

THIRTY YEARS OF PC GAMING

NORTH AMERICAN EDITION

PC GAMER®

WORLD EXCLUSIVE ACCESS

STAR DARTH VADER'S DARK FORCES REMASTER WARS™

HOW NIGHTDIVE IS BRINGING THE ICONIC FPS BACK 30 YEARS LATER



FUTURE

ISSUE 378



HARDWARE

CLASSIC GPU GROUP TEST

PC GAMING'S BEST EVER GRAPHICS CARDS FACE OFF



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COD: MODERN WARFARE 3
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“PC GAMER HAS BEEN HERE FROM DOOM TO BALDUR’S GATE 3”



From the moment I started reading this grand old magazine back in the mid-1990s, I had no idea that it would go on to be the cultural touchstone it has become, nor that I would ever get the immense privilege to be editor of it.

After all, PC Gamer has been here through it all. From *Doom* to *Half-Life 2* to this year’s seminal *Baldur’s Gate III*, this magazine has always been there reporting on PC gaming’s biggest events and culture with authority as well as plenty of humor, too.

As such, it is a huge personal honor to present this landmark celebration of 30 years of PC gaming. This is a truly great, game-stuffed issue that both

celebrates where PC gaming has come from and, even more importantly, where it’s going.

Here’s to 30 more years of PC gaming!

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ROBERT JONES

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This month

Got lost in the PC Gamer magazine archive while digging out past issues. Was berated by Murray the Talking Skull.

The PC Gamer team



TYLER WILDE

Twitter
@tyler_wilde

This month

Starred in a dating show where everyone wanted to get in his pants. Realized he was just playing *BG III*.



JODY MACGREGOR

Twitter
@jodymacgregor

This month

Went full-on Looney Tunes to murder folk in a white picket fence estate. And then in *Fallout 3* he...



ROBIN VALENTINE

Twitter
@robinvalentine

This month

Squatted on a bison until it loudly moored in dissatisfaction. Also played *Dragon’s Dogma 2*.



JACOB RIDLEY

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@RidleyJG

This month

Slept with an Nvidia GeForce 8800 GTX under his pillow. We’re starting to get worried.

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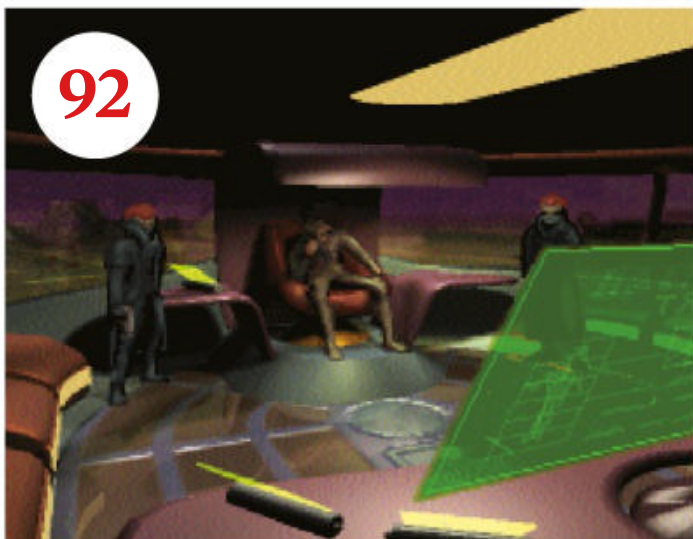
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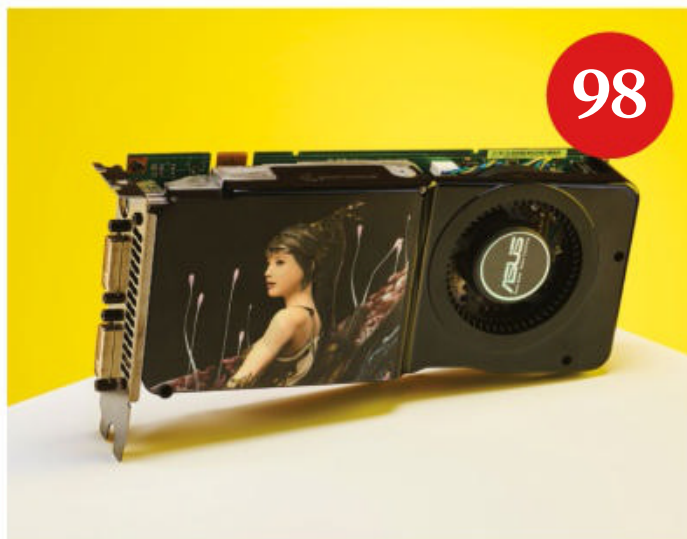
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The message here is to regularly run an antivirus scan.

STEAMED UP

VALVE adds new security check after attackers compromise game devs' Steam accounts

The Steam accounts of multiple game developers were recently compromised and used to update their games with malware. Fewer than 100 Steam users had the games installed when the malware was added, and they've been directly notified of the risk by email, according to Valve.

The company confirmed details of the intrusion to PC Gamer. The updates potentially containing malware were "reverted and purged" within hours, and Valve advised any player with the games

in question installed to run a full system scan with some decent anti-virus software.

Although this attempt to use Steam to distribute malware wasn't particularly effective, Valve has taken a major step to prevent it from happening again. From October 24, game developers are

**UPDATES WERE
"REVERTED
AND PURGED"
WITHIN HOURS**

required to pass a two-factor authentication check before updating the default branch of a released game—the version that Steam will then deliver in an automatic update to most players who have it installed.

PHONE ALONE

An SMS text message will be the only way to receive the two-factor code, so Steam partners must register a mobile phone number to be used any time they want to update their game's main release version. To developers who don't have a phone, Valve's post about the change says "sorry", but they'll "need a phone or some way to

PHANTOM MYSTERY

2077 EASTER EGG



Cyberpunk 2077's FF06B5 rabbit hole is a recently expanded mystery that's been puzzling the community for years. Real-world maths from 1960, a maze in an arcade cabinet, and an unwinnable game of tic-tac-toe hidden in a QR code. Brain-bending and a ton of fun. ■ **HR**

PASS OUT

YOU SHALL NOT GAME PASS



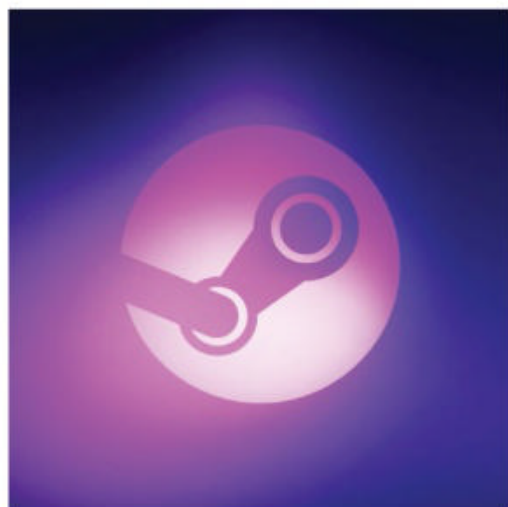
Activision is now a Microsoft company, but don't fool yourself into thinking *COD* and *Diablo* will hit Game Pass soon. Activision told fans to cool their jets recently, announcing that its games wouldn't hit the service until 2024 at the earliest. Wallets out for *MW3*, then. ■ **JW**

BUG HUNT

INSECTOID GPU DEATH



When a repair shop checked inside a dead RTX 4090 to see if it could be fixed, the owners didn't expect the cause of the fault to have six legs. It's worth keeping some Raid handy alongside the canned air if you want to keep your PC safe. ■ **NE**



get text messages" if they want to continue updating their games.

Valve tells PC Gamer that this "extra friction" for partners is a "necessary trade-off for keeping Steam users safe and developers aware of any potential compromise to their account". This recent incident hasn't been the only attempt to gain illegitimate access to Steam partner accounts: Valve says it has seen "an uptick in sophisticated attacks" targeting the accounts of devs who release games on Steam. It's easy to see

why: this example may have been small scale and caught quickly, but a system that pushes out automatic updates to potentially thousands of PCs at once.

Steam partners will also need to use SMS verification to add new users to their group, and Valve says that it plans to add the two-factor security check to other Steam backend actions in the future.

One of the games temporarily compromised was *NanoWar: Cells Vs Virus*, whose developer, Benoît Freslon, said on X that he was himself the victim of malware which stole his browser access tokens, giving the attackers temporary access to any web service he was logged into at the time. "I just used my dev account to release the game [a] few hours before the hack I suppose," said Freslon, who went on to re-emphasize that, "Steam removed the corrupted build in a few hours and all games are safe". ■

Tyler Wilde

TOP: Freslon lamented that his game has been presented as a "plague", and asked players to remember that other developers are equally the victims of such attacks.

Highs & Lows



HIGHS

I'm a Soulsman

Three *Elden Ring* devotees are slaying *Dark Souls 3* bosses every day until the DLC arrives.

Baldur's Great

BGIII players can save Minthara from death by morphing her into a sheep.

Fortless

Valve's love for *CS2* has the *TF2* community memeing about an imaginary 10th class.

Bad Timing

After laying off over 800 people, Epic tried to lure devs into releasing older titles on its store.

Red Flag

Old School Runescape player BTCs has been banned over allegations of real-world trading.

Van Nogh

The Van Gogh Museum's 'Pokémon Adventure' was hit by scalpers.

LOWS



Special Report

INVESTIGATES



Hit a five-star wanted level and Max-Tac will roll in to stomp you down.

ALL CHROMED UP

CYBERPUNK 2077's director takes us inside the three-year road to redemption

When Gabe Amatangelo stepped into the director role for *Cyberpunk 2077* in May 2021, morale among the team was low. The RPG had sold 13 million copies, yet was plagued with bugs and ran so poorly on older consoles it was pulled from sale on the PlayStation Store. CD Projekt's stock price cratered. *Cyberpunk*'s former director had left CDPR after an investigation into workplace bullying. So when Amatangelo said yes to the job, that yes came with conditions.

"Part of my conversation at the beginning with my boss and the board was: I believe in the team, I believe in this IP, but I want to do it right. And I'm going to need the support to do that," says Amatangelo. "And they're like, yes, you have the support." From that point on, every patch for *Cyberpunk 2077* was a deliberate step along the path to 2.0 and its ultimate redemption—walking away after merely polishing up performance and bugs was never even on the table.

To even reach that point, though, CD Projekt had to begin righting a very large, very ungainly ship. For Amatangelo, that meant making sure everyone on the team was talking to one another and encouraging them to share their ideas. "Everyone, after the launch, was like,

'Oh, if we'd done this differently, or if I'd been able to do this or add this...' I wanted them to not only feel like their voices were heard, but see examples of their voices being heard." They reorganized the development team to be more cross-discipline, putting "pods" of developers together who may have once been separated—a writer and level designer, for example. The first six months of that new structure was "bumpy" but they found a groove.

Amatangelo points to the 2.0 update's revamped police system as a "very visible example" of the collaborative process across tech, art, narrative, and gameplay working. The police now more or less mirror what you'd expect from a *Grand Theft Auto* game, chasing you in vehicles and searching for you with telegraphed vision cones that let you hide until things cool down. More stars trigger an escalated police response, like roadblocks and fearsome Max-Tac bruisers showing up to wreck your day. The NCPD will no longer show up in the middle of the Badlands—Militech show up instead. And they can now also respond to other crimes, not just yours.

Programming more realistic AI behaviors for the police was a key step, but you can see how all those departments working closely together built something more cohesive. The police revamp is one of many changes that stem from one of the team's guiding principles: believability. "Make sure the characters are believable, the narrative is



Cyberpunk 2078?

With *Phantom Liberty*'s excellent reviews, *Cyberpunk 2077* is going out on top: Amatangelo confirmed that with the expansion and 2.0 patch, it's done. "We'll do a little something more, but those are the last big ones," he said. "Then it's *Cyberpunk 2.0*. Or *Orion*, I should say, whatever we end up naming it." Keep your optics peeled for that codename, netrunners.



FAR LEFT: Just hangin' with *Phantom Liberty* superspy Solomon Reed, nonchalant like.

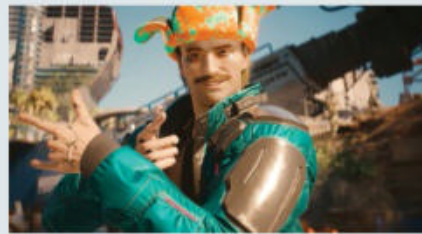
LEFT: *Phantom Liberty*'s Relic skill tree includes powerful new abilities for the monowire, gorilla arms and mantis blades.

MEET V *Pumped for 2.0, PC Gamer has unleashed a squad of fresh-save Vs upon Night City*



WES FENLON: MONOWIRE MANSLAUGHTERER

My V rocks a turquoise bun and recently bonded over beers with Panam.



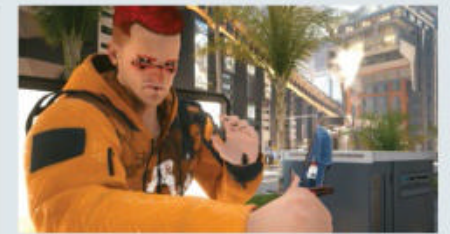
MORGAN PARK: BLADED DISASTER

Can't find a hat that fits right, saved the president, thinks he'll use guns.



FRASER BROWN: NOMAD PYRO

My lad is a scruffy fella who definitely smells of sweat, leather and gas. He enjoys long walks in the desert.



HARVEY RANDALL: SHANK REDEMPTION

Loaded with a Sandevistan and enough wavedashes to fill a *Smash* tournament.

believable, the plot is believable, the world is believable," Amatangelo says. "Obviously it's fiction, but having that believability within the fiction."

Nurturing believability started with the obvious—bugs like characters T-posing and the police spawning right in front of your eyes—then extended into more subtle, significant portions of *Cyberpunk*'s design. "When there's cyberware, it's believable that you can do these enhanced actions, not that you have more hit points," he says. "If you install Gorilla Arms and you can't do things that are strong, that's a believability issue. If your characters don't react to situations in the story in a way that's believable within how you establish that character, that's an issue... so believability was the north star, if you will."

The reworked cyberware and skill systems were designed with fantasy fulfillment in mind first and stats second, which is clearly visible in the new perk trees—many nodes unlock new abilities on the spot or enhance the cyberware you install. Changes to netrunning skills, like the new ability to queue multiple quickhacks, aimed to create more of a "combo" feeling to hacking rather than being held back by cooldowns

RECALIBRATING

The long-term process of building towards update 2.0 meant rewriting fundamental pieces of *Cyberpunk 2077*'s code, like bits of the game that were "data-driven" rather than "system-driven", which made them much more difficult to change.

With NPC behavior, for example, different actions like walking down the sidewalk or fleeing in terror would be defined in "volumes", and crossing a threshold (say, V using a shotgun to blow someone in half right beside them) would trigger a change between volumes. "These volumes are all set with very specific properties, and if you wanted to change them game-wide, do you have to go through and change 1,000 different things? Or is there a way to do it en-masse?" Amatangelo says.

"That was a lot of the behind-the-scenes stuff. We had to tackle that problem, one-by-one in some cases, and recalibrate our thinking and approach. I'm an advocate for systemic approaches, and found some other advocates within the dev team, and we really pushed systemic approaches across content as much as we could, which then made it possible to do the stuff we did in 2.0."

As difficult as *Cyberpunk 2077*'s launch was, and as low as morale sank in early 2021, it spurred the change CD Projekt Red's developers needed to build the game they'd envisioned from the start.

"Trust is a big thing," Amatangelo says. "And there's a lot of trust, because we were in the trenches together through this. It was a difficult time, and when you're in a difficult time together, there's opportunity to really bond based on a common goal and the spirit of wanting to deliver a great experience... the drive for that allowed everyone to get into a situation where they would trust each other and allow each other to work, and it ends up being a force multiplier." ■

Wes Fenlon

"OBVIOUSLY IT'S FICTION, BUT HAVING THAT BELIEVABILITY WITHIN THE FICTION"

Secret Level

THE UNSUNG HEROES OF DEVELOPMENT

COMPOSE YOURSELF

Award-winning composer **JASON GRAVES** on the process of writing music for games

Music captured Jason Graves at a young age, and never let him go. After becoming enamored with John Williams's *ET* soundtrack, music became "an emotional touchpoint" for him. Singing lessons, piano lessons, and musicals were just the beginning; he's been performing music in one way or another since elementary school.

Graves went on to learn a variety of instruments, and in college majored in music. "I thought I was going to be an educator or a performer of some sort," he says, "but I decided that what I really wanted to do was attempt to write the kind of music that emotionally charged me as a kid, and even now". Thus he switched from general music study to composition.

Today, Graves is an experienced composer, with an enviable CV that encompasses games, TV, and movies. His game credits include *Dead Space*, *Moss*, *The Dark Pictures* series and the 2013 *Tomb Raider* to name a few. His favorite music to write, he says with a smile, is, "Whatever I wasn't doing the day before!" So how does scoring a game differ from scoring a non-interactive project?

"In many ways, TV and film is a lot easier," he explains. "If someone decides to watch the TV show again, or replay that scene in the film, the music still does the exact same thing. With games, it's interactive, and the player could play that level again and make different choices. The gameplay is going to be different, and the music needs to react accordingly." There's always the same fundamental desire

to deliver something emotionally satisfying, but with games, Graves needs to deliver subtly different takes for the same scene. This demands an approach different to that suited for passive media.

TAKE A BEAT

"Food is always a good analogy for me. So if I were scoring a film, it's like you bake a pizza. Here you go, here's the pizza, and it's all done, right? If you're doing it for a game, you're like, okay, here's the crust. And now here's the three different sauces you can choose from. It's sort of like pizza a la carte, and that way the game developer has choices. They can reassemble it a couple of different ways."

Games also differ from films and TV in that the length of each scene can vary wildly according to player behavior. One way round that—and how, in fact, the entire *Evolve* soundtrack was composed—is to employ this piecemeal approach. "I will do sort of a suite where I'm not sending an actual finished piece of music," says Jason, "[but I create] a sketch, and then I take all the parts and send them to the developer; and then the game is programmed so that it's triggering certain musical events depending on what's happening in the game. A lot of times [this] works really well for exploration."

TAILORED SUITE

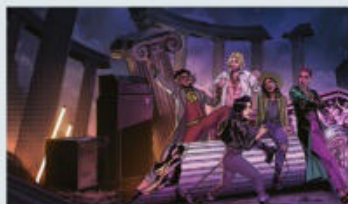
In order to create music that suits the game, Jason will explore early builds, artwork, scripts; anything and everything that he can get his hands on. "The wonderful thing about games is—if you're talking about a new game, and not a franchise—the developers are building this world from scratch. So I feel like it's important to be in the same headspace that the developer has probably been in for a year, or two, or maybe even three."

Graves modestly but firmly asserts that composing music is, for him at least, a collaborative process with the client. "It's very much, 'What can we do together?' I think it's important to have those relationships and that creative kind of talk, and the emotional underscoring of things. Because just throwing sounds at the wall and trying to see what's going to happen is not going to elicit the sort of emotional response that a team who spent five years on a project is looking for." ■

Luke Kemp

HEAR YE HEAR YE

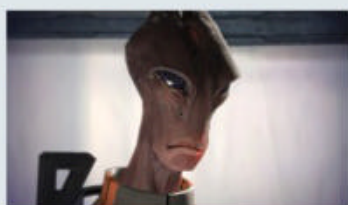
Another four legendary composers



AUSTIN WINTORY
As well as *Stray Gods*, Wintory has worked on *Journey*, *The Banner Saga* and *The Pathless*.



JESPER KYD
Kyd has scored multiple *Assassin's Creed*, *Borderlands*, *Hitman* and *Warhammer* games.



RICHARD JACQUES
Mass Effect, *Overwatch 2* and *Jet Set Radio* have all benefited from Jacques' talent.



AKIRA YAMAOKA
Best known for his work on the *Silent Hill* series, which wouldn't be the same without his music.

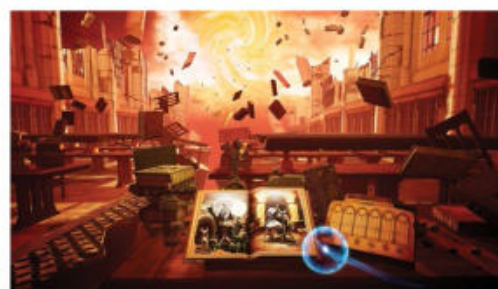
“I THOUGHT I WAS GOING TO BE AN EDUCATOR OR A PERFORMER”



“I’ve been hiring lots of musicians who record themselves at home,” says Graves.



ABOVE: Each entry in *The Dark Pictures* features music from Graves.



LEFT: Graves wrote the music for the cult classic *Alpha Protocol*.

NEED TO KNOW

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CALL OF DUTY: MODERN WARFARE 3

This year, *Call of Duty* asks:
is nostalgia worth \$70?

In 20 years of *Call of Duty* baton-passing, *Modern Warfare 3* presents a unique opportunity for persnickety fans like myself: Sledgehammer has been entrusted a direct sequel to Infinity Ward's *Modern Warfare 2* reboot just a year after its release, with the same engine and full backwards compatibility with *MW2*'s guns and attachments.

I imagine this is a pretty big deal for Sledgehammer. The Bay Area studio has spent a decade playing third fiddle to its more senior Infinity Ward and Treyarch collaborators, serving as a support studio when necessary and garnering a reputation as the "offbeat" *CoD* studio with *Advanced Warfare* (2014), *WW2* (2017), and *Vanguard* (2021)—all entries that tried to reach beyond where *CoD* was, and either fell flat or didn't make a significant mark in series canon. Simply by being a *Modern Warfare* game, *MW3* is the studio's highest-profile project ever.

After a few days playing *Modern Warfare 3*'s multiplayer beta, it might also prove to be the strangest *CoD* package in years. The beta was essentially a tasting menu of *MW3*'s full-course nostalgia for the original 2009 *Modern Warfare 2*.

FAMILIAR SIGHTS

Yes, it's a confusing pretzel of sequels and recursive reboots, but the takeaway is that Activision is betting big on players wanting

SLEDGEHAMMER HAS CHARTED ITS OWN PATH, WITH MAJOR ADJUSTMENTS TO MOVEMENT

to relive a well-remembered *CoD* from 14 years ago, so much so that it's willing to forgo *MW3* having any real identity of its own. Instead of having original multiplayer maps, *MW3* will only feature remakes of *MW2* (2009) maps at launch. During the beta, I've played five: Favela, Skidrow, Rust, Highrise and Estate.

It's a little embarrassing to admit, but yeah, the nostalgia is working. I played a whole lot of *MW2* in 2009, as you do when you're 13 and most of your friends are online too, so it's not surprising that these maps are still branded into my brain. Sprinting down the center lane of Highrise gave me the same sentimental rush I get when I drive by my old middle school. Sledgehammer clearly understands the assignment—modernize, but preserve the map's visual identity—and I think it's so far nailed it, with the exception of Favela. *MW3* Favela doesn't quite replicate 2009's dingy art style: the new one is cleaner, brighter, and more saturated. That's an entirely valid interpretation of Favela that I like just fine, but it does stand out next to Estate and Rust, which are so faithful to their originals that they stop feeling like remakes and just become those maps.

PLAYED IT

And hey... some of those maps kinda sucked, huh? It was bold of Sledgehammer to toss Estate into the mix so early on, because ten minutes on that map reminded me why I voted against it every time it came up in 2009. Why is three-quarters of Estate a featureless hill, and why do I always seem to spawn at the bottom of it? Every *CoD* has some stinkers in the map pool, but it's a slightly harder pill to swallow when we're talking about an old nemesis I thought I'd never have to see again.

I'm not thrilled that map voting is back either—sure, it can mean that a united lobby of 12 can give bad maps like Estate the collective middle finger, but it also means maps that are bad for other reasons, like Rust, win out every single time. At least it's easy to duck out and try again before the match starts.

THE LITTLE THINGS

While *MW3* maps are meant to imitate Infinity Ward circa 2009, Sledgehammer has charted its own path with major adjustments to movement and recoil.

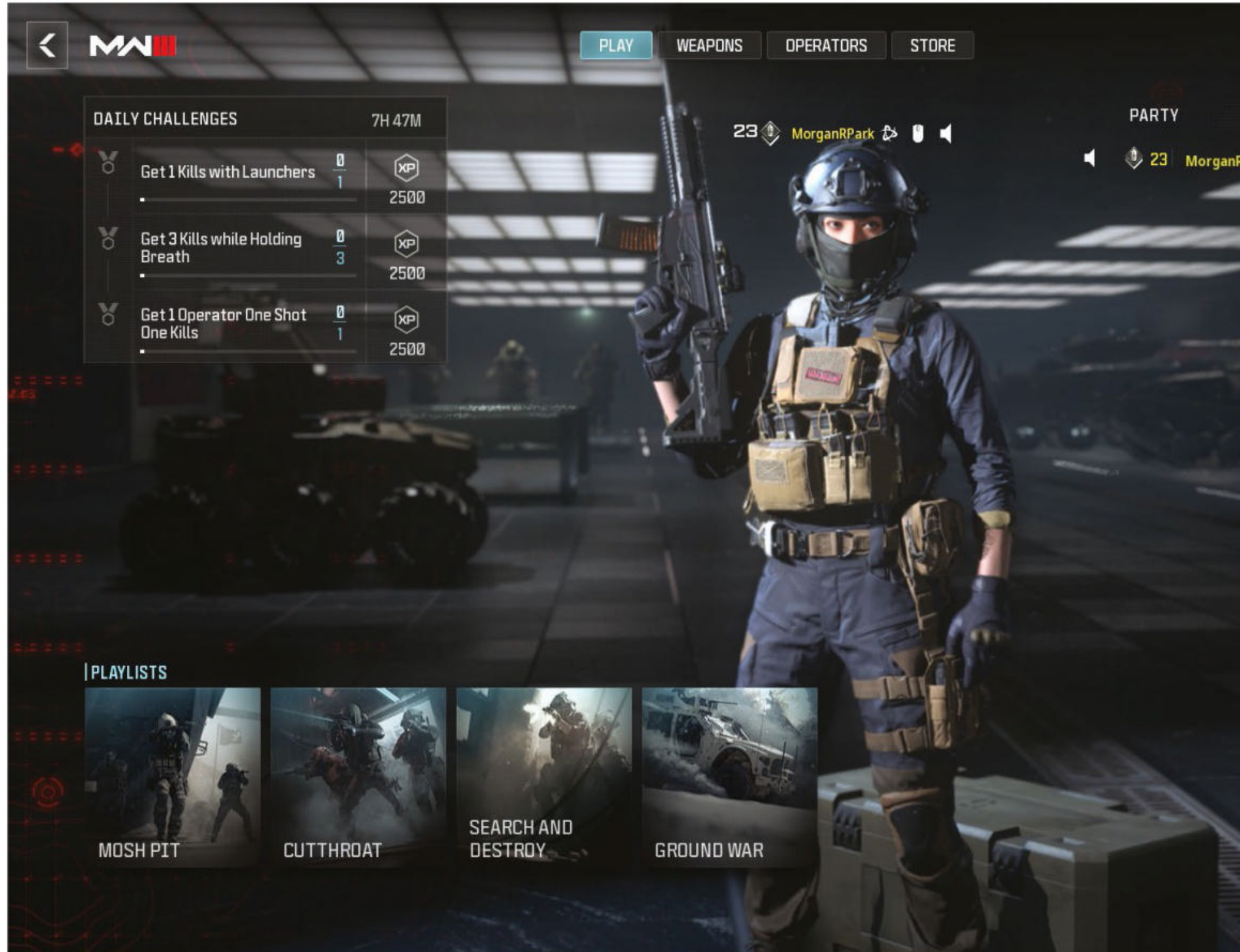
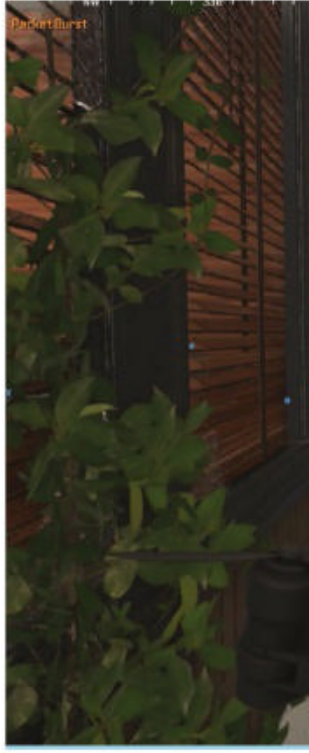


Call of Duty: Modern Warfare 3



RIGHT: Executions are back in *MW3*, and they're still good.

BELOW: *Modern Warfare 3*'s menus are a real step up from last year's boxy, Hulu-adjacent interface.





» Players can once again slide cancel, everyone has 50% more health, and red pings are back on the minimap, undoing key changes Infinity Ward made in 2022 to deliberately slow down the action.

It's too early to measure the effect these changes will have, but after a couple of days, I suspect they don't make a huge difference for the average player. As much as *CoD* content creators love their bunny hopping and slide canceling, most players don't actually do that stuff, which is nice. My matches have all been very familiar to the game I've been playing for the past year—unsurprising considering this year's multiplayer is essentially an expansion.

It's fascinating to watch two artists work from the exact same prompt. So much of *MW3* has been lifted from *MW2* unchanged, yet Sledgehammer's fingerprints are all over this thing.

SOUND CHECK

Two decades of yearly *CoDs* have trained us to notice and care about really small stuff that I don't think twice about in other games. The way guns look, how they sound, kick, reload—this is where Sledgehammer leaves its clearest mark, and where *MW3* might be taking a few steps back from last year. Sledgehammer has definitely upped its craft since *Vanguard's* wimpy rifles almost completely put me off that game. The new *MW3* guns are decently punchy and I really like holding a classic UMP again, but they don't compare to *MW2* (2022).

Infinity Ward guns are so loud and concussive that I have to turn the game down to hear friends on Discord. Sledgehammer gun sounds are weaker. Honestly, it's hardly a fair fight. *Modern Warfare 2* has some of the sharpest, ear-ringing gunfeel in any FPS I've played and ludicrously detailed animations that are honestly overkill. These beta guns don't have as much flair, but depending on who you are, that could be a good thing.

One reason *MW3* guns seem weaker is because the time-to-kill has gone up dramatically. I miss the lower TTK, but the extra HP does give me wiggle room to escape gunfights I'm losing. I've also noticed less recoil across the board and almost no visual recoil (the kind where

your reticle bounces around off-center while firing), which has made every gun I've tried so far feel like a laser beam.

GUNSMITH

Maybe the guns that aren't in the beta will have steeper recoil curves, but that last note isn't encouraging as someone who enjoys tuning weapons in Gunsmith. I outfitted my MCW (a reimagining of the popular ACR from 2009) with two attachments and already feel like anything more would be redundant. Unless I want to slap a silencer on it or extend the magazine, it's pretty much a solved gun.

That probably says more about a general Gunsmith bloat problem that's been around for a few *CoDs* now: there are tragically few attachments that meaningfully affect how a gun behaves, and piles of grips, stocks, and muzzles that do basically the same thing. There are 18 different options to get slightly less weapon kick or higher bullet velocity, and yet the most interesting attachment I've unlocked so far is the same pistol quickdraw grip I loved in *MW* mostly because it looks cool to draw your gun like John Wick. I'm also thoroughly unimpressed by the choice of optics so far. A lot of the simple red dots are kinda ugly and I'm not seeing as many medium laser sight options, though the final game will probably have more.

Sledgehammer says some guns will have conversion kits that more meaningfully transform a gun's behavior. The first one shown is a kit that adds an SMG framework to the Renetti pistol to make it fully-auto. That sounds very cool, but unfortunately, Sledgehammer plans to tie conversion kits to time-limited challenge windows. You can't get the carrot without the stick in *CoD* these days.

I often wonder if holding all of these hyper-specific preferences about TTK, optic aesthetics, and gunfeel is a sign I've gone off the deep end with *CoD* or I'm resistant to change, but I think it's more about acknowledging that, despite reasonable criticisms that this series is the same every year, who makes your *Call of Duty* really matters. I think Infinity Ward puts a little extra love in that I don't tend to see in Sledgehammer or Treyarch games, and that's fine. For the same reason I'm bummed when my favorite burrito place is closed and I have to settle for a near-identical one down the street, the *MW3* beta is bittersweet. I'm having fun, but it's not quite the same.

Morgan Park

I'M ALSO THOROUGHLY UNIMPRESSED BY THE CHOICE OF OPTICS SO FAR



ABOVE: *EVE Vanguard's* name comes from its protagonists: the Vanguard are vat-grown war clones sent onto planetary surfaces to scavenge wrecks and shoot other Vanguard.

RIGHT: The visual style is going for a degree of eyes-on realism within the sci-fi setting, steering away from conventions such as lens flares and chromatic aberration.



NEED TO KNOW

RELEASE
December 2023

DEVELOPER
CCP London

PUBLISHER
CCP Games

LINK
vanguard.eveonline.com

EVE VANGUARD

From the stars... all the way down to the salvage

Ever since FPS *Dust 514*'s 2013 debut and subsequent flaming out, a sizable segment of *EVE Online* fans have wanted one thing: *Dust 2*. The idea is something of a white whale for developer CCP: a first-person shooter that inhabits the same universe as its space MMO. *EVE Vanguard* is not *Dust 2*, however, because this time things have to be different.

CCP is being extra cautious about how it frames *Vanguard*. This is a "module" of *EVE Online* being developed by CCP's London studio in Unreal Engine 5, which will open its doors for a beta test in December 2023, and be asynchronously connected to *EVE Online* via a mechanic called corruption.

The difference with *Vanguard* is that it's designed on the core *EVE Online* principle of a sandbox experience where goals can shift, temporary alliances can form, and players have a degree of agency over their goals. The basic setup is multiple player teams chasing similar objectives on one enormous map, which itself is dotted with enemy NPCs and objectives.

To demonstrate, CCP London developers played through a *Vanguard* mission as a team of three, starting on the approach to a ship's wreckage in search of a Nexus Chip, this mission's bounty.

The team enters the carcass, taking out NPCs on the way, and it's clear that the gunfeel here is leagues ahead of *Dust 514*. Aiming down the sights has a neat visual effect of highlighting enemies, and

each shot punches out of the gun with heft: enemies go down quickly, and concentrated fire is witheringly effective.

The players find the pirates they're looking for in the ship's bowels, and a firefight begins, with one member of the team using the wreckage to flank. The enemies are soon wiped, but another team has already seized the bounty.

DUSTED

Vanguard then begins to bring the different player teams together. The chip thieves haven't traveled too far, and in their desire to escape aren't paying attention: they're easily ambushed and go down quickly. With the objective secured, our heroes then try to extract themselves, which is done through a mechanic of a timed beacon visible to other players.

The team set up to defend, but have made a rookie error: they're on low ground. Soon after, another enemy team appears on the horizon and begins taking potshots. Our doomed crew return fire but they're sitting ducks, and all three are soon wiped. The demo took maybe ten minutes, and it doesn't feel like there's been any downtime.

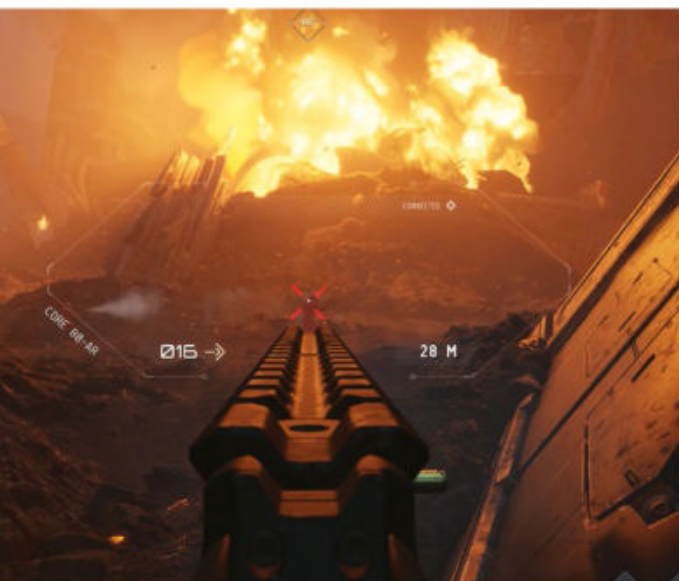
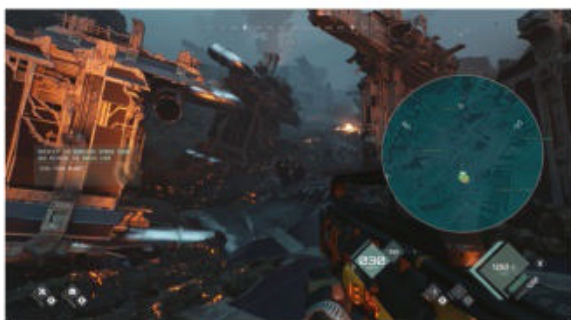
The players could respawn with a new clone, though on this occasion they don't. There's also an element of permanence to dying which isn't fully explained: players can apparently pay to have a perfect clone of themselves ready to respawn, or be revived by their teammates, but outside of those fallbacks you can lose certain stuff permanently.

The most exciting promise, however, comes with the nature of *Vanguard* itself. It's about scavenger hunts on and around massive wrecks: *EVE Online* is (in part) about massive spaceship battles. CCP reckons that, with its async connection to the MMO, it can eventually reach a stage in *Vanguard* where these battles are reflected in some way: that is, if a Titan goes down in a given system in *EVE*, you can boot up *Vanguard* some time afterwards and fight over that ship's wreckage. It's one hell of a promise.

What is clear is that CCP wants to make an *EVE* FPS that works alongside *EVE*. "This is what we always meant to make," says *EVE Online* director Snorri Arnarson, "it just took this long".

Rich Stanton

FIRST LOOK



AIMING DOWN THE SIGHTS HAS A NEAT VISUAL EFFECT OF HIGHLIGHTING ENEMIES

Last Train Home

NEED TO KNOW

RELEASE
November 28, 2023

DEVELOPER
Ashborne Games

PUBLISHER
THQ Nordic

LINK
lasttrainhome.thqnordic.com

LAST TRAIN HOME

Historical strategy hybrid is on the right track

In the year 1918, the central European country of Czechoslovakia was born from the ashes of the First World War. That same year, Russia collapsed in civil war. It was a complex, messy and bloody time, and is the ambitiously chosen backdrop for *Last Train Home*, from Czech studio Ashborne Games.

The demo for *Last Train Home* features the prologue and first leg of the full game's exodus, around three to four hours of game. I dived in this week to get a feel for whether the studio could pull off such an ambitious concept. I'm very happy to report that, aside from micromanagement relying a bit too much on fiddly UI panels, this is shaping up to be a very compelling blend of genres, and a handsome-looking game too.

Rather than stick with familiar conflicts or immediately intuitive mechanics, this historical strategy game tackles an ethically and politically difficult scenario, focusing on the human drama of it. As the commander of a Czechoslovakian Legion unit operating out of an armored train, your war is over, and your mission is to leave Russia and get your soldiers to their new home.

This is complicated somewhat by Russia collapsing in on itself, both Red and White armies being suspicious of an independent force in their war zone, plus orders from your precariously defended home telling you to remain neutral even as hostilities escalate. It's a minefield, and Ashborne has seemingly chosen *The*

BATTLES REQUIRE SPLITTING YOUR FORCES, LURING ENEMIES OUT INTO AMBUSHES

Banner Saga and *Frostpunk* as inspirations—games of tough moral choices and resource management. *Last Train Home* looks to only offer mild path branching, but plenty of choice in how you handle its individual story beats. Every member of your train crew has a range of personal quirks, from political alignments (religious, nationalist, socialist, etc) to traits like being good at haggling, blunt in conversation or just plain unlucky, all coming into play as you send squads out to scout villages, harvest food and deal with traders while your train stops to repair and upgrade.

While resource starvation isn't a major threat in the demo, there's still plenty of room for costly mistakes through the handful of combat missions in this early segment. Every tactical misstep leads to lost time and resources healing the wounded, burning through limited stocks of grenades and medical kits, or outright losing precious troops.

COMPANY OF COMMANDOS

As such, it pays to play it carefully in *Last Train Home's* second component; a pausable real-time strategy game that splits the difference between *Company Of Heroes'* suppress-and-flank flow and the stealthy sight-cone dodging of the *Commandos* series.

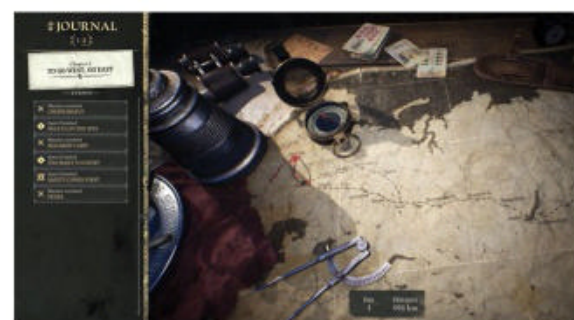
Unlike *CoH* and its swarms of expendable infantry, you get to deploy up to ten of your finest from the train to handle these scripted, often multi-phase encounters.

Battles often require splitting your forces, luring enemies out into ambushes and scouring the map for resources to even out the cost of munitions and medicine that you'll be burning.

Thankfully, on the default difficulty, troops are merely knocked out by enemy fire and won't bleed out immediately, giving you a chance to rush in to revive them, but I'm already excited to try the full game on Hard mode, which makes your soldiers every bit as vulnerable to sudden death by lead intake as enemy grunts.

As a fan of *The Banner Saga's* darker story branches and *XCOM* in ironman mode, I'm fully sold on *Last Train Home*, and hungry to see just how hard the full game is willing to push me, my troops and my tactics on this grueling journey home.

Dominic Tarason





ABOVE: If your train has an artillery car, you can call in some very satisfying support.

LEFT: While used sparingly, live-action cutscenes really help define the game's atmosphere.

NEED TO KNOW

RELEASE
2024

DEVELOPER
Spitfire Interactive

PUBLISHER
Daedalic Entertainment

LINK
spitfireinteractive.com.au

CAPE

Edna Mode would not approve

What superhero movies often don't show you are the back-street scuffles and brawls against androids in warehouses that take up so much of a crimefighter's time. *Capes*, a turn-based tactics game, revels in these moments, giving a lower-stakes feel to things as you batter the bad guys.

Capes follows a similar path to that of *XCOM 2*, in that it rises out of defeat. The story goes that, 20 years ago, superheroes lost their war against supervillains. Having and using superpowers is now a crime, a law enforced by a mysterious 'Company' whose operatives are uniformly bald. *Capes* casts you as an unseen overlord, controlling a team of new superheroes in their attempts to win back the city via turn-based combat.

Spitfire Interactive is headed up by former Sega and Gameloft designer Cade Franklin. The game's art director is Shawn Eustace, the man behind the look of *Destroy All Humans*, a fun romp about shooting people up the ass to remove their brains. *Capes* suffers slightly from having two art styles, a personality-filled comic-book 2D one in cutscenes, and the blank 3D look of its missions, which while it could charitably be interpreted as playing with shiny plastic toys inspired by the comics, instead looks like a step backwards.

Still, there is at least some nice characterization going on. A favourite so far is Mindfire, a wheelchair user who lives

CASTS YOU AS AN UNSEEN OVERLORD, CONTROLLING A TEAM OF NEW SUPERHEROES

with his mother and is a blend of Professor X and Magneto. During a Company operation to capture him a pair of heroes end up recruiting him instead, and he levitates out of his chair to become a major damage dealer, making enemies vulnerable to attack before flinging rocks at them, or teaming up with Facet to send a barrage of crystals their way.

HOLDING OUT

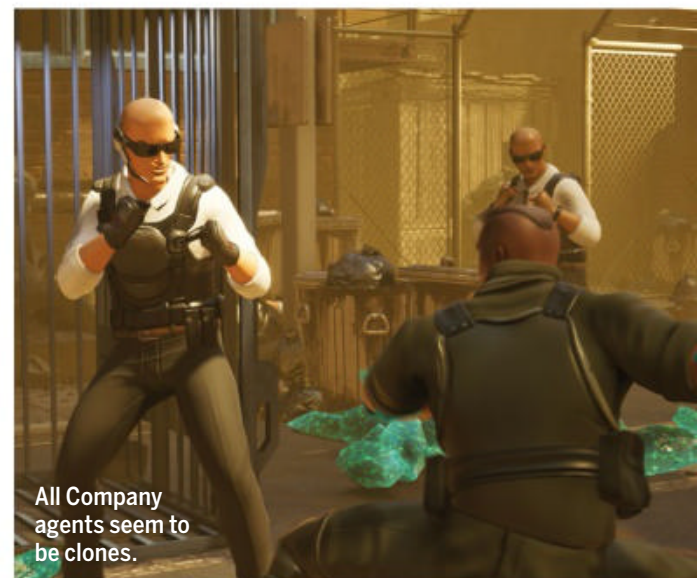
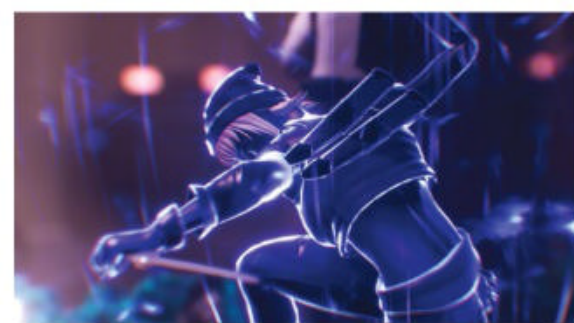
Being able to join with nearby allies for enhanced attacks is a big part of *Capes*' battles. You have a disarm attack that knocks the weapon from a Company man's hand, be that a gun or iron pipe, leaving them with their fists. Facet can taunt them to concentrate their attacks on him, and protect himself or others with a coating of crystals. Rebound can teleport herself and others, and as you get bonus damage from attacks that land from behind, suddenly appearing for a backstab is a good way to surprise foes.

Positioning for an attack is everything, as many ranged powers only work in orthogonal lines from the hero's position and can only travel a few squares. The interface separates movement and actions, so as long as you have enough points in each you can move, hit, move and perhaps disarm all in the same turn. Unused points go toward charging a super move that offers an attack against all enemies, such as Weathervane's ability to chuck lightning bolts. Moves can't be upgraded in the demo, but eventually you'll be able to distribute points to power them up.

Red explosive barrels are scattered liberally around, causing fires when they're hit that can catch anyone, enemy or friendly, alight. Dropped enemies are out of the game, but if one of our heroes goes down they can be revived by moving a teammate next to them.

Capes has a lighter feel than the heavy, world-ending scenarios beloved of tactics games, and this feeds through to the presentation, with comic-book style speech bubbles, mysterious shrouded figures right out of Marvel movies, and room-shaking superpowers. It will need to provide a bit more depth than what's on offer in this demo, however, if it's to fly free from turn-based mediocrity.

Ian Evenden



All Company agents seem to be clones.



ABOVE: The 2D art designs are full of personality.

LEFT: Weathervane lives up to his name.



ABOVE: Crotch shot, activate!

RIGHT: The game is genuinely gorgeous, with sprawling vistas.



NEED TO KNOW

RELEASE
TBADEVELOPER
CapcomPUBLISHER
CapcomLINK
shorturl.at/jtIX4DRAGON'S
DOGMA 2

If strapping a bomb to a troll is wrong, I don't want to be right

There really is no RPG quite like *Dragon's Dogma*. It's a big, weird, wonderful, terrifying, enthralling mess of an adventure that demands you meet it on its own bizarre terms, or else get savaged by wolves in the middle of the night. What a delight, then, to find a sequel more in love with its own brilliantly strange identity than ever.

The thing I loved most about the first game was its sense of truly journeying across a fantasy land, so I decided the best way to get a sense of the sequel in the limited time available was to just pick a road and start walking. I'm not alone, of course—I'm joined by the series' trademark Pawns, AI companions created by yourself and other players that aid you on your journey. As soon as they open their mouths, I'm reassured. As in the first game, they're a talkative bunch: offering advice on what to do next, calling for help in battle, pointing out resources, and more.

Inarguably, they yap too much, and I wouldn't blame anyone for deciding they're irritating, but I find their endless commentary hugely endearing. With more nuanced and varied things to say in this sequel, more than ever it evokes the feeling of going on an adventure with your friends. Even just in the hour or so I spend with them, their personalities emerge—from a grumpy fighter tired of my frequent diversions to a confident healer nicely but firmly herding me along towards points of interest.

PLAYED
IT

THE FIRST GAME HAD A CHARM TO ITS VISUALS, BUT THE SEQUEL IS GORGEOUS

On paper, nothing I find on my little trek is that exciting—I get ambushed by some monsters, find a raided village, and delve into a mine overrun with goblins—but the game shines in the details. The first game had a wonderful physicality, and *Dragon's Dogma 2* runs with it. When a weakened enemy stumbles in front of me, I scoop him up in my arms and hurl him at one of his mates, knocking them both off a cliffside. Seeing a group of goblins charge across a rope bridge, I cut the supports, sending them plummeting down into the abyss. In battle with a troll, I leap and climb up onto its back, attach a mine to its neck, and jump off to safety as it explodes.

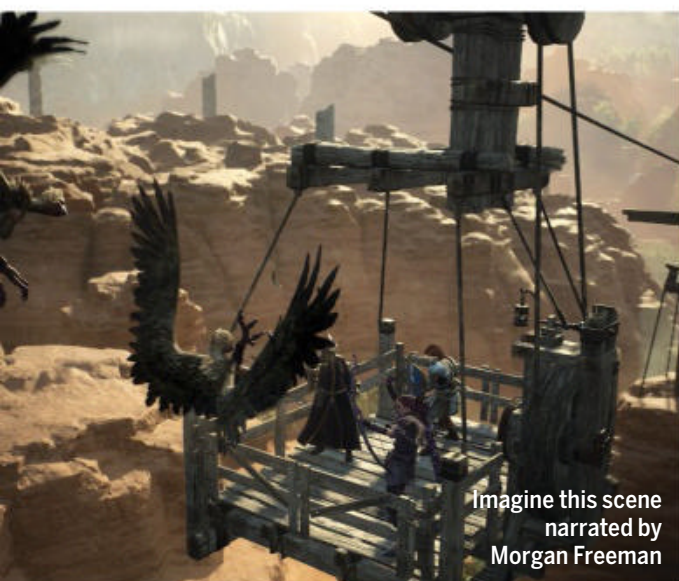
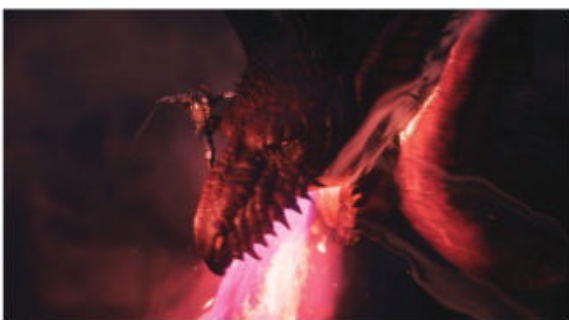
VIP LIFTER

It's ripe for slapstick comedy, of course—other stops along my journey include carrying a squealing pig off his farm and down the road until he wriggles out of my arms, climbing on top of a passing bison and squatting over her until she moos with dissatisfaction, and heaving the distinguished NPC I'm escorting over my shoulder to get him past some difficult terrain more quickly.

But beyond the goofiness, that ability to grab onto and interact with all these things around you gives the world a physical reality rare in RPGs.

Perhaps the most obvious improvement, however, is in *Dragon's Dogma 2*'s looks. The first game had a charm to its visuals, but it wasn't winning any beauty contests; the sequel is genuinely gorgeous, with particular attention paid to its sprawling vistas. As I stop at a campfire in an abandoned village to sleep through the dangerous night, I throw some ratty cut of meat in a skillet and I'm stunned by the most oddly beautiful thing in the game: an animation of my dinner frying. As the ludicrously high-def chop sizzles, intricately realized fat bubbling out of it, I can't help but grin. Why have they put so much effort into this one thing, when cooking isn't even a major part of the game? Because this is still a series that plays by no one's logic but its own, and its unique identity shines through as clearly in that pan as it does in every road walked, every goblin hurled and every troll triumphantly exploded.

Robin Valentine



Imagine this scene narrated by Morgan Freeman

JEDI REMASTERS

NIGHTDIVE STUDIOS is uniting the past and present of PC gaming like no other developer

By Robert Jones



In this landmark issue of PC Gamer magazine, we've naturally been reflecting on the history of PC gaming over the last 30 years, as well as where the industry is now.

Back when PC Gamer was in its early years, many landmark PC games were released, but one of the most impactful was *Star Wars: Dark Forces*, a first-person shooter that set new benchmarks for narrative

storytelling and technical wizardry in an FPS.

Today, one studio, already known for its Jedi-level remasters of classic PC games such as *System Shock*, is reuniting this part of PC gaming's past with its present like no other —Nightdive Studios will drop a full remaster of *Dark Forces* next year.

Naturally, we thought there was no better studio to get together with to discuss PC gaming's past and present, the impact of *Dark Forces* on PC gaming and, crucially, what it brings to the table for PC gamers today.



NIGHTDIVE STUDIOS

Star Wars: Dark Forces Remastered

PC Gamer sits down with the developers remastering the now iconic, game-changing '90s first-person shooter



To find out more about Nightdive Studio's incoming remaster of iconic first-person shooter

Star Wars: Dark Forces three decades after the original's release, PC Gamer sat down to chat with three of the team's key members about their history with the game, as well as how it's been upgraded for the incoming remaster.

Did you feel any trepidation taking on the project of remastering such a famous and beloved FPS as *Star Wars: Dark Forces*?

Larry Kuperman: I wouldn't say trepidation but we approached this project with an appropriate level of respect for the work of art that we were going to be remastering. We understand how important the game is, and how many people were really influenced [by *Dark Forces*] —[and formed] their perception of what the Star Wars universe should be by playing it.

The game was originally released one year after id Software's *Doom*, and *Dark Forces* really pushed the envelope of what videogames could do in immersing players in the Star Wars universe. **Stephen Kick:** And just for historical context, for me, personally, this was my very first PC game. I feel like I've completely come full circle here at Nightdive, getting to work on, essentially, the game that inspired me to do what I'm doing now.

How do you think the original *Dark Forces* pushed the boundaries for FPS games?

Max Waine: Just for the level of technical aptitude that LucasArts had, it's very much on display. Compared to something like *Doom* or even a contemporary like *Hexen*, there's things on display that you couldn't really have seen prior in any first-person shooter of that type. You have fully stacked layouts. You have rooms on top of rooms. It's not something you could have done in *Doom*. You have 3D models actually

MEET THE TEAM

Key members of Nightdive Studios' *Dark Forces* team



STEPHEN KICK
CEO and founder,
Nightdive Studios



LARRY KUPERMAN
Director of business
development,
Nightdive Studios



MAX WAINE
Project lead and
programmer,
Nightdive Studios

BELOW: The *Star Wars: Dark Forces* remaster is due out next year. The original released back in 1995.

moving around—like the mouse-droids driving around. You have the hologram for the Death Star on the first level. And, of course, on several levels, you have your ship flying in. It's all very technically impressive. **SK:** From a narrative standpoint, too, I'd say it's probably one of, if not the first, FPS to have a story that goes throughout all the missions. They're all linked by characters and a plot, not just, "Go into this room. Kill everything here. Get a keycard. Go to the next level." They're very mission objective, and there's voice-acting. It feels like you're in your own Star Wars story. **LK:** And that's exactly the point that I was going to make. Beyond the technical marvels that they achieved in making the game, the sum of that was that you really felt immersed in the game. I was playing it... Steve played a lot of these games with his father, and I played these games with my son. But this was something that really made you feel that you were part of a story that was familiar to you, but also that you were answering the question of, "What happens next?"

Do you think it's this embedding of the narrative within the gameplay that allowed *Dark Forces* to capture the Star Wars-ey feel so well?

LK: I absolutely think so, and I think, in general, we've been very vocal about the topic of videogames as art. I think what you just described in asking your question is really the quality we look for in good art. That you come away from it saying, "I don't know why, but this made me feel a certain way". And *Dark Forces* certainly did that.

SK: Just to go into more detail, the game even starts with the iconic title crawl and the John Williams score. And then the camera even pans down to, you know, the first planet that you go to with the Moldy Crow flying over. I think, for the first time since *Return of the Jedi* anyways, you're experiencing that magic all over again, but it's in this brand-new, interactive medium. It had a really powerful effective on a lot of people, myself included.

What are your individual recollections of playing the original game back in the 1990s?

LK: I remember playing it with my



“DARK FORCES was something that really made you feel that you were part of a story”



son. My son was obviously quite young at the time. Seeing it through his eyes, the sense of being drawn into that entire universe, was fantastic. The fact that there was a connection between the game and a well-known movie series made it really, really special.

SK: For me, I distinctly remember going over to Computer City with my parents to buy our first PC. This was really special for me because, growing up, they never allowed me to have a console. I'm immediately going, "What games can we put on this thing? What does the PC gaming landscape look like?" I remember, we were at the store, and we were going to the checkout, and there was a shareware copy of *Doom* that I sneakily tried to put on the conveyor. It gets to the cashier's hands, and my mum's like, "What is this brightly red package with all this stark imagery on it?" So that went back. But they compromised, and picked up *Dark Forces*, because luckily that was right there. We went home, and my dad showed me how to enter in MS-DOS prompts for the very first time to get the game to run. And at that point, I'm like, "This is so lame. With the Nintendo, you just hit a button, and it turns on. I've got to type in code to play this game."

But then it starts up, and the rest is history. I'm instantly captivated. My whole life and direction, unbeknown to me at the time, is changed. For the next couple of



years, I'm just devouring any kind of news I could get about *Dark Forces* to *Jedi Knight*. I'm cutting up my PC Gamers, and I'm putting the ads up on the walls. I'm attending the midnight launch party to get my copy, and saving up my money for a 3D accelerator. This was the impetus behind, you know, everything I strove for, I think. A lot of really great memories because of *Dark Forces*.

MW: One of the things I think that particularly impressed was the technical aspect, in large part for me, that impressed me so much when I first played it. I have a strong grounding in playing a lot of the original *Doom*. So moving from that to *Dark Forces*, it really feels like a big leap up in terms of technology and story, and how that's delivered to the player.

LK: Let me just add to that. When I play *Dark Forces*, or when I watch my son play *Dark Forces*, I didn't have

TOP: Star Wars: Dark Forces Remaster will support up to 4K resolution at 120 fps.

ABOVE: Nightdive has totally remastered all of the game's cutscenes. You can opt for the originals if you want to, though.



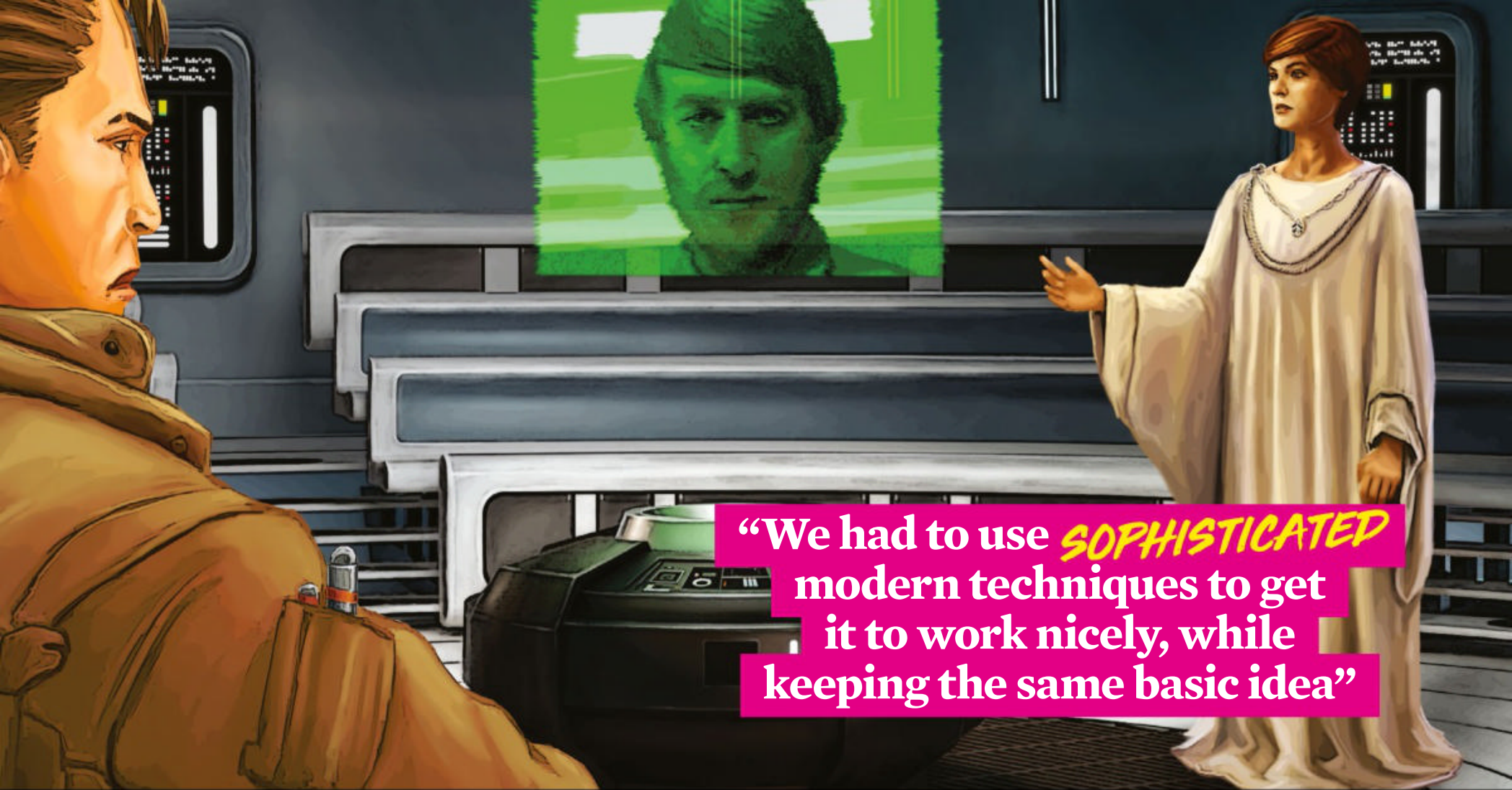
any of the background to understand how it was done. The end effect could have best been described as, "How did they do it? Magic". As I follow along with the developers working on *Dark Forces*, it turns out that my guess was correct, that it was done with magic.

It's amazing how much they were able to squeeze out of the limitations of what software and hardware at the time could do to achieve what they did. So hats off to the original developers.

What was your vision for the new remastered version of *Dark Forces*?

SK: We're at this stage with Nightdive where it's the perfect opportunity for us to look at *Dark Forces*, and see what we can do to really bring it to that next level. All the right pieces have fallen in place. We've redone the cinematics completely from scratch, using as close to the original source material as we can. We've matched and moved all the shots so that it's imperceptible, almost, from the original vision and composition, but it's in higher resolution, and it just looks beautiful. The sprites have been redrawn and reanimated.

So it looks exactly how it did in 1994, but beautiful on a high-resolution monitor. That was kind of our approach here. We were going to take a decade of experience doing this, and we were going to focus it all



“We had to use **SOPHISTICATED** modern techniques to get it to work nicely, while keeping the same basic idea”

» on this one title, and really do the best that we possibly could to ensure that *Dark Forces* would be remembered and appreciated for everything that it did, all over again.

LK: I was going to say: no pressure on Max!

SK: Following that, I just tell the guys, “Hey, this is the best game ever. Don’t mess it up.” Max is the one who has to do it.

LK: Seriously, the two things that I look for, in terms of what the finished product will be, are respect and evoking those same emotions that *Dark Forces* brought to us the first time. Those are our principal goals. There is often a temptation for people working on remasters to change things, to put their own imprint on it. And at Nightdive, we take a different approach. We always have respect for the material and being true to the source.

How do you nail recreating those emotions?

LK: To start with, let me back up, and say that what’s originally done with this game, and as a work of art, was magic. You really can’t say, “It was this particular thing that made me feel that way”. It’s the sum of all those things. And that’s why when people ask how we begin a project like this, and how Max and the team begin to work on it—step one is always to play the original game. It’s to go through that, and to understand how important it was in



TOP: *Dark Forces* is the debut of hero Kyle Katarn, who would go on to star in the *Jedi Knight* games.

ABOVE: Retaining the unique feel of the classic *Dark Forces* FPS gameplay is key for Nightdive Studios.



the grand scheme of things. That’s always step one. But if you look in the trailer that’s out; if you look at Darth Vader, you can see exactly what we tried to do. The scenes are almost duplicative, but one is in much higher resolution.

One thing we haven’t touched on is that we’ve had absolutely great support from the teams at Disney and at Lucas. It’s an interactive relationship. Particularly the folks at Lucas who have been really excellent at helping us stay on target.

Can you talk about the importance of Kyle Katarn, *Dark Forces*’ hero?

SK: You know, as a young kid in the ’90s, and getting to experience a game like this in the Star Wars universe, not only with kind of a fresh take on the series as a whole, but you’re being put in the footsteps of Kyle Katarn, who is, quickly at the beginning of the game, labeled as

kind of an Imperial defector. He’s not really a nobody; he’s a mercenary who’s been disenfranchised with the Imperials. He’s willing to do some dirty jobs for the Rebels, just to get back at them.

And his first job is to steal the Death Star plans. So I think that Lucas did an amazing job of integrating the beginning of the game with the original franchise. But, really, that’s kind of the only connection it has. After that, it leads you into your own unique story outside of the Skywalker saga. His character, it grows and it builds just like it would in any movie—or any well-made movie, I should say – until you’re the hero of the rebellion by the end of it.

What really makes it strong is that, in the sequel, they really push that to an amazing degree by having, you know, live-action actors and full-motion video, and another whole, new cast of characters. It really expanded on the Star Wars universe in a way that had never been done before. I think that he just resonates so strongly with the people that play the game, because he’s a hero of the franchise, but, you know, he’s never been in a movie. It’s unique in that way.

What’s been the biggest technical challenge in remastering this game?

MW: It’s been quite an interesting game from a technical standpoint.

One thing I've realized is that there's a Goldilocks zone for where you can program a game. *Dark Forces* has been difficult to change, from the technical end of things, because it is very heavily over-designed. It's very well-programmed, but it's also a lot to take in, initially.

Our primary programmer, Samuel Villareal, did an absolutely fantastic job of doing the initial porting from DOS. But there were a lot of small details in how LucasArts did things at the time that made stuff particularly difficult. LucasArts did some very interesting technological things, especially for the time. Effectively, they managed to do multi-threading effectively, using a task system in the mid-1990s.

We had to use sophisticated, modern techniques to be able to get it to work nicely, while keeping the same basic idea. Because one thing about *Dark Forces* that is nice is that, unlike other projects, we managed to get the source code from the start. So we could use that as a basis, but we had to modernize all of these concepts that worked for programming in DOS for your 486 or Pentium, but do not fly on your 16-core, infinite gigahertz, modern processor.

SK: Max, was there a specific challenge related to the game design that had to be translated for Kex [the remaster's game engine]?

Max Waine: I think the biggest challenge that we faced was, as I said, how they did the multithreading stuff, and updating that to work with the new system. I'd say the other thing that's been difficult to appropriately modernize is the user interface that they had, in terms of menus and such, because the menus are all mouse-driven in the original. And the briefings are, as well. So finding an appropriate balance that feels faithful to how the original menus are, while being able to work while you're on a controller, was quite difficult. Outside of that, the core game design we haven't touched at all. In terms of how the game design plays, that's perfectly fine, outside of them just being very over-engineered.

How influential do you feel the original *Dark Forces* was on FPS games and broader PC gaming?

MW: I want to reiterate that they really raised the bar in quite a few

areas, just when it came to the technology, when it came to the delivery of story and immersing yourself within the world of Star Wars. And I think that is kind of the key words I would use when it comes to what sets *Dark Forces* so thoroughly apart from its contemporaries. It's "immersive". Sorry, Larry.

SK: Just one aspect that I remember from back then that really impressed me was that every level was unique, and has its own texture palette and kind of aesthetic. You'd travel to so many different locations that nothing ever feels the same. In one, you're navigating a sewer system that's been secured by droids and swamp creatures. And on the other, you're on a frozen ice planet, breaking into an Imperial detention center. And the whole thing kind of crescendos on board an elite Star Destroyer. Just that sense of scale, I think, of all the different levels, really amplified the Star Wars feel of it. It did such a great job of emulating the feel of the movies in that regard.

LK: What I want to say, just to build on what Max said, if you remember, *Doom* comes out, and changes everything. It changes all our perceptions of what an FPS can be. And then there's kind of the generation of what was called—and I don't mean to say it dismissively—the *Doom* clones.

Well, none of those games believed in letting the story get in the way of shooting things. Right? This was the first game that I remember playing where the story was not

something to be dismissed. The game was the story, and the story was the game. *Dark Forces* was one of those games that raised the bar for everything that came after.

What's the thing in the remaster that you get a kick out of the most?

SK: I particularly love that you can play the game in a true 3D mode now. There's a full mouse-look, and the 3D environments behave in the way that you'd expect them to. So it feels very modern, but you're still exploring the original geometry of the original level design, and all the atmosphere is intact. But it feels like a modern shooter now. That, coupled with the increased resolution of the sprites, and the clarity of the sound. It feels brand-new while also being familiar, and kind of cozy. It's like reuniting with an old friend again.

MW: I'm project lead on a Star Wars project! I'm in my mid-20s. You can't tell little kid Max that. And holy crap, he wouldn't believe you. That's absolutely wild to me, that I've had the privilege to be able to do this, and I'm so glad that I've been able to, and I'm so proud of the amazing work that everyone's been doing.

LK: So I need to reveal that I play all of our games but I'm terrible at games. I've not gotten any better as I've aged. That said, my favorite, I'm in just awe of the cutscenes. They bring back the same feeling now that I had back then. ■

BELOW: Kyle, buddy, being totally honest with you, I don't think you've got this.





YEARS OF PC GAMING

**THE BIGGEST GAMES, MOMENTS,
AND HARDWARE FROM THE
LAST 30 YEARS OF PC GAMING**



PC gaming... it's freakin' brilliant isn't it?! And PC Gamer magazine has been in lockstep with its rise and evolution at every point over the last 30 years. We've been there for the dizzying highs as well as the terrible lows, the radical industry shifts and the gradual cultural changes.

Here, we look back on 30 glorious years of PC gaming, from its biggest game releases and most impactful events, through its iconic game-changing hardware and software, and onto its most legendary characters.

December 1993

Doom

DEVELOPER ID SOFTWARE PUBLISHER IN-HOUSE



Strictly speaking, PC gaming didn't start with *Doom*. Spiritually though, it absolutely did. *Doom* embodies so much of what would define PC gaming across the next three decades. Its cutting-edge tech established the PC's reputation as a premium gaming platform. Its immersive, satisfying gunplay made first-person shooters the PC's mascot genre. Its emphasis on violence and horror expanded the medium's reputation beyond a pastime for children. It even took the first steps toward online multiplayer.

Doom's influence on PC gaming cannot be overstated. Yet what's most remarkable about id Software's landmark shooter is its sheer sticking power. Far from being a fondly remembered relic, *Doom* is one of the most widely playable games in existence, having been ported not just to every gaming platform, but every piece of technology with a screen. Its engine, made open source in a truly visionary move by John Carmack, birthed the PC's unique, endlessly creative modding scene. *Doom* mods are still making waves today. There are even whole new games being made in *Doom's* engine, like ambitious shooter *Selaco*, due out next year.

While *Doom's* cultural omnipresence is remarkable, it can make it easy to lose sight of the game at the center of it all, which remains a fantastic experience today. Although visually primitive by modern standards, mechanically it retains its delicate balance of weight, flow, and reactivity. Its weapon roster is still the blueprint for most single-player shooters, while its shotgun remains the baseline for all videogame firearms, and its 3D mazes still have much to teach about level design.

Moreover, for all the games that have imitated it, *Doom's* distinctive atmosphere and pacing have proved oddly hard to replicate. Even its own follow-ups fell to either side of the original's distinctive blend of action and horror. Thirty years on, there is still something elusive at the heart of *Doom*, which more than anything else is what defines it as a masterwork.



June 1995 E3 begins

LOCATION LA CONVENTION CENTER ORGANISER ENTERTAINMENT SOFTWARE ASSOCIATION

To understand the significance of E3's arrival, you need to know how games were treated before E3, at other technology trade shows like CES. "In 1991, they put us in a tent," said Sega America's then CEO Tom Kalinske. "You had to walk past all the porn vendors to find us. That particular year it was pouring rain, and the rain leaked right over our new Genesis system. I felt we were a more important industry than they were giving us credit for."

The first E3 was born as a response to this kind of treatment, a trade show designed to promote gaming's growing commercial and cultural significance, rather than obscure it. Held from May 11-13 at the Los Angeles Convention Centre, the first E3 saw exhibitions by the likes of Sega, Nintendo, Sony, Activision, EA, Capcom, Microsoft, and LucasArts. Showcased PC games included *Descent*, *Discworld*, *Wing Commander 3*, and *Syndicate Wars*.

Although technically a trade show meant for industry professionals, E3's cultural significance gradually broadened, gaining global public attention after the turn

of the millennium. Simple game and console showcases morphed into extravagant stage presentations by big publishers. E3 could even affect how games were made, with huge amounts of developer resources being funneled into making an E3 demo that would wow people. Having the public's eyes on E3 was something its organizers were dubious about, and between 2008 and 2010 the show was closed to all but handful of professionals, with attendance dropping by 90 percent.

Although largely dominated by console manufacturers, E3 has witnessed some explosive PC gaming moments, like the positively futuristic demo of *Doom 3* in 2002, and the hugely anticipated showing of *Half-Life 2* the following year. In 2015, the PC Gaming Show was launched in association with PC Gamer, bringing attention to all the fantastic PC games that don't have a massive publisher behind them.

In 2020, E3 was canceled for the first time due to the Covid pandemic, and with the exception of an online event the following year, the show hasn't returned since. While there have been events in its place like Summer Games Fest, nothing has yet managed to replicate E3's collective celebration of videogames.

April 1995
Tim Schafer releases classic point-and-click *Full Throttle*.



E3 has witnessed some explosive PC gaming moments, like the positively futuristic demo of *Doom 3* in 2002

June 1996

Quake

DEVELOPER ID SOFTWARE PUBLISHER GT INTERACTIVE



While there are many shooters like *Doom*, there's nothing quite like *Quake*. With its peculiar mix of gothic fantasy and industrial horror, id Software's 1996 shooter remains a singular entity in the annals of the FPS. Even its own developer has never revisited the series' original design, choosing instead to go down a more sci-fi route for the sequel.

Perhaps that's because *Quake* was born from id Software's tensions as much as its talent. With a lengthy (for the time) development cycle, *Quake*'s



creation was plagued by multiple redesigns and personality conflicts, culminating in John Romero's departure from the company. It's one of the earliest insights into the mounting pressures upon blockbuster game developers, which would only increase as ambitions, budgets, and development cycles ballooned.

Nonetheless, *Quake* is still a landmark entry in the gaming canon. Its true 3D graphics engine represented a huge advance over *Doom*. It was also the first id game to feature mouselook, bringing added responsiveness and verticality to its gunplay. Special mention should be

October 1996

The original *Tomb Raider* game is developed by Core Design, introducing hero Lara Croft.



given to Trent Reznor's buzzing, ominous soundtrack, which remains one of the most distinctive musical scores of any game.

Of course, *Quake*'s most significant contribution to the PC gaming landscapes was its multiplayer. John Carmack's revolutionary netcode made *Quake* playable across dial-up internet connections, paving the way for everything from *Counter-Strike* to *Call of Duty*. Its fast-paced, competitive deathmatch also saw the earliest pro gamers rise to prominence, like Dennis 'Thresh' Fong and Stevie 'KillCreek' Case, laying the groundwork for today's global esports scene.



With its peculiar mix of gothic fantasy and industrial horror, id Software's **QUAKE** remains a singular entity in the annals of the FPS

September 1997

Ultima Online

DEVELOPER ORIGIN SYSTEMS/MYTHIC/BROADSWORD PUBLISHER ELECTRONIC ARTS

▶ *Ultima Online* was to MMOs what *Doom* was to first-person shooters. It may not be the original massively multiplayer game, but it was the first to demonstrate they could have global appeal.

While *Ultima* takes place in a typical fantasy world, it's closer in spirit—mechanically speaking—to *EVE Online* than

World of Warcraft, a player-driven sandbox with a dynamic economy and persistent housing for its players.

The game was also the scene of gaming's most famous instance of griefing, when Origin co-founder Richard Garriot's "Lord British" avatar was assassinated during a beta test. The more things change...



March 1998

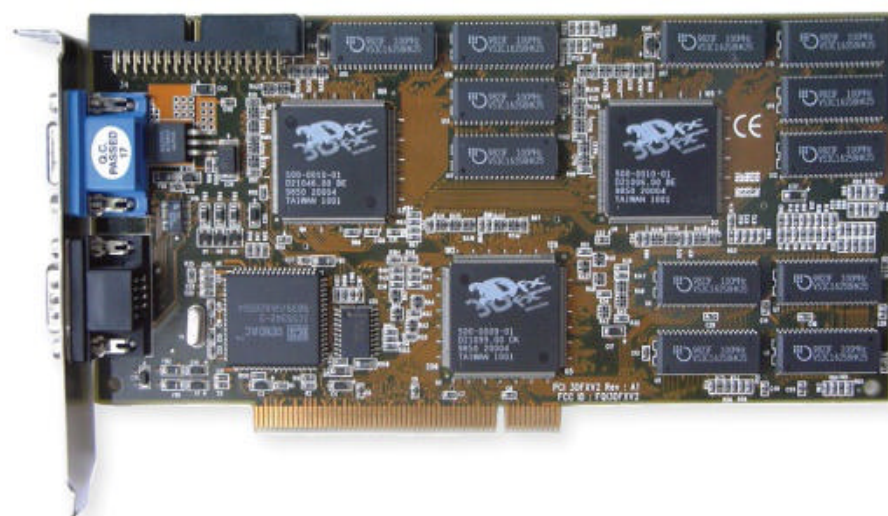
Voodoo2

MANUFACTURER 3DFX CLOCK SPEED 90MHZ

▶ The Voodoo Graphics card from 3dfx introduced hardware acceleration in 1997, but it was the Voodoo2 that really showed what GPUs could do. Not only did it boost resolutions from 640x480 to 800x600, but you could pair two of them together to crank that up to 1024x768. The Voodoo2 also supported

dual texturing per pixel, which made games like *Quake 2* and *Unreal* look phenomenal.

The Voodoo2 represented the most dramatic advancement in computer graphics since the advent of 3D, and catalyzed the advancement of computer graphics across the next decade. Sadly, 3dfx wouldn't survive to see it.



October 1997

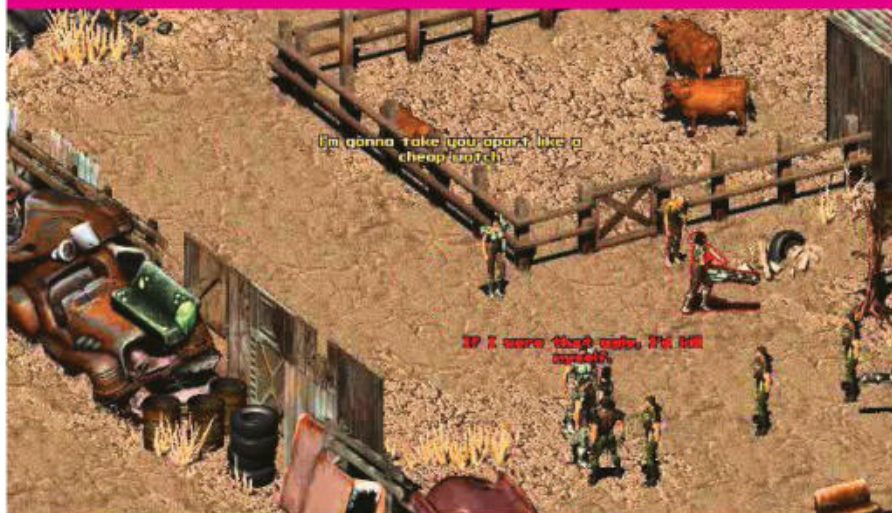
Fallout

DEVELOPER INTERPLAY PRODUCTIONS PUBLISHER IN-HOUSE

▶ When *Fallout* arrived in late 1997, the CRPG was dead. PC gaming was all about action and attitude in the '90s, and *Fallout's* success came from channelling some of that attitude back into the RPG. Its satirical post-apocalypse and snappy branching narrative

let players be a badass, a hardass, a dumbass, and every kind of ass in between.

Fallout's isometric perspective and adaptive quest design made it the template for the modern CRPG, and its legacy is still visible in games like *Baldur's Gate 3*.



March 1998

StarCraft

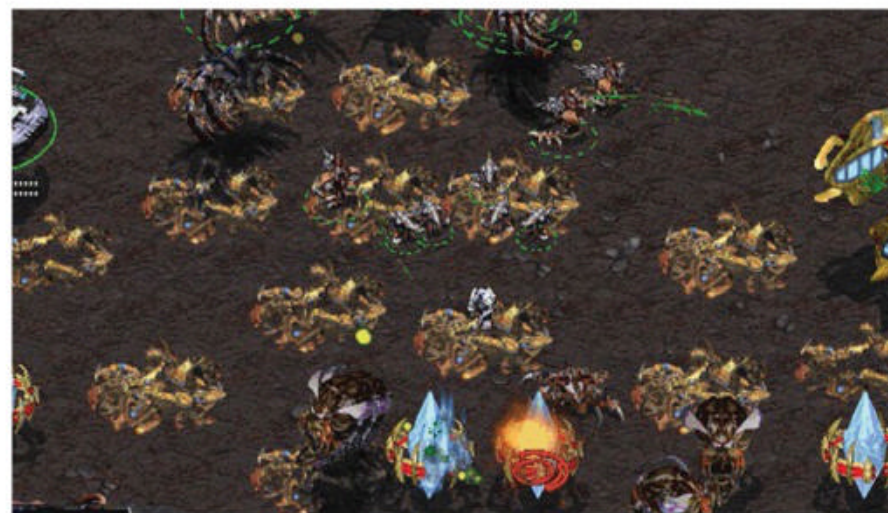
DEVELOPER BLIZZARD ENTERTAINMENT PUBLISHER IN-HOUSE

▶ Today *StarCraft* is best known for two things, its national following in South Korea, and the resulting esports scene. But there's a reason why *StarCraft* could capture the hearts of a nation: it's the RTS honed to perfection.

Blizzard took the fundamentals already refined in its *WarCraft* series, and transposed them into a vibrant

sci-fi universe centered around three asymmetric factions.

Mastering their particularities is what kept players coming back for the next decade, and what ultimately made *StarCraft* one of the keystones of the nascent esports scene. Even after the colossal success of *StarCraft II*, the original remains reasonably popular in its spiritual homeland.



December 1998

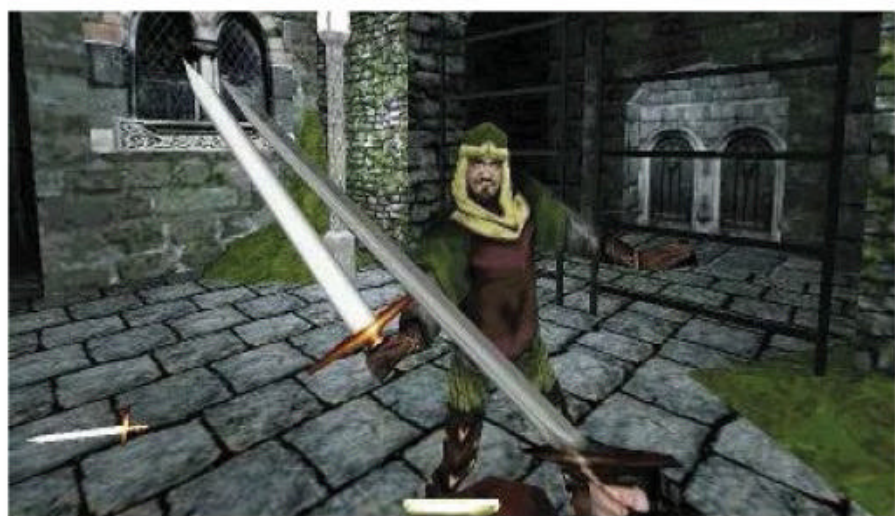
Thief: The Dark Project

DEVELOPER LOOKING GLASS STUDIOS PUBLISHER EIDOS INTERACTIVE

▶ Looking Glass' gothic fantasy was a dedicated sneaking simulation. Its lighting system let players disappear into the shadows, while its advanced audio propagation meant every step you took had to be carefully considered. It also features some of the best 3D level design around. Missions like Assassins

and The Sword have become key reference points in the level design handbook.

Thief's framework would filter through to pretty much any game where the screen goes slightly darker when you crouch. Yet while countless games include stealth in their toolset, *Thief* remains the best dedicated stealth adventure in existence.



September 1999

Age of Empires II: The Age of Kings

DEVELOPER ENSEMBLE STUDIOS PUBLISHER MICROSOFT

▶ Twenty years after its release, *Age of Empires 2* is still getting expansions. That's a testament to how universally beloved the historical RTS is. *Age of Kings* brought the series from the slightly stuffy classical era into the more popular Middle Ages, adding new features like advanced AI, improved isometric

visuals, and the ability to build big-ass castles.

In more recent years, *Age of Kings* has received not one but two overhauls. The HD edition launched in 2013, while a *Definitive Edition* released in 2019, introducing new playable factions and new campaigns. Few games have stood the test of time this well.



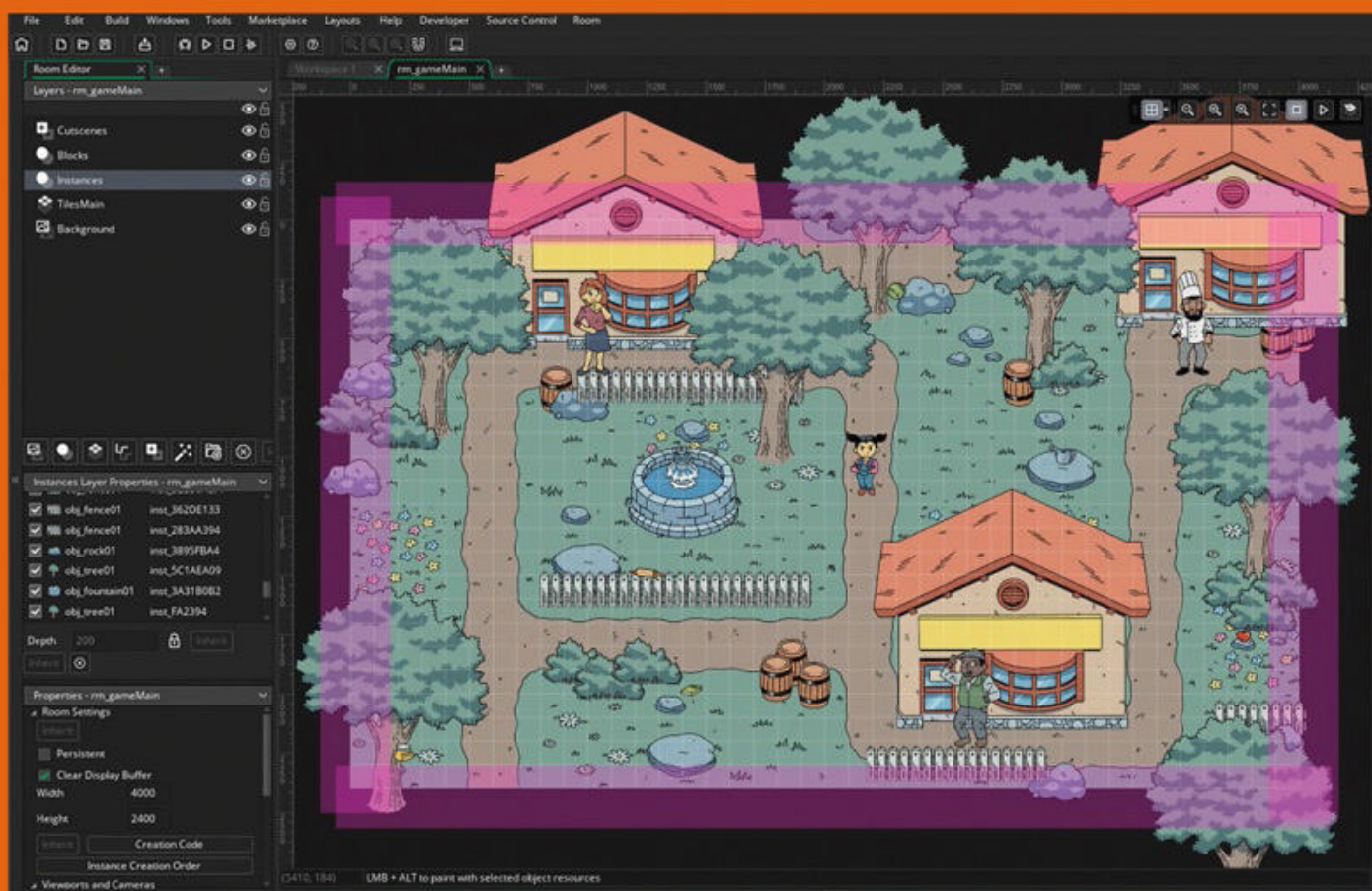
November 1999

GameMaker releases

DEVELOPER YOYO GAMES ORIGINAL PROGRAMMER MARK OVERMARS

▶ In the 1990s, there were two ways into game development. Either you learned to code, or you learned how to mod.

Then, in 1999, a Dutch scientist named Mark Overmars released a simple graphics tool called Animo. The tool gathered some attention, and Overmars began adding new features like a particle system and networking. He also changed its name to GameMaker, which in time would become emblematic of the democratization of game development. Since 2007, GameMaker has been developed by Scotland-based company YoYo Games, and has been used to make games like *Hotline Miami*, *Gunpoint*, and *Undertale*.



June 2000

Deus Ex

DEVELOPER ION STORM PUBLISHER EIDOS INTERACTIVE



Deus Ex represents the culmination of PC gaming's innovations throughout the 1990s.

Here was a game that gave you the shooting of *Doom*, the sneaking of *Thief*, the ability to talk your way around a problem a-la *Fallout*, all in one astonishing package.

It was a long-awaited triumph for the immersive sim, an offshoot of the RPG that emphasized systems-driven worlds designed to facilitate player agency. Immersive sims had been pioneered by Looking Glass Studios throughout the 1990s in games like *Ultima Underworld* and *System Shock*. Yet while beloved by those in the know, their commercial success had been negligible.

Deus Ex boasted greater ambition and flexibility than those games, but it also took place in a more relatable world. A near-future cyberpunk dystopia where every conspiracy theory you can imagine was true, *Deus Ex*'s world was governed by shadowy organizations, fought over by rogue AIs, and ravaged by a pandemic. In an age of online misinformation, its perspective on conspiracy theories can seem a little quaint, but it's also startlingly relevant in places. It has nuanced discussions about how power structures work, how government can slide into dictatorship, the problems of unregulated technology, the surveillance state, and so much more.

Sadly, *Deus Ex*'s success didn't lead to a new golden age of immersive sims. Yet it was influential enough to keep the flame alight, leading to several excellent follow-ups (and *Invisible War*) while also influencing games like *Dishonored* and *Cyberpunk 2077*. But the original remains the genre's best mix of intricate systems and insightful storytelling.

September 2000

The now legendary *Baldur's Gate II: Shadows of Amn* fantasy RPG is released by BioWare.



DEUS EX's world was governed by shadowy organizations, fought over by rogue AIs, and ravaged by a pandemic



August 2001 Windows XP

DEVELOPER MICROSOFT PUBLISHER IN-HOUSE



Microsoft's Windows OS was transformative for PC gaming, offering a level of stability, compatibility, and accessibility that simply didn't exist in the days of DOS. Gone were the days of

typing text commands to install and boot games, getting it wrong several times, then throwing your keyboard out the window.

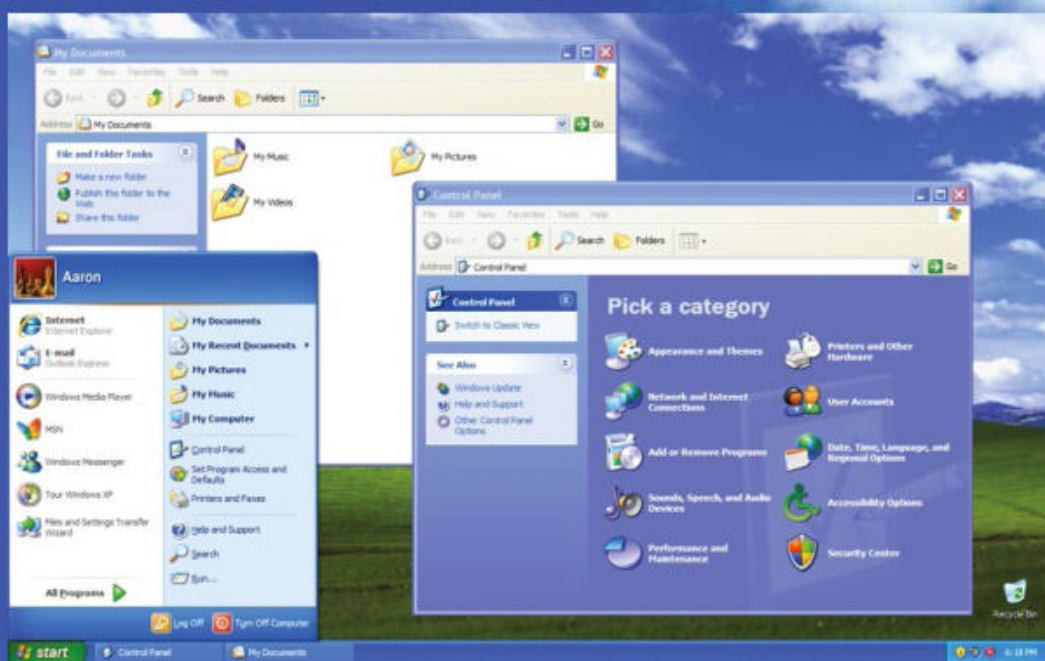
Although Windows 95 represents the key turning point from command lines to icons, Windows XP is Microsoft's crowning achievement in OS design. Its UI replaced the unsightly gray boxes of old with a sleek, colorful, and above all intuitive design. It overhauled the Start menu introduced in Windows 95, adding the two-column layout. It also introduced a bunch of new features like taskbar window grouping and fast user switching.

But what made XP such a triumph was its reliability. At a time when every PC game came with the risk that it might Just Not Work, XP proved remarkably compatible. Even games that were years old by that point, like *Quake* and *Half-Life*, would generally run without complaint.

XP was the first truly modern PC OS, and its quality is evident in its longevity. Microsoft continued official support for XP until 2012. By comparison, Windows 95's support ended just six years after its launch. XP's reliability helped power Microsoft through the embarrassment that was Vista. Even when the much-improved Windows 7 released, many users stuck with XP until the death.

May 2002

Bethesda Game Studios releases *The Elder Scrolls III: Morrowind* to huge critical success.




At a time when every PC game came with the risk that it might Just Not Work, **XP** proved remarkably compatible

September 2002

Battlefield 1942

DEVELOPER DIGITAL ILLUSIONS CE PUBLISHER ELECTRONIC ARTS

 The turn of the millennium saw PC gaming ask itself two big questions. The first was “What if you could play multiplayer shooters in teams?” while the second was “What would it be like to fight in the Second World War?”.

Battlefield 1942 answered both these questions simultaneously. In doing so, it spawned one of gaming’s biggest franchises. *Battlefield* took the renewed interest in WWII spawned by *Saving Private*



Ryan (and in the PC gaming sphere, *Medal of Honor: Allied Assault*) combined it with the PC’s rapidly advancing multiplayer capabilities that facilitated games like *Unreal Tournament*, *Counter-Strike*, and *Team Fortress*, and then massively blew out the scale.

Not only did it support whopping 64-player battles, but those players could traverse vast, open-ended maps in vehicles like tanks and planes.

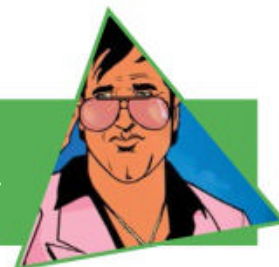
The result was an unprecedented virtual cauldron for brewing player-driven action. A match of *Battlefield* was a thousand tales written and told simultaneously by amorphous groups

of players. That time you took out a Stuka with an AA gun, or when you coordinated an armored assault on a control point with your mates, or when you held off the German advance at El Alamein.

Battlefield has been a staple of PC gaming ever since, and while the quality of the individual games may vary, its core appeal has never diminished. Its influence is also undeniable, games like *PUBG* and *Apex Legends* owe an enormous debt to *Battlefield*’s open-ended multiplayer design, while even *Call of Duty* has taken a lesson or two from DICE in recent years.

May 2003

Grand Theft Auto: Vice City is released on PC half a year after debuting on console.



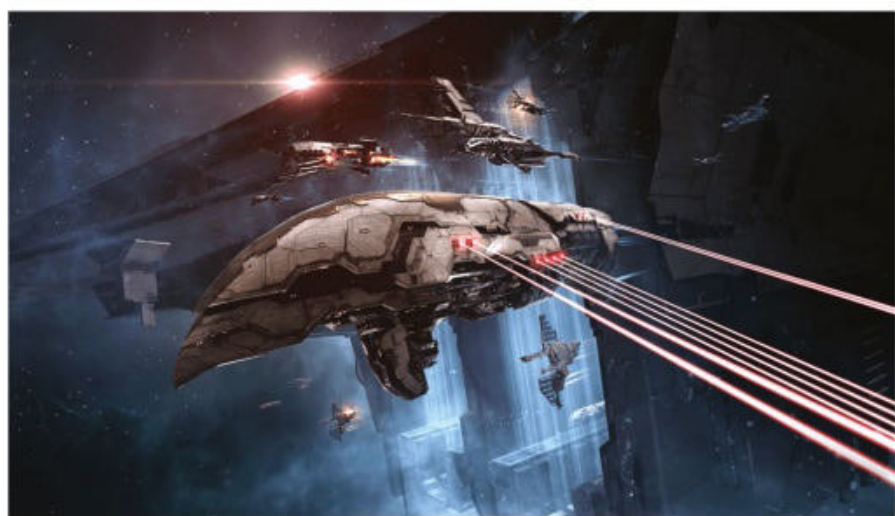
May 2003

EVE Online

DEVELOPER CCP GAMES PUBLISHER SIMON & SCHUSTER INTERACTIVE/CCP GAMES/ATARI

▶ Many games promise freedom, but *EVE* is one of the few that truly commits to it. Launched as a space MMO with a player-driven economy and an emphasis on PvP combat, what has come to define it are the shenanigans of its player-operated corporations. *EVE Online's* virtual history is riddled with ambitious heists,

daring assassinations, elaborate spy-games, and enormous space battles. There have even been times when its players have taken the fight directly to the developers. It's a game built not just for the community, but around it, with developers CCP responding to players' actions and treating them as part of the design.



October 2003

Call of Duty

DEVELOPER INFINITY WARD PUBLISHER ACTIVISION

▶ Today *Call of Duty* is known for its world-conquering multiplayer. But in 2003 it was the cinematic campaign everyone was excited about. Hot off the heels of *Medal of Honor: Allied Assault* and its recreation of Saving Private Ryan's Omaha Beach landing, designers Jason West and Vince Zampella created a new studio.

Call of Duty cast *Allied Assault's* filmic eye across three campaigns, fighting through the hedgerows of Normandy as the Americans, assaulting the bridges of Holland as the Brits, and enduring the carnage of Stalingrad as the Soviets. It was a thunderous airstrike of a game, and for better or worse, the FPS hasn't been the same since.



September 2003

Valve releases Steam

PUBLISHER VALVE DEVELOPER IN-HOUSE

▶ Valve's distribution service was never intended to be the gaming bazaar that it is today. It was made to solve a simple problem, how to patch Valve's multiplayer games in the most efficient manner.

The earliest version of Steam had no store, no community features, and certainly no trading cards. It was also roundly hated at a time when most homes still lacked internet connections, and was seen as a draconian anti-piracy measure, a threat to the freedom of PC gaming.


Eventually, Steam would completely change how PC games are purchased, owned, played, and even made. All largely because of a certain game that arrived the next year.



November 2004

Half-Life 2

DEVELOPER VALVE PUBLISHER IN-HOUSE

 In history there are two game industries, the one that lived before *Half-Life 2*, and the one that woke up after it. *Half-Life 2* was the sum of all the FPS' aspirations. A realistic, contiguous 3D environment that saw players traveling through a vast and elaborate cityscape. A revolutionary physics engine that turned every object in the game world into a potential weapon. An endlessly inventive adventure in which every chapter brought new twists. A story told by characters who moved, talked, and acted like real people.

Even at a time when shooters and first-person games were constantly breaking new ground, nobody had seen anything like *Half-Life 2*. It was so good that Valve, with all its collective brainpower, still hasn't figured out how to make a sequel to it.

The influence of *Half-Life 2* stretches as wide as it does deep. Without *Half-Life 2* there'd be no *Garry's Mod*, no *Dear Esther*, no *Portal*, and all the games those titles inspired. But by far *Half-Life 2*'s most significant impact was to make Steam a going concern. PC gamers may have hated taking their medicine before they could play the best game on the planet, but the additional install base *Half-Life 2* provided was the first major step in transforming Steam into the behemoth it is today, and by proxy, shunting the entire medium into a digital future. Not since *Doom* had there been a PC game that so fundamentally changed everything, and another wouldn't come along until *Minecraft*.

It was so good that **VALVE**, with all its collective brainpower, still hasn't figured out how to make a sequel to it



November 2004

World of Warcraft

DEVELOPER BLIZZARD ENTERTAINMENT PUBLISHER IN-HOUSE

World of Warcraft is a bizarre videogame phenomenon, in that it both started and ended the MMO craze of the noughties. Every publisher wanted a piece of World of Warcraft's action, but hardly any would come close to Blizzard's success. World of Warcraft opened the gates to the MMO party, then kicked the arse of anyone who tried to touch the cake.

What's especially remarkable about this is, before *World of Warcraft* launched, all eyes were on *Everquest 2*. At that time, SOE's *Everquest* was the best MMO going, and the sequel looked set to provide a substantial upgrade, with improved visuals and less punishing progression.

Admittedly, *Everquest 2* did all those things. *World of Warcraft* merely did them better. Blizzard took the lessons it learned from games like *Diablo* and *StarCraft* and used

them to refine everything that made MMOs fussy and obscure. Its death penalty system was both lenient and imaginative, while its auction houses made trading items with other players a breeze. Alongside this was slicker storytelling and quest design, and state-of-the-art PvP that divided players into two warring factions. You could even fly across the map on mounts like gryphons.

In the end, *World of Warcraft* just buried *Everquest 2*. And it would do the same for virtually every MMO that followed in its wake. While a few titles like *Guild Wars* and *Lord of the Rings Online* were innovative or illustrious

enough to cobble together a reasonable following, so many more died quietly within a few years of launch. Only *Final Fantasy 14* has proved anything like competitive, and that's after the game was redesigned.

All the while, *World of Warcraft* kept on succeeding, with each expansion building upon the game's foundation, or in the case of addons like *Cataclysm* or *Shadowlands*, overhauling it entirely. Indeed, the game has changed so much that Blizzard released the original version again, for players who wanted to go back to its classic iteration. *World of Warcraft*: so good they launched it twice.

May 2005

The now infamous "Leeroy Jenkins!" battle cry video is released on Warcraftmovies.



April 2006

Oblivion's horse armor

STABLE BETHESDA SOFTWARES PROTECTION LEVEL PURELY COSMETIC

In 2006 Bethesda was the most exciting game studio around. Its new RPG *Oblivion* had blown players away with its vast, beautiful, and endlessly surprising fantasy world. But Bethesda's popularity soon took a dent when it launched *Oblivion*'s first slice of additional content. This differed in two ways from previous expansions Bethesda had made, like *Tribunal* and *Bloodmoon* for its earlier title *Morrowind*. First, it was delivered entirely digitally. Second, it wasn't a new island to explore or adventure to tackle. No, it was a bit of armor for your horse.

The stink this caused was unbelievable. While players weren't against paying for additional game content, the idea of shelling out money specifically for one in-game item was ludicrous. One commenter on the website 1UP around the time of release wrote, "I am going to pay a 'premium' for a nifty hat?" unwittingly predicting Valve's entire business plan for the 2010s.

Looking back now, what's most remarkable is how mundane this all seems. Today, virtually every game has

optional payable content, whether it's in the form of expansions, DLC, microtransactions, battle passes, season passes, or loot boxes. It's taken as read that most games, especially bigger titles, will be orbited by a ring of fragmentary extras. A paid item being entirely cosmetic is considered a good thing, as it means players aren't missing out on a potentially meaningful feature.

What changed? Well, partly this was normalized through sheer inundation, not just of payable DLC, but of games in general. As the volume and size of available games increased, the debate over smaller pieces of payable content seemed to matter less. When you've got three 80-hour open-world games on the go, plus 100 hours in a free-to-play shooter, the option to buy an extra suit in one of those games doesn't seem so offensive.

That said, paid extras can still be contentious. Loot boxes remain controversial due to the gambling element that plays into them. *Star Wars: Battlefront* (2017) was savaged for its cynical loot box implementation, a criticism that stained the game's reputation long after it was resolved. Which goes to show, you're only one shortsighted business decision away from becoming the next bit of horse armor.

May 2006

The legendary *Hitman: Blood Money* is released by IO Interactive to great acclaim.



Today, it's taken as read that most games, especially **BIGGER TITLES**, will be orbited by a ring of fragmentary extras

August 2006

Dwarf Fortress

DEVELOPER BAY 12 GAMES PUBLISHER IN-HOUSE



Never has a game been so simultaneously behind and ahead of the times as *Dwarf Fortress*.

Released in 2006, *Dwarf Fortress* was a preposterously complex management sim at a time when management sims were out of vogue. It was a game fronted by impenetrable ASCII graphics, at a time when the industry was moving toward increased visual fidelity and streamlined interfaces.

By all rights, *Dwarf Fortress* should have vanished into internet obscurity. At the same time, it's quite hard to ignore a game that generates an entire history of civilization before you start to play. Notionally about building and managing a home for a colony of dwarves, *Dwarf Fortress* is really an impossibly complex story engine designed to factor in every possible eventuality. It's not just a game where your dwarves fight procedurally generated monsters in a procedurally generated land, but one where they have procedurally generated personalities and can write procedurally generated poetry.


Dwarf Fortress would go on to inspire other colony sims like *Prison Architect* and *RimWorld*. These games didn't have quite the same depth as *DF*, but were significantly easier to grapple with. All that changed late last year, however, when Bay12 released a new version of *Dwarf Fortress* sporting *gasp* hand-drawn graphics and *swoon* a user interface that supported a mouse. This made *Dwarf Fortress* significantly more accessible, and made Bay12's designers millionaires. All it took was 20 years building the most complex game ever made.

It's quite hard to ignore a game that generates an **ENTIRE HISTORY** of civilization before you start to play

October 2007

The Orange Box

PUBLISHER VALVE COLOR ORANGE

 Valve is a company that likes to solve problems, and in 2007 the problem was that none of its current projects—*Team Fortress 2*, *Half-Life 2: Episode Two*, and a weird experiment called *Portal*—really felt like a full game. But Valve realized each project filled in the gaps where the others fell short. So was born the greatest videogame anthology in history.

Before launch, the headline act was *Episode Two*. Although *Episode One* hadn't been quite up to the same standard as *Half-Life 2*, *Episode Two* promised terrifying new enemies, advanced vehicular mechanics, and some big story twists.

Ultimately though, *Episode Two* proved the least exciting part of the box. *Team Fortress 2* brought a radical new aesthetic to Valve's *Quake*-mod-inspired shooter, one perfectly suited for the cartoonish chaos of a multiplayer FPS. But the most astonishing of the trio was *Portal*, which brought a genuinely revolutionary game mechanic to the table, packaged in a brilliantly brain-teasing puzzler overseen by one of gaming's greatest comic creations.

The legacy of *The Orange Box* isn't entirely without blemishes. Valve's handling of *Team Fortress 2* has been questionable, and *Half-Life 2* never did get a proper ending. Nonetheless, *The Orange Box* represents Valve at the height of its creative powers, and I'd give my little finger to see the company do something this bold again.

November 2007

RPG master BioWare releases the first *Mass Effect* game, which used Unreal Engine 3.



May 2009

Plants vs Zombies

DEVELOPER POPCAP GAMES PUBLISHER IN-HOUSE

Like *Peggle* before it, *Plants vs Zombies* was instrumental in the normalizing of 'casual' games on PC. Valve's inclusion of a demo version of *Peggle* in *The Orange Box* had countless PC gamers paying attention to what PopCap would do next.

Plants vs Zombies showed that games you'd normally find

free on Newgrounds.com could compete with shooters and RPGs as premium mainstream titles. Then PopCap was acquired by EA, and *Plants vs Zombies* disappeared into mobile-land. But the original's significance as a PC landmark remains. It's also the second-best game after *Portal* to finish on a song.



September 2010

Recettear: An Item Shop's Tale

DEVELOPER EASYGAMESTATION PUBLISHER CARPE FULGUR

You might not be familiar with *Recettear*, in which you play a young girl in a magical shop who explores randomized dungeons. But it's notable for being the first Japanese game to release on Steam.

Prior to this, the PC was rarely a focus for Japanese publishers. You'd occasionally

see a port of a Capcom or Sega game, but that was it. Yet Steam revealed the PC market was too big to ignore. *Recettear* was the first crack in the dam, leading to everything from *Dark Souls* to *Yakuza*, *Persona* to *Nier Automata* arriving on the platform. You can even play *Shenmue* on PC now. What an age we live in.



November 2011 Minecraft

DEVELOPER MOJANG PUBLISHER IN-HOUSE

While *Minecraft* officially released in late 2011, it had already been a sensation for over a year. Its highly public alpha development is one of many reasons why Mojang's cubic omni-game was revolutionary, and there's a direct line from it to today's Early Access.

It also changed the types of games being made. *Minecraft's* groundbreaking survival mechanics paved the way for titles like *DayZ*, *Subnautica*, and *Fortnite*, while its block-based building system directly influenced the likes of *Factorio* and *Satisfactory*. It's wild just how much of today's gaming landscape was shaped by *Minecraft*. A truly monumental PC game.



November 2011

The Elder Scrolls V: Skyrim

PUBLISHER BETHESDA SOFTWORKS FUS RO DAH



Bethesda's finest hour. *Skyrim* combined the refinements of *Oblivion* with a less cod fantasy landscape inspired by Norse myth. The rugged mountains and misty valleys brought back some of the weirdness Bethesda had left behind in *Morrowind*. Also, it had dragons.

The result was a perfectly balanced RPG brew. *Skyrim* had just enough sharpness in its combat and intuitiveness in its systems to give it mass-market appeal, but it also had sufficient flexibility and, let's face it, inherent wonkiness to make it an internet sensation in the golden age of social media. Buckets on heads! Oaths to carry burdens! A certain projectile in a leg joint! It was the same weirdness that had been in *Oblivion*, but unlike in 2006, it was a lot easier to share.

Which is not to say everyone loves *Skyrim* purely because of the memes. So much of *Skyrim*'s memetic potential derives from its openness, its willingness to let you bend and even break it. Nowhere is this more apparent than in *Skyrim*'s unrivaled mod scene. From new inventories to enhanced survival systems, novel quests to entire unexplored areas. Forget waiting for *The Elder Scrolls VI*, you could probably assemble a sequel yourself just out of *Skyrim* mods.

Since *Skyrim*, Bethesda's games have lost some of that openness. *Fallout 4* leaned far more heavily on its shooter credentials, while *Starfield* lacks a contiguous play-space capable of generating oddball moments. They're still decent adventures, but the sooner Bethesda gets back to *The Elder Scrolls*, the better.

SKYRIM had just enough sharpness in its combat and intuitiveness in its systems to give it mass-market appeal

October 2012

XCOM: UFO Defense

DEVELOPER FIRAXIS GAMES PUBLISHER 2K



Firaxis' reboot of Julian Gollop's 1994 game (also known variously as *X-COM: Enemy Unknown* and

UFO: Enemy Unknown) is another one of those great pivot moments of PC gaming. Before *XCOM*, turn-based tactics was practically a forgotten genre. But Firaxis brought it screaming back, blending cinematic flair with ruthless tactical challenge to create a gripping, dynamic sci-fi drama. *XCOM*'s tactical scenarios could deliver the kinds of shocking twists you'd normally experience in a TV show like *Game of Thrones*, only the characters being mercilessly slaughtered were ones you'd created, in situations you'd got them into.

XCOM also fit right into the 2010s' renewed appetite for uncompromising experiences, a more cerebral companion to the high-wire athleticism of *Dark Souls*. Its alien menace wasn't afraid to just beat you, but to humiliate you too, and even the best outcomes came with losses. As such, completing a mission in *XCOM* always felt like a huge achievement. And winning a campaign? Well, pat yourself right on the back.

In the wake of *XCOM*, turn-based tactics went from forgotten genre to arguably the dominant strategy mode for the next decade, inspiring everything from *Gears Tactics* to *Invisible, Inc.* Turn-based tactics even began infiltrating other genres. Role-playing games like *Wasteland 2* and *Baldur's Gate 3* owe as much to *XCOM* as they do the CRPGs of the '90s. Going forward, the 2010s would see a string of highly successful reboots, including *Tomb Raider*, *Wolfenstein: The New Order* and *Doom*, but none of them were as transformative as Firaxis' tactical masterpiece. Hurry up Commander, we need you back.

2012

Valve releases tactical FPS *Counter-Strike: Global Offensive*.



2012

Tim Schafer's *Broken Age* becomes real after raising over \$3.45 million on Kickstarter.



March 2013

Steam Early Access Starts

DEVELOPERS MANY



Although *Minecraft* first seeded the idea of paying for an incomplete game, it was Valve that formalized the concept. In March 2013, 12 games launched as part of Steam's Early Access program, letting developers sell unfinished titles, using player funds and feedback to complete the project. The list included *Arma 3*, *Kerbal Space Program*, and *Prison Architect*.

The idea of paying for unfinished games risked further fragmentation of games as a product, a process that had already begun with DLC and microtransactions. There was a fear developers might abuse the system to escape scrutiny, responding to criticism of flawed or poor design with "it's not finished", or simply taking the money and running.

And Steam Early Access *has* been misused on occasion. But, on the whole, has been a huge net positive for PC gaming. Of the 13 games that originally launched in Steam Early Access, three eventually ceased development, but ten saw full launches, and at least one, *Kerbal Space Program*, is among the greatest PC games ever made. That's not to mention all the brilliant games to emerge from Early Access since, like *Slay the Spire*, *Vampire Survivors*, and of course *Baldur's Gate 3*.


Rather than representing a threat to how games are made, Early Access acknowledges the highly iterative and collective nature of game development. Whether a game is finished or not comes down to one thing, the developer's choice, and Steam Early Access simply helped expand their options.

Its **ALIEN MENACE** wasn't afraid to just beat you, but to humiliate you too, and even the best outcomes came with losses

March 28, 2013

Oculus Rift DK1

MANUFACTURER OCULUS VR

 You could play a crude VR version of *Half-Life 2* on the Oculus Developer's Kit 1. It was grainy, it was disorienting, and it made some feel sick. But the Combine soldiers were actually human-sized, the vertical drops made stomachs lurch, and the headcrabs leaping at your face were terrifying.


In 2013, it felt like virtual reality would take over the world. Physical and economic limitations have prevented a VR revolution, but the tech is nonetheless a well-established part of PC gaming today. If nothing else, VR brought us a whole new *Half-Life* game, *Half-Life: Alyx*, every bit as brilliant as the first two.



November 2015

Steam Link, Steam Controller, Steam Machines

MANUFACTURER VALVE

 Valve first crossed the line from software developer to hardware designer with these three devices. It was Valve's first stab at building a console-like experience around PC gaming, without actually making a console. Unsurprisingly, this

half-measured approach didn't catch on, and Steam Machines had all but vanished from Steam by 2018. That said, the Steam Link was a genuinely neat piece of hardware, and Valve's hardware aspirations would see much greater success in the years to come.




May 2015

The Witcher 3: Wild Hunt

DEVELOPER CD PROJEKT RED

PUBLISHER CD PROJEKT

 Open worlds on PC reached their zenith with CD Projekt's dark fantasy. The scale of this RPG was extraordinary, but what truly defined *The Witcher 3* was the texture of its world. Its landscapes weren't just beautiful, they were wild and unkempt and hostile. Its story wasn't just dramatic, it was tender, nuanced, heartwarming and heartbreaking. The quality wasn't limited to the main plot, but virtually every side-quest too. It may be a game about a mutant slaying monsters, but *The Witcher 3* is one of the most human games ever produced by a big-budget studio.

December 2017

PUBG: Battlegrounds

DEVELOPER PUBG STUDIOS PUBLISHER KRAFTON



Perhaps the most recent game to cause a paradigm shift in how mainstream titles are designed, *PlayerUnknown's Battlegrounds* emerged from the inhumane chaos of *DayZ*, Bohemia Interactive's multiplayer zombie survival mod for *Arma 2*. In *DayZ*'s world, survival was the only goal, and in achieving this you could be as cruel and treacherous to other players as you liked.

PUBG basically took this idea and formalised it into a round-based scenario. The same large, post-military world, the same large number of players. But now players had to compete with one another in a gradually shrinking playspace until only one of them was left. And lo! The battle royale genre was born.

PUBG's impact was as enormous as it was rapid. In the battle royale formula, Epic saw an opportunity to turn around the ailing fortunes of its *Minecraft*-inspired survival game *Fortnite*, creating one of today's biggest blockbusters. Respawn applied its unrivaled FPS talents to the formula, producing arguably the best battle royale game in *Apex Legends*. Even Activision stood up and took notice, building the hugely successful, if variably good *Call of Duty: Warzone*.

The success of battle royale lies in its balance of scale and accessibility. These games have the footprint of an MMO or a shared-world shooter, but don't demand the same commitment. They have events and seasonal changes, but don't require that you follow along with every step. Perhaps that's why battle royale has thrived in recent year, while so many looter-shooters and MMOs have struggled.

The most recent game to cause a **PARADIGM SHIFT** in how mainstream titles are designed

September 2018

Geforce RTX 2080

MANUFACTURER NVIDIA CLOCK SPEED 1515MHZ



PC gaming has long been at the cutting-edge of graphics technology, but the rate at which visual

fidelity increases has been flattening over the last decade. Back in the '90s, just four years took you from the 2.5D hellscape of *Doom* to the fully 3D, hardware-accelerated sci-fi nightmare of *Quake 2*. Then it all went quiet.

Which is why the advent of ray tracing in 2018 felt like such a big deal. Here was a technology that seemed a genuine leap forward: true, path-traced real-time lighting that accurately simulates how light bounces off

surfaces to create shadows, reflections, and refractions. Games had become very good at faking these things, but here was a technology that did it for real.

In practice, the ray-tracing revolution has been more of a spirited argument. The improvements ray tracing brings can often be hard to discern. Moreover, the performance cost for often slight improvements was enormous, and on early RTX cards like the 2080 were often not worth the enhancements they provided.

Modern ray-tracing also raises other questions, such as whether or not an all-purpose lighting solution is always beneficial for how games look. Yes, putting real-time lighting into

games like *Quake 2* and *Minecraft* is a cool trick, but it also fundamentally compromises the aesthetic of those games. The recently released *Counter-Strike 2* uses old-fashioned baked lighting, and not only does it look fantastic, it looks fantastic in the way a Source engine game should. As is always the case, good technology is nothing without good implementation. That said, when it is used correctly, like in *Cyberpunk 2077*, ray tracing can be absolutely mindblowing.

Here was a technology that seemed a genuine leap forward: true
PATH TRACED lighting

December 2018

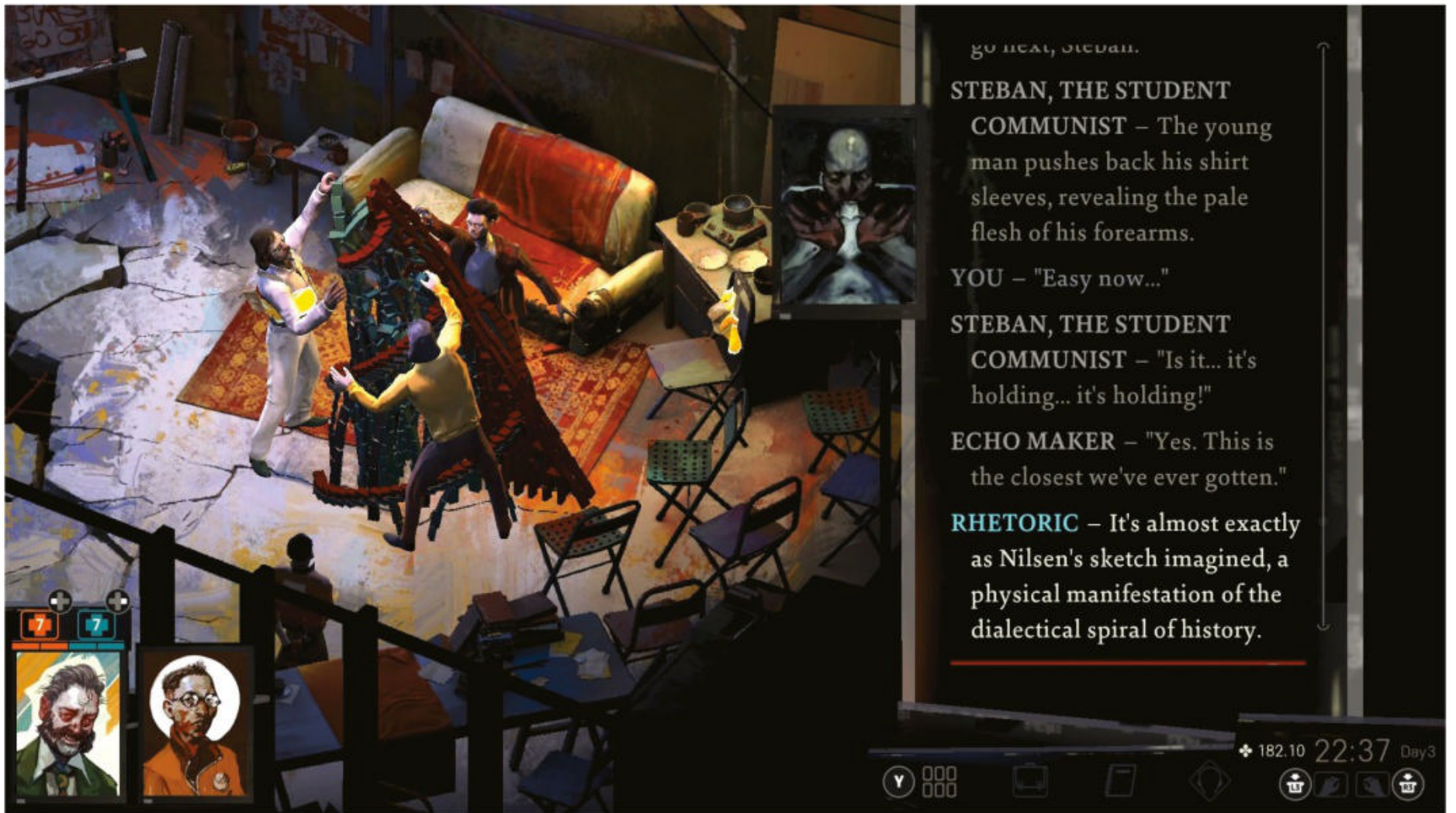
The Epic Games Store is first launched, proceeding to hand out free PC games each month.

EPIC
GAMES
STORE



2019
Nvidia launches version 1.0 of its DLSS AI upscaling tech.

2019
Keanu Reeves says "You're breathtaking!" while on stage at the E3 games show.



October 2019

Disco Elysium

DEVELOPER ZA/UM PUBLISHER IN-HOUSE

Role-playing games inherently involve experimenting with alternate personalities. But few are as fundamentally about personal identity as *Disco Elysium*. The detective RPG from Slovakian developer ZA/UM plunges so deeply into your sense of self that your inner thoughts have inner thoughts. Playing as an alcoholic cop who goes on a bender so extreme it wipes his entire memory, you must solve the murder of a man found hanging in a tree while also solving the mystery of who the heck you are.

Many RPGs have your character start out as a blank slate, but in *Disco Elysium* you are a shattered slate, your mind a million shards. Every character skill relates to a fragment of your disassembled self, and each of those has its own voice. Your logic skill, for example, will help you solve conundrums. Your electro-chemistry skill, by comparison, will go hog-wild whenever you spy drugs or alcohol, begging you to indulge. It's up to you which parts of your mind you listen to, and what kind of detective forms from that.

Disco Elysium combines this with a literary approach to narrative design that is both hilarious and achingly astute in its perception of its own dilapidated world. It's an expressly political affair. The game's central murder takes place in a city district living in the shadow of a failed communist revolution, the bones slowly being picked clean by corrupt unions and external capitalist interests. These politics play into your character too, with the game letting you affect various political stances and explore their ideologies, contradictions, and consequences.

It's a truly singular experience, although that description has gained more literal significance lately. The game's legacy has been marred by a split within ZA/UM between its creative director and the company's own directors and investors. That story is a messy one, but it ends with the sad truth that we're unlikely to see a sequel.

That makes *Disco Elysium* all the more unique, a reminder that good RPG design is about the paths you give a player to follow, not the amount a real-estate available to explore. If more recent events are anything to go by, it's an idea that might be catching on again.

2019

4A Games releases the third installment in its *Metro* series of FPS games, *Metro Exodus*.



January 2020

The Covid-19 pandemic

DEVELOPER SARS-COV-2 PUBLISHER HUMANITY



ovid-19 affected virtually every individual and organization on the planet, and the games

industry was no different. But the effect of the virus and the ensuing lockdowns to help protect people from it was unusual in the case of games. Covid-19 caused serious disruption to game development schedules as studios adjusted to working from home. But it also caused a massive spike in sales of games and hardware, due to the millions of additional people passing time during lockdowns by playing games.

The consequences of all this are still playing out today. The delays Covid caused meant fewer games being launched in the following two years, while 2023 has seen a bumper release calendar as all those delayed games finally reached completion. On the other hand, the massive spike in gaming revenue has also flattened, resulting in widespread layoffs as companies looking to exploit short term gains during the pandemic now seek to downsize their operations to maximize their profit. It's a sharp reminder that, while business has always partly driven gaming as an artform, for some, it is exclusively a moneymaking machine.

One positive that emerged from the pandemic, however, is an increased awareness of the risk of exploitation on the part of game developers. The post-pandemic years have seen numerous unions created at developers like Blizzard and Raven Software, with the aim of protecting workers' rights. One of the less expected effects of the pandemic was to change how people view their relationship with work, and the game industry is still wrestling with what that means for the future.

One positive that emerged from *THE PANDEMIC* is an increased awareness of the risk of exploitation on the part of game developers

Image credit: Fotografiia Inc

February 2021

Valheim

DEVELOPER IRON GATE STUDIO PUBLISHER COFFEE STAIN PUBLISHING

Any game that brings together the building and survival systems of *Minecraft* with the exploration and combat of *Dark Souls* always had a reasonable shot at being popular, but nobody expected Iron Gate's procedural Viking simulator to become the phenomenon that it has. As well as being the perfect capstone to

the design ideas that drove the 2010s, *Valheim*'s popularity derives from being such an excellent hangout space. Its atmospheric Viking world is highly rewarding to explore with other players, and while the game bills itself as a hardcore survival experience, for the most part the only pressure is that which you choose to take on.



August 2023

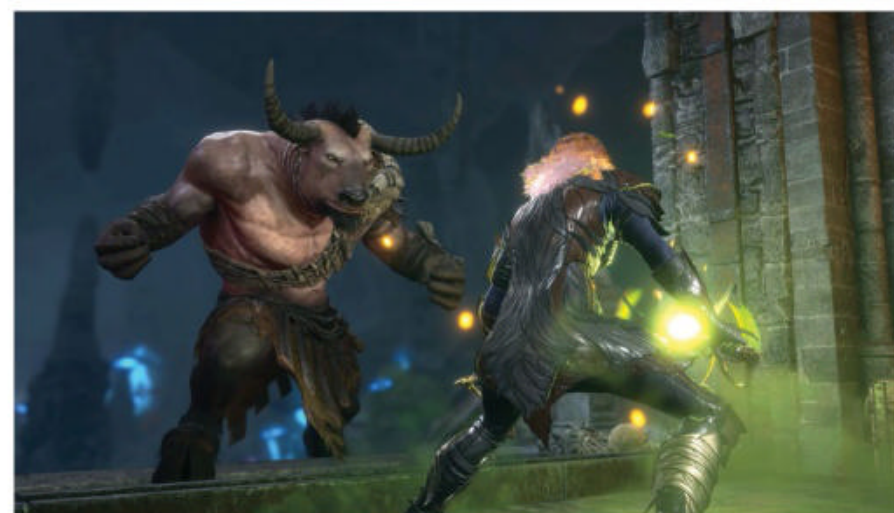
Baldur's Gate 3

DEVELOPER LARIAN STUDIOS PUBLISHER IN-HOUSE

Receiving a whopping score of 97 from PC Gamer, *Baldur's Gate 3* epitomises how the PC's most traditional genres can still surprise after 30 years. This magnificent CRPG blends world-class writing, acting, and storytelling with challenging turn-based combat that brilliantly adapts

D&D's toolset. Not only is the game's central narrative preposterously flexible, the world is also highly responsive to your actions.

A stone cold all-timer, it's hard to know yet what impact *Baldur's Gate 3* will have. But you can guarantee it's under the microscope of every major game developer.



September 2023

Cyberpunk 2077 2.0

DEVELOPER CD PROJEKT RED PUBLISHER CD PROJEKT

CD Projekt has long held a reputation for improving its games post-release, but *Cyberpunk* seemed like an insurmountable task. Alongside a list of bugs and performance issues were more fundamental problems, like underwhelming progression and a gorgeous, but lifeless, city.

Yet CD Projekt was true to its rep, and while it took three years

and a countless number of eddies, the studio really did fix *Cyberpunk*. It's now as entertaining mechanically as it is narratively, while the world feels more alive thanks to better crowds and a proper police system. The *Phantom Liberty* expansion provides further enhancements, alongside a new story that's a superb complement to the original.



March 2022

Steam Deck

MANUFACTURER VALVE

Valve's answer to the Nintendo Switch is a miniature marvel of engineering, a compact yet deceptively powerful handheld that combines the portability of a handheld with the flexibility of a PC.

The success of the Steam Deck was undoubtedly assisted by launching at an opportune moment. High-end games were scarce in 2022, making it an ideal time to reunite with old favorites and catch up with the hottest indie games. The Steam Deck also happened to release alongside the perfect gaming companion, Poncle's simple yet enormously compulsive *Vampire Survivors*. This year's calendar of wall-to-wall blockbusters has been less well suited to the Steam Deck, but it's still a fantastic bit of hardware, and a tinkerer's delight.



SILENT BUT DEADLY

ASSASSIN'S CREED MIRAGE is a fun stepping stone back towards the series' roots

By Morgan Park

It's not often that a big-budget videogame feels like it was made according to my exact wishes, and yet *Assassin's Creed Mirage* exists. What was once destined to be an expansion for *Assassin's Creed: Valhalla* grew into a standalone throwback to the best of the series that valued stylish kills, freedom of movement, and stealth over quest logs and gear scores. Spiritually, it's a straight bullseye.

This is the purest stealth game Ubisoft has made in 15 years of *AC*, dense with rooftops, ziplines and fluffy carts of hay in one of the most beautiful cities ever realized in a videogame. When I'm perched on a ledge studying guard routes, mentally noting hiding places, or plotting a risky climb, *Mirage* feels like Ubi at the top of its game. It's a shame, then, that the fluid stealth sandbox is dragged down by all the bad stuff it inherits from the last six years of *AC* RPGs—spammy combat, floaty character movement and parkour that never quite flows as well as it's meant to. I want so badly for classic *Assassin's Creed* to be back like I thought it could be, but in its full 20-hour dose, *Mirage* is more like a stepping stone.

CLEAN KILL

Mirage rewinds the clock a few hundred years before the time of Altaïr to tell the origin story of Basim Ibn Ishaq, a central character from *Valhalla* who earned his stripes hunting the Order of the Ancients (the pre-Crusades name for Templars) in 9th century Baghdad.

The brilliance of *Mirage* is the way it marries Ubi Montreal's original vision of social stealth with a modern interpretation of what a good stealth level is: every mission is a small sandbox with multiple routes and guards that can be picked off, bypassed, or avoided with well-considered sneaking. With the added bonus of an eagle that allows Basim to scout out restricted areas from the sky, it's never been this much fun to

actually be sneaky in an *AC* game.

It helps that *Mirage's* toolbox isn't just a carousel of different ways to kill people—Basim carries sleep darts, non-lethal traps, noisemakers, smoke bombs and a few throwing knives for when it's you or them. When it's time to kill, Basim lets his hidden blade do the talking, which I found to be a refreshing limitation that encourages sneaking over the series' old 'shoot every guard you encounter

with a gun or crossbow before they see you' idea of stealth.

I'm a big fan of *Mirage's* streamlined gadgets. Each one serves

It's never been this much fun to actually be sneaky in an AC game

NEED TO KNOW

WHAT IS IT?

A throwback to the stealthier days of *Assassin's Creed*

EXPECT TO PAY

\$50

DEVELOPER

Ubisoft Bordeaux

PUBLISHER

Ubisoft

REVIEWED ON

Intel Core i9-9900KS,
32GB RAM,
Nvidia GeForce
RTX 2080 Super

MULTIPLAYER

No

LINK

shorturl.at/qzAB3

a different purpose and can come in handy at make-or-break-stealth moments, but I particularly love the sleep darts. Sending a guard to snoozeville is a lot better than sticking a knife in their head because a guard that discovers a dead body goes on high alert, while a sleeping guard just wakes up and goes back to their normal route.

'High alert' is often an underwhelming punishment for sloppiness in stealth games when the AI just kinda pretends they're looking for you slightly harder than before, but *Mirage's* guards really do step things up a notch. Alerted guards walk unpredictable routes, check hiding spots they'd usually ignore, and even learn how to look up.

For *Mirage's* biggest story assassinations, Bordeaux goes the extra mile with 'black box' missions that offer a handful of different on-ramps to clean, cinematic kills similar to *Hitman's* 'mission stories'. These missions are in much larger locations than the rest of the game, and usually involve Basim having to socially engineer a rendezvous with the target or, on a few occasions, don a disguise. Sometimes these moments were a little too hand-holdy for me, but the payoffs are cool. Black boxes aren't so grand and complex that I ever got the itch to replay them, but if I ever start a second playthrough I'd be curious to see how differently they can play out.

Mirage reimagines the series' social stealth offerings in clever ways, too: most compounds can be optionally infiltrated by blending into a crowd of concubines or a personal merchant escort. A heavily guarded front gate can be cleared by hiring mercenaries or tossing a coin to a nearby musician. In the old games, social solutions cost just a bit of in-game currency, but in *Mirage*, their services cost unique coins that can only be earned by completing side contracts for the relevant faction (merchants, scholars, mercenaries)

ASSASSIN'S TOOLKIT

The key tools of Basim's trade

1 STEALTH

Basim carries sleep darts, non-lethal traps, noisemakers, smoke bombs and a few throwing knives.

2 SOCIAL

Social currency can be used to buy an advantage, but the coins needed to do so must be earned.

3 SWORD

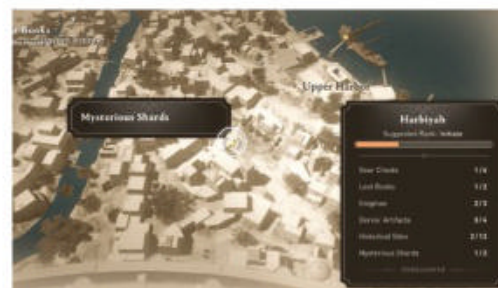
When Basim emerges from the shadows he has his trusty sword to parry guards' blows and finish them.



Assassin's Creed Mirage



"I agree, Basim, PC gaming is superior to console gaming."



ABOVE: Basim legs it after dropping a particularly deadly fart.

LEFT: There are fewer collectables in *Mirage* than most *Assassin's Creed* games.



Ninth century Baghdad looks fantastic.

REVIEW

Assassin's Creed Mirage



RIGHT: Even deadly assassins need furry feline fun time.



FAR RIGHT: Basim, just hanging out. Get it? Grade A that is.



BELOW: Baghdad isn't huge, but its detail is very impressive.



or by pickpocketing, if you're lucky. More than ever before in 15 years of this series, I feel like an actual assassin in *Mirage*, not a gladiator.

TAKE A STAB AT IT

Nowhere does that hold true more than when stealth finally breaks. *Mirage's* combat is a strange reconstruction of the series' classic sword fighting—complete with a counter-kill that lets Basim instantly finish guards after a successful parry—with the same basic feel of *Valhalla's* mushy group fights. It's functional, but also very ugly.

It doesn't matter as much as you'd expect that combat sucks, though, because I spent very little time using it. Basim is a glass cannon and goes down in a handful of hits, so I'd usually follow the loading screen's advice and run away if more than three guards surrounded me, or let them kill me and get a do-over from a generous checkpoint.

Parkour has experienced a similarly awkward transition from the *Valhalla* engine. It's great that you can't just Zelda your way up the face of any flat surface any more, and Bordeaux has captured some beautiful new parkour animations that help *Mirage* look like the old games. But it doesn't really feel like the old games.

Also, there is a 'go down' button in *Mirage*, but it only works if you're standing completely still and want to hang off a ledge. It also shares the same button with sneak mode, which led to constant unintentional crouches and more than a few bad words hurled at my monitor.

THE ROUND CITY

The saving grace of *Mirage's* parkour is Baghdad itself, which is so consistently gorgeous and alive that I never minded dropping onto the streets. Building facades are lavishly decorated with flowers, citizens carry on entire conversations as you shop for weapon upgrades and outfits (mostly in Arabic, even when playing in English), and markets are lined with ridiculously pretty rugs that I jealously want to spruce up my boring office.

I've never played a big-budget open-world game that's so clearly in

love with the place it's depicting, and *Mirage's* greatest showpiece of that love is its History of Baghdad codex: an encyclopedia of dozens of collectible history bites spanning the region's economy, governments, and cultural contributions. The codex is surprisingly detailed, and the best touch are the photos of actual artifacts (pottery, scales, linens, artwork) of the time that even note the museum where you can go to see them for yourself.

I spent, at a conservative estimate, a quarter of my playtime hunting and

devouring every single codex entry I could find. It's an impressive feat for Bordeaux, coming from someone who had to routinely fight off sleep in history class. I did not expect to play *Mirage* and come away thinking about how it used to be a job to visit market stalls and make sure vendors weren't weighing down their scales to scam customers.

Honestly, I wish *Mirage* was interested in its original story as much as the period it's set in. The opening hours do a nice job of introducing Basim and establishing the central mystery around the creepy djinni haunting his dreams (and maybe the Animus), but that thread is quickly sidelined once you're let loose in Baghdad.

It's weird how closely this game's story is tied to an otherwise unrelated

The saving grace of *Mirage's* parkour is Baghdad itself

BRILLIANT BAGHDAD

The city is stunningly depicted in *Mirage*



1 BUILDINGS Building facades are lavishly decorated with flowers, art and patterned awnings.

2 MARKETS The city's many markets are lined with ridiculously pretty rugs, pots, outfits and more.

3 HISTORY Famous structures and people are evident through the city, and listed in a codex.

game. You essentially need to play *Valhalla* (or watch an explainer) to understand what Basim's whole deal is—in other words, it plays out like an expansion instead of its own thing. *Assassin's Creed* is famous for its bad endings, but this one is up there.

NO TIME WASTED

As promised, a *Mirage* playthrough will clock in around 20-25 hours. Even with a clear memory of when a 25-hour game was considered long, I can't help but feel like *Mirage* is a bit short. Its map is a little sparse for how big it is: if you're not pursuing a story mission or contract (which are just shorter story missions), there isn't much to do in the spaces between other than open chests, unlock codex entries and pickpocket collectibles.

It's making a lot more sense why Ubi decided to price *Mirage* at \$50. I like that this is a focused adventure, and I think its distaste for open-world bloat is an intentional move to separate it from the RPGs, but I admit that I actually miss some of that bloat, if only because *AC* used to do it pretty well.

Buying up property, collecting feathers and managing an assassin brotherhood were simple, fun distractions from the main story that added texture to Ezio's stomping grounds, and *Black Flag's* sea shanties are still some of the best collectibles ever conceived. I really wanted more excuses to keep on playing as Basim and comb over every inch of Baghdad.

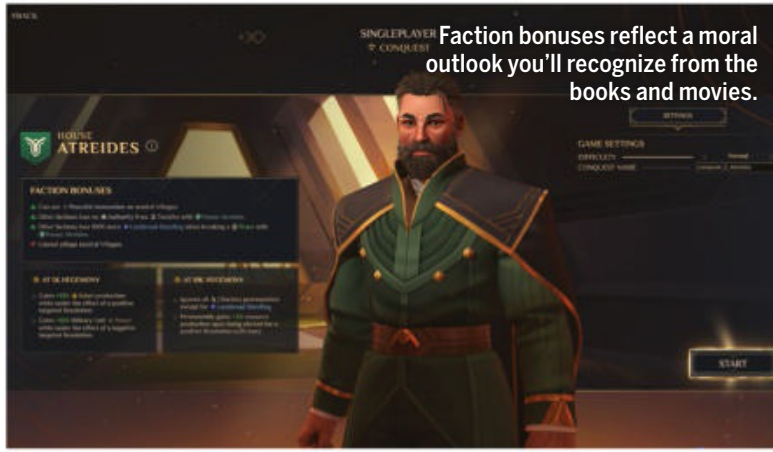
Mirage gets so close to great that it's annoying, but also encouraging. It may not be the complete return to form that I imagined, but it's the best stealth game to ever have the *Assassin's Creed* name on it, and I hope Ubisoft sees this new 'classic' branch of *AC* as something to build on. I'd love to see what Bordeaux could do with another chance—and hopefully more time to develop parkour, build another great city, and maybe rethink everything about combat. I'm excited about *Assassin's Creed* for the first time in a decade, and it feels good. ■

PC GAMER VERDICT

Assassin's Creed Mirage isn't the triumphant return to glory that I hoped it'd be, but it's a good first stab.

77

Dune: Spice Wars



Faction bonuses reflect a moral outlook you'll recognize from the books and movies.



RIGHT: Fremen skirmishers enter stealth mode under the light of the two moons.



FAR RIGHT: Strategically-placed agents grant intel points which you can then spend on covert operations.



BELOW: Guild-sponsored battleships, like the Kraken, are essential to taking down enemy bases.



RIDERS ON THE WORM

Arrakis proves an apt, if overly familiar, 4X setting in **DUNE: SPICE WARS**

By Alexander Chatziioannou

Arrakis, Frank Herbert's inhospitable planet and the setting for *Dune: Spice Wars*, is arguably the most famous celestial body in science fiction. It sprang tailor-made for strategy gaming with its murderous terrain, political intrigue, and markedly differentiated factions vying for control of a priceless natural resource: the spice. That the foundations of the modern RTS were laid in Westwood's *Dune 2* was hardly a surprise.

Like *Dune 2*, *Spice Wars* is an RTS, but it's also a 4X affair, and a remarkably traditional one at that. It lets you lead one of six rival groups locked in constant struggle over Arrakis' sandy expanse. Single scenarios and multiplayer battles are available, but the main draw is doubtless the 25-30 hour Conquest mode which unfolds over several missions, seeing me gradually tighten my grip on planetary domination.

Mission objectives vary, but progression follows a typical trajectory: first, I send out ornithopter scouts to locate spice fields close to the starting base and annex neighboring villages to expand my borders. Then I start building essential infrastructure and researching new technologies. And, finally, I specialize in preparation for my current mission's endgame, whether that entails developing my espionage network so I can assassinate rival leaders, or acquire enough clout within the Landsraad Council to trigger a political victory.

These are resource-juggling loops even genre novices should be well-acquainted with, and *Dune: Spice Wars* does not particularly care about subverting or embellishing them. There's diplomatic maneuvering with opposing Houses, regional bonuses to organize your industrial growth around, and an army to raise and train in case a desperate enemy makes a lunge for your spice fields. Barring a couple of nuances, my overall feeling was one of cozy familiarity within the first

couple of hours—a state not inherently unpleasant but not terribly exciting, either. Consequently, I mostly ironmanned Conquest on the first go, only reloading when the game threw cheap curveballs at me, like a randomly aroused sandworm devouring half my army.

The one concept that feels genuinely original is the CHOAM Market, a live stock exchange where each

faction can purchase shares whose value is tied to spice production and whose acquisition might secure an economic victory. But even that

Flaws started becoming apparent by the game's closing chapters

NEED TO KNOW

WHAT IS IT?

A traditional take on the 4X, set in Frank Herbert's fictional Dune universe

EXPECT TO PAY

\$26.24

DEVELOPER

Shiro Games

PUBLISHER

Funcom

REVIEWED ON

Intel Core i5-9600K, 16GB RAM, AMD Radeon 5700 XT

MULTIPLAYER

Yes

LINK

dunespicewars.com

innovation seems more indebted to the developers' single-minded focus on sticking close to Dune's literary and cinematic mythology rather than a desire to evolve the genre.

Indeed, almost every aspect of the game seems formulated toward mapping one-on-one correspondences with its inspiration's rich lore. The way water demands curtail early expansion; the hidden caves of the Fremen clans that can cause trouble for their enemies and turn the tide of war for allies; the moral outlook of each faction as reflected in their unique abilities.

FEAR IS THE MIND-KILLER

Occasionally, these correspondences may result in something akin to inspiration, like the Fremen summoning sandworms to travel rapidly around the desert and execute surprise attacks. But mostly they serve as momentary flashes of recognition, a sort of, "Huh, it's smart how they incorporated that," around otherwise mundane mechanics.

Deeper flaws started becoming apparent by the game's closing chapters, namely the lack of a narrative hook to imbue the campaign with emotional resonance and an eminently exploitable economy. Purchasing building materials with Solari (the local currency) on an almost 1:1 ratio near the endgame, when the latter is plentiful and the former may be invaluable, is patently absurd.

Dune: Spice Wars is a faithful homage to its inspiration and a fine entry point for 4X newcomers, but there's not enough depth to engage genre veterans. I was happy to have conquered Arrakis, but it's unlikely I'll do it again anytime soon. ■

UNRULY NEIGHBOURS

The factions vying for control of Arrakis



HOUSE ATREIDES

A benign breed of colonizer that can annex villages.



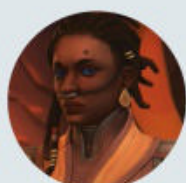
HOUSE HARKONNEN

Oppression does wonders for productivity.



THE SMUGGLERS

An organization that can infiltrate other factions' settlements.



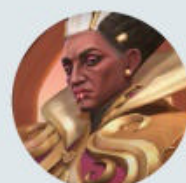
THE FREMEN

Fierce natives whose unusual abilities include sandworm riding.



HOUSE CORRINO

The scions of the imperial line have inherited a knack for diplomacy.



HOUSE ECAZ

Seeks to gentrify the place. Serve them the White Lotus treatment.

PC GAMER VERDICT

Dune: Spice Wars is a solid entry-level 4X that fails to capture the spirit of its colorful setting.

64

REVIEW

Forza Motorsport



ABOVE: The AI will always try different lines, even at Suzuka's S-curves.

FAR RIGHT: Cockpit cam is as full of detail as it is hard to drive.

BELOW: Staples like Spa are present, but the track list feels light.



CONSERVATIVE STRATEGY

FORZA MOTORSPORT takes few risks, but snatches simcade supremacy anyway

By Phil Iwaniuk

There's one lap to go at Laguna Seca, an angry, bucking beast of a circuit in the California desert where I've so far been shepherding a Civic to a bang-average fourth place finish. But this is *Forza* multiplayer: it's not over until the penalties are counted, the 'mute all' button is pressed and the checkered flag is taken. The leader has a problem: as they head into the infamous corkscrew chicane, they're side-by-side with P2 in the braking zone.

I can see on the minimap that this does not go well for either party. They're both off track, and one of them clatters into P3 upon rejoining the track. I'm about to win the race.

Except I don't. I take those last corners so cautiously that one of the stricken corkscrew victims pulls back to within 1.2 seconds of me—and I'm carrying 1.2 seconds of penalties for corner cutting. I cross the line first, and finish second.

The lesson here is that victory is decided by fine margins. That's as true in lowercase 'm' motorsport as it is in *Forza Motorsport*, which for all its considerable qualities and resources just manages to grab hold of excellence despite both technical and conceptual issues.

By which I mean this: the handling's absolutely wonderful, like we knew it would be. Its vehicles genuinely are better than we've seen in driving games before, and circuits are so high in fidelity now it's almost a shame to have to take them in at speed. But Turn 10 plays too safe with those valuable assets in *FM*'s singleplayer career mode, arranging them into a stack of the usual racing series categories to tick off in a career just like a *Gran Turismo* or a *Grid* might. Luckily, online racing elevates the whole experience.

There's a newfound sense of weight to *FM*'s cars. They let you know exactly how much their tyres are complaining against the G-forces you're putting through the platform, with much more precise detail than 2017's *Forza Motorsport 7* did. There's

some of *Forza Horizon*'s character deep within *Motorsport*, but it's much more rigorous, closer to the venerable *Gran Turismo* in its simulation level.

The caveat is that I've had several crashes to desktop just before both online races and offline series events. Having raised these issues with the developer, PCG understands that the multiplayer crashes

were a known bug and subsequently patched, and my offline crashes are now also being worked on in a forthcoming update.

The handling's absolutely wonderful, like we knew it would be

NEED TO KNOW

WHAT IS IT?

The closest PC gaming has to *Gran Turismo*, now even shinier

EXPECT TO PAY

\$70

DEVELOPER

Turn 10 Studios

PUBLISHER

Microsoft

REVIEWED ON

Intel Core i7 9700K, 16GB RAM, Nvidia GeForce RTX 2080 TI

MULTIPLAYER

Yes

LINK

forza.net

I've been able to forgive these crashes because in singleplayer they haven't amounted to much lost progress—and because of how *Forza Motorsport*'s cars feel. If the fundamentals are this good, then, does it matter if the career mode is driving by numbers through a bunch of over-familiar mini-championships?

RACE DAY

Solo racing does have a handful of worthwhile new additions like smarter AI drivers and a grid selection mechanic that gives you more credits for a podium finish the further back you start from. But it's online where things all come together, where the handling, the car upgrade system and the race format all culminate in something special.

The custom lobby creation tools are strong—on a par with *Assetto Corsa* and *Project CARS 2* when it comes to dialing in weather, time of day, rules and regulations. And the official multiplayer series impose vehicle restrictions to get you thinking, and tuning, your way to P1. Whenever I get into an online race, that contest is invariably packed with drama, tactical depth and surprisingly sporting racing.

I wish Turn 10 had rolled the dice in a few more areas here, but nonetheless I can't help but admire the safe but finely crafted sim it's built. *Forza Motorsport* is missing that one great idea that moves the genre forwards, like *The Crew Motorfest*'s Grand Races. Its singleplayer is overly familiar, but with a car collection this voluminous and vehicle and track fidelity levels to make even Kaz Yamauchi nod, you can play it safe and still stand on the top step of the podium. ■

WILD THINGS

Four cars that hate you and your inputs



1966 MCLAREN M2B

Fearsome, roaring engine power, from the days before they invented grip.



2020 KOENIGSEGG JESKO

It's all fun and games until you need to steer. Looks alright though doesn't it?



#66 CHAPARRAL CARS 2E

To cough while holding the steering wheel of this thing is to enter a drift.



DODGE VIPER SRT10 ACR

A fighter jet on four wheels. Well, until you stack it into a wall, then there's three.

PC GAMER VERDICT

Forza Motorsport is as polished as driving sims have ever been on PC. Stately and familiar, but finely crafted.

80

DEATH ON THE NILE

TOTAL WAR: PHARAOH is the first historical Total War in ages

By Rick Lane

Total War: Pharaoh isn't the best Total War game, but it is possibly the one I'm most impressed by. Creative Assembly's chosen setting sits right on the precipice of military history. The Battle of Kadesh, which took place about 100 years before Total War: Pharaoh begins, is the earliest pitched battle that we have records of tactics and formations for. The most technologically advanced weapon of the time was the chariot.

Compared to the military engine that powered Rome, or the wild armies of Total War: Warhammer, Pharaoh has precious few tools to create an entertaining simulation of warfare. And yet, Pharaoh is a deeply compelling strategy game. Although its battles are almost Shogun-like in their simplicity, the campaign is anything but, offering a fiercely challenging scramble for power over an empire that is falling apart at the seams.

PRINCE OF EGYPT

Pharaoh takes place shortly after Ramesses II has begun the long journey to becoming two vast and trunkless legs of stone, and the power gap that opened after his unprecedented reign. Playing as

either an Egyptian, Canaanite, or Hittite general, your goal is to conquer enough of the land around the Eastern Mediterranean.

In this, becoming pharaoh is merely the start of your aspirations, rather than the end goal. Around turn

12 of the campaign, you unlock a new system known as Power of the Crown. This lets you choose to follow the path of becoming either the Egyptian Pharaoh or the Great King of Hatti. These positions come with

benefits, but they're attained in the same way—winning a civil war.

Unlike the original Rome, in which the civil war was deployed as a narrative third-act twist, civil wars in Pharaoh are more systemic and can happen at any time. You can start

You might get usurped, then claim the throne back

NEED TO KNOW

WHAT IS IT?
Grand historical strategy set in Ancient Egypt

EXPECT TO PAY
\$60

DEVELOPER
Creative Assembly

PUBLISHER
Sega

REVIEWED ON
AMD Ryzen 5 3600,
32GB RAM,
Nvidia GeForce
RTX 2080 Super

MULTIPLAYER
Yes

LINK
pharaoh.totalwar.com

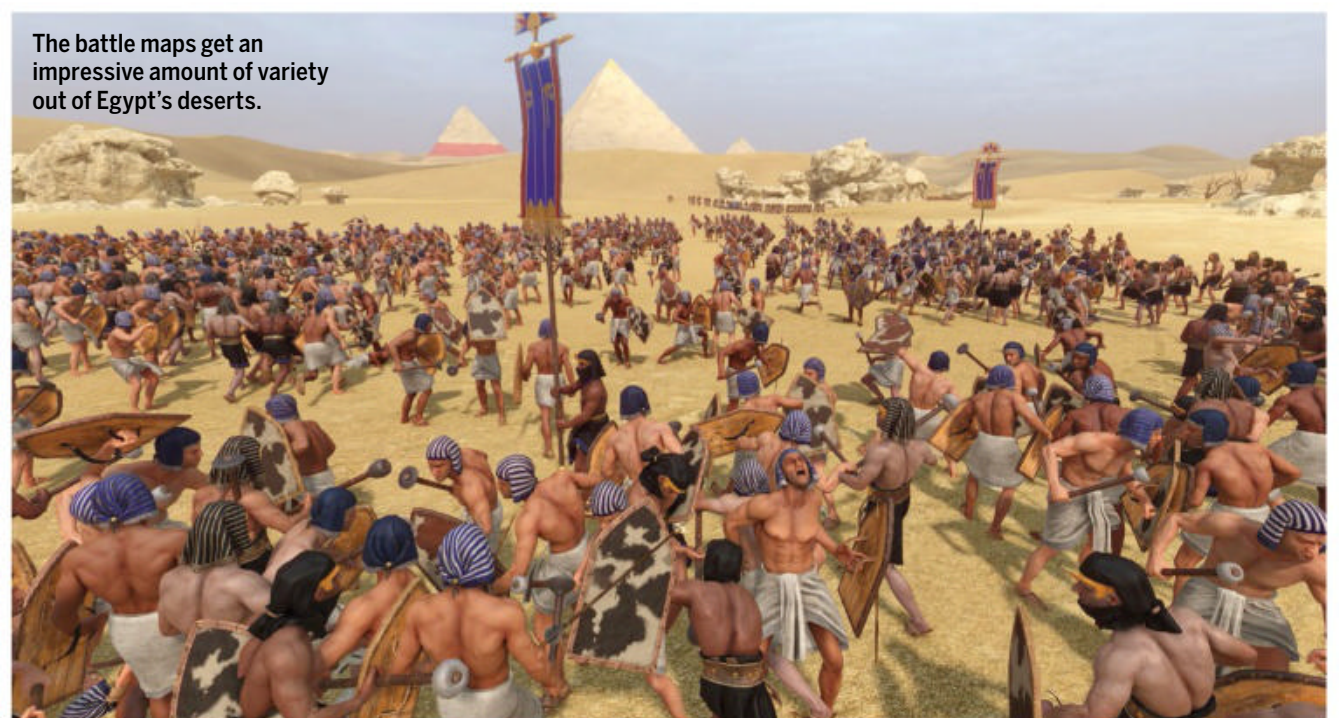
them yourself, or they might be triggered by an AI faction, whereupon you can choose whether to participate. If you do, your name is added to a league table of pretenders. From there, you have a set number of turns to reach the top by earning Legitimacy—a political resource acquired by winning battles, taking land and engaging in courtly intrigue.

The impact this system has is significant. For starters, it makes Total War's early game more immediately engaging, as you can have a crack at becoming pharaoh as soon as turn 12. It also means progression isn't necessarily a gradual, one-way accrual of power. You might become pharaoh early on, but then you'll need to maintain that position, fighting off other pretenders to your throne. You might get usurped, then claim the throne back.

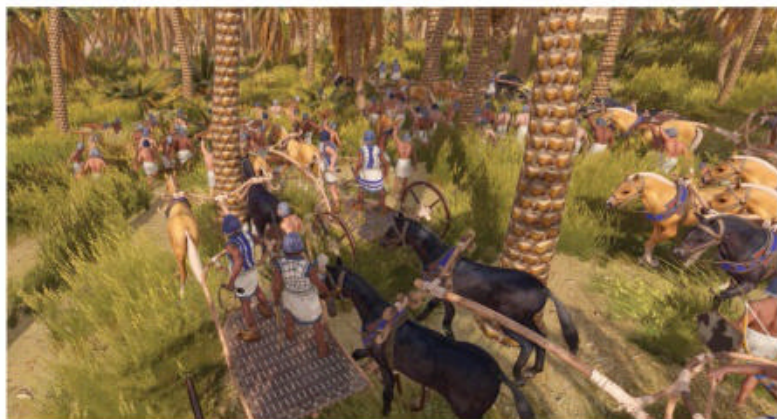
Even if you're way off becoming pharaoh, you can still wield power in a more limited fashion. The pharaoh holds a court with several illustrious positions, such as viceroy of Kush, grand vizier and first commander. Each of these positions comes with its own benefits. The viceroy, for example, gets an annual salary paid in



ABOVE: Pharaoh's unit roster isn't the most spectacular, but the chariots are cool.



The battle maps get an impressive amount of variety out of Egypt's deserts.



TOP: The campaign has a lot to take in, which can make getting started tricky.

FAR RIGHT: Autoresolved battles are accompanied by a neat dueling animation between your two generals.

gold, while the vizier can assassinate other court members. You can curry favor with the present holders of these positions to make use of their powers, or you conspire to take advantage of them in other ways, blackmailing them for additional favors, discrediting them to damage their legitimacy, or forcing them to vacate their position entirely, perhaps so you can assume it yourself.

This system is nothing like as involved as *Crusader Kings*' elaborate political simulation, but it is fun to noodle around with, and can tie into the broader game in some interesting ways. If you're in a civil war, for example, then successfully discrediting a rival might help you leapfrog them up the league table, damaging their Legitimacy while adding to your own.

TEN PLAGUES

Should you succeed in becoming pharaoh, your problems will be far from over, as you'll inherit an empire at the end of its golden age. Things aren't too bad at the game's outset, which is good because you'll be busy acquainting yourself with *Pharaoh*'s surprisingly complex economy system. There are five resources in the game: food, wood, stone, bronze and gold. Food and bronze are crucial for maintaining armies, wood and stone for constructing buildings, while gold plays a role in pretty much everything.



PYRAMID SCHEMES

Court systems grant power



1 POSITION There are five positions beneath the pharaoh, each with benefits.

2 ACTION You can interact with each court notary, performing intrigues to gain favor.

3 TIMELINE The amount of time you have until the next harvest, when all plots reach their end.

Total War: Pharaoh



Simply getting hold of all these resources can be tricky. Gold and bronze deposits are scarce on the map, while stone has a hard limit on how much you can mine across the entire game. This makes trading and bartering more vital than in any other *Total War*. But it gets harder as the game goes on, because soon enough your empire will start to collapse. The sanctity of Egypt and Hatti is founded upon numerous institutional structures named Cult Centers, and as civil war begins to damage those centers, the game world will descend into crisis. At this point, the color palette of the map visibly changes, and you'll start to be harassed by invaders from across the Mediterranean. Not just one or two boats either. Entire fleets will cruise down the arteries of the Nile delta, striking at both the head and heart of Egypt. These raiders cause more destruction, further destabilizing the foundations of civilization.

TOP: Found 'em.

FAR LEFT: There's some fantastic detail in the battle animations.

Fighting these different fires, all while trying to forge a legacy of your own, is a formidable challenge. Simply maintaining a decent-sized army requires you to solve a whole bunch of logistical problems. Luckily, you can often mitigate some of the upkeep cost by building different kinds of outposts. These are subsidiary buildings that orbit your main city, ranging from temples that increase your favor with the gods, to forts where you can garrison your

LEGACY BUILD

Choose a legacy for your empire



THUTMOSE THE CONQUEROR
Provides handy additional abilities for seizing cities. Beards +5, too.



HATSHEPSUT THE MERCHANT
Enables you to dispatch trade caravans to distant lands for profit.



AKHENATEN THE HERETIC
Lets you create your own god, then worship them to gain further powers.



KHUFU THE BUILDER
Empowers you to construct ancient wonders to boost Legitimacy.

forces at a discount. Alongside the passive bonuses outposts provide, armies can also interact with them for temporary boons. Indeed, planning your outposts carefully can yield substantial rewards, letting your armies cross vast swathes of the map, and making them cheaper and stronger in the process.

CHARIOTS ON FIRE

In short, Creative Assembly has built a sumptuous, diverse and thematic campaign. There's a whole bunch of other stuff I haven't mentioned, like how praying to different gods can provide different bonuses, and the victory condition-like Ancient Legacies that can spur you on your way to winning. But we should spend some time on the battles, as this is where *Pharaoh's* weak spot lies.

To be clear, *Pharaoh's* battles are not bad. They are classic *Total War* affairs that combine robust tactical foundations with brutal physicality. Walls of infantry crashing into one another, arrow hailstorms thudding into the sand, chariot charges sending foot-soldiers flying. Zoom in on the action, and you can even hear the crude maces of Egyptian chargers thudding into the skulls of their enemies. And of course, your battles are taking place beneath the shadows of pyramids that are already ancient. Cool.

Pharaoh also does what it can to add some new ideas into the mix.

Weather conditions are more diverse and dynamic. Being largely a desert country, Egypt's weather is less rain and fog, and more sweltering heat and choking dust storms. These can be used to your advantage in some interesting ways. In one defensive battle where I was outnumbered, I positioned my army as deep into the desert as I could, high up on the scorching dunes. By the time the enemy reached me, their troops were exhausted from the heat, and I was able to mop up their ragged lines with minimal effort, turning a potential defeat into an easy victory.

Ultimately though, there is only so much Creative Assembly can do to spice up the ranks of such an ancient civilization. There are many faction-specific types of swordsmen, axmen, spearmen, chariots etc. But units are all slight variations on these categories.

After controlling the wildly imaginative factions of *Warhammer*, and the pseudo-magical armies of *Three Kingdoms*, going back to slings and arrows is inevitably a bit deflating, especially when the contrast is as harsh as this.

There isn't a whole lot Creative Assembly can do about this without throwing history out of the window. But there are some other issues that nag at the game. Getting a decent foothold in *Pharaoh's* campaign is tricky. This is partly because there are so many different systems to account for, including ones I haven't

mentioned like attrition, which will decimate your forces if they stray off the road in desert environments. But also, defending cities have even more advantages than they did in earlier *Total War* games. On top of the city garrison and whatever army might be inside, they can also call in reinforcements from any outpost garrisons. This means you may have to besiege the outpost before you can besiege the city, which is arduous.

The other issue is that the game's generals are sorely lacking in character. In its broader strokes, *Pharaoh* is wonderfully evocative of its era. The campaign map is beautifully detailed, while the entire game is steeped in the culture and traditions of ancient Egypt. But the game's central belligerents are dead behind the eyes. They have none of the personality of *Three Kingdoms'* colorful generals, dampening the drama created by civil wars.

All things considered though, *Total War: Pharaoh* is a success. This is a much harder setting to make work in *Total War's* context than more familiar locales like Rome or feudal Japan. The battles may be the simplest they've been in a long time, but they still have that *Total War* magic, and Creative Assembly has built an evocative and exciting campaign around them. ■

The game's generals are sorely lacking in character

PC GAMER VERDICT

Battles may be limited by history, but Creative Assembly compensates for this with a complex and dynamic campaign.

80



ABOVE: Well, you did pray for rain...

The game has some impressive city maps.



NEED TO KNOW

EXPECT TO PAY
Free

DEVELOPER
Sirius Lemaitre, Léonard Lemaitre

LINK
bit.ly/Babbdj



The trumpet is the best toy. You can even change key with the mouse wheel.

SLIDES RULE

Revisiting **BABBDJ** to find a city generous with exploration

What defines an immersive sim? Is it the multiple approaches, the vent-crawling, the exploration? No, it's even simpler than that—it's the sliding. Like most immersive sims, *Babbdj* lets you slide into a crouched position. It's a movement that's fun to perform—and movement is at the heart of *Babbdj*.

It's never been such fun to move around such a dismal location. Imagine *Crackdown* in a UK tower block: a game of puzzling your way up, down and around a concrete playground on a foggy day. The combat and stealth of the classic immersive sims have been jettisoned entirely, and all that's left is the exploration and a goal to achieve by a variety of means: get the hell out. Secure a train ticket and flee this brutalist city.

But first: stick your nose into every concrete nook and cranny. You'll find

interesting items and characters hidden in hard-to-reach places. People making the best of their dreary lives, while uttering a cryptic line of dialogue. It's particularly exciting when you find a new item—you can 'wield' one at a time, a tough choice—and immediately click the mouse button to see what it does. With the torch, you can explore unlit areas. With the bike, you can zoom about like a legend. With the trumpet, you can serenade the unimpressed NPCs. Not everything is useful, but everything is essential. What would a sandbox be without a bucket and spade?

Even better are the exploration aids, like the vacuum cleaner that lets you hover in the air. At the top of the city you'll find a reward that lets you fully unlock it.

The atmosphere is bleak, enjoyably so. But these tower blocks are really toy blocks—and what fun to play with. ■

85

DIGITAL MONSTERS

Dusting off the cute digital pets of **CYBERPET GRAVEYARD**

To an obsessive tidier, *Cyberpet Graveyard* is kind of a hellish game, as it summons mischievous digital pets onto your desktop. Each critter is a separate program, and they do things like create files and move them around. For a certain kind of person (hello!) they're about as welcome as a virus.

That I find them cute anyway—that I'm smiling as I chase this critter around, in a moving window that's spewing out miniature windows—says a lot about the extraordinary *Cyberpet Graveyard*.

Is it a game? Mainly it's a folder filled with images, and videos, and the digital pets themselves: little animated apps that bounce infectiously around your computer screen. The clown-like Hopson blows out kisses and looks terribly sad when you drag them around. Meanwhile, Louie likes to play on the goddamn taskbar. I'm trying to write this now as they shuffle about, and I'm being told off every time I try to move them. Closing the window feels a little like taking the batteries out of a living Tamagotchi.

There's a meta story told via email snapshots, and countless folders filled with supplementary material, but the thing that holds it all together is its endearingly hyperactive personality.

This is a loud, colorful game with a slightly dark sense of humor and a jittery energy I can relate to all too well. It's as if a regular game wouldn't be able to contain all these ideas, all this creativity.

And when it comes to the pets themselves, these are virtual beings that really have some fun with the desktop environment. The pixel-art monsters are certainly annoying, but bursting with character. ■

90



The game is comprised of loads of folders, each stuffed with applications and images.

NEED TO KNOW

EXPECT TO PAY
Free

DEVELOPER
Nathalie Lawhead

LINK
bit.ly/Cyberpet

BELOW: The pink paw is you. Dodge the raindrops and run right to the exit.



DRIZZLE KICKS

RAINDROP is still an innovative indie arcade game

I often think about *Raindrop*, a tiny arcade-style game made by indie developer Shuhei Miyazawa. It's such an innovative game—though, in an unpopular genre, it seems to have passed people by. I'm grateful for this opportunity to return to it, and bring this cat-in-the-rain saga to more people's attentions.

The gist is that you're a cat, and you're trying to cross the street in torrential rain. Dodge the raindrops as they fall and collect as many stars as you can, for a bonus. Every time you reach the exit your score is banked. Do you rush repeatedly to each exit until you're finally hit by a raindrop? Or do you linger in each stage, dodging rain and catching stars to increase your combos?

I can't think of another arcade game that lets you meaningfully

choose how you want to improve your score—it's usually a matter of maximizing every opportunity until you achieve perfection. *Raindrop*, however, is a game with a handful of different approaches, which you'll need to experiment to find. Have you noticed the little jingly noise that plays when a raindrop gets too close for comfort? Yep, that's another way to score: by playing daredevil and narrowly dodging rain as it drips down.

You discover each bonus by playing around, much like the cat playing in the rain, eventually earning a badge at the bottom of the screen that makes it official. Mix and match approaches—beat stages quickly while grazing raindrops, perhaps—or pick one and see how far you can make it. The only thing that matters is how much you score. ■

87

NEED TO KNOW

EXPECT TO PAY
Free

DEVELOPER
Shuhei Miyazawa

LINK
bit.ly/RaindropGame

SPECTACULAR

Another look at the ambitious, freeform **SPECTACLE**

Spectacle is aptly named—it's a visually resplendent throwback to a bygone age. Evoking games like *Shadowgate* and *Uninvited*, it's a first-person adventure where half of the fun is stumbling into deadly encounters. Perhaps I shouldn't linger by that giant snake, much as I'm curious. Cue hilarious game-over screen.

Today, these sudden deaths are seen as outdated design—and rightly so, when we have to return to a previous save. But *Spectacle* just reverts things to before the encounter. You get all the fun of the custom death, then carry on with your puzzling business as if it never happened. That's really the only modern concession in a game built on the shoulders of those old 'Macventure' games. However, with modern hardware comes the power to dream a little bigger.

This is still a game of exploring screen-by-screen, as you roam a gorgeous fantasy realm inspired by Middle Eastern mythology. Ultimately, you're trying to escape the place, although that will involve solving genuinely difficult puzzles across a large, interconnected world. We're trusted to figure things out for ourselves, in a game that practically demands the use of a notepad and pen. There's a scale here that the developers of the Macventure games could have only dreamed of.

There is also—and I forgot this until playing *Spectacle* again—a day-night cycle, meaning developer Grahfmetal had to draw multiple versions of the dozens of screens that comprise the game. Thankfully, all that work wasn't just for show, resulting in clever puzzles that take the sun and moon into account. ■

84

BELOW: There are multiple dead-ends.



NEED TO KNOW

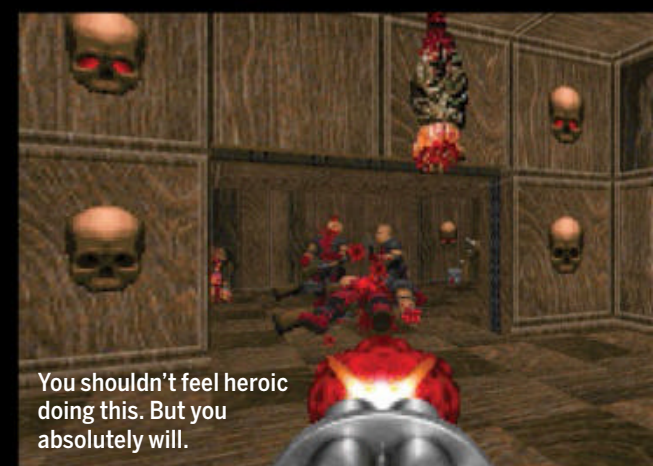
EXPECT TO PAY
Free

DEVELOPER
GrahfMetal

LINK
bit.ly/SpectacleGame



This isn't a screenshot. This issue of PCG can actually run *Doom*.



You shouldn't feel heroic doing this. But you absolutely will.

PHOBOS BABY

The timeless perfection of **DOOM**

It's rare that the 'lone hero against hordes of enemies' trope lands. There are always moments where it feels like the game is helping you feel like a badass, and somehow, on some infinitesimal level, you know you're being lied to. *Doom* is different. There's a sense that the hordes of hell are protecting themselves from you, not the other way around.

Games are often about feel. *Doom* might appear cardboardy and flat now, but two minutes into its violent, irresistible loop and you almost forget how it looks. The movement is slick and almost sickening, like that GIF of a cooked chicken sliding out of a can. There's a sense of perpetual motion that feels as immediate and satisfying as many modern shooters, but noticeably different, like a carnival shooting gallery and helter-skelter gave birth to something unholy and delicious. It's also gleefully ridiculous: a world where picking up multiple helmets somehow gives you more armor. Is Doomguy wearing them all? Does he put them on his knees and feet? If Mythbusters is still a thing then this demands exploration.

Quite obviously, the most metal game ever made

MARS ATTACKS

Doom was terrifying when it was released. But now it's almost comforting. There's something about the pop of the pistol and the groan of distant monsters that's reassuring; the gaming equivalent of rain on a caravan roof. The aesthetics are perfect, too: candelabras and imposing gray technology. Bubbling green vats and sliding mechanical doors. Best of all, it still feels clever. There's a demonic guile to everything.

Lifts drop you into waves of surprise enemies. Dark rooms with flickering fluorescent lights hide incoming waves. *Doom* always feels like it's trying to do something to you other than just fling endless repeating enemies at you (which, incidentally, it also does). It appears dumb and

NEED TO KNOW

WHAT IS IT?

A *Stranger Things* episode in which the gang are trapped in a heavy metal album

EXPECT TO PAY
\$5

DEVELOPER
id Software

PUBLISHER
id Software

REVIEWED ON
Intel Core i7-7700,
16GB RAM, Nvidia
GeForce GTX 1070

MULTIPLAYER
Yes

LINK
store.steampowered.com/app/2280/DOOM_1993

direct precisely because a team of extremely clever people have already done all the thinking for us. There's something special about the shape of it, too. Compared to modern corridor shooters, *Doom* is like a drawer of knotted charging cables, but somehow every one is the one you need. Paths loop back around on each other, spiraling around in mad, esoteric circles. But, at the same time it's hard to stay lost, just because *Doom* is pure momentum. You move so fast it feels like you'll blunder violently in the correct direction.

Doom is also, quite obviously, the most metal game ever made. You're constantly sprinting past the smashed bodies of demonic enemies to a soundtrack of staccato gunshots and crunching music, and it makes you feel like the most powerful person. Many wonderful things have spawned in *Doom's* infernal wake, but few of them match its intensity. ■

PC GAMER VERDICT

The most comforting, nostalgic and relaxing way to ceaselessly murder endless waves of Satan's finest.

93

BELOW: Halloween week on The Great American Baking Show was a failure.



STAUF: Ah! Become a grave digger now, have we? You are a glutton for punishment.



NEED TO KNOW

EXPECT TO PAY
\$10

DEVELOPER
Trilobyte

PUBLISHER
MojoTouch

STAUF THIS

The never-ending childhood horror of **THE 7TH GUEST**

It's fascinating looking at comments from people who played *The 7th Guest* as children. It's a mix of nostalgia and swallowed trauma, like visiting a vintage fair with someone whose grandpa choked on a Pog.

It's not that it's scary, as such. The performances are flamboyantly camp. It's stilted and strange. And the lead villain, Henry Stauf, looks more like a disgruntled gamekeeper than a grand supernatural menace. But there's a pervasive eeriness to everything that's still gripping. After years of acclimatisation, we have an idea what to expect from horror films and games, but *The 7th Guest's* idiosyncrasies make it entirely unpredictable. It's from a time before the rules were written.

The presentation definitely helps. The voiceover is cozy, strange and

soporific, like sliding into a suspiciously warm sleeping bag. And the cast of Poirot-style caricatures would jar even if the performances were good, which they absolutely aren't. It's not just the year of release—as you'll see below, it was entirely possible for a game from 1993 to have decent acting—but the bizarre, esoteric construction. Gently beckoning skeletal hands guide you around the mansion. Moving is like wading through waist-high fudge. Even the puzzles feel like an upsetting mix of amusing and unpleasant. This sense of feverish otherness is exacerbated by the FMV presentation which, thanks to the structure of other games, gives *The 7th Guest* a sense that it never starts, like one long, nightmarish cutscene. It's strange enough that it'll leave a mark even playing it now. ■

68

VOODOO CHILD

GABRIEL KNIGHT: SINS OF THE FATHERS is a family affair

You often wonder, playing a game from 1993, which 2020s tropes will age like milk. The setting and story of *Gabriel Knight* feel quite current. I can imagine a TV show about a rugged occult bookstore owner investigating dark mysteries. But everything else would be different.

He wouldn't ride a motorbike and wear a long leather coat. He wouldn't have a voice like Duplo being tipped onto a wooden floor. And he wouldn't make jokes about violating human rights or ogling his secretary's legs. But functionally, there's loads here that feels rich and current. The dialog options are deep and voluminous. There are multiple endings. And the presentation still feels crisp, perhaps because of recent point-and-click games, such as *Unavowed*, which reference the same

systems. Best of all, though, is the sound. It's cozy and crackly, like listening to vinyl in an artisan bakery where someone else is picking up the bill. The voice talent helps: the original release has Tim Curry and Mark Hamill, and their absence from the *20th Anniversary Edition* is reason enough to seek out the original. It can be fiddly to navigate, but the pace of the story makes for a cozy experience: the adventure game equivalent of wrapping your hands around a warm cup of broth. There are dusty attics to explore, antique clock puzzles to solve, and grandmas to interrogate. At times it's a laborious way to explore, with enough clicking to risk carpal tunnel syndrome in even the most resistant wrists, but it's still a wonderful, wry, detailed slice of Deep South occultism. ■

71

BELOW: The more I play, the less convinced I am that it's Gabriel's nan.



"Not at all! Give us a kiss."



NEED TO KNOW

EXPECT TO PAY
\$6

DEVELOPER
Sierra On-Line

PUBLISHER
Activision

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EXTRA+LIFE

CONTINUED ADVENTURES IN GAMING



“I took on the role of DPS while my friend lured Radahn around his arena”

Surviving **ELDEN RING** with a buddy in co-op

Nothing has made me more desperate for a proper co-op mode in a Souls game than the *Elden Ring Seamless*

Co-op mod. Brutal bosses and treacherous caves are a lot more fun with a friend by your side. But unlike FromSoftware's own version of co-op where your ally can only stick around until you defeat a boss, the mod gives both players an all-day pass to the entirety of the Lands Between.

The *Seamless Co-op* mod itself is a miracle. FromSoftware's games are not particularly friendly to modders and, historically, adding any kind of multiplayer to a game seems to be difficult. Somehow, the mod's developer, LukeYui, made it work well enough that you can play through the entire game, quests and

TYLER COLP



THIS MONTH
Exploited gaming's holy trinity once again.

ALSO PLAYED
Cyberpunk 2077 2.0,
Honkai: Star Rail

all. It has its fair share of bugs, but you get a solid *Elden Ring* experience.

Played with a friend, *Elden Ring* is transformed into the world's saddest theme park. What were once major obstacles as a solo player are still obstacles, but you can build around them. *Elden Ring* asks you to be fairly well-rounded in your stats and gear normally. So my friend and I split duties: she keeps a sword and shield and I wear paper-thin armor while I cast devastating magic rocks. The game has a surprising amount of synergy that surfaces once you can

TOP: Co-op makes fighting groups of enemies a satisfying challenge.

rely on having another person there the entire time.

As a solo player, the fight against Radahn can get messy fast. He's fast, aggressive and will kill you in a single hit. It's a boss made to test your patience and riding skills as both of you spend most of it on horseback. Fragile players have to rely on summoning NPCs to distract him.

TINY HORSE

In the co-op mod, I took on the role of DPS while my friend lured Radahn around his arena. All my years playing MMOs prepared me to solve problems by specializing characters

WE HAD TO LEARN WHERE THERE WAS A GAP WE COULD SQUEEZE SOME HITS IN



Late-game areas are much easier if you plan out your approach before engaging in a fight.

into roles. Bosses rarely have attacks designed to threaten multiple players, so you can abuse that.

Both of us had to learn where there was a gap between his attacks that we could squeeze some hits in. Some fights would fail because I couldn't put in enough damage before my friend ran out of healing items. Other fights would go sour because Radahn would surprise us with a flurry of lethal attacks. Victory only arrived when we both had a firm grip on his patterns and kept him busy as a team, leaving Radahn no good answer for who to attack.

We went on to take that half-a-D&D-party method through the first half of the game. There were times when there was simply not enough room to pull off our scheme, and *Elden Ring* reminded us how brutal it can be, but we've remained flexible in our tactics. Now, we're both carrying around strong two-handed weapons to pulverize our enemies before they can strike. I fully expect to get crushed by some unflinching late-game bosses when we get there. But I'm confident we can mix and match the right stats, gear, and tactics to get the job done. And with FromSoftware games, a win is a win, no matter what. ■



Talk about being sharply dressed.

“Suddenly I’m invested in politics”

Having a catwalk-off in **PHANTOM LIBERTY**

▶ ROBERT JONES



THIS MONTH
Took a break from high-stakes espionage to look hot as hell.

ALSO PLAYED
Starfield, Baldur's Gate III

I think it's the moment when I get blown off my feet by the crashing *Space Force One* presidential jet, its inferno-clad, exploding engines singeing my very ragged cropped hairdo as it almost scalps me, that I realize that I may have bitten off more than I can chew with this gig.

This is especially true because I, as a person, am already rapidly fading away thanks to my consciousness being overwritten by a long-dead rockstar (don't ask!). Oh, and did I mention that I've just accepted a certain-death mission to extract the president of the New United States of America from the most dangerous area of Night City, one controlled by an armed-to-the-teeth private military company? Yeah, I'm fucked.

EXTREME PREJUDICE

More out of a desperate, animalistic desire to not kick the bucket until the absolute bitter end, I run and gun my way through the carnage

the crashing *Space Force One* presidential jet has left and reach the wreckage. It's besieged by the PMC troops but, despite being one bullet away from dropping multiple times, I make it to the jet and, guided by my handler for this fubar gig, I approach the still-sealed saferoom within, the supposed location of the president.

I open the door and, out of nowhere, Rosalind Myers, the president of the NUSA and former CEO of the Militech corporation, blindsides me, knocking me to the floor and then pointing a very lethal Kyubi powered assault rifle in my face. Myers is clearly no delicate flower, and that's good, as once I've explained rapidly that I'm on her side here, we both have to take out more PMC troops with extreme prejudice. Myers unloads the Kyubi with wild abandon, gunning down man and machine alike. Why do I suddenly feel more invested in politics?

Myers isn't just a warrior on the battlefield, but she's also impeccably dressed, too, with a super stylish white pantsuit immediately making me feel terribly unfashionable in comparison. My streetkid chic of full-body latex suit, baggy fatigues and high-collared vest just doesn't match up, so I decide to change into something more glam. After all, if I'm going to shortly go out, then I'm going to go out in style. ■

“I just beat a satanic monk to death with a lavatory seat, and it felt good”

Embracing pixelation and inanimate objects in retro-inspired **CULTIC**

I've already completed *Cultic*, a recently released retro-style FPS developed by Jasozz Games and published by 3D Realms. It's a fulfilling spiritual successor to Monolith's 1997 classic *Blood*, but now I need a new challenge, can I complete the first level unarmed?

I'll be throwing objects instead, and I'm cheating slightly by classing the axe as an object, but only because it's chuck-able. Other throwable items include chairs, barrels and Tabasco sauce bottles, to name but a few.

I awake in pit of corpses and dash to the first door I find. Inside the building are cell blocks, and within the cells are toilets. It transpires that smashing the porcelain to pieces transforms the toilet seat into a throwable object, so within the next 60 seconds I pick it up, carry it through the adjoining room and throw it at a possessed monk, turning him into giblets. It felt pretty good.

After repeatedly hurling this very dangerous toilet seat, it eventually clips through a flight of stairs and vanishes, so the next corridor

▶ JOHN STRIKE



THIS MONTH
Met the actual puppeteer for Jabba the Hutt's left arm.

ALSO PLAYED
A very short game of hide and seek in a field.

involves wall to wall axe throwing. In amongst the piles of guts, a monk's head has turned into an interactive object. There's my next weapon.

Beyond the prison gates the cultists camp out in the hills, toasting marshmallows and surrounded by lanterns. These are the only genuinely useful throwable items, so I pick one up and carry it along a narrow hillside path, across a rickety bridge to the edge of an encampment, before I fling it into a huddled group of monks. They burst into flames and run around, cowls ablaze, sandals smoldering.

A HUGE LUMBERING ENTITY WIELDING A CHAINSAW SMASHES THROUGH

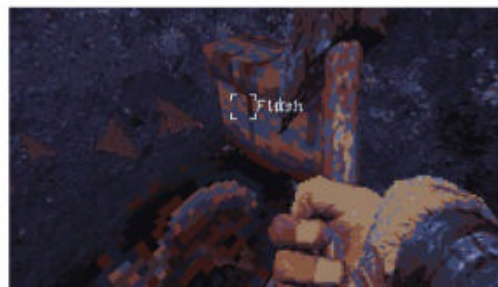
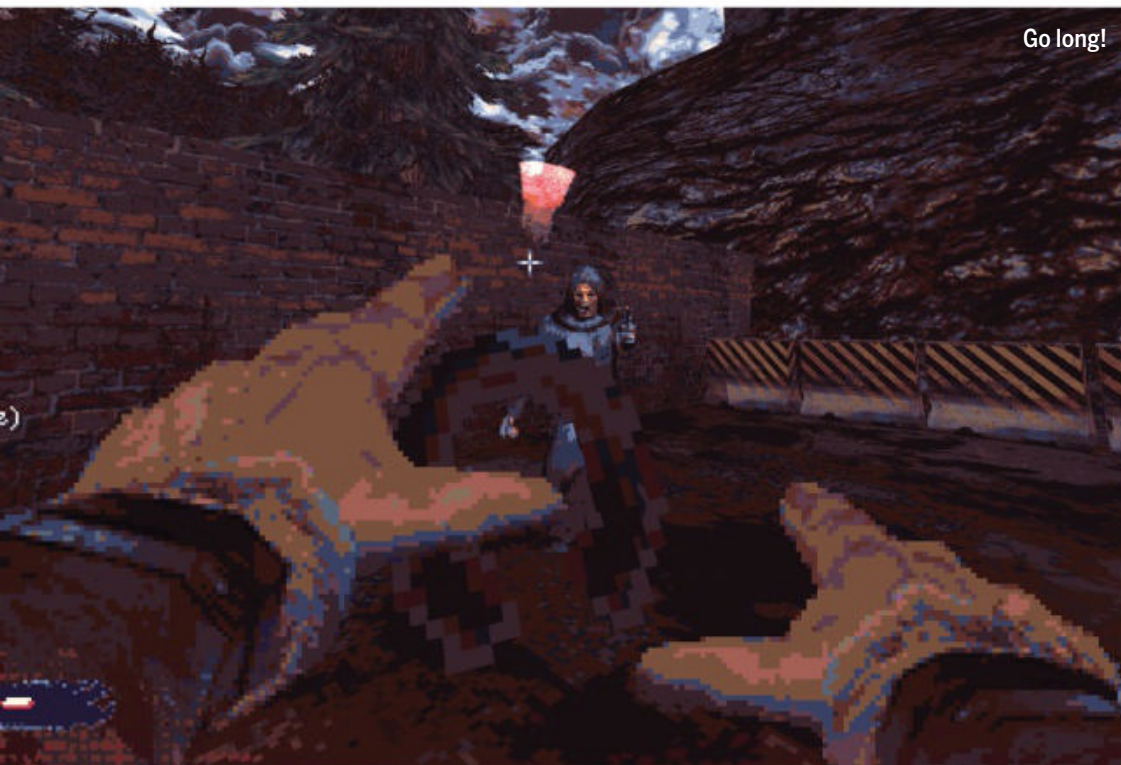
LIONEL LAIR

On medium difficulty *Cultic* is genuinely tricky, particularly by this point, as the protagonists have firearms and I don't.

I approach another huge pit full of corpses. Jumping down into the bodies I know there's no way out, but I feel buoyed by the bottle of Tabasco I'm brandishing.

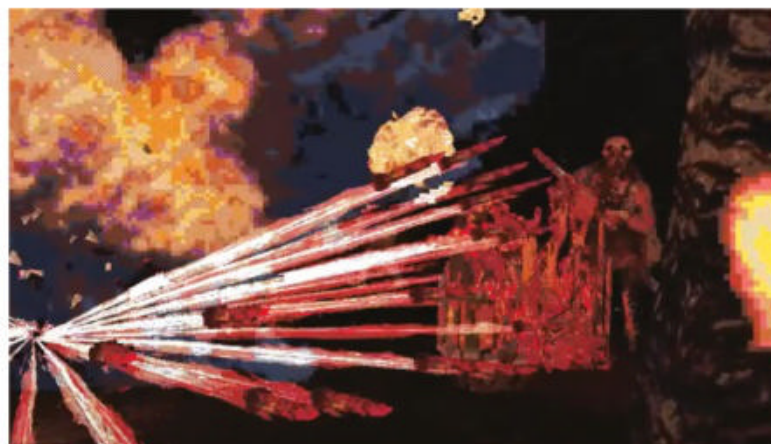
I enter a dark tunnel leading from the pit to the mine gates, squelching through pixelated corpses and brushing past hanging bodies wrapped in sacks. I find the mine gate but it's locked, and I need a key.

Around the next corner are more dangling bodies and I carefully tiptoe around some large rusty hunting traps into what looks like a monster's lair. There I find the key glimmering in the darkness. The moment I pick it up there's an unholy wail. As I run back towards the gate with the key, a huge lumbering entity wielding a chainsaw smashes through a wooden barricade. The corpses drop from the ceiling and chase me, and chainsaw face is now hurling more traps and grenades at me in the darkness. It's the bitter end. Not even the spiciest Tabasco can get me out of this one. ■



LEFT: I'll take that, thank you.

BELOW: Chainsaw face would like his key back now.





“The narrative should obscure these systems, but Bethesda drops this ball”

Houston, we have lots of problems, in **STARFIELD**

My eight-year-old has ADHD so I hear “I’M BORED” a lot. I remind myself that’s a function of his operating system, a complex set of emotions and processes. Otherwise, I’d just point out the million things he could do and complain about his inability to enjoy them.

I am playing *Starfield*, and I am BORED. A million things to do and I’m not enjoying any of it. Now, I’m not neurotypical either, but I don’t think I’m the issue.

Videogames rely on the metagame. We hear someone talking about the barkeep with a problem, we hear “quest”. Progress. But the best games make us forget all this by weaving an illusion. They make it easy to choose to believe in a story to spark your imagination. *Starfield* fails spectacularly in this regard.

Mechanically, it does nothing particularly well. There’s workable space combat, for example, but the cockpit is mostly for show, as is the travel. Loading screens for take-off

MATT KILLEEN



THIS MONTH
Paid for a rocket, got a sparkler.

ALSO PLAYED
Elite: Dangerous, *Slipways*, *EA Sports FC 24*, *Battlefront 2*

and landing. Getting on and off your ship. Any journey. It breaks immersion every time. I’m not flying a spaceship. I’m fast-forwarding through the good bits. For all its flaws, *Elite: Dangerous* is seamless. *Jedi: Survivor* hides its loading screens with interactivity. I board Mantis, choose a destination, and see it fly, tending plants while I wait.

UNAVOIDABLE COMBAT

Instead, I zap from corridor to metaphorical corridor, to engage in

I ZAP FROM CORRIDOR TO METAPHORICAL CORRIDOR, TO ENGAGE IN SO-SO COMBAT

unavoidable so-so combat, stealing things as I go. I guess they’re useful, but my rampant larceny is just gaming habit. Then I have to play the inventory management minigame.

The narrative should obscure these systems, but Bethesda drops this ball too. Coleridge stated that “if a writer could infuse a ‘human interest and a semblance of truth’ into a fantastic tale, the reader would suspend judgment”.

This kind of sci-fi also requires a sense of wonder. No amount of exploring has provided any ‘wow’ moments. It’s an unattractive game and for all its processing demands, graphically unimpressive.

Ten million people were playing *Starfield* simultaneously recently. Faced with the man behind the curtain, many seem capable of the doublethink required to ignore him. I’d love to be able to do that. Maybe that’s a neurotypical thing? Maybe its endgame is worth it? It’ll be modded into something more, but what we’ve been given is an ugly world, clunky systems and a baby’s-first-sci-fi story. And dad, I’m BORED. ■

BALDUR'S GATE III

Larian has made one of the best RPGs ever even better. *By Tyler Wilde*

A weird property of videogames is that, no matter how long they've been in development, as soon as they release about one million voices will shout in unison, "Hey, how come you didn't include this feature we were obviously going to want?"

For *Starfield*, it was city maps, because instead of proper street maps the RPG launched with sparse dot fields that look like abstract illustrations of loneliness. For *Baldur's Gate III*, it was the ability to change your appearance mid-game, as well as the option to boot co-op characters from your party so that you aren't stuck with your friend's green-haired bard named Sherlock Gnome. Bethesda's still working on the maps, but remarkably, Larian has already added both of those requested features in just over a month, and has made so many other significant additions, bug fixes, and changes—including a new epilogue for one character—that *Baldur's Gate III* already feels like a notably better game. And we gave it a 97%!

The issue I'm getting at is that it now feels indisputable that the best time to play a game is never the day it launches, but that leaves us with the difficult decision of how long to wait. I'm feeling pretty good about

NEED TO KNOW

RELEASE Aug 3, 2023	DEVELOPER Larian Studios
PUBLISHER Larian Studios	LINK baldursgate3.game

ignoring *Cyberpunk 2077* for three years, since now everyone says it rules after initially complaining that NPCs kept driving into barricades and mysteriously rocketing into the sky. *Baldur's Gate III* feels good to go now, but I'm a little taken aback by how improved my experience has been with my second character, which I started playing after abandoning my original paladin.

BETTER TIME

In part, I'm having a better time just because I know what I'm doing now, but the patches have made a real difference. As one example, all of my companions in my first, unfinished playthrough wanted to make out with me within, like, a day of meeting. I know sex and romance are popular RPG activities, but it made the early game feel more like a reality dating show than a sword and sorcery adventure. That was a bug, it turns out, and my fellow tadpole-brains have been far less eager to ask if I want to get down this time, so the early game no longer feels like I've been helicoptered onto an island by a Netflix producer.

And things that didn't happen the first time are now happening as they should. I've said to myself more than once, "Wait, did this dialog trigger last time? It makes so much more sense now!"

ACTION ECONOMY

Baldur's Gate III is even more complex than Larian's last game, the great *Divinity: Original Sin 2*, so it's remarkable that it was as coherent as it was at launch, and also remarkable that Larian has managed to patch up so many little rips and tears in its ensemble drama so quickly.

It's such an elaborate game that a lot of the fixes are for bugs I never saw and was never going to see,

THINGS THAT DIDN'T HAPPEN THE FIRST TIME ARE NOW HAPPENING

because I never thought to do whatever peculiar series of actions led to them. My favorite, "If you dismiss your companion to camp and shove them into a chasm, Withers will now be able to resurrect them... so you can shove them into a chasm again, probably."

LATER-GAME UPDATES

There has also been a bunch of later-game updates that I'll benefit from when I finally make it to *Baldur's Gate III*'s second half. Larian's gone so far as to add a new epilogue for one character after some players expressed disappointment with her possible fates. A PC Gamer writer who's finished *Baldur's Gate III* said that it's the "punk rock conclusion" he desperately wanted for the character—high praise for something dropped into the game less than a month after release.

From here, the *Baldur's Gate III* roadmap includes mod tools and hopefully a vacation for everyone at Larian. There's more bug fixing to do as well—a character's arms and legs turned invisible during a cutscene for me the other day, for example—but I'd struggle to wait for more patches before adventuring on. I guess when a game is good enough, the question isn't "when should I play it?" but "when should I play it again?". I'll just have to make a third character sometime next year—woe is me. ■

NOTABLE NOTES

Baldur's Gate III's patch notes are a delight so far



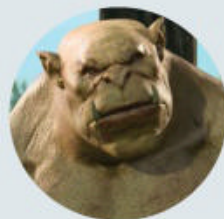
LAE'ZEL

"Lae'zel no longer floats up and down during your dialog discussing dating."



WYLL

"Fixed your head clipping into Wyll's as you kiss on the ground."



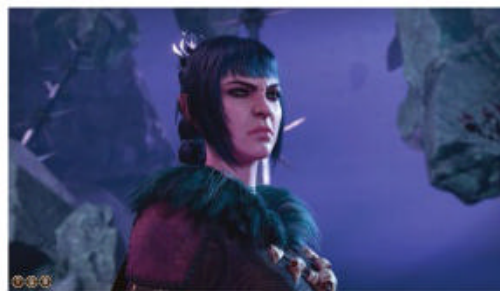
OGRE

"You can now opt to respect the privacy of the bugbear and the ogre..."



DOG

"Fixed Scratch's position so you can try to get that ball out of his mouth."



ABOVE: "Please... just let me flay your mind, bro."

LEFT: Everyone's favorite tiefling already has a new ending.

BELOW: No, I swear, I haven't just been using you for Guidance.





STARFIELD

Bethesda's RPG has lots of mods. *By Christopher Livingston*

It's not that we weren't expecting modders to immediately blast off into *Starfield* or anything... but golly! Just a few weeks after Bethesda's space RPG launched, there aren't just hundreds of mods for *Starfield*. There are thousands. Thousands! And if the *Elder Scrolls* and *Fallout* games are any indication, there will be thousands more by the end of the year and tens of thousands in the years ahead.

That's just fine, because Bethesda's biggest RPG ever has plenty of room for improvement. There's a ton of jank on display in *Starfield*, a few bugs here and there, some pesky UI issues, a few systems that could use improving, and overall just lots of little minor annoyances that can be solved by modders. Thankfully, they're not wasting any time.

NEED TO KNOW

RELEASE Sept 6, 2023	DEVELOPER Bethesda Game Studios
PUBLISHER Bethesda Softworks	LINK bethesda.net

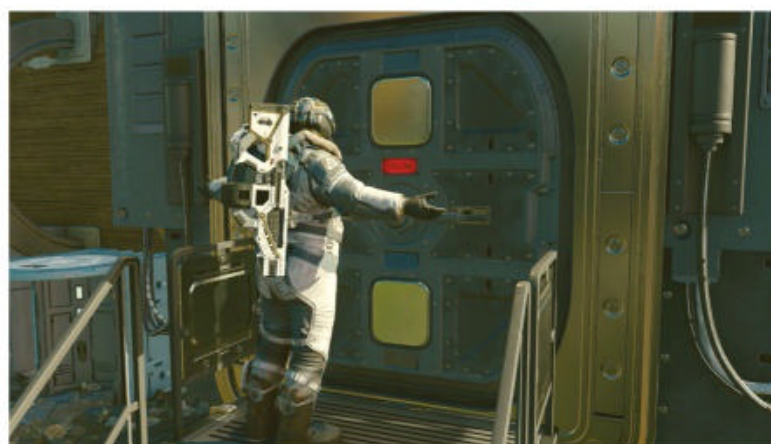
NICE VIEW

As you begin playing *Starfield* one of the first issues you'll come across is the less-than-stellar inventory screen, which seems to have been designed to show off a huge, lovely 3D model of every item but not to actually help you manage all your stuff in a useful way. For a game in which you spend a good amount of time going through your belongings, ship's cargo, vendor inventory, and your companion's pockets, the inventory system is almost shockingly bad. So, it's not a surprise that's one of the first things modders started tinkering with. Your best



ABOVE: Less clutter! On your screen, that is. Your place will still be a mess.

BELOW: Mods let you craft ammo for your favorite guns.



MOD SQUAD

More mods we'd love to see



SURVIVAL MODE

Where we're stranded on a planet without a ship, and have to harvest resources and survive.



RIDEABLE ALIEN CRITTERS

Look, they're fun to shoot, but every game should have a mount.



WE CAN BUILD SHIPS

But what we really want to build is our own orbiting space station.



A WHOLE NEW PLANET BUILT BY MODDERS

I hope they surprise us with volcanoes and intelligent aliens!



ABOVE: Tired of landing sequences? Skip right over 'em.

RIGHT: Bethesda finally got ladders working. Modders made them better.



option right now for a better inventory is a mod called *StarUI* by m8r98a4f2. It's not quite as accomplished as the excellent *SkyUI* for *Skyrim* or *DEF_UI* for *Fallout 4*, but it's a great start, giving a more compact view of your inventory, claiming lots of that empty space in the middle of the screen, and allowing for more choice in which details are shown, like item rarity, in addition to just weight and value. The mod also lets you see how much of an item you have in your inventory when you're buying from a vendor, which is especially useful when stocking up on ammo or resources. It's one of those mods that's filled with common sense tweaks and improvements that make you wonder: how does a developer work on a game for a decade and not include these features themselves?

Speaking of decluttering your screen, the inventory isn't the only thing that needs a little work. If you're not a fan of having the sight of the Kreet Research Lab you just discovered obscured by the words "KREET RESEARCH LAB LOCATION DISCOVERED" ten feet tall on your screen, you might want to try a mod called *BetterHUD* by KhaoMaat. It moves location text information down to the bottom of the screen instead of smack-dab on top of the location you're trying to look at, and shrinks it so it's not screaming at your eyes. It also moves the XP notification from the middle of your screen—a terrible place for it to be—to the lower edge, so you can see it but it's not right in the way. The mod also has some nice options to remove enemy health bars and hit markers if you want a more subtle and immersive combat experience.

GOING UP

Sometimes a mod just makes you shake your head. After a couple decades of research, Bethesda finally figured out the elusive magic of working ladders, and it's somewhat delightful to actually climb a ladder from one level of your spaceship to another. But... after all that time, it turns out climbing ladders gets old pretty darn quick because it just takes too much time. *Simply Faster Ladders* is a mod that fixes the ladders it took Bethesda so long to master, making them much quicker to climb. Another thing a lot of players quickly got sick of is the

sheer number of cinematics you have to endure while jet-setting around the galaxy. Taking off, landing, grav-jumping, docking, it gets a bit tiresome sitting through all those scenes again and again, so the *Ship Skip* mod skips 'em, giving you a quick loading screen instead.

FASTER AIRLOCK

Ladders aren't the only things players want sped up. The *Faster Airlock and Hatch Animations* mod by DankRafft will let you spend a lot less time waiting for doors to open. The really nice thing about the mod is it's completely customizable, so if you enjoy the animation of the airlocks cycling and opening you don't have to lose them completely. You can choose from eight different speeds ranging anywhere from just a little bit faster



SOMETIMES A MOD JUST MAKES YOU SHAKE YOUR HEAD

to twice or five times as fast, or even instant-open.

There are also a few mods that actually monkey around with some of *Starfield's* systems. In this case, a handy system from *Fallout* is brought into *Starfield*: the ability to craft your own ammo. The *Craftable Ammo and Utilities* mod by pitufocabeza is a welcome addition, especially if you're tired of scouring every dealer and store for rarer ammo types like 40mm explosive rounds or 44 ultramag. And now you have something useful to craft with all those space minerals you've been gathering. Even better, the mod allows you to craft other items like medpacks and digipicks. With a mod this useful you'll never have to visit a store again.

ACHIEVEMENT UNLOCKED

And if you like playing with mods but don't like that playing with mods means you can't get achievements, my final recommendation is a mod called *Achievement Enabler*. Using this mod re-enables the achievements that are disabled when you use mods. How does that even work? I think it's magic. Space magic. ■

GET STARTED IN STARFIELD

Take to the skies with these galaxy brain tips. *By Sean Martin*

NEED TO KNOW

DIFFICULTY
Easy

TIME
10 hours

VITAL LINKS

Best mods:
shorturl.at/pqJKT

Console commands:
shorturl.at/qP568

All the guides you need:
shorturl.at/xCI08



STRONG START

1 Do you want an endless parade of bounty hunters chasing you? Origin Traits are an important narrative element of your playthrough, so be sure to pick wisely. It's worth remembering that many Origin Traits can also be disabled if they get annoying. Take a hike, fan!



PRACTICAL KNOW HOW

2 While it can be fun to choose your Background based on an imagined backstory, it's more important to pick practically here, since it alters your skillset and what you'll be able to do in space. Some skills are definitely more useful than others, such as Piloting.



BOOST PACK

3 Speaking of useful skills; make sure to grab the Boost Pack Training ability as soon as you can. *Starfield* doesn't explain this, but if you don't have that skill, you can't use your Boost Pack at all, making it a lot harder to traverse areas while exploring.



LOCK AND LOAD

4 If you want to be a sinister pirate, stealing ships from spacefaring folk, then unlock Targeting Control Systems in the Tech skill tree. Once you lock on to an enemy ship, this skill gives you the ability to target their engines, disabling them so you can board.



DIGIPICKS

5 Unlike the lockpicks from *Skyrim*, Digipicks are used to both open doors and hack terminals, and so you burn through them very quickly—especially if you find the minigame to be a challenge. Be sure to buy them from vendors whenever you can.



FLOG YOUR JUNK

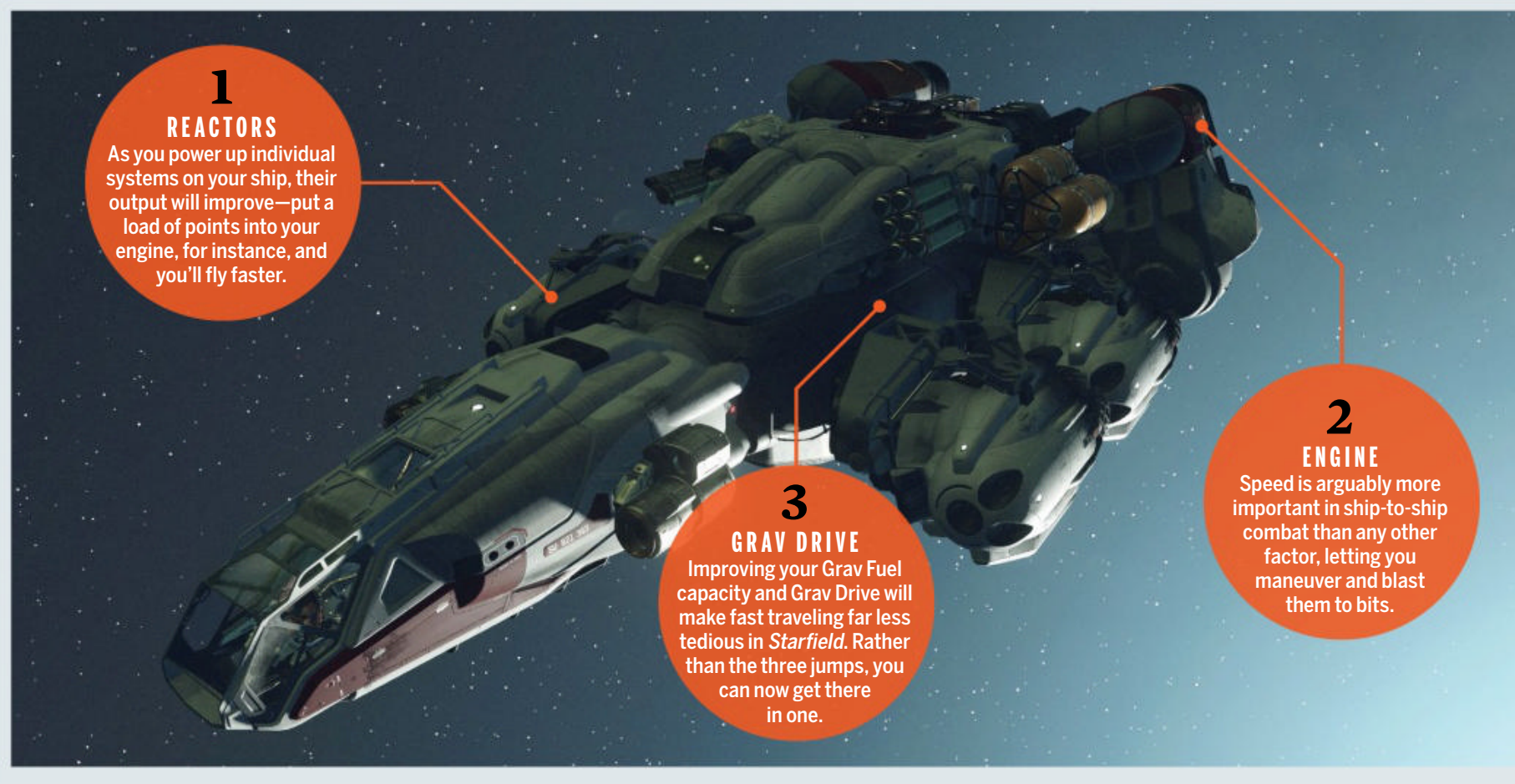
6 You pick all sorts of space junk while traveling the galaxy, so offload it when you can by visiting the Trade Authority terminals near the ship salesman in each major spaceport. You can sell directly from your cargo hold.



HOLD IT

7 Your ship's hold is the ideal storage area for spare weapons and suits, but you can also loot the cargo holds of other ships when you board them, along with the captain's stash. This is generally where the credits are stowed, so clean it out while you can.

SHIP SHAPE *Three big upgrades for interstellar ease*



1

REACTORS

As you power up individual systems on your ship, their output will improve—put a load of points into your engine, for instance, and you'll fly faster.

2

ENGINE

Speed is arguably more important in ship-to-ship combat than any other factor, letting you maneuver and blast them to bits.

3

GRAV DRIVE

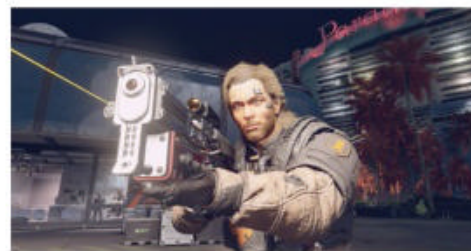
Improving your Grav Fuel capacity and Grav Drive will make fast traveling far less tedious in *Starfield*. Rather than the three jumps, you can now get there in one.

**LIGHT IT UP**

8 You'll frequently find yourself in dark and dingy abandoned outposts and bases across the stars, so don't forget that you have a torch to make getting around easier. Just hold F to toggle it on and off. There are some pretty wild skins you can add.

**SUITS YOU**

9 Tired of zooming out on a habitable planet only to realize you're still wearing your spacesuit? If you head to the inventory menu and find your spacesuit, you can toggle it to appear on or off in settlements, which can help you feel a little more normal when walking around.

**GET A GUN**

10 Melee kind of sucks in *Starfield*. You only really have one attack until you unlock more skills, and it takes a lot of investment to make hand-to-hand combat viable. Instead, grab a gun of your choosing and save yourself the pain of trying to whack someone with an ax.

**FACTION FRIENDS**

11 If you're feeling a little lost in terms of what to do first, find a faction to befriend. Just like in the Fighters or Mages guilds in *The Elder Scrolls*, faction questlines are a fantastic way to get new weapons, ships and generally puzzle out your place in the big ol' universe.

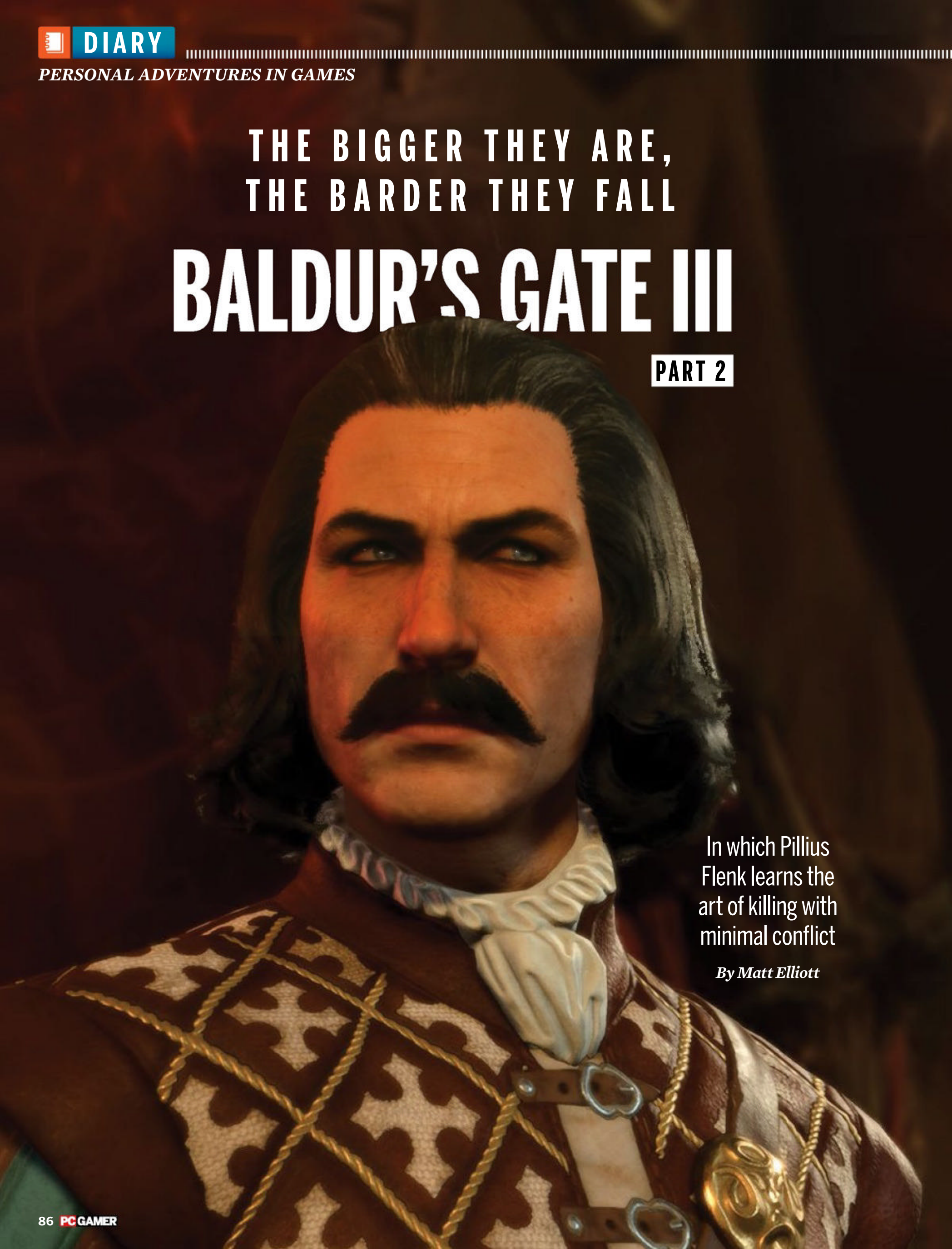
**CAREFUL WITH CONTRABAND**

12 While exploring some den, you may find an item with an absurdly high value; this is most likely Contraband. While you can sell it to the Trade Authority, you'll get scanned and arrested before you land in any major system.

THE BIGGER THEY ARE,
THE BARDER THEY FALL

BALDUR'S GATE III

PART 2



In which Pillius
Flenk learns the
art of killing with
minimal conflict

By Matt Elliott

When we last saw Pillius Flenk, he was allowing his bravado to write checks his conflict-avoidant ass was unlikely to cash. By agreeing to help everyone he sashayed into after escaping the crashing nautiloid, he got himself into something of a pickle, especially since he had no genuine intention of acting heroically. Via a combination of over-promising, under-delivering and avoiding physical exertion, he reached a point where his only option was to creep into a goblin stronghold to rescue a druid; an unwelcome task for a man less courageous than Donald Trump on a polished staircase. Flenk, you'll remember, is a mewling weakling with the fortitude of a sugar sculpture on a drizzly day; a prey animal, albeit one who wants you to believe that he's a actually a snarling alpha.

People are expecting great things from Pillius and he cannot disappoint his audience. And it's with this unwelcome thought in mind that he assembles his fellowship. There's Astarion, a fellow roguish cad (or caddish rogue); Shadowheart, for whom Flenk feels a suppressed flaming ardor; and Gale, who is only here because we haven't found Lae'zel and Wyll makes Flenk feel bad about his lacking rapier skills. Our band of poorly optimized adventurers sets off on a quest to find Halsin, with little more than hope, healing potions, and a selection of songs that my companions must be sick of.

It isn't long before we chance upon our foes. The team enter a goblin cave and hear them talking about torturing a druid. We tread carefully; this must be the place. Flenk sneaks ahead heroically, if such a concept isn't oxymoronic, and seizes his chance. A life of secret cowardice has prepared Flenk for this. While his companions aren't looking, he turns himself invisible and shoves the goblin guard over a ledge to his death. It's the kind of battle Pillius was born for; one that's over before his opponents even realize they're being attacked. The goblin's associates join the battle, but Flenk has gone to the back of the pack for another rendition of The Queen's High Seas. Suspiciously, the fight ends quickly.

It turns out this is because this isn't the stronghold at all, merely a cave with some goblins in it. The true task

lies further ahead, and it promises to be significantly more challenging. We sneak into a town watched by a goblin vanguard, and Flenk climbs a ladder, ready to implement 'shove and flee: part 2'. Somewhat unexpectedly, though, he ends up in a conversation with his quarry. It's here that Flenk has his first taste of his Illithid powers, which allow him to mentally dominate weak-minded adversaries. It's exceedingly useful, but I also don't want to become reliant upon it. Yes, Flenk will do anything to avoid a fight. But a true bard doesn't require the edge offered by infernal powers; instead they succeed through the power of poetry, performance, and pushing people off ledges when

THERE ARE SOME DEPTHS THAT EVEN A ROGUE LIKE PILLIUS FLENK WON'T PLUMB

they're not looking. There are some depths, apparently, that even a rogue like Pillius Flenk won't plumb.

Whatever the method, deception turns out to be something Flenk is genuinely brilliant at. It's quite satisfying avoiding fights, and it's something my ragtag associates seem to admire. Shadowheart and Gale because they seem decent, and Astarion because he too likes the smell of his own bullshit. This in itself feels like a very Pillius Flenk situation. Yes, my party composition could be better. But all that matters is being surrounded by people who'll constantly heap praise on their flamboyant party leader, and Flenk's current teammates seem to celebrate his charming cowardice.

THAT'S YOUR CLOT

Our party dynamic isn't without its problems. One night, Flenk awakes to find Astarion bearing down on him like a plump pug atop half a burrito. Pillius is shocked to learn that his fellow rogue is a vampire, desperate for blood. After some discussion, Flenk decides to let him have a few gulps of the bard stuff, partly to improve his mood and fighting abilities, and partly because Flenk is such a despicable people pleaser he'll literally let another

man drain his vital essences. I even feel slightly rude using a persuasion test to stop Astarion from draining him dry. And, sure enough, the next day Flenk is afflicted with the Bloodless debuff, as a constant and humiliating reminder of his acquiescence. Still, at least Astarion seems chipper.

On a related note, the tactic of shameless appeasement is working so far. We haven't had to fight anyone. Our team discovers some goblins torturing a gnome tied to a windmill. Flenk normally wouldn't intervene, but, swollen with self-confidence, he charms his way to saving the gnome, in an almost vulgar display of his coercive power. These actions also ingratiate him to Shadowheart; something which is gradually creeping up his priority list.

THE RULES

1. You need to be adored. Say yes to everything.
2. Do everything possible to avoid actual physical confrontation.
3. Thrill your party by performing a song during every fight.



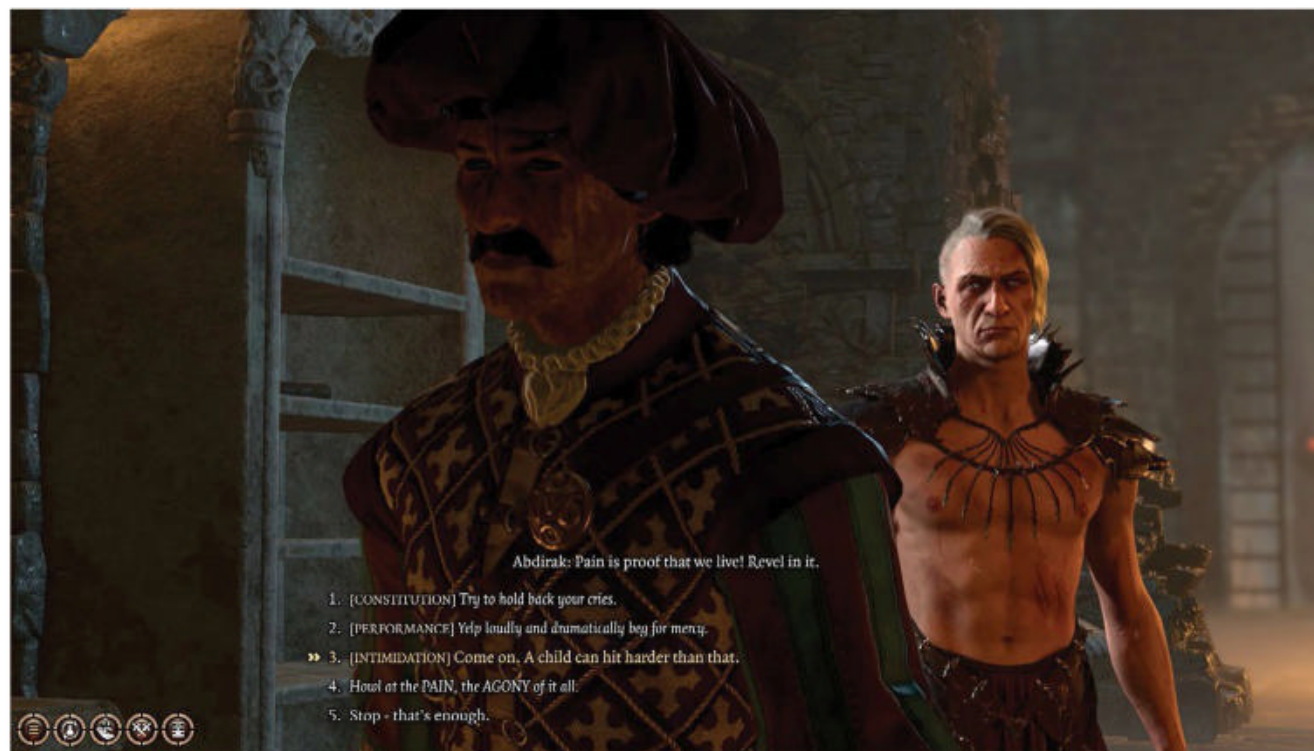
» SPOOR WORKMANSHIP

We reach the goblin outpost, and Flenk yet again charms his way past the sentries. This time, however, there's a snag. While dealing with a fecally-fixated sentinel called Olak, Pillius is faced with a miserable conundrum: fight his way into the compound or smear literal shit all over his face. This is obviously a cruel hazing ritual, like plumbers telling the work experience boy to ask for fallopian tubing at the hardware store. In any other playthrough I'd fling the feces back in Olak's face and fight my way through, dignity intact. But that's not how Pillius Flenk rolls. Faced with no other option, our gallant hero takes the bold choice of rubbing worg dung into his magnificent countenance. As anyone who's experienced it will tell you, it's incredibly difficult to get excrement out of lustrous facial hair. Worse still, the humiliation extends to my character's appearance, meaning that Flenk appears in every cutscene with a face like he's been bobbing for sweetcorn at a sewage farm. Asterion understandably disapproves. Hopefully it has quenched his thirst.

As disgusting as this obviously is, it does mean that we've progressed into the goblin camp without conflict. Upon our arrival, we're met by something that chills Flenk to the marrow: his not-as-talented bard associate, Volo, is being held captive by the goblins and forced to perform. The goblins obviously see him as some sort of theatrical novelty, with his new owner, Gribbo, referring to him as a "pigeon". Displaying any sort of theatrical acumen here would be to risk the same fate as poor Volo. And yet, Flenk cannot resist. Performance is everything, and he must captivate his public, however repellent and tasteless they may be. And so, caked in shit, Flenk proceeds to have an epic rap shat-battle with Volo. Pillius' rhymes are so fearsome it actually ends up breaking the other bard, and Gribbo sends him back to his cage in disgrace. I'm sure this will lead to something fortuitous eventually, because that's how *Baldur's Gate* tends to work. But right now all Flenk cares about is proving himself to be the more talented wordsmith.

We enter the Shattered Sanctum, a ravaged underground temple that the goblins have occupied. It's a complete hovel. There are torture racks, wicked ceremonies, and caged captives everywhere. It's also

BELOW: No, I will not be explaining this screenshot at this time.



TUNE!

The Ballad of Pillius Flenk

Cunningly, brave Flenk did creep,
Though drained of blood while he did sleep!

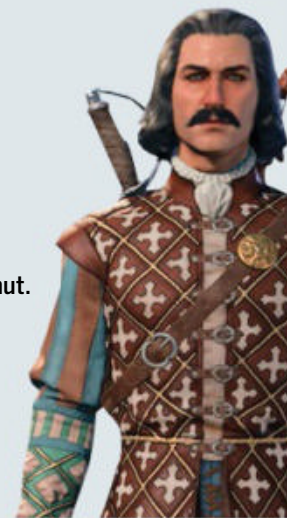
At goblin guards he doffed his hat,
While his mustache was thick with scat.

He charmed the goblin known as Gut,
Whose brand made shadowed hearts snap shut.

He used his skills to fool a drow,
She met her doom, no romance now.

Dror felt safe upon his throne,
Till fiery blasts rent flesh from bone.

A tale of dash, handsomely told!
Flenk lost the girl but claimed the gold.



crammed with potential enemies who, thankfully, aren't currently interested in fighting us. After some time spent exploring I discover that Halsin is being held, in bear form, in the worg pens. Nothing about this sounds ideal. That's a lot of feral animals, none of which can be lulled into submission by a lilting tune or cunningly observed rhyming couplet. Flenk tries to charm his way past the guards by discussing our shared love of throwing sharp stones at bears, but this just enrages Halsin, who bursts out of his pen and attacks. Happily, he's on my side. It's far more like an actual fight than I'd like, but the goblins go down without too much resistance, and we heroically kill the ones fleeing to raise the alarm. Halsin is free, and nobody who matters is dead. Now all we need to do is sneak back to the enclave. Right?

Wrong. Halsin wants Flenk to kill all the goblin leaders before he'll leave. Now, Flenk isn't an expert at murder, but he does know it's quite difficult to kill people without some small amount of fighting. Worse still, it's pretty obvious that anyone in charge of an army of goblins is a) probably quite good at combat and b) surrounded by armed goblins. The new mission is clear, then. Find the leaders. And kill them with as little danger to his person as humanly possible.

GET GUT

First up is Priestess Gut, an objectionable religious leader who acts as the spiritual voice of the Absolute. After some preliminary banter, Flenk wins her over by agreeing to be branded. It's a difficult choice, since branding hurts and it'll desecrate Flenk's delicate hands. He agrees and we retire to her chambers to discuss matters, where we quickly kill Gut in a brutal, one-on-four mugging. It's only afterwards that I realize that Shadowheart has gone off me because of the brand, and that I could quite easily have sent another party member in to get branded instead. I could save scum, but it feels against the spirit of things, even playing as a rogue. Onwards.

Next is a drow named Minthara, who seems slightly sharper than the

TRANQUILITY LANE

The best quest in Fallout 3 (not counting DLC). *By Jody Macgregor*



LEFT: Bring up your Pip-Boy and you'll see this novelty wristwatch.

RIGHT: Your first glimpse of what's to come.



People will tell you the best part of Bethesda RPGs is the sidequests, and sometimes that's true. But one of the most Wild Wasteland moments in *Fallout 3* is part of the main storyline, sitting right there on the critical path.

Your quest in *Fallout 3* is to find your dad, Liam Neeson. It's a better hook for an open-world game than the search for your son in *Fallout 4*, because everyone knows Liam Neeson can take care of himself. Bouncing across the Capital Wasteland, you're free to take your time safe in the knowledge you can return to Dad Quest later on.

You finally track the deadbeat down to Vault 112, where you expect some kind of dungeon crawl, maybe a fight with some mutants or vault dwellers. You find something else.

THUS DID TRANQUO

Vault 112's inhabitants have spent the last 200 years in a simulation, bodies suspended while their minds experience a series of pleasant virtual realities. Your dad went in to talk to the scientist who built it, Stanislaus Braun, and the only way to get him out is to follow. As the headset lowers over your face, the familiar loading screen message "PLEASE STAND BY" appears, to be replaced by the sedate black-and-white street called Tranquility Lane.

In this white-picket-fence American dream, *Fallout 3* becomes an episode of *The Twilight Zone*. While most of the residents are ignorant of their true nature, playing out their good neighbour roles in a

NEED TO KNOW

RELEASE
Oct 28, 2008

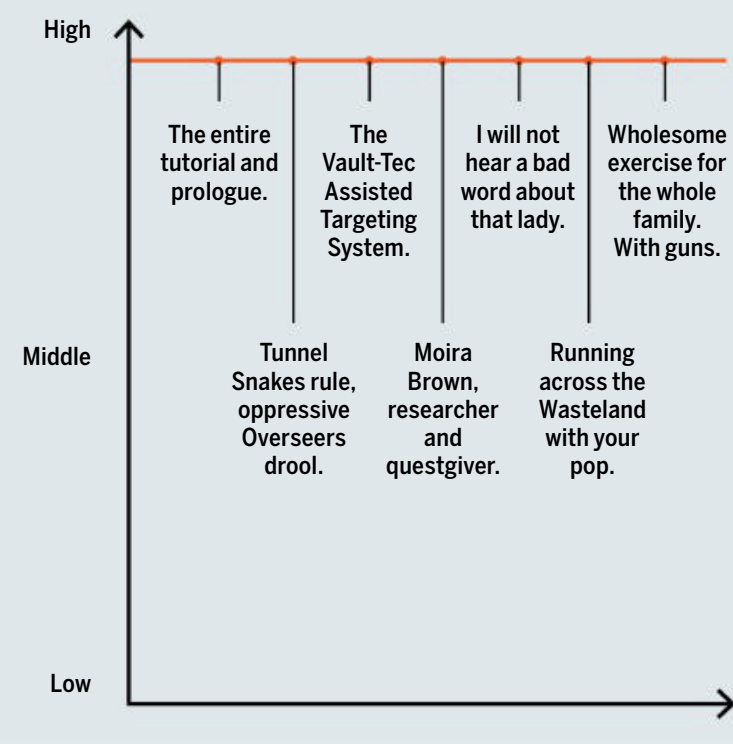
DEVELOPER
Bethesda Game Studios

PUBLISHER
Bethesda Softworks

LINK
fallout.bethesda.net

VATS ENTERTAINMENT

Other high points of *Fallout 3*



place where there was no war and there is no wasteland, one is different. A little girl named Betty, watering flowers with her dog in the middle of the street, is aware of the real world. Her voice slips, becoming that of the elderly scientist Braun, and things get extremely Village of the Damned.

BRAUN'S IN CHARGE OF THE SIMULATION, A VIRTUAL GOD, AND IT'S GONE TO HIS HEAD

Braun's in charge of the simulation, a virtual god, and it's gone to his head. He's been tormenting the inhabitants for kicks then resetting reality, over and over, and will only hand over your dear old dad if you take part in his twisted game. You're a child too in the simulation, which makes it even more messed up when Braun's game escalates. The first task

is making a boy cry; by the end you're committing atrocities.

STEPFORD LIVES

Fallout is at its best when it's offering multiple solutions to quests, letting you write your personality across its design. The first two games had three solutions for almost every problem, but *Fallout 3* often reduces that to good karma and bad karma. In Tranquility Lane, there are still good and bad karma options, but the bad karma ones branch like arteries.

When Braun tells you to murder Mabel, it's suddenly a *Hitman* level in miniature, her house overflowing with deathtraps. You can sabotage a chandelier to fall on her, or go full Looney Tunes with a roller skate at the top of the stairs. You can talk to the neighbors to learn she loves to bake pies, then rig her gas oven to explode. Or you can hack her house's security to lock the doors and turn her Mr Handy robot hostile, then evade the thing while it flamethrowers and saws her to death.

Fallout is a black comedy from the moment you see US soldiers gunning down Canadians in the street during the first game's intro, but that dark sense of humor was lost in the sequel. Tranquility Lane brings it back. I can't help but laugh when I'm the Pint-Sized Slasher. The jaunty music, the bright surroundings, the clown mask, all absurdly contrasted with the simulated citizens as they come apart at the joints just like the raiders you shoot for the other 50 hours you spend in *Fallout 3*.

"Wasn't it fun?" Braun asks afterwards. Sure it was. I was killing people in a videogame, that's what I signed up for. The good karma choice is to activate a failsafe that kills the residents in real life, ending their torment while leaving Braun alone in this hell of his own making. Which is the darkest option yet. There's no way out of Tranquility Lane without blood on your hands. ■



LEFT: Mr Handy, what have you done?

RIGHT: This gnome has seen some shit.





SYNDICATE

Playing Bullfrog's tactical masterpiece after 30 years out of the boardroom. *By Ian Evenden*

Syndicate is a game that stirs strong feelings within me, and the realisation that it's now 30 years old plunged me into a pit of nostalgia for my teenage years.

I've owned *Syndicate* four times, and played it on three different platforms. Three were on PC, the game coming as a selection of floppies in a big black box with a bright green sheath around it, then a CD-ROM in a small green cardboard case, then as a download in its *Syndicate Plus* incarnation. Only the last one still works. I also played it on the Amiga 500, and later the PSP port of the Super Nintendo conversion as part of the dreadful EA Replay compilation. It's a game that's most at home on PC, however, as even in 1993 the MS-DOS version

was better than those seen on the Amiga and Atari ST.

For the sake of clarity, we're talking about *Syndicate* the Bullfrog cyberpunk tactics game. Not the 2012 Starbreeze FPS of the same name whose main character, Miles Kilo, sounds like the friendly face of a '70s animation explaining why the metric system isn't scary rather than a cybernetically enhanced agent of corporate terror. That game is, however, notable for the voice of Succession's Brian Cox as a CEO who prefers to dish out trauma ballistically rather than generationally.

When you're 14, you haven't seen *Blade Runner* and *The Matrix* hasn't been invented yet, the idea of cybernetic agents in trenchcoats walking into a near-future city and setting fire to its inhabitants seems impossibly cool. The intro to 1996 sequel *Syndicate Wars* captured it



best, unaware civilians living in an illusory world of sunny tree-lined avenues with friendly police while, in reality, there are cybernetic killers with miniguns on the streets. The cops are masked stormtroopers. And it's raining.

Syndicate's intro is a simpler thing, though it's aged better as its characters don't appear to be made out of Play-Doh. It tells the tale of a capture operation, a potential agent (known as BOB after the game's internal development title at Bullfrog) run down, bundled into a car and turned into a cyborg. I thought my PC couldn't handle it at

NEED TO KNOW

RELEASE
June 6, 1993

DEVELOPER
Bullfrog Productions

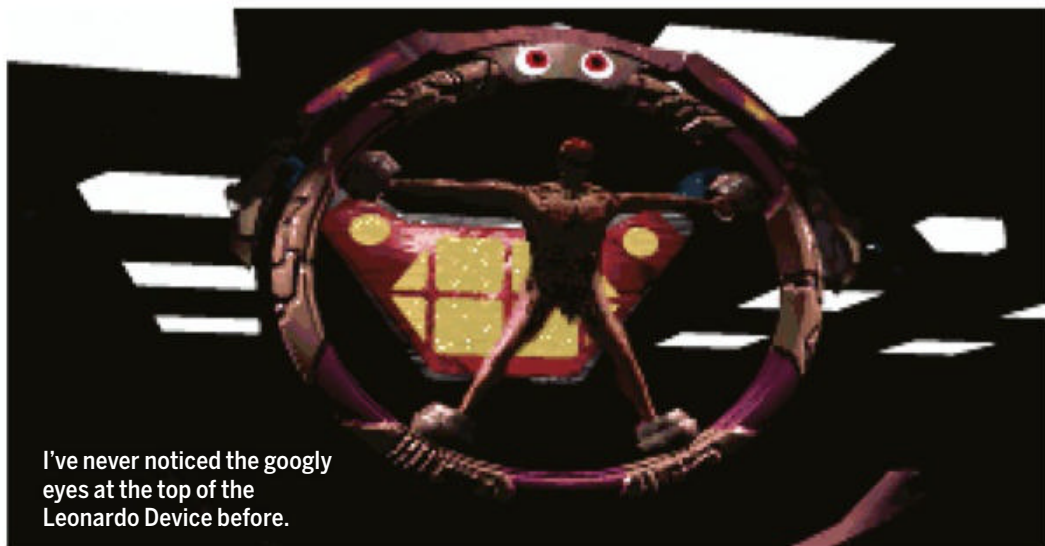
PUBLISHER
Electronic Arts

LINK
gog.com



ABOVE: Some levels have trains you can board. They'll run you over just as easily though.

RIGHT: Flamers and lasers can cause explosive car-nage.



I've never noticed the googly eyes at the top of the Leonardo Device before.



REIGN OF FIRE

Playing Syndicate on modern PCs



Syndicate got a spiritual sequel in 2015 in the form of *Satellite Reign*, a game co-created by one of the original team behind *Syndicate Wars* at Bullfrog, and which also shared the '90s games' composer.

It's probably a better match for modern systems, and is extremely *Blade Runner*, taking *Syndicate*'s isometric look and turning the sliders marked 'neon' and 'rain' to their maximum. There's four-player co-op too, which is a great addition to the game.

If you've got a disc copy of the game laying around, you can also try out FreeSynd on SourceForge. It's a game engine recreation of the original that requires the game's data files to run. It's also a labor of love project that's been on hold for four years and never reached version 1.0, but it's nice that it exists.

the time, such was the jerkiness as the camera rose over the West Gate to show the corporate headquarters beyond. It's good to see it's still choppy 30 years later, on a significantly more powerful AMD APU, and my 386SX is vindicated.

A NEW EMPIRE

And then it all comes rushing back, like a blast of perception drugs to the brain. The futuristic green interface that appears to be projected into the air on a monitor made of jelly you can throw a lamp through. The

IT ALL COMES RUSHING BACK, LIKE A BLAST OF PERCEPTION DRUGS TO THE BRAIN

screen in which you dress naked cybernetic operatives in their finest upgraded body parts. And the map, broken up into zones of corporate control. Countries flash when a mission is available so you, the skybound marketing director, can extend the benevolent influence of your corporation by means of rocket launcher-assisted assassination, hails of bullets and injecting people with mind-controlling drugs. The robotic voice that says "syndicate" every time you click on the interface during a mission can get in the bin, though.

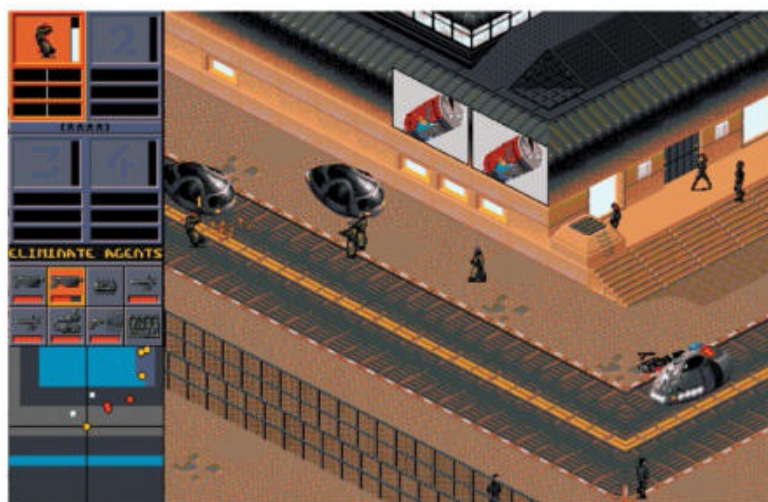
One of my favorite missions is the combat sweep in the Urals, which drops not too long after the beginning of the game. You start on top of a building, moving down to the ground to explore—the maps are 2D, but with enough of a 3D effect to make you believe there are different levels. The enemy agents are ready for you, and come running armed with Uzis. There's only eight of them, but if you're not prepared a blast of



Succeed in a mission, and the city celebrates.



ABOVE: Weirdly, all your agents seem to be redheaded.



LEFT: Blade Runner-esque animated adverts fill the cities, but it's not dark enough for them to really shine

short-range automatic fire can seriously inconvenience your agents. You'll have the Uzi yourself by this point, there's one on the very first mission you can pick up, but there's a better choice for quick agent kills. The shotgun, a starting weapon, is ferociously powerful but has an even shorter range, meaning you have to play cat and mouse around the buildings to get them with a blast.

PERSUADE THIS

But there is another tactic. You'll need to buy a Persuadertron early in the game, and taking it to the Urals or nearby Siberia is a quick way to increase your stock of cyborgs. The Persuadertron works by shooting civilians, guards, police and even enemy agents full of drugs that turn them to your side, and is used to kidnap staff from rival corporations. It's also a hilarious way to cheese through a mission with a private army, as persuaded civilians will pick up dropped guns and go to war on your behalf. At first, you can persuade normal people easily, but to capture an enemy agent requires you to have drugged 32 pedestrians first. Upgrade your agents' brains, and this requirement drops.

So entering the Urals with a V3 brain upgrade and a Persuadertron means you need only persuade a few civilians, then you can start working your magic on the enemy agents and fill your ranks with another corporation's expensive operatives.

And you can always push the region into revolt by raising its taxes so you can play the mission again if you fancy some more.

SQUAD TACTICS

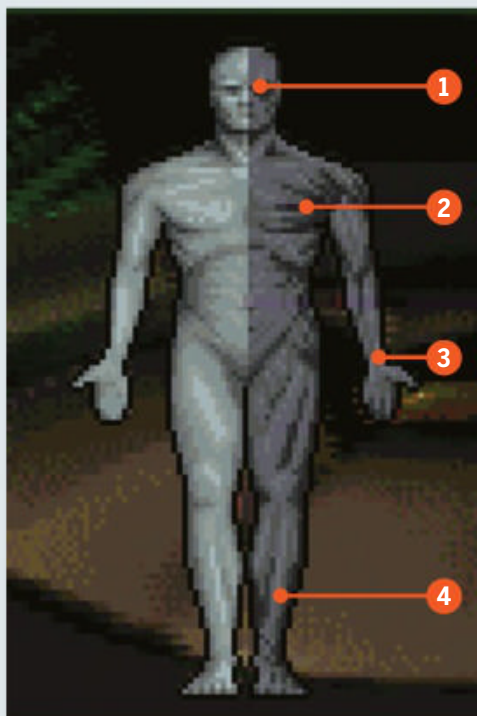
If you read the level briefings, it sounds like you're expected to split your squads up, keeping some agents outside the city for backup should things go awry, or even carrying out missions with a single agent. This would be vastly improved if it were possible to select two or three agents at once, but you're limited to either just one or all four. Those you're not controlling can be given a degree of autonomy using combat drugs, or even put into panic mode—press both mouse buttons at once—if you want them to blaze away at anything that moves. In practice, however, the group button that selects all agents at once suits the game better. Moving your team as a single super-agent, making sure their loadouts are the same so you can pull four of the same weapon for quad damage, is the way I've always played the game, with adrenaline levels set high to increase movement speed.

The other two combat drugs, intelligence and perception, allow you to leave an agent on its own to

ANATOMY OF AN AGENT

The leg bone connected to the metal hip bone

- 1 EYES**
New peepers mean night vision and targeting improvements.
- 2 CHEST**
Upgrade this to gain regenerating health and better all-round toughness.
- 3 METAL ARMS**
Increased carrying capacity for weapons is the reward for cutting your agents' fleshy arms off.
- 4 LEGS**
A pair of new pins makes you walk faster.





defend itself. Putting an agent with V3 upgrades and a full weapon load in panic mode leads to it reacting with speed and accuracy to threats you may not even have seen. The world is viewed from a fixed isometric perspective, just as your controlling business development manager would see from their Zeppelin-based control platform. You can scroll around using the arrow keys, but your view isn't rotatable, which means it's possible for assassination targets and enemy agents to hide behind buildings even though you can see them clearly on the mini-map, leaving you scrubbing the cursor back and forth trying to get it to turn red for a firing solution.

An autonomous agent solves this problem, and you can leave a group of three in a convenient position before using the fourth under your control to pull enemies into a killing zone, though make sure they don't switch to gauss guns—the game's rocket launchers—as they're trigger happy and will burn through a lot of valuable ammunition. The minigun is the classic mid-to-late-game weapon, once you've upgraded your agents' arms to deal with the weight, as it packs a lot of ammo, has a decent

YOU CAN ALWAYS PUSH THE REGION INTO REVOLT BY RAISING ITS TAXES

range, and offers enough power to take out an agent in a few shots.

OPEN FIRE

The game's greatest weapon is the flamer, however. Its incredibly short range is a drawback, but being able to set an enemy on fire before seeing them run screaming across the level as a post-human torch before crumbling into ashes, the weapons they would have dropped immolated with them, is mind-blowing when you're 14 and still raises a smirk 30 years later. It can also fire through doors and fences, and nothing clears a car out quicker, turning it into a burning timebomb that prompts a tactical retreat before it explodes.

Syndicate Plus, which contains the *American Revolt* expansion that brought NetBIOS multiplayer to the game, fixes the level select bug from the original which allowed you to play a mission that wasn't available to you yet simply by selecting it and pressing Enter. *American Revolt* also

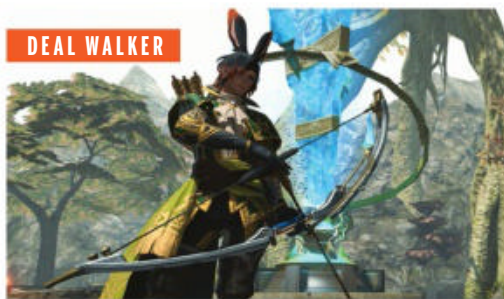
adds a couple of new weapons, including the devastating air strike, and brings 21 extremely tricky missions, even more so than the notorious Atlantic Accelerator combat sweep from the original, which sees the remaining enemy corporations team up against you.

Sadly, the DOSBox GOG version doesn't seem to particularly like running on modern hardware. The resolution or draw mode changes between the menus and the game itself proving too much in fullscreen, the game preferring to run in a very small window (some scaling options are available from the Graphic Mode Setup app, but can give the game a smeary look) that locks the mouse pointer, meaning you have to press the Windows key first if you want to move out of it. You have to be careful when pausing, as pressing Esc results not in a menu but in you immediately quitting (and failing) the active mission. It could do with some quality-of-life updates, if not a complete remaster, but does at least have the grace to quit without asking if you're sure. I'm a mid-level executive in a future cyber-corporation with teams of heavily armed agents under my control. Of course I'm sure. ■

HARVEY RANDALL



2023's been flooded with must-play games—chances are we've wittered your ear off about them already. Instead, here are some games near and dear to my heart that I think you should try.



DEAL WALKER

FINAL FANTASY XIV

finalfantasyxiv.com

→ *Final Fantasy XIV: Endwalker* has been a mixed bag, but it's still one of the best RPG stories I've experienced, and you can now play two whole expansions for free. That's like, three 30-40 hour stories for nothing. Well worth a play if you like this sort of thing.

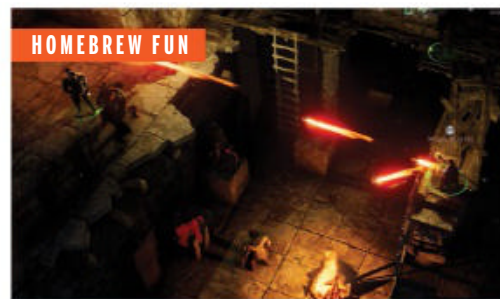


CYBERMAN'S SKY

CYBERPUNK 2077

cyberpunk.net

→ *Cyberpunk's* rusty launch stopped me from ever trying it. But with *Phantom Liberty*, an RPG systems overhaul, and most performance and bug issues squashed, I gave it a spin. I'm having a blast in Night City throwing knives at people, and I'm so glad I waited this long.



HOMEBREW FUN

SOLASTA

solasta-game.com

→ *Solasta's* no *Baldur's Gate III*, but it's still really charming. If you're hankering for something after finishing Larian's triumph, you could do far worse. Playing it feels like sitting down with your mates' tabletop campaign—often cheesy, but loads of fun.



PARRY EDUCATION

SEKIRO

sekirothegame.com

→ *Sekiro* passed a lot of my friends by, but it has a ton of good ideas, as evidenced by *Lies of P* and *Lords of the Fallen* borrowing from it. Give it another shot with an open mind, and parry 'til your fingers are numb. It's worth it, I promise.

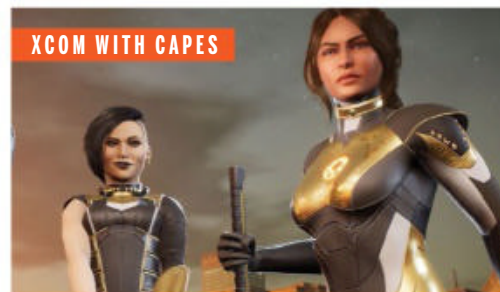
MUST

★

PLAY

A PERSONAL LIST OF
THE BEST GAMES YOU
CAN PLAY RIGHT NOW

by Harvey Randall

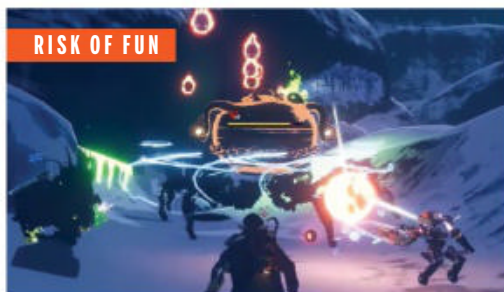


XCOM WITH CAPES

MIDNIGHT SUNS

midnightsuns.2k.com

→ It's a shame this game didn't do better, because it's really great. It's a charmingly-written romp, mixing deck builder gameplay with *XCOM*-style combat. Having everyone go at once stops the turn-based slog common in those games, keeping things snappy.

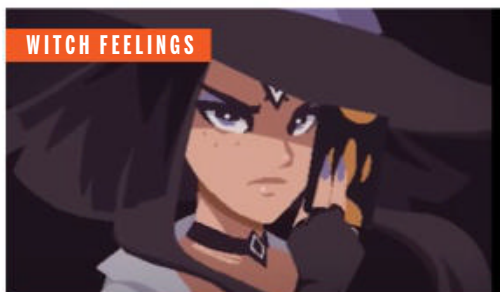


RISK OF FUN

RISK OF RAIN 2

riskofrain.com

→ *Risk of Rain 2* still rules. Games like this need to be tough enough to make your eventual god builds feel satisfying, but not so hard as to feel pointless. *Risk* threads that needle, and its DLCs have only built upon a really solid core. I keep redeploying for a reason.

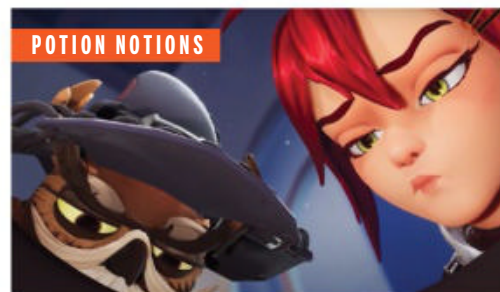


WITCH FEELINGS

COSMIC WHEEL SISTERHOOD

cosmicwheelsisterhood.com

→ This game has so much going for it. The *Cosmic Wheel Sisterhood* lets you design your own tarot deck, then makes you responsible for the futures you foresee. Mostly, I'm just happy indie gems like this still exist among the haze of massive RPGs and the latest live-service soylent.



POTION NOTIONS

POTIONOMICS

potionomics.com

→ *Potionomics* is just really wonderful. I don't think I've been so wholly charmed by a game before—gorgeous animation, sharp writing, and a unique gameplay loop. *Slay the Spire*-style haggling combat with a dash of *Moonlighter* management and lots of townsfolk to date.

HARDWARE

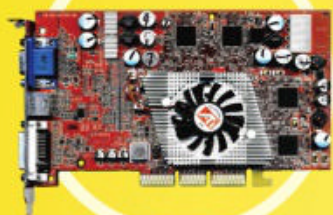
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Build yourself a top gaming PC with our budgeted parts lists



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TECH TALES

Upgrading the machines of the past was not easy

THE GRAPHICS CARD GREATS

From the Voodoo Graphics to the RTX 4090, less than 30 years separates the first ever graphics cards from the best yet

By Jacob Ridley



The last 30 years have included some landmark moments in PC gaming hardware, and PC Gamer's very existence as a magazine dedicated to gaming on a personal computer speaks volumes for the importance of those years for our hobby. In that time, it has covered the rise of 3D graphics, simulated physics, LAN parties and online gaming.

But the mag has also captured the rise of one particular piece of hardware that makes it all possible: the graphics card. In 1993, at a Denny's roadside diner in East San Jose, Nvidia was founded, intent on creating a 3D accelerator to beat the rest. It would have its work cut out for it trying to dispatch 3dfx, which rose to prominence with the creation of the Voodoo Graphics card in 1996.

From the beginnings of GeForce in 1999 through the 2000s, corporate consolidation would pit Nvidia against first ATi and then AMD for graphical dominance in a fiery battle still simmering today.

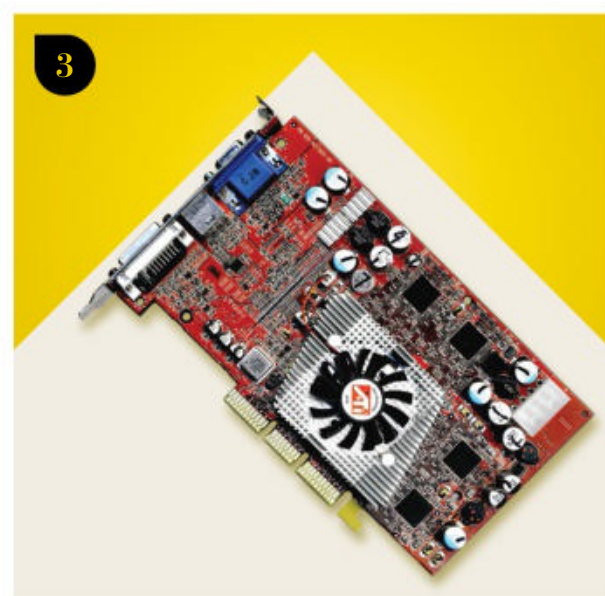




1



2



3

Voodoo2

3DFX, 1998

PC gaming's Ferrari F40

1 You may not look at an add-in card with 12MB of VRAM and see it as some kind of gaming panacea. But we did in the '90s. The Voodoo2 was a 3D graphics revolution. But how could 3dfx level up 1996's beloved Voodoo? The answer was to double almost everything. The Voodoo2 came with not one, not two, but three graphics chipsets. One is on frame buffer duty and the other two are dedicated to texture mapping. That's one more chip dedicated to chomping through textures than the original Voodoo Graphics, but these were faster and had access to double the memory.

This card was a night and day moment for PC gaming, like the veil slipping away from your eyes so you can finally see what a 3D world should look like.

The Voodoo2 had to be great, however. A gaming graphics upstart, founded by one Jensen Huang and named Nvidia, had created a real challenger to the Voodoo: the Riva 128. The Voodoo2 was 3dfx's way of closing the door on the Riva and Nvidia—and it worked, for a bit.

PC GAMER VERDICT

- Iconic
- Watershed moment for 3D
- Drool-worthy PCB

SPECS YEAR: 1998 / CORE CLOCK SPEED: 90MHZ / MEMORY: 8/12MB / PROCESS NODE: 350NM

GeForce 256

NVIDIA, 1999

Enter the GeForce

2 The GeForce 256 was the world's first GPU. It sounds odd to hear that claim made today, seeing as the term is ubiquitous for any graphics acceleration chip. That simply wasn't the case in 1999.

Nvidia needed a way to market its newly minted, fully integrated GeForce 256—an add-in card capable of doing transform and lighting on-chip. It settled on GPU, a term that sounds a lot like something every PC needs: a CPU. As such, this moment is an early example of something we're very familiar with today: Nvidia's very clever marketing. The GeForce 256, however, wasn't all smoke and

mirrors. It was a supremely capable graphics card with up to 32MB of memory, a 120MHz clock, and full support for the API of the moment, Direct3D 7.

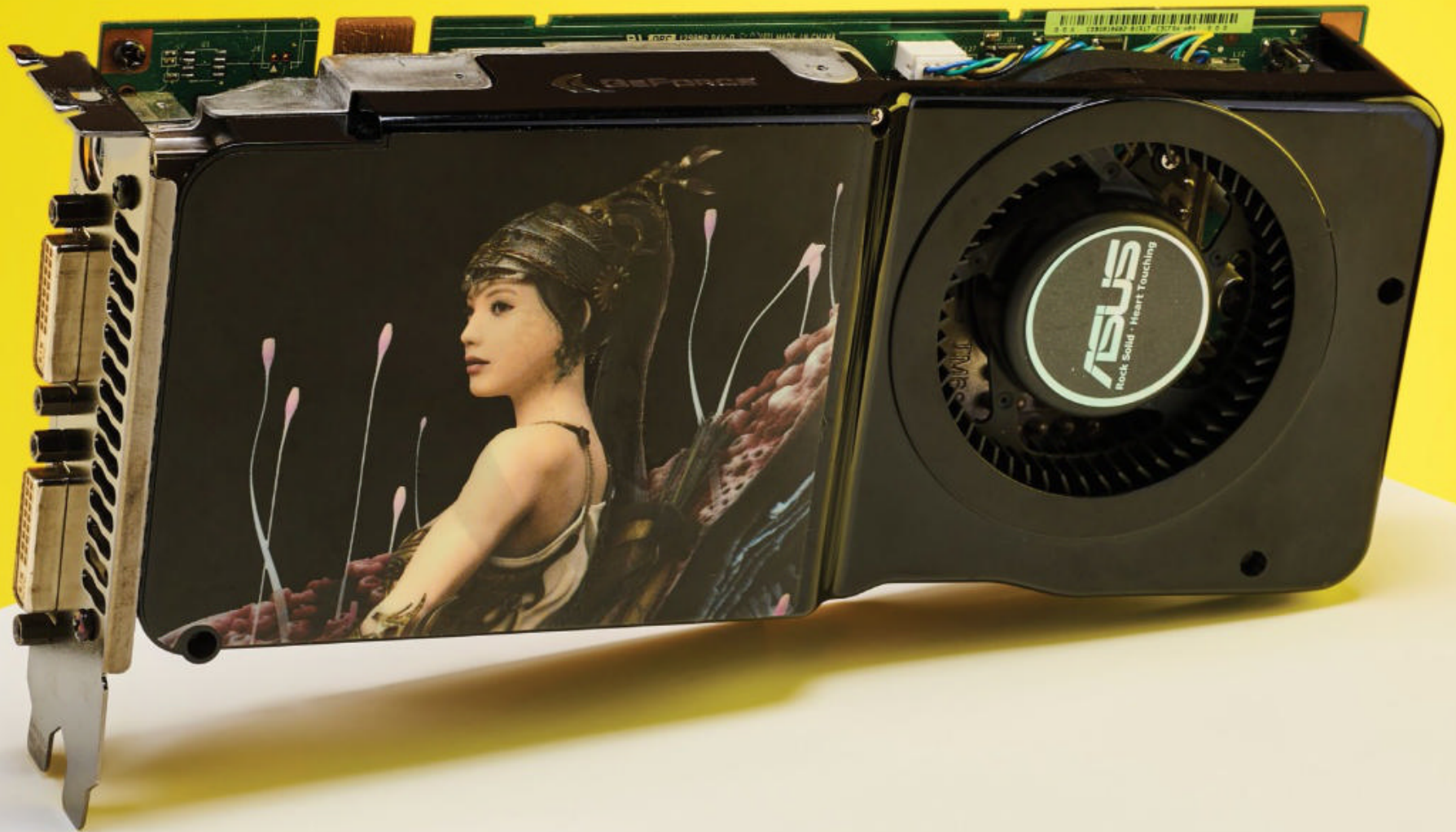
The 256 laid down the foundations for PC gaming for years to come. While it wouldn't be for another generation before onboard transform and lighting really took hold, a single graphics chip with the required acceleration onboard remains the way in which GPUs are designed today.

PC GAMER VERDICT

- World's first GPU
- First ever GeForce, too
- Direct3D 7 compliant

SPECS YEAR: 1999 / CORE CLOCK SPEED: 120MHZ / MEMORY: 32MB DDR / PROCESS NODE: TSMC220NM

THERE REALLY WAS NO LOOKING BACK FOLLOWING THE LAUNCH OF THE GEFORCE 8800 GTX



GROUP TEST

Radeon 9800 Pro

ATI, 2003

The red team scores

3 If you're wondering where the red team is during all of this, by 2003 it's releasing the Radeon 9800 Pro. Though this isn't AMD. No, I'm talking about the original red team, ATI.

Before ATI was assimilated into the green team in 2006 (that was AMD at the time—confusing, right?), it was producing some absolutely stellar graphics cards. One such card, and an absolute fan favorite, is the Radeon 9800 Pro. This card came out during a time when the company felt it had to do something big to win market share in an extremely competitive market ruled by its competitors. And, boy, did ATI

go big. The Radeon 9800 Pro was the Nvidia-bashing card of the moment. A wide memory bus, up to 256MB of VRAM, and cheery performance with the latest anti-aliasing techniques—which were becoming a key part of PC gaming at the time – saw it dominate in benchmarks. Reviewers loved it. A real crowd-pleaser—not least because you could buy the cheaper Radeon 9500 and flash its BIOS for better performance.

PC GAMER VERDICT

- ATI's champion
- Wide memory bus
- Nvidia killer

SPECS YEAR: 2003 / CORE CLOCK SPEED: 380MHZ / MEMORY: 128MB/256MB DDR2 / PROCESS NODE: TSMC 150NM

GeForce 8800 GTX

NVIDIA, 2006

Unified, supercharged

4 You can point to any successful 3D accelerator or GPU from the annals of PC gaming history and say “that’s the one that changed everything”. But at risk of sounding like a broken record, there really was no looking back following the launch of the GeForce 8800 GTX.

The 8800 GTX came with 128 shaders, a 1.35GHz shader clock, 768MB of GDDR3 RAM, a 155W TDP and a dual-slot design. And in that specs sheet is the secret to its success. The GeForce 8 series housed a unified shader architecture, the first of its kind, that was built to play nicely with DirectX 10. The architecture,

nicknamed Tesla, relied on a collection of up to 128 unified shaders to carry out all key functions required of a graphics card. This differs to the fixed function blocks found on older accelerators. If lots of geometry was required, the unified shaders would run as geometry shaders. If you need lots of computation per pixel, they'd run as pixel shaders. They're everything to every function. We've never moved away from this unified shading model since.

PC GAMER VERDICT

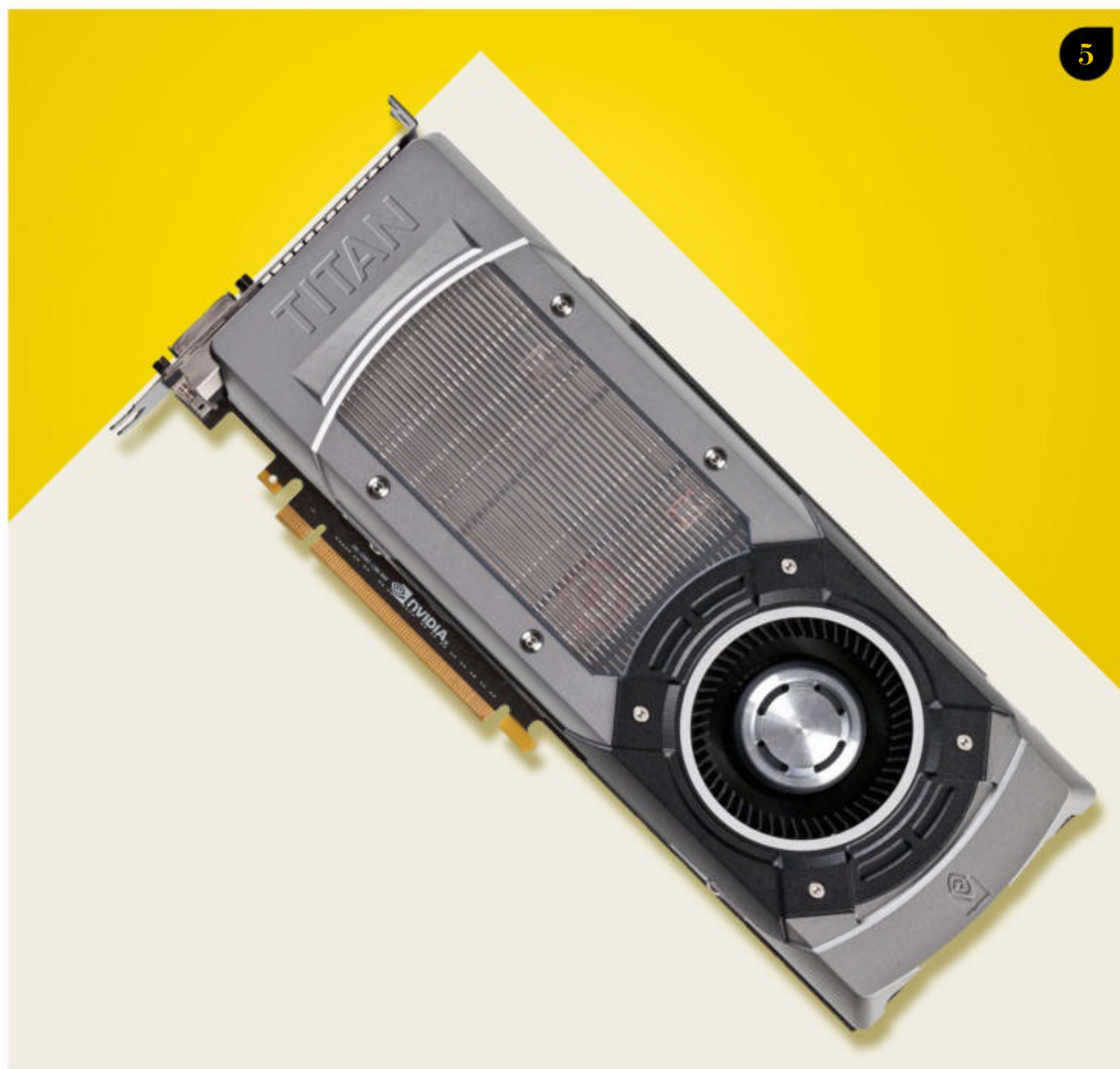
- A modern architecture
- Progenitor to modern cards
- Super beefy

SPECS YEAR: 2006 / CORE CLOCK SPEED: 575MHZ / MEMORY: 768MB GDDR3 / PROCESS NODE: TSMC 90NM

**THE GTX TITAN WAS ALSO
THE BEGINNING OF THE END
FOR DUAL-GPU SETUPS**



3



HONOURABLE MENTIONS

3dfx Voodoo Graphics 1996

PC gaming wouldn't be the same without it.

Nvidia Riva 128 1997

Without this, we might not have the Voodoo2.

ATI Radeon HD 5970 2009

Two graphics cards in one.

Nvidia GeForce GTX 1080 Ti 2017

The daddy.

DISHONOURABLE MENTIONS

Nvidia GeForce FX 5800 2003

Underwhelming at best.

Nvidia GeForce GTX 970 2014

See: class-action lawsuit.

AMD Radeon VII 2019

AMD's best card ever. For five months.

Intel Larrabee Unreleased

Canned before its time.

GeForce GTX Titan

NVIDIA, 2013

The SLI killer

5 You might not like paying high prices for graphics cards but the trend towards ever bigger, ever more expensive GPUs is one we can't ignore when talking about PC gaming's hardware history. The card that arguably kicked it all off was the GTX Titan.

For many years you could buy a professional-grade GPU for a pretty penny, but the GTX Titan in 2013 was when this sort of overkill card became a possibility for PC gamers. It features 2,688 CUDA Cores and 6GB of GDDR5—not all that far off an RTX 4050 in some regards, which was released a whole decade later. The GTX Titan was

also the beginning of the end for dual-GPU setups. While the card supported SLI, the multi-GPU interface from Nvidia, a single card was able to tear through the latest games just fine on its own. Why bother stringing two together with questionable driver support when one would suffice? SLI is dead today—if you want high-end 4K, spend the money on an ultra-enthusiast card. Perhaps the GTX Titan's modern-day equivalent, the RTX 4090.

PC GAMER VERDICT

- Titan by name
- Titan by nature
- Titanic price tag

SPECS YEAR: 2013 / CORE CLOCK SPEED: 837MHZ / MEMORY: 6,144MB GDDR5 / PROCESS NODE: TSMC 28NM

GeForce RTX 4090

NVIDIA, 2022

The best around

6 Every GPU generation there's the card that gamers want. For the RTX 40-series, that's the RTX 4090. Would you believe the RTX 4090 is one of the better bang-for-your-buck graphics cards available today? No, I haven't hit my head. It's just pound-for-pound a decent deal considering the hardware you get in return for parting with, ahem, \$1,699. Look, I never said it was cheap, just a better deal than most other cards today.

The RTX 4090 features 16,384 CUDA Cores alongside 24GB of GDDR6X. That's 509% more cores than a GTX Titan and 300% more memory. A bit of an

unfair comparison, but compare it to the RTX 4080 and it has 68% more CUDA Cores than an RTX 4080 for 33% more cash.

While a luxury that I cannot afford, the RTX 4090 marks a major uplift in performance even over the RTX 3090 Ti it ostensibly replaces. Even without upscaling in the picture, nearly double the performance is a pretty sure-fire way to win my favour. It's a beast that has no equal—AMD didn't even try to match it.

PC GAMER VERDICT

- World-beating frame rates
- Frame Gen
- Eye-watering price

SPECS YEAR: 2022 / CORE CLOCK SPEED: 2,520MHZ / MEMORY: 24GB GDDR6X / PROCESS NODE: TSMC 5NM



Home computers were a novel concept—it was in offices where PCs had first boomed.

ANTIQUATE CODE SHOW

What did gaming PCs look like when PCG issue 1 hit the shelves in '93?

If you thought 1993 was a good year for PC junkies,” wrote the *LA Times* on Christmas eve 1993, “just wait until 1994. Prices will continue to plummet, just as they did in 1993”. Firstly, can we all agree to go back to calling ourselves PC junkies? And second, that quote captures a pivotal moment. Home computers were indeed becoming more affordable year on year, and a storm was gathering that would birth PC gaming as we know it.

Id Software knew this when it launched *Doom* in December of '93. Future Publishing knew it when some forward-thinking execs had launched the first issue of a magazine called *PC Gamer* a month previously. People had been using computers to play games since there had been people, computers and games, but '93 represents the start of PC gaming in the modern sense, and that comes down to hardware.

“Intel’s popular 33 Mhz 486 CPU cost PC makers \$1,056 in 1990 in quantities of 1,000,” the *LA Times* article continues. “At the end of 1992 it cost \$329. Starting next week, it will be \$272.” That tells you everything about why gaming grew in popularity. At the start of the decade, you could take a 486-based system out of the shop and into your designated computer room for about \$2,000. By 1993 that price tag represented the very highest end of the market, reserved for professional workstations and top-spec machines. You could

spend \$700 and walk out with a gaming-ready PC. What about the price tag for a gaming PC? There was no such thing. If the very idea of having one of these things in your home was still relatively fresh, the idea of owning one whose express purpose was playing games was akin to buying an iPhone in 2023 but using it only to play *Subway Surfers*. Marketers at the time simply hadn’t anticipated that consumer behavior was heading in that direction, so there were no gamer edition models in the electronics shops of the early '90s. Game consoles sat in the toy department, computers were put next to the TVs, and never the twain shall meet.

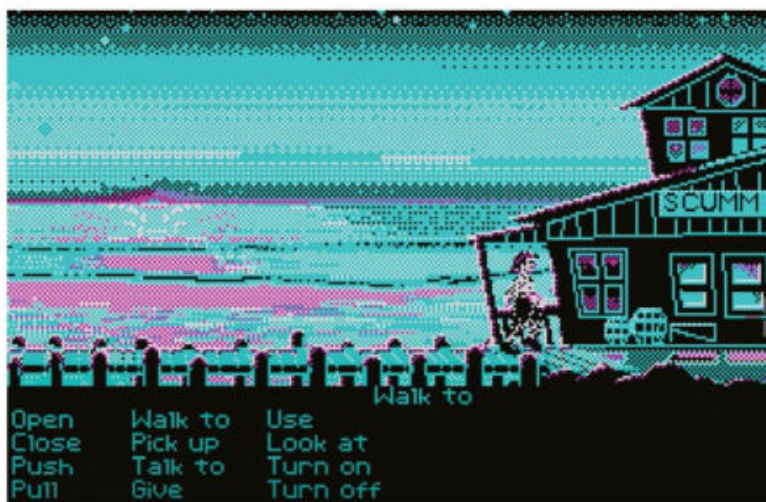
There was also the small matter that the components inside PCs at the time didn’t delineate by gaming applications—in other words, we didn’t have graphics cards yet. We had video cards, whose circuitry became central to running 3D applications like games, but which weren’t marketed as gaming components. These were simply the boards that handled everything that showed up on your display. The Intel 486 didn’t boast about gaming performance, either. Instead, Intel’s language, like everyone else at the time, was about productivity and user experience.

There was a real thrill to playing games on the PCs of this era for that very reason. It felt like subverting the very reason to be of a stiff-starched machine designed for Lotus 1-2-3 to load up *Doom* and watch benign Windows 3.1 menus give way to *Cacodemons* drenched in viscera. To be a PC gamer at the



Party like it's 1999

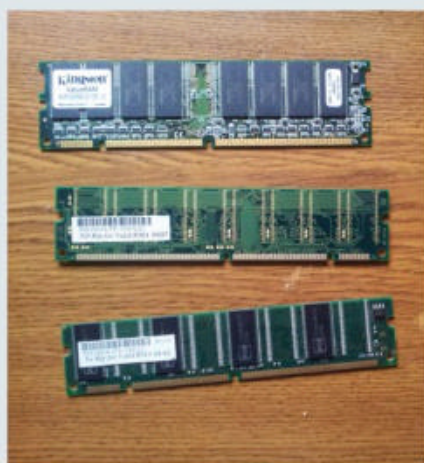
In six short years, from when PCG issue 1 went on sale to the turn of the millennium, PCs transformed completely. From CPUs with clock speeds at 33Hz in '93, by 2000 we had AMD Athlon chips that broke 1GHz, and with L3 cache. RAM standards increased from 2MB to 2GB. VGA cards gave way to 3D accelerators with more grunt on a discrete card than entire PCs had years before. Remember the pace of progress, next time Nvidia tries to convince you a 4090 is worth \$1,500.



FAR LEFT: This is what bleeding-edge tech looked like when PCG was born.

LEFT: If you didn't have a VGA card, games looked like this. CGA was not easy on the eye.

NUMBER OF THE BEAST *Doom's minimum requirements, December 1993*



4MB RAM

That's right, a whole four megabytes. Fast-page memory was getting more affordable by '94, so soon after launch, most systems had at least 4MB.



INTEL 80386 CPU

Processors handled a lot of graphics tasks at the time *Doom* released. That it only needed a humble 386 is testament to Carmack's genius.



2.39MB STORAGE SPACE

Doom came on four floppy disks—disks that sell for upwards of \$1,200 for a complete set now. The sum total of the data contained within? 2.39MB.



DOS 4.0

Before mouse support, before nostalgic login sounds, we had this: a rudimentary set of menus and bleeps that absolutely, proudly, never bloody worked. QUIT? Y.

time this magazine's first issue went to print was to be a jailbreaker of previously feckless beige workstations, harnessing their power with evil intent. Nobody was selling home computers based on their ability to do this. Not yet.

COMPUTING HARDWARE

What might you find inside the off-white panels of 1993's home computing hardware? Typically 2-4MB of 'fast-page' RAM, which interfaced with the CPU via an L1 cache layer only. Lightning-quick at the time, but the pace of development through the '90s made those specs glacially slow within two years. *Doom's* minimum specs required at least 4MB of RAM—not a given on PCs in 1993.

CPUs were broadly x86-based. Newer models were built around 486 chips which ran at up to 66MHz, but 386 chips were still up to the job for most games of the day. Interestingly, Intel's most advanced consumer chips of the day could address up to 4GB of RAM, and although you couldn't buy modules that capacious at the time, the fact that its chip architecture at least had the capability paved the way for newer Windows releases over the decade—it gave Microsoft a steer as to where hardware specs were going, and what kind of ceiling it would have to work with.

NEWER MODELS WERE BUILT AROUND 486 CHIPS WHICH RAN AT UP TO 66MHZ

Going in deeper, by 1993 you'd find a VGA card nestled in among all the wires and unbranded PCBs. These cards could handle the previous CGA and EGA standards of the '80s, but they were also capable of outputting 256 colors at 320x200 resolution, or 16 colors at 640x480. By this time, SVGA (super-VGA) cards had also entered the market which allowed higher resolutions and 2D image acceleration, but a lot of sprite rendering and animation work was handled by the CPU

at this time. It would be three years before the 3dfx Voodoo 3D graphics card launched, and the rest of the decade would see an unprecedented surge forward in videogame graphics that made use of these discrete cards to render polygonal shapes in 3D space.

Propelled into higher echelons by the ingenious lines of code beneath *Doom's* glistening exterior, PC games were about to take over, and shortly after 1993, manufacturers realized gamers represented a large and passionate sub-section of PC users. Our needs were specific—we'd gladly leave the printer and the Encarta CD-ROMs in the store but add an SVGA card. And as we were running our new purchase through the till, we'd pick up a copy of *PC Gamer* too, to figure out which new virtual delights awaited us on our new systems. ■

Phil Iwaniuk

SMASHING PINS

Despite all the rage, hardware upgrades were possible in '93

In 2023, we turn up our noses if we don't like the RGB lighting strips running along our graphics card. In 1993, the select few enthusiasts who ever dared meddle with the inner workings of their home computer were delighted just to correctly identify their VGA card. Quite aside from the astronomical rise in computational power since issue 1 of this magazine hit the shelves, we've seen an equally dramatic transformation in the way desktop machines are put together. It's basically nerd Lego now, a toybox of multicolored parts that fit together in an outrageously proportioned, liquid-cooled display cabinet. But when PC Gamer launched, upgrading your computer was beyond daunting.

And yet people braved it nonetheless. Driven forwards into the gaping maw of a PC's razor-sharp case panels by a combination of sheer fascination and a desire to keep their rapidly redundant machines current, the early pioneers installed sound cards and SVGA cards. They upgraded their processors without a single millisecond of consideration for RAM cooler clearance because processors didn't need coolers yet. These brave individuals whacked network cards and game controller adapters into their rigs, and in doing so they brought about a change to the way manufacturers designed computers.

Because, peering into a beige case in '93, you would have been met with an unfamiliar sight. Firstly, an absolute morass of wires. Wires coming out of everything, wires between wires. No consideration was given to airflow because there was no airflow. There was only wire. Beneath that layer, you found the PCBs. These all looked absolutely identical, had no identifying markers, and were each connected to about 80 wires.

The first job, then, was to identify the component you wanted to replace, and remove it. Without the innate

knowledge of how components fit together we have in our collective consciousness now, this was a supreme challenge. And this was where games mags like PC Gamer came in. It was from the pages of hardware writer Simon Williams' Systems section, the precursor to the very section you read now, that PC gamers built up an understanding of how PC interiors were laid out, and how to perform tasks we might now consider basic. These first intrepid canaries down the beige mine became the older siblings and the playground gurus who told a younger generation about fitting RAM

modules and hooking up a VGA card. They popularized upgrade culture, and manufacturers had to respond with more user-friendly interior designs.

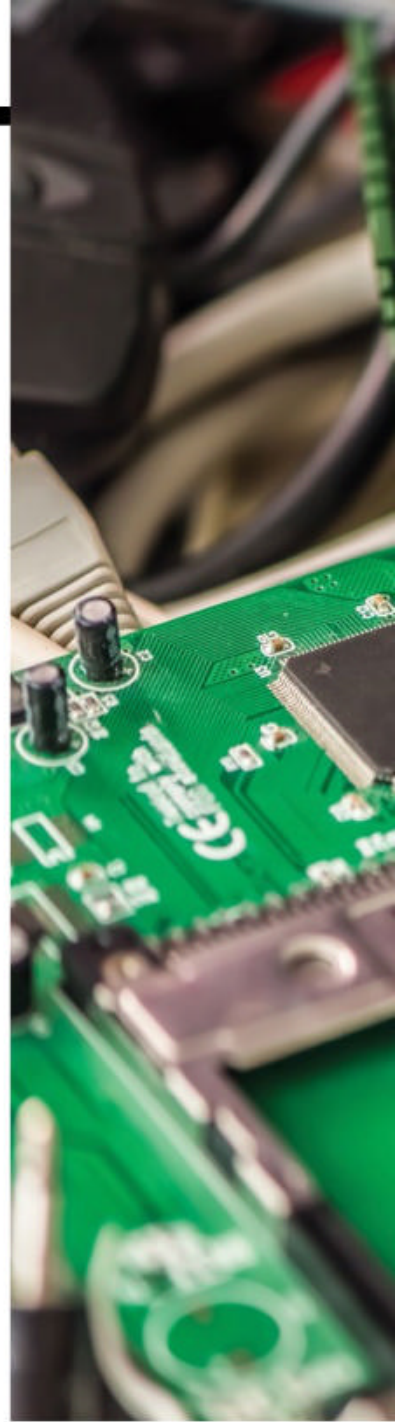
CHEESE GRATERS

We've got a lot to thank them for. As a young staff writer on PC Format magazine in the 2000s, I regularly lacerated my extremities on poorly

finished cases, but it was much worse in the decade prior. Swapping a processor chip in a PC in the early '90s was like plucking a grain of sand out of a pile of cheese graters. Manufacturers simply didn't consider that people would be going inside their machines—it would have been akin to popping the bonnet on your hatchback and swapping out the air filter. A very small hardcore population might do it, but not so many people that the ease of the upgrade should ever be considered. It took a long time to adapt this thinking. Decades. But it began during this pivotal era when playing games on your home computer was really taking off.

There was a bigger hurdle than the katana-sharp cases, the minuscule operating space or the inherent unfamiliarity of the layout, though, and that hurdle was compatibility. An eager young gamer in '93 reads about SVGA cards and decides they quite like the sound of higher resolutions and accelerated 2D graphics. They want to buy one. So they flip through the pages of a magazine and find a mail order ad with dozens of video cards listed in tiny typeface. Which should

MANUFACTURERS HAD TO RESPOND WITH MORE USER-FRIENDLY DESIGNS



PHIL IWANIUK
Beige hardware fetishist Phil Iwaniuk can often be found running a furtive finger along PCG's office printers. We've told security about him, but he keeps getting in. We suspect he sleeps in the bathroom.

MUSEUM PIECES *Four components that stayed in the '90s*



SOUND CARDS

Before graphics cards were a thing, we lusted after Creative Sound Blaster Pro IIs. Money well spent.



MODEMS

Because how else are you going to connect to the web? A wireless router? Witchcraft. What you need is a gray box with lots of lights.



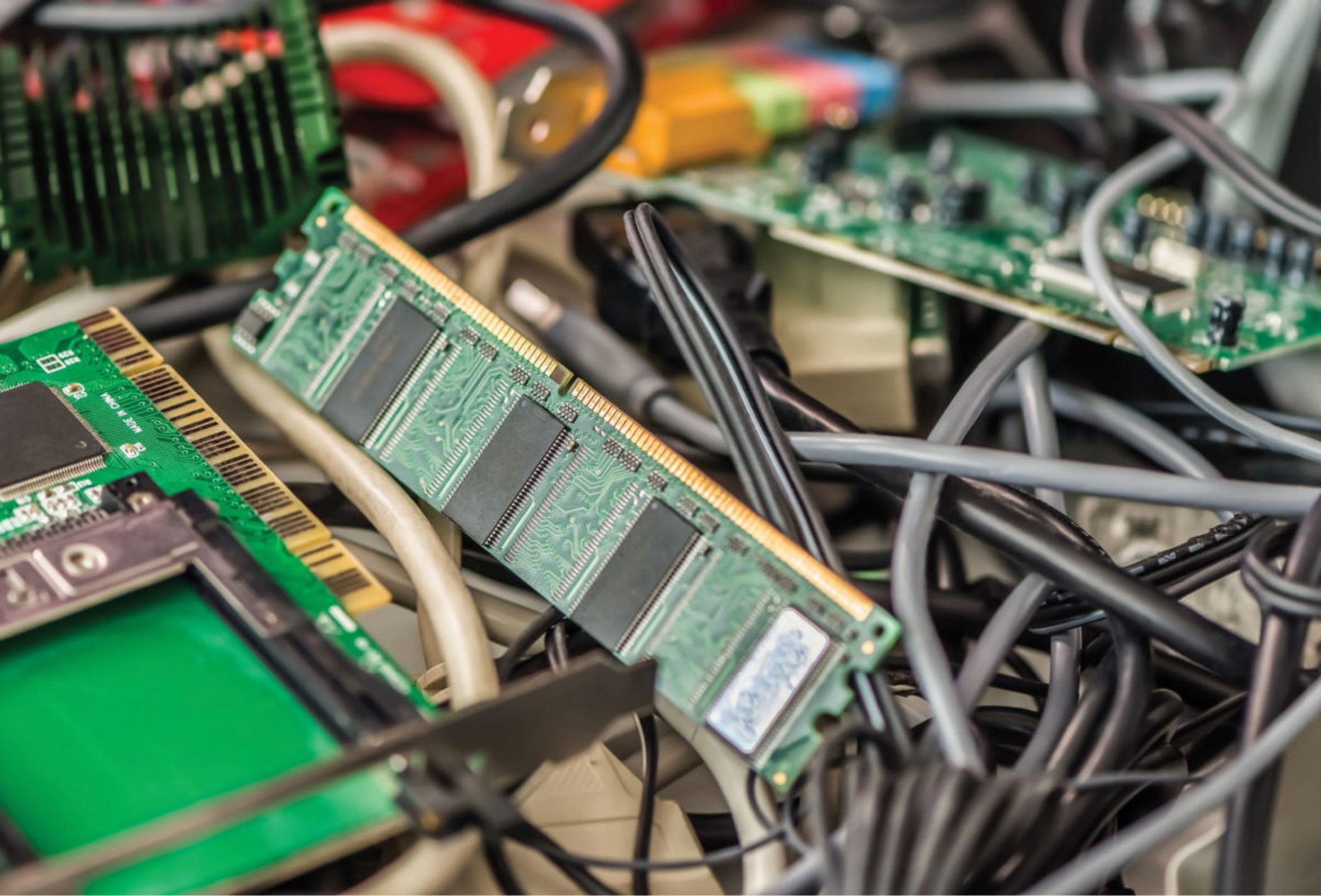
PRINTERS

No gamer especially wanted a home printer in '93, but you just try walking out of an electronics store without one.



GAME CONTROLLER ADAPTER CARDS

USB changed everything, including the necessity for a special card you plugged your joystick into.



ABOVE: Upgrading was a messy business throughout the '90s.

BELOW: '90s PC gaming perfection, if you could build it.

they choose? Would it work with their operating system? Would their motherboard recognize it? Is there space inside their PC for it? Not only did they not know, the card's manufacturer probably didn't either.

If the practice of hardware upgrades during this era could be summed up in three words, those words would be trial and error. That was it. That was all we had before internet message boards and YouTube tutorials. Hardware companies didn't offer any information before the point of purchase, and the landscape was such a primeval swamp of burgeoning component brands and products that if something didn't work after you bought it, it was basically impossible to figure out why.

We owe our entire pastime to the savants who trial and error-ed their way through the hardware upgrades of the Windows 3.1 era. Now's a fitting time to take a moment to thank them. Thanks for all the cuts, the broken circuit boards and sunk costs. Thanks for writing about your discoveries and sharing them with us all. You walked, so that we could run custom RGB profiles. ■

Phil Iwaniuk



BUYER'S GUIDE

Build the best PC for your budget



KEY

Budget build

PC gaming is for everyone. Pick the parts you want to build a new, well-rounded PC for a good price.

Mid-range build

You want to run every new game at 1080p 60fps. This recommended build will see you through.

Advanced build














You're looking for the best PC on the market and superior components. But you still want to spend smart.

BUDGET BUILD

Enjoy 1080p gaming without breaking the bank



TOTAL
\$1,106











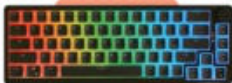


MOTHERBOARD		B660M Pro RS ASRock \$100 This is as cheap as we want to go while still offering room for expansion and upgrades down the line.
PROCESSOR		Core i5 13400F Intel \$208 Intel's added four more cores to its entry-level Core i5 and it's become even more fantastic value.
GRAPHICS CARD		GeForce RTX 4060 Nvidia \$300 The cheapest way to score Nvidia's latest gaming architecture and DLSS 3 support.
COOLER		Laminar RM1 (included with CPU) Intel Free There's room for an upgrade here, but on a budget the included CPU will work just fine.
MEMORY		T-Force Vulkan Z 16GB Teamgroup \$33 Goodbye 8GB, hello 16GB of speedy DDR4-3200.
POWER SUPPLY		Pure Power 12 M 550W Be Quiet! \$95 We have to run a 550W PSU for the RTX 4060, as per Nvidia's recommendations.
SSD		WD Black SN770 500GB Western Digital \$33 It's finally time to ditch SATA and go for an NVMe drive even in a budget machine such as this.
HDD		WD Blue 1TB 7200rpm Western Digital \$32 (not in budget) You don't need an HDD (we haven't included it in the total cost) so feel free to cut this to save cash, but one sure helps with storage.
CASE		Zauron Aerocool \$60 This Aerocool will let your components breathe and has space for further expansion and cooling.
DISPLAY		Mobiuz EX240 BenQ \$160 You can get an excellent gaming monitor for not a huge sum of cash nowadays, and this BenQ is our favourite on a budget.
KEYBOARD		KM250 RGB G.Skill \$40 It's actually mind blowing what you can pick up for this little cash: A hot-swappable mechanical board that looks lovely.
MOUSE		G203 Logitech \$30 A classic shape delivered in a sleek shell, this mouse fits all hand sizes and grips.
HEADSET		HS55 Stereo Corsair \$47 Corsair's budget cans are comfy and have a surprisingly excellent microphone for the money.

MID-RANGE BUILD

Our recommended build for playing the latest games



TOTAL
\$1,568














MOTHERBOARD		B660M Mortar WiFi MSI \$160 This MSI board delivers everything we need in a compact package and allows us to use much cheaper DDR4 memory.
PROCESSOR		Core i5 13400F Intel \$208 Yes, this is the same CPU as the budget build. It's simply too good value to miss and perfect for high fps gaming.
GRAPHICS CARD		RX 7700 XT AMD \$449 If you can spare the extra cash, the RX 7800 XT is a tantalising upgrade. Nevertheless, we'll opt for AMD's cheaper card.
COOLER		Laminar RM1 (included with CPU) Intel Free Intel bundles a redesigned CPU cooler with some 13th Gen processors. This little chip chiller will serve us well for a while
MEMORY		Vengeance LPX 16GB DDR4-3200 Corsair \$40 With plenty of capacity at 16GB, this unembellished memory has everything you need for gaming and more.
POWER SUPPLY		Pure Power 12 M 650W Be Quiet! \$105 This larger Be Quiet! PSU offers a stable platform with modern PCIe 5.0 connectivity.
SSD		WD Black SN770 1TB Western Digital \$51 There are faster PCIe 4.0 drives, but this is the best value for money SSD around.
HDD		WD Blue 1TB 7200rpm Western Digital \$32 (not in budget) Just like in the budget build, this HDD isn't strictly necessary, but for a pretty low price it's nice to have plenty of extra space.
CASE		H7 NZXT \$130 It's very clever of NZXT to design such an easy PC case to build into, and make it look so gorgeous too.
DISPLAY		S2722DGM Dell \$270 With a snappy 165Hz refresh rate and a 1440p resolution, this Dell is an enviable blend of monitor performance.
KEYBOARD		KM250 RGB G.Skill \$40 You could spend more for a full-size gaming keyboard, but this G.Skill will certainly suffice for most gamers.
MOUSE		DeathAdder V2 Razer \$50 Tried and tested, this Razer mouse is a superb companion for competitive gaming without breaking the bank.
HEADSET		Blackshark V2 Razer \$65 The Blackshark V2 offers up some killer audio quality to rival the greats. And at a reasonable price too.

ADVANCED BUILD

Go above and beyond with a PC powerful enough to end worlds



TOTAL
\$5,648

MOTHERBOARD		MEG X670E Ace MSI \$699 There are cheaper X670 boards than this, but we're going extreme and this is one of the most fully featured around.
PROCESSOR		Ryzen 9 7950X3D AMD \$682 AMD's 3D stacked chips are awesome for gaming, thanks to heaps of cache. This Ryzen 9 is the best of the bunch
GRAPHICS CARD		GeForce RTX 4090 Founders Ed Nvidia \$1,660 The RTX 4090 is immense, in every way. The performance it offers is unmatched by any GPU out there.
COOLER		Kraken X63 NZXT \$170 One of the most stunning AIO coolers rebuilt with an updated pump, LGA 1700 bracket, and RGB lighting for more pizzazz.
MEMORY		Trident Z5 RGB 32GB G.Skill \$110 This is a new memory standard for a new era of memory speed. DDR5 is blisteringly and fantastically quick.
POWER SUPPLY		Prime TX-1000 Seasonic \$310 An ATX 3.0 PSU would also be good here, but we've tested this Seasonic and know it's worthy of such a build.
BOOT DRIVE		WD Black SN850X 2TB Western Digital \$120 We're sticking with PCIe 4.0 here, and WD makes a mean PCIe 4.0 SSD. The SN850X is its best to date, and 2TB is plenty.
DATA DRIVE		Crucial P5 Plus 2TB Crucial \$98 This isn't as fast as our boot drive, but it'll more than suffice for storing heaps of games.
CASE		5000D Corsair \$155 We swear this stylish mid-tower is bigger on the inside. It's the PC equivalent of the TARDIS.
DISPLAY		34 QD-OLED (AW3423DWF) Alienware \$1,099 You could be much more sensible on your screen than this. For this build, however, we only want the best.
KEYBOARD		ROG Azoth Asus \$240 This keyboard's secret? Lubed switches. Don't knock it until you've tried it. It's also wireless and very well made
MOUSE		DeathAdder V3 Pro Razer \$150 With a lengthy battery life and a phenomenal sensor to keep you gaming at your best, the G502 is undoubtedly one of the finest.
HEADSET		Cloud Alpha Wireless HyperX \$155 If you've settled on a wireless keyboard and mouse, the last thing you want is a pesky cable to your headset.

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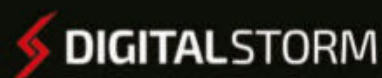


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