NEXT

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October 1997

Consoles under fire

Has the PC finally won the war?

3Dfx
The creators speak

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The first commercial 3D game, *Battlezone*, is a videogame classic. Now Activision has taken the name to represent its latest effort, a full-force merger of action with realtime strategy. It's a concept that has never been done successfully. Can Activision pull it off? See page 72

Are **consoles** being left behind?

Activision's *Battlezone* represents the **state of the art** in PC games: multiplayer, high-res, and **3D-accelerated**.

Consoles have their resolution **limited** by outdated television hardware. All console network efforts to date, from X-Band to NetLink, have been **failures**. And the 3D capabilities of consoles **pale** next to the increasingly cheap 3D horsepower offered by **3Dfx** and others.

But the balance of power has always shifted to PCs as a given generation of consoles ages. Is the current situation any different? Should the next generation of consoles attempt to compete on the PC's turf, with online and non-game functionality? Or should console makers continue to do what they know best — advance technology as far as they can with each successive generation, in the belief that low hardware cost and quality software will sell units? **Next Generation** discusses the future of the console with executives at Sony, Sega, and Nintendo on page 50.

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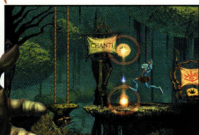
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owww!

OWWWWWWW!!!

In a dog-eat-dog world where escape
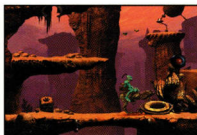is your only option, your ride wants you off his back.

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GAMING GETS ODD THIS SEPTEMBER

NEXT GENERATION

October 1997

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Sentinels of Ceth, Burning Rubber 1.2.3, Links LS, **NG** screensaver, OddWorld screensaver

internet
America Online, Heat, The Palace Chat 2.3, Tic-Tac-Chat

3Dfx is arguably the hottest game technology company in the country. Its chips (the company makes no retail products) power numerous PC 3D accelerators, and if there is ever to be a 3D standard, 3Dfx is on the short list of candidates. **Next Generation** recently took a trip to the company's Milpitas, California, HQ to talk about 3Dfx's advances, setbacks, and future. In short, we want to know:

Is 3Dfx here to stay?

3Dfx arguably has the most powerful consumer level 3D accelerator on the market today, the Voodoo chipset. The company's goal? Total domination of the 3D hardware market, from arcades to consoles. But the company's deal with Sega recently fell through, and while it's gotten plenty of early mindshare and press (like this interview), the company is still providing chips solely for add-on boards — not motherboards, where the real volume (and profit) lies. We spoke to Greg Ballard, ex-Capcom U.S. president and current president and CEO of 3Dfx, along with co-founders Scott Sellers, VP of research and development, and Gary Tarolli, VP and chief scientist.

The Sega deal

NG: You were working with Sega to provide the 3D hardware for Black Belt, Sega's next generation system. They've since ended that contract unilaterally. Why did the Sega deal fall through?

Greg Ballard: To the extent to which we understand what happened, we are still under non-disclosure. [Laughs] It turns out that the one thing that survives the termination of your contract is the inability to talk about why it was terminated, which is unfortunate. From what we understand, however, and I want to be very, very clear about this, what we've been told quite frankly by Sega is that [the deal falling through] had nothing to do with our performance either technically, or in terms of meeting milestones. It had nothing to do with the cost of the system. It had nothing to do with our compliance to the contract. In fact, I will go so far as to say that the chip we were in the process of developing was substantially in excess of the specifications that had been given to us by Sega in the original contract. So it is arguable that we were substantially overperforming the contract. It had nothing to do with that. That's all I really can say at this point.

NG: Obviously 3Dfx is still figuring out what its next step is going to be following the termination of the contract. Have you considered legal recourses?

Greg: We're still reviewing our options. We've had one discussion with Sega which was cordial. One of the things we told them was that we were gravely concerned that they have access to our intellectual property. And in the end, we are a company that is nothing without our trade secrets and intellectual property. It gives us a great deal of concern that we transferred a great deal of information to them and then had them unilaterally terminate our contract. This is not an unfamiliar story. There are companies that had intellectual ties with Japanese companies, in which those Japanese companies engaged with them,

extracted from them their intellectual property, and then took that intellectual property and did something with it. Sometimes it's good and sometimes it's bad.

NG: So are you worried that your trade secrets may end up in the hands of a competitor?

Greg: We've told Sega that we will not tolerate under any circumstances the use of our intellectual property.

NG: Is that it for 3Dfx and consoles? Is your console strategy finished?

Greg: For all intents and purposes, I'd suspect that that is the case for the next generation of consoles. We will undoubtedly talk to a number of other companies who are engaged in this area, but my suspicion is that most of Sega's competitors in the console business right now have already chosen their own 3D solution for their next generation, and that solution is probably fairly well developed by now. So while we might have those discussions, we're certainly not much expecting to find the companies willing to switch, and we understand that. Still, there are inevitably a lot of opportunities down the line.

The origins of 3Dfx

NG: The Voodoo chipset was originally intended for use in high-end PC workstations, not for consumer use. How did we end up running games on Voodoo?

Scott Sellers: Gary, myself, and the other founder, Ross Smith, are all from Silicon Graphics originally. And there we were introduced to what the power of silicon dedicated to graphics rendering could actually do. I think all of us there were fairly blown away by the Reality Engine. It was the first realtime image generator where you could take a step back and said, "Wow, I can't believe this computer is doing this." And at that time, costing over $100,000, it was not even close to being a consumer product. Gary and I joined a small start-up company which was subsequently acquired by MediaVision, the sound card company. Then MediaVision went down the tubes. At the end of our stint at MediaVision, though, we started looking again towards realtime 3D rendering for the PC, and Gary started to look at a lot of algorithmic advances that allowed us to do Reality Engine quality — features that actually exceeded what Reality was capable of doing

— all at prices that would be able to hit the consumer market.

NG: But your first vision wasn't to do the Voodoo chipset as a pure consumer device?

Scott: One of the things that Ross brought to the founding team was a clear decision that we did not want to enter into a commodity-like business immediately, like the 2D acceleration business, even though we knew how to do that. We wanted to focus on pure value in 3D. The arcade market was the number one opportunity. But we also realized early on that hardware without supporting software and titles to take advantage of it was essentially useless. And even though everyone has talked about it, we were the first to make the connection going from the arcade to the home with the same underlying hardware. That was going to be an extremely powerful proposition for

Hardware without supporting software to take advantage of it is essentially useless

Scott Sellers, vice president of research and development

most gamers.

And so the whole business concept was evolved to enable us to get to be a third-party supplier to the arcade business of incredibly powerful 3D technology. The first generation chipset was directed at the PC, but it was expected to be at a higher price point than we've now gotten to. We've been able to get to the lower price because of declining memory prices. So what used to be a $299 or $399 product is now pretty close to $140 or $150.

Gary Tarolli: It was sort of fortuitous that MediaVision didn't work out, because it gave us the opportunity to found 3Dfx. And it was really an opportune time because we founded the company at probably the perfect time for bringing 3D graphics to the PC. If it had been a couple of years earlier, it would have been too early. If it had been a couple of years later, it would have been too late.

Add-ons vs. the motherboard

NG: The add-on 3D board market is very big right now, as gamers are first getting a taste of 3D, but it won't stay there. There's already some 3D chips on motherboards, but not 3Dfx. When will that happen?

Greg: One of the things we've done is raise the bar on 3D performance. And on the consumer side of 3D, if you're getting 3D, it should be the best 3D, because no one wants 3D that doesn't perform well. One of the things we think is going to happen is that by setting a high standard for games, it's going to pull up the consumer's expectations of performance to the level we can do. And because we price our technology at a very competitive rate, there's no reason to have anything but the best — a Cadillac at Ford prices. And that strategy will allow us to play in the motherboard business as well as the add-on business.

talking

NG: It's really great to see that 3Dfx is geared to the gamer, but when a developer sees that ATI has sold millions of units by being on the motherboard, why develop specially for 3Dfx using GLide? It may have better performance, but the numbers —

Greg: You do both. A developer wants to have, has to have, in a competitive environment, the best-looking titles he can get. You don't want to just have a title 80% as good as it could be because your competitors are all going to be at 100%. Look at consumers who have a 3Dfx board whom we believe are hard-core gamers, the ones driving the business right now. They

It has taken our competition 14 months to even catch up with us

Greg Ballard, president and CEO

want something that looks 100%. They're going to ignore the stuff that looks 80%. If you look at the guys who are buying the boards, ATI or otherwise, that are generally considered to have lower performance, they're generally not hard-core gamers. They're the people who are buying that board for other reasons. And that's what people are starting to realize in the publishing community. The person who buys the 3Dfx board also goes into the store and buys a lot of products. And now he is looking for the 3Dfx logo. We've seen it over and over again in products that have shipped within the last several months — the presence of the 3Dfx logo is actually lifting sales of those products.

Scott: The question isn't, "What's your installed base?" That's the incorrect question. The question for a game developer is, "How many potential qualified buyers are there?" And it doesn't matter if 20 million people have one of our competitor's chips. How many of those people are hard-core gamers? How many of those gamers are buying games?

Gary: The S3 Virge sold six million units last year. How many of those people are buying games? I can

Greg Ballard

guarantee that 100% of 3Dfx owners are buying games. They buy a lot of games, and they spend a lot of money on games. And the numbers are substantial enough now that it gets people's attention.

Greg: And among boards, we are not willing to concede that there will be a high-performance chip out there next year that will sell more than we will. So if it's in our category of being able to drive game performance to a level that would satisfy even the casual gamer, we believe that we will be able to compete effectively and successfully. So almost the premise of the question has to be, "Will someone be even able to approach our performance and sell more than we will?" And I don't think that's the case.

NG: OK, but the real money is in motherboards. And now your competitors in that space are catching up. Intel says the Auburn will offer 3Dfx-level performance —

Gary: — of the first generation of our hardware. Not the forthcoming stuff.

NG: So you're saying it's going to be a leap-frog game?

Greg: That's exactly right. It has taken the industry — our competitors — 14 months to even catch up with us, and within several months we'll be leaping ahead of them again. That's what happens when you have a year-to-14-month lead on the industry. And we think our next leap will be an improvement of an order of magnitude in the technology.

NG: An order of magnitude?

Greg: That's a phrase I always use. [Laughs] Substantially greater performance.

The competition

NG: Let's look at your competitors. Your biggest competitor, performance-wise right now, is Power VR. Power VR has NEC's backing and a lot of cash — a lot of cash for marketing and a lot of cash for developer support. Can 3Dfx rely merely on its current momentum, its current mindshare to keep it in front?

Greg: We have a lot of respect for Power VR's competitive strength in the marketplace, as well as others. What we do is try to do our jobs as best we can, and focus on providing the best technology, focus on working effectively with the development community, and making sure that the message gets out there. That's all we can do. And so far, we have been successful in creating support at the developer level and at the consumer level, which has given us that momentum. And that's a momentum that Power VR has not been able to attain in spite of its spending tons more money in the marketplace than we have. We haven't had to pay developers to produce products that are 3Dfx-optimized, and a number of our competitors have had to. So what we plan to do is to continue to produce great technology, continue to listen to the marketplace, both to developers and consumers, and make sure that we're operating effectively as a company. We think that in the end that's going to work for us.

Gary: I think the big difference is that Power VR has an interesting architecture, no doubt about it. But the reason they've had difficulties and have to write out big checks is because they're difficult to develop for. One of the reasons that we've been so successful at getting companies to use 3Dfx as a development platform for new titles, which is something we've tried to focus on, is because it's really easy to code for. You can get something up in literally an hour. It's just very straightforward. Developers have a very easy experience writing things for 3Dfx. Power VR is a whole
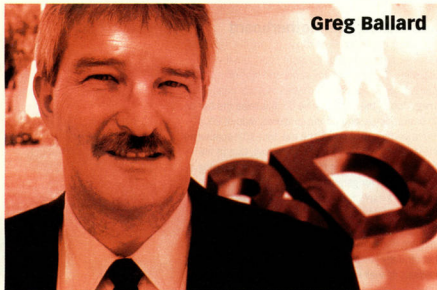
different story entirely. It's much, much more difficult to optimize for, and there are significant differences in the architecture — it's not something they've been raised on. So sure, with dollars, Power VR can get some titles. Look at *Tomb Raider*. But if you're a gamer, do you want to get hardware that your favorite titles come out on six months later? No way. [NEC] having to pay for every title is a losing proposition. There's no way that will work over time.

Greg: There are many ways to reward people for getting games to work on your hardware: There's money, support, developer support, there's having great hardware that makes their game look good.

NG: You've been widely praised for fast, smart, high-quality developer support. But as more companies sign on to do games for 3Dfx, are you going to be able to sustain that level of support?

Greg: Our commitment we have made to the development community is that we will continue to devote the resources necessary to support them in the way that they need to be supported. And just to emphasize that, if you walk around this building today you'll find a lot of people from the developer community. [Marketing Manager] Chris Kramer and I both come from that world. Our head of developer relations comes from that world. In fact, almost our entire marketing department came from parts of Capcom and elsewhere. We've really tried to create a company that is sympathetic to the developer community because it comes from the developer community. We're creating an environment that is joined at the hip to the gaming industry. And people have a natural attraction to this — it's not like we have to create a bonus system to make that happen. We will continue that level of support.

Gary: We also have quite a following of hobbyist developers — a lot of university students and professionals working at home, programming for the fun of it. And they actually help themselves quite a bit. I monitor one of the newsgroups, the GLide programming one, a lot, and you see other people answering questions.

Scott: It's great to see. These are not game developers, they're hobbyists. The whole goal of our releasing our API GLide publicly was to create a new standard, and that's exactly what's happened. University students, casual programmers — these people are not dedicated game developers. There's no way we can target these people directly because they're all over. But this is the only way you can find the next Id, the next garage shop. But they're on the newsgroups, and there's no way our competitors can do this. They [the competitors] have to target the developer, then pay the developer to get a title, and just go through this incredibly laborious process.

Greg: The problem with that model [paying developers to create games for the hardware], which I have talked about when I talk to publishers, is that it makes the hardware company a publisher. And having been in that business, it's tough enough to be a publisher when you can devote all your attention to it and you control everything. You can start and stop projects, and you can move people around. When you are funding those projects from the outside, making bets on them with no control over the project, no control over the content, no control over the artwork, no control over the game programming, you are just a casual observer making bets on games. In the long run, that's a very, very tough economic model. It's tough to be a publisher. To be a publisher who just stands on the

sidelines throwing money at games is almost impossible.

Scott: One of the other strategies is to wait for a game to come out and be successful, and then port to it. As a gamer, I don't want that. Six months later I get the title? Who wants that?

3Dfx, a new platform?

NG: You bring up the control issue and it's an interesting one. To a certain extent, maybe to a great extent, 3Dfx is being positioned as a new platform, distinct from a standard PC.

Greg: Absolutely.

NG: But there's a problem with that. If 3Dfx is

We are loathe to create a set of standards for using our logo

Greg Ballard, president and CEO

presenting itself as a separate platform, you don't have the same kind of control that a console manufacturer has over content, but with your logo, you're to some degree making a promise to the consumer. Someone can do a terrible job and still get the logo on their box.

Greg: That's a topic that we have discussed internally, and I will say that it is still under discussion because we don't have a fast answer to that. We are loathe to create a set of standards for using our logo based on the quality of a game because that gets us into judging the publishers' works, and having been on the other side of the fence, having to go through the Sony PlayStation process, I know how brutal that can be. And when you've invested a lot of money in a product, to suddenly be told at the end that that product doesn't meet certain standards is pretty devastating, financially as well as emotionally. We don't want to be in that business. Ultimately, the 3Dfx logo will tell people that they will get the best performance from that particular title. And then it's up to the people like

Scott Sellers
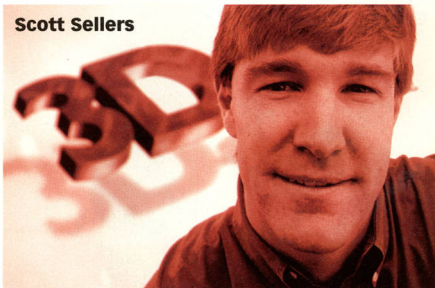
talking

you to inform your readers as to what stuff is good and what stuff isn't. I actually think that the games press does a very good job of telling people what the very good games are. There may be some controversies over whether *Quake* is as good as *Doom*, but in the end you know what the big titles are, and the must-have titles. And typically, you know the ones that are really bad, for instance, *Foxhunt*, which I was responsible for. [Laughs]

NG: So what specific steps are you looking at taking to address this issue?

Greg: I wouldn't say we were looking at anything because that makes it sound like we have regular meetings where we are organizing a task force to come up with a stamp of quality for the 3Dfx. But it is something we have discussed. We don't want to have consumers misled simply because the product has the 3Dfx logo, and that automatically means the game is good. But all of our discussions have basically led us to the same place — we don't want to be in the business of judging the quality of titles.

We want to make it very clear that we are on one

One of the things about the PC is there is freedom for anyone to publish a game

Gary Tarolli, vice president and chief scientist

side of the divide, and our clients or customers, partners, publishers, are on the other side of the divide. And we're here to provide great technology to them, they're here to design the very best games they can. We will play their games and we will enjoy their games and we will have higher opinions about what's good and what's not, but it's not our business to judge those games, it's not our business to decide what's good and what's not. And when you cross that line, it becomes a very subjective and divisive discussion between ourselves and publishers. And ultimately, that's not where we want to be in a relationship.

Gary: One of the good things about the PC market is there is freedom for anyone to publish a game. I've

Gary Tarolli

even downloaded games from our hobbyists — very simple games, just demos really. With the Internet, anyone can publish games for hardware. You will get the bad ones with the good ones, but the PC market has survived for many years with a lot of good games and a lot of bad games. And the freedom of the PC market is something that is very enticing at this time and will continue. The disadvantage is that you get the bad along with the good. The advantage is that it is a free market and anyone can write a game.

NG: Let's go back to the whole concept of 3Dfx as a platform. Tell me why 3Dfx is a platform and not just a way of playing regular PC games with better graphics. Or does that make it a platform?

Scott: I think that just by where we are right now, we are certainly in multiple markets. We have three announced arcade game manufacturers, and more coming. Williams/Midway/Atari, Konami, and Taito, they're all coming. Certainly with the PC we almost consider ourselves a platform within that market because the PC is just too large. What we've told publishers is that you need to focus on a segment of the PC market. Don't worry about Virge. If you want a game that will be high performance and that people will actually search out to buy, go with 3Dfx. And then of course the Mac is a new market for us. And GLide, works across all of them. And at some point we'll be on a console. It's an interesting situation for developers that they can target all of those markets easily. And with very little software changes, they can have deployment in all those markets. It's a very different financial situation from when you wanted to go from the arcade into the home and you started with some artwork and some models and it was a complete rewrite. It's a totally different scenario now.

Greg: If you think back on the history of the PC, there are almost no examples of arcade games that have been successful titles on the PC. And the first inclination of people is to say that there is a certain style of gaming that can't be successful on the PC. I don't think that's really the case. I think that the PC, especially for Japanese arcade games, was the last step in a very laborious process of porting the game. The first step is always the console. And even that was difficult because the game has to be dumbed down to get it on the next level of technology. One of the things that we offer now is the ability to take a game from the arcade and very quickly port it to the PC so that the time that passes from the arcade to the PC is significantly narrowed. When I was at Capcom, we were releasing on the PC *Super Street Fighter 2* at the same time we were releasing *Street Fighter Alpha* on the console. Now why in the world would a gamer go into a store and buy *Super Street Fighter 2* for the PC when they could get the most recent version of it on their console? And that disjunction between the PC and the arcade versions of games has always kept the PC from enjoying the popularity of those titles. We want to change that dynamic by allowing people to very quickly, and I should add very inexpensively, port a title from the arcade to the PC. And when those titles become available for the PC, they're optimized for 3Dfx. If somebody wants to enjoy the most recent arcade game on a PC, they're going to have to have the 3Dfx chipset.

For additional interview material, including comments on fabrication and OEM issues, see the September 12th "Special" section on **Next Generation Online**, http://www.next-generation.com
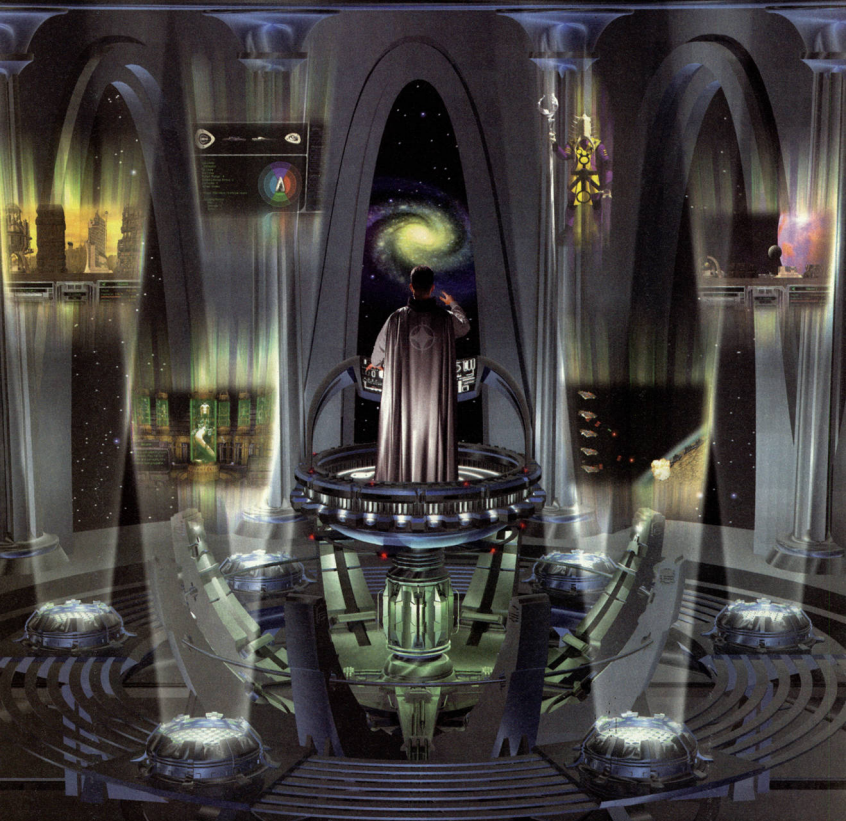
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news

Gaming news as it happens

Power VR
prepares Highlander

Details of new chipset, and its ties to Sega's new console, revealed

Developers like Kalisto have been using Power VR's plane-based rendering system for games like *Ultimate Race*. The Highlander hardware should allow developers even greater flexibility

The new Highlander hardware promises even better performance than currently achieved in games like *WipeoutXL* (above) and this Power VR demo (top)

W ith Sega's recent decision to scrap its development contract with 3Dfx and instead go with the next incarnation of Power VR's hardware as the cornerstone for its next console, the 3D acceleration company has been under pressure to reveal the details of its next generation chipset.

Over the past several months, developers have been approached by Power VR about its new chipset, currently called "the Highlander Project." Highlander will be a single chip 2D/3D integrated solution. Also known as the PMX, the Highlander hardware is said to boast at least a fivefold increase in performance over the currently available PCX2-based Power VR hardware. Current estimates of fill rate put performance at well over 75Mpixels per second while still offering a host of new hardware features. Among the new features supported by the hardware are bump mapping, edge anti-aliasing, anisotropic filtering, bi-and tri-linear filtering, specular highlighting, and texture conversion.

According to sources close to the development of Sega's next console, it will be powered by the extremely powerful Hitachi SH-4 CPU. Indeed, new information has indicated that two SH-4s may be used to boost performance, similar to the dual CPU setup of Saturn. Such a design would work well with the Highlander hardware given the
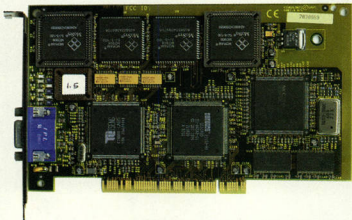
Power VR's new 3D acceleration technology is rumored to be five times more powerful than its last

hardware's reliance upon the CPU for triangle setup. At the same time, the use of higher level APIs from Microsoft and Power VR should make relatively efficient use of Black Belt's dual CPU configuration — unlike Saturn, which was notoriously difficult to program for.

In terms of applications within the PC market, the Highlander hardware is completely Talisman and AGP-compatible, and allows for up to 32MB of onboard memory, depending on desired performance from card or motherboard manufacturers. It will also offer OpenGL compliance, in addition to MPEG2 and DVD assist capabilities.

Arcade tests using the new hardware (or a slightly scaled-up version thereof) are rumored to be

under way at various developers with full public tests of some titles (mostly those used in the Intel Open Arcade Architecture Forum) scheduled to begin soon.

While many PC developers already have kits and tools for development, console developers have been instructed to begin working with the PC kits until the full Sega development kits are shipped early next year.

These chips will first be seen in PC products at some point in the first quarter of 1998 at prices similar to existing PCX2-based boards (roughly $140). Sega will allegedly be using some derivative of the hardware for its next system when it ships in Japan around Christmas of 1998.

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Hyper
Neo Geo 64

One of the biggest names in the arcades finally tries to get real

In the fiercely competitive Japanese arcade industry, conventional wisdom has always held that central Tokyo is the best place to test new arcade games. So when SNK held a private show there at the Hotel New Otani, few were surprised.

After hanging on to its 2D, sprite-based fighting engines even longer than Capcom, SNK used the show to introduce its Hyper Neo Geo 64 board, its first step into 3D gameplay. Yet, it was clear that Hyper Neo Geo 64, hampered by SNK's stubborn insistence that the board retain some 2D capability, doesn't measure up to its direct competitors: Sega's Model 3 and Konami's Cobra.

The game that best showcased the new board's capabilities, *Samurai Spirits 64* (aka *Samurai Shodown* in the U.S.) showed just how green SNK is in the 3D venue. While *SS64* was only 40% complete, with an expected

street date of only a month or so away, it already displayed troubling signs — only exacerbated by SNK representatives' reluctance to allow the public to actually play and instead have to rely on official demonstrations.

Textures were crude, with much evident pixelization, leaving *SS64*'s roster of fighters looking nowhere near as impressive as *VF3*, or even as solid as *Mace*.

Samurai Spirits 64 showed just how green SNK is in the 3D venue

However, despite these shortcomings, the game is not without potential, although even here there is a strong caveat. In an ambitious move, *SS64* is the first arcade fighting game to attempt a fully 3D world, giving characters the ability to move in all directions. Players can circle each other and perform attacks from any angle, somewhat reminiscent of *Battle Arena Toshinden*, but more

comprehensive.

However, it's important to note that after much research and testing, this approach was abandoned as too complex by Yu Suzuki and the *VF3* team and replaced with the current, simpler escape mode. If 3D fighting pioneers at AM2 doubt such a system's feasibility, the relative neophytes (to pardon the pun) at SNK have chosen an especially difficult method to set themselves apart from the rest. Indeed, SNK's motivation for not allowing any hands-on play at the show may have been hesitation that such a system would be dismissed out of hand by an audience unable to gain sufficient practice to master its intricacies.

It may well be that such a system, while innovative, could end up like many well-intentioned new forays: merely noteworthy, not extraordinary. The proof will be in the playing.

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Tech Specs

CPU: 64 bits RISC
RAM: 4MB
Program memory: 64MB 3D
Vertex memory: maximum 96MB
Texture memory: maximum 16MB

2D (Sprites)
Diplayed sprites: 1,536 sprites/
  frame (refreshment 1/60s)
Character memory: max. 128MB
Main functions: scaling (enlarge,
  reduce), chain, revolution,
  mosaic, mesh

2D (Scroll)
Scrolling screens: 4 maximum
Character memory: 64MB
Main functions: enlarge, reduce,
  rotation, morphing, horizontal
  and vertical line scrolling
Colors: 16.7 million
  4,096 displayed simultaneously

Sound
Channels: 32
Sampling frequency: 44.1MHz (max)
Wave memory: 32MB

Neo Geo's new board was showcased by *Road Trip* (above) and *Samurai Spirits 64* (left)

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PlayStation
gets surrounded

3D sound is coming for Sony PlayStation

It is ...
E.T., from Atari, for the 2600, by Howard Scott Warshaw. For the complete story on the *E.T.* saga, turn to page 34 for the first installment of **Next Generation**'s new column, Retroview, featuring anecdotes and stories taken from the annals of computer and videogame history

Reaching the goal of total immersion in video and computer games requires fully 3D surround sound, but that goal has always remained somewhat elusive. Experiments with a process called Q-Sound in the early '90s seemed promising enough that Nintendo actually licensed the process, as did others outside the industry (Madonna even tried using it). Eventually, technical problems, including an overly picky sweet spot (so if the listener wasn't positioned in exactly the right place between the speakers, it didn't work at all), forced the process to be abandoned.

However, as reported in **Next Generation** a few months ago, recent attempts based on acoustic research of how the human ear perceives the direction sound comes from have enjoyed much more success. One, developed by Aureal, went into production as a DSP in Diamond's recent Monster Sound PC card. Soon,

PlayStation owners can enjoy a similar process, dubbed X-360 Sound, developed by Advanced Digital Systems Group (ADSG).

The X-360 process resides entirely in software — no additional hardware is required — and breaks the usual two-track stereo signal into nine virtual channels: left, left center, right, center, right center, right, left surround, right surround, and Boom (the sub-woofer channel). Each channel is layered with acoustical cues identical to those that indicate where sound comes from within the human ear. For a two-speaker setup, ADSG recommends headphones for the best effect, and the results are, reportedly, impressive. Users who own PlayStations already connected to five-speaker surround-sound systems can expect room-filling results.

X-360 Sound can be programmed noninteractively, that is, programmed out ahead of time for use in cut scenes, for example. In fact, ADSG spends

most of its time developing motion-picture-sound technology. However, most game developers would be more interested in the interactive features, which enable on-the-fly sound effects and full realtime control of the sonic environment.

Currently, X-360 Sound must be licensed separately from the usual suite of PlayStation code libraries, and at this early date only one title has been announced that will take advantage of it: Sony's own *CART World Series*. This Formula 1 racing game doesn't seem to be the ideal showcase for an interactive 3D sound process, especially given the annoying, quasi-metal soundtrack that saddled the beta seen by **Next Generation**. However, if a player could clearly hear the sound of an opponent's car approaching, pulling up fast from behind and off to the left, that would make for an interesting new wrinkle indeed, and also help differentiate *CART* from the glut of racing games for the system.

The simple fact that X-360 Sound is a software-based product also brings up the interesting possibility of X-360 — or, more likely, a similar process, since Sony has the X-360 locked in for PlayStation — becoming increasingly standard in most game development, since it's hardware-independent. Whatever the future holds, however, PlayStation owners at least can expect more immersive sonic landscapes in the months and years to come.

This software, based on 3D sound technology, will appear in PlayStation games starting this fall. More titles will support it in 1998

Molyneux
returns to EA

**Despite an acrimonious relationship at Bullfrog,
Peter Molyneux signs up again with EA**

LionHead Studios, the new British development team headed up by Bullfrog founder Peter Molyneux, has signed a worldwide publishing agreement with Electronic Arts.

At the same time, however, the creator of *Populous* and *Dungeon Keeper* has outlined how desperate the situation became between him and Electronic Arts during his last days at Bullfrog.

Molyneux sold Bullfrog to EA in January '96 for a sum thought to be around $40 million. Soon, however, he began to hint that he was feeling stifled by the newly imposed corporate responsibility. In July he confirmed that he was going to quit the firm and start up a new independent, LionHead. Now Molyneux reveals the gory details of the breakdown in his relationship with EA: "From day one I went from being involved in Bullfrog day and night to having to go to an awful lot of meetings. I quickly got further and further away from what I'm good at — designing games.

"Then, in May '95, they said to me, 'You've got to ship *Dungeon Keeper* in six and a half weeks.' The game wasn't six months into its development cycle at this point and I said, 'No way.' They said, 'You're a member of the EA family, we need the product, you've got to do it.'

"I was stunned, dumbfounded. This was exactly the sort of thing that they'd promised faithfully would never happen. Because I wasn't prepared to sacrifice *DK*, I wrote and designed a game from scratch in six weeks: *Hi-Octane*. But the whole episode was a stunning, shocking, terrible realization that, in fact, we didn't have that much control anymore."

Molyneux decided he wanted to leave soon after that and completed *DK* in what he describes as "an extremely unpleasant atmosphere — a nightmarish situation." He says that at one point EA even tried to cancel the game.

Despite the obvious acrimony, however, Molyneux has signed the rights of LionHead's first product over to his former paymaster. He explains, "You can't deny EA has got the best worldwide distribution … they've got an awful lot of power. They do things right and when they're behind a product, they're really behind a product. You can't help but admire their professionalism. You've got to go for the most financially sound and professional company. And in a sea of publishers rumored to be in trouble, EA is the soundest ship of all."

LionHead's first, as yet unnamed, project is scheduled to appear on the PC in the first quarter of 1999 and will be followed closely by a second title aimed specifically at the console market.

M2 just not
good enough

Panasonic explains its decision to cancel M2 gaming console and predicts technological super age

After finally making it official that the M2 technology was not going to be released as the game console many were expecting, Panasonic Wondertainment President Nobuhiro Shibata recently spent some time explaining the decision. At the heart of the reasoning was Panasonic's belief that while the M2 would have surpassed any console on the market, it would not have provided the revolutionary jump he had hoped it would. He went on to reference a point in the future of technology, which he referred to as the Digital Contents Big Bang, in which the time would be right to create a machine like the intended M2. At the same time, Shibata was quick to assert that Panasonic has not deserted the technology and will be implementing it in several applications, including everything from office use to industrial design.

In explaining the Digital Contents Big Bang, Shibata described a machine that would possess a better than 64-bit processor (the standard the proposed M2 was to be based upon). Also included in his explanation was talk of extensive networking possibilities. He rounded out his description of this upcoming technological age by insisting that this century was still due to see a peak in computer graphics and that this machine would play a major role.

As for what's in store for current M2 software such as Warp's *D2*, a massive project that was near completion when the hardware was canceled, Panasonic apologized to the development teams but insisted that the software would be used as demonstration material for the M2 technology. It's doubtful that this is much consolation to developers who had hoped to actually release their games to the public, but most will probably find alternative hardware for their games.

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Otaku
calling

At JAFCON 6, traditional otaku merchandise took a backseat to the latest offerings from the game world

Although events like the Tokyo Game Show attract their fair share of obsessive videogame, anime, and manga otaku, it is JAFCON (Japanese Fantastic Convention) that brings them all out.

This intense, one-day event, held every July in Tokyo, is essentially the Japanese equivalent of a sci-fi convention. Thousands of fans turn up to talk about their favorite characters, and thousands of exhibitors turn up to sell them little models and souvenirs of those characters for exorbitant prices.

Think you're hard-core because you have a *Final Fantasy VII* keychain? Think again. JAFCON attracts the ultimate character fans

Typical JAFCON fare, from top. Cel-phone/replica gun, kids in character costumes, and limited edition Evangelion merchandise

Everyone goes home happy.

At this year's JAFCON, though, there was an even more obsessive feel. Snuggling between big names like Sega, Bandai, and Takara were exhibitors who make their own models by hand, and produce them as very limited editions. As a result, many otaku lined up outside all night. Incredibly, many exhibitors displayed "sold out" signs after just 30 minutes, spending the rest of the day answering questions posed by masses of adoring fans.

For the big companies attending JAFCON, the event was an opportunity not only to sell their comic/videogame-related trinkets, but also to learn what trends are likely to filter down to the non-otaku masses over the coming months. Bandai, for example, learned the unfortunate lesson that it is no longer flavor of the month — its previously popular Dragon Ball, Power Ranger, and Sailor Moon characters were distinctly out of favor, with only a few nostalgic fans exhibiting models.

It was left to Sega to become the toast of the event, exhibiting for the first time and showing a range of Evangelion, Fighting Vipers, and Sakura characters as well as the odd Sonic figurine. It was this videogame-related paraphernalia that flourished at the show, mostly at the expense of exhibitors (including Bandai) showing off regular scale models inspired by anime and manga themes.

To add insult to injury, the only Bandai products that matched Sega's in popularity were its Gundam models — and mostly because those characters have been in some recent Saturn games.

As usual, there was a large "cosplay" element, with many otaku making appearances as their favorite characters. Interestingly, magazines dedicated to cosplay are appearing at an alarming rate in Japan, while dedicated parties take place in Tokyo every month.

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Sega to
enhance VF3

Enhanced version soon to hit arcades

A t a recent gamer's tournament in Japan, the Java Tea Battle Koshien, *Virtua Fighter* creator Yu Suzuki announced that a new version of *Virtua Fighter 3* would soon be hitting arcades.

The new version, called *Virtua Fighter 3 TB*, will feature a long list of enhancements, most important of which is a team battle (hence the TB) mode — a feature included in home versions of previous *VF* titles, but never in arcades. *VF3TB* will also include new fighting moves, tweaked character balance, and larger arenas. Finally, the game is rumored to include at least one new character, though no details on what kind of character it may be were given at the tournament. With Suzuki already on record for having said that he would not be working on *Virtua Fighter 4*, this update may well

Yu Suzuki may never do a new *Virtua Fighter*, but he's at least going to bless us with a special edition

serve as the last installment for the popular series, at least in the foreseeable future. No word has been given yet on when the game may find its way to U.S. arcades or whether the new version would be released in the U.S. at all.

The announcement comes at a critical time in the lifespan of the game, since most gamers (especially the Japanese) fully expected to have a home version

of *Virtua Fighter 3* by now. And with the recent announcement that there will be no *Virtua Fighter 3* for Saturn, this new arcade version will have to maintain interest in the series until Sega's next console is released.

This is a tall order, considering the fact that Sega's next console may not be out until the end of next year, but *Virtua Fighter 3* will almost certainly be part of the launch strategy for the new system. It's likely too that a home version of the game, when it is released, will reflect the enhancements made in this latest version.

In the
Studio

Development news as it develops

Developer Radical Entertainment of Vancouver, Canada (perhaps best known for its *NHL Powerplay* hockey series), has established a new development office in San Francisco, California. The studio is already involved in developing several titles and is planning to announce important new deals. Check this space next month for more.

Namco has announced that *Famistar 64* will be its first product for Nintendo 64. As the next in the Japanese series of *Famistar* baseball games, the game will feature 3D stadiums, as well as motion-captured movements for its polygonal players. Namco currently has no plans to bring this title to the U.S. At press time, the company had no comment on any further N64 development.

Best known for the *Little Big Adventure* (*Relentless* and *Twinsen's Odyssey* in the U.S.), French developer Adeline has been purchased by Sega and is being used as the basis of a new company called Sega Software. According to a European source, Adeline was acquired to create software for the PC and the next Sega console. Since Adeline was originally set up by Delphine software (of *Flashback* and *Fade to Black* fame) some years ago, Delphine will retain the rights to past Adeline intellectual properties.

Another Mac game is on the horizon. Playmates has officially decided to port Shiny's PC hit shooter/adventure *MDK*. The game had already been in development for some time when the publishing deal was finalized in August. *MDK* joins GT Interactive's *Shadow Warrior* and *Unreal* on the list of anticipated Mac ports.

WipeOut 64? Inside sources at a major U.S. based publisher have indicated that Psygnosis (which is owned by Sony) has been approached by several publishers in regards to bringing *WipeOut* to Nintendo 64. Sources have also indicated that at least one of the publishers interested in the project is Nintendo itself. Much like Psygnosis' past deal with T*HQ regarding Saturn ports (which had nearly all been canned before their release), a Nintendo 64 version of *WipeOut* will allegedly be published by an outside company. Also, Psygnosis may avoid direct development and instead merely license out the name and code for the game, sources said. The company has yet to publicly announce any plans for Nintendo 64.

Joyriding

Gaming on the Internet

by **Christian Svensson**

Christian Svensson is the editor of **Next Generation Online**

Richard Garriot has a vision. It's a vision of world domination, but not the way you might initially think. Garriot's world is the mystical and wonderful universe that is *Ultima Online*, which has recently entered early beta testing. Several thousand people have been sent beta discs with which to play the newest in online games, one that many industry pundits (including this journalist) feel will be the biggest phenomenon to hit the Net since *Quake*.

Garriot's world is filled with countless personalities, both real and computer-generated, option of choosing the city or town in which you wish to begin. The very mention of Trinsic, Moonglow, Yew, Empath Abby, and a host of other towns should reawaken fond memories for nearly any *Ultima* fan. You select your town and the inn in which you want to start your life ... and you begin.

As with most *Ultima* games, at the beginning your character is nearly useless. He doesn't have any appreciable skills, equipment, or money. He couldn't hit the broad side of an ettin with a sword, and his low number of hit based on past actions. Garriot calls this the game's concept of notoriety. If you are known for good deeds and honorable behavior, NPCs may offer you better deals in stores or give you more information. If you are a scoundrel who steals and kills indiscriminately, then NPCs may not even talk to you. Again, *Ultima Online* is the first graphical MUD to have a "reputation" parameter built into its engine.

One of the more ingenious devices in the game is the method by which death is handled. It is almost certain that you will die many times, but rather than having to start over, you have a choice. You can be reincarnated immediately but suffer horrendous penalties against your character's statistics, thus undoing days or even weeks of work. The other option is to try and make it to a shrine (if one is nearby) to be reincarnated. The trick in this case is that as you take time to get to the shrine, your character's statistics are slowly being decreased. The key is knowing where the shrines are and how far away they are from your current location. Either way, all of your possessions will remain where

The significance of *Ultima Online* to the online gaming community is simple: Never before has a game offered so much to so many

making the game something of an experiment in social interaction. You may mingle in Moonglow with a mage from Minoc (say that five times fast, but that person in the real world may well be from Minneapolis.

The significance of *Ultima Online* to the online gaming community is simple: Never before has a game offered so much to so many. *Ultima* is an established license with a massive following. The success that *Ultima Online* will be (and it almost certainly will) is partially due to the heritage of the series and very much due to the variation and flexibility of the game.

Exactly how success is measured in the game is still something of a mystery (much as it is in real life). You may aspire to become financially rich. You may seek to attract followers who will do your bidding without question. Or perhaps, all you desire is the ability to become powerful enough that you need not rely upon anyone else in the realm for support. Perhaps on the most fundamental level, success is simply staying alive in a world that really wants to hurt you. Either way, the world is open and free to explore however you may choose, and it's this flexibility that makes the game completely groundbreaking.

After finishing the absolutely monstrous installation (which will occupy more than 200MB of your hard drive), you are walked through the simple but fun process of creating your first character (I say first because inevitably you will screw up early in your first game and have to begin another). During the character creation process, you can choose how to allocate points for three major attributes (strength, dexterity, and intelligence) as well as what appearance and skills your character possesses.

At the start of the game, you have the points makes him a prime candidate for early retirement (and I don't mean the relaxing kind). As a result, you must rely, at least in the short term, upon your social skills to make friends and form partnerships as a means of making money and surviving.

Initially, you will want to build up skills, acquire wealth, and generally be able to kill more and bigger creatures (or players depending upon your morals). As with earlier *Ultimas*, there's plenty of booty just sitting out in the open for the enterprising, yet untrustworthy player to steal. If you take an item (let's say a

It is almost certain that you will die many times, but rather than having to start over, you have a choice

silver knife or fork from one of the many inns), the game checks on your chances to steal based on your stealing ability. If you fail (and as a newbie you probably will) and someone sees you, be it an NPC or a human player, the guards will be summoned, and you will be summarily executed on the spot. An enforced law system is a first for online gaming history.

Another path is the more honorable one of simply killing some easy prey to get started and building up some fighting skills. The more you use a skill, the better you get at it. Rabbits and birds make excellent first targets, as they not only give you practice, but may also yield pelts or feathers, which may then be traded on the open market for cash.

In the short term, it doesn't matter what morals you have, but as you gain more experience, NPCs will react differently to you you perished until you return or someone comes and pillages them.

Rumors and quests can be found by talking to people in taverns or inns. A lich may have taken over a cave to the north, or perhaps pirates have been pillaging smaller outposts along the coast. If you are so inclined, you can join a party to take care of the menaces or not. Either way there's adventure to be had if you want some, and if you'd like to have a more quiet life, you can do that too by mining, trading, or simply working in some sort of merchant capacity.

3DO's *Meridian 59* started the graphical MUD revolution, but with a well-established series like *Ultima* and the amazing possibilities of Garriot's world, *Ultima Online* is a major reason that persistent environments are here to stay.

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Movers and Shakers

The business news that affects the games you play

A romance foiled

This latest (and last?) chapter of the love-triangle drama between Sega, 3Dfx, and NEC ended with players exiting stage left, while spectators booed and hissed rancorously. Despite the passionate amour between fair Sega of America and strong-chinned 3Dfx, beastly old Sega of Japan had given the hand of our heroine to fat old uncle NEC.

Press coverage of Sega's decision to go with some derivative of NEC's Power VR instead of the more popular 3Dfx was about as celebratory as a death in the family. In the U.S., there was a real sense of disappointment, a sense that Sega had (again) completely screwed things up.

Next Generation

VR as it stands. This could diminish the primary objection many have about Sega's decision.

Secondly, NEC is capable of astounding manufacturing capabilities (on par with Sony's capabilities and way ahead of Nintendo's). It also already operates in many areas vital for providing other components to Sega's machine. This will bring the hardware price down significantly, compared with the results of any attempt by Sega to go shopping for components (a la Saturn).

Thirdly, NEC cherishes a white-hot desire to succeed in this market. An alliance with Sega is beautiful, for here are two companies with much to be gained by grabbing some of

by **Colin Campbell**

Colin Campbell is **Next Generation's** international correspondent

overestimate, and Engage's announcement of a 50% cut in staff is no exception. Customers, explains Engage, have not appeared at the time nor in the numbers anticipated. This same overestimation happened with the slow emergence of the 32-bit software market, and with the nonappearance of a PC kiddie games market.

It's easy to imagine why staff members are taken on in anticipation of growth in new areas — they have to be trained in a technologically challenging environment. Or, if they are already skilled, they take time to hire. But if that's so, then why are such an awful lot of these sad layoff announcements pronounced as affecting "nonessential and periphery areas"?

Stupid stunts

Finally, some journalists are still falling for these god-awful publicity concoction stories supplied by our friends in PR. They normally feature some software publishing exec promising to drink bleach (or run naked through E3 or whatever) if his latest games sell in preposterous numbers. Hacks dutifully type up these nuggets of information as genuine news. The latest features a game demo having been sent to mass murderer Saddam Hussein as stress relief. This PR wheeze got the column inches he was after. But is this drivel newsworthy? And is the dictator Saddam an appropriate straight-man for these stupid stunts?

Online's readers voted an astounding 82% against the decision.

3Dfx's plus points are impressive, for sure. Its current high ranking in PC gaming circles is building upon itself. It has a reputation as a useful outfit, headed by a smart management team. And, most importantly, its technology is good. It is also an American company.

NEC's Power VR is not held in the same esteem technologically. But despite its corporate perceived distance as a grinning fatcat multinational megalith, it could well turn out to have been the smarter and safer option for Sega, after all.

First of all, the technology that will be used in Black Belt will be based on Power VR. That does not mean it will actually be Power

Sony's hard-earned market share. It may not be a marriage made in heaven, but it's an alliance worthy of any Machiavellian patriarch.

For 3Dfx, it's not the end of the world. 3Dfx is still gaining ground in the PC market, and this leaves its options open in the console arena. Sega wins as well. It retains that 20% stake in 3Dfx, which gives it leverage in the PC game business, where it has correctly identified potential growth on its yet-to-be-fully-exploited brand. This interest could also smooth any unpleasant post-separation legal shenanigans.

Loss of faith

Every month this column has the unpleasant duty of reporting job losses. This month we move to online gaming as the latest churned-up field of dreams. This industry has never seen an opportunity it did not vastly

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Arcadia

The latest arcade and coin-op news

by **Marcus Webb**

Marcus Webb is the editor of *RePlay* magazine

Konami with a bullet

Totally wild action. Totally awesome graphics. *Total Vice*! It's the latest from Konami, a two-player video upright handgun game in a handsome dedicated cabinet. Players join a special task force to seek out and destroy a nasty band of international terrorists. OK, maybe the guns and the title won't appeal to those "let's play nice" senators on Capitol Hill. But hey, the nation's lawmakers and guardians of morality might like the socially responsible theme: good vs. evil.

Players should enjoy taking a crack at four different missions: beginner's target practice, Miami arms smuggling, downtown biker gangs, and New York's covert terrorists. Settings include mean city streets, dangerous subways, deserted office buildings, and moody harbors. Besides the terrorists, smugglers, and bikers, players also confront a variety of druggies, punks, and thieves. Five different types of firepower can be player-selected: rifle, dual, Magnum, shotgun, and machine gun.

A 33-inch, medium-resolution monitor in a showcase cabinet gives this one real "come play me" eye appeal. An innovative, live-action speaker sound system is enclosed in each gun! When you fire a shot, you hear it, and boy does that add to the realism. As we all know, Konami's got a fine track record with this type of game, and *Total Vice* should make for a distinguished addition.

Lost World roars!

Any magician can pull rabbits out of hats. Leave it to Sega GameWorks to pull dinosaurs out of hats. *Lost World* is the first shooting game to use Sega's "million-polygons-a-minute" Model 3 computer hardware. Graphics are presented in 3D on a 50-inch rear projection screen. Players sit inside the canopied cabinet and draw two black curtains on the sides to screen out all ambient light.

OK, the key question: Do the game graphics look like the movie? Yes. Not as smooth, and the rear-projection screen does not make for the sharpest possible resolution. But the close family resemblance of game to movie is clear from the attract mode on. The game was made with full cooperation from the movie staff down to the smallest detail — which makes perfect sense, considering that the film's director, Steven Spielberg, is a co-owner of Sega GameWorks. Arcadia saw an early test release unit of the game on site at the Sega City Fun Center in Irvine, California, and we can testify that digitized dinosaurs are just as scary and exciting in a 50-inch videogame as they are on the Silver Screen.

Like the graphics, *Lost World*'s sound is also three dimensional thanks to a four-speaker "surround sound" system in this deluxe cabinet. "Our advanced sound system and the vibrating seat make every dinosaur footfall and roar a reality," said Sega execs. "*Lost World*'s dynamic sound brings the player audio effects unlike any heard in a game before."

Players' weapons are hand-held tranquilizer guns (one each, red or blue plastic) fastened to the cabinet via high-security cables. Two players enter "The Lost World" of *Jurassic Park*'s dino-infested island, Isla Sorna. Their mission: Save the movie's heroes, Ian Malcolm and Sarah Harding, before they're turned into dino-lunch. In five stages of action, players must shoot their way through rampaging dinosaurs to "Site B" — the laboratory complex seen in the film.

Other game creators, take notes here. This is how to turn up the action while turning down the violence: Players try to disable predatory dinosaurs with tranquilizer darts, earning extra points for fancy shooting (ricochets, breaking glass, and so on) and — get this — for saving more human lives! Several mini-games along the way decide the course the game will take. Players are rated not only on shooting skills, but on teamwork and the number of people saved.

That teamwork rating, by the way, is a special new feature that's unique to *Lost World*. Here's how it works: At the end of the game, a teamwork rating screen appears, showing what percentage of the work each player did. You can evaluate your performance in areas like covering your partner and working together in the boss stages. The results also appear on a ranking in the pregame sequence. Check it out ... you'll feel positively prehistoric.

Zero to 70 in three seconds!

Malibu SpeedZone is the place to go if you want to play 95 of the latest, hottest games in a beautifully themed arcade — from linked sit-down video simulators to redemption classics and more. It's also the place to go if you want to be catapulted out of the start box in a real 18-foot-long, 300-horsepower Top Eliminator Dragster. Ultimately you hurtle down the 140-yard drag strip at 70 miles per hour.

Rising out of the ashes of the *Malibu Grand Prix* chain, which achieved fame in the '80s and fell on hard times in the '90s, the recapitalized, totally redesigned *Malibu* chain of 1997 and beyond staged its grand opening for three snazzy new centers this summer. Located in Dallas, Atlanta, and greater Los Angeles, each 12-acre park offers three different go-cart tracks, a dragster track, a huge themed arcade, a classy bar, and a snazzy cafe.

The company spared no effort to ensure authenticity. Partners in the venture include two-time Indianapolis 500 champion Al Unser Jr.; 1996 PPG CART (Indy) Car World Series champion Jimmy Vasser; CART rising star Bryan Herta; and 18-year-old NHRA Top Fuel rookie sensation Cristen Powell. *SpeedZone* bills itself as the first entertainment concept that gives guests a chance to try four different types of racing and get behind the wheel of actual dragsters and custom-built, scale Indy cars in which they can race their friends on tracks designed by top industry experts. Outdoor fun also includes Speedway Golf, a 36-hole miniature golf course that's race themed.

The concept is geared toward young adults, with its requirement for a valid driver's license, its full-service bar and restaurant, its late hours, and its aggressive play pricing (racing fun starts at $5 a shot). *SpeedZone* also features group-meeting and party facilities. But then, these places are also crammed with family traffic on weekends, too.

After you try the dragsters, three more real driving experiences await. *Grand Prix Racing* gives two drivers the chance to race head-to-head through hairpin turns in custom-built, scale Indy cars. *Slick Trax* (sprint track racing) puts guests' driving skills to the test as up to 20 drivers race wheel-to-wheel in high-torque racers, which go into a controlled four-wheel slide through each turn on this highly polished concrete track. Finally, *Turbo Track* (road racing) allows up to 28 drivers compete on an 1,100-foot serpentine track while driving custom-designed scale race cars.

Malibu managed to place its sites next to busy highways so that thousands of commuters will see the park in action each day ... and no doubt get the itch to come in and try racing a dragster or cart themselves. Other promotions include good old cash prizes. Guests may compete in the park's weekly racing competitions to win $500 in cash and prizes. Drivers may qualify for pole position on the weekly race ladder and then compete for cash and prizes.

The first three *SpeedZone* games are located at the following addresses: 11130 Malibu Drive, Dallas, TX 75229, 972-247-RACE; 3005 George Busbee Parkway, Kennesaw, GA 30144, 770-514-8081; 17909 Castleton St., City of Industry, CA 91748, 888-6-MALIBU.

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Anecdotes from computer and videogaming's past

Low point for licensing

by **Steven Kent**

A frequent contributor to **Next Generation**, Steven Kent is the author of a forthcoming book on the history of videogames

Companies have always tried to camouflage really bad games by attaching them to motion pictures and sports stars. In recent years the market has been flooded with Looney Toons games from Sunsoft and lame movie games from Acclaim and Capstone. People still joke about the time Electronic Arts licensed pathetic side-scrolling action games with Michael Jordan (*Michael Jordan in the Windy City*) and Shaquille O'Neal (the execrable *Shaq Fu*) that had nothing to do with basketball.

The most expensive and ludicrous licensing deal ever to plague the industry, though, took place in 1982, long before Electronic Arts ever considered *Shaq Fu*.

Many people have blamed Ray Kassar, the ex-president of Atari, for the infamous *E.T.* game, but he says the real culprit was Steven Ross, the president of Warner Communications, Atari's parent company. Without consulting Kassar, Ross offered Steven Spielberg $25 million for the right to make an Atari 2600 game based on *E.T.*

The idea of making a game based on *E.T.* was sharp. The movie had just come out in June and was already on its way to becoming the biggest motion picture of all time. America was crazy about the little alien; the problem was that Ross wanted to release the game in stores before Christmas.

I asked Steve, "When do we have to produce this [the E.T. *game]?"*

He said for Christmas of 1982.

This was in July when he called me ... the end of July.

I said, "Steve, the lead time to produce a game is at least six months between semiconductor deliveries and programming and all that. It's impossible."

He said, "Well you have to do it because I promised Spielberg we'd have it on retail shelves for Christmas."

We had literally six weeks to produce a brand new game, manufacture it, package it, and market it. It was a disaster.

— Ray Kassar

Once the project had been dumped in his lap, Kassar's first challenge was finding a programmer. Most 2600 games were designed by a single programmer, sometimes with the aid of a graphic artist. The problem was, none of the VCS programmers wanted to tackle the job. *E.T.* was going to be a high-profile game, the president of Warner would be watching, and there wasn't sufficient time to design a good game — it was the kind of project that ends people's careers.

Needing to act quickly, Kassar turned to Howard Scott Warshaw, a hotshot programmer with two games under his belt. Kassar couldn't help but notice Warshaw's first game, *Yar's Revenge*. It was about Yar of the Rassak Solar
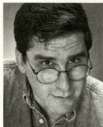
System (Yar is Ray spelled backwards and Rassak is Kassar).

Ray called me up personally. Because of some other interactions I had had with Ray before, I think he just had a feeling that I would do it.

So he called me up from Monterrey and said, "Howard, we need E.T.*" This was like July 23, and he said, "We need* E.T. *by September 1. Can you do it?"*

I said, "Yeah, provided we reach the right agreement."

— Howard Scott Warshaw

According to Warshaw, the "right agreement" meant that he'd receive a "couple hundred thousand dollars" for five weeks of work. During those five weeks, Warshaw struggled to capture some of the flavor of the movie in an entirely original videogame. He failed. And failed miserably.

The game was supposed to be about helping E.T. build a communications device so that he could "phone home." Instead, it was mostly about helping the little space spud climb out of holes.

Ross predicted that the game would sell well because it was about *E.T.* He was right: The game was a million-copy seller. Unfortunately, he had told Kassar to manufacture five million copies of the game. The other cartridges really did end up in a New Mexico landfill.

Consumers apparently learned from *E.T.* Though blockbusters such as *The Terminator*, *Robocop*, *Aladdin*, and *Jurassic Park* have been converted successfully, very few games based on movies have sold extremely well. Too bad videogame companies don't learn as quickly as their customers do.

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"Quake II, without a doubt, the game of E3."
— *Computer Gaming World*

The great

escape

The gaming software industry is changing once again. The world's leading gaming lights are leaving established teams and working environments to strike out with new software development houses. **Next Generation** examines the trend and talks to the key movers

T he videogame industry's gradual transformation from back-bedroom hobby to multimillion-dollar business has often been likened to the evolution of the television and movie industries. Certainly the gradual acquisition of independent developers by gaming superpowers over the last few years seems to have followed a familiar pattern, and the increasingly serious amounts of money involved have ensured that a more corporate climate is becoming the norm. Where once a lone programmer could expect a one-time fee of around $5,000 for his code, advances of $500,000 for a single SKU are now commonplace, making it all but impossible for smaller teams to develop titles independent of a potentially restrictive publishing deal. A bias towards internal development has naturally followed, giving publishers not only total control over their product development, but also saving on expensive advances and royalty deals.

And yet in the last twelve months alone, high-profile *Doom* and *Quake* designer John Romero has left his post at Id, Sid Meier has opted to leave the security of Microprose, and *Wing Commander* creator Chris Roberts has quit Origin to co-found Digital Anvil. N64 developer Rare has recently lost key staff, and even leading U.K. development

house Bullfrog has been hit by not only the departure of three company veterans but also company founder, Peter Molyneux himself. It seems the structure of the software industry is far less stable than anyone would once have thought.

wooden. Once all the directors get used to this new power, then they can use it effectively and tell a powerful story with it.

"This is what we've gone through in the gaming industry. Now we have a lot of designers saying that they want their vision

were about ten people. Now there are about 100," says Mike Diskett. "It lost a lot of the friendly feeling, then the buyout by Electronic Arts caused the atmosphere to change in that we're no longer helping to keep this small, friendly company alive. It wasn't as satisfying. Plus, we were finding that as long-term members of Bullfrog we were getting promoted away from the games and spending more and more time in meetings. We wanted to spend all our time creating games."

"There was this huge bottleneck at the top and we couldn't all be chiefs, there had to be Indians" — Peter Molyneux

Tom Hall, who recently left 3D Realms to co-found Ion Storm with John Romero and ex-7th Level man Todd Porter, sees the rise of a new set of independent developers as a continuation of the movie industry parallel. "When movie cameras were invented, they were tools of the inventors, the technicians. Once the technology stabilized, then creative people got to take over and then see what they could do. There have been similar waves after the recent digital special effects wave, which we're still sort of in. We've seen the amazing effects in *Jurassic Park* and *Twister*, but the characters are rather

implemented, instead of being told what they're allowed to do by the people who write the engines. The technology has come of age, and the designers want to see what they can do with it. Designers are in the winter of their discontent, and now want to break free and be in a situation where their design can flourish. For some, it is just a lateral move. For others, it is a tremendously freeing process."

This certainly appears to be the case with Mucky Foot, a team created as a reaction to the problems that beset previous employer Bullfrog. "When we started there

Even Bullfrog head Peter Molyneux concedes that something went awry. "There was this huge bottleneck at the top and we couldn't all be chiefs, there had to be Indians. It meant that there was pressure for Bullfrog to expand, and one of the ways to do that was to be part of an organization. When Electronic Arts came along and put their offer on the table it was really down to three offers. It seemed the right decision to make and I still believe that for Bullfrog it was the right decision, but I do regret it because Bullfrog definitely changed for me. It changed from a company that was one big family where everyone got on with everyone else, and where lots of people socialized together, to a place that was a lot more political. There was a lot more scrambling to climb up the ladder, which meant that people tended to get a little more pissed off. And so for me, I found it a very frustrating environment."

Spending more and more time traveling and in meetings, it was a scathing email from Guy Simmons, now also at Mucky Foot, that turned Molyneux around. "That single event made me realize I was actually doing something at Bullfrog that I wasn't particularly good at and didn't particularly enjoy. It made me realize that what I should be doing is designing and writing games, and it was at that point that I switched my attentions.

"There were really two choices. The first was for me to say, 'OK, I'm a program designer within Bullfrog and nothing else, full stop,' or there was the choice of going off and setting up my own group doing exactly what I did with Bullfrog, and that was to attract people — really talented people — and take people who haven't got
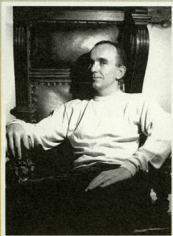
Bullfrog ◦ LionHead

Staff: Peter Molyneux
Crowning achievements: The *Populous* series, *Powermonger, Dungeon Keeper*
Leaving: Bullfrog
Moving to: LionHead

A brief history: Formed Bullfrog in 1987, creating the 16-bit shooter *Fusion* the following year. It was the 1989 release of genre-defining "god game" *Populous* that really put Bullfrog and Molyneux on the map, with a game style that has been explored and refined through a studied, conservative list of subsequent releases. Molyneux's new company includes Games Workshop man Steve Jackson among its number. Titles will be published by Electronic Arts.

Reason for move: Unhappy with role as head of the company, Molyneux intends to continue the hands-on approach he returned to with the development of the excellent PC strategy title, *Dungeon Keeper*.

industry experience, and then grow a group to a size which feels really comfortable."

The Mucky Foot crew, meanwhile, are using their experiences at Bullfrog to define their new working environment. "We're going to try to keep as small as possible," says Diskett. "We believe that you can create a world-class, triple-A title with a handful of people, rather than twenty or even forty. And we've found that more people always means less programming gets done."

Diskett is enjoying the opportunity to work without the interruptions and constant meetings that blight so many larger teams, not to mention the politics involved. "We're going for a democratic company. That's why we don't want to push one person as a figurehead of the company, like at Bullfrog. It did create some bad feeling at Bullfrog."

He concedes that gamers may see echoes of Bullfrog's style in Mucky Foot's output, but given its involvement in those games, it's inevitable that many design ideas and ways of working will not change. That Bullfrog pedigree might come with a price, however. It's a real possibility that any publisher which signs up Mucky Foot might
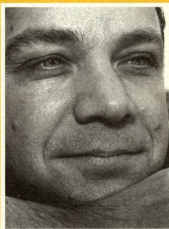
Microprose ➔ Firaxis

Staff: Sid Meier
Crowning achievements: The *Civilization* series, *Railroad Tycoon*
Leaving: Microprose
Moving to: Firaxis

A brief history: Co-founded Microprose with Bill Stealey as the result of a bet that he could come up with a flight simulator better than one they had both played in an arcade. The years since have seen Meier remain in the development arena, rather than opting for a more corporate role.

Reasons for move: Apparently, even the limited contact he had with marketers and salespeople was too much for him (see **NG 31** for **Next Generation**'s interview with Meier).

inked a deal with Sony, choosing to code for the CD-based PlayStation rather than Nintendo's wonder machine. "We simply wanted more creative control over the games we produced," says Eighth Wonder's Oliver Davies. "There were other reasons which helped contribute to our decision, but ultimately the move was linked to a desire

create new trends rather than simply follow old ones."

While the team's departure from Rare caused genuine shock in the close-knit U.K. programming community, such shifting of talent is more commonplace in the U.S., where headhunting is rife, and more than a couple of years at any one development house is increasingly becoming a rarity amongst programmers, artists, and designers. Even the last couple of months have seen Virgin USA high flyer Neil Young defect to Electronic Arts, while a whole band of Looking Glass employees have left to form their own technology-led games company, GameFX. Nevertheless, when both Sid Meier and Chris Roberts announced their departure from Microprose and Origin, respectively, it was clear that the balance of power was shifting.

Meier, who co-founded Microprose in 1982, always shunned the corporate side of the company in favor of game development, working on hits such as *Railroad Tycoon*, *Civilization*, and *Magic: The Gathering*. He's become comprehensively aware of the structure shift currently affecting the game-development community.

"I think the pendulum is swinging back towards the smaller, more creative development groups because they have less of a tendency to create the 'me-too' products. Three or four years ago publishers

"Big wads of cash are always tempting, but we've seen that down that way lies madness" — Mike Diskett

put pressure on the group to expand.

"We'll just completely and totally refuse," states Diskett. "Big wads of cash are always tempting, but we've seen that down that way lies madness. It descends into endless meetings about game design, and when you've got ten or twenty people putting their ideas in, these meetings last a whole day rather than twenty minutes."

Another potential supergroup to emerge in the U.K. is Eighth Wonder, formed by six ex-Rare employees. Having cut its teeth on acclaimed titles like *Donkey Kong Country*, *Killer Instinct*, and forthcoming N64 titles *Goldeneye* and *Banjo-Kazooie*, it's interesting to note that the company has

to be able to create the sort of games that we ourselves enjoy playing."

Davies stresses their experiences at Rare were mostly positive, but Eighth Wonder is keen to step out of the shadow of its former employer and be recognized as a force in its own right. "I think that in terms of product, the difference between ourselves and many developers will be reflected in the diversity of our games. Some companies have adopted the philosophy of simply repeating what sold well for them in the past: churning out rehashes and updates of an old formula. And, while that's fine for some people, that's not a route we intend to head down. This industry is really still in its early stages; there's plenty of scope for people to

Origin ● Digital Anvil

Staff (from left): Erin Roberts, Chris Roberts, Tony Zurovec

Crowning achievements: *Wing Commander* series (Chris), *Privateer 2: The Darkening* (Erin), *Crusader* (Zurovec)

Leaving: Origin

Moving to: Digital Anvil

A brief history: The Roberts brothers started out writing software for Acorn's seminal 8-bit computer, the BBC Micro, in the U.K. before moving to Origin and hitting pay dirt with *Wing Commander*. Erin returned to England to produce the *Wing Commander*-esque *Privateer 2: The Darkening*, before joining the newly formed Digital Anvil, along with *Crusader* creator Tony Zurovec. Digital Anvil has signed up with Microsoft.

Reasons for move: Disillusioned with the structure and working ethics of large teams and marketing-led project decisions.

with the intention of working on three five-man projects – Chris Roberts' *Freelancer*, Zurovec's *Highway Knight*, and Erin Roberts' *Conquest* (all working titles) — using only staff members who have more than five years experience and at least one hit title under their belt. "The idea is to have better people with more time to develop a title, rather than just throwing more people at a project," says Roberts. "You have to keep the teams small to have a unity of vision."

Interestingly, Digital Anvil is also making attempts to replicate the creative, driven environment of small external development teams by offering profit-related pay. "I want it to be a place where you've got a piece of the action, where you feel like you've got ownership," Roberts insists.

And then there is perhaps the biggest move of all, that of John Romero from Id Software to development supergroup Ion Storm. "I thought about the decision for a year before leaving and started talking to Tom Hall about starting a new company about eight months before I left," says Romero. "Leaving after finishing *Quake* was the right choice — leaving after finishing a hit game. I keep on good terms with the Id guys and it was pretty easy because we've

were trying to gather up and create their own empires of masses of programmers, seeing this as an opportunity to have more control over the product. I think during this time the industry became very stagnant and began doing the same thing over and over again. Smaller independent groups can regain creative control over their products, and as I think we've already seen, with products like *Doom* and *Warcraft II*, they can really put out breakthrough, innovative games."

There's little doubt that Microprose will be hard hit by Meier's decision to found Firaxis and jump into bed with Electronic Arts. The same publisher, of course, that *Wing Commander* creator Chris Roberts has broken away from.

"There are about 35 people here," says Roberts of Digital Anvil, the development house he's set up with brother Erin, *Crusader* author Tony Zurovec, and filmmaker Robert Rodriguez. "I don't want to have 300 people like we did at Origin — that's detrimental to the whole creative side. Origin definitely lost something when it got bigger. When you don't know half the people in the corridor, that's when you know you've got problems."

Roberts' departure from Origin is partly a reaction against the policy of putting up to

thirty people on a single project, thereby watering down the game's vision, but undoubtedly also a result of marketing pressures. "One of the problems I faced at Electronic Arts was that I could get any amount of money for another *Wing Commander*, but not something new," he frankly admits.

He describes the typical catch-22 situation that so many large publishers have fallen into in recent years, where new and original projects just aren't on the agenda. "With more money involved these days, a game's development budget ends up being based on expected sales. But unless it's a really familiar title, nobody can predict what it'll sell, and so they aren't prepared to throw much money at it. And without proper funding, you can't come up with a strong title. It's a sort of self-fulfilling prophecy."

Consequently, Digital Anvil has hooked up with the more open-minded Microsoft,

"Leaving after finishing *Quake* was the right choice — leaving after finishing a hit game" — John Romero

been friends for years."

Much has been noted about Romero's frustration at having to design *Quake* around a game engine that was constantly in flux, and he does admit that working with a finished technology (the *Quake* engine, ironically) at Ion Storm eases the development strain "by magnitudes." Yet surprisingly he describes the company structure as being just like that at Id, at least in terms of day-to-day development — though he adds, "Because of our size we have to run a little more like a real company, have regularly scheduled meetings, and be

The Ion brew

Ion Storm's rapid formation and signing to publisher Eidos was indicative of the way a strong track record can make the formation of a new development team a far smoother affair. "John [Romero, left], Jerry, Tom, and I met at John's house and discussed how we should proceed," says Ion Storm's Todd Porter. "I built the business plan with the help of an investment banker and used my knowledge of the industry and the statistics on successful game development to ensure we were in business three years out. Even though the number was greater than any of us guessed, the spreadsheets don't lie, so we took them to about five or six publishers."

Yet some publishers were wary of Ion's desire to fund three projects simultaneously. Others, not surprisingly, just didn't have the funds necessary to sign the superstar team up. The deal they struck is rumored to be worth some $10 million, and protects the developer from loss of revenue based on discounted foreign sales.

"Eidos is an aggressive company, which had a good product out there [*Tomb Raider*] and had the dough to go through with the deal," says Tom Hall. "They saw the numbers and immediately sketched out what they could do," adds Porter. "We've made it a practice not to talk about specifics, but suffice it to say, the deal was great for both parties ..."

more sensitive to many employment issues. Positive-wise, I would have to say that Id teaches focus. To do anything really great in life, you definitely must have a focus and stay that way."

He does, however, believe that the tightly focused way of working at Id left no room for any kind of a life outside of work. "That is a very negative situation when you are an outgoing person, but you can get a lot accomplished if you live at work. It's not for me."

Ion Storm's Tom Hall is more direct. "I left Id for the same reason I left 3D Realms later — the inability to have control of my vision. Id

was fine doing what they boiled down to — a hot technology company with strong gameplay and just enough content to make it appealing. 3D Realms is starting to do what I wanted to do — just not in the way I wanted to do it. They're putting a lot of content in their games, but they are going for shock value rather than emotion, which is what I want. They don't really want to innovate whole new untried areas of gameplay — I really do."

Hall firmly believes in the theory that a single leader will produce better results. "It may sound high and mighty or self-important, but I'm the only one who has the whole *Anachronox* [his current project at Ion] universe in their head. I can tell an artist instantly if something fits in the universe, why it does, and where it should

go. A project will get done faster and be so much more distinctive if there is one person guiding it."

Of course, one other reason to leave a large company is born simply from the way the whole company is run. Ion Storm's Todd Porter: "Personally, Jerry [also now at Ion] and I left 7th Level because the people making decisions had no idea how to make great games. Believe it or not, I had to deal with things like bailing one of my programmers out of jail because the management insisted they be on my team. God knows how much time was lost because of bad decisions. With *Dominion*, I saw a

Bullfrog ⊖ Mucky Foot

Staff (from left): Fin McGechie, Mike Diskett, Guy Simmons

Crowning achievements: *Syndicate*, *Theme Park*, *Syndicate Wars* (Diskett); *Theme Park*, *Creation* (uncompleted) (Simmons); art for *Populous 2*, *Gene Wars*, and *Syndicate Wars*, art and design for *Theme Park* and *Indestructibles* (the latter now on hold) (McGechie)

Leaving: Bullfrog

Moving to: Mucky Foot

A brief history: Three of the longer-serving members at Bullfrog, they preempted Molyneux's decision to jump ship by several months. Working on a PlayStation title (followed by a PC conversion) due for completion mid-'98. Yet to sign to a publisher.

Reasons for move: The trio grew disillusioned with the changing structure of Bullfrog, and yearned for a smaller, more efficient and controllable working environment. The decision to shelf Simmons' *Creation* project also certainly contributed to the decision to leave.

trend and jumped on it, but when you have to spend four months convincing management that a game like *Dominion* is worth doing, the moment is lost."

Porter perhaps sums up the appeal of setting up a new, more streamlined development team when he says, "At Ion, I *am* management."

Speaking to these job-swapping industry figures, it's clear that the inability of employers to retain a fresh, creativity-led attitude is the prime reason for these departures. It's a cliché, certainly, but the idea that smaller developers and publishers are more willing to take risks than larger corporations does seem to be true. Ironic, given that it's the larger, better-funded more diversified publishers that ought to be able to be more daring. Eighth Wonder's Oliver Davies agrees. "Large companies generally make their decisions about which type of game to develop based upon their expectations of sales

for such a game. Thus, a company may churn out derivative platform games because past sales figures suggest that people want to buy exactly that. If a game is fun, then provided it is marketed correctly, it should sell. I think many small developers probably see things in much the same way: Sales should be a reflection of the game rather than vice versa."

Little wonder that independents such as David Braben's Frontier Developments are considering funding projects themselves until near completion, and only then looking for a publisher willing to bring the game to market. While such a working method should guarantee more originality, and purer (i.e., less influenced by marketing men) software, it's beyond the means of most

"People see that it can be done and decide to have a go themselves, which, in turn, inspires other people" — Oliver Davies

"If you look at the companies that proliferate this industry you'll see a great number of owners who have forgotten or never knew what it is to make a fun game," says Ion Storm's Todd Porter. "They are all looking at formulas, as if this can somehow be a crystal ball to the future. They see *Myst*, *Warcraft*, *Diablo*, or *Quake* and they think, 'Hey, if we do games like that then we too will be profitable.'"

development teams. Instead, the many new developers must struggle to find a publisher willing to brave the risks and costs associated with external development.

Says Davies: "I think that the industry is as equally able to support external development teams as it has been consistently able to support the larger developers. If the market expands then we'll see more and more external development teams, but should the market contract, then small external development teams will probably feel the bite first. I think that what an external development team can offer over an internal team is heavily dependent upon the team in question."

As for the recent proliferation of new development houses, Davies sees it as part of a cycle, but also believes that there's a cumulative effect at work. "People see that it can be done and decide to have a go themselves, which, in turn, inspires other people to make the leap."

So is this really the birth of a brave new era? "I hope so," says Chris Roberts. "I said four or five years ago that the studio model was going to go away, and I think eventually it'll happen."

John Romero has a different view. "The recent period of conglomeration in the industry has disillusioned some of the designers at the companies who were acquired. This leads to fragmentation and is a natural part of the overall cycle. The same thing will happen again, but not for a few years."

There does, however, seem to be a general consensus concerning the best environment for creating videogames. For even Chris Roberts, one of the highest-

Rare ➔ Eighth Wonder

Staff (from left): Steve Patrick, Oliver Norton, Jeff Stafford, Adrian Smith, Oliver Davies, Christopher Gage

Crowning achievements: *Donkey Kong Country 1 & 2*, *Killer Instinct*

Leaving: Rare

Moving to: Eighth Wonder

A brief history: The three engineers, two artists, and one game designer worked at high-quality Nintendo developer Rare, where they contributed to the acclaimed SNES hit *Donkey Kong Country*, both *Killer Instinct* games, and forthcoming N64 titles *Goldeneye* and *Banjo-Kazooie*. A deal with Sony has been struck to work on PlayStation software.

Reasons for move: The restrictions of working on a cartridge-based format and the urge to step out of Rare's shadow. A desire to move away from formulaic sequels and concepts is also likely.

profile leaders of large teams, the five-man team looks like it's becoming the norm again. "You can turn a motorcycle around easier than a plane," says Hall with a smile. "You can have lots of artists, but the design team must be small to keep things under control, or the project will slow down under its own weight and bureaucracy."

"It's about having a small group of people going down to the pub brainstorming together rather than sitting in a corporate boardroom all day arguing," says Diskett. And it's hard to argue with the logic that the vision of a select, experienced few — or even a single, talented designer — will produce more individual and experimental results. Game design by committee just doesn't work, as the end result will always be a weak compromise, a lackluster middle ground that doesn't satisfy any faction. Perhaps tellingly, it's the same mentality that's caused Hollywood to become addicted to mindless formulaic movies. "Many companies are caught up in group decision making," says Porter. "It's a way of buffering the blame for a bad idea."

The digital desperado

In addition to Chris and Erin Roberts, and fellow ex-Origin man Tony Zurovec, Digital Anvil also boasts filmmaker Robert Rodriguez among its number. The director of *Desperado* and *From Dusk Till Dawn* may seem an unlikely candidate for involvement in a development outfit, but he's actually known Chris Roberts for around five years. "Some of the stuff I do has a film component, so I thought it wouldn't be a bad idea to have him on board as a company consultant — to have someone who has more experience on that side than us," Chris Roberts explains.

He continues. "The idea is that we're trying to develop a game, and make a movie of the game which he'll write and direct. We're focusing on creating cool universes and properties. We want to exploit games first and foremost, but also comic books and movies."

Two of the three titles under development will also feature movie footage, though with the guidance of Rodriguez and more experience on Roberts' part, the results will be more ambitious than the sequences used in the last two *Wing Commander* games. "They won't be anywhere near as linear," confirms Chris.

Freelancer is the working title of his project, a game that will feature multiplayer gaming similar to the Battle.net system at the heart of *Diablo*. "It's a big 3D space epic, something really different," he laughs. "It'll be more in the *Privateer/Elite* model, where you trade, work as a mercenary, and build your ship up. It's also built to work over the Internet, so you can turn up anywhere in the universe and fight with other pilots who may be human or computer-controlled." Set to feature a radically different style of control interface, *Freelancer* is currently in the early stages of a two-and-a-half-year development schedule.

Reviving the *Car Wars* genre, Digital Anvil's *Highway Knight* (another working title) is *Crusader* creator Tony Zurovec's baby. "It's set 50 years in the future, where America has devolved and given rise to auto mercenaries," reveals Chris. A journey from the East coast to the West, complete with the remnants of familiar landmarks, is promised by the team.

It's Erin Roberts' *Conquest* (again, a working title) that will provide Digital Anvil with its debut effort. True 3D and a science-fiction scenario once again figure into its concept, but with the player in control of a whole fleet rather than a single craft. Strong strategy elements will also have a part in this unusual hybrid. "The pitch is that it'll look something like the end battle of *Return of the Jedi*," says Chris.

Next Generation awaits a first glimpse of Digital Anvil's work with keen interest.

"It's about having a small group of people going down to the pub brainstorming together" — Mike Diskett

While Davies is probably right with his argument that the industry is easily able to support external development teams with their more efficient, and therefore less expensive, development budgets, there is the danger that the rate at which new teams are appearing will simply saturate the market.

Molyneux is cautious about the aftereffects of the current climate. "I do start to wonder where all these games are going to go and who's going to publish them. Because I know of twenty new start-up development groups, all of which have the same ideas, all of which are saying exactly what I'm saying, which is that we're going to produce the best games, the most original games, the best technical games —

and you just think, well, there were only a handful of successful games last year. For all these new groups to develop those is going to be tough."

What this is likely to mean is that the countless number of small teams on both sides of the Atlantic will feel the squeeze most, as the new breed of high-profile independents bag the best deals and take the lion's share of publishers' external development budgets. The lesser-known teams will have to gain a strong reputation pretty fast, as newcomer VIS Interactive (currently working on *Earthworm Jim 3D* for Interplay — see **NG 33**) has done, or face a bleak future handling conversion work in a bid to stay afloat.

From a publisher's point of view, the

likes of Ion Storm, LionHead, Mucky Foot, and Eighth Wonder come with track records to die for, making it easier for any publisher to take a risk and bring more daring and nonmarket-led titles to gamers. All the teams featured here understand the need to balance strong leadership with team input, realize that bigger games don't necessarily require hordes of programmers, artists, and designers, and have the experience necessary to create truly creative games while still appeasing the ever-conservative marketing departments.

But even for the teams that boast that magical combination of industry muscle and hard-gained knowledge, there's the ever-present danger after their initial dream projects have been realized that money, expansion, and publisher pressure could see them once again become exactly what they sought to get away from. In which case, Romero's prediction that the cycle will continue to repeat will be proved right. At which point, **Next Generation** will be there once again to examine the rise of that new breed.

ng

The
future of
consoles

Sony, Nintendo, and Sega
talk back

With the PC threatening to engulf the videogame market, Sony, Nintendo, and Sega met at E3 to discuss "The Future of Consoles." **Next Generation** offers the exclusive report:

It's not often that you get high-ranking representatives from Sony, Nintendo, and Sega sitting in one room. At least, not without juvenile name-calling. But at E3 in Atlanta last June, in a discussion chaired by **Next Generation**'s Editor-at-Large Neil West, Sony's Phil Harrison, Nintendo's George Harrison, and Sega's Gretchen Eichinger openly offered their thoughts on "The Future of Consoles."

There were four main topics on the agenda: 1) Is the life cycle of a videogame console getting shorter? 2) Will consoles of the future automatically be wired for online gaming and have a modem built in? 3) Will consoles of the future offer other functions besides just game playing? 4) What software medium will consoles of the future utilize?

1. Technology Life Cycles

Most pundits would agree that the life span of videogame consoles seems to be getting shorter, and new technology seems to arrive quicker than ever. Is this true? And if so, is this good or bad for the console industry?

George: It's hard to say that the life cycles are getting quicker. What happens is that someone comes in and introduces a new machine and tries to truncate the life cycle of whatever the existing platform is. Probably the core life cycle of a videogame console is about five to six years. It's been that for 16-bit, the NES hung on for a few more years.

The reason this long life cycle is important is because it tends to be the later years where you can make your money. A two-year life cycle would be a disaster. You almost can't sell enough hardware in two years to pay off fulfilling the software needs of those people and have a decent business model. So it has to be at least four years, and preferably five to six.

But we have control, to some extent, over our consoles' life cycles, and it has as much to do with the continued quality of games. We introduced the *Donkey Kong* series for SNES in its third or fourth year, and it gave it renewed life and

kept it moving on and selling software. A console's life has much to do with whether or not you are continuing to stimulate people with software. Consumers only step up to a new machine when they believe that the software in the new machine is dramatically better than what they've got, and they see the commitment to their current software platform waning.

Gretchen: Product life cycles could be shortening a little bit. Part of what's happening is related to Moore's Law — semiconductor power doubles every 18 months. So new technology is coming down in price and becoming an affordable consumer product at a faster rate.

The challenge, I think, for [Sega, Sony, and Nintendo] is to maintain a product life cycle of five to six years. Two years is not a particularly good business model for anybody, and I don't think the consumer wants to see new consoles come that quickly, either. Certainly, from a software standpoint, the first generation of software is typically not nearly as good as the second or third generation once the developers really get to understand the new technology.

I also think that there is an opportunity for entry-level consoles to remain in the market at the same time as a new generation. Nintendo and Sega sold three million units of 16-bit systems last year. That's not a bad business, especially when you compare that with the numbers for next generation 32- and 64-bit hardware. So we definitely see an ability for multiple technologies to coexist. There are different price points in different markets: There is a consumer who is prepared to pay $199 or higher at a console's introduction and there's a different kind of consumer who wants to pay $79 for a 16-bit machine.

Phil: First, I have to say that the game industry itself is its own worst enemy. Companies make big announcements, and the press does a fantastic job in evangelizing whatever's new and what's hot. And ultimately that gets to the consumer quicker than we would all imagine. So

this notion of life cycles is as much the industry's self-imposed issue as much as the consumer's own desire to purchase the latest, greatest thing. Similarly, as soon as you start talking about the end of the product life cycle, you're in trouble.

Second, I agree with George. Life cycle is driven by software, not hardware. Actually, it is driven by the ability of the software industry to deliver profit from a platform, however old it is. I know some developers back in the U.K. who as recently as two years ago were making a healthy profit making games for the Atari VCS because there were a small number of people who would continue to buy that. That's an extreme example. But the software industry is what is the defining factor of a format. And as long as the software industry continues to make a profit at a price point that is attractive and viable for the consumer, then that platform will continue.

The current generation of technology is going to last far longer than anyone in this room really anticipates, but I don't think we can actually put a date on it.

2. Online Connectivity

Neither Sega Saturn, Nintendo 64, nor Sony PlayStation launched with built-in online connectivity. Yet so much has changed over the last two years that many few people would bet against the next generation of consoles coming with a modem built in. But what are the real issues concerning building online connectivity into consoles?

George: The technology in the current hardware systems is fully capable of incorporating online connectivity. But the question is not whether you can do it, the question is whether you should do it.

We're developing a disk drive [DD64] for Nintendo 64 that's due out now in 1998. Our biggest trouble has not been with the hardware or technology, but deciding what we're going to do with it in regards to online connectivity and other capabilities. You can add a lot of things to a console: You can add keyboards and you can add email functions, you can have all sorts of things. The question is what kind of bundle do you want to offer consumers? What do the people really want? And, in the end, what are they willing to pay for it? There has to be a business model.

Looking at the early struggle and success of many of the online companies such as MSN, AOL, and even the online gaming networks, there doesn't seem to be a clear, winning way to do it. And Nintendo's corporate strategy, although I know it frustrates many of our most ardent gamers, has traditionally been to be more like the tortoise than the hare. We tend to wait and make sure we get everything right before we do anything. You'll be unlikely to see Nintendo breaking ground in this area.

Gretchen: Sega has launched NetLink for Saturn and it's been an interesting experience for us. There is a fairly high degree of interest in online gaming for the console customer — a study in March of this year indicated that 68% of console users would be likely to play online games if that functionality was included in a console.

I agree with George, however, that the challenge is not so much one of technology but of what you do with it. Console games are significantly different from PC games. They typically are action-oriented, arcade-based, fast, graphics intensive, lots of sound. This is a hard environment to generate online. The other issue is that, as is now being realized, playing console games is not a solitary activity, it's often a social thing. So online environments also need to look at how they can create an equally compelling social atmosphere.

As for the business model, you look at how MPath and TEN have been doing and it's very unclear how to make money at this. Studies clearly show that the last thing an online user wants is to be nickel and dimed every time they get online. But then flat fees also become a challenge. If you've got a customer base that's aged eight to 18 for the most part, how do you get a credit card from them?

The 64DD may include a modem and will be the first console add-on with a writable disk

Phil: I would agree. This is not an issue of technology, this is an issue of business model.

Currently, 80% of the revenue for the existing online gaming services comes from about 10% of the people. So you end up building an enormous infrastructure to service a tiny number of people. Other studies indicate that the existing PC-based gaming services have spent a great amount of money capturing between them less than 50,000 users — and lots of these people use more than one online gaming system.

I think online gaming is a little bit of a myth. A lot of consumers, when asked if they would like online gaming, automatically say yes because they don't actually know what it is — very few

The Yaroze: Sony's tool for teaching a new generation of programmers about consoles

people have actually had the experience. It's like asking someone if they would like a Ferrari. They say yes but then discover it costs a lot to run, it's going to be in the shop all the time, and it's going to guzzle gas. And currently this is the experience most consumers get when they play online.

Also, online gaming is pretty much a North American thing right now because you get local phone calls for a flat rate or for free. The videogame business is a worldwide business, however, and telephone access is not the same in the rest of the world. France and Japan, for example, have very expensive local telephony. And these are issues which the humble videogame company is not in control of. Videogame companies have to wait for the giants of business and often governments to deregulate and invest enormous amounts of money in telephony infrastructure, pricing, and technology before insignificant $15 billion companies like Sony can get involved. We get scared by the telephone companies. They're just so huge. They could buy us all in an instant.

3. More Than Just Games?

In the past, many companies have attempted to build "more than just a game console." But all of these, 3DO being the most high-profile example, have failed. Even add-ons for established machines never seem to succeed. So will the game machines of tomorrow be all-singing, all-dancing "set-top boxes" — or will they remain pure game machines?

George: Historically, there hasn't been a lot of evidence of success adding extra functions to videogame consoles. Most recently, the 3DO machine was supposed to be a wondrous machine. It was going to play photo CDs and do all sorts of tremendous things. But it was priced at $400 or even more. And it turned out that in the end the consumers basically said, "I don't want you to bundle all these things together. I want to buy what I want." And for our business, this is the

NetLink, Saturn's modem, has been a hit among the few gamers who've picked it up

core entertainment of the videogames themselves. Besides, anything that takes the price over $200 I think for us would be a problem, and takes us away from what we think is really the mass market.

It's a little hard for me to cover this area because Nintendo has no immediate experience. We try to keep focused on what we deliver, which is games. We view ourselves as a software company that makes hardware because we don't think other people would make it the way we want. We keep focused on the software as the way to drive our machines and let other services or other machines do the other stuff.

Gretchen: So far the idea of a multiplayer has been proven to be somewhat flawed. A business has got to deliver its core product and work towards its core competencies foremost. If it tries to do too many things all at once, chances are very good that it's not going to be successful. Besides, it seems as though entertainment is what people are most interested in. Most people buy a PC and they say that they're going to do their taxes on it and other things to justify their purchase, but they spend most of their money on entertainment software. So I think that's what people want to do. Ultimately, they really want to be entertained.

Also, research indicates that 50% of console owners also have a PC. So the question becomes, can the customer get all this extra functionality already on their PC? But if people who don't have access to the Internet can get access by buying a $199 device, I think that's a tremendous thing. Especially when you start to look at $2,000 PCs versus $199 consoles.

Phil: I think we're not very good at all this extra stuff. We make great hardware, and we and our third-party developers make great software. Also, it's important to remember that as soon as we start adding extra features, we come into competition with the PC that can do all these

things better. The PC is also continually evolving, so whatever product we launch — designed to exist for a four- or five-year life cycle — will immediately be underpowered and overpriced.

Also on the subject of add-ons, our business model is driven by break-even hardware and profit on software. And that's common to all three companies represented here. We deliver the consumer a very attractive proposition, a low cost of entry, and sell them software, from which we derive our profit. So it's not straightforward as to how these hardware add-ons fit in.

Sony has, however, explored the idea of some kind of set-top box featuring PlayStation technology. About three years ago, a sister division used the PlayStation chipset in an interactive set-top box trial in Belgium. It was a limited trial, about 10,000 homes. It was very successful. The PlayStation, like most videogame systems, has the kind of technology, and more importantly, the cost of goods, that you could use as a viable set-top box.

But what you find, though, is that in order to build a good set-top box, you need to be streamlined into a certain technology, and to build a great videogame system it's slightly different. They come from different technologies. And when you combine the two you come up with redundant expenditure. The price goes up, and the consumer won't pay for this box because typically it's just given away by some advanced subscription or premium service.

4. Software Delivery Medium

Currently, the debate rages between CDs and cartridges, but what of the future? Is DVD really a big deal? And what influences a company's choice of delivery medium anyway?

Gretchen: With CD-based console players, we've been able to bring PC content to the consoles. Despite the challenges yet to be overcome, such as the style of games that appeals to PC players that are not appealing to console players, this is certainly a big advantage to CD-based systems. This will also influence the choice of software delivery mediums in the future.

Phil: The short answer is that the medium doesn't matter. What really matters is an attractive business model for yourself and third parties, and — equally importantly — a format that allows the first- and third-party software developers to express their creativity. Also, our industry will grow dramatically if we innovate, but in order to innovate we have to take risks. We can minimize the risk to game developers with a low-cost software medium such as CD.

There is no argument that CD is the only format that is viable for games. Currently it is the only format that has the price advantage, the

creative advantage, and the manufacturing speed. The CD-ROMs found in PlayStation and Saturn allow videogame software companies to make their products quickly, cheaply, and deliver great value to the consumer. DVD, which is just a software medium, remember, is not yet at a point in its curve where you can make them quickly, cheaply, and make enough of them in a year to have a solid production flow. Sony will be making tens of millions — actually, more than 150 million — CDs for PlayStation in the next 12 months. There is no DVD plant in the world that can match that — and Sony is a pioneer of DVD manufacturing technology. So DVD is not yet a practical option.

Also, for a company like Sony it's a question of asking things like, "What will the guys who sell the DVD player do if the guys in the next room are selling a videogame system that offers the same technology much cheaper?" So there are big issues at play here that are not going to be discussed openly in this room. [Laughs]

George: We take a different point of view. We think that CD does have a lot of advantages, especially for manufacturers and publishers. But when we started our development exercise, including the choice of delivery medium, with the game player. We tried to go backwards from what we thought would deliver the absolute best possible game experience. We believe cartridges can offer the best game experience.

We know it's a challenge keeping the costs affordable, and we know it's a challenge to the third-party publishers. But we know you can do dramatic things on a cartridge that just can't be done on a CD. The gaming experience of titles such as *Mario* or *Shadows of the Empire* are just not possible when you have to stop the gameplay to draw data down from the CD. You can also do realtime audio, and that can be responsive to things that are happening in the game, and not just a soundtrack going on behind the action.

So ultimately the choice of the medium is, to us, more of a creative decision than a manufacturing or cost decision.

Phil: That's rubbish. I'll give you just one example. *Final Fantasy VII* comes on three CDs, which is 1.6GB of data. Based on Nintendo's current FOB price, this would cost the consumer $1,700 if it were a Nintendo 64 cartridge. I rest my case.

George: For slow-playing games like *Final Fantasy*, that's probably not a bad medium to choose. [Big laughs]

On that note, before things got any nastier, it was time to bring the discussion to a close. Look for more on this subject soon. **ng**

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Finding
companionship
in a
digital
age

In Japan, forlorn teenage girls weep over the deaths of their Tamagotchi toys and send them to official graveyards for burial. In Europe, elf-like virtual pets are bred like racehorses and traded over the Internet. In the U.S., digital Dogz and Catz live on computer desktops. Have we found a new best friend?

We have embarked upon a new era of virtual pet in which our computers have become backyards for our digital pals, and the fertile ground for our own imagination. In some cases, people are relating to pretend pets not unlike the way they would to a fish, lizard, or bird. They are obsessing about their pets' care, becoming hysterical when they die, and generally responding to them like they are more than bits and bytes of coding. The line between how we treat actual and artificial life appears to have blurred. The question is: Why? Have virtual pets dramatically evolved, or does this new trend reflect our own evolution? Do these pets deserve our affection and attention? What does this newfound attachment to virtual pets — and their popularity in general — portend for software developers, and the gaming industry in particular?

Finally, the emergence of these pets raises a question that is trickier to answer than it might first appear: Are some of these pets actually alive? Their creators say it deserves serious consideration, since some of the virtual pets are constructed using Artificial Intelligence. Mind you, this is not the soup-thin AI that game developers have employed for years, but bona fide bottom-up software coding that, if the pets' creators are to be believed, enables the creatures to learn and act autonomously. In other words, creators contend these pets display not only Artificial Intelligence, but artificial life.

Take the furry woodland Norns, for example, which were developed by a British AI

living things [exhibit] — such as that they excrete, require energy, carry a reproductive code, and so on," Cliff said. "In the case of most software agents — Sonic the Hedgehog or Super Mario, the answer is no to all of the features. In the case of the Norns, the answer is yes to a surprising number."

The Norns aren't the only creatures

on the threshold of a new gaming era. From this day forward, he presumes, players will begin to develop emotional relationships with animated entities, and the entities will be sophisticated enough to deserve our nurturing attention. Ultimately, Bates and others believe this generation of virtual pets will give rise to a whole new level of

> Players will begin to **develop emotional relationships with animated entities,** and the entities will be sophisticated enough to deserve our nurturing attention

Dogz and Catz from PF Magic were among the first digital pets

company called CyberLife Inc. CyberLife constructed the underlying software coding to mimic biology, including copying basic chemical and genetic processes. The creatures eat, sleep, reproduce, get sick, have a survival instinct, and even evolve — leading some researchers to credit CyberLife with a damn healthy imitation of real life. "It's an extraordinarily impressive piece of work," said Douglas Adams, author of *Hitchhiker's Guide to the Galaxy*. "It's phenomenally primitive, but it'd be very, very hard to say — except for the environment they inhabit — that this life is artificial and some other life form is not."

Dr. David Cliff, an AI lecturer at Sussex University and a consultant on the Norn project, said the Norns are a major leap forward from existing gaming software. "Basic biology texts will list like 12 features that

to lay claim to the "artificial life" moniker. Fujitsu Interactive contends that Fin Fin, a half dolphin, half bird that hit the U.S. market this spring, is the most sophisticated use of AI ever in a game. According to its creators, Fin Fin is a semi-autonomous creature programmed to develop an emotionally based relationship with its owner. The object of *Fin Fin* — talk and sing to the virtual pet through a microphone and nurture a friendship with the easily frightened creature.

Meanwhile, Anark Inc. is set to release *Galapagos* with its autonomous protagonist named Mendel. Mendel uses a new proprietary technology called Non-stationary Entropic Reduction Mapping (NERM) that permits it to learn from mistakes and adapt to the environment, with or without explicit instruction from the player. "There's a new breed of companies coming forward," said Anark President Stephen Collins. "Our characters are not preprogrammed."

Whichever version of AI is the most sophisticated, Joseph Bates, artificial life expert from Carnegie Mellon University believes we are

interactive gaming. Thousands of players will be able to compete online, not just with one another, but with digital creatures that act unpredictably, but plausibly. Imagine, if you will, adventure games in which a town's bartender, gatekeeper, and even evil monsters react, learn, and adapt. "In my view, this is the purpose of games. This is the destiny of games," Bates said. "This is not about the concept of AI that's been bandied about before. This is about building games around characters that have a range of emotions, and give the impression of life."

Anark's *Galapagos* features a mythical creature that learns from its mistakes via a technology called NERM

It may not look like it, but Dr. Bruce Blumberg and his students at MIT are conducting a serious experiment with Silas, a cute and cuddly virtual dog

His name is Silas, and his virtual yard is a 16- by 16-foot area at the MIT Media Lab. There, Silas, a dog-like creature, is projected by a computer into a three-dimensional space, where kids can play with his animated image as if he were more ghost than virtual pet. Silas may also present a glimpse into the future of virtual playthings.

Silas was created by Dr. Bruce Blumberg and other students at MIT. He works like this: The creature is generated on a computer, then his image is projected into the virtual playpen. When a person interacts with Silas' image, the person's gestures are picked up by a camera, and fed back into the computer so that Silas can react to them. Blumberg refers to the experience as poor man's Roger Rabbit. "Using vision techniques, the dog can respond to your gestures," Blumberg said, adding that, like other virtual pets, Silas is programmed in a way that he needs to satisfy certain drives. "At every instant, he's trying to figure out what to do. There are little self-interested agents fighting for control — is his motivation to play with you or to pee?"

Blumberg said that Silas, in fact, has a less sophisticated brain than some other virtual pets, such as Dogz by PF Magic. Still, kids who compare the two often find that Silas is more "real" and more "alive," and researchers think they know why. It turns out that Silas has a quality that is thought to be an increasing component of artificial life, namely, he is emotionally accessible and thus, people think he has lifelike qualities. "If they have expressiveness, people will give the benefit of the doubt to creatures and read more into them than there is," Blumberg said.

This effort to create emotional characters rather than purely intelligent characters represents a radical shift in recent years in AI and A-life research. For many years, the goal was to create purely intelligent entities — mathematically based systems — such as chess-playing machines that could play chess far better than even their programmers. In spirit, though, the latest efforts fit nicely with the original definition of Artificial Intelligence, as conceived by British defense department scientist Alan Touring in the middle of the century. The Touring Test for Artificial Intelligence, simply put, states that if you cannot tell the difference between a man and a

The emotionally based Silas has proved especially effective with kids

machine, then the machine deserves the same respect you would afford the man.

This emphasis on emotional intelligence began in the mid-1980s, when another MIT scholar, Rod Brooks, wrote a paper called "Elephants Don't Play Chess." His point was that animals, while they lack pure intellect, do a great job in making sense of the world. Brooks ultimately was the founder of a school of thought called Behavior-based AI, which said that biology, not math, should be the inspiration. That thinking has permeated Stanford University, Carnegie Mellon University, and the Media Lab, the three centers of AI the government helped fund in the 1950s. All three continue to thrive today, and each is, directly or indirectly, contributing to the field of entertainment and game software.

One of the basic questions that researchers are still trying to answer is: What is the definition of Artificial Intelligence? "There's not a good answer," said Dr. Joseph Bates, professor of computer science and fine arts at Carnegie Mellon. "It's what constitutes intelligence, what constitutes human-ness, and what constitutes life, and none of those have easy answers. All of this stuff is in the eye of the beholder."

To illustrate his point, Bates tells a story about a day he walked into a lab at the University of Chicago. He looked up and, to his momentary alarm, saw that he was being watched — and followed around the room — by a television camera

eye attached to a robotic arm. "All I can say is that it made me very uncomfortable," Bates said. "It raises the key question, which is, 'What makes a person think that a machine is alive?'"

At Carnegie Mellon, Bates and his team are working on research designed to create digital entities that are perceived as alive, whether or not they exhibit classic intelligence. For example, they are trying to figure out how to create a videogame creature that will care about itself. Said Bates: "You have to believe that if you rip the head off a creature, it cares. You have to have characters with a rich range of emotions."

Barbara Hayes-Roth, director of the virtual theater project at Stanford University, said virtual pets, notably Fin Fin, don't exhibit particularly intelligent behavior. "If you want a pet," she said, "get a dog." At the same time, Hayes-Roth thinks of the creatures as more than a game. And she sees substantial potential for the computer medium to create far more sophisticated creatures that increasingly will approximate life forms. Even more so than what books or movies or television have been able to do. "What's really wonderful and distinctive about computer-controlled media — and what is more like life — is that they can be deeply interactive," she said. "It offers an opportunity for a person's behavior to have a noticeable impact on the other side. When we master this, the entertainment market is going to be huge."
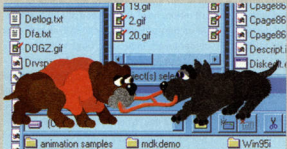
In terms of AI, Silas is still less sophisticated than Dogz
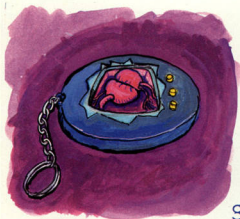
Korea and Japan have banned the toys not just because of the incessant beeping, but because children are becoming overly excited or grief-stricken about the fate of their pets. There is at least one reported case of a teenage girl committing suicide over the death of her

didn't really start the virtual pet craze, particularly for computer-based pets. That honor belongs to PF Magic, which for three years has been marketing *Dogz* and *Catz*. Brook Boynton, contributor to the original *Dogz* project and marketing manager for the San

> Schools in Korea and Japan have **banned the toys not just because of the incessant beeping,** but because children are becoming overly excited or grief-stricken about the fate of their pets

My friend the little chicken

Regina Wiedel, a legal secretary from San Francisco, was at the Farmer's Market recently when she got an urgent page. The page was from Wiedel's sister, who was concerned about the health of her son's Tamagotchi, and didn't know whether it needed affection, food, or discipline. "I know this is really silly," she said, "and I know you'll think I'm stupid, but I don't know what to do. I don't want to kill it."

Created by Bandai, the Tamagotchi is the most popular virtual pet of all time. Your job, as a Tamagotchi owner, is to care for the pet by pressing tiny buttons to feed, discipline, and clean it, as well as give it affection and check its health status. Keeping your pet happy is no small task — it beeps frequently to demand attention or food, or to let you know it is under the weather. Initially, Bandai designed the pets to appeal to teenage girls, and to give them a taste of what it is like to care for children. Their popularity has spread far beyond that demographic, though. Bandai put the Tamagotchis on sale in November of 1996, and by June of 1997 had sold 1.3 million in Japan, creating a demand that it gave rise to a black market.

Affection for the Tamagotchis developed far beyond the company's expectations. Schools in
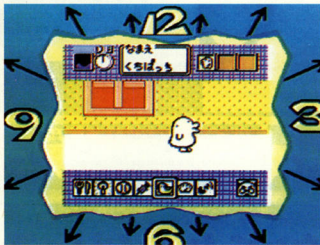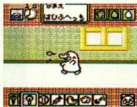
Bandai's remarkably successful Tamagotchi has inspired countless imitations and variations

Tamagotchi. The fascination with these pets is particularly heightened in Japan and elsewhere in Asia. That may be because the region has less physical room for live pets, so children put their affection and nurturing skills into artificial life. It may also be because Japan is very densely populated and, as a result, fads spread very quickly.

Tamagotchis have gotten under our skin in the U.S. as well, though, as Wiedel's story illustrates. Wiedel initially got her Tamagotchi from a friend. The reason? The friend was going on a trip to Hawaii and asked Wiedel to baby-sit. "They were planning to go scuba diving, and they didn't know what they would do with it while they were underwater," Wiedel said. At the same time, Wiedel doesn't take the creature that seriously. She said she played with it for a while at work, then gave it to her nephew. "We had a Tamagotchi, now we've got a cat," Wiedel said of her and her husband, who accidentally overfed the Tamagotchi and caused it to die in its sleep. "We're working our way up to having a kid."

Despite their popularity, Tamagotchis

Francisco company, said, "Everybody has been talking about virtual pets and it's like, hello, we've been here since 1995." Not only has the company been around for two years, it has sold one million copies, far exceeding sales of other computer-based virtual pets.

The company is set to release the second generation of Dogz and Catz, which are far more sophisticated than the hand-held Tamagotchi. Like the Norns, Dogz and Catz are PC-based and feature a neural network, which dictates very basic drives, such as fetch, beg, or catch. The pets eat, sleep, play with toys, demand attention, howl at the moon at night, get fat when they are overfed, and sad when they are under-loved. To be sure, Dogz and Catz can elicit some strong responses. Ryan Ramirez, a 25-year-old music and sound engineer with Front Line Productions in Campbell, California, said he initially played with his dog Darth for about an hour a day. When he brought it home, his girlfriend took a real liking to it. "She won't let me squirt it with water," Ramirez said. "The dog squeals when you squirt it, and [my girlfriend] gets really angry."

The Tamagotchi phenomenon has created a new class of virtual parents in kids and adults

As the dust begins to clear from the initial virtual pet craze, companies like Fujitsu are beginning to experiment with different aspects of the technology such as voice control

Happiness

Here Fin Fin. Here Fin Fin. Come out to play. Fin Fin, come here and I'll give you a treat. Fin Fin, if you don't come here, I'll make you into a handbag. Fin Fin, get your scrawny butt out here before I turn you into dolphin pâté.
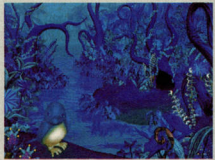
Then, suddenly, Fin Fin appears on the horizon and flies to a nearby tree branch. The creature, half dolphin, half bird, perches and looks out warily through the monitor. My virtual pet has arrived. In theory, Fin Fin has emerged because I have enticed it with my friendly advances and dulcet tones. That is the ostensible secret to a friendship with Fin Fin: Say nice things in a pleasant way into the microphone, and Fin Fin will respond by becoming your friend and performing tricks for your amusement.

In reality, it doesn't matter what you say to Fin Fin, just how it is said. If you said, in dulcet tones, "Come out here, Fin Fin, so I can skin and make you into soup," Fin Fin would fly forward happily and possibly begin singing. "It's keying off of the pitch and volume of the voice. I have an animal that responds to you sort of cooing and calling, rather than yelling," said Mike Pontecorvo, director of technology for Fujitsu Interactive, creators of *Fin Fin: On Teo, the Magic Planet*. "If you yelled, it wouldn't know what you are saying, but it would respond differently."

While Fin Fin may not understand the words you use when calling him, he nevertheless can serve as a barometer of your emotional state. And thus Fin Fin has come to serve as something of a virtual mood ring, particularly in Japan. Executives there have been known to use Fin Fin as a source of relaxation — when they have succeeded in calling out the creature, they know their tone of voice has calmed down, and they, in turn, are more relaxed. At the same time, Fin Fin has been known to go nuts, and go into hiding, when the creature is loaded onto a computer in a loud, tense office surrounding. *Fin Fin* went on sale in Japan in June 1996, and as of June 1997, 30,000 copies sold for $150 U.S. *Fin Fin* went on sale this spring in the U.S. for a different price and different target market — $59 targeted to kids and young teenagers.

Fin Fin exists on the Planet Teo, which, like Earth, has 24-hour days, 365-day years, days and nights and weather changes. In addition to Fin Fin, the world has birds, insects, mammals, amphibians, fish, and Fin Fin's natural enemy — a creature called a Vale, a cross between a woolly mammoth and a sloth.
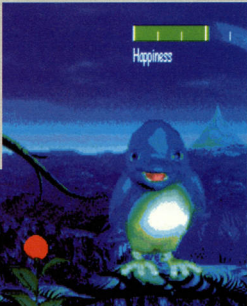
The object of the game is quite simple: The more time you spend with Fin Fin, and the friendlier you are to him, the more the creature will emerge in one of three settings — the Happy Amile Forest, the Enchanting Tsubu Woods, or the Water Hole of the Secret Inlet. When Fin Fin feels comfortable, he will perform tricks, including swimming, diving, and playing with the Lemo Fruit.

If you yell or speak harshly to Fin Fin, he will not emerge as often, although he eventually will develop a tolerance to strident talk and respond to it less fearfully. No matter how you talk to Fin Fin, though, you cannot absolutely control whether he will respond. In this respect, "Fin Fin is more like a wild animal than a pet," Pontecorvo said. A bio-scan meter clues you in to how Fin Fin is feeling, whether he is hungry, scared, or happy. Other features of the game allow you to call Fin Fin with a special whistle, feed him Lemo fruits, and take snapshots of him with a camera. Fujitsu Interactive said it spent $350 million and more than five years developing Fin Fin. It advertises the game as the "most advanced form of artificial life available in entertainment technology today." That remains a matter of debate among artificial life experts.

What the experts will grant Fin Fin, though, is that the product has made a marked foray into a relatively new area of Artificial Intelligence known as emulation. Emulation is an effort to reproduce not pure intellect, but cognition and emotion. The concept is to convey a feeling, which increasingly is considered a major component of intelligence, and certainly of life. A simple way to think of emulation is to think about the impact that Disney animations have on viewers — the animations are not alive, but they are able to display and evoke emotion, according to AI researchers. "You look at what people care about in animals or animations or many of their friends ... Can they see emotion, can they see purpose, can they see goals," said Joseph Bates, director of Project Oz at Carnegie Mellon University. "It's not something scientists know, it's something that animators and artists know. If you want characters that are personality rich, that are interactive living characters, listen to the writers, artists, and animators. They should be the boss," added Bates, who is the unusual combination of professor of fine arts and computer science.

Pontecorvo envisions that emulation efforts will eventually be used together with more traditional mathematical AI to create products that better define the entire definition of intelligence. For instance, Pontecorvo said, you might soon be able to ask your search engine how it is faring on an Internet search. The engine could respond with a smile, a shrug, or a look of confusion if perhaps it has reached its limit. "We want to add a more emotive, human dimension to things," he said.

Comparing *Fin Fin* to *Creatures*, Joe Morici, vice president of sales and marketing for Fujitsu Interactive, said, "Theirs is more evolutionary, ours is more emotion based. The more time you spend with him, the more you become a very close personal friend of Fin Fin and he becomes a close personal friend of yours," he said. "We're trying to create this lovable creature in your computer. Eventually, this creature or a creature will be able to do what your keyboard and mouse do for you."

Fujitsu's Fin Fin is a cross between a dolphin and a bird and responds to the specific tone of the user's voice

kids weaned on television, who have become invested in nonexistent creatures on TV. "It's sad when people's lives are so sterile that they search for real human companionship in digital entities," Stoll said, adding that virtual pets in turn do nothing to teach children real responsibility because they can be turned off or "rebooted" when they die. "People are lazy. They like what is easy to get a hold of and what gives them enjoyment

starts when a player visits the hatchery, selects an egg, and takes it to the incubator. The Norns, which are a cross between an elf, a dog, and a deer, are hatched exhibiting basic behaviors — they play with toys, walk around, show curiosity, all with varying degrees of enthusiasm, depending on their digital genes.

Beyond that, the player can't force the Norn to do anything, but can attempt to teach it by

> ## "It's sad when people's lives are so sterile that they search for real human companionship in digital entities"
> **Clifford Stoll**, author

I'm OK, my pet's OK

Researchers, philosophers, and game makers suggest a handful of possible reasons that people are responding to virtual pets with emotion. Sherry Turkle, an MIT professor who has extensively studied the feelings children have toward their virtual pets, Tamagotchis in particular, said that kids are redefining their concept of "life" to incorporate digital entities. Turkle said that this has been happening for 20 years, as computers became more ubiquitous, but that it has intensified in the last two years.

Turkle said that since virtual toys appear to display a sense of independence, they elicit nurturing feelings in children — and adults — who want to feel needed and take care of something that cannot entirely fend for itself. "This is buried very deep within our nature," said Turkle, author of *Life on the Screen: Identity in the Age of the Internet.* "Kids are redefining what is lifelike to include the nonbiological," she said, adding that they are not alone in the age of the ubiquitous computer. "It's what our whole culture is struggling with: how to feel attached to a thing."

Another theory used to explain the popularity of virtual pets is that they merely are an extension of our comfort level with television, movies, and videogames. We are accustomed to seeing characters digitally, in two dimensions, and giving ourselves over to them emotionally. As a result, it isn't a big leap to treat virtual creatures with the affection one might ordinarily reserve for a living thing.

At least one prominent author is very troubled by this concept, though, and about what it may say of our culture. Clifford Stoll, author of *Silicon Snake Oil,* believes the popularity of virtual pets demonstrates a continued sterilization of our culture, which he said puts too much emphasis on technology and not enough on solving real problems impacting real people.

He said that the popularity of these pets is further evidence that we are raising a generation of

without the least responsibility." Despite his concern, Stoll said he believes the virtual pet fad will pass, just as the pet rock did 20 years earlier. "It's like the Rubik's cube and the lava lamp. In a year or two, people will look at them and say, 'I'm not getting anything out of this,'" Stoll said.

Stoll is not alone in his views, but he appears to be in the minority. A more widely held belief is that we are embracing virtual pets in the way we have always embraced inanimate objects. For example, we talk to our cars, our stuffed animals, and our favorite blankets when we are kids. We own dolls and lucky charms, even pet rocks. "Children have dolls and stuffed animals and imbue them with feelings and relationships," said Barbara Hayes-Roth, director of the virtual theater project at Stanford University. "There is a universal willingness to suspend disbelief and go with appearances. It's pleasurable — for kids and for adults." Furthermore, Hayes-Roth said computers and computer-based life may provide a vastly more satisfying medium for relating to virtual creatures. There is one key reason for this: Computers are interactive. A virtual pet is like a stuffed animal, but it's also animated, acts somewhat autonomously, even talks back. Some digital pets are clearly more interactive than even a live pet fish, or lizard. Our interaction with these pea-brained creatures amounts to no more than watching them, dropping food into their tank, and cleaning out the excrement, but we can grow quite attached.

Finally, there is another theory as to why virtual pets have so dramatically captured our imagination. It is perhaps the strangest possible reason of all — that these pets actually are alive. In this regard, possibly the best argument can be made for the Norn.

Creature Features

The CD-ROM *Creatures,* published by Mindscape, contains an animated woodsy world called AlbiaNornia, and six Norn eggs — three containing males and three containing females. The game

To begin the experience of *Creatures* the user must first choose an egg to hatch

reinforcing healthy behaviors and discouraging destructive ones. Reinforcement comes in the form of a tickle or a compliment, whereas admonition is conveyed with a light spanking or a verbal rebuke. The Norns can also be taught simple language, how to recognize objects in the world, and simple concepts like "push," "pull," or "come." Norns can learn to utter basic phrases like "push ball" or "eat lemon."

The scientists at CyberLife, the company that created the Norns, insist the creatures are not a gimmick and truly are capable of a form of learning. They said this is possible because the Norn coding

represents a radical departure from most gaming software. CyberLife said its coding is meant to mimic biology, and calls it Digital DNA. "We haven't used mirrors or strings," said Toby Simpson, general manager of CyberLife. "This is biologically accurate."

To understand the Norn coding, it is useful to

mutation, or new breeds of Norns.

The random crossover feature has spawned some rather unexpected mutations. There have been different colored Norns, Norns that performed more efficiently, and some that didn't turn out so well. One couple from Australia frantically emailed CyberLife earlier this year to report that they had

> Where we are most certainly headed, though, is to **a world of richer videogames with more believable characters,** and these virtual pets are laying the groundwork for it

first understand how most gaming software is created. Very simply put, most software is built using elaborate versions of "IF/THEN" statements. "IF" this happens, "THEN" you react with this action. In contrast, the developers at CyberLife said they have not preprogrammed the Norns' behavior, but their drives. For instance, the Norns are programmed to take care of certain basic needs, such as hunger, sex, loneliness, and being cold. "What the creature's brain is trying to do is to remember what actions it took to reduce those drive levels," Simpson said. "It is able to see for itself which actions worked and which didn't."

Simpson said the software dictates how 256 chemicals will react with one another inside a Norn, but it does not tell the Norn how to respond to the sum of those chemical reactions. The behavior is a natural product of the structure. The Norns also are able to breed, which takes place in the form of an extended kiss. What happens during that kiss — on a programming level — is very much analogous to what happens during breeding in actual life. When the creatures breed, they comingle their coding, or genes. Half of the baby Norn's coding comes from the father, half from the mother. "When they breed, we effectively line up the two digital DNA strands and take half from the mother and half from the father," Simpson said. However, the company has built in a random crossover feature, so the strands occasionally miss, which sets the stage for

bred a Norn that did not move upon birth. The couple emailed the Norn to CyberLife, which discovered, by putting the creature in a gene editor, that the genes from its mother and father Norns had rendered it deaf and blind.

The flip side is that the mutation can lead to advances in the creatures. For instance, one creature that is being traded on the Internet features the Highlander Gene, which represents an improvement in the Norn's chemical neural dynamics. "It has resulted in the creatures being better able to organize and store key events," Simpson said. "This breeding has helped us clean up the rough edges."

Not everyone is convinced. Richard Dawkins, a professor at Oxford University and one of the world's leading experts on evolution, told National Public Radio that while he believes Norns interact with human beings in an interesting way, they are more a cunning illusion than living beings. "I think there is something open-ended in the sense that these Creatures do reproduce; they have genetics," Dawkins told NPR. "That means they have potential. They have an evolution."

Of course, there is an element of unnatural selection at work, too. Namely, human beings are able to select which creatures they want to breed, and which bloodlines they want to prosper. They even can begin to tinker with the life forms by changing the programming. A group of German

university students, for example, figured out where the gene boundaries were and started gene splicing. They spliced the genes of the Norn with that of its predatory, the Grundel. Suddenly, a creature called the Grunorn has been popping up all over the Internet.

Frankenstein and the future

In the book *Do Androids Dream of Electric Sheep*, Philip Dick wrote about a world in which it became so expensive to own pets that people began owning virtual pets. So lifelike were these creatures that the human beings wondered: Are they conscious? Are they alive? Are we headed in this direction too? Probably not in the near future.

Where we are most certainly headed, though, is to a world of richer videogames with more believable characters, and these virtual pets are laying the groundwork for it. In the multiplayer adventure games of the future, for instance, it may become difficult to tell the difference between a computer-generated character and an avatar that represents an actual player. The technology may also ascribe basic intelligence to our own avatars so that we, as players, only have to worry about higher functions.

The technology should find itself in the real world too. Already, some of the same researchers working on AI for gaming are looking at more practical applications. Among their quests, researchers are looking to create Internet agents that not only search, but have a personality. Finally, for better or worse, we may also become willing to accept the digital creatures as exhibiting lifelike characteristics, whether or not those feelings are deserved. "People love characters," said Hayes-Roth from Stanford. "[AI] is a way to bring characters to life far beyond what's been done before."

The Norns' world is chaotic and sometimes a dangerous one. The user must become familiar with potential pitfalls

BESIDES DANGER
AND INTRIGUE,
TREASURES
OF THE DEEP
OFFERS SOMETHING
THAT'S BEEN LACKING
IN ACTION/ADVENTURE
GAMES.

What's the missing ingredient from action and adventure games? Salt water. *Treasures of the Deep* places you in the role of Jack Runyan, ex-Navy Seal. Your global treasure trek whisks you from the shark-infested Great Barrier Reef to the foreboding abyss of the Mariana Trench. You'll utilize lethal high-tech weaponry and submersibles as you explore sunken ships, battle sea monsters and thwart terrorists. Grab your scuba gear. It's time to dive into danger.

Your underwater hardware is 100% high-tech: robotic vehicles, homing torpedoes and heat seeking mines are all at your disposal.

ACTION AND

14 treasure-hunting missions, including Antarctica, the Bermuda Triangle and the sunken Aztec ruins off the Yucatan Peninsula.
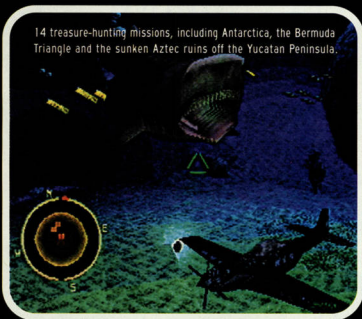
Blow up enemy subs, battle stealthy frogmen assassins and spear voracious sharks before they snack on your snorkel.

52:50

Battlezone **PC** Zelda 64 **Nintendo 64** Dead or Alive **PlayStation, Saturn** Battlespire **PC** Rare **Nintendo 64**
Power Boat Racing **PC, PlayStation** Fly by Wire **PlayStation** Wing Commander Prophecy **PC** Sonic R **Saturn**
F-Zero 64 **Nintendo 64** Flesh Feast **PC** Monkey Hero **PlayStation** Quake 2 **PC** Mega Man Neo **PlayStation**

alphas

Of previews and desire

It's become clear over the last year that thanks to increasingly inexpensive horsepower and high-end 3D acceleration, the PC has become *the* hot gaming platform for at least the next year. Need proof? Take a look ...

See the **Next Generation Disc** for more information when you see this symbol
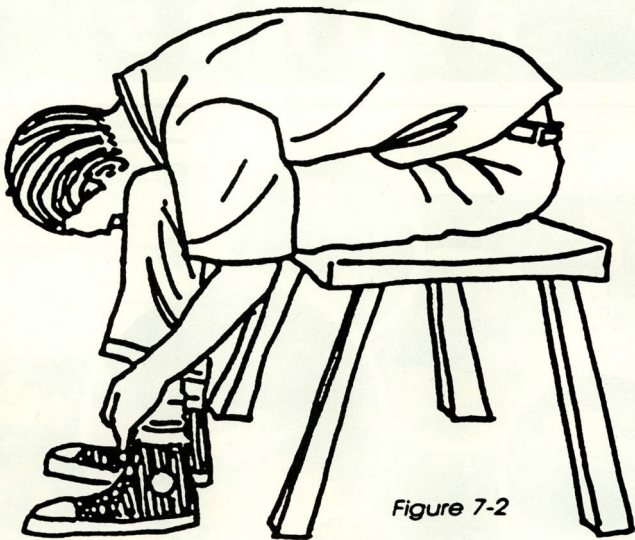
Figure 7-2

First aid for fainting

- Act quickly to prevent the victim from falling.

- If possible, have them put their head down or lie on the floor.

- Loosen the victim's clothing and wipe their head with cool water.

- Do not try to revive the victim by throwing water on their face, shaking or slapping.

- If the victim vomits, quickly put them in the recovery position.

As the victim revives, offer reassurance. Remind them that even the best gamers end up sucking face with the cement sooner or later. So whether it's Deathtrap Dungeon, Tomb Raider 2 or Fighting Force, be prepared for the inevitable. And never administer any first-aid to the victim without first saving their game.

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Battlezone

Can the company that mastered mission-based action with *MechWarrior* and *I-76* add realtime strategy successfully to the formula?

Activision is a company with a strong sense of history, to say the least. Revamping classic franchises like *Zork* and *Pitfall* helped it recover from Chapter-11 bankruptcy in the early '90s. Then, strategic rereleases from the company's back library provided essential cash while it made the difficult transition back to game publishing from the best-forgotten years when the company was known as Mediagenic and

Format:	**PC**
Publisher:	**Activision**
Developer:	**Activision**
Release Date:	**Q1 1998**
Origin:	**U.S.**
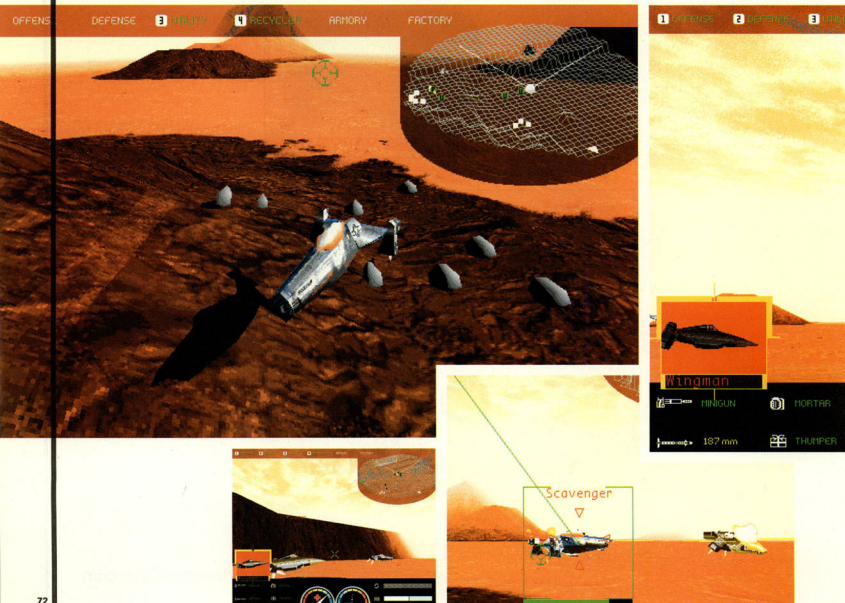
dabbled in everything from productivity software to music packages.

It's no surprise then, that company CEO Bobby Kotick has an almost superstitious belief that old titles can help sell new games. So when Activision began development on a futuristic 3D tank game, borrowing the title from Ed Rotberg's *Battlezone* seemed like the perfect fit, not the least because it immediately gave the team a high goal to shoot for. Andrew Goldman, lead director, explains: "*Battlezone* was the first 3D game ever — it was revolutionary. We were like, 'if we're going to do it again, it's got to be as revolutionary as it was 17 years ago. This game has to be a bigger breakthrough than the original *Battlezone* was.'"

Judging from the work done so far, the team is well on its way to succeeding in that goal. With this realtime

The interaction between the drop down menu and the radar map enables total battlefield awareness, even in the midst of battle

strategy/action sim game, Activision has melded two disparate genres, created an original play-balancing/resource-management scheme, and is implementing what may be the best interface seen yet in a computer game. In short, the company is raising the bar it set with *MechWarrior 2* and *I-76*.

"This game has to be a bigger breakthrough than the original"

Andrew Goldman, lead director

The basic concept of the game will be familiar to anyone who knows about 3DO's forthcoming *Uprising* (although the team insists that *Battlezone*, in development 18 months, was conceived independently) — it's a realtime strategy game that puts the player not in the standard role of backroom general, but directly on the field (in, appropriately, a tank) as a tactical commander, responsible for both fighting and directing the allied forces.

But if the game's going to take the *Battlezone* name, why stray from the

Running down pilots (an early screen, with a texture-free Pitfall Harry subbing for the final pilot, right) isn't just fun, it's a valid strategy. Note ship design (far right). As gameplay progresses, ship design becomes less human and more alien. Graphic effects include lens flare (above)
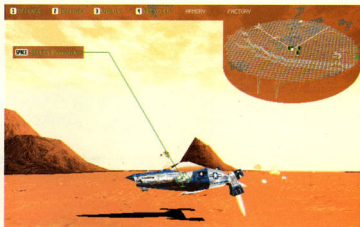
original's successful formula? "The original *Battlezone* was action only," says Producer Mike Arkin. "Action alone doesn't cut it 17 years later. But when you combine action with other genres, you get wildly fun — and wildly successful — games. Action meets RPG, you get *Diablo*; action meets simulation, you get *MechWarrior 2*; action meets adventure, you get *Tomb Raider*. We said, 'OK, there is no action meets strategy yet.' That's because of a design problem: If you start in the overhead, god's-eye mode, and you jump into a vehicle, you lose what's fun about *C&C* or *Warcraft*, in which as the situation changes, you change your strategy. If you jump in one of your units, you lose that knowledge. But if you go the other way and jump from action to map view, you lose what's exciting about action games, which is the immersion. I mean, what happens when you go to map view? Does time stop, or can I still get shot at? That's no fun."

The team's solution was to put the player in the tank, but the addition of a revolutionary interface enables nearly as much control over the strategic situation as players get in *C&C*. The player is the tactical battlefield commander, vulnerable at all times, but the interface — transparent, HUD-style drop down menus — enables players to manage resources and production without ever taking their eyes off the battlefield.

What about the god's-eye view, which is key to playing a realtime strategy game? Enter the radar screen. Radar was key in the original *Battlezone*, and it's even more important here. The team has implemented a radical 3D topographical battlefield radar map that may be the most impressive new game feature **Next Generation** has seen in months. With it,

The AI of your wingmen is some of the most impressive we've seen, although they will fly cheerfully to their deaths if so ordered

These sketches show some of the vehicles players will encounter

players — without being distracted from the immediate action in front of them — have a clear view of the 3D battlefield and the locations and types of friendly and
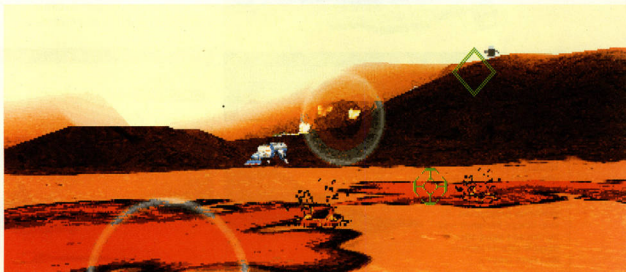
(known) enemy units. The importance of this radar cannot be overstated; even at the early stage at which **NG** saw the game, it is clear that Activision has gotten it 100% right. The amount of situational awareness the radar enables is enormous.

The game's resource strategy is also impressive, and it ties in with the backstory in such a strong manner that Activision seems well on its way, before with *I-76*, and now with *Battlezone*, to establishing itself as perhaps the first company ever to make gamers really care about the story in an action game. "When JFK said we'd be on the moon before 1970, he was lying," says Arkin. "When Neil Armstrong made 'one great step for mankind,' the dark side of the moon was a massive battlefield, littered with the wreckage of U.S. and Soviet warcraft." The idea is that both the Soviets and Americans became aware, in the '60s (and possibly earlier, via the Roswell crash), of

"When JFK said we'd be on the moon before 1970, he was lying"

Mike Arkin, producer

Vehicle design is based in part on classic military styles (note multi-paned cockpit, above). Initially the U.S. has the technology edge

an amazing alien metal, which could be formed into almost anything. The metal also has amazing memory properties. Find a piece that was originally part of a huge mech-style walker, and you can build a new walker. This resource, known as "scrap," litters many of the planets and moons in the solar system, remnants of an ancient alien war, and provides the building material for U.S. and Soviet space-based war machines. "That's what the real space race was about — getting scrap," adds Arkin, continuing to explain that the mission-based game, which takes place across eight bodies in the solar system, features a very hot war between the U.S.S.R. and U.S. over scrap.

Scrap provides more than just a good story, however. Goldman explains, "There're two ways to get scrap. You can

find it (and possibly discover a new type of unit to make in the process, as in the mech example, above), or you can destroy an enemy unit and collect it. There's a very viable strategy in *C&C*, which is to wait for your enemies to kill each other, quietly collecting Tiberium. That doesn't work here. *Battlezone* is an action game. If you want resources, you really need to go fight for them. And the more you fight, the more you're rewarded with scrap for your scavenger units to recover." Scrap also
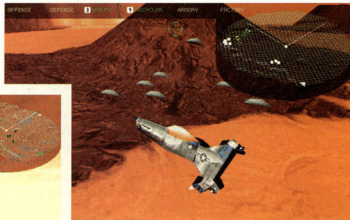
Overheating can be a problem for the ships — one exacerbated by lava (far left). Scrap litters the surface at the start of each mission, but is quickly scavenged
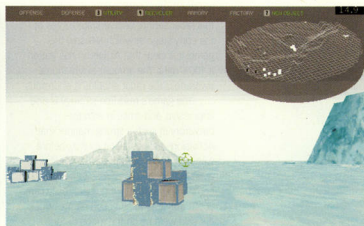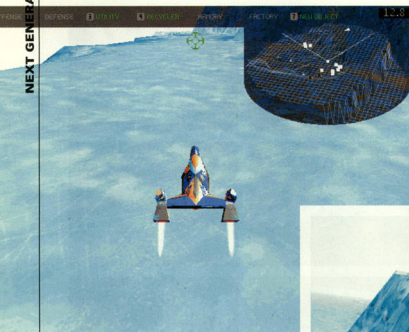
Of course, what would a game be without an ice world? Although terrains will differ throughout the game, in a concession to gameplay, gravity will be the same for each planet or moon

provides an innovative play-balance mechanism. "If I'm dominating a mission, and I come to finally attack your base, anything you kill of mine is going to be right there, easy pickings for your scavengers to take back to your recycler unit. So the balance of power can shift quite quickly," says Arkin. "To win, brute force is really not enough, you need to have some finesse, too."

The game's other important resource is pilots. Scrap is recyclable, humans aren't, so players will need to ensure that not too many of their co-pilots get shot

The experience of being shot down … can be truly terrifying

down, and if they are, they get rescued. "You can kill the pilots, who eject when their ships are destroyed," says Arkin. "It's really fun to run them down." The experience of getting shot down yourself is not — suddenly losing radar and the ability to communicate with base, or the ability to move faster than a brisk walk — can be a truly terrifying experience. Players can hop into any friendly vehicle to escape, but if they are hit before that, they die and the game is over. The team is experimenting with co-pilot stats, but is not yet sure if that feature will find its way into the game. "If having individualized co-pilots works, we'll leave it in," says Arkin.

The game will, of course, feature numerous multiplayer options, over IPX

and TCP/IP, although exact details (other than that it would definitely be supported on Activision's new Battle.Net-like service) have yet to be worked out. "In a sense, though," Arkin says, "even the single-player game is multiplayer, in that it's really like playing a human." He's referring to the game's AI, which was lifted directly from Josh Resnick's impressive *Dark Reign*. "We focused on the intelligence, not the artificial," he quips, explaining that the game has no scripted AI routines. "The AI plays just like the player — it needs to search the battlefield for your base, and it may adopt different strategies depending on a variety of factors." A mission should never play the same way twice — bases are located randomly (and can be picked up and moved as the front lines shift), and the AI's strategy is rarely the same twice. "There's never a situation where you're like, 'Oh, there's always an enemy over that ridge in this level,'" says Goldman.

The game's graphics are also impressive. The screens here are all software, but the game will support at least D3D and 3Dfx out of the box. The
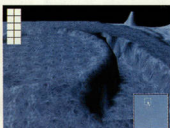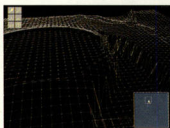
Battlezone will include the same powerful terrain and mission creator that Activision is using to create the game

Horizons are impressively far away, especially on powerful hardware

high-resolution nature of the game isn't just pretty, it's essential to enable the interface to coincide with the action. Could the game be done on PlayStation or Nintendo 64? Probably, but converting the interface — the part that makes the combination of strategy and action possible — may not be possible without rendering the action area of the screen so small that it becomes unusable.

The terrain is all fully transformable — bombs create craters (which are useful for hiding turrets in, by the way), and special care has been taken to ensure that the vehicles fit with the era the game is set in. At least at first. "As you get further in the game," says Goldman, "you get further from Earth, and we're trying to convey a sense of order breaking down, kind of a *Heart of Darkness* or *Apocalypse Now* situation." He goes on to explain that weapons tech, which evolves down a fairly complicated technology tree, originally resembles terrestrial hardware, but grows steadily more alien (and more vicious) as the game wears on. In fact, the story we've seen hints that as players get closer to the end of the game, certain assumptions they've held about who the real enemy is and what their real goals should be become less clear.

The success or failure of the game will ultimately come down to play balancing. Although the game will likely be fun as a multiplayer experience (even *Blast Chamber* was fun with four people), for the game to truly live up to the designers' visions, particularly with the enticing backstory, it will need missions — and more of them than the woefully short *I-76* had — that require gamers to use both action and strategy skills (with a heavier concentration on one or the other, at the player's discretion) to succeed.

Given Activision's previous successes with mission-based games, we think the team has a very good chance of pulling it off. ng

The HUD switches depending on which weapon is selected. Players can jump into nonmobile turrets to take an active role in defense

Missions are up to 25 square kilometers, but action happens close in

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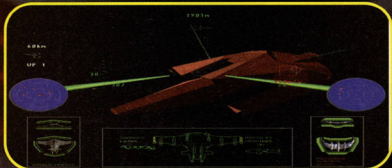
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Rare

Hoping to create another *Donkey Kong Country* craze, the British developers bring us ... *Mario 64* clones?
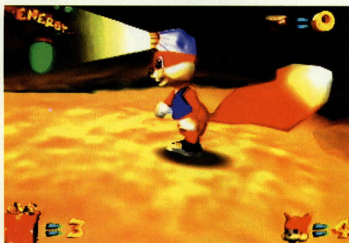
Conker the squirrel surveys a number of environments on his quest to collect nuts

Considering the astronomical success of *Super Mario 64*, it was only a matter of time before developers attempted to imitate the game's concept, implementation, and design. Despite Nintendo's success, however, many companies will no doubt

The game sets a new benchmark for Nintendo 64 graphics

fall short of the near-perfection that defined *Mario*.

So, news that the well-respected Nintendo second party Rare is planning to release two similar games should be cause for celebration, right? Then why are so many pundits down on the concept? Rare's Tim Stamper replies to critics this way: "*Mario 64* was the first game of its type on the new system that incorporated a complete 3D environment. So to say that *Banjo-Kazooie* and *Conker's Quest* are copycat titles is like looking at the first platform game and asking if the thousands that have been produced since then are exactly the same. *Mario* put the game design peg way out in the distance; it'll take many companies years to catch up with this."

Banjo-Kazooie, due this fall, certainly bears a few similarities to *Mario*,

Time will tell if Rare's two forthcoming titles will measure up to *Mario*

particularly the bright colors and cartoony feel; the game controls and feels a lot like *Mario*, as well. Players initially control Banjo (a backpack-toting bear), but are encouraged to change to Kazooie (a bird residing in said backpack) when the need arises. This isn't just for the sake of variety — certain areas require the use of Kazooie's flying powers. The player will also be able to morph into other characters, and the gameplay should be more puzzle-based than *Mario*'s pure action environment.

Conker's Quest, where players take on the role of squirrel (he has a female sidekick as well, Berri), looks similar to *Banjo*, at least superficially, but Stamper explains that they are actually quite different. "*Conker* uses advanced character animation and AI to assist the player in their quest. *Banjo* is a unique twin-character game, utilizing extreme player control. [When you play them],
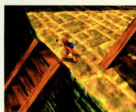
In *Banjo-Kazooie*, Banjo the bear carries Kazooie the bird in its backpack

you'll find the only similarity between *Mario*, *Banjo*, and *Conker* is that they all run on N64." Stamper also notes that *Banjo* and *Conker* use entirely different engines — neither of them use *Mario*'s, as has been inaccurately reported elsewhere — and have been developed by totally separate teams.

Quest ups the level of detail on the game's characters, as well. While Mario was limited to the same wide-eyed, dumbfounded expression throughout his adventure, thanks to Rare, Conker can exhibit a wide range of expressions, and even emotions. The game truly sets a new benchmark for Nintendo 64 graphics. "Our teams' expertise allow us to really stretch the 3D capability so characters and scenes look as real as possible," explains Stamper. "We also are the first to really create 'emotion' — you can tell when a character is happy, sad, nervous, etc. *Conker's Quest* will be the first game to really exhibit this."

In many gamers' minds, the *Donkey Kong Country* series (Stamper assures us
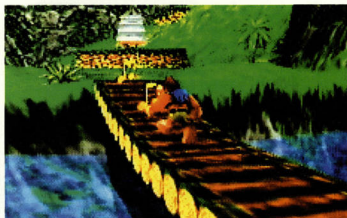
The levels in *Banjo* feature a similar structure to those in *Mario*, but abundant rich textures make for more realistic-looking terrain

it will be "exploding onto N64 soon") is second only to *Mario* in the pantheon of side-scrollers. Now Rare is applying the skill developed exploiting one genre

"We are the first to really create 'emotion'"

Tim Stamper, managing director

created by Miyamoto to exploit another. So it should not come as a surprise that where other companies have tried and failed (Epoch's *Doraemon*, for example), Rare is using its experience to produce two titles that should provide plenty of innovation in play, if not in overall look or control. Think about it — the side-scrolling standards set by *Mario* changed little on 8- and 16-bit systems, but not all side-scrollers were alike. Only time will tell which of the two is better received, but either way — especially given Rare's track record in making titles that appeal to a wide range of players — N64 owners will win.
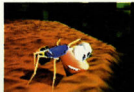
Using its *Donkey Kong* experience, Rare tries to produce two more winners

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Yoshi's Story 64

A Super NES classic makes its way into the world of 64-bit gaming

Mario's dinosaur steed branched out into its own games, and this continuation of the series is faithful to those 2D roots

Format:	Nintendo 64
Publisher:	Nintendo
Developer:	Nintendo
Release Date:	Winter 1997
Origin:	Japan

The original *Yoshi's Island* for Super NES was one of the 16-bit era's grand final moments. Rivaling the *Mario* series that spawned it, this game starred dinosaur Yoshi in what was simply the last word in 16-bit side-scrolling action. It's also a game whose intricate design and dead-on play mechanics allowed the system to be retired gracefully, and with great affection.

With all the 3D updates of classic Nintendo franchises on the way, however, it is perhaps somewhat surprising that Mario's faithful steed would be denied his own trendy polygon conversion — *Yoshi's Story* is a sprite-based, side-scrolling action title. Only one other 2D title exists for the system — Enix's *Yuke Yuke Troublemakers* (see review this issue) — yet if one can simply accept the 2D decision (Nintendo claims 2.5D, more on this in a moment), it becomes clear that even at this stage of production, there seems little to complain about as far as *Yoshi's Story*'s graphics and gameplay are concerned.

The game boasts some of the prettiest pastel color schemes ever offered in a game. Some screens appear to have the prerendered gloss that graced the *Donkey Kong Country* series, yet others seem to feature graciously colorful hand-drawn art. The graphics are a natural extension of the original's humorous, cute approach, and should appeal to the game's intended younger audience.

The game's level design includes generous helpings of mechanics found in the original, including warps, multiple worlds, and the coin stages that proved so popular. Nintendo has labeled the game "2.5D," and while exactly what this entails hadn't been elaborated on as of press time, it's possible this would mean the ability to move between foreground and background planes. Regardless, the game boasts some gigantic bosses, which impressively spit fire, shoot out their tongues, and perform any other strange attack one can think of.

The decision to release a 2D game on a heavily 3D system seems less odd in light of the strong, lingering popularity of 2D games in Japan. Given the popularity of the original *Yoshi's Island* here in the U.S., *Yoshi's Story* will doubtless find an audience here as well. ng
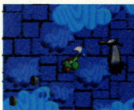
The game should feature many of the challenges so beloved by fans of the original

Although still 2D, the graphics are certainly impressive, sporting the same prerendered gloss that graced the *Donkey Kong Country* series

If you're playing games on a TV, you haven't played them yet.

Zelda 64

Yet another Nintendo classic makes its way to a 64-bit universe — on cart if not on disk
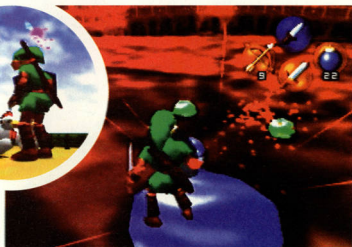
Is Link finally growing up? Well, maybe just a little, but most of the series' signature items and characters arrive in 3D virtually unchanged

Format:	Nintendo 64
Publisher:	Nintendo
Developer:	Nintendo
Release Date:	Dec. 1997 (Japan), April 1998 (U.S.)
Origin:	Japan

One of the most eagerly awaited titles for N64 appears to be finally nearing release. Originally slated to be the killer app of Nintendo's upcoming 64DD disk drive, *Zelda 64* will instead appear first as a cart-based product (and most likely become the main focus of Nintendo's media and advertising blitz this holiday season).

Set in Hyrule, the same world as the one in the previous adventures of Link, *Zelda 64* preserves many of the series' signature elements. Once again, Gannon has returned, he is once again after the fabled Tri-force, and it seems that Princess Zelda is once again in need of rescuing. As before, players can expect Link to be armed with a sword, bow, boomerang, hookshot, and many of his other traditional weapons, and players will again meet characters Riva, Stalfoss, Dodongo Jr., and the rest. *Zelda 64* will even see a return of Hyrule's peculiar breed of vengeful chickens.

What is different is the true 3D

The traditional Zelda view is still used in some areas (top), but combat has a new look (bottom)

environment Link finds himself in, and the game's generally more serious tone. Link himself benefits from added detail and complex facial expressions, appearing not only more realistic, but older and more mature. The traditional Heart Container bar has been enhanced by a graduated color scheme, whereby the color of Link's

It seems that Princess Zelda is once again in need of rescuing

armor and weapon indicates his relative health and overall offensive power. New areas include the Mystery Palace and the Fairy Tree, and conversations with NPCs will be even more important than in previous *Zelda* games. Although early speculation that this would be accomplished via voice samples now seems less likely due to cart storage limitations, this may be a new feature when the game later releases on 64DD, whenever the drive becomes available.

The legions of fans Shigeru Miyamoto's action/RPG series has garnered over the years have been patient for a 64-bit sequel. It appears *Zelda 64* will be worth the wait. ng

F-Zero 64

Still one more SNES classic comes to
Nintendo 64 — getting the picture yet?

It's all in 3D, but *F-Zero 64* still maintains the style of the original —
note how the backdrops and track markers are almost identical

Released over seven years ago,
the original *F-Zero* for Super
NES was one of the first "gee-
whiz" titles for the system. Showcasing
the SNES' (soon to be grossly overused)
Mode 7 scrolling, the little racing game
that could was cute, fast, and above all,
addictive. Chances are if you bought into
the system early, you owned a copy.

The new 3D tracks feature half
pipes and loops

Format:	Nintendo 64
Publisher:	Nintendo
Developer:	Nintendo
Release Date:	December 1997
Origin:	Japan

Its 64-bit successor was announced
almost as soon as the hardware was
finalized, yet in the wake (no pun
intended) of the smashing *Wave Race 64*
(OK, pun intended) and the hella fun *San
Francisco Rush*, it will have to be a
tremendous race experience indeed to
make a dent in the increasingly crowded
N64 racing pantheon. Yet *F-Zero 64* has
one thing going for it that few other titles
in its genre have: the guiding hand of
Shigeru Miyamoto.

While updated for a fully 3D
environment, the game's hovercraft
designs remain faithful to the original,
although *F-Zero 64* doubles the number
initially selectable from four to eight. The
machines have been given some

improvements in order to cope with the
new 3D tracks' occasional half pipes and
loops, which complement the
springboards and ramps that have been
carried over from the original. As of this
writing, the types and length of the
circuits that divide up the game's 20
different courses have yet to be
announced. However, *F-Zero 64* will
include a two-player battle mode as well
as time-attack modes.

The original *F-Zero* had a clear
influence on such latter-day classics as
Psygnosis' *WipeOut* series, which took its
own spin on hovercraft vehicle racing.
Can *F-Zero 64* take the crown back from
its 32-bit cousin? The proof, as
always, will be in the playing.

If this is even half as fast
and fun as the original, it
should be a hit

ng

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Quake 2

The hottest multiplayer game in the world gets a sequel, but is it just *Doom VI*?

Where *Quake* was mostly olives and browns, the dynamic light sourcing and particle effects add to the vibrance of its sequel

Improved AI and transparencies are just two of many perks

Format:	**PC**
Publisher:	**Activision**
Developer:	**Id Software**
Release Date:	**Spring 1998**
Origin:	**U.S.**

The release of *Doom II* in 1994 was one of the most unnoticed letdowns of the gaming world. The sprinkling of a few new enemies and one new weapon were enough to give *Doom* junkies their fix, but the game was a mere baby step forward in every way. Now, *Quake 2* appears to have finally broken Id's sophomore jinx, with so many improvements over the original that, for once, the two games look markedly different.

The biggest difference is the graphics. The engine has been given a boost by John Carmack's coding wizardry, allowing for many features that were noticeably absent from *Quake*. Most notable among these is the increased polygon count; each enemy is now composed of more than 600 polygons, compared to the original's 150. Id has also included realtime dynamic light sourcing, shadows, and transparencies.

Another welcome change is the addition of high-color graphics. Gone are the drab repetitive levels and omnipresent muddy earth tones of the original; in their place are environments laced with vibrant colors, made all the more impressive with the OpenGL-based engine.

The expectations for *Quake 2* are even higher than those leveled at *Doom II*, but if there's anything Id is known for, it is advancing the first-person shoot-'em-up. Even with the loss of John Romero and several other key designers, and the presence of some top-quality competitors in the next year, it will be tough to beat Id. **ng**

Kalisto

One of France's premier development houses reveals superb 3D action with *The Fifth Element* and *Nightmare Creatures*

Even at this early stage in the game, these PlayStation screen-shots attest to the sophisticated polygonal models and animations used to create *The Fifth Element*'s player character and enemies

Backgrounds in both interior and exterior areas will animate

Delphine recently did it with *Moto Racer*, Cryo (**NG 32**) appears to be doing it with *Dreams*, and now Kalisto certainly appears to be doing it with *Nightmare Creatures* and *The Fifth Element*. Each of these French developers are producing visually exciting 3D games — complete with gameplay.

Kalisto began developing games in 1990 under the name Atreid Concept. The company developed several 16-bit titles, including *Pac In Time* and *Al Unser Jr. Racing*. For two years, between 1994 and 1996, the company became Mindscape Bordeaux, until a split among the partners prompted the current president, Nicolas Gaume, to buy it back.

Under the new Kalisto moniker, the company went on to develop the forthcoming *Dark Earth* (**NG 18**), a PC RPG, and *Ultimate Race*, the arcade racing game bundled this year with Power VR boards. While these state-of-the-art titles have garnered their share of attention, the company's greatest strength may lie in its

LibSys tool, a proprietary 3D development program five years in the making. The first two LibSys games, *Nightmare Creatures* and *The Fifth Element*, appear to have what it takes to keep *Tomb Raider* from getting lonely in the 3D action/adventure category.

With *Nightmare Creatures* (see boxout), the company got its first chance to test LibSys, which, among other effects, provides the game with true 3D fog for PlayStation. However, LibSys is more than a console development tool, since it's being used to develop *The Fifth Element* in tandem for PlayStation and Power VR-accelerated PCs.

The Fifth Element is more than just a movie license to Kalisto. "We didn't buy a license," says Josh Davidson of Kalisto's Los Angeles division, "we gained a partner."

The partner Davidson refers to is the French entertainment company Gaumont, which produced the film and assisted in the game's design. Having shown more

than just a token interest in the product, the Kalisto/Gaumont partnership suggests ties that may lead to future projects.

Based on the film's sci-fi plot, the game takes place 250 years in the future, where the player must stop a comet containing an all-powerful evil from reaching Earth. The player chooses to be either the alien girl Leeloo (pictured in these screens) or earthling Korben Dallas, whose character has not yet been implemented into the game but should bear a likeness to Bruce Willis, who played the role in the film.

On the surface, the game is similar to *Nightmare Creatures*. From the third-person perspective, the player will engage 16 different enemies in a total of 15 levels. However, while *Nightmare Creatures* presents players with an antiquated monster-filled London, *The Fifth Element* offers sci-fi environments, such as New York City circa 2413. And the tone, of course, leans more towards in-game humor than gothic horror.

The gameplay has also undergone several changes. While a reliance on hand-to-hand combat is necessary for *Nightmare Creatures*, *The Fifth Element* presents range weapons as the primary form of attack, and offers a variety of deeper puzzles as well. "They're not pull-every-lever puzzles," Davidson explains. Objects have multiple effects on each other, and players will need to uncover proper sequences of actions; other time-based puzzles will also add to the game's intensity.

Technically, the engine hasn't been retuned and will maintain the 30fps rate. But Kalisto has added more motion-capture animation to the characters and shared vertice modeling in animation, which is the company's version of the skinned joint system seen recently in the dinosaurs in the 32-bit *Lost World* game. Having had experience with *Nightmare Creatures*, Davidson says the level designers are getting improved visuals just from knowing better how to mix the lighting and textures.

While the mantra at many development houses may be "building more immersive worlds," Kalisto is practicing what it preaches. The publishers' war for the company's recent titles suggests Kalisto can certainly continue its own strategic product development while the big distributors outbid each other for the rights. Considering no publisher has been announced yet for *The Fifth Element*, they are probably doing just that. **ng**
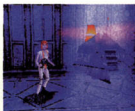
The polished lighting techniques (top) in *The Fifth Element* were developed first for *Nightmare Creatures*

The player is armed with a blaster, so the combat is projectile-based — but hand-to-hand attacks will become necessary in close quarters

Nightmare *Creatures*

The first version of Kalisto's 3D engine can be seen in this gothic horror adventure that blends the exploration of *Tomb Raider* with the hand-to-hand combat of *Perfect Weapon* — although, unlike *Perfect Weapon*, the fighting here is fast and controls well. In its nearly finished state, the game's dark environments, suspense-building music, and monsters that pop out of just about everywhere attempt to capture the same level of terror that made *Resident Evil* a revolutionary gaming experience.

Set in London during the 19th century, players must single-handedly defeat an army of unholy creatures that have been summoned to the city by an evil brotherhood. Players choose between Nadia, a quick-moving master of the sword, and Ignatius, a powerful monk with a hard-hitting staff.

From a third-person view, the player traverses London in the course of 18 levels and battles 15 monsters from flame-spitting hellhounds to winged banshees. Many power-ups, such as pistols, grenades, and freeze spells, are found throughout the game; these come in handy when facing one of the five bosses. The game runs at 30fps, and behind the impressive visuals lies some equally impressive technology. A per-polygon collision detection system enables enemy appendages to be broken off by the player, adding a satisfying yet gory touch to the gameplay.

Acquired by Activision just before E3, the PlayStation version (shown here) is scheduled to ship at the end of October; a PC version is in production for '98.

The game boasts some freaky monsters (top right). In moments of crisis, players can resort to the pistol (above center)

Players dismember enemies, such as the leg of this snow beast (left), and cast freeze spells, effectively used on this bat-creature (right)

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In Age of Empires, your challenge is to take one of 12 ancient civilizations (including Egyptian, Yamato, and Greek) from grass hut beginnings to world domination in 10,000 years of real-time evolution. Which gives you just enough time to decide whether you want to conquer everyone else, explore the four corners of the globe, or accumulate great wealth to achieve victory. And with a 100-node technology tree, you can choose your advancements accordingly. For instance, you can research gold mining or commerce

I-War

The space-based shoot-out has been a staple component of gamers' diets ever since *Elite* loomed large in the early '80s. However, they've rarely looked this good

The exotic spacecraft designs deserve high marks for originality. The artists have worked long and hard to ensure an organic appearance

Despite utilizing Argonaut's much-maligned BRender technology, *I-War* is visually impressive. Useful messages scroll unobtrusively during action

I t could be "Babylon 5." It could almost be "Star Trek," but for the unfamiliar vessels. The intro sequence to Particle Systems' *I-War* is world-class in every sense. As the sequence rolls, sunlight streams through the clouds of a desert planet, throwing a huge tower into stark relief. Starships drift — islands in a sea of space alive with nebulae, glittering sunbeams, and

Format:	PC
Publisher:	Ocean
Developer:	Particle Systems
Release Date:	TBA
Origin:	U.K.

multicolored light. It's a spectacle that screams movie quality.

Significantly, the Sheffield, England based codeshop that produced it is confident that its talents extend far beyond mastering the use of Lightwave. *I-War* (previously titled *Infinity War*) will step into the path of *Wing Commander Prophecy* (see page 129) this Christmas, hoping that its own brand of space shoot-'em-up will have enough technical, graphical, and, yes, artistic merits to stop Origins' mighty series dead in its tracks. Considering the fact that this is the company's first title, long-time PC gamers

may find this aim just a little unrealistic.

"In some ways it is," concedes Michael Powell, Particle Systems' managing director. "The thing you have to remember, though, is what we're interested in is making a better game, and we believe we're doing that. If we get the marketing right, and really push the game, then there's no reason why *I-War* can't be seen as a superior alternative to a series that has, after all, become pretty stale."

Certainly, with the loss of Roberts from Origin this year (he's created a new company that will publish under the Microsoft banner), the continued success of the *Wing Commander* games is anything but assured. But that's not the point for the dedicated team working all hours to make *I-War* the better game. The Ocean marketing machine behind the game may well be gunning for EA, but Particle is focused on realizing its own vision of a space battle simulator that combines the gripping gameplay of LucasArts' *TIE Fighter* with the depth and detail of a sci-fi movie.

The movie analogy is particularly apt.

The game's graphics are fluid, even on a low-end Pentium

The textures on the craft are so vivid and realistic that they are nearly indistinguishable from their prerendered counterparts

CS-TARANTULA-F12

T: 1:14

Though mission-based, *I-War* boasts a strong plot that drives the action, and though not quite a "virtual battlefield," the plot will be affected by the player's performance in the field. In short, the player is the captain of a Commonwealth Navy vessel, patrolling space, ever ready for a guerrilla attack from the Independents, former Commonwealth groups now demanding their independence. This war of attrition has been on the boil for more than a hundred years, and appears to be reaching some kind of a climax. Thus, every wrong (or right) move the player makes in a particular mission has a direct effect on the events that take place in the following level. For example, failure to close a supply route will lead to stronger resistance next time around, and so on. This provides a

certain amount of open-ended play without compromising the steady buildup of missions.

The cinematic mood is perpetuated further by an innovative menu system that relies not on indecipherable icons but instead on a detailed 3D model of the ship's bridge. As the captain of a space-based Navy vessel, the player must interact with the bridge crew and issue commands, as well as engage in the more familiar dogfights. The bridge appears as a navigable render, complete with pilot, gunner, and engineer, each of whom can be individually controlled. For depth, there are the intricate machinations of the engineering section to grapple with, including shield ratios, power output, damage repair, and a number of other, more technical problems. As captain, the player can issue orders or become involved at the lowest level. The same, of course, applies to the gunner and the pilot, though most players, the team at Particle expects, will play the game as a straight shoot-'em-up, and there's likely to be much to admire in that department.

After most breathtaking intros, players usually watch helplessly as beautiful streamed visuals are unceremoniously replaced with disappointing in-game graphics. Not so with *I-War*. However, Particle has decided not to embrace the 3D card revolution at this stage. It's not that the team is unimpressed by the latest PC technology, but that *I-War* can cope just fine without it.

"The cards do add effects, such as filtering, which would look nice," says Particle's Rich Aidley, "but as it is, our engine is smooth enough and our

Although much of the game involves space combat, *I-War* contains enough detail, such as this tactical display, to immerse the player

The acting and video quality far surpass the *Wing Commander* series

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What immediately strikes the player, after the stunning ship graphics, is the colored "space," which gives the environment a living feel

The schematics and displays are reminiscent of late *Star Trek*

texturing of a high enough standard not to need them."

After following the progress of PC 3D cards over the past 12 months, **Next Generation** is understandably skeptical about such a claim. Looking at *I-War* in motion, however, it's clear that Aidley's boast is not an idle one. Though unoptimized, the 3D engine runs at a smooth 30fps on a high-end Pentium. And although the game lacks the texture filtering a 3D card can afford, the spacecraft rarely pixelate, even at extremely close range. For those who remember Argonaut's clumsy beat-'em-up *FX Fighter*, it will come as a surprise to know that *I-War* is driven by the same core technology — BRender.

"BRender has had a lot of bad press, but it's really not that bad," says Powell. "It's a realtime 3D modeller that has allowed us to construct the *I-War* environment quickly, saving us the hassle of writing our own system. We'd be at least six months behind if we hadn't used it. The reason that the game looks nothing like *FX Fighter*, with that awful muddy texturing, is firstly because we have such talented artists and secondly because we've only used BRender for the basics. That's what it's good at."

By basics, Powell means the polygon models. The standard practice with

BRender thus far has been to create the models and then use DPaint and BRender's own code to map and scale them. The *I-War* developers took a different approach. They wrote their own, low-level routines for texturing and used scaled-down, high-quality renders as the basis for the texture maps. It may sound piecemeal, but using textures created in super high-res renders means that they bear the same characteristics as the originals, only on a smaller scale — characteristics such as metallic effects, specular lighting, and curved surfaces, all of which are impossible to recreate using a flat tile. The end result is not empty space with fuzzy-looking ships, but a crowded scene full of metallic, gleaming, detailed ships that bear a fair resemblance to those seen gliding out of the intro.

Because of its space setting, the *I-War* engine is free to generate complex models

and effects, and not get bogged down with horizons and pop-up. Clouds of polygon-based nebulae give the view color, specular lighting effects highlight the curves and gleaming metal of the Navy vessels, and dynamic colored lighting from red moons drenches the space stations. *I-War* is a visual treat, but it's a treat for one.

"For the sequel, we'll be concentrating on network playability," says Powell, "but we wanted to design *I-War* as a single-player experience. All the best games, like *Zelda* and *Mario*, have been single-player, and if you try to design for multiplayer, it can sometimes be at the expense of the single-player levels. In *I-War*, the player is a lone hero, against the odds, which is how it should be."

It may not be fashionable, but it's an encouraging sentiment. In fact, with its shunning of the 3D cards, lack of multiplayer support, and the even more obvious lack of B-list actors, *I-War* may seem like something of a throwback to less cluttered times. But the fact remains that Particle Systems has talent enough to spare, and with its dogged determination to better, but be totally unlike *I-War*'s peers, it would be a brave man who'd bet against the game making waves when it's eventually released. **ng**

"Babylon 5"-style renders illustrate the sci-fi plot of *I-War*
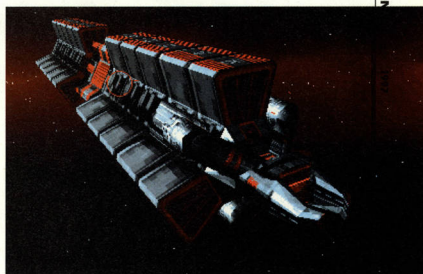
Only one player can enjoy *I-War*, but Particle will concentrate on network playability for the sequel

Get Voodoo.

3Dfx Interactive

IN
:06 SECONDS,
THE COMPUTER
PILOT IN
ACE COMBAT 2
WILL SEND
YOUR JET
CRASHING
TO EARTH.

YOUR EGO
WILL FOLLOW
SHORTLY
THEREAFTER.

Raider

Startup Leaping Lizard Software has a fully accelerated 3D shooter ready to go — now all it needs is a publisher

Raider's level designs deliberately mix arcade-style play with more traditional PC sim exploration — and lots of shooting

A lthough 3Dfx has had its ups and downs lately, the Voodoo chipset has certainly grabbed a hefty percentage of the PC gaming community's mindshare. *Raider* began life as a 3Dfx demo but has since taken on a life of its own. A 3D shooter with action both in space and on a number of different planets, the game hides some impressive technology under its deceptively simple surface.

"We've played and enjoyed all the great 3D PC shooters of the past few years," says Chris Green, *Raider*'s producer and co-founder of Leaping Lizard, "but our main inspirations are the classic arcade games, like *Space Harrier*, *Stargate*, and others. If we can reproduce some of the fun we had

Once again, high technology has been harnessed to simulate mass destruction — just makes the heart sing, doesn't it?

Format:	PC
Publisher:	TBA
Developer:	Leaping Lizard
Release Date:	TBA
Origin:	U.S.
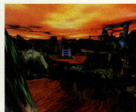
Raider was 3Dfx-enhanced from the word "go" — nice

Each stage begins with fighting to a planet's surface, followed by a series of missions

playing these games as teenagers, but with modern technology and our own 3D look and feel, then we will be happy."

As one might expect, *Raider* will support Voodoo-based cards directly, but it also supports Direct3D. The game features an adjustable level of detail, depending on the user's hardware. "It currently runs at a pretty even 30Hz on a Pentium 90 with a 3Dfx card," says Green. "Faster machines also run at 30Hz but with the level of graphics detail automatically increased."

From the very beginning *Raider* was designed for network play over either LAN or TCP/IP connections, with both team play and death match modes. During the course of the game, players earn tokens by either finding them around the landscape or scoring a certain number of points. These tokens can then be redeemed between stages for power-up items and ship upgrades. This helps keep network play interesting over time, since each player's ship can be different with each mission.

At press time, Leaping Lizard was shopping for a publisher. The developers also have a number of small details (for example, how many missions the game will include) yet to work out. It's fair to say, however, that *Raider* is well on its way to bringing fun to a PC screen near you. **ng**

The game supports IPX and TCP/IP network play out of the box — once it gets a publisher

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Dead or Alive

Can it be? Tecmo's Model 2 fighter comes to Saturn — and PlayStation

As in *Virtua Fighter*, *Dead or Alive* characters have been endowed with realistic fighting styles, although they too feature some flashy kicks and throws

Although it was not widely distributed in the U.S., *Dead or Alive* remains a fairly popular arcade title. It was the first Model 2 game released by a third party in Japan in 1996, and as a fairly realistic fighter, has often been compared to *Virtua Fighter 2*. The

PlayStation's strong market position inspired its own version

Model 2 design made the Saturn conversion natural, but a PlayStation version is also in the works — the first time a game designed for Sega arcade hardware has made it to the system.

Dead or Alive is quite similar to *Virtua Fighter 2*, which attests to the

Format:	PlayStation, Saturn
Publisher:	Tecmo
Developer:	Tecmo
Release Date:	Fall 1997
Origin:	Japan

game's quality. But *Dead or Alive* also brings home some of its own original features.

As in *Virtua Fighter 2*, all matches take place in an arena. However, Tecmo has added an area surrounding the edge of the ring called the "danger zone." Should players enter this zone, they will incur damage by triggering explosive ground tiles. This enables players to do even more with the "ring out" strategy of forcing opponents to the perimeter of the ring. Also, as in *Virtua Fighter 3*, players

With motion-captured animation, *Dead or Alive*'s characters move with the same fluidity on the console as they did in the arcade

have an evade button at their disposal, enabling characters to avoid and not just block an attack.

Because Saturn does not offer as high a performance as the Model 2, developers compensate for the lack of polygons by using some Gouraud shading (not available on Model 2), resulting in fairly sharp characters that arguably will look nicer than those in the arcade game.

Dead or Alive will expand upon the arcade version, offering some new CG movies for Saturn, and more than likely, the same clips will be used for the PlayStation version as well.

As one can ascertain from these screen-shots, Tecmo appears to have *Dead or Alive* conversions on par with ports of recent Namco and Sega arcade fighters. It will certainly spice up the PlayStation software library with a game

Only one PlayStation screen-shot was available, but this early screen suggests the character detail will equal that in the Saturn version

whose style is currently available to Saturn owners only. And for Saturn owners? Saturn certainly has its share of quality fighters, but as title-starved as the system has become, any credible game is worthy fare. **ng**

While the arcade version boasted fairly tough AI, it is too early to tell whether or not the console characters will be equally as brutal

Scenario A

Scenario B

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Power of the past:
Shelby Cobra™ 427
'69 Chevrolet© Corvette© 427
'70 Chevrolet© Chevelle© SS 454
'69 Chevrolet© Camaro© ZL1
'70 Plymouth© Hemi Cuda

Alien vs. Predator

One of the best Jaguar titles is
back, rebuilt, and looking great

IMAGE INTENSIFIER ACTIVATED

Whether players encounter humans, aliens, or predators, the action is
intense. The leap from sprites to polygons is very well-executed

Format:	PC, PlayStation, Saturn
Publisher:	Fox Interactive
Developer:	Rebellion Development
Release Date:	Spring 1998
Origin:	U.S.

Ambient, low-level
lighting conveys the dark
mood of the game

A tari's ill-fated "64-bit" system
had a dearth of A titles, but the
few that existed were
remarkable. *Tempest 2000* was excellent,
and *Alien vs. Predator* was just as good.
Now, Rebellion is wisely moving the game
to more viable systems, and from what
Next Generation has seen so far, it could
have the best console shoot-'em-up yet on
its hands.

Paul Provenzano, executive director of
product development for *AVP*, assures us
that the game is not only completely
rebuilt, but even better than its
predecessor.

"We don't use any code from the
Jaguar game," Provenzano says. "The only
thing we took from the original was the
ability to play as the marine, alien, or
predator. It's a significantly different engine,
and it's a completely 3D world." This
enables such interesting features as

running along the walls or ceilings as the
alien, as well as welcome additions such as
crouching, and an adjustable viewpoint.

The three characters don't just have
different HUDs: Their methods of attack are
different, their weaponry is different, and
their motivations are different. In multi-
player games, any combination of
creatures is possible. Matches of seven
aliens versus one marine could be quite
common. Rebellion is even supporting
PlayStation's link cable.

First-person shoot-'em-ups have not
fared all that well on consoles, so it's rather
ironic that one of the best is on a long-
dead system. Hopefully, the new *Alien vs.
Predator* will lead the way towards
the next level.

ng

NECK HAIR WAS MEANT TO BRISTLE.

This game rips asphalt. White-knuckle the wheel and feel those raw nerves pulse. 230 mph. Crashes so realistic, you'll beg for salve. Add a little split-screen action so you can taunt your friends. Formula 1 has been reborn. Grab hold, Pierre. The back of your neck is going for a ride.

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Fly by Wire

Dave Perry turns an expensive hobby into one hell of an addictive game

C onsidering the rash of bizarre but fun titles making waves on PlayStation recently (*Parappa the Rapper, Monster Rancher, Tail of the Sun*), it was only a matter of time before the king of bizarre but fun titles (*Messiah, MDK, Earthworm Jim*) left his distinctive fingerprint on PlayStation niche markets. Yes, Dave Perry, who brought us flying cows, a flying chubby cherub, and a flying black-suited warrior, is back again, and this time, he brings us ... a radio-controlled helicopter?

Format:	**PlayStation, PC**
Publisher:	**Interplay**
Developer:	**Shiny Entertainment**
Release Date:	**TBA**
Origin:	**U.S.**

"I decided to do *Fly by Wire*," Perry explains, "in order to prove that new genres of games can be developed, and all that crap about 'It has to be like *Doom*' or 'It has to be a fighting game' is not only wrong, but just an excuse for companies to keep feeding us the same old stuff."

"The same old stuff" certainly

A

Games that let players do things they'd never do are common, but few are this fun. Thirty minutes is all it takes to get the hang of it

Once control of the helicopter is mastered, flying the stunt courses is an exercise in fun. This course is among the easiest, so study it well

doesn't apply to this game. In *Fly by Wire*, players pilot a radio-controlled helicopter. Plus, it is the first PlayStation game to really take advantage of the dual analog pad. And what better way is there to use the new peripheral than to turn it into something almost every kid has held at one point in his or her life: an RC pad. "The Sony dual analog controller is the best handheld device in our industry today," Perry says. "*Fly by Wire* is the first game that is designed specifically to show you how amazing that joypad is."

The amount of work that went into making *FBW* this much fun is mind-boggling. Perry hired mathematician Robert Suh to model every detail of an RC helicopter, right down to the influence of the ground on the rotor lift in forward flight. All this attention to detail is worth it, however. "This sort of

stuff translates to the amazingly real feel of the game," Perry gushes. "We have studied well. Most guys would love to try to fly a model helicopter, but they cost a lot of cash; my Vario is over $2,500. This means that they will probably never get to try it, as nobody in their right mind would let a beginner try to fly their multithousand-dollar helicopter."

Perry has taken the Shiny tradition of thin development teams to new lows — the *FBW* team numbers a whopping two people. Of course, not all the classics are the result of a huge staff. "*Tetris* surprised us all — it became the most popular game ever, and it didn't need 20 people to develop it," Perry says.

So is he saying that playing *Fly by Wire* is as addictive and just plain fun as playing *Tetris*? "In a way. It's designed to be played whenever you have a spare minute. It's like a drug."

And like a drug, what the game

does more than any other in recent memory is to make the player keep playing. When a crash occurs, the player's feeling is not one of frustration at the game's unfairness or bad design, but one of realization and resolve. The analog pad is suited so perfectly to the control of the helicopter that players will likely hearken back to their childhoods, when they drove obscenely painted cars around their neighborhoods. And if Perry can create a hero who whips his own body as a weapon, he can surely recreate something that has already been proven enjoyable by nature. **ng**
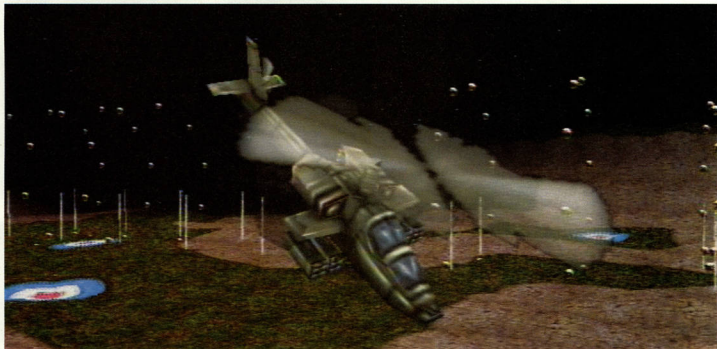
All of the helicopters control differently, but each maintains the level of realism that is even easier to appreciate if players have flown one

Battlespire

The *Daggerfall* team returns with an *Elder Scrolls* spin-off players can actually finish

Format:	PC
Publisher:	Bethesda Softworks
Developer:	Bethesda Softworks
Release Date:	Fall 1997
Origin:	U.S.

Daggerfall may have been the end-all and be-all of PC RPGs, at least in terms of giving players a lot to do. Too much, according to some, as to this day it's a rare and dedicated player who's actually finished the game. "The whole idea with *Daggerfall* was that,
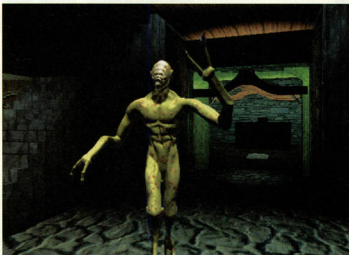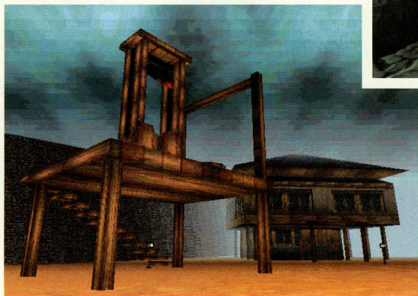
Battlespire has upgraded the *Daggerfall* engine to run in high res, even though the frame rate is appreciably faster — *without* patches, take note

like a pen-and-paper role-playing game, you could play for years," explains Julian LeFay, project leader on *Daggerfall*, and the latest *Elder Scrolls* spin-off project, *Battlespire*. "You know, keep the same characters, keep on doing stuff. This one is more like a traditional PC game. You can actually finish it in forty hours or so."

While shooting for a fall release date, LeFay isn't settling for the last-minute-rush-out-the-door that befell *Daggerfall*. "We've been hit on the bugs before, and that ain't gonna happen this time," he insists. "We're not shipping until I'm good and ready. I mean, all the stupid patches we had for *Daggerfall* — I want to move

on to the next thing, not get stuck re-writing the same code."

In the *Elder Scrolls* land of Tamriel, the Battlespire, traditional testing ground for those who aspire to become Imperial Battlemages, has been taken over by the evil Daedra, a "cursed race" and among the nastier creatures in *Daggerfall*. As one of the Aspirant Battlemages, the player is sent into the Spire, unaware that everyone who enters is simply being killed off. The player is preceded by another adventurer, who leaves messages and helps the player through the Spire. Naturally, this major NPC will be the opposite gender from the player's

character, "just to throw a little romance in the game," LeFay jokes. "I'm a sucker for that sort of thing."

The character creation system is nearly identical to that of *Daggerfall* (and *Arena* before it) although streamlined somewhat. The game engine itself has been tuned a great deal, resulting in a high-res, high-color display, running at an appreciably higher rate of speed. LeFay has also decided to stick with sprite-based characters. "Everyone seems to be going to 3D enemies, and I'm curious why," LeFay says, "because so many of them look really bad — you know, 'Just imagine this box is an arm, this small box is a hand.' Maybe when it's all hardware-based, and I can spend a thousand polygons on it, I'll do that. But when I put a demon on screen, I want you to see a *demon* — all the little warts, every ripple of muscle. I don't want to see polygon lines all over the place. I'm not going to degrade my level of detail just to say, 'Oh look! I've got 3D enemies.' The sprites are about four times the size of the ones in *Daggerfall*, and they've got twice the

This spin-off also sports some new graphic tricks, along with grim design

While still sprites, *Battlespire*'s enemies are four times more detailed than those in *Daggerfall*

Of course, the best thing about *Battlespire* is that, unlike the huge game it's based on, a player can actually finish it in 40 or 50 hours

number of animation frames. Sure, they'll pixelate if you put your nose right up against one, but any 3D enemy would look just as bad, maybe worse."

And for everyone who appreciated the fact that *Daggerfall* came by its ESRB "M" rating honestly, LeFay isn't about to back off. "My original slogan for this — which I knew would be rejected — was going to be, 'Blood. Steel. Tits. *Battlespire*!' Of course they didn't go for it, but I thought it was pretty good. It sort of sums it up. I have a certain style with my games, and I really couldn't see doing things any other way. Maybe I'll take some hits on it, but that's all right. It's the way I work, and that ain't likely to change."

ng

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Launch an invasion from the sea.

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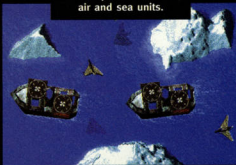
Wing Commander Prophecy

Origin goes back to basics in the latest installment of its classic series, and it looks like the fifth time's the charm
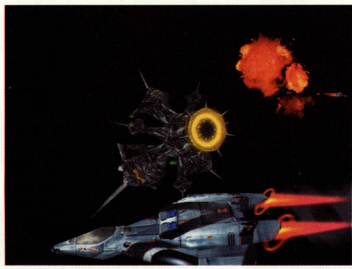
The scope of the game is immeasurably vast, whether players fly past a distant capital ship (above), or fly, wounded, back to base (right)

Billy Cain, lead designer on *Wing Commander Prophecy*, has a revelation: "QA hates us," he deadpans. "We keep adding things to the game, and they'll look at us, wide-eyed, and say, 'There's more?'"

The Quality Assurance team may be the only gamers who aren't excited about *Prophecy*. When series creator Chris Roberts left Origin to form Digital Anvil, he took a great deal of the overblown Hollywood element of *Wing Commander III* and *IV* with him. What's left is a game that plays as great as the originals, and looks better than any other space combat sim out there.

The game has been completely redesigned — no code remains from *Wing III* (*IV* was rushed out the door with much of the same code), and it shows. The game's engine was actually taken from Roberts' last project with Origin, a first-person game called *Silverheart* that was eventually shelved. In both unaccelerated and 3D-enhanced versions, the feel of the first *Wings* is back.

The most impressive thing about *Prophecy* is easily the presence of capital ships. Immense imperial cruisers were promised by LucasArts for *X-Wing vs. TIE Fighter*, but they fall light years short of the enormous, intimidating, sprawling craft in *Prophecy*. It can take up to half a

minute to fly the length of one, with full afterburners. And they're not just window dressing, either. "When you destroy a component of a cap ship," says Lead Programmer Pete Shelus, "I wanted to see a huge explosion, with a huge gaping hole in the deformed mesh of the ship."

Origin has been tight-lipped about the new, and as yet unnamed adversaries. However, players will battle them through a gaudy 51 missions. This number is by no means set in stone, however, as Cain explains. "The missions can continue even if you have to return to base in the middle of them. Some cap ships can't be destroyed in one pass, so you'll have to return to base and go after them again."

The team won't be resting on its laurels after *Prophecy* is done, however; Art Director Mark Vearrier already has ideas for *WCVI*. "Maybe take the fight to the aliens' universe," he says. "More of an aquatic universe, with plankton floating around." Whatever the case, with *Prophecy* well on track, the series appears in good hands.

Format:	**PC**
Publisher:	**Electronic Arts**
Developer:	**Origin**
Release Date:	**Q4 1997**
Origin:	**U.S.**

Wingmen boast a total of 6,500 lines of dialogue

ng

129

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Mendel must escape from Galapagos!

GALAPAGOS
Tyrannous Command Center
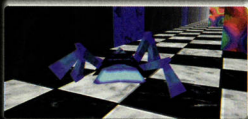
SINE
Toxic Cloud Mine

LUMEN
Subterranean Powerplant

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Jedi Knight

The sequel to *Dark Forces* is leaps and bounds better than the original, but does it have what it takes to eclipse *Quake 2*?
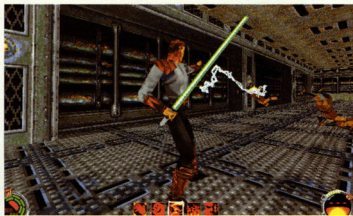
Format:	PC
Publisher:	LucasArts
Developer:	LucasArts
Release Date:	Spring 1998
Origin:	U.S.

The Force plays a large part in the game; players can use it to destroy enemies (above left) or channel it through the lightsaber (above)

The 1994 release of *Dark Forces* marked it as the Swiss cheese of first-person shooters: It did well despite being sandwiched between *Doom* and *Duke Nukem 3D*, it complemented the genre well, but it had a few glaring holes. The lack of multiplayer support or an in-game save feature, extremely difficult levels, and rather dated graphics made the game merely noteworthy rather than really extraordinary.

However, its sequel, *Jedi Knight*, fixes all these problems rather impressively. The game features several modes of multiplayer support, including capture the flag. Also, players will be able to customize their death match personae to suit their needs, and LucasArts has added, after much feedback, an in-game save feature. In addition, the sometimes extreme difficulty of the huge levels has been tempered somewhat. And, most notably, the graphics have received a much-needed overhaul, making the leap from pixelated sprites to crisp polygons.

While *Jedi* follows the flow of the genre in more ways than one (3D-accelerated graphics, projectile-based weapons), it breaks enough ground to warrant a careful look, with the addition of a melee weapon as something other than cosmetic. Being a *Star Wars* title, the Force — light or dark side — plays a large part in the game, and the lightsaber is, appropriately, the most valuable and powerful weapon. When players become proficient enough, they can use their lightsaber to cut through walls, block blaster fire, and eventually reflect shots back to enemies.

While *Dark Forces* was merely *Doom* with one of the coolest licenses in the galaxy, *Jedi Knight* really takes the genre forward. The addition of the Force and lightsaber combat should ensure the game a place alongside the likes of *Quake 2* or *Prey*. ng

LucasArts made the leap from sprites to polygons

The lightsaber is the most effective weapon (above), even against AT-STs (top)

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– Jimmy Johnson, Miami Dolphins

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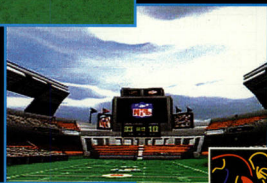An innovative interface provides precise control of passes and kicks.

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– Jimmy Johnson

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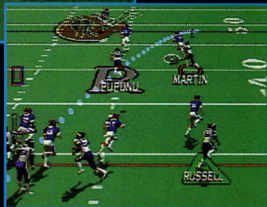
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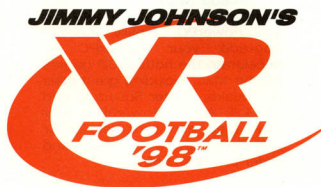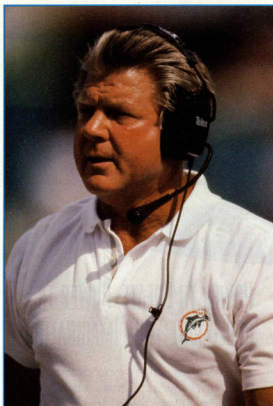
Start Taking Notes.
October 1997

Sonic R

Sega is relaunching Sonic the Hedgehog's career after the spiky mammal's conspicuous absence in the modern-day console era
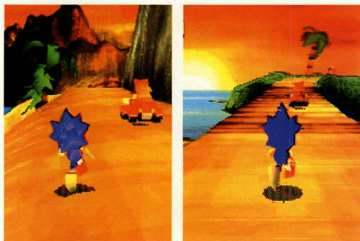

Many familiar characters appear in this Saturn outing. Tails, for example, appears in an apparently less-than-sporting mode of transportation

S onic, once effectively Sega's mascot, has so far failed to make a significant appearance on Saturn. Of course, there was *Sonic 3D Blast*, converted almost intact from Genesis, but it was something of an afterthought. Now, though, British developer Traveller's Tales is aiming to restore the cobalt-colored mammal's reputation with *Sonic R*.

The game has the potential to become a key Saturn title. Not only does it star Sonic — one of videogaming's true stars — but it is also an interesting hybrid of racing game and platformer. Sonic and four other characters (Tails, Knuckles, Amy, and Dr. Robotnik) have to blaze through five large 3D worlds, picking up rings along the way and using their own special skills to get ahead of competitors. Sonic, for example, can use his spinning attack to wrongfoot the other racers while Dr. Robotnik has the unique ability to take shortcuts through lakes and rivers.

But Sega is keen to point out that *Sonic R* isn't just another racer. The five worlds hide a number of alternative routes, shortcuts, and secrets that players have to discover in order to improve their times. There are also plenty of obstacles to jump on and over, which

Format:	Saturn
Publisher:	Sega
Developer:	Traveller's Tales
Release Date:	TBA
Origin:	U.K.

give the game its platform feel. It even includes the famous loop-the-loop from the original *Sonic the Hedgehog*.

Traveller's Tales has retained *Sonic*'s usual brash, simplistic coloring but has added a 3D realm crammed with scenic detail, as well as a few clever graphical effects. For example, objects in the distance don't pop in as they do in many Saturn games but instead fade in gradually, preventing the usual visual jar.

Some may bemoan the fact that not only is Sonic's first 32-bit-only appearance a radical departure from his previous adventures, but that it is also a racing game — one of the most overdone genres on Saturn. However, given the game's platform elements, visual style, and promised wealth of secrets, the new approach should please most and provide a much needed pick-me-up for Saturn. As the final battle with Sony and Nintendo is on the horizon — Christmas — it better come soon.

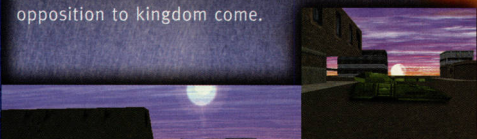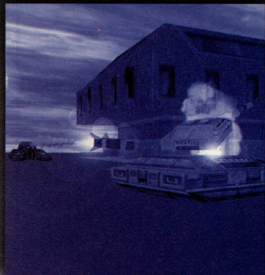Can the Sonic brand rebuild its weight with what is essentially a racing game?

In keeping with *Sonic* lore, players are encouraged to collect gold rings throughout

has just declared war on the internet,
95 this fall.

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The **Journeyman Project 3**: Legacy of Time

The third in the "adventure series that built Presto Studios" promises to build an even bigger following

When navigating large areas, the new "strider" mode enables players to move continuously (from node to node) by holding down the mouse button

The series maintains its ornate level of detail, be it the past (top) or future

O ver the course of the first two *Journeyman Project* games, Presto Studios quickly developed the series into highly anticipated titles for adventurers. Luring players with a well-developed story, some of the game industry's finest prerendered scenery, and the promise of more time travel, Presto plans to outdo the finer points from the past games, and more than compensate for their shortcomings.

"First and foremost," says Presto Vice President Greg Uhler, "the VR technology we're using really makes the player feel like they're in environments." Uhler explains that the visual area scrolls "all the way up and all the way down" in

Format:	**PC, Macintosh**
Publisher:	**Red Orb Entertainment**
Developer:	**Presto Studios**
Release Date:	**Q1 1998**
Origin:	**U.S.**

a 360-degree circle. "Puzzles are not always in plain view," he notes. "Objects might be high up on a shelf or down on the ground in front of you."

But visual changes are just the start. "In *Buried in Time* you didn't really feel a progression," notes Uhler, referring to the four large time zones in that game where players were able to freely move about. "In *Journeyman 3*, we decided to make earlier gameplay elements a little

easier, a little shorter, so that someone who is getting into the game will quickly get some cinematics, go to some smaller time zones, and get really hooked."

Once again, players assume the role of Gage Blackwood, member of the Temporal Security Agency (TSA), responsible for monitoring time travel. Picking up where *J2* left off, Gage must track the rogue Agent 3 across time in a prototype time travel suit, which drastically alters the gameplay.

"It's called the chameleon suit," explains Uhler. "Basically, when you go back in time, if you see any other characters in the environment, you can capture their image and project a hologram around yourself and look like that character."

This enables players to walk undetected through the different environments, but more importantly, Uhler explains, it gives players the opportunity to interact with other characters in an unsuspecting fashion. "You'll find that you'll walk into relationships with characters," he says pointedly. "So you may find yourself as the sister of another character, and that character might give you information that they wouldn't give other people."

Paired with the time travel aspect, "it really allows you to become a part of each culture," says Red Orb Producer Steve Schreck. "As opposed to being on the outside looking in, you're actually taking part in what's happening."

The cultures Schreck is referring to add another intriguing element to the game. Each time travel destination is a fabled lost city, including Atlantis, South America's El Dorado, and the Himalayan village of Shangri-La. This enabled Presto to build some very organic science fiction into the game. In Shangri-La, for example, Uhler explains that according to legend, the monks may have been able to transmute one solid object into another, a theory that influenced both the story and puzzle designs.

"It was rumored that Genghis Khan went to Shangri-La and tried to learn how to turn lead into gold so he could arm his warriors," Uhler says, "and you actually run into Genghis Khan in Shangri-La."

And hopefully, he'll be a convincing Genghis Khan. Red Orb and Presto agreed that the acting really needed to be stepped up for *J3*, so they cast

The chameleon suit was originally painted blue (top) but due to the blue screen video shoot, it was repainted green

From sketch to Screen Actors Guild talent, Presto has maintained strict design continuity

Presto provides some impressive effects to add the sense of a living world in a prerendered environment. This series of screens shows off realistic glare should the player look up at the sun

Screen Actors Guild performers, and spent nearly a month rehearsing and shooting the sequences and dialogue for the 18 interactive characters who appear in the game.

Unlike many mass-market adventure games that often throw in random "puzzle book" puzzles, Presto has stayed true to the philosophy that game puzzles should be part of the natural game environment, each one working with and advancing the plot. "The mythology of the environment itself may be very integral to what you're trying to do," teases Presto Creative Director Phil Saunders. "Learning and applying the religion and the customs of that particular religion or environment may solve a puzzle."

So, does *Legacy of Time* wrap up Presto's trilogy of *Journeyman* games? "I can't say that this is the last one," says Saunders. "It ties a lot of loose ends, but there's still a lot of opportunity."

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for complexity, took oss
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hour after hour, you
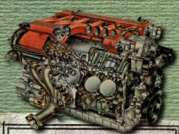
THE MAGIC ALMANAC

Your Guide to the IMAGINATIVE World of Magic: the Gathering

Magic brings divergent groups
together in the spirit of competition.
Group hug everybody!

fig. 3a
THE SALUTE
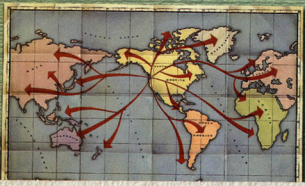
fig. 3b
THE MAGIC SALUTE

fig. 1a
YOUR ARSENAL

To play Magic, you
don't need fancy
gadgetry. Or for that
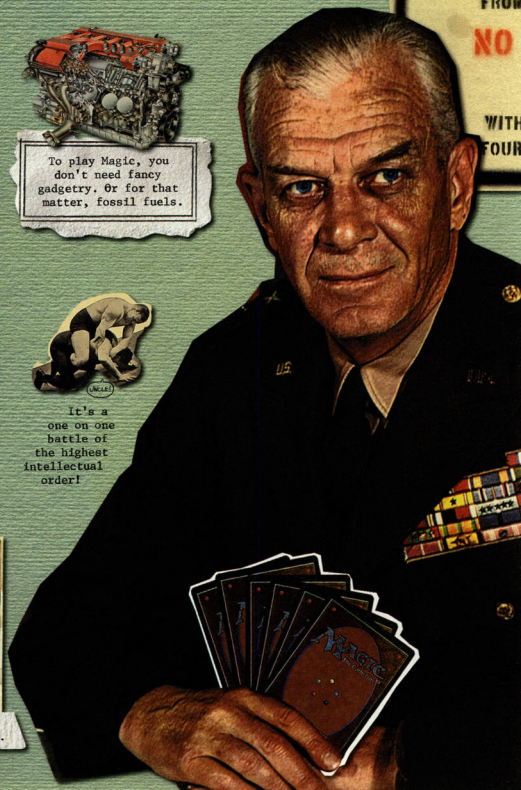matter, fossil fuels.

It's a
one on one
battle of
the highest
intellectual
order!

NO MO
FROM
NO
WITH
FOUR

Translated in nine languages, Magic affords you
the opportunity to destroy someone in six continents.

Forsaken:
The Thrall of Chaos

Cinematix has made a prettier *Diablo*, but can it make a better one?

Action doesn't just take place in dungeons (right); most interaction with NPCs occurs indoors (above)
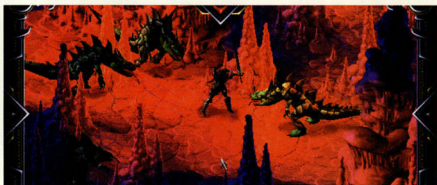
Blizzard's *Diablo* did more to blur the lines between action, adventure, and role-playing games than anything since *The Legend of Zelda*. So it's not surprising that such a landmark title would eventually spawn its own imitations. Fortunately, developers seem to have learned their lesson from the legions of subpar *Doom* clones, if games like *Forsaken: The Thrall of Chaos* are any indication.

While *Forsaken* is very similar to *Diablo* in appearance, the two games are quite different. For instance, there are no classes in the game. Instead, there is one main character, and the player's actions during the game define what "class" he or she will become. And where *Diablo*

Format:	PC
Publisher:	Eidos
Developer:	Cinematix
Release Date:	Spring 1998
Origin:	U.S.

was mostly point-the-mouse-at-the-monster-and-click, *Forsaken* places a large emphasis on resource management, character advancement, and dungeon exploration.

The game certainly looks better than *Diablo* — the characters are presented in realtime 3D, in 65,536 colors. The artwork itself is gorgeous: Leading Cinematix's art team is Den Beauvais, a premier sci-fi/fantasy artist. The graphics were developed with Direct3D, and the realtime light sourcing and dynamic shadows make *Forsaken* the most graphically impressive RPG yet.

The single-player RPG is indeed a sparse genre these days — the number of upcoming titles can be counted on one hand. Since *Forsaken* has no multiplayer options, it, along with *Ultima IX*, represents the future of the lonely genre. But single or multiplayer notwithstanding, *Forsaken* could be one of the best RPGs in years.
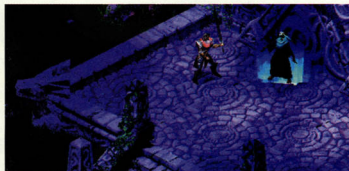
Graphical effects are much more impressive than those in *Diablo*, as are the lighting changes and general ambience

The locales (top) and locals (above) vary no matter where you go

Mega Man Neo

Mega Man marches in the parade of "2D to 3D" console characters, but is anyone still watching?
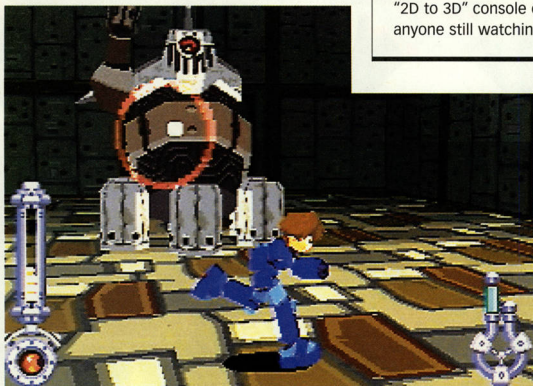
Mega Man may seem unconcerned with the dangers of head trauma, but he acquires a helmet in a later stage

This in-game cut scene borrows heavily from *Raiders of the Lost Ark*

G iven the nearly identical experience the first two 32-bit *Mega Man* titles bore to previous 16-bit titles, Mega Man may well be regarded as "the kid who was fairly popular in junior high, but sort of lost his cool as a freshman in high school." While a bit behind the bandwagon in the leap to 3D, *Mega Man Neo* may innovate enough to ensure that the man in blue isn't headed for a sophomore slump.

Like in *Mario*, Capcom's designers have made certain that *Neo* captures the spirit of the series. Picture the 2D *Mega Man* world in 3D — mechanical 3D obstacles and enemies, industrial 3D environments, imposing 3D bosses to battle played from a third-person perspective — and you have *Mega Man Neo*.

However, *Neo* brings with it a level of exploration, and requires some text-based dialogue with characters such as local officials and townspeople. While players must traverse some external environments, the traditional action elements remain true. Mega Man can

Format:	**PlayStation**
Publisher:	**Capcom**
Developer:	**Capcom**
Release Date:	**November 1997**
Origin:	**Japan**

146

power up with multiple weapons, including a grenade launcher, a machine gun, power shots, spread fire, and a drill arm, among others.
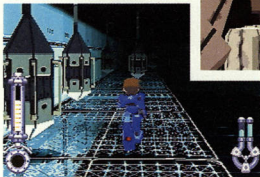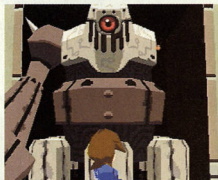
Offering a control system very similar to the one in *Tomb Raider*, *Neo*'s manual camera button lets players look around and auto-target enemies at different elevations, such as ceiling-crawling droids. *Neo* also features a Lara-Croft-style jump-hang-and-climb maneuver, and left/right diving rolls that add a new level of aerobatics to the Mega mix.

In staying with the current trend, the game does away with prerendered cut
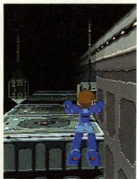
Capcom has made certain *Neo* captures the spirit of the series

scenes, and each animated segment uses in-game characters to lend to the continuity. Some scenes are fairly long, suggesting a more involved plotline than those in past games. (In a nutshell, Mega Man must save the Hidden Legacy Treasure.) These scenes borrow heavily from American films, including an opening scene very similar to one from *Raiders of the Lost Ark*, and a dazzling escape from a boss similar to a scene from *Back to the Future II*.

As of this writing, the game is less than 20% complete, and like many 3D platformers in development, the camera adjustments were far from finished. Much of the audio has been implemented, though, consisting of amped-up versions of the traditional *Mega Man* sound

effects. The music has a resonating quality, reflecting the spatiality of *Neo*'s new world.

While it's questionable as to how many of the 3D platformers will be successful this holiday season, Capcom is pretty much relying on *Neo*'s nearly nonstop action to attract PlayStation owners. And with Capcom breaking into the realm of 3D this Christmas with *Neo* and *Street Fighter EX*, this may mark the beginning of the end of the 2D hero. **ng**

Spread fire (top), one big boss (center right), and a trip to town (above)

Mega Man's moves and auto-targeting scheme are much like Ms. Lara Croft's

play it
wide open

gx

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Monkey Hero

Blam brings the first *Zelda*-style action/adventure game (and some refreshing diversity) to PlayStation

One doesn't need to be John Romero, Peter Molyneux, or Sid Meier to become fed up with the bureaucracy of working for large publishers. Just ask Jay Minn and Jeronimo Barrera. Certainly not household names in the videogame industry, the pair left Crystal in 1995, and braved grave financial risk to begin work on their own grand vision — *Monkey Hero* — without interference.

"It's an action/adventure game, plain and simple," Barrera says, "where your

Format:	PlayStation, PC
Publisher:	BMG International
Developer:	Blam
Release Date:	Spring 1998
Origin:	U.S.

As inspired by the Chinese fable, Monkey fights with a magic staff (above left). New light-sourcing effects (seen emanating from the ghosts) and the 3D environment enhance the otherwise traditional overhead perspective

character can gain attributes and use tools. We don't restrict a player to one certain attribute, so it's a little more free form, a little more like *Zelda*."

Monkey Hero is, in fact, comparable to the 16-bit *Legend of Zelda* in many respects. Aside from borrowing *Zelda*'s exploration-combat-puzzle formula, *Monkey* shares a similar top-down

perspective. Structurally the game will feature between 3,000 and 3,500 screens, more than 30 enemies, 16 dungeons, and 14 bosses. Minn believes the average player will complete the game in about 80 hours, but will only have seen about 70% of the game. "One dungeon is going to take you a day to finish," he estimates. "Especially some of our later dungeons,
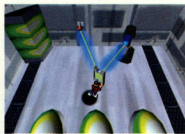
Sketches of the game's boss characters include a skeletal parade dragon carried by evil monks

which have upwards of a hundred rooms."

The game design is large and seems conventional, yet the background story isn't. "The original *Monkey* story," Minn divulges, "is based on the Chinese legend and has characters inspired by that." The team used the legend as a starting point, adding a conflict between a nightmare world and a dream world. As Monkey, players must restore balance to three kingdoms by retrieving pieces of a magic book stolen by the Nightmare King. "The Nightmare King will probably get away at the end," Minn says, grinning, "so he'll be able to come back for a sequel."

While *Monkey*'s lush, 3D environments are entirely polygonal, the team opted to go with prerendered, sprite-based characters. "The polygon characters in a lot of games," says Senior Producer Matt Seymour, "are not quite as personable, and you're not quite as attached to those characters as these prerendered characters that we have. We're going for a soft and squishy, fat anime look in this particular title."

Barrera and Minn are huge anime fans, and *Monkey Hero* has strong anime styling. To this end, they hired artists from the comic industry to achieve high anime quality in the character designs. "We've made sure the art staff has a good steady diet of anime and kung fu flicks," Minn says, "and now they're bringing us stuff that we haven't seen anywhere else."

Blam also has its share of programming muscle. The group boasts Greg Marquez as technical director. He wrote TUME, The Ultimate Map Editor, which is by far the most popular design tool used to create 16-bit side-scrollers. For *Monkey Hero*, Marquez has written MOPA (Map Objects Puzzle Attributes), an enhanced 3D version of TUME. Marquez explains that MOPA enables designers to use 2D tile representations to quickly snap large 3D objects together. Eventually Blam may license MOPA to other developers the way Marquez did with TUME.

Blam has plans for a Win 95 port of *Monkey Hero*. The company is simultaneously localizing the console version into Japanese, French, High German, and Italian, and already has another original title on the drawing board.

Minn wraps up Blam's philosophy over an early evening whiskey in San Francisco's Mick's Lounge, just downstairs from where his 20-person company is hard at work in several converted Victorian apartments. After noting that the company had a tab at Mick's before they had a health plan, he grows serious. "It's really important for us to be able to express ourselves as videogame artists," he stresses. "We want to have a chance to do it our way at least once before we die."

Given the company's current level of dedication to the art of gaming — and the likely success of *Monkey Hero* — the chance to do it their way should most certainly come again.

These screen-shots were pulled directly from development on the PC. Monkey exits a dungeon (above) and uses a mirror to solve a puzzle

From top, Jay Minn, Jeronimo Barrera, and Matt Seymour on Blam's roof deck overlooking San Francisco

ID

EGO

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Descend into the all new psychotic world of Pandemonium 2 and twist reality inside out. Explore a whacked-out psychedelic landscape with Nikki's insane double jump—then dominate with Fargus' maniacal attacks by hurling his viper-tongued side-kick Sid for skull crushing good times. Navigate the undulating 3D hyper-kinetic backgrounds 'till it turns your brain to puddin'. Hey...it's a twisted new world of furious gameplay that'll devour you before you truly understand it. So have a good trip.

Pilot a giant mech through warped 3D tunnels.

Fargus is a raving maniac prone to light fires now and ask questions later.

Nikki—equipped with powers

that only big bad girls have.

Pandemonium 2

CRYSTAL DYNAMICS

Rapid Racer

Every system seems to need a water-based racing game, and SCEE steps up to the challenge
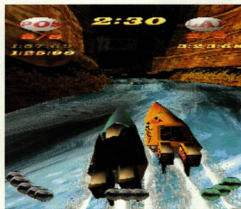
Running at 60fps, *Rapid Racer* is one of the new breed of PlayStation games to use high-res graphics

Format:	PlayStation
Publisher:	SCEA
Developer:	SCEE
Release Date:	Q4 1997
Origin:	U.K.

A s if unwilling to risk the potential to be outshone on its own system (see *Power Boat Racing* this issue, page 157), Sony has its own boat racing title in the works. Development of *Rapid Racer* is under way by the company's own internal team in the U.K., Sony Computer Entertainment Europe, whose previous titles include *NBA Shootout* and *Porsche Challenge*.

One of the new breed of PlayStation titles to exclusively feature high-res graphics modes, *Rapid Racer* still runs at a stunning 60fps — the maximum allowed by an NTSC-standard TV monitor. The game will also feature a split-screen, two-player mode, and it's a testament to the game's tight coding that there's little appreciable difference in speed between one- and two-player options, losing only a small amount of detail in the latter.

Despite the strained pun of its title, *Rapid Racer* could represent a new high watermark for 32-bit graphic engines. One to watch for.

Even in this split-screen mode, the game maintains speed without losing much detail

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Power Boat Racing

Turbine engines and 3D-accelerated waves on your PC — what more could you ask for?

While still early in its design cycle, *Power Boat Racing* **shows a high level of detail and an obvious commitment to realism and quality**

Format:	**PC, PlayStation**
Publisher:	**Interplay**
Developer:	**Promethean Designs**
Release Date:	**Q1 1998**
Origin:	**U.K.**

Oddly, powerboating feels a lot like Formula 1 racing on a Rally course

A fter the success of *Wave Race*, and given the hit-driven, herd mentality of the industry, it's actually surprising there hasn't been a rash of boat and/or jet ski racing games over the last year or so. Upon further reflection, however, it's not so surprising: Realistic wave mechanics are a nightmare to program. At least one developer remains undaunted, however. Promethean Designs is throwing its hat into the boat race arena with *Power Boat Racing*, and the results seen so far in the PC version look quite promising indeed.

The game makes use of Promethean's Real World Engine, which not only buffets the players about as they zip around each track, but also accounts for such nitpicky details as real-world gravity. Indeed, every boat even leaves a distinct wake, which can interfere with the craft behind it. Crashes are calculated not only by the speed and angle of each boat to the other, but also with the curve of the hull, and no two crashes are ever exactly alike. Depending on the player's hardware, reflection maps are also supported, giving the water's surface a nice, glossy sheen.

Players compete on six different tracks, set from Norway to the Amazon

(and including, incidentally, at least one course that seems a deliberate clone of one in *Wave Race*), plus they have the option to take on eight slalom courses, which are made up of sections of existing tracks with added slalom obstacles. The final game will feature fourteen different craft — six monohulls and eight super-powered, dual-hulled catamaran designs, or "cats" — and the physics model is sophisticated enough that each boat has its own unique handle and feel.

When looked at in the context of an otherwise mostly empty boat racing game field, *PBR* makes us hope. First, it's clear this genre probably won't become as crowded as the auto racing genre. Second, given the team quality a developer needs to do real wave mechanics, the few examples that do emerge are likely to be knockouts.
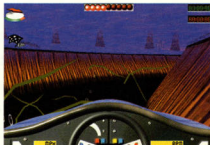
While most races are during the day, some cool lighting just for show is at night

Flesh Feast

From the creators of the brutal *Eternal Champions* comes a new journey into madness for PC players

Similar to a George Romero movie, *Flesh Feast* uses the sheer determination of the zombies to scare the hell out of players

Format:	**PC**
Publisher:	**SegaSoft**
Developer:	**SegaSoft**
Release Date:	**January 1998**
Origin:	**U.S.**

***Flesh Feast* offers intricate 3D environments to explore**

I f there was any doubt as to whether the horror genre still had anything left to offer the game industry, it disappeared about the same time *Resident Evil* started shattering sales records. With that in mind, and an appropriately gory history to their credit, the developers at SegaSoft set out to create an over-the-top action game for PC. "We're trying to take all the horror and intensity of a zombie movie and put it into the game," says Mark Wahlberg, producer on the project.

Flesh Feast is an overhead "shooter" featuring more than 50 weapons such as shotguns, axes, and chain saws, and traps that can be strategically used against zombie attackers. The gameplay centers around a battle between the few remaining humans on an isolated island and scores of bloodthirsty zombies.

Behind the action there's a complex story involving chemical warfare, mind control, and an evil plot to take over the world, told through a series of gruesome FMV sequences.

Flesh Feast features 17 environments, each one requiring players to satisfy a different mission objective. The environments include a shopping mall, campground, and, of course, a graveyard where the dead are awakened from their restless slumber. The missions are typically pretty simple but still offer a variety of challenges.

To complete each mission, the player must control four separate characters — a task that is shared with the computer AI. To maintain four separate characters, the player can either take direct control or set the personality of the characters before sending them out on their own. For example, an especially fit character can be sent off in a fit of rage, actively searching out zombies to kill, or a weakened character might be set to run away from possible danger.

A final aspect, and perhaps one of the most important, to consider in *Flesh Feast* is the multiplayer game. With a slot already carved out for it on SegaSoft's Heat network, *Flesh Feast* was custom-designed for multiplayer action. Current plans exist for zombies vs. human death matches and team play, and the door has been left open for other possible avenues.
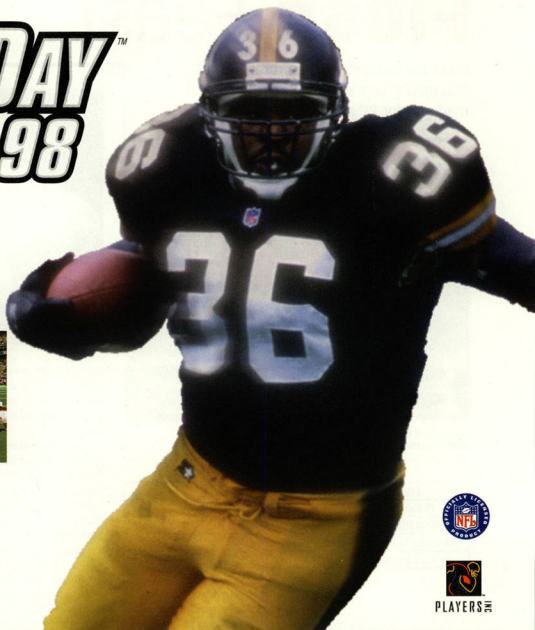

SegaSoft reaches for the golden ring of gore in its latest offering

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Road Rash 3D

The king of 16-bit racing/combat games accepts the 32-bit challenge. Can EA start from scratch and recapture that motorcycle magic?

Format:	**PlayStation, PC**
Publisher:	**Electronic Arts**
Developer:	**EA Studios**
Release Date:	**Q1 1998**
Origin:	**U.S.**

Players will potentially have the ability to upgrade parts, own multiple bikes, and steal other bikes
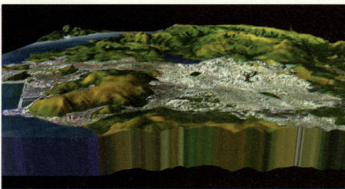
A fully mapped world replaces the variously themed segmented courses

O ften imitated (remember *Extreme* games?), *Road Rash* was never duplicated — except by EA itself. The ported 3DO version landed on PlayStation and Saturn with minor, glossy enhancements. Two years later, **Next Gen** asks, is the genuine 32-bit *Road Rash* finally here?

"It's a real 3D world now," says Associate Producer Hunter Smith, explaining how 3D brings with it major enhancements, a new physics model, smoother, more lifelike animation, and a more dynamic camera. The physics model will lend a more realistic, precise feel to the driving and fighting. When a player throws a punch at an opposing rider and misses, the momentum of that punch will make the bike wobble. Players will also feel the weight of the bike and need to lean into corners. To enhance this gradual steering sensation, the game will be compatible with the new PlayStation analog controller, and the PC version (due later in '98) will support analog force-feedback joysticks.

This game also enables players to create their own identities, as opposed to previous versions, where players chose one of several rider profiles. "The world is divided into four gangs of bikers," says

Each bike and rider, at highest resolution, has been modeled with 200 to 250 polygons

Smith. "Their bikes, their racing styles, their fighting styles, and their terrain all blend together to create their personality."

The design team believes that giving the player the opportunity to learn each gang's strategies and build long-term rivalries will heighten the intensity and add depth to the gameplay.

Smith expects there to be more fighting moves than in the past, and more cops on the courses, along with sixteen simultaneous competitors. The PC version will enable multiplayer rashing over a LAN and may feature Internet play as well.

In an inspired move, this game may be the first on PlayStation to stream synchronized Redbook audio and game data. The in-game music will not be limited to MIDI, nor will the game have to preload the entire level.

Road Rash 3D breaks from EA's chronic "recycling mold," since not a line of code was carried over. And with a fresh, creative start, perhaps this title will bring with it some of the genius that made the company the world's largest third-party game publisher.

The game will feature more than 10,000 frames of motion-captured animation for bikers. Previous hand-animated versions listed only 300 to 400 frames

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The way games ought to be...

In search of the future of gameplay

But is it art?

by **Neil West**

Neil West is
Next Generation's
editor-at-large

Are videogames a form of art? Of course they are. Pragmatically, anything that is the product of creative talent and effort is an art form (of course, this rule doesn't necessarily mean that the art produced is any good). The process of making videogames requires the creative implementation of its own, unique set of talents and skills. Hence games have to be regarded as a legitimate art form.

But forget strict definitions or qualifying rules. It's obvious to anyone who's played a few classic games that there's more going on than simply clever programming and pretty pictures — there's something else, something intangible, something that elevates a good gameplaying experience beyond that of merely sitting in front of a TV screen manipulating images. That "something" is the manifestation of the game creator's art, and it is the quality of this art that is the difference between good games and bad games. Thus, we can see that at the core of every groundbreaking new videogame is great art, the "magic ingredient" of hugely addictive games such as *Doom* or *Tetris*. And the difference between *Sonic the Hedgehog* (a game that thrills and captures the imagination of the player) and its myriad of second-rate clones (games that seem insipid and lifeless) is the difference between great art and poor art.

This art is not only the lifeblood of videogaming today, but also the foundation upon which the interactive entertainment industry of tomorrow will evolve. As I've outlined in previous columns, it's my belief that as far as interactive entertainment is concerned, we ain't seen nothin' yet. What movies have been to the 20th century, interactive entertainment will be to the new millennium. The potential of actually putting people into new situations, as opposed to just showing them pictures of alternate realities, is awe-inspiring. Videogames are indeed going to take over the world, and it is from the contemporary art of creating great gameplay experiences — the art of making great videogames — that this invasion will be fueled. The art of making a great videogame in 1997 is the acorn from which the mighty oaks of interactive entertainment will grow.

But there's a problem.

The trouble is that in 1997, hardly anyone seems to recognize videogames as an art form, and even fewer can pinpoint the touch of artistic genius that elevates one particular game above the common herd. Certainly, despite videogaming's considerable inroads into mainstream culture, most nonplayers would scoff at the idea of acknowledging that *Virtua Fighter 3* or *Command and Conquer* are great art. "It's just a stupid videogame!" they might cry. Or, "Where's the art in moving a muscle-bound ninja around a TV screen?" they might question. Sure, overcoming this ignorance is just a matter of getting the games into people's hands and letting them learn for themselves. But I'm not just talking about a lack of understanding amongst the uninitiated or the mainstream — I'm also talking about a much bigger problem. I'm talking about the fact that — and this might come as a bit of a shock — many game producers simply do not truly realize that at the core of what they are making is art, either.

Many game companies don't realize that there is a specific and unique art at the heart of making videogames

I'm dead serious, and I'll say it again: Many game companies don't realize that there is a specific and unique art at the heart of making videogames. Oh sure, these companies (and they are usually newcomers to the game market) talk about their products as if they were the greatest works of art since Michelangelo hit the roof of the Sistine Chapel, but they don't actually grasp the fact that creating compelling interactive entertainment is a unique skill and an art form all by itself. And because they don't see it as art, they can't try and develop it or nurture its growth. The games that these people produce are formulaic, derivative, color-by-numbers products that simply clog up store shelves. And if left in the hands of these people, the dream that interactive entertainment will evolve into the main artistic medium of the 21st century will remain just a dream.

Missing the point

But how can this be? How can people who make games for a living be so unaware of what it is they are doing? How can they miss the point by such a wide margin? How can they fail to see the art in what they are producing?

The start of the problem is that it's very difficult to explain in words what it is that the videogame artist does. Hence it is very difficult to define, nail down, and make sure that each and every game is an example of great videogame art. Sure, we all use expressions like "tight control," "fluid gameplay," and "well-balanced" to describe games we enjoy playing, but what does this phraseology actually mean? When boiled down to their essence, all that these terms and expressions (and there are plenty more — just ask any videogame reviewer) attempt to say is a game simply "feels right." Similarly, we might say that a complex game is "deep" or "absorbing," but we're not really getting down to the nitty gritty of exactly why it is we've gone three days without sleep because we've been playing it nonstop.

You'll find the same vagueness with the analysis of most other art forms. In many ways, it's difficult to identify the exact reasons that one game is superior to another as it is to explain, say, why one song you hear on the radio is more enjoyable than another. Sure, one game has you up until 4 a.m. just as one song can have you tapping your foot and humming the melody in your head for days afterwards — but can you explain why? Similarly, can you explain — in words — why one photograph communicates more than another? Or why one novel is a better read than another? Or why one portrait captures the spirit of the subject with more finesse than another? We can try, and to some extent succeed, but ultimately, we have to conclude that there is something intangible about all art, and you just have to trust your instincts when it comes to deciding whether it's good or bad. You have to look at a photograph to judge its worth, and you have to play a game before you can rate it. Much like what has been said about pornography, it's impossible to define exactly what is and what is not pornography — but you know it when you see it.

With other art forms, this inability to put a

work's essence into words is OK because the art is there on the surface for all to see. But in a videogame the art is hidden under a barrage of audio and graphics. The art of a game lies in coordinating a wealth of other art forms — video, music, graphics, clever programming — and turning them into a piece of interactive art. And yet, often these cosmetic elements are so overpowering and are given so much weight by publishers that the actual art of creating the game itself is suffocated. Because it can't be easily put into words or shown on a printed page, often the essence of a game — the actual business of what it feels like to play it — is at best left until the last minute and "tweaked" during play testing and at worst simply left out of the creative process altogether.

Of course, mainly what we mean when we talk of a game's "essence" or "soul" is its interactivity, so we can say that all too often a game's interactivity is left to fall by the wayside. Because interactivity is invisible, it can't be described adequately in words and isn't as immediately impressive as, say, a nicely rendered image of a big spaceship. Therefore, many game creators still don't understand that it is what a player does and not what he sees or hears that makes a game exciting to play. And this means that they never really understand what it is that makes a game tick. Again, their mistake lies in thinking that a videogame isn't a piece of interactive art in and of itself, but rather a selection of other art forms bolted together and delivered simultaneously. They think that the whole is merely the sum of its parts, when the truth is that a game is — or at least, should be — an interactive experience above and beyond its graphics, 3D engine, and character designs, no matter how impressive these things may be.

I'll give you an example. When I was editor-in-chief of **Next Generation**, I would often receive a call from a new game developer, eager to get coverage in the magazine for a new project, and we would be invited down to take a look at the game in its early stage of development. Upon arriving at the studios, we would meet the team, and then the grand unveiling of the project would begin. We would look at sketches of the characters. We would see wonderful clips of the FMV introductory sequences. One or more team member would enthusiastically narrate the "story" of the game, often at great length, explaining the lead

character's motive and the concept behind the game world. We'd hear music. We'd be shown complex level designs. We'd even get demos of the 3D engine or other technology destined to be implemented into the finished product. And then we'd be asked, "Well, what do you think? Is this going to be a great game or what?" And, we'd have to reply that we hadn't the faintest idea if it was going to be a great game or not

A game is — or at least, should be — an interactive experience above and beyond its graphics, 3D engine, and character designs

because we had actually seen neither hide nor hair of a game yet.

This would be met by a shocked, puzzled silence. "What do you mean, you haven't seen a game?" would be the eventual response. "We just showed you ..."

But we hadn't seen a game. We'd seen a lot of graphics, heard a lot of music, been told a story, and witnessed some technology demonstrations. All of these things may have been terrifically impressive, but they weren't a game. We'd still have no idea what the player does, how it feels to do it, and whether or not — in the course of the game — he is inclined

I'm constantly amazed at how many games are developed by teams that have no one responsible for the actual game

to want to do it for any length of time. The attitude seems to be that if all of the ingredients can be built and bolted together, then somehow the actual game bit will take care of itself. And sure, you can build games this way — but they'll never be classics. They'll never be an enthralling interactive experience.

I'm constantly amazed at how many games are developed — even at some of the biggest and most established game companies — by teams that have no one responsible for the actual game. There are artists, programmers, musicians, and a producer to coordinate them all, but no one actually concentrating on the business of making sure that the interactive experience is as rewarding as it can possibly be. No one thinking about how it will actually feel to play the game.

Instead, the actual "gameplay" will be added at the last minute, when all the graphics are ready. Almost as an afterthought.

It's like these developers are trying to invent chess and have created a superb, glossy-looking board and a whole new set of exciting pieces and then sit back and say, "Look! Look at this new board game we've made! Look at these shiny pieces and this state-of-the-art board! What a great game this is!" But they haven't thought about how the game is played. They haven't thought about what pieces can move in what directions. They haven't thought about how these pieces then interact with each other. They haven't developed a set of rules. In short, they haven't thought about the actual game itself.

The major players

So, if interactive entertainment is going to replace movies as the world's most popular art form, who will replace Steven Spielberg and Martin Scorsese as the world's most revered artists? If the videogames of 1997 are already art — and I would argue that they most definitely are — then we should look for the real artists working in the game industry right now. These are the people who will take us forward, and these are the people whom we should be eulogizing and encouraging others to learn from.

So who are they? They are the people who truly understand interactivity and whose craft is not blinded by the graphics, the sounds, and the ever-more-polygons-per-second 3D engines. Sid Meier, Peter Molyneux, John Romero, Shigeru Miyamoto, and Yu Suzuki are five names that spring to mind. These are the great artists of the videogame industry — and simply because they realize that that's who they are. They realize that there is a specific, highly specialized art to making great games, so that's what they do.

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Want to respond?

We'll be including a "The Way Games Ought To Be" Q&A in future issues, so if you have any comments, criticisms, or questions, email Neil West at theway@next-generation.com or write The Way Games Ought To Be, Next Generation, Imagine Publishing, 150 North Hill Drive, Brisbane, CA 94005. Email is of course our preferred method of communication

99 bullet-riddled bodies on the wall,
99 bullet-riddled bodies,
take one down, pass it around,
98 bullet-riddled bodies on the wall.
98 bullet-riddled bodies...

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STEEL REIGN

NEXT GENERATION October 1997

Goldeneye Nintendo 64 **Final Fantasy VII** PlayStation **World Series Baseball '98** Saturn **Meat Puppet** PC
House of the Dead Arcade **Twinsen's Odyssey** PC **The Lost World** PlayStation **688(I) Hunter/Killer** PC

finals

Reviews to make the heart sing and the pocketbook ring

For a complete searchable database containing every review **Next Generation** has ever done, including star ratings and the complete text, check out the **Next Generation Disc**. And remember, the star rating is only part of the story. For the full picture, read the review!

★★★★★ **Revolutionary**
Brilliantly conceived and flawlessly executed; a new high watermark.

★★★★ **Excellent**
A high-quality and inventive new game. Either a step forward for an existing genre or a successful attempt at creating a new one.

★★★ **Good**
A solid and competitive example of an established game style.

★★ **Average**
Perhaps competent — certainly uninspired.

★ **Bad**
Crucially flawed in design or application.

Denotes a review appearing on the **Next Generation** Disc.
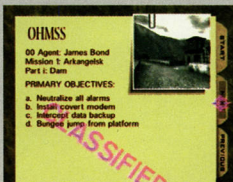
Denotes a review of a Japanese product.

Nintendo 64

Solid Gold

N64 developer Rare comes up with a game that's *better* than the movie

Goldeneye sets itself apart from the first-person crowd with missions that require actual thought

OHMSS
00 Agent: James Bond
Mission ‡ Arkangelsk
Part ‡: Dam
PRIMARY OBJECTIVES:
a. Neutralize all alarms
b. Install covert modem
c. Intercept data backup
d. Bungee jump from platform
CLASSIFIED

Goldeneye 007
Publisher: Nintendo
Developer: Rare

Movie-license-based videogames get an unusually bad rap, and for good reason. Trite, formulaic no-brainers with few redeeming qualities have been the norm, and gamers have learned to shy away from anything with a picture of a movie star on the box. However, second-party Nintendo developer Rare has once again shown itself to be a bright spot in the N64 landscape, creating a James Bond videogame that's even better than the trite, formulaic movie it's based on.

Although at first glance *Goldeneye* appears to be just another first-person shooter, Rare has used the movie's storyline as a backbone and packed the game with eighteen levels, and eighteen gadgets and weapons, a few of which have never been seen before in a videogame. Proximity mines, remote-control bombs, throwing knives, rocket launchers, modems (to provide needed information), plus the expected selection of high-powered rifles can be found, and rather than simply providing the player with a bigger gun to kill enemies, each item actually has some specific purpose in the course of the game.

And this is where *Goldeneye* sets itself apart. James Bond is, after all, a spy, and stealth is vital to completing missions. Using a rifle to kill a guard is easy, but if that shot wakes ten others, players are unlikely to finish the level. Many of the weapons include built-in telescopes and silencers, which allow (with a little practice) pinpoint-accurate shots, while proximity mines are useful for covering an exit. Early on, mission objectives are the usual "kill everything, exit the level," but later missions have more complex and spy-oriented objectives: rescuing scientists, planting modems, and generally thinking beyond simple stimulus-response (a later level even requires driving a tank). Enemy AI is solid, and brainpower is crucial, which lifts this first-person shooter well above most mindless *Doom* clones.

Overall, Rare has achieved an impressive level of production design, with convincing sound effects, smooth polygon characters, and a fully finished looking product. The cart even contains a few FMV animation sequences (like Bond bungee jumping off a Russian dam), and a decent remixed version of the Bond theme song. Much like Shiny's *MDK*, each victim reacts appropriately — hit a guy in the knee and watch him grab it, shoot him in the stomach and see him double over.

Perhaps the game's biggest achievement is bringing the four-player mode into full play. Here, the game succeeds as all N64 owners had hoped *Doom 64* would have: four players, split screens, polygonal characters, little slow-down, lots of scenarios. Finally a first-person game is as fun and playable in multiplayer mode as it should be on N64. Plus, there are about ten different scenarios with choices of weapons and challenging arenas.

Goldeneye is a surprising killer app, if only for the smashing multiplayer options. The excellent single-player game backing it up makes it well worth buying indeed.
Rating: ★★★★★

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Nintendo 64

Yuke Yuke Troublemakers
Publisher: Enix
Developer: Treasure

The first (but hopefully not the best — we're waiting for *Yoshi's Island 64*) 2D side-scrolling game to hit Nintendo 64 is this sometimes charming, but mostly annoying little wonder, *Yuke Yuke Troublemakers*.

Treasure fans (*Guardian Heroes*, *Gunstar Heroes*) will undoubtedly eat this up, although others will probably sit a bit stupefied watching Marina, the lead character (a robot housecleaner, of all

Yuke Yuke Troublemakers brings 2D, side-scrolling action to N64 — why we don't really know

things), bash her way across 2D landscapes, performing freaky moves that would make any 16-bit era hero jealous. Marina's abilities are plentiful, and the charming Japanese-style characters and worlds they inhabit are loaded with quirky puzzles, tricks, and traps that are admittedly addictive.

As another example of Nintendo 64's less-than-powerful ability to handle sprites, *Yuke Yuke Troublemakers* (which loosely translates as "Go Go Troublemakers" — très Japanese, no?) is not as gorgeous as it could be. Characters are quite small and the backgrounds, while colorful and imaginatively designed,

just aren't that engaging or active.

The kiddie-style music is neither here nor there, and the sound effects fall loosely into the same category. But despite the childish look and sound, players are in for an unforgiving difficulty curve, as *Yuke Yuke* pushes 2D gameplay to challenging new levels, including tough, imaginative bosses.

Overall, *Yuke Yuke Troublemakers* has a quirky, distinctly Japanese appeal, and no doubt deserves at least a small Stateside following. All in all, the few 2D gamers who are actually part of the N64 audience are in for a treat.
Rating: ★★★

PlayStation

Bravo Air Race
Publisher: T*HQ
Developer: Xing

Mix *Sega Rally* or *Rage Racer* with planes, and T*HQ's latest acquisition from Xing Entertainment is the result. *Bravo Air Race* shows the heights to which Xing aspires, but also the low altitude that sometimes is the best it can manage.

Although ostensibly a race between planes, *Bravo* puts on very few "airs." Despite each craft's resemblance to a World War II vintage craft, it's really little more than a collection of mobility and speed statistics. Nowhere else can a Zero

The action's there in Bravo Air Race, but serious draw-in is a problem for would-be aces

outrace an F-16 or F-117 Stealth fighter.

Accept the fact that it's an arcade game, not a flight sim of any kind, and the gameplay value goes up tremendously. The courses are well-designed, and the control is good, if a bit awkward in three dimensions. One of the few glitches in the game itself is the lack of a competitive AI. Despite different plane characteristics, each aircraft flies exactly the same, as if it had a clone in its cockpit.

Bravo Air Race's other major flaw is its graphical limitations. In attempting to create the illusion of wide open space, the developers succeeded only

in creating polygon draw-in comparable to Saturn's *Daytona USA*. Plus, Xing boxes the course into an imaginary corridor small enough that it would have been better if it had just been honest and required the planes to fly through a concrete tunnel.

As an airplane racing game, *Bravo* fails miserably. It competes much better on an arcade level. Keep in mind that the sky is an illusion, and *Bravo Air Race* is well worth a second look.
Rating: ★★★

Darklight Conflict
Publisher: Electronic Arts
Developer: Rage Software

As far as space flight sims go, *Darklight Conflict* is a technically proficient attempt at representing a genre that is extremely popular on PC, but has limited success on home console systems. However, "technically proficient" doesn't equate with "good."

The graphics are above average, putting the latest bag of PlayStation lighting and transparency effects to good use. Especially compared to *Wing Commander IV* (another PC to PlayStation port), the visuals are downright attractive. Unfortunately, anybody who has seen *Darklight Conflict* on PC can't help but be disappointed by the PlayStation version — here the graphics merely "do the job."

Even more troubling, *Darklight Conflict* is a game that begs for analog control. Despite the fact that PlayStation analog controllers are (or, in the case of the handheld dual-analog joypad, will soon be) available, this option is completely absent. The lack of analog support is especially maddening given that the game's digital control is extremely sensitive. Players will find themselves forced to make constant

Soulless gameplay and dismal control mar an otherwise inoffensive Darklight Conflict

corrections and over-corrections in the most annoying way imaginable. Add that the game's missions are all depressingly similar, and the irritating control is even more unwelcome, since no new skills are ever needed. An overly long training sequence (with way too much text) just adds to the monotony.

These are not trivial problems, but perhaps *Darklight Conflict's* ultimate failing is its utter lack of personality. As excessive and ungameplay-focused as the FMV sequences in *Wing Commander IV* are, at least they give the player a face to identify with, and maybe even an emotional connection. *Darklight Conflict's* generic polygonal spaceships offer nothing to involve even the most

hyperimaginative. In the end, the gameplay is merely exploding polygons, and whether it's the enemy or you blowing up seems totally inconsequential.
Rating: ★★

Disney's Hercules
Publisher: Virgin Interactive
Developer: Disney Interactive/Eurocom

Games based on movies generally aren't the best. There have been a few exceptions to this rule, notably Acclaim's

Alien Trilogy, and most recently, Rare's *Goldeneye* (see review this issue). *Disney's Hercules* is, sadly, not one of those exceptions.

The game follows the plot of the movie fairly closely, with Hercules learning how to become a true hero in order to return to Mt. Olympus as a god. However, the game also follows the style set out by every single side-scrolling action title of the 16-bit era, so much so in fact that it feels like a Genesis game: Walk from left to right, hacking at centaurs and other mythological creatures with a sword. It's all been done before, and done better as well.

There are a few concessions to 32-bit gameplay that keep *Disney's*

Disney's Hercules is like a lot of movie-licensed games — it follows the movie, and it's bad

Hercules from completely sinking. Some depth of field is employed in many of the levels, allowing Hercules to move into, and out of, the screen. This has been done before, mostly by Sega in titles like *Three Dirty Dwarves* and *Astal*, but in Hercules it only occurs in specific, marked areas. While an interesting feature, it actually does little for gameplay.

However, as one might expect from a Disney title, the animation is superb, often rising to a level of quality comparable to the movie on which it's based. The mixture of sprites and polygons is practically seamless.

rating

PlayStation

There's something to be said for reenacting scenes from the movie on your TV screen, and fighting the Hydra or Cyclops is sure to please the younger audience this game (and the movie) is aimed at. However, there's also something to be said for making games that push forward, not fall back.
Rating: ★★

Felony 11-79
Publisher: Ascii
Developer: Climax

Japanese developer Climax is mostly known for its action/RPGs (Landstalker, Dark Savior). This is its first attempt at

Lot of space in this mall, huh? *Felony 11-79* is a great game that's over too fast

something different. *Felony 11-79* (known as *Runabout* in Japan, a title change about on par with the time Sony

renamed *Sidewinder* as *Bogey Dead 6* — of course, everyone knows an obscure, impenetrable title helps sells games in the U.S.) is a racing game with some adventure game elements, and though it's a smashing good time while it lasts — literally — it's over much too quickly.

One of the few car-based games with a backstory, *Felony 11-79* gives the player the job of tracking down a couple of ancient artifacts while running at breakneck speed through three stages: Downtown, set in L.A.'s Chinatown; Seaside, set in the Shonan district of Japan; and finally, Paris. The game begins with a selection of four cars, with more available as the game continues, depending on the player's skill. The idea

is to use the vehicle to run all over each stage, sometimes gathering items (by smashing into them), sometimes just reaching a certain goal in a certain time, all the while avoiding the police and in general causing as much mayhem as possible.

If this sounds fun, well, it is. The control is a bit touchy (analog support would have helped), but still above par, and there are enough alternate routes through each stage — across the beach, through an abandoned tunnel, straight through a shopping mall, etc. — and enough stuff to smash to keep any fan of chaos pretty happy. It's not as grisly as the similarly themed *Carmageddon* for PC, since pedestrians can't be hit

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PlayStation

Grand Finale

One of the most eagerly awaited titles for PlayStation finally arrives

Final Fantasy VII
Publisher: SCEA
Developer: Square

All the characters may be here, but only three can travel together at a time

After all the hype that's surrounded *Final Fantasy VII*, it would seem nearly impossible for any mere game to live up to the expectations — especially given the sheer thematic brilliance of *FFVI* (*FFIII* in the U.S.), a true magnum opus that pushed the console RPG about as far as it could go. Indeed, Square's dramatic break with Nintendo sprouted from the developers' desire to break new ground, a practical impossibility within a cart-based format.

Now, with an English translation available, the game can be evaluated for its impact as a dramatic whole, not just as an example of knockout graphics.

The most powerful spells are only seen near the end of the game

So did Square succeed? Well, yes. There are a few mild stumbles, but as with any title whose level of ambition is this high, that's hardly surprising — and, ultimately, makes little difference.

The graphics are bar none the best PlayStation has ever seen. The seamless use of FMV with prerendered SGI backgrounds and polygonal 3D characters takes the interaction and storytelling of the console RPG to the next level. While presented in complete 3D, the battle system plays roughly the same as previous *FF* entries, using a quasi realtime engine while adding new materia and limit-breaking systems, enabling the characters to cast spells, summon monsters, and perform a variety of attacks. The special effects during battles are breathtaking, although watching the same effects over and over can get a bit trying by the end.

However, an RPG lives or dies by its characters and story. *Final Fantasy VII* is not a lighthearted tale. Following in the tradition of previous entries in the series, which have always dealt with more

mature, even heavy-handed themes, the storyline comes away fresh, dealing with "real issues" like environmental devastation, government corruption, the morality of genetic engineering, dual personalities, even prostitution.

Indeed, at times the characters endure so much, it seriously risks throwing the player into depression. Yet, while *FFVII* may take a bit to get going, as in every entry in the series, moments of high melodrama are blended with scenes of sheer poetry and vision — it truly is beautiful.

The only off note is in the translation. *FFVII*'s translation was handled completely within Square Japan, as opposed to the joint effort between Square Japan and Ted Woolsey of the now defunct Squaresoft U.S.A., which produced the English versions *FFII* and *FFIII*. It's still very good, but it does fall a little flat, just short of the drama and flair Woolsey's team added to previous entries. For example, Barret, an African-American character, is often reduced to an insulting use of near-Ebonics ("Yo! Shit! What's goin' on?"). Granted, the character is from the slums, but so are his companions, who manage to speak standard English. Perhaps intended as a misguided homage to Mr. T, or as a shorthand for the character, we found the stereotype grating.

However, in the end, despite the odd misfired moment or quirk in translation, *Final Fantasy VII* is a game not to be missed. The dream is real, and the bar has been permanently raised for console RPGs. It's a hell of a ride. Don't miss this one.
Rating: ★★★★★

PlayStation

(they just scream and run *away*), but in general, there's a nifty amount of potential damage to be caused to the environment.

The trouble is, there are only three stages, and once a player gets the hang of things, it's over in just a couple of hours. The payoff isn't much either, as the backstory's ending is quick and somewhat trite — especially surprising given Climax is known for RPGs. There are 22 "hidden" cars to find in various ways, but that doesn't really extend the replay value much. Had *Runabout* — sorry, *Felony 11-79* (cringe) — included twice as many stages, it would have easily rated four stars. As it is, it's short-lived fun that's over too fast.
Rating: ★★★

The Lost World: Jurassic Park
Publisher: Electronic Arts
Developer: DreamWorks

One would think that if any developer could buck the trend of lousy games based on movie licenses, it would be one with the apparent resources of DreamWorks. Well, sad to say, you'd be wrong.

This game does have a couple of things going for it. The overall concept — beginning the game as a lowly compy, then successively becoming a human, a T-rex, and a human again — has potential. The animation, and indeed, the graphics overall, are incredible, and the full-surround soundtrack adds a lot of atmosphere.

Beyond this window dressing,

Being a dinosaur could have made a great game, but *The Lost World: Jurassic Park* blows it

however, when looked at as a game (and not an opportunity to take a lot of pretty screen-shots), *The Lost World* pretty much blows it. To begin with, despite the fully polygonal characters and environment, gameplay strictly adheres to the same side-scrolling action challenges we've seen a thousand times before. If any cliché is rolled out, from collapsing platforms to jumping over boulders — all that's missing is an ice world.

Second, as a side-scrolling action game, the level designs are best described as amateurish. Each stage has multiple paths, some of which lead to necessary power-ups, but some of which seem to exist for no reason at all. The game subjects players to incredibly demanding platform jumps almost from the very first moment, sometimes requiring them to negotiate a particular series of platforms multiple times, or backtrack. Still other times, missing a critical jump can leave the player stranded, with no way to try for a given bonus again. If the idea was to make the game challenging, the execution results in mere frustration.

It's especially annoying given that the game falls into the same trap as a lot of overly pretty, boastfully well-animated action titles: The control is awful. It's as if the player's character has a certain number of keyframes to execute every time it turns, every time it jumps, every time it attacks, whether or not the player wants it to. Sure it's smooth, but we'd trade movie-quality animation for workable control any day.

Overall, *The Lost World* makes you wonder whom DreamWorks is using for game testers, or even if testers work there at all. The graphics may be a step ahead, but the all-important gameplay can only be described by one word: primitive.
Rating: ★★

Machine Hunter
Publisher: MGM Interactive
Developer: Eurocom

If plagiarism is the most sincere form of flattery, then Gremlin Interactive must be feeling pretty honored. MGM Interactive's *Machine Hunter* is pretty much a blatant carbon copy of Gremlin's *Loaded* series. Actually, the phrase that immediately springs to mind is "rip-off" — and Gremlin's games aren't the only ones the phrase can be applied to.

Available for both PlayStation and PC, *Machine Hunter* follows the *Loaded* blueprint to every line and dot: Players view the action from an all-too-familiar overhead perspective, and sound corridor-ridden levels, blast whatever moves, and splatter blood across every surface. Developer Eurocom has even faithfully recreated the muzzle flash that awed gamers with *Loaded* first hit the shelves, although in a major departure from the formula, it has given the protagonist a nasty, unnatural slouch.

In all fairness, there are a couple of other differences. First, where *Loaded* gave a choice of colorful (if psychopathic) characters, *Machine Hunter* only has one. The second, vaguely positive difference is that Eurocom has thrown in the ability to take over any disabled machine in the game. Players then have full control of the machine, including all weapons, and this becomes an integral part of the game's strategy, as it's necessary to keep finding and using new machines to stay alive.

Shoot everything that moves in *Machine Hunter*, the poorest of the *Loaded* clones

The game's controls — and we use the term loosely — are set up much like *Robotron* or *Smash TV*. Each of the four buttons fires in the appropriate direction, although it's much harder to achieve diagonals with two buttons than with a joystick. And, truth be told, even standard directions like left or forward aren't the easiest things to accomplish here either. The control response is especially bad in the PC version, incidentally.

Level design is pitifully standard, with narrow corridors opening into enemy-infused open areas. In another, minor burst of originality, the levels are multitiered — a new twist to the subgenre. However, the similarities overpower any differences, and on the whole, the game is little more than a poorly executed rip-off.
Rating: ★

Raystorm
Publisher: Working Designs
Developer: Taito

Working Designs has been known for buying the rights to Japanese RPGs, "Americanizing" them during translation, and releasing them Stateside. Over the last four years, the company has taken some chances and uncovered more than a few gems (the *Lunar* series, *Dragon Force*). Lately, though, Working Designs has been branching out a bit, releasing the strategy game *Iron Storm* last year, and creating a new release label, Spaz, for more action-oriented titles.

And, once again, Working Designs has come up with a winner with Taito's arcade shooter *Raystorm*. For the casual gamer, this may not mean very much,

but for the die-hard shooter lover, this is good news indeed. Gameplay should be immediately familiar to anyone who played any arcade game in the mid-'80s. With top-down vertical scrolling, and enemies both on the ground and in the air, the game owes a huge debt to *Xevious*; and like Namco's '90s update of that title, *Xevious 3D/G+*, *Raystorm* is constructed primarily of polygons.

The bosses in *Raystorm* come up with an impressive array of ways to try to kill you

However, it also has a heavy anime influence, mainly in the form of powerful Macross-like mech bosses that will be sure to set the fan boy contingent drooling.

Control is spot-on, and the game should be, and the game moves at a nail-biting pace. Players choose from two ships, one with bullets and one with lasers, although it really doesn't make a difference during actual gameplay. For lazy pilots, the ground attack can be set on auto.

Raystorm's graphics are where the game really excels, though. The developers at Taito have pulled out every special effect from the PlayStation graphics library, from transparency to light sourcing, and the overall effect is quite stunning.

In the end, *Raystorm* is a great little shooter and offers a nice twitch diversion from more complex games. There's no escaping the debt this game owes to *Xevious* — and just about every other shooter since — but if the proof of a modern shooter is in its design, then *Raystorm* is well-proven indeed.
Rating: ★★★

Syndicate Wars
Publisher: Electronic Arts
Developer: Bullfrog

By the time *Syndicate Wars* was released for the PC, the realtime strategy genre the original *Syndicate* helped define had become very crowded. Where the original flourished as a breath of fresh air, the follow-up was overlooked by many because of a flood of tough new competitors. The game, however, has been given another

rating

PlayStation

chance on PlayStation, where there are fewer such titles to compete with.

While the strategy element is the most obvious thing that sets it apart from other PlayStation titles, the game features some unique, well-designed graphics. Its complex 3D environments are a welcome contrast to the far less detailed environments in most other console titles. Whether it's huge buildings collapsing from collateral battle damage, or a giant movie screen playing cartoons while absolute carnage ensues below, it's the game's

All that keeps Syndicate Wars for PlayStation from being a classic is poor control

little stylistic details that really make it stand out.

This dark style carries over into gameplay, where players are given mission objectives and the freedom to accomplish them as they wish. Players can sneak in and out of missions, drawing as little attention as possible, or simply blast their way through entire cities, leveling everything and everyone in their paths. It is exactly this type of freedom that makes a game enjoyable to play.

However, the fact that the game

was originally designed for a PC becomes painfully evident in the control. The basic interface was designed for a keyboard and mouse, and though Bullfrog has done an admirable job adapting the interface to work with the PlayStation controller, it just never feels right and often becomes frustrating. In the end, what could have been a classic ends up as an enjoyable title whose unfortunate control gets in the way of smooth gameplay.
Rating: ★★★

Saturn

Albert Odyssey: Legend of Eldean
Publisher: Working Designs
Developer: Sunsoft

Since the advent and demise of the ill-fated Sega CD system, Working Designs has consistently struck a loyalist chord in the hearts of Japanese RPG enthusiasts. Having ported over some of the lesser-known, but quality titles in the genre, Working Designs has built up a solid fan base among Sega system owners. This fiercely loyal fan support upheld the company through some of its more mediocre port-overs like *Vay* and *Shining Wisdom*, and hopefully this support won't wane with the release of *Albert Odyssey*, WD's latest offering.

Albert Odyssey's moments of beauty are confined to towns and character interactions

The title originally received a lukewarm response from the press and gamers when it was released in Japan, due to the sluggish load times during battles and the game's overall mediocre graphics. It seems little has changed in Working Designs' treatment of the game. With the exception of a larger, more involving storyline, *Albert Odyssey* appears a half-baked mix of 16-bit and 32-bit worlds. The graphics in and around towns and mazes look very sharp and are nicely detailed, but they come nowhere close to matching up with what we've seen in similar 32-bit RPGs like *Shining the Holy Ark*. When traveling the

Saturn

Out of the Park

World Series Baseball '98
Publisher: Sega
Developer: Sega of Japan

Sega's finely tuned baseball engine just gets better

Every once in a while a game comes along that redefines the way a certain genre is done. This elite group includes *Doom*, *Gameday '97*, *Tomb Raider*, *Mario*, *Sonic*, and now *World Series Baseball '98*, which changes the rules of videogame baseball.

Nearly 80% of all the action in a baseball game takes place between the pitcher and the batter, yet every baseball videogame ever made has somehow managed to make this classic battle a simplistic, unexciting confrontation. *WSB '98* has taken all of the strategic elements of pitching and hitting, and made the best pitcher/batter interface ever. The strike zone has been divided into four zones, and each batter is either strong or weak in each. The batter tries to guess the type of pitch and the location, while the pitcher must change speeds, move pitches around, and pitch away from the hitter's power. Getting to know each pitcher and each batter is essential to becoming a good *WSB '98* player. Other little things, like fouling off pitches to keep the at-bat

alive, just add to the realistic confrontation.

If the pitcher/batter match-up were the only advancement, it would be enough to warrant five stars, but *WSB '98* does much, much more. The fielding control is excellent, and it really matters how good a fielder you have in the game. Outfielders with poor arms tend to throw off target, while guys like Jay Buhner, with his cannon arm, zips the ball right to the intended base. Managing the game is also important because if a pitcher tires, he'll throw grapefruits to everyone he faces. Other features like rain delays, injuries, and errors all add to making *WSB '98* the best baseball game ever.

WSB '98 isn't perfect. It's missing a trade player feature and an instant replay, but the rest of the game is so solid it is easy to forgive. Clearly, this is the new standard for baseball games, and there are no current games that even come close. Saturn may not have much, but it's got baseball.
Rating: ★★★★★
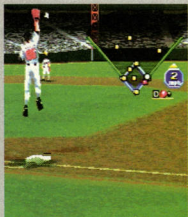
World Series '98 has everything you could ever ask for in a baseball title, featuring near-perfect solutions to the problems of adapting baseball to videogames. It even makes the sport seem exciting

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K-A
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SPAZ
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Nothing Else!

WORKING DESIGNS

Saturn

PC

world map or in the heat of battle, the game seems to fall apart. The magic spells and combat engine are not just slow and unimpressive, but downright painful to look at. Fortunately, the sound effects and soundtrack seem to hold up under a lot of the game's other weaknesses, but they fail to make *Albert Odyssey* stand out, whatsoever.

Luckily, Working Designs polished up the storyline and text to make the game seem more valuable and made a valiant effort to make the most of a regrettably forgettable game. Some hard-core RPG enthusiasts should find enough to like about *Albert Odyssey* to inspire a full playthrough while waiting for WD's translation of *Lunar: the Silver Star Story* later this year, but best advice is to sit this one out.

Rating: ★★

Sky Target
Publisher: Sega
Developer: Sega

Even with the Model 2 board backing it in the arcades, *Sky Target*, a shooter patterned after the classic *Afterburner*, missed the mark with its simplistic gameplay. Unfortunately, the conversion to Saturn has not been kind to what could, in a generous moment, only be considered adequate entertainment.

What had been reasonably decent graphics in the arcade have been transformed into a classic example of grainy, pixelated, unattractively textured Saturn graphics. The pseudo-transparent smoke trails left by missiles are particularly revolting, in that they have

Giving retro-style gaming a bad name, *Sky Target* misses its target with ugly graphics and simplistic gameplay

absolutely no resemblance to actual smoke, and the mishmash of exhaust trails do a perfect job of obscuring the player's vision. There have been plenty of examples of superior graphics on the Saturn when time and care were taken with them, but it's obvious no such effort went into the *Sky Target* conversion.

Aside from the fact that the game looks atrocious, *Sky Target*'s gameplay lacks the captivating nature of even a traditional twitch shooter. The plane selected by the player (either an F-14D, F-15S/MTD, F-16C, or Rafale M) acts more like a targeting icon than a pilotable craft. Even given the game's track-based nature, aerobatic maneuvers such as barrel rolls could easily have been incorporated; this at least would have given some variety to the gameplay —

and come on, even *Afterburner* could do barrel rolls. As it stands, *Sky Target* lacks even the most rudimentary strategic element, since the game doesn't even require judicious use of ammunition. Move up, down, right, left, and keep the missile and Gatling gun buttons pushed down — that's the essence of *Sky Target* gameplay.

In what can only be considered the dark ages for Saturn, Sega has resorted to scraping the bottom of its arcade barrel for home console conversions. Indeed, the fact that so little consideration was given to the quality of the conversion is *Sky Target*'s most disturbing aspect. Hopefully, the explanation for this atrocity is that all the real talent at Sega is busy working on games for the forthcoming system.

Rating: ★

Betrayal in Antara
Publisher: Sierra
Developer: Sierra

When *Betrayal at Krondor* was released in 1994, it was hailed as RPG of the year by many. Three years later, however, the only new features in this pseudo-sequel are a new preposition in the title and a "different" universe.

The world of Antara is very much a high-res version of Midkemia (the world in *Krondor*). The resemblances don't end there, however; there's a staff-wielding, blond whiner (Aren, to replace *Krondor*'s Owyn), a slightly alien race (the Montari, replacing the Tsurani), a chapter-based story, a grid-based combat system ... the list goes on and on.

Navigation hasn't changed from *Krondor* — movement still feels like an extremely jerky version of *Doom*. Most of the game takes place in this view, which is unfortunate because the cities are very far apart. Moving between the villages and cities can take as long as ten minutes. Thankfully, once a player

Pop quiz: Is this *Betrayal at Krondor* or *Betrayal in Antara*? We can't tell either

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PC

reaches a city, a point-and-click interface takes over, so it's just a matter of clicking on a building to enter it. Villages, however, are built right into the world, so walking through them becomes necessary. This presents a sometimes frustrating process of only being able to visit one building a day before your party gets too tired to see another. For all of its pratfalls, however, *Antara* still draws you in, just like its predecessor. *Krondor* was an excellent game, and *Antara* succeeds it in the fashion of *Doom II*. Not too much has been added, but a great game like *Krondor* doesn't need too many new features. Perhaps 7th Level's *Return to Krondor* will be the leap forward that *Antara* could have been.
Rating: ★★★

Kickoff '97
Publisher: Maxis
Developer: Anco

From the very start, soccer sim *Kickoff '97* gets the important things right for any sports title. The graphics are exceptionally well-done. Player animation is varied and lifelike, giving the game a realistic feel. The camera angles show the action smoothly and give the player an accurate sense of scale. In many soccer titles, the players are too large in proportion to the field, which effectively makes the playing area smaller than it should be, but *Kickoff* accurately represents the size of both.

The second thing the title does right is provide elegant control. PC games often assign a separate button for each individual action, giving players options but often making fast-paced play

A surprising success, *Kickoff '97* gets almost everything right for a PC soccer sim

cumbersome. However, taking a cue from console-based titles, *Kickoff '97* uses only two power buttons, one for shooting and one for passing. These two buttons can be combined in several ways to produce a wide array of actions. This simple but highly intuitive control gives players a better, more natural feel for the game.

Included in the title are enough options to satisfy even the most devoted soccer fan. Leagues can be set up to play with up to 22 teams from several divisions, or dream teams can be created from the ground up.

Kickoff does have some minor flaws, however, the biggest one being the passing interface. The passing control is acceptable, but not as smooth as other titles have proven soccer passing can be. Another problem is the long loading time between the game and the options screen. Even on a fast PC there are significant pauses when players move back and forth between the two. Other than these minor complaints, the game is one of the most enjoyable soccer titles to hit PC.
Rating: ★★★★

Meat Puppet
Publisher: Playmates Interactive
Developer: Kronos

At first glance, *Meat Puppet* falls squarely within the PC action subgenre that was all but started, and then soon swallowed whole by Origin's *Crusader* series. The game is sprite-based, isometric action, one part platform challenges, one part puzzle solving, two parts shoot-everything-that-moves-blow-up-everything-that-doesn't violence.

It's not a bad formula, yet *Meat Puppet's* biggest failing is in its mouse-and-keyboard control, which lacks the crispness and response of, well, Origin's *Crusader* series. Still, the system is at least functional, and despite the odd annoying movement, with some practice, most players shouldn't have too difficult a time navigating the game's world or taking on its various dangers.

Which is where, honestly, *Meat Puppet* distinguishes itself: in its off-the-wall character designs and twisted (even sick) humor. The graphics are pure post-cyberpunk in design — think *Blade Runner* mixed with a slice of H.R. Giger and you get the idea — running at 800x600 in 16-bit color if there's enough horsepower available. The storyline, which is fairly well-integrated even if it's mostly told through prerendered cut scenes, follows one Lotos, an unwilling assassin. Lotos has had her memory partly erased, and an explosive device has been implanted in her colon, of all places (and we don't *even* want to know how it got there), to keep her obedient.

Meat Puppet's Lotos is about to do something very nasty with this mutant brain — ugh

The explosive threat means each mission has a finite time limit (although there's time for fuller exploration once each mission is accomplished), forcing the player, like Lotos, to keep moving and do some pretty questionable things in order to survive.

This is arguably one of the nastiest games to come along in a while, and it starts off early. Not two missions in, the player must push a huge, oozing, still-quite-alive brain creature across no less than three rooms, with the hapless cranium screaming and begging for its life the whole time. As if that wasn't bad enough, Lotos must then pistol whip the thing for information before finally dropping it into a big industrial grinder to kill it. Yuck.

Meat Puppet is the sort of game that keeps you playing just to see what happens next, so it's probably best not to give away anything else. With better control, it would have rated a star higher, no question. As it is, the gameplay is just solid enough to let you keep coming back.
Rating: ★★★

HE PUT THE DEATH IN DESTRUCTION...

PC

Magnifique

Activision brings another superb adventure from
Adeline to U.S. shores

Backgrounds are made up of texture-mapped polygons. The quality is almost equal to *Ecstatica 2*'s prerendered graphics

Twinsen's Odyssey
Publisher: Activision
Developer: Adeline

As the sequel to the underrated action/graphic adventure *Relentless: Little Big Adventure*, *Twinsen's Odyssey* takes the then-revolutionary graphics of the original and upgrades them to a fully 3D world. The isometric, fixed view found in the first *Little Big Adventure* is only used indoors. Outdoors

Piloting a dune buggy is one of the many odd things that pops up in Twinsen's world, and that's what makes the game just plain fun

the camera is fully adjustable, moving along with Twinsen as he runs, jumps, flies, and tiptoes through some simply beautiful locales. The result is a game very similar to another French classic, *Alone in the Dark*.

But where *Alone in the Dark* was (more or less) realistically presented, *Twinsen's Odyssey* retains this series' surreal environments and creatures. One can encounter (and converse with) a highly articulate cow, an elephant inventor, a pebble-shooting cactus, and a leaping clam, to name a few. The game begins in Twinsen's hometown of Lupin-Bourg, and continues to a desert island, an alien homeworld, and all the parts in between.

Almost everything about the game looks and feels silky smooth. Every object

in the game is represented in 3D, Gouraud-shaded polygons, and the game animates at a frame rate even higher than the original, no matter how many objects are on the screen at once. And unlike most games, where the main character gets most of the frames of animation, all the inhabitants and monsters move flawlessly.

The movement system is very strange, but very efficient and easy to get used to. Each of the four movement modes (normal, sporty, aggressive, discreet) is used throughout the game, and switching between them is as simple as pressing a button. The game controls fine with the keyboard, but a gamepad makes navigation a breeze.

The game's low points are few and far between. The most noticeable downside is the rendered cut scenes that dot the game. Why Adeline elected to use them instead of sticking with the main graphics engine is beyond us — the few nonrendered cut scenes look worlds better than the grainy, ugly rendered movies.

Another annoyance is the voice acting. Every word of text in the game is also presented in full speech, and while the cartoon-style voices are certainly a novel touch, unfortunately most of them also get irritating to listen to after a while. Don't let this stop you, however. If you love action/adventure games, *Twinsen's Odyssey* should be in your collection.

Rating: ★★★★

rating

PC

Leviathan

Jane's Combat Simulations proves once again it's at the top of the sim heap

688(I) Hunter/Killer
Publisher: Jane's Combat Simulations
Developer: Sonalysts

The most complex sub sim yet, 688(I) Hunter/Killer, with its countless displays, knobs, and doodads to twiddle, is not for the casual fan of *Hunt for Red October.*

688(I) simulates operations aboard an improved Los Angeles Class submarine, a sophisticated nuclear attack sub. As the captain, players are called on to locate and sink enemy vessels, protect friendlies, deliver and pick up SEAL teams on covert missions, and even make cruise missile strikes.

None of that is as straightforward as it would be in a jet fighter or helicopter sim. An attack sub spends most of its time underwater, where radar and visual systems don't work. Locating and tracking enemies is accomplished using (mostly) passive listening devices, and 688(I) simulates all this in very convincing detail, offering five different sonar systems to work with. The learning curve involved with using passive sonar to locate a contact, identify it, estimate its speed, and build a firing solution for torpedoes or Harpoon anti-ship missiles is pretty steep.

In fact, 688(I) was developed by Sonalysts, one of the companies that helped design the real-life sonar systems used by the U.S. Navy aboard real 688 attack subs, and the designers' intricate knowledge of the subject and commitment to realism show. Although no one at **Next Generation** has ever served aboard a sub, as near as we can tell, the experience here is as realistic as it can be without getting the player wet.

The game allows players to assign computer-controlled crew members to some of the more daunting tasks, but despite the complexity of the game, for the sim nut, the real fun of 688(I) lies in handling everything yourself. It takes time and patience to turn a jumble of sonar data into a target your weapons can hit, but that makes it all the more satisfying when some enemy missile boat is finally sent to the bottom. As we've come to expect from Jane's Combat Simulations, an excellent manual and a series of in-depth tutorials make the learning process as painless as possible.

However, if you're the sort who's intimidated by a game that comes with — and needs — a 200-page manual, you'll want to give this one a miss. But if you've got a taste for the complex side of military sims, you'll love 688(I).

Rating: ★★★★

This is the world as seen by a sub — this is realism

Macintosh

Circle of Blood
Publisher: Virgin Interactive Entertainment
Developer: Revolution Software

It's a given that adventure games for Mac are few and far between, so we should be grateful that Virgin decided to publish a Mac version of this game (known in the European market as *Broken Sword*, and reviewed for PC in **NG 24**), and in a timely fashion, too.

Circle of Blood is visually lush, but the gameplay is arduous and the interface is very un-Mac-like

However, despite the ambitious storyline and animation (some done by refugees from Don Bluth's studio), we might have felt grateful for a month's delay, given the poor quality of the port.

Circle of Blood's basic ideas are sound, though the interface and gameplay are standard graphic adventure point-and-click, complete with an inventory to manage and different icons for each action your character, George, can perform. George is involved in chasing after an international conspiracy, spun off from the remnants of the mysterious Knights Templar, a journey that takes him to a number of exotic locales across Europe.

Characters are nicely designed sprites, even though they do seem like castaways cribbed from *Dragon's Lair.* Perhaps the only innovation is in the backgrounds: As the scene pans, levels of the background scroll at different rates for some simulation of depth.

However, the actual game experience is a trying one. Installation is distinctly un-Mac-like and arduous, and the game only installs on the same partition of the hard drive that houses the System Folder. Also, Circle of Blood conflicts with many standard extensions, and plays slowly even on a 200MHz Mac. That cost it a star. An unrelated problem, but one that can't be ignored, is the atrocious voice acting. George often seems just this side of moronic, and the pseudo-Russian accents are embarrassing. All in all, this is a nice try, but it could have been much more.

Rating: ★★★

Gundam 0079: The War for Earth
Publisher: Bandai Digital Entertainment
Developer: Presto Studios

Creating the perfect "interactive movie" may or may not be the Holy Grail of game developers, but that doesn't stop them from trying. This is especially true of "the Acclaim of the East," Bandai, who must have figured, "How about an interactive anime movie?"

In Gundam, the tiny interface at the bottom is almost more interesting than the game on top

Set in the well-developed Gundam universe, Gundam 0079 offers well-rendered, noninteractive scenes, which advance the plot (and take up around 60% of the "playing time"), while gameplay comes along at crucial junctions, during which players get a chance to operate the Mobile Suit Gundam, usually in battle. The structure should be familiar to anyone who's played any Wing Commander game, but the only way to play is to save compulsively at the beginning of each Suit mission (games can't be saved during the cut scenes), since control is touchy, decisions have to be made at the absolute correct split second, and it's never quite clear what went wrong. It can be quite frustrating, to say the least. In this, it's truly the heir to early trial and error, "What do you want to do now, player?" experiments in interactivity.

On the flip side, Gundam 0079 does tell a good story, and faithfully enough for anime fans. The rendering is impressive and smooth, and some sequences make good use of QuickTime VR, even if only in small windows on the screen. It would be a better game if these elements were better integrated into the main story, but this seems to be the best one can do given the current state of the technologies.

Gundam 0079 is certainly not for the action gamer, nor for the adventurer. It is an impressive bundle of technologies, but serves best as a new experience for fans of the existing Gundam opus.

Rating: ★★

Arcade

Rampage World Tour

Publisher: Williams
Entertainment
Developer: Game Refuge

Getting into the swing of the current nostalgia for retro games, Williams has brought back to the arcades another of its "classics," *Rampage*. The updated *Rampage World Tour* is faster, has more levels, and is better looking, but despite all this, still doesn't put much of a dent in the memory of the original.

For those born after 1985, the original *Rampage* was a fun, easy-to-pick-up arcade game with a wicked sense of humor. Players began by

picking a giant werewolf, a King-Kong-look-alike, or a Godzilla-type dino, and moved right to attacking cities across the continent by jumping, pounding, kicking, and jumping on them, eating the inhabitants, and finding cool power-ups or nasty little traps. It was, in a word, a blast, and an updated remake with giant critters wading through polygonal 3D cities, smashing everything in sight, should have been a natural.

Except that didn't seem to occur to anyone on the Williams design team. Instead, almost everything in *Rampage World Tour* is the same as in the original, except it costs a little more to

play, and airborne enemies have an easier time strafing the player. Yes, the graphics are better, but the whole game is still 2D and sprite-based — glossy, "Claymation" sprites, in the style of *Primal Rage*, rather than cartoony, hand-drawn ones, sure, but 2D sprites all the same. Granted, since gameplay is exactly the same as the original, it could be argued that the graphics aren't as important, but even with the remake's improved looks, it's far from being revolutionary or even on par with today's standards.

The only real improvement is that there are a lot more levels. However, even this seems to have a vaguely

cynical overtone to it, since lots of levels rarely mean much to the arcade experience — come on, how many people actually saw every level of the original, anyway? The reason would seem to be that since *Rampage World Tour* is destined for eventual console conversion, it was made larger now to save time later for getting it on the shelves by Christmas.

Rampage World Tour seems aimed at satisfying gamers' yearning for past titles like *Space Invaders*, or *Pac-Man*. Fair enough, but all this remake will accomplish is to make gamers yearn for the original more than ever.

Rating: ★★

Arcade

Dead Men Walking

The last of the Model 2
light-gun games is a bloody good time

House of the Dead

Publisher: Sega
Developer: Sega AM1

S ure, it's yet another Sega light-gun shooter for one or two players, but *House of the Dead* plays a couple of cards differently from the standard shooter. For one thing, unlike most light-gun games, players make their way through using a network of paths, opening different branches by shooting (or not shooting) certain characters. This alone would set the game apart, but the entire search is part of an "X-Files"-style detective story, with chapters, characters, and a not-so-clever mastermind, Curien, behind it all.

The plethora of bad guys that attack you are eye-catching and often effectively creepy. Zombies, frogs, bats, leeches, spiders, and water beasts all attack in their own unique ways, sometimes with three or four creatures lurching forward slowly in unison. While the most effective method of dispatching the undead — in keeping with the tradition of George Romero zombie movies — is to shoot at the head, players with enough proficiency to allow a little fooling around may find it irresistible to begin by punching three of four holes through

each one just to see the blood and guts fly about.

And there sure is a lot of blood and guts, much more than we've come to expect from a Sega game. Indeed, some zombies can be shot repeatedly in the face, chunks blowing off, while they continue to attack. Nasty.

Graphically, *House of the Dead* is an excellent Model 2 endeavor, and at first glance, it could be mistaken for a Model 3 game. The obligatory dark graveyard scenes and haunted house corridors are all gorgeously constructed, and the undead enemies get Sega's professionally clean-but-polygonal-texture-mapped look, with boss characters getting the royal treatment.

Nearly everything in the game environment can be shot, and replay value is good because of the multitude of paths, shown at each level's end on a map. Some arcades overprice this game, which may put a few players off, but it's almost worth it at any price. Overall, this is an excellent take on the light-gun genre — a sheer bloody scream.

Rating: ★★★★

There's a story under the action — if you can slow down enough to pay attention

The politically correct "Stunner" gun is nowhere to be found in *House of the Dead* — it's gore galore

Calendar of Events

IGN
IMAGINE GAMES NETWORK

WED 1

POLL: WORST GAME SYSTEM EVER
What game system had the worst launch, worst games, and worst reputation of all time? Visit www.videogamers. com to cast your vote.

THUR 2

JAPANESE FOR GAMERS: SPORTS AND WARGAMES
It's death, destruction, and baseball at *SaturnWorld* this month, as we continue our Survival Japanese for Gamers feature.

FRI 3

RPG EXTRAVAGANZA
How will Nintendo beat the cartridge format with RPGs? What is Nintendo doing to pull itself up from the Sony coupe (and the loss of Enix and Square)? The full report on N64 and 64DD RPGs only at *N64.com*.

MON 6

INSIDE CAPCOM
Ever wonder what goes on inside one of gaming's most well-known developers? Tag along with *Ultra GamePlayers Online* as we take you behind the scenes at Capcom's US headquarters.

WED 8

SUPER CODE BUDDHA DAY!
PSXPower's very own Code Buddha answers 25 of your burning code questions.

THUR 9

SEGA PALACE CHAT
Log into the *SaturnWorld* Palace and talk with Sega's game selection team. Find out what they have to go through before a game gets brought to the States.

FRI 10

MIDWAY: A DREAM COME TRUE?
Midway originally appeared to be Nintendo's best third-party developer, but the company has put out some serious crap. How is the company intending to prove it's really a dream come true for N64? *N64.com* takes a look at Mace, SF Rush, MK Mythologies and more.

FRI 10

DESIGN OUR LOGO CONTEST
Design a new logo for *The Home of Virtua Fighter*, and win neat stuff like videos, keychains, t-shirts, etc.!

MON 13

RACING GAME EXTRAVAGANZA
Join *Ultra Game Players Online* as we sort out the best from the rest in the next-gen racing game pack.

FRI 17

COMPANY PROFILE: KONAMI
Konami appears to be taking the lead in third-party support. In fact, Konami has become a N64 powerhouse. *N64.com* takes a thorough look at what made the

www.imaginegames.com

Every day, one of the seven sites in the Imagine Games Network hosts a special event. These include interviews, chat forums, downloads and extra features. **And they're all absolutely free.**

All you have to do is to check the times and the dates of the events, and make sure you're there to enjoy them. You'll find the urls of all the sites at the bottom of this page.

Konami turn around. Interviews and game profiles abound.

WED 15

FEATURE: METAL GEAR SOLID
Konami's revolutionary espionage game is only a few months away. *PSXPower* will take an in-depth look at this highly anticipated game, including new pictures and movies. Don't miss it!

THUR 16

BLACK BELT FEATURE
Get the hard facts about Sega's next console system only at *SaturnWorld*. A summary of known facts and the latest buzz from behind closed doors.

MON 20

BIG IN JAPAN
From fighters to girlfriend sims, *Ultra Game Players Online* takes a look at the hottest games on the shelves in Japan.

WED 22

FFVII POLL
So you've had a month to play Final Fantasy VII, but was it everything you thought it would be? If not, what could've been done better? *PSXPower* wants to know in this special poll.

THUR 23

SCARY GAMES
It's almost Halloween, and *SaturnWorld* gives you the top ten games guaranteed to send the shivers up your spine, give you the goosebumps, and out-willy your willies. Trick or treat!

FRI 24

IS NINTENDO SERIOUS ABOUT SPORTS?
With Griffey's imminent arrival, Nintendo will finally have its own first sports title. If Nintendo expects to keep a loyal base, quality sports games must publish on Nintendo 64. Is Nintendo relying too much on third party support from EA, Konami, and Acclaim? A full sports blowout at *N64.com*.

MON 27

FRIGHT NIGHT
The Halloween season is upon us, and *Ultra Game Players Online* unearths some of the scariest videogame experiences ever to hit the TV screen.

WED 29

TRICK OR TREAT
PSXPower has five bags of Halloween goodies to give away. Each bag will have candy cornucopia of prizes, including games, peripherals, otaku, and of course, candy

THUR 30

SONIC STRATEGY GUIDE
SaturnWorld brings you the secrets and strategies behind the first true 32-bit Sonic game. Learn the tracks and cheats, straight from the developers.

All events begin at 6pm PST

LAUNCHING OCTOBER 1

gameplay.com

Direct from Europe!
IGN introduces Gameplay.com. Updated every morning (9:00 AM PST, 12:00 PM EST), Gameplay delivers the latest international computer and video game news, as well as the best picks of where to go on the web for features, previews and reviews. Start your day off right, with the latest information on the hottest happenings in the games community.
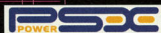
Keep checking the IGN Palace for even more events!

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PSYGNOSIS

letters

Write the wrongs of the game industry in **Next Generation**

I resented Sid Meier's comments concerning gaming and 50-year-old women. His comment that any game he designed that would appeal to a 50-year-old woman wouldn't be one he would play was insulting. I have over 150 games for my PC, an old C128 with more than 400 games, a Sega, and a Super NES. I play everything from *Super Mario* to *Daggerfall*.

I will, however, in the future check the software boxes more closely when I buy. With Mr. Meier's attitude, any game he designed would be one this 50-year-old woman definitely would not buy!

H. Graham
Elya1@juno.com

Just goes to show that you can't stereotype hard-core gamers.

I was disappointed in the factually incorrect statement in the "SiN" article (**NG 32**), stating: "Hipnotic ... employees include *Duke Nukem 3D*'s head level designer ..." (referring to Richard "Levelord" Grey). I have been a level designer on all three *Duke*

Nukem games, was the head mapper on *Duke 3D*, and I'm now leading the map team on *Duke Nukem Forever*. Grey was brought in by 3D Realms halfway through *Duke 3D*'s development to assist me in level design. The shareware version of the game, for example, has all maps I created, except for one by Grey.

It's a gross injustice to say that the head level designer of *Duke 3D* is now working at Ritual (formerly Hipnotic). Grey himself said, in a level design article for *PC Games* (September 1996), "A special thanks to Allen Blum for letting me do my thing in his sandbox; he is a god among us lowly lords."

I'm not sure why Ritual continues to take more credit for *Duke 3D* than it deserves. This happened months ago, too, when Activision, after signing *SiN*, announced that Ritual was composed of the core members of *Duke 3D*, when this is far from the case — only Grey was a core member of the *Duke 3D* team, and he was the game's secondary mapper. The other Ritual members who left 3D Realms include two

coders who worked on *Rise of the Triad* and *Prey* primarily, and two nondevelopers from our advertising/manual department. It's true that these two coders helped with *Duke 3D*, but not nearly to the extent that they were considered core members of the *Duke 3D* team. Everyone here helps with projects other than their own, but this doesn't mean we're part of every project 3D Realms develops.

I hope at some point that Ritual will cease this misleading affair and not pretend to be more involved with the *Duke 3D* project than it really was. I also hope magazine writers do a little more fact-checking. I know there's a lot of talent at Ritual, and I'm sure it'll make a quality original game with *SiN*. Until that time, I wish the company would stop using *Duke 3D* as a way to get attention and clout. It's downright sinful.

Allen H. Blum III
Assistant Producer and
Senior Level Designer
3D Realms Entertainment

*Thanks for setting the record straight. While we at **Next Generation** do perform extensive fact-checking, we rarely resort to checking everyone's references. We're certain those we interviewed at Ritual (né Hipnotic) did not tell us this out of malice, and we certainly didn't report it with the intention of perpetuating the tiresome bickering between 3D Realms and Ritual. Can't we all just get along?*

I was reading through the Alphas section of the August issue and noticed that the previews, despite being as diplomatic and neutral as usual, seemed to have little embedded suggestions (without being too

obvious) for each of the games. The most common of which was "try and be more original." I was wondering if, in the act of previewing the game, you ever change its course of development? Do development houses look for suggestions when you go and visit them or meet them at shows? Are there any specific suggestions **NG** made that have been incorporated into published games?

Darshan Toolsidass
darshant@concentric.net

Well, of course, young Toolsidass. Developers rush to please us. We stand astride the gaming world like a colossus.

*In all seriousness, however — and without trying to overstate or oversimplify — **Next Generation** does enjoy a measure of respect in the industry, and we take this responsibility quite seriously. Our editors are asked, quite often, what we think of a title's progress, and we try to be helpful. It's also not uncommon for us to be contacted by a company's marketing department for our opinions on everything from branding issues to marketing campaigns to which title fits a particular game best, and even on occasion whether it's worthwhile for a publisher to acquire a certain product.*

*As for specific examples, one that comes to mind is Black Dawn from Black Ops: The game was head-and-shoulders better than its previous effort, Agile Warrior, yet early versions were missing the excellent 3D explosions that were Agile Warrior's only notable feature. Based on comments from **Next Generation** (and probably others), 3D explosions that were not in the design spec were added. A small detail, perhaps, but other examples would take forever to explain, and this self-serving reply*

Sid Meier's Firaxis will probably sell a lot of copies of *Gettysburg*, but H. Graham will not be on the company's list of customers

is already longer than the letter it answers.

Hey look, it's just nice to be appreciated.

I liked your article "What makes a good game?" in **NG 31**, but I have an addition. You can call it the "wow" factor, and here's one of my favorite examples: In *Final Fantasy III* for SNES, when the group is on the floating continent, Kefka immobilizes your characters and Celes comes swooping down. Kefka gives her a sword to kill her friends. Celes says, "Power only breeds war ... I wish I had never been born." Then she turns and stabs Kefka instead.

This is one of the very few moments in gaming that just has you staring at the screen, eyes fixed, mouth hanging open in sheer amazement. This is the kind of scene that makes you remember a game, and is the kind of thing that propels this game from extremely excellent to simply extraordinary. It is one of the very few magical moments in gaming, and what makes me love this game more than any other before or since.

**Brett Trost
Saskatoon, Saskatchewan**

The best games, FFIII certainly among them, can indeed make the player simply go, "Wow!" Some magazines even include a similarly themed "Fun" category in their rating system, and the idea does have a certain intuitive appeal.

To us, however, this seems superfluous, as this "wow" effect is the end result of a game that excels in all, or most, of the six elements of good game design outlined in the article, and doesn't need to be a separate factor unto itself. In the example cited, the "wow" comes from both excellent character and energy, which give the player a vibrant enough world to make the payoff worth waiting for, and enough detail of character to make the player care.

N eil West seems to think that games (*Quake*, for example) today are "uncivilized." The

caveman characteristics aren't enough for him and many of today's young dreamers. I like being an online caveman. It would be hard to live like a caveman in the real world in modern times. Gamers like me enter this alternate reality to enjoy the pleasures of taking on roles, such as the role of the caveman. If Neil wants to sit on a virtual park bench with his Internet girlfriend holding hands and crying, he should call up Shiny or LucasArts and ask them how they think they'll make money on designing a game (interactive entertainment product) with such a scenario. Who knows, maybe one day I'll wuss out and get an Internet girlfriend of my own. In the meantime, I'll be pickin' berries and hunting woolly mammoths. I might even build a staircase to the sun out of the tusks.

purice@mail.ltlb.com

Nobody says you CAN'T live in a cave, sir. In fact, why don't you go ahead? Hunt and gather for a living. Take life by the horns.

The rest of us wusses here curled up on our couches, cuddling our significant others, shamefully depending on our heaters and indoor plumbing, will miss you indeed.

T he article on game packaging and marketing was pretty solid — didn't think I'd see something so boring make entertaining reading. However, I also didn't think I could go an issue without seeing the phrase "of all time," and I was right.

Anyway, while in Rome ... here's my list for the five worst game packages of all time, as experienced during my year and a half at EB.

5) *McKenzie and Co.* OK, we're marketing a game towards preteen girls, the one segment of the population that couldn't care less about games. Fine. Why are the kids on the box so ugly, then?

4) *Triple Play '98.* Quick impression of every guy outside Missouri who bought a videogame when *TP '98* came out: "???? Who the hell is that? Lankford? Jordan?
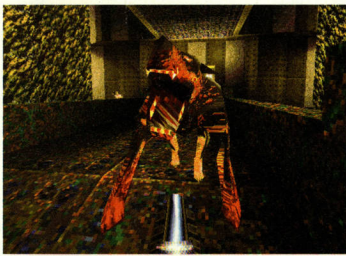
Quake, like many of the best games, has an innate "wow" factor that comes from the successful implementation of an exceptional design

That ain't Ozzie Smith, is it?" Hentgen wins 20 games on a virtual cellar dweller, Puckett plays his final season, and the bandwagon Yankees win the World Series. So how did this guy end up on my baseball team?

3) T2 steering wheel. Most consumers wouldn't see this problem, but we had to send a half dozen of the damn things back; it was physically impossible to get them back into the box after some redneck itchin' to play *Monster Truck Madness* more "ree-list'ally" took it out to play with.

2) *Bust a Move 2.* I hope the marketing mensa who had the brain wave of putting some ugly, British, gray-hued freak on the box with his eyelids stuck open with toothpicks got fired. And, lucky us, it came out juuuuuust before PlayStation adapted the jewel case standard, so we got to display it nice and large.

1) *Terry Bradshaw Fantasy Football.* I didn't need to see Baldshaw on the cover of this **orange, green,** and **blue** box in a pair of khakis so tasteless they made his ass look like it had more polygons than an AM3 board could handle. C'mon — you're pitching to fantasy geeks. *Jenny McCarthy Fantasy Football* would have sold twice as many copies.

Thanks for letting me rant.

**Robb Sherwin
sherwin_r102@
orion.crc.monroecc.edu**

Bottom five lists of any kind are always fun. The only reason we didn't do one was because we couldn't stop at five.

W hy are all these people complaining about the quality of arcade ports on N64? Here's a simple equation to figure out if an arcade game on a home console is going to be good:

```
if original_game = suck then
    port = suck
else
    port = maybe_ok
endif
```

**Jeff Rendl
jrendl@axisnet.ne**

We actually think of it this way:

```
if (original_game == suck)
    port = suck;
else
    port = maybe_ok;
```

It compiles better. But we see what you mean.

Correction: In "More than a pretty package" (**NG 32**), we incorrectly identified *Suspended*'s packaging as being a plastic flying saucer. *Suspended*'s original packaging was a white plastic mask. *Starcross* came in a flying saucer. We apologize for the error (thanks to the many Infocom fans who pointed it out). The offending editor has been established as the Central Mentality and placed in cryogenic sleep on the planet of Contra, where he won't ever offend Infocom fans again.

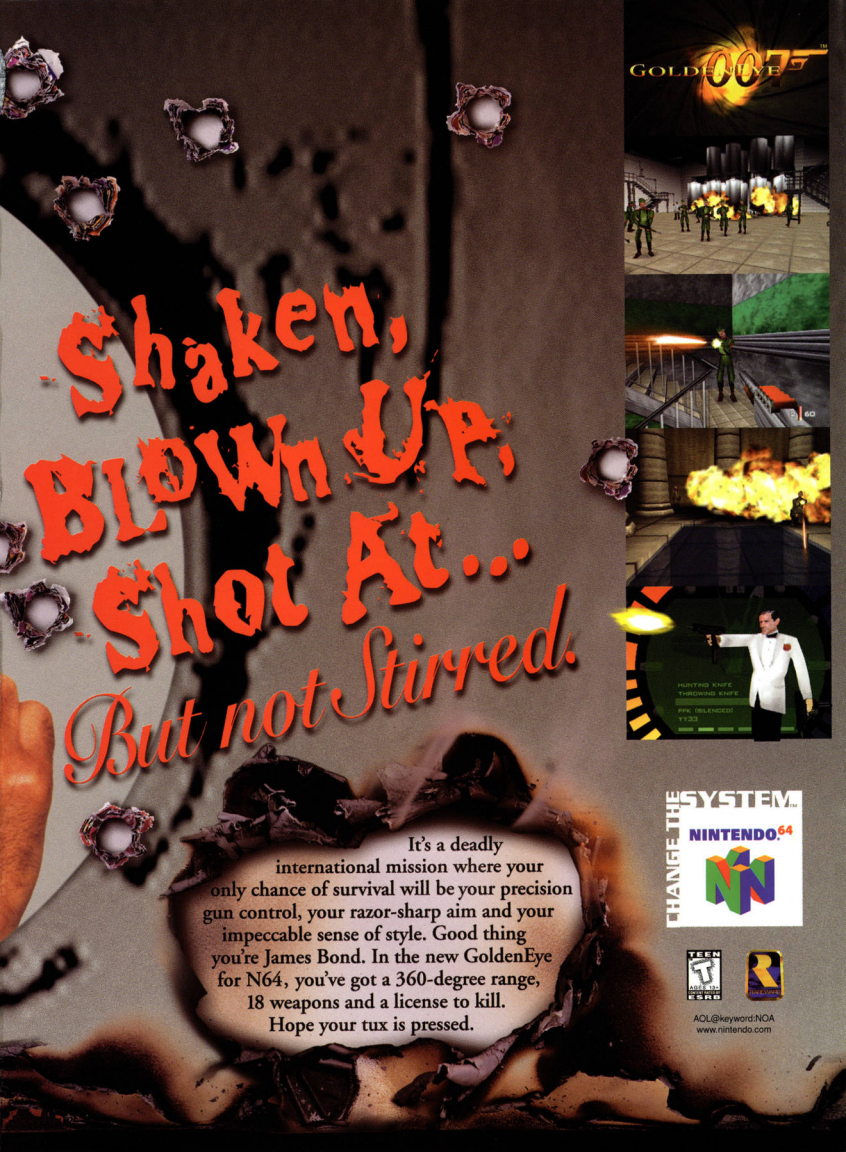**Next** Month

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Led by physics genius Seamus Blackley, *Trespasser* features realtime environments thousands of times more complex than the current state of the art. You've never played in a space like this before …

**Next Generation #35
on sale October 21, 1997.**

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