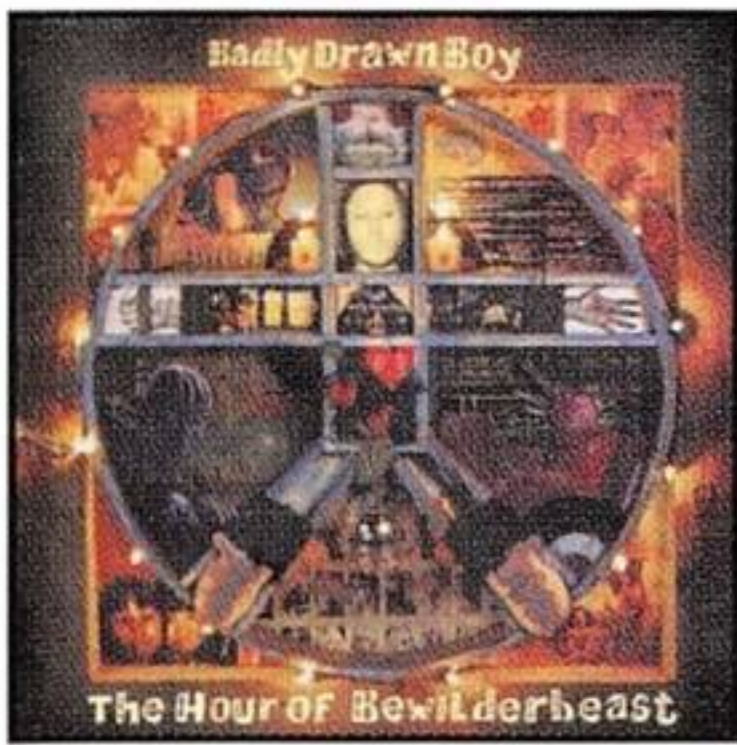
Samba de Amigo

Number of Dreamcast games Sega America president Peter Moore expects will be available by Christmas: **200**
Number of PS2 titles Ken Kutaragi claims are currently in development worldwide: **389**
Number of pre-orders Digicube has taken for *Final Fantasy IX*: **960,000**
Cost of each chair used by *Daikatana* programmers during the game's development: **\$700**
Football teams signed up for Dreamcast sponsorship: **Arsenal, Saint Etienne, Sampdoria, Deportivo de la Coruna**
Confirmed release date of US translation of *Shenmue*:

November 14

Number of *Quake* skins generated by AvatarMe in first seven days after going live: **300**
Suggested retail price for PSone (not including tax): **¥15,000**
Weight of original PlayStation: **1.2kg**
Weight of redesigned PSone: **550g**





**Badly Drawn Boy
Bewilderbeast
(XL)**

An aptly titled debut from Damon Gough, the lo-fi troubadour who shrouds his delicate songs in an air of mild bemusement. His dazed approach and lack of affectation work in his favour, allowing the music to curl languidly around his yearning melodies. Raw, emotive songwriting is a rare currency nowadays, and Badly Drawn Boy is rolling in it.



**Jurassic 5
Quality Control
(Interscope)**

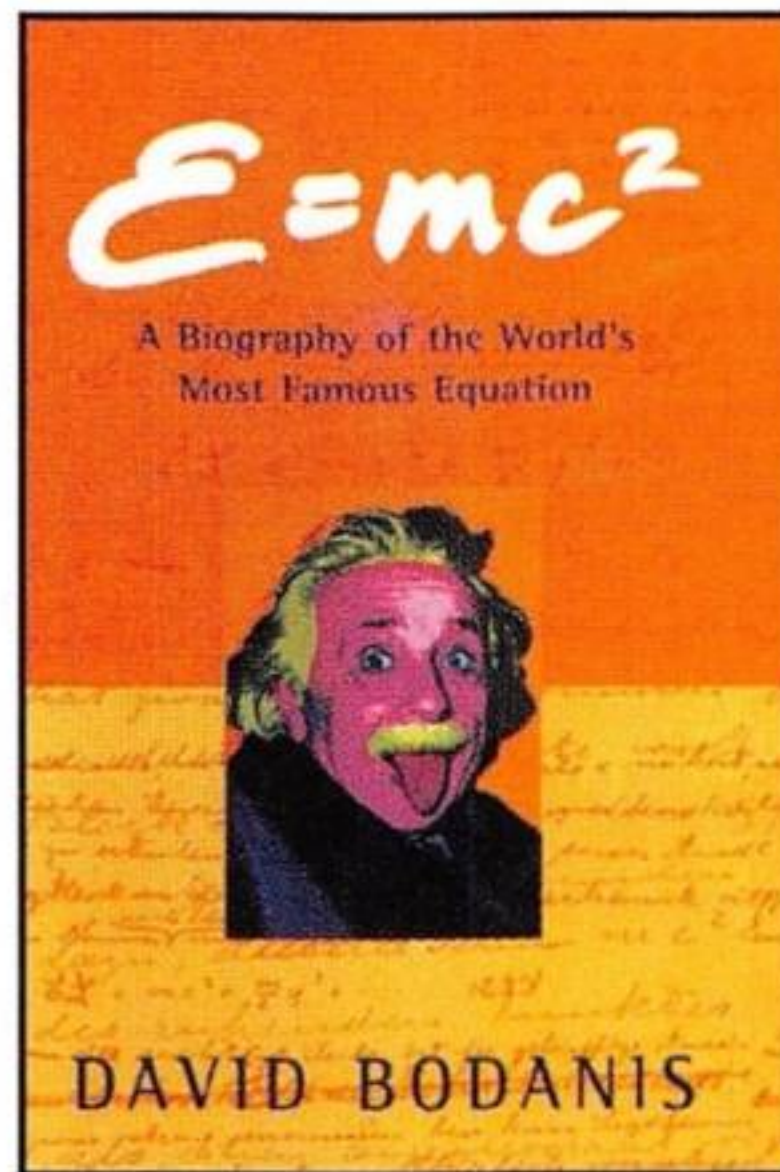
This West Coast rap sextet (you're right, they can't count) caused a stir with their 1998 eponymous mini-LP. 'Quality Control', their first full long-player, provides further antidote to the nihilism of Eminem and DMX without quite achieving the classic status the last record promised. Still, cuts like 'The Influence' and 'Jurassic Finish First' spread the knowledge admirably, as well as revealing hip-hop's previously unacknowledged debt to '30s swing music.



**23 Skidoo
23 Skidoo
(Virgin)**

They may be far from household names, but 23 Skidoo's progressive electro experiments of the early '80s reverberate strongly in contemporary releases.

Sixteen years since their last record, 23 Skidoo bring events full circle with a new album which embraces everything from R&B to avant-jazz, without ever sounding musty or contrived. The strident guitars of 'FreezeFrame' or the heady dub of 'Where You At' help shape an album which sounds as urgent as anything produced by the younger generation.



Author: **David Bodanis**
Publisher: **Macmillan**
ISBN: **0333780337**

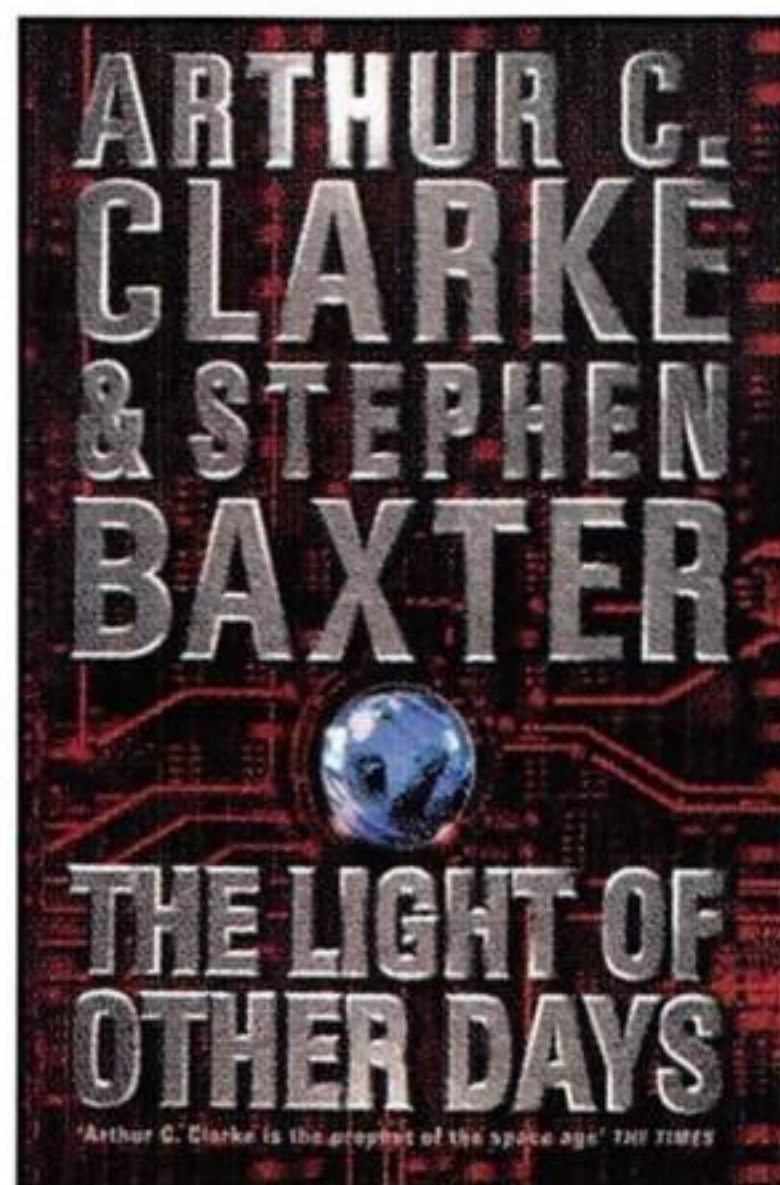
E=mc²

Unless you're a MathEngine boffin, or particularly masochistic, you probably avoid any contact with theoretical physics. But there's one equation that you've undoubtedly seen countless times.

E=mc² is as infamous a slogan for 'brilliant genius at work' as Lara is for 'gamer at play'. It means extraordinary, mind-boggling thoughts neatly summed up in five symbols. It means crazy old eastern European academics with bushy hair at the sides scribbling madly on blackboards knowingly. It means Hiroshima, Nagasaki, Chernobyl and the impossibility of warp speed.

Technically, it means sweet FA to anyone this side of a PhD in theoretical physics. Clever dicks will jump up say: "It means energy and mass are directly proportional to each other and that one converts to the other at the speed of light"... so what? This is what Bodanis sets out to explain.

This slim book clears the mist surrounding this profound equation. Rather than take on the whole of Einstein's theory of relativity, Bodanis sticks to E=mc². Aptly subtitled 'The Biography of an Equation', Bodanis recounts the history and people involved with its creation in lucid and clear style. Part thriller, part physics lesson and part history of the early 20th century, this satisfying little book will give you ample ammunition to bluff your way as a MathEngine boffin, if not as Einstein himself.



Author: **Arthur C Clarke & Stephen Baxter**
Publisher: **Voyager**
ISBN: **0002247046**

The Light Of Other Days

Arthur C Clarke and Stephen Baxter need little introduction. Described as literary father and son, they are two of the greatest names in modern science fiction and are responsible for writing epic novels that set the foundations of the genre for their respective generations.

Set around 40 years into the future, 'The Light Of Other Days' starts its epic space-time adventure in a world where Britain has suffered economic collapse, retreated from the EU, and gone whining to Uncle Sam, becoming the 52nd state of the US. Retinal implants are standard, and echoes of the Web remain – the voice-activated SearchEngine downloads directly to your brain.

Child of the flower-power generation Hiram Patterson lives here, and is the head of the media giant OurWorld. Patterson has unlocked the secrets of the sub-quantum universe and managed to produce wormholes that communicate across space and time instantaneously.

The consequences are predictably unpredictable: live realtime TV, the ability to see exactly what anyone has ever done, or will do, no more secrets. So many 'what ifs' are thrown at you there's barely room to follow the plot. Tell-tale traits of Baxter appear throughout in detailed explanations of the technologies, and wit and cynical snipes at the present – a hallmark of Arthur C Clarke – show through as the action develops. This is classic science fiction, and competent storytelling. Fans should fork out for the experience, but the rest of us might not withstand the force of the sci-fi double-whammy.



INTERNET

Site: **Machinima**
URL: **www.machinima.com**

Amateur film makers need not be frustrated by high production costs and the hassle of persuading friends and family to run around dark forests any longer. Machinima is an artform which blends the worlds of videogaming and drama to an inventive degree. The site offers advice, links, forums, trailers and mod files to help turn your favourite 3D engine into the new 'ER', 'Ally McBeal' or 'Friends'. Experience the 1997 classic 'Blahbalicious' for a taster. The sight of an army of Quake bots clashing on a heath to the sound of 'Braveheart' is simply amazing.



VIEWPOINT

EXPRESS YOURSELF IN **EDGE** – WRITE TO: LETTERS, **EDGE**, 30 MONMOUTH STREET, BATH BA1 2BW (email: edge@futurenet.co.uk)

It is rapidly becoming clear that the current round of console wars will be the most depressing yet. I refer, of course, to the impending demise of Dreamcast and Sega.

Never has a format been more deserving of success than Sega's new console. Not only has it proved to be a beautifully balanced and flexible machine, but it has allowed developers a freedom of expression that Sony's latest effort seems to currently preclude.

With the launch of the N64, Nintendo boasted of delivering consistently high-quality software, and then manifestly failed to maintain the policy. In contrast, the Dreamcast software library is already the most consistently impressive in recent memory.

To me, the current failure of Sega's machine lies not with apathy from the dreaded 'massmarket', but stems more from the dismissive response of the industry as a whole. The initial reaction of developers (many of whom should have known better) bordered on the contemptuous, and this must surely have had a strong negative effect on sales.

I'm very afraid that the end result will be the loss of one of the greatest entertainment companies in the world. Sega execs must be shaking their heads and wondering what more they can offer gamers. One thing is certain: nobody, not even Sega, can survive such crushing financial losses.

**Iain Brown,
Edinburgh**

You're right: if there's one thing Dreamcast has made abundantly clear, it's that game publishers have long memories.

I just thought I'd drop you a line regarding Stephen Dinkeldein's letter in E86.

Games allow us to do some pretty morally disturbing things. We lie, cheat and steal in roleplaying games. We commit murder in firstperson shooters. We leave our friends to die and kill the helpless in games of *Counterstrike* online, and in strategy games we commit

who doesn't know the thrill of being the office 'badboy' at *UT*, *QIII* or any other LAN game is surely missing out. But we stop there. We don't, as a rule, grab a shotgun and head out into the busy high streets to bring death to a bunch of complete strangers.

Unless, of course, there's already something wrong with us.

No sane and rational human

underlying causes of the anti-social tendency.

**Iain Howe,
via email**

In response to Stephen Dinkeldein's letter, as a long-time gamer who started playing games in the late '70s, and also someone who has been involved in the graffiti scene since the early '80s, I find what he is saying to be completely wrong. Let's put it this way: I started to go around doing graffiti not because of something I played with at home but because I was actually growing up and finding my own identity. Now, most teenagers go through that rebellious stage at some point – it's part of growing up and each individual will go about it in their own way. Other teenagers will go out and steal cars but is a game like *GTA* really to blame? I think not – cars were being stolen way before that game came on to the scene and will continue to be stolen way after that game is forgotten about, and the same applies to the graff scene. As it is, most 'writers' have got respect for private property and will go and express their art at specific 'Halls of Fame', where their art is appreciated. I find the idea of being able to play a game where an underground culture can be expressed without actually causing harm to anyone to be a good idea. Plus, it's nice to see developers coming up with fresh ideas, instead of using the same stale and tired game genres, so hats off to Sega for actually trying to be different and breaking the mould.

**HYTESTER,
via email**

That's just two letters from an



James Bell cites *Ultima Online*, which encourages freedom, as a pointer for the future

atrocities beyond measure as our fantasies take us out to the stars with conquest as our aim and city-sized starships as our tools.

Oh yeah. And now we can deface public buildings and skate

being drives like they play *Crazy Taxi*. No sane and rational human being talks like *Duke Nukem*. No sane and rational human being *actually* grabs a pistol and a rifle and relives a

'Games allow us to do some pretty morally disturbing things. We lie, cheat, steal, commit murder and leave our friends to die. And now we can deface public buildings'

where we shouldn't.

My point is that for most of us it stops at the keyboard. We might bore the hell out of our spouses about it occasionally, and anybody

scene from *Soldier Of Fortune*.

And no sane and rational person would blame a game that inspires the form of an anti-social behaviour, rather than the

enormous amount received in response to Stephen Dinkeldein's letter – all sharing the same fundamental sentiment. Thanks to everyone who offered their views.

I was rather amused by the interview in E85 with a certain Tom Kalinske – sorry, I mean Phil Harrison. He seems preoccupied with evangelising about what Sony and the PS2 will do for us all, while at the same time he obviously does not notice that other companies are already putting into practice some of his 'out there' ideas. The main examples are the use of digital cameras and microphones – now that is old hat. It's all very well that sometime in the future PlayStation2 is going to bring us online this and online that and be the centre of our universe, but some of us want that right here, right now. Sure the connectivity of the Sony's new console is admirable, but what about this idea that there are thousands of USB modems that can be connected? Don't these modems need drivers? Leading to the realisation that I might have two different games that require very different modems. Come on, Sony, give things a little more thought, and you might just get there. So far, and this is only early days, the PS2 has failed to impress.

Paul Barrett,
via email

I'm responding to the Prescreen editorial 'Trimming down the flab in videogames' in E85. Where are we going? That is the question. Shorter development time leads to shorter games, which then sell at a similar price to the

epics. Long term, what happens? The next epic gets shorter too. Games are market driven. If we are fed tat, then tat is what we will come to expect – it's a vicious circle. Look at the PlayStation – a very impressive back catalogue of titles, until you play some of them. So much wasted design talent and development man hours for a ton of games that do little more than

'It is rapidly becoming clear that the current round of **console wars** will be the most **depressing yet**. I refer, of course, to the impending **demise of Dreamcast** and Sega.'

Game & Watch handhelds did ten years previously. It's not about an epic story or fully laden plot. Look at *Elite*, *Privateer* and *Ultima Online* – you define your own experience. To me, it has always been about immersion. That is where we are heading; a total online immersion with friends from around the globe. Every good game immerses me and makes me part of the journey to that ultimate goal: games being the number one use of leisure time on this earth. Shorter games seem to me to be a step back.

This is fine, as long as it only marks a redefining of game goals before the next revolution. Otherwise, what have we all expensively bought into? I've always believed the initial words I read in the very first issue of *Edge*, the phrase: 'The future of interactive entertainment'. I don't want the future to be as the past.

James Bell,
via email

There was no call whatsoever for the elimination of epics. Simply get

yourself a copy of *Mr. Driller* and the reasoning behind the editorial will come sharply into focus.

With the next generation of videogame systems implementing DVD as the new storage medium, I wonder whether they could revolutionise videogames as they have revolutionised movies.

What I'm talking about is the featurettes and 'makings of' found on most DVDs. With the new medium's vast storage capacity it would surely be easy to give the gaming public an insight into the processes and pitfalls found in the development of the game. I'm sure there are thousands of people who would love to see footage of Shigeru Miyamoto talking about *Mario* and *Zelda*, or to see the motion-capture process for *International Superstar Soccer*. These ideas were touched on in *Virtua Fighter 3tb* on the Dreamcast, where you could access a movie file showing some of the original animations from the three *Virtua Fighter* games, as well as preliminary models and arenas. I found this intriguing and informative and I would love to see other companies expand on this.

I'm sure anyone who has had the fortune to see the 'making of' for films like 'The Matrix' and 'Blade' will agree that it adds the product as a whole, and hopefully we gamers will get to experience

these features during the next generation of our industry.

Rick Huby,
via email

And I thought you had something against Sega. How wrong I was. Reading E84 I am convinced you have a grudge against all the consoles that have ever been released.

First the Dreamcast: you seemed to expect miracles from it, giving games like *Crazy Taxi* a reasonable score, while it is (in my eyes, and others – if everyone in the newsgroups are not telling lies) a nine or ten type of game. I still play it, and it has struck me just as hard as *OutRun* did way back when. (Even now I would love to see an *OutRun* compilation on Dreamcast – imagine being able to play *OutRun*, *Turbo OutRun*, *OutRunners*). And now the PS2 has done something wrong. What did you, for example, expect from *Ridge Racer 5*? A *Gran Turismo* beater? Come on, for Christ's sake: if you want a *Gran Turismo* game, play a *Gran Turismo* game, but don't expect arcade racers to be even mildly similar. After a long time spent playing *Ridge Racer V*, the only downsides were, in my opinion, a lack of speed (*Ridge Racer* on the PlayStation was faster) and samey backgrounds. However, it's playability that counts, and every *Ridge Racer* game plays like a dream, with tight controls and controllable powerslides.

Now, let's talk *Tekken*. This game caused everyone to stare at the screen when it first appeared on PlayStation. Now, a few years down the line, Namco is following the same road as Capcom did with

Street Fighter, but somehow Namco's game on PS2 has done something wrong. I haven't played it yet, to be honest, because I am not so into fighting games, but both Namco and Capcom's games had a sparkle that others had not. Even the mighty Sega *Virtua Fighter* games did not do it for me, but – fair is fair – in my eyes, both games have been updated too long. They should ditch them and go for something completely different, but as long as it's called *Tekken*, a game won't stray too far away from the formula, and the same goes for *Street Fighter*.

Ronald Kattvilder,
The Netherlands

Sorry, Ronald, but you blew it as soon as you made the same mistake so many others do with your perception of what *Edge's* seven out of ten means.

As the universal acclaim for *Perfect Dark* pours forth, I have little doubt that *Edge* too will join in singing its praises. But does it displace *Half-Life* as the leading firstperson shooter in the multiformat stakes? As a PC and N64 owner I have to come down on *Half-Life's* side, particularly when you add the *Opposing Force* and *Team Fortress* expansions into the equation (leaving aside other unofficial mods and add-ons). I found your placement of *GoldenEye* and *Quake 2* ahead of *Half-Life* in your Top 100 list as misguided, perhaps attributed to their 'classic' status as opposed to them being better in absolute terms. Although *Perfect Dark* will no doubt be a brilliant game, I can't see it surpassing the *Half-Life* package in terms of AI, graphics, sound, level

design, variety, set pieces and atmosphere. Would *Edge* care to share its two cents' worth?

Alex,
via email

Out of the box, *Perfect Dark* is the better game, although its obvious lack of expandability counts against it. Which leaves no clear winner. But you absolutely must play *Perfect Dark*, at all costs.

I think it's commendable that *Edge* provides people that aspire to enter the industry with info about the way it all works. I was one such person six years ago, who clung to every such report. But having been here since, and having my fair share of T-shirts, I can't help but feel that reports like the supplement of two months ago, or indeed Demis Hassabis' reports, paint too romantic a picture that will probably fall short of most people's reality. I think it would probably be beneficial to present my experience as a programmer so people can have a balanced outlook. I'll be quite terse, so I can cram it all in. First, I worked for what is probably the biggest publisher in the world. My first game was cancelled, the second was released (a household

'My body, mind and senses function on a level far in excess of anything that can be simulated on a computer, now or any time in the near to medium future'

name franchise) for which I got the awesome completion bonus of £500! Third game was cancelled, and when the company decided to move 30 miles away with less than two months notice, I had to leave as I had no car for such commuting. So

I went to work for one of Europe's premier developers. My studio was closed and my team was the only one not made redundant. We moved to another site and a few months later the game was cancelled. A few more months and the company decided to stop developing for the PC, so I (and a fair few others) got the chop. On to the third company, a small outfit led by an industry veteran who has featured in a recent *Edge* issue. After realising that we did not get any payslips, and receiving a contract three months into employment with terms I just could not agree with, I got cold feet and left (the game was canned shortly after, anyway). On to work for a prominent publisher that has been making headlines with acquisitions. Nice company, shame that they decided to close my studio and make us redundant on December 17 last year. Merry Christmas, ho ho ho, and all that. I have opted not to mention the companies' names here as my experience isn't necessarily representative of what they normally do or will do in the future; and let me stress that I worked in teams as capable and keen as the ones that make it big.

Anyway, after five years and all this I decided to take a breather and I'm currently not in the industry. I expect my case might be extreme but your readers should know that it can happen to them, so that they can make an informed decision. The

games industry is as exciting as it is volatile. *Caveat emptor.*

Miguel Melo,
via email

Scott Scott (Viewpoint, E85) talks about how games are not that true to life in the current stage of computer gaming. I do agree with him, but there was one thing that he said that concerns me: 'look to *Metal Gear Solid* as an example of the best a console has achieved – Dreamcast is yet to deliver an equivalent'.

Let's consider what he has said shall we? *MGS* is a game where you take the role of a one-man army against a limitless horde of genetically modified terrorists as well as a ninja in an exoskeleton suit with chameleon-like abilities. Not to mention a towering bipedal tank with magnetic-propelled nuclear missiles. Real?

Second, concerning the Dreamcast, one word: *Shenmue*. Need I say more?

Daniel Corneau,
via email

Artificial sensory assistance, indeed. I don't know about Jason Wells (Viewpoint, E85), but my body, mind and senses function on a level far in excess of anything that can be simulated on a computer, now or any time in the near to medium future. Games are meant to be fun to play and anyone who has been playing games for some time will tell you that this does not require AI, ASA or anything else, just a fun, interesting challenge. Pass me the *GoldenEye* after I've finished with the *Chu Chu Rocket*.

Jeff Mindlin,
via email

Complete creativity



In this month's issue of the biggest-selling magazine for creatives:

Go beyond four colours with our guide to advanced printing

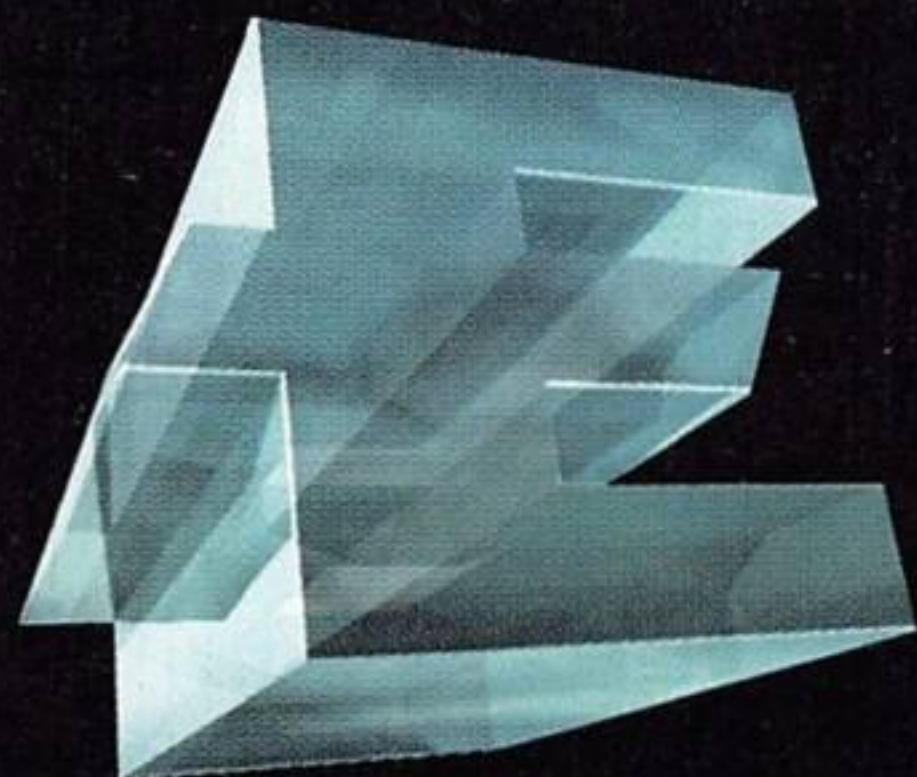
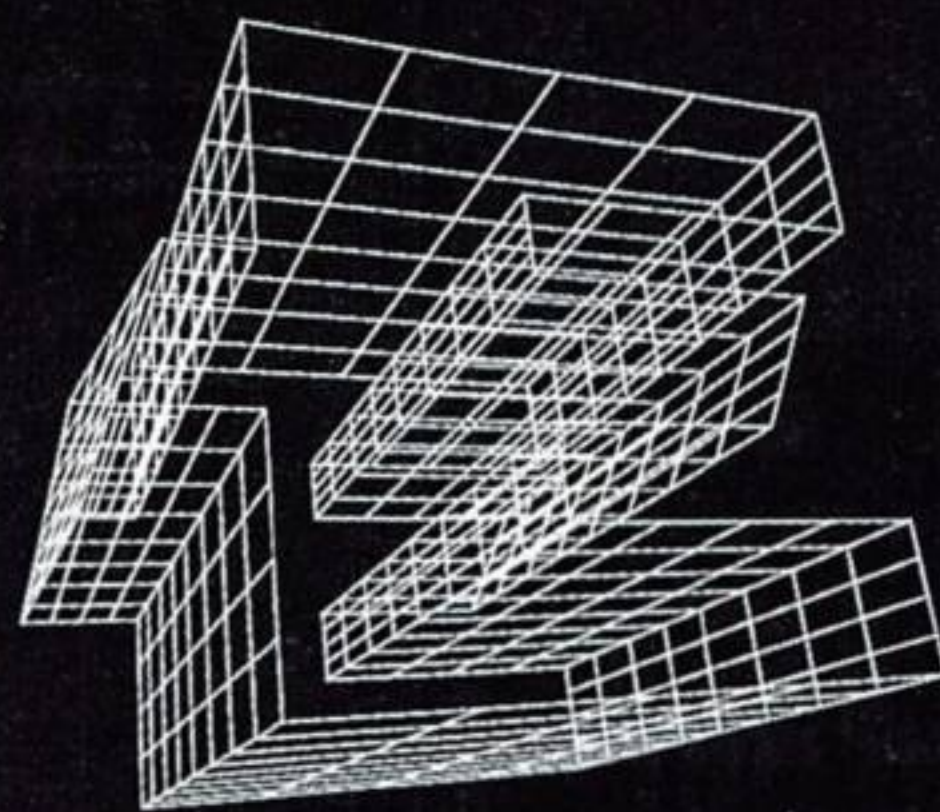
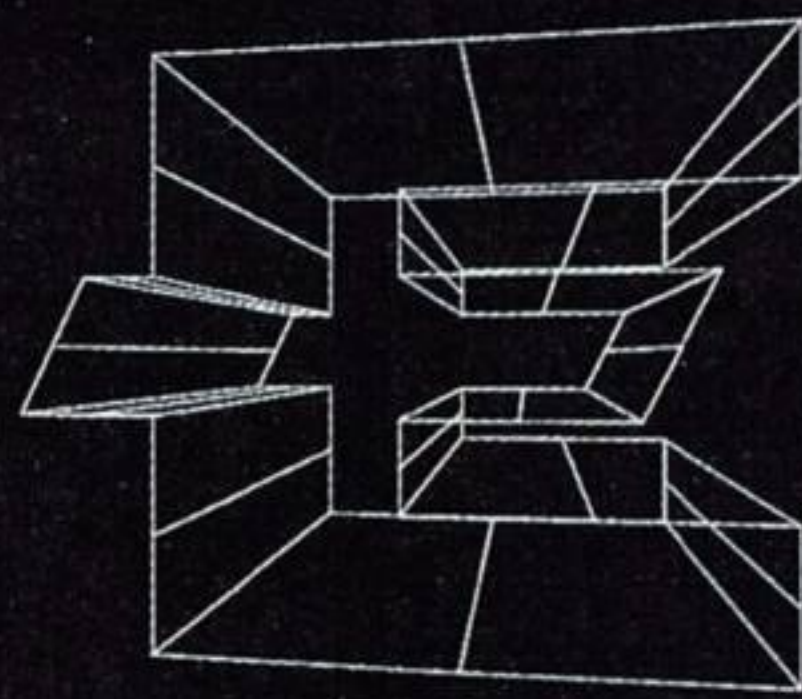
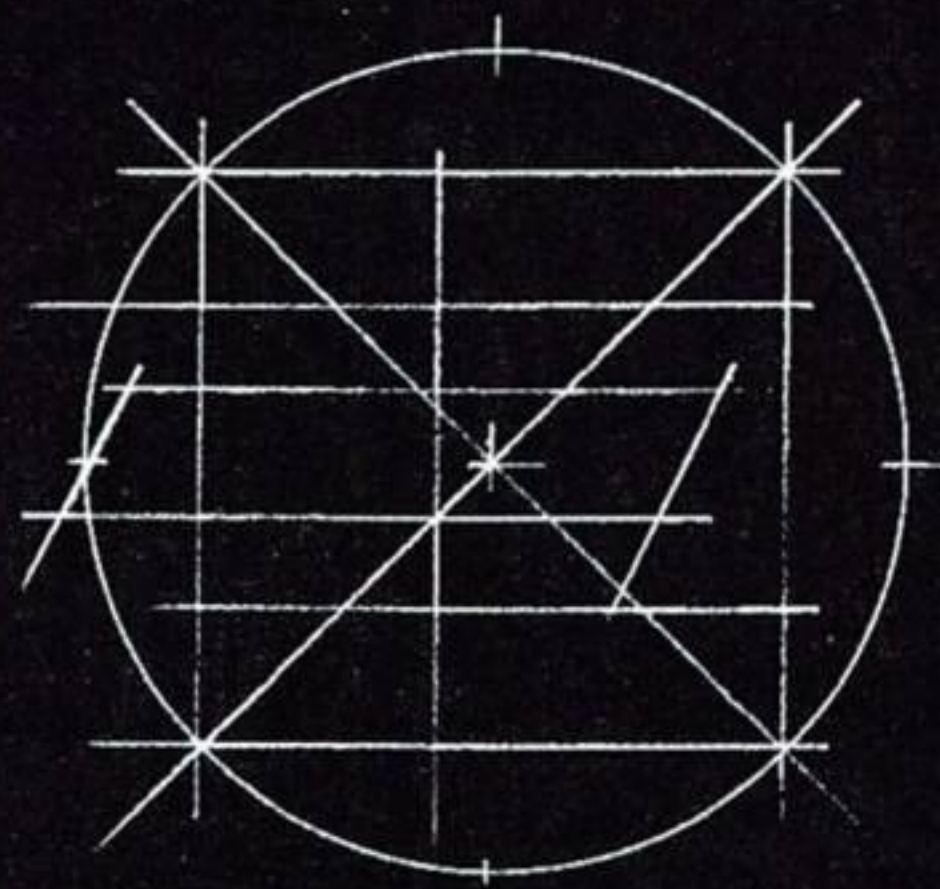
Plus:

KnockOut 1.5, HP DeskJet 950 and the Agfa CL18 digicam reviewed
The future of digital cinema
Photoshop, 3D modelling, and Web design tutorials
Ten 3D packages reviewed

Out Now

More from the new-look Website www.computerarts.co.uk

Next month



The videogamer's bible is rewritten.

14.8.00



