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NEW 116-PAGE ISSUE

Wireframe

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DIY AUDIO

Making video game sounds on a budget

Issue 40 £6

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UTTER KNIGHTMARE

The perils of adapting game mechanics for TV

EVERSPACE™ 2

Rockfish Games on its open-world battle beyond the stars

Starmancer • Ostranauts • Tiny Bubble Bobble • The Last of Us Part II



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Muddied through clarity

Remakes and remasters are important, but they must be driven by art, not tech. The best twist in *Mafia II* plays out as just another job for Vito Scaletta. One more dead snitch to heap upon the game's already sizeable body count. But it's arguably the most defining moment of the entire series.

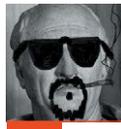
The first game ends with its protagonist, Tommy Angelo, living out his twilight years in witness protection after testifying against his former crime family. In the final cutscene, Tommy is assassinated by two archetypal mobsters. His body bleeds out onto his freshly watered lawn as his voiceover laments that a life spent murdering indiscriminately was a bit of a drag, which is about the level of sophistication you could expect from early 2000s game dialogue. Fin.

Years later, players returned to *Mafia's* world as Vito, living his rise, fall, rise again, and fall again through the ranks of the mob with his best friend Joe. About two thirds into the game, it's revealed that Vito and Joe are actually the two assassins from the first game's ending, when a routine mission has you carry out the hit. *Mafia II's* version of the scene plays out in homage with matching camera angles, even taking a dramatic beat to linger on Tommy's corpse.

It's a powerful twist, exemplifying *Mafia's* themes: organised crime exploiting and discarding young lower-class men, with promises of a better life invariably ending in tragedy. It hits you with stark inhumanity; the meat-grinder keeps turning, and you're now sympathetic to Tommy's murderers, because you've been playing as them for the entire sequel. Have a word with yourself.

It's a gut-punch, expertly landed, relying on that eight-year gap to stick the landing. 2002's Vito and Joe are essentially play-doh versions of everyone in *The Untouchables* – they look nothing like their *Mafia II* counterparts. Playing the games back to back wouldn't spoil the reveal.

This year, the *Mafia: Trilogy* was released, containing 'Definitive Editions' of the sequels and – at the time of



DAVE HURST

Dave has spent most of his life trying to find a game as good as *Frontier: Elite II*. There isn't one, but he's played a lot of open-world adventure games and RPGs as a result.

writing – an IOU for a forthcoming ground-up remake of *Mafia*, releasing in August.

I'm overjoyed to see the original being remade, being unlikely to have experienced it again otherwise. But a third version of that scene rendered with new technology plunges *Mafia's* universe into a "Vader built C-3PO?!"-sized hole of retrofitted continuity: Vito is going to look like Vito. An ambiguity key to *Mafia II's* greatest moment will be lost, diminishing the piece. The twist will no longer be twisty.

It's perhaps a trifling concern, but it's emblematic of a bigger one. Video games are built for the platforms of the time. *Casablanca* has been re-released on every home video format, despite preceding the concept of home video by decades. Jane Austen's work is more accessible now than it was when she was alive. But I can't play *Wizball* on my PS4.

Remasters and remakes are therefore important for preserving experiences as their host machines succumb to obsolescence. But the quality of these projects, sadly, is never guaranteed.

Consider *Assassin's Creed III Remastered* and *The Ezio Collection* – 4K updates which sacrifice atmosphere for clarity, infamously changing many scenes to have flat, undramatic lighting and a muted colour palette.

In contrast, 2019's *Resident Evil 2* remake successfully transplants the essence of a game which thrived on directed scares through fixed camera angles, recreating the feel of the 1998 original within a full 3D environment where the player has total control over where they look. No small feat, and only possible with a team that respects and understands the source material on an artistic level.

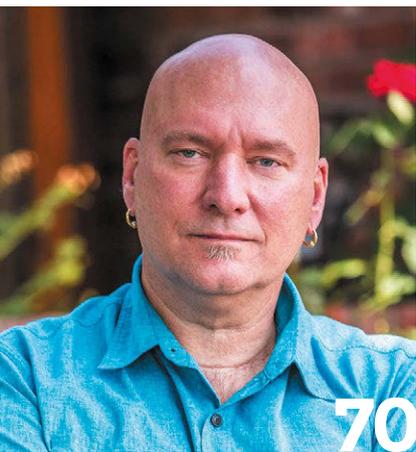
Video games will struggle to evolve as a medium if their heritage is inaccessible, so it's essential that old titles are regularly refreshed, and old stories are cyclically retold.

However, care must be made to preserve the artistic intent of classic interactive works, or we ultimately risk losing the very things that make them classics in the first place. 🎮

#40



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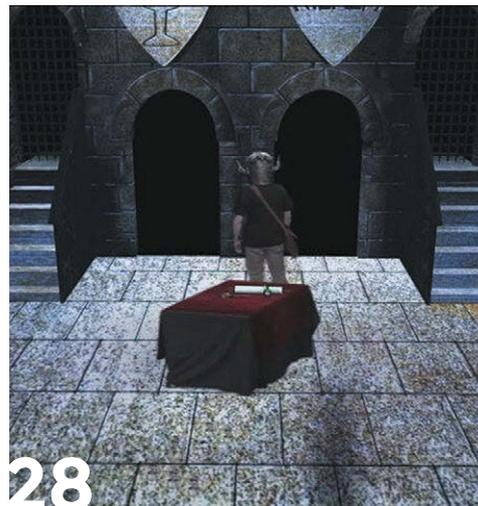
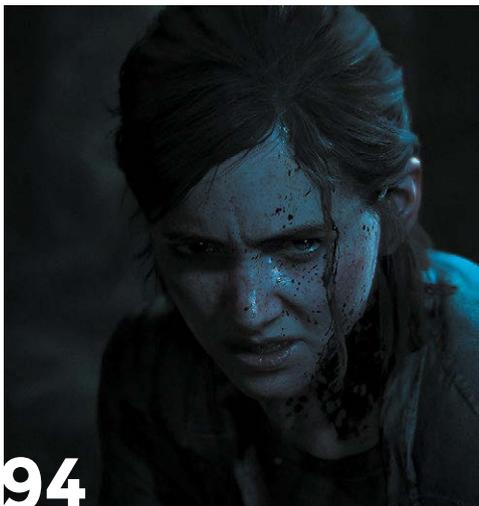
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WELCOME

The cover gives it away: this edition offers a celebration – and exploration – of space-based video games. And as our selection of previews and features hopefully proves, space games can take on a huge number of forms: there are traditional shooters, like *Cygni: All Guns Blazing*, expansive RPG-like hybrids, such as our cover game, *EVERSPACE 2*, and claustrophobic sims about life in a vacuum – see *Ostronauts* and *Starmancer* on pages 14 and 16 respectively.

What that latter pair of games do, though, is reflect some of the darker realities of humanity back at us. *Starmancer* may be set in a distant future of interstellar technology, but its space stations of colonists are still sharply defined by their class and status (though just how different the quality of their living conditions are is up to the player). *Ostronauts*, meanwhile, sees our late-capitalist system migrate from the confines of a dying Earth and take over the solar system. In that game's dark future, corporations reign supreme, while those lower down the economic ladder fly around in their ships, scavenging and trading to make the money they need to survive. Neither game necessarily sets out to make an overt political or social statement, but then, games can't help but follow the dark and sometimes cruel rules that govern our contemporary reality. Even in space, you have to worry about paying your rent.

Ryan Lambie
Editor



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KICKSTARTING THE SECOND BIG BANG

To boldly move away from roguelikes with
ROCKFISH Games' upcoming *EVERSPACE 2*

Space is vast, empty, and dark. Mind-bendingly beautiful too, it seems, and full of plenty of chances to get into exciting hijinks and come out of it with

a hefty amount of loot, if *EVERSPACE 2* is anything to go by. SpaceX might be putting a few Americans back into space, but ROCKFISH Games is giving everyone else something to do between watching launch livestreams. What ROCKFISH is also doing is putting a limit on the infinite nature of space: about 20 hours or so.

EVERSPACE 2 is a clear and defined single-player game. It's set in a persistent open world, it's driven forward by a central narrative, and it encourages progress through some typical RPG-like elements. Those who backed the original game on Kickstarter, who played through its bitty, roguelike scenarios and non-linear story, might be a bit surprised at this. But it's a conscious decision at ROCKFISH, and one the studio is confident the fans will get on board with: rather than a vague, long-winded experience relying on a lot of random factors (and repeatedly dying and starting again), *EVERSPACE 2* keeps things open but contained, and aims to get you in and out in that 20 hours or so mentioned above.

It's a savvy decision on the part of the German indie: it makes it so that the leap from the original game to this sequel is a genuine one, stepping up to the more ambitious genre-hole of the crafted single-player experience, rather than the more randomised roguelike. But it's a risk, too. ROCKFISH is still an independent studio and, while funding for the second game started out in a better position than that of the original, the team did still turn to Kickstarter to once again get the project over the line. With £450,000 burning a hole in its pocket, the studio can be ambitious in what it does – but risks are still risks. Doubly so when it's with someone else's money.

Regardless, after cooing at the frankly ridiculous visuals in the game for a while, we launched a few questions in the direction of Michael Schade, CEO and co-founder at ROCKFISH Games, to get a better idea of why this switch is such a big one for the series, and the studio. ➔





“The leap from the original game to this sequel is a genuine one”

Was a sequel always the plan? What made you decide to take the plunge?

In our dreams, yes! However, before we were able to start working on our dream game, we had to make a few detours. Creating a full-blown open-world spaceship shooter for PC and console has always been our actual master plan since we had a massive hit with the *Galaxy on Fire* series on mobile, at our previous studio [Fishlabs Entertainment]. We had brought the series to smartphones and tablets, too, and in the end, *GoF2 HD* became the closest thing to a console-like open-world space shooter experience like *Freelancer* or *Elite* on mobile devices.

However, we failed to adapt to the rapid surge of free-to-play mobile gaming, and we went out of business in 2013. The studio remains were then acquired by a big publisher [Deep Silver, which also acquired the studio's 52 employees], leaving me and my co-founder empty-handed. Fortunately, we managed to secure a deal with a triple-A publisher to develop a fast-paced space shooter in Unreal Engine 4 for console. Thanks to this, we were able to reboot as ROCKFISH Games and get the core team of the *Galaxy on Fire* series to jump ship.

Despite a much-praised vertical slice that we created within nine months of pre-production, the project was canned from one day to the other, and we were in big trouble yet again. With the little money we made from this work-for-hire project,



▲ Less focus goes on the sedate exploration of vast nothings; more goes on action and blowing stuff up.

we only had about six months to develop a new prototype from scratch before lights would have gone off for good.

Thus we decided in favour of a roguelike core game loop which gave us high replayability and a lot of content through procedural generation, while we could still push the platform limits in terms of fast-paced 3D space combat and stunning visuals.

“Just go at it and shoot enemies”

The hard work we put into the game together with our awesome community who supported us in our first Kickstarter [£375,000 raised] paid off, and *EVERSPACE* became a surprise hit on PC, Xbox One, PS4, and Nintendo Switch. With this

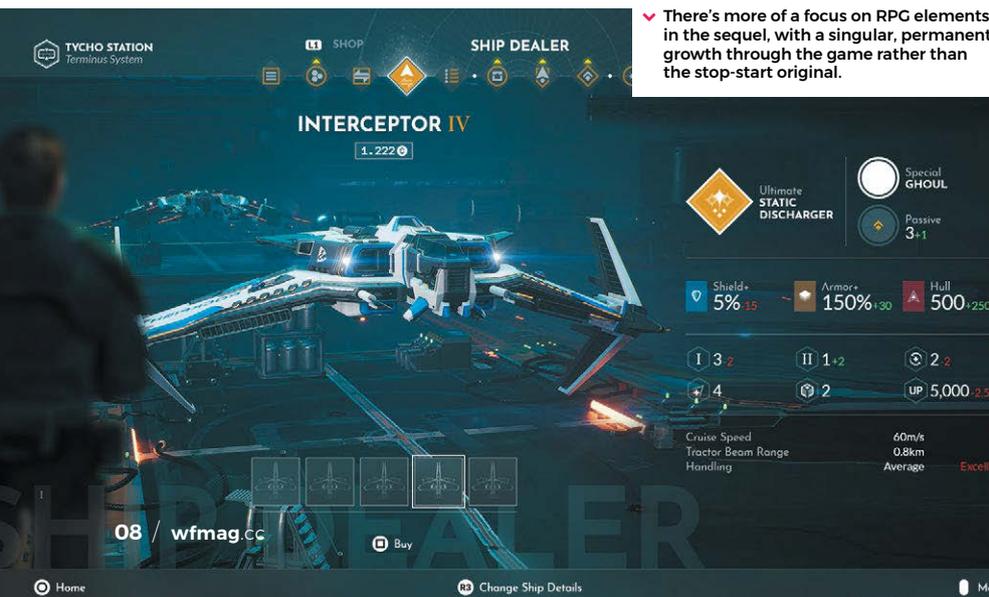
commercial success under our belt, we are now able to craft and self-publish the game of our dreams: *EVERSPACE 2*.

What's the biggest difference between the original game and *EVERSPACE 2*? What's the one thing that's going to make veterans go "... huh"?

That's easy! Despite the overall mostly positive community feedback about our first game, the shift from a roguelike to an open-world space shooter RPG had been the biggest wish even from some of the most avid fans of the predecessor. As much fun as it was to casually dip into the original *EVERSPACE*, be on the edge of your seat instantly, and keep going for yet another run from the beginning after you have just died (but with better starting conditions), it is probably safe to say that pretty much every space game enthusiast was yearning for a modern interpretation of *Freelancer*, featuring a vast open game world to explore, combined with fast-paced arcade-y space combat and pretty visuals à la *EVERSPACE*. Just without an overpowered fleet chasing you from sector to sector, and without losing most of your gear.

However, other big new features, like a *Diablo*-esque loot system and RPG elements, piloting some 100 deeply customisable spaceships featuring distinctive class-specific capabilities, as well as being able to descend to planet surfaces and even fly inside spacious cave systems aren't small attractions for space game aficionados, either.

Last but not least, if the original *EVERSPACE* wasn't a sci-fi looker already,



▼ There's more of a focus on RPG elements in the sequel, with a singular, permanent growth through the game rather than the stop-start original.



▲ If you're getting a classic sci-fi novel vibe from this, check out @Psygnosis73's previous shots online.

▼ From left to right: Erik Schrader, community ambassador; Nicholas Fodor, Michael Schade, CEO/co-founder

EVERSPACE 2 just looks so much prettier. I know I'm biased, but we have already received a ton of praise for the great visuals of the prototype from fans and the media alike, and that's not even the final game.

Thinking of the first game, on reflection, what was it about it that made it stand out? How have you harnessed that for the sequel?

Definitely the upfront space combat action in combination with our tight shooter-like controls. No need to start every engine manually and lift off with an instruction guide-book in one hand. Just go at it and shoot enemies – instant action. Everybody could understand it. And of course the ever-changing, beautiful, randomly generated space vistas which generated tons of desktop wallpapers – even to this very day.

Thanks to the persistent game world [in EVERSPACE 2], we are now able to handcraft every vista to our liking, which also enables us to crank up the visual quality even more as we now can bake high-quality global illumination solutions into the game. But no worries, you won't have to miss out on the fresh feeling of a randomly generated world as we are taking parts of it to some locations. Let yourself be surprised where to find them.

What's the biggest – or just most useful – thing you learned while working on the first game that you've been able to bring to EVERSPACE 2?

Working together with our community to help us make the best game we had in mind was definitely a new experience for us as a team. It was not just about reporting bugs and balancing. Our fans came up with great gameplay ideas of their own, or gave valuable feedback on ours. For instance, during Early Access of the first EVERSPACE, we had sensor drones that players could craft from resources if they wanted to take a shortcut to gather loot quickly and move on to the next sector as fast as possible. While we first thought it would add to the variety of playstyles, our community convinced us that this feature made exploration obsolete, so we took it out and made your ship sensor remember the location of everything you had discovered in each given sector so far.

How challenging is it to strike a balance with community involvement?

It's not that hard. You just have to talk to your community and keep them in the loop. Of course, you have to make it clear that we have a certain vision for the game that we don't want to deviate too much from, be it for creative or ▶



PICKING YOUR SHOTS

ROCKFISH is spending its time getting EVERSPACE 2 up to spec, so where does the team find all the time to take such lovely screenshots as those you see around the magazine – and on our very cover? Why, by not doing them at all, of course. Many of the shots on these pages are the work of one Nicholas Fodor (@Psygnosis73 on Twitter): taker of in-game photos; blower of in-game minds. As ROCKFISH tells us: "Nick's amazing shots of the original EVERSPACE taken on his PS4 became some of the most loved pieces of fan art on his Twitter channel and on the ROCKFISH Games Discord. We met with him at last year's GDC to give that nice and utterly modest guy a big hug as well as a physical copy of the EVERSPACE – Stellar Edition signed by the team." D'aww. But it didn't stop there: "Since Nick showed so much creative talent and dedication for our game, we decided to gift him a high-end gaming PC, so he could also create some stunning screenshots of EVERSPACE 2 in super-high resolution for everyone's viewing pleasure – and to make a few bucks on the side, too."



^ You can see it was intended from an early stage for *EVERSPACE 2* to focus on the action and spectacle of space-based combat.

for budget reasons. Like, getting out of your spaceship to walk around on space stations or planets, or piloting capital ships are features that keep coming up, but they really don't fit into the fast-paced action gameplay core pillar of the *EVERSPACE* franchise, and they would also blow our budget entirely. If you explain the implications of such ideas, most fans are very understanding and supportive. Some even start to communicate our reasoning to new members of the community who come up with the same questions. That's a real strength of indie

developers. You can say what you think and hear your fans out, and it goes both ways.

You went to Kickstarter for the first game – why go back again? What does using the crowdfunding platform help with?

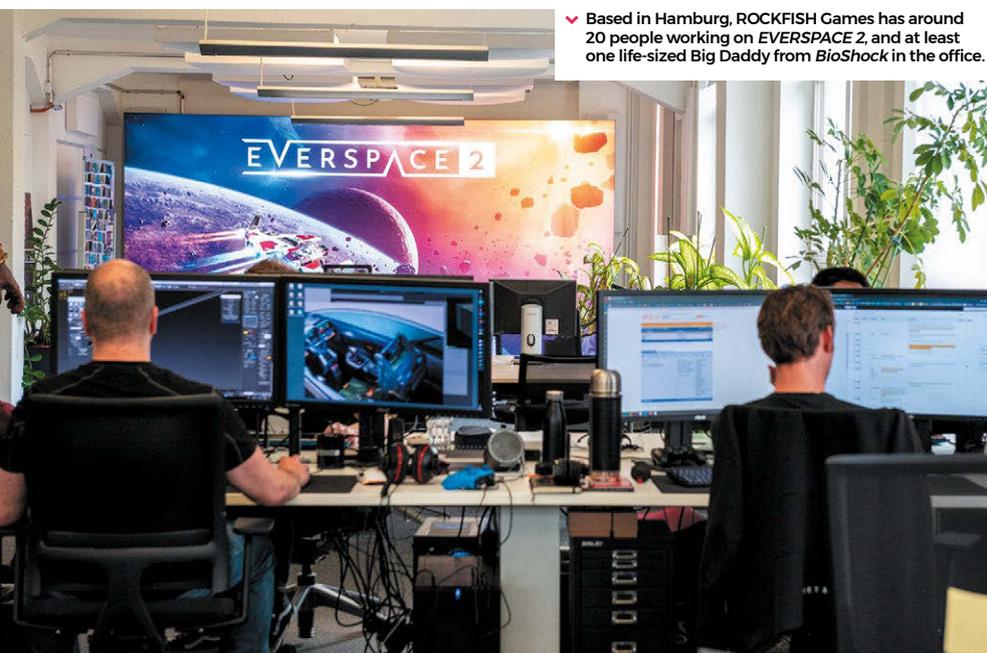
Well, first of all, we are still self-financed and want to keep it that way. Obviously, the first *EVERSPACE* will carry us so far, but money does not grow on trees, yet – we are not filthy rich. However, it's enough to start a base version of our dream

version of *EVERSPACE 2*. More features and more scope needs more money. It's as easy as that. Secondly, those early adopters are fans of the genre and fans of our games. They trust us to make a good game and help us by providing high-quality, productive feedback very early on. This is crucial for our open development approach. Last but not least, doing another Kickstarter was also about marketing. Creating buzz for our new game, and proving to ourselves and potential co-publishing partners that we are on to something that might become even bigger than our first game.

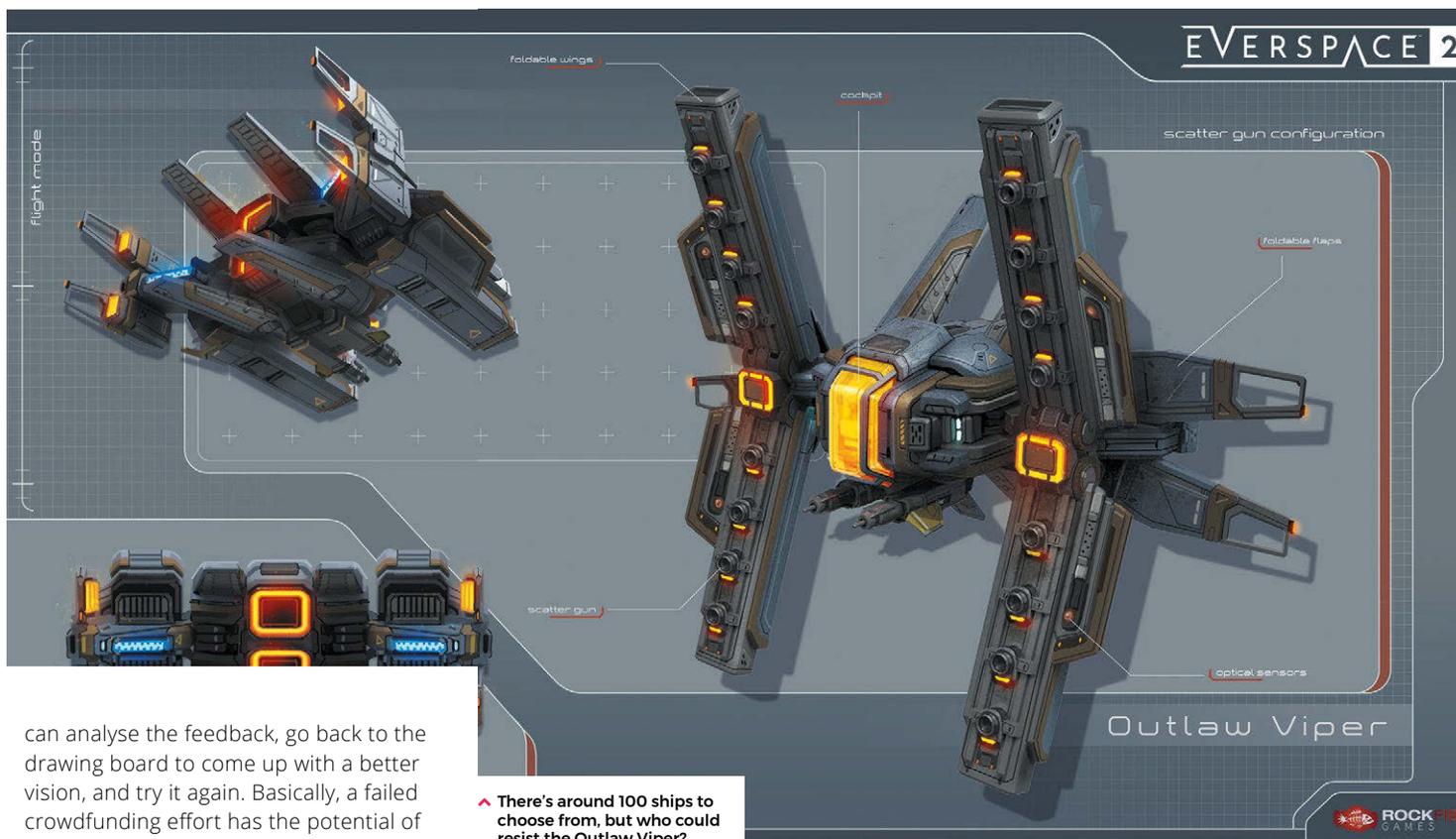
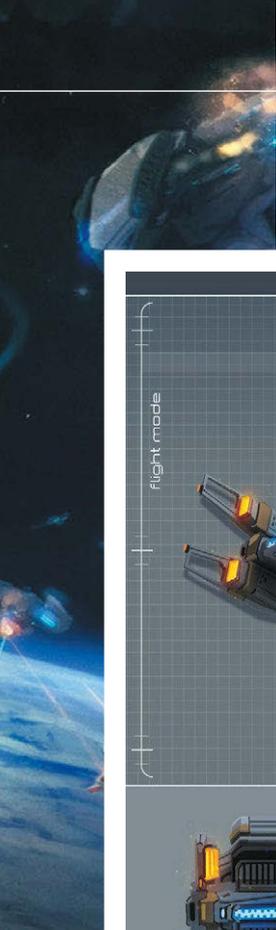
Conversely, what does going via crowdfunding do for the project on the negative side?

Obviously, this also goes both ways: If your crowdfunding campaign fails, it will be much harder to find a (co-)publishing partner for your game because a) you were not able to prove that there is enough demand for the kind of game you are envisioning and b) you will also have to cut features and/or content to make a smaller game on a smaller budget, making the game even less appealing for your audience and therefore for any potential distribution partner, too.

However, even a failed crowdfunding project has a lot of value because you



^ Based in Hamburg, ROCKFISH Games has around 20 people working on *EVERSPACE 2*, and at least one life-sized Big Daddy from *BioShock* in the office.



^ There's around 100 ships to choose from, but who could resist the Outlaw Viper?

can analyse the feedback, go back to the drawing board to come up with a better vision, and try it again. Basically, a failed crowdfunding effort has the potential of preventing developers from spending all their private money and years of their lives on making the wrong game.

What engine is the game being made in?

We're using Unreal Engine 4 out of the box. We know many fellow studios in game dev who use custom engines. You can get stuck on them and are not able to update anymore. So you miss out on the latest features of new versions. We were always fine with the standard engine and eager to play around with the latest updates and features. Unreal Engine 4 lets us create games generally much faster. Building an engine, which is able to port games to other platforms, is super-hard. We also don't have to hire a bunch of engine developers, [we can] keep the studio small, and all money goes directly into the game.

How big is your team?

Our original team for the first *EVERSPACE* consisted of about ten developers. We roughly doubled the number for *EVERSPACE 2*. Still, it's a nice family atmosphere, and we would like to keep it like that. Being a small and efficient team

“Every space game enthusiast was yearning for a modern interpretation of *Freelancer*”

is very important to us, and that is also something our fans like about ROCKFISH Games. That feeling of a great video game being made for them by a bunch of passionate developers that they can relate to.

We've seen it as December 2020 for Early Access – assuming this is true, how long do you intend to spend in EA?

It would be illusionary to give an exact date. The plan is to roughly spend a good year in Early Access. We can imagine it to take longer if we and our fans are happy with the progress we make.

Early Access is the natural evolution to a Kickstarter where development is player feedback-driven. We want to keep that up and get into an already well-developed Early Access with many features from

the get-go, and then take it from there together with our community.

Once you are out and finished, what then? What are your hopes for the game, and the future of ROCKFISH?

Well, who knows what the future will bring, especially in crazy times like these? But of course, we hope that *EVERSPACE 2* will make our fans even happier, leading to an even bigger commercial success that will pave our way for all the great ideas that we already have, and that will pop up along the journey over the next ten years or maybe even longer. We are definitely not done with making great space games. 🌌

***EVERSPACE 2* comes to PC Early Access late 2020; console versions planned.**



Shoot them up

The shiniest shooter in all the land, it's *Cygni: All Guns Blazing*

Info

GENRE
Shoot-'em-up
FORMAT
PC / Mac
DEVELOPER
KeelWorks
PUBLISHER
KeelWorks
RELEASE
2021

▼ You can't have a good shooter without a lot of satisfying kablooy going on (technical term).

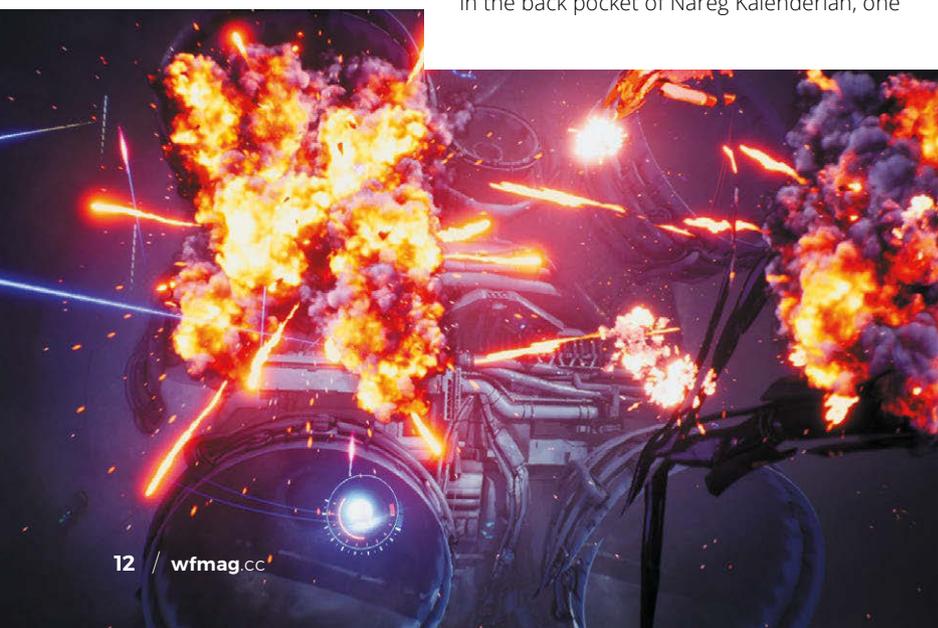
It's not often a relatively straightforward shooter brings out the coos of delight these days – we're accustomed to the *Ikarugas* and *Radiant Silverguns* of the world, so why would another game that by its own admission isn't aiming to reinvent the genre be of note? Well, because it looks like *Cygni*. See it on these pages and tell us it doesn't look fantastic, and we'll call you a purveyor of untruth. The obligatory 'looks aren't everything' comment will be thrown out there, of course, but looks *are something*, doubly so when they're as hypnotically delightful as the ones here.

It's what you'd expect though, given one of the team's four members once worked at animation powerhouse Pixar, both going through a training programme as a lighting artist and working for a time on *Toy Story 3*. Various other credited and uncredited VFX work goes in the back pocket of Nareg Kalenderian, one

of KeelWorks' co-founders – along with brother Meher and Helen Saouma – and helps give the game both a bit of visual polish you might not expect in an indie shooter, as well as a nice tag line for the marketers of the world to jump on. "Ex-Pixar staffer makes game!" is true, of course, and the experience at the *House of Mouse* subsidiary is sure to have had a huge impact on Nareg and his work, but it's not the full story of *Cygni*. This is a team of four (rounded off with Vatche Kalenderian [Kalforian] on composing duties) making its first game in the fine city of Edinburgh, with the intention to grow into something *more* than a four-person team making a shoot-'em-up.

Taking inspiration from Amiga-era shooters, KeelWorks began work on its first game – which would become *Cygni* – with the intention of "reviving the feeling of joy and excitement we had playing those games as kids," the team tells us. That nostalgic pursuit pootled along until a slight game-changer entered: the Epic MegaGrant. "We submitted to the Epic MegaGrant an early demo of *Cygni*," the studio says. "The playable prototype at the time was a very early build and a skeleton version of what was shown in the announcement trailer, but we knew what we wanted to do with *Cygni*, so we communicated this clearly in the application. But the news about our selection still came out of nowhere. We were surprised but very pleased, and the team at Epic were, and still are, very supportive of us and our work."

While the game was being made anyway, the grant nonetheless gave the team a renewed push to make *Cygni* stand out; for it



to be something special. While internally they had believed it could be something good, the support of an organisation like Epic – an external, independent adjudicator – just confirmed that internal belief. In part this is down to how the team works: while the initial prototype was loose and straightforward, *Cygni's* future development had already been planned out and blueprinted well beforehand. "Then through testing, things were amended until finalised," KeelWorks explains. "It's how we are used to working from our experience in animation. You always have to have a plan or a blueprint, and then you add."

We're not privy to those blueprints, sadly, but we do get a good idea of what *Cygni's* going for from the team's brief explanation of what's important about a shooter: "We believe the more satisfying the carnage, the greater the experience," they say. What this amounts to in-game is "massive boss fights, play area obstacles, and more weapons along with large destructible backdrops at key moments." Definitely straightforward then, but through purity of vision can come purity of design – and a pure shooter is often a thing to behold. And while everything is coming in pre-planned, it's not being left to chance – that playtesting will be a key part of *Cygni's* development until it's much further along the creative process.

And that's a key factor here, because – from its initial coverage, even comments made earlier in this preview – you'll see a lot of focus on the game is on those glorious visuals. KeelWorks is aware of the graphics/mechanics split and the

"One of the team's four members once worked at Pixar"

need to make sure something plays well *before* it looks the part. "If our game only looks good, but it doesn't equally play and sound good, then it will seem incomplete and get lost in the crowd," they say. "Because of our background in the animation industry, polishing visuals is very important to us. However, we have always believed that gameplay is to games, what story is to movies; that it is the blend of having good gameplay, visuals, sound, and story, implemented with hard work and passion that would give a chance for *Cygni* to stand out in the end."

The game is only officially coming to PC and Mac at the time of writing, but informally it's said to be making its way to PlayStation 5 and the next-gen Xbox console too. This would make sense, with *Cygni's* 2021 release date. We'll just have to sate our eye-thirst with these images and the game's trailer for the time being. 🎮

▲ It's not hard to see where KeelWorks' unique lighting tools have come into play.

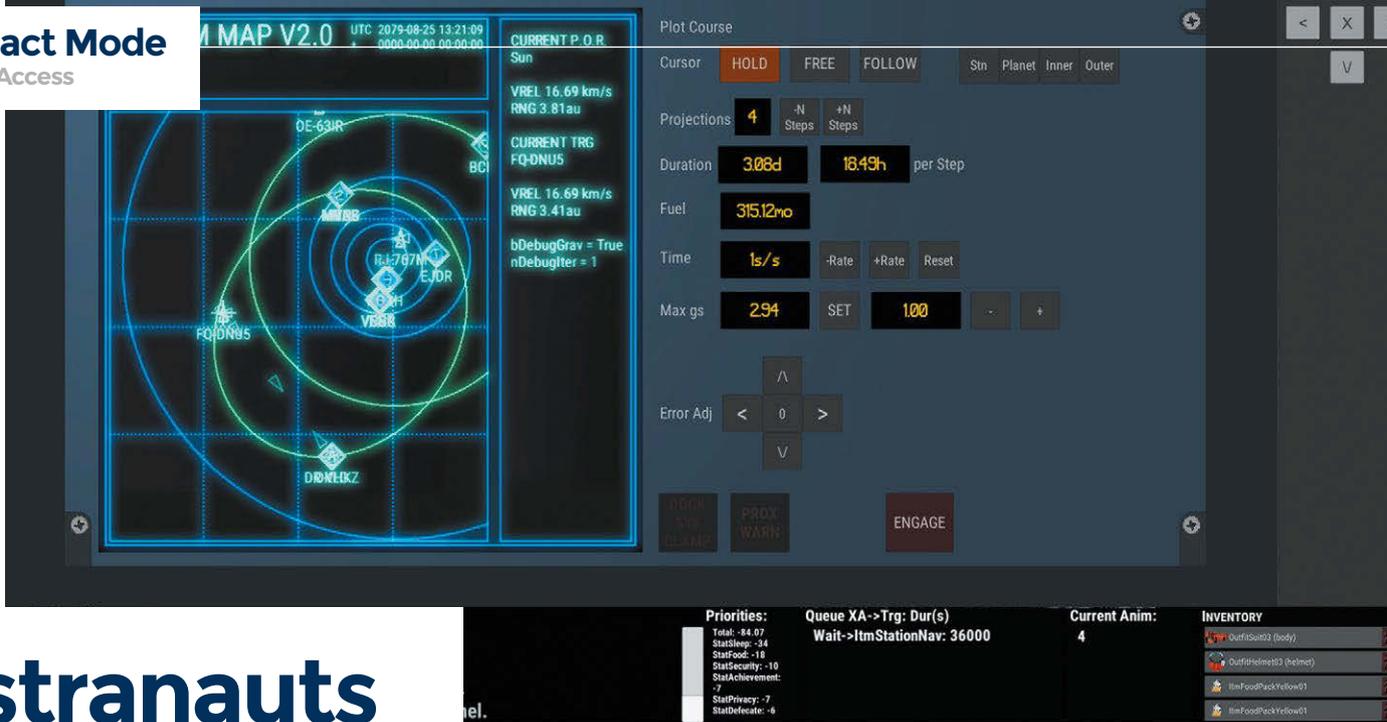
THE ANIMATION GAME

Moving from visual effects and animation to video games brings with it unique challenges, and it's something KeelWorks has had to contend with through the making of *Cygni*. "In traditional animation, you can take a lot of standard shortcuts when you need to move things faster," the team explains. "You're often able to hide a lot since it's just visual and often only appears on screen for a few seconds. In video games, everything has to be a lot more optimised and tested to death. Players will be in control of what you create, so there is more room for them to break things. To find the dirt under the carpet, so to say. So you need to be more creative and careful with your shortcuts because they can come back and bite you if you're not."

▼ The lazy, quick compari-blend would say: 'It's like *Geometry Wars* meets *Blade Runner*'!



Attract Mode Early Access



Ostranauts

Daniel Fedor talks us through his 'spaceship life sim' – and what it has in common with Knight Rider, Alien, and Lego

Info

GENRE
Space sim

FORMAT
PC

DEVELOPER
Blue Bottle Games

PUBLISHER
Modern Wolf

RELEASE
TBA 2020

In Blue Bottle Games' previous game, 2014's *NEO Scavenger*, the premise was all about the player versus the environment: in a desolate, post-apocalyptic world, you scavenged for food and shelter. You fought tooth-and-claw with other survivors and creatures that roamed the wilderness. It was a harsh, unforgiving experience. Its successor, *Ostranauts*, is set in the same bleak universe, promises to be equally unforgiving, but sees the player locked in a different kind of struggle: it's about survival aboard a spaceship, and all the technical and social concerns that come from being trapped in an artificial, confined space with a bunch of strangers.

"*NEO Scavenger* was kind of the physiological side of things; your hunger, your thirst, your shelter," explains Daniel Fedor, Blue Bottle founder and the game's developer. "And all of

that's been carried forward into *Ostranauts*, but now it's basically Maslow's Hierarchy of Social Needs. I wanted to see if I could approach dealing with the social needs of a crew in a tin can for days or weeks at a time in the same way that I dealt with survival in *NEO Scavenger*."

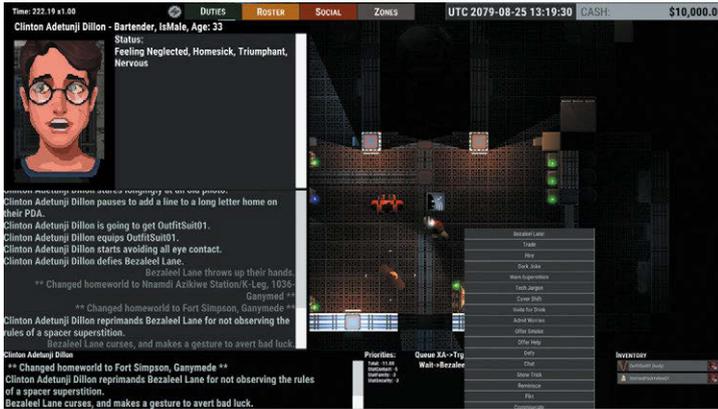
All this means that *Ostranauts* is a rare example of a space sim that – refreshingly – doesn't put too much focus on combat. Hand-to-hand or ship-to-ship combat could become more of a feature after launch, Fedor says – echoing the progression of *NEO Scavenger* post-release – but for now, the meat of the game involves the day-to-day life as the captain of a spacecraft.

Your ship will need maintenance; your crew will need constant attention. With the Earth largely abandoned, human colonies are now scattered across the galaxy, and it's up to you to carve out an existence – salvaging ship parts, trading, making money – in a dystopian future dominated by all-powerful corporations. Fedor describes *Ostranauts* as a 'noir spaceship life sim' – a game inspired by the gloomy outlook and 'moral ambiguity' of movies like *Alien* and *Blade Runner*. "I think, with the tone, you'll feel at home in *Ostranauts* if you've played *NEO Scavenger*," Fedor says. "They're both somewhat negative about where some elements of things are going, and the characters aren't always cut and dried; they might be bad people with good intentions, or they might be unlawful. Or they're people trying to make their own way, but they don't do things in black-and-white ways."

Key to these morally ambiguous characters is *Ostranauts'* deep socialisation system, where the

♥ We do like a good, retro-looking interface. We can see the *Knight Rider* influence, now Fedor's pointed it out.





▲ *Ostronauts* leans heavily on procedural generation, allowing Fedor to create an entire cast of characters without having to write lengthy, cumbersome scripts.



▲ "A big part of what spurred me to make the game in the first place was I like tinkering with spaceships," Fedor says.

way you engage with your crew directly affects their mood and actions. Flirting with one crew member may convert them to your cause, for example, but doing so could have the unforeseen effect of making another crew member jealous. Like *NEO Scavenger* before it, *Ostronauts'* detailed systems are partly inspired by the tabletop games he played as a youth. "There's definitely some influence there," Fedor says. "Unfortunately for my players, I had a reputation as a killer DM back in the tabletop days, so I guess it's only natural that I create games like this, that are extremely punishing. But as those games evolved over the years, and we graduated from dungeon trawling for treasure into more social dynamics – the playstyle of our later sessions is reflected in *NEO Scavenger* and *Ostronauts*. It's more than just the stats and the acquisition of money and power. It's also about the changes to the world and the interactions with people, and growth of the characters."

"You'll feel at home in *Ostronauts* if you've played *NEO Scavenger*"

Away from those interactions, controlling and maintaining your ship will also form one of *Ostronauts'* major pillars. It's a game that revels in the complexity of docking systems, readouts, and flashing switches. The dashboards you interact with in *Ostronauts* are satisfyingly retro-futuristic – all dials and flashing buttons – adding to the *Alien*-like feel of a used, grubby dystopia. Again, the look and feel is taken from the entertainment Fedor enjoyed while growing up in the eighties. "Another childhood fantasy I had was being at the helm of one of the super vehicles I grew up watching on TV, whether it's *Airwolf* or *Street Hawk* or *Knight Rider*. There are always these scenes where they're flipping switches, turning dials, and LED meters are going up and down. I wished I could do that as a kid, and it's a bit of fantasy fulfillment now I'm doing it in a spaceship.

So these control panels are one part that, just to give people the tactile experience of turning a knob and it actually mean something in the game. But it's also, I want the point of view to be fairly limited in the information you have – you're not sitting with a camera outside the ship with total situational awareness, you're peering through imperfect views."

All of which brings us to the ship customisation, which will be partly based on another of Fedor's childhood memories: playing with Lego. "In a way, it's my love letter to building Lego spaceships, except now the parts actually do things, and the characters in the ships actually care about the things those parts do," Fedor says. "Each ship is just a series of modular tiles, slightly smaller than a person, so you can paint walls and floors and air pumps, reaction control thrusters, navigation consoles."

Fedor has big plans for the ship customisation, too, and hopes that, once the game hits Early Access later this year, later updates will allow players to be able to reconfigure their craft however they like, whether it's the distinctive shape of *Serenity* out of *Firefly*, or something totally new. "The plan is to release it in Early Access with enough gameplay to keep people entertained until I can get the next update out," Fedor says. "The plan is to come out of the gate with something you can have fun with now, and then over the course of a year or more, add things to it that I find important, but also based on what players are doing with the game, and their feedback, adding things that support their play styles... *Ostronauts* will be a platform that will evolve and be added to for a year at the minimum in Early Access. So there's a lot of room for growth there." 🗨️

▼ Fans of *Alien* and *Blade Runner* will likely recognise the docking display here.



BIOWARE EFFECT

Before leaving to found Blue Bottle Games, Fedor worked as a technical artist at BioWare for approximately seven years, working on games like *Dragon Age: Origins* and *Mass Effect 3*. Working at BioWare was, Fedor says, "one of the highlights" of his career. Towards the end of his tenure, he began to tire of "the really big, slow-moving projects," which hastened his move to the indie sphere; all the same, he adds that working there was a vital part of his growth as a developer. "By far some of the smartest people I've met were during those years," he says. "I don't know if I could've done what I've done after BioWare if I hadn't been there first. I did learn a lot. It grew to a size that was maybe a little bit too big for my comfort towards the end – it was getting on for hundreds and hundreds of people."



Starmancer

Care for a station full of space colonists – or if everything goes horribly wrong, clean up the corpses and grow a new batch

Info

GENRE
Construction /
Management sim

FORMAT
PC / Mac / Linux

DEVELOPER
Ominux Games

PUBLISHER
Chucklefish

RELEASE
TBC

▼ Like *Dwarf Fortress*, there's no endgame to *Starmancer*; instead, it's up to players to come up with their own goals.

In the seminal *Dwarf Fortress*, failure was baked into the design: your settlement of little characters was doomed to fall apart eventually, but there was a certain thrill in seeing just how long you could stave off the inevitable. The same life-and-death tension runs through *Starmancer*, Ominux Games' upcoming sci-fi management sim: playing the role of an artificially intelligent, organic computer aboard a space station, your task is to look after your huddle of vulnerable human colonists. They'll need all the obvious stuff to survive – food, water, air, that kind of thing – but they'll need comfortable surroundings, too, which means a fair chunk of the game is devoted to constructing a safe and pleasant environment. You can go for the cold

industrial look if you want – all steel grilles and angular piping – but you'll probably find that carpeted living quarters and a few decorative items dotted about the place will really lift your inhabitants' mood.

You'll need to keep a close eye on your colonists' morale, too: if a colonist is unhappy about their living conditions, they might spread that dissatisfaction to other humans. If things really get out of hand, you could end up having to deal with a full-on mutiny. Or worse, your entire space station could become overrun by pirates, or ravaged by a deadly alien slime infection. Death and failure are everywhere in *Starmancer*, then – but don't expect Ominux's game to be quite as harsh as *Dwarf Fortress*, says programmer Tyler Millershaski. "*Starmancer* is much more forgiving," he tells us. "Your colonists are literally grown in tanks, and you can regrow them when they die – you'll lose their memories and skills, but not the colony. It's almost impossible to mess up so bad in *Starmancer* that it's game over. This is largely due to our 'purge' system. When all your colonists die, you can send out robots to clean up your mess (dead bodies, blood, etc) and then regrow everyone – like nothing ever happened."

PIXELS IN SPACE

Compared to the somewhat austere-looking *Dwarf Fortress*, with its text-based visuals, *Starmancer* is also a much more approachable game from a visual standpoint, thanks to the sterling isometric artwork by Victor Wirström (you can see more of that on page 36).





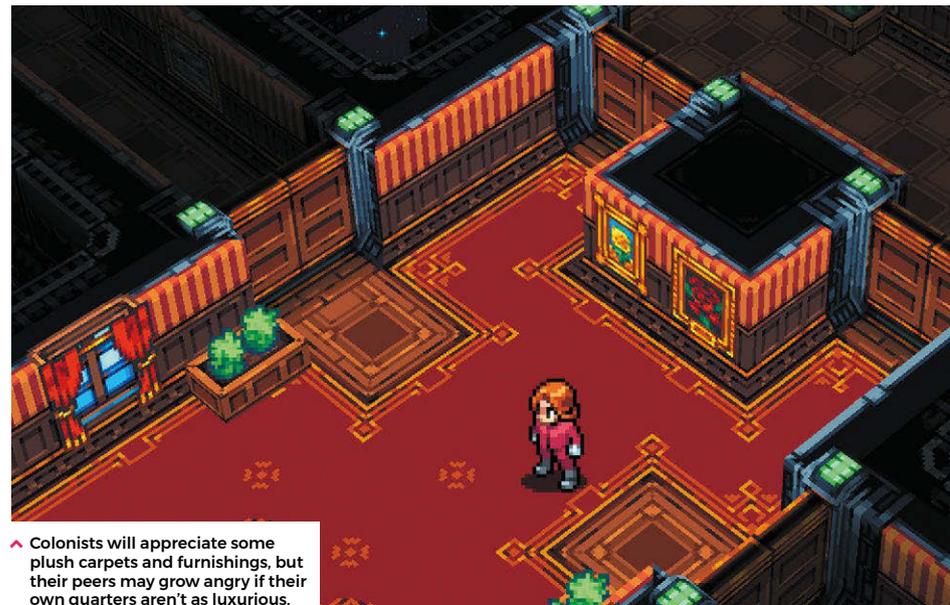
^ You can give colonists jobs, which can in turn be levelled up.

Wirström's sprite work, reminiscent of classics like *Landstalker* or *Final Fantasy Tactics*, not only helps immerse the player in the game's futuristic setting, but also sells the idea that you're taking care of a real colony of individual humans, each with their own skills and personalities. This feeds into one of Ominux's goals for the game: that the player will feel a distinct pang of guilt when things inevitably go wrong. "You could solve most problems by venting life support and killing your problematic colonist – but we don't like that," Millershaski says. "We want the player to feel bad every time a colonist dies. If the player doesn't care about a colonist, we've failed."

Starmancer has come a long way since it was first shown off publicly around three years ago; a successful 2019 Kickstarter campaign – and the arrival of Chucklefish as publisher – gave the budget and time for Ominux to completely overhaul the game. "If the Kickstarter didn't do well," says Millershaski, "we probably would have released *Starmancer* within a year – or sooner. The internals of the game were... fine, but they were incredibly limiting. Adding new content would have been a huge pain. I'm still not sure how things like modding would have worked in our old system. So we decided to completely remake *Starmancer* from the ground up, with an emphasis on flexibility and modding."

That flexibility means players can experiment with all kinds of approaches through the course of the game, whether it's crafting new items from scratch, or retrieving and conducting research on the alien artefacts colonists discover on their journey through space; *Starmancer* is a game designed to encourage experimentation, and Ominux has been careful to balance the game to make it fair rather than frustrating. "The player should always feel like they're responsible for their failure," Millershaski says. "Maybe ordering your engineer to craft

"If the player doesn't care about a colonist, we've failed"



^ Colonists will appreciate some plush carpets and furnishings, but their peers may grow angry if their own quarters aren't as luxurious.

rocket fuel has an inherent explosion risk. The player should understand this. They should also understand that a low-level engineer has a much, much higher chance of causing an explosion... Failure should be interesting and understandable – not frustrating. The player should be able to learn from their mistakes.

The player should never be discouraged from trying new things or experimenting."

As for how long *Starmancer* has left in the development oven – well, its release is "stressfully close", according to Millershaski. "Most of our time is spent balancing things like how much food a colonist has to eat or how frequently they fight. We have no intentions of releasing a broken game. When you play *Starmancer*, we don't want you to feel like you're wasting your time by playing a rough draft." 🗨

^ There's a broader universe surrounding you in *Starmancer*, but the game's main focus is the day-to-day drama unfolding on your station.



INTELLIGENT LIFE?

The mini societies that spring up in *Starmancer's* space stations sound brilliantly in-depth: colonists will forge relationships with each other, grow envious or even violent if they feel disadvantaged when compared to their peers, and can become depressed or even traumatised if deaths occur in their midst. Beneath these systems, though, *Starmancer's* AI isn't necessarily as complicated as it sounds, Millershaski tells us. "Our colonists aren't that complex, because they don't need to be," he says. "They just need to be smart enough to make the player believe whatever it is they want to believe. Take low morale perks, for example. When colonist morale is low, they randomly have a chance to gain the Depressed, Saboteur, or Maniac perk. There's no hidden algorithm at play; it's literally random. A colonist might see a dead body and become depressed. Another colonist might see that same dead body and have no adverse perks. The player will come up with their own justification for why this happened. Maybe they'll think the colonist relationship somehow influences the perk. As the rules become more complex, they have to become increasingly perfect. Any inconsistencies will break the player's immersion. The trick is figuring out how to make the colonists just complex enough to 'fool' a majority of players."

Headlines

from the virtual front



02



03

BLACK LIVES MATTER

Our community is hurting.
The systemic inequalities our community experiences are once again center stage.
Call of Duty and Infinity Ward stand for equality and inclusion. We stand against the racism and injustice our Black community endures.
Until change happens and Black Lives Matter, we will never truly be the community we strive to be.

Press  to start

01. Black Lives Matter

Following worldwide protests, largely in support of the Black Lives Matter movement, video game publishers and developers have been quick to implement supportive messaging in their titles. Additionally, events such as Sony's PS5 reveal were postponed as a mark of respect and support for the actions in response to the killings of George Floyd, Breonna Taylor, Ahmaud Arbery, and countless others. Donations from the likes of Ubisoft, Square-Enix, Riot Games, and more have been announced, with monies going to organisations such as the NAACP and BLM itself. The irony of EA coming out in support of Black Lives Matter when it censored the mention of Colin Kaepernick in *Madden NFL 19*'s soundtrack has not been lost on many.

02. Stronger together

Paradox Interactive's staff announced last month they have reached a deal to secure a collective bargaining agreement with the company. The deal will apply to staff based in the studio's home country of Sweden, and applies to factors like safeguarding benefits and help with negotiating pay rises. You know, like a union. Because it's a union. Didn't use that word soon enough, really: Paradox's staff has unionised, there we go. The agreement is with two trade unions, Unionen and Saco, and came into force (all things going well) at the end of June. In a move scholars are calling 'Huh?!', Paradox itself issued a press release supporting the move to unionise, stating: "We're proud, both as a Swedish company and as a member of the games industry, to add our name to the roster of companies who support unionisation." The surprises may never stop.

03. Dating Doom

The quest to get *Doom* on all of the things will never be over, because there are constantly more things to get it on. Still, this doesn't stop people from trying, and the best of the most recent crop of *Doom*-runners has to be Playdate, the yellow handheld gaming device with a crank you might remember from a while back. The port, by keen games' Nic Magnier, is very early and rather basic, but it's recognisably *Doom*, it clearly runs, and you can actually play it. Plus it runs better than the SNES version, which has to count for something.



Kingdoms of Amalur: Re-Reckoning coming from THQ Nordic

Sky Sports working with EA Sports to recreate football chants for live matches

04



04. Kerbal Space shocker

Kerbal Space Program 2 was delayed earlier in 2020, and it seems part of the reason why might have been revealed thanks to a Bloomberg report. The article claims Take-Two – publisher of *Kerbal 2* – shut out the game’s original developer Star Theory, moving development duties to a new internal studio and poaching members of staff from the original team, via LinkedIn messages, to continue working on the game. Star Theory was left without a contract to work on and intended to pitch ideas at this year’s GDC, which was subsequently cancelled owing to the Covid-19 pandemic. The studio has since closed. Ah, corporate fun times. *Kerbal Space Program 2* continues to be developed in-house at Take-Two.



05

05. Sim refind-ery

A lost Maxis game, thought... well, lost, has turned up thanks to the efforts of Ars Technica and one of its readers who goes by the name postbebop. *SimRefinery* was made by Maxis Business Simulations, a ‘serious game’-focused subdivision of the main company, and was created after a request was put in by oil giant Chevron in the early nineties. The sort-of game was thought lost, but a floppy containing an unfinished version of the game was found by postbebop and uploaded to archive.org. While it was briefly available, it was subsequently taken down by the uploader, citing concerns around the legality of making the game available. It’ll likely reappear though, so keep your eyes peeled.



06

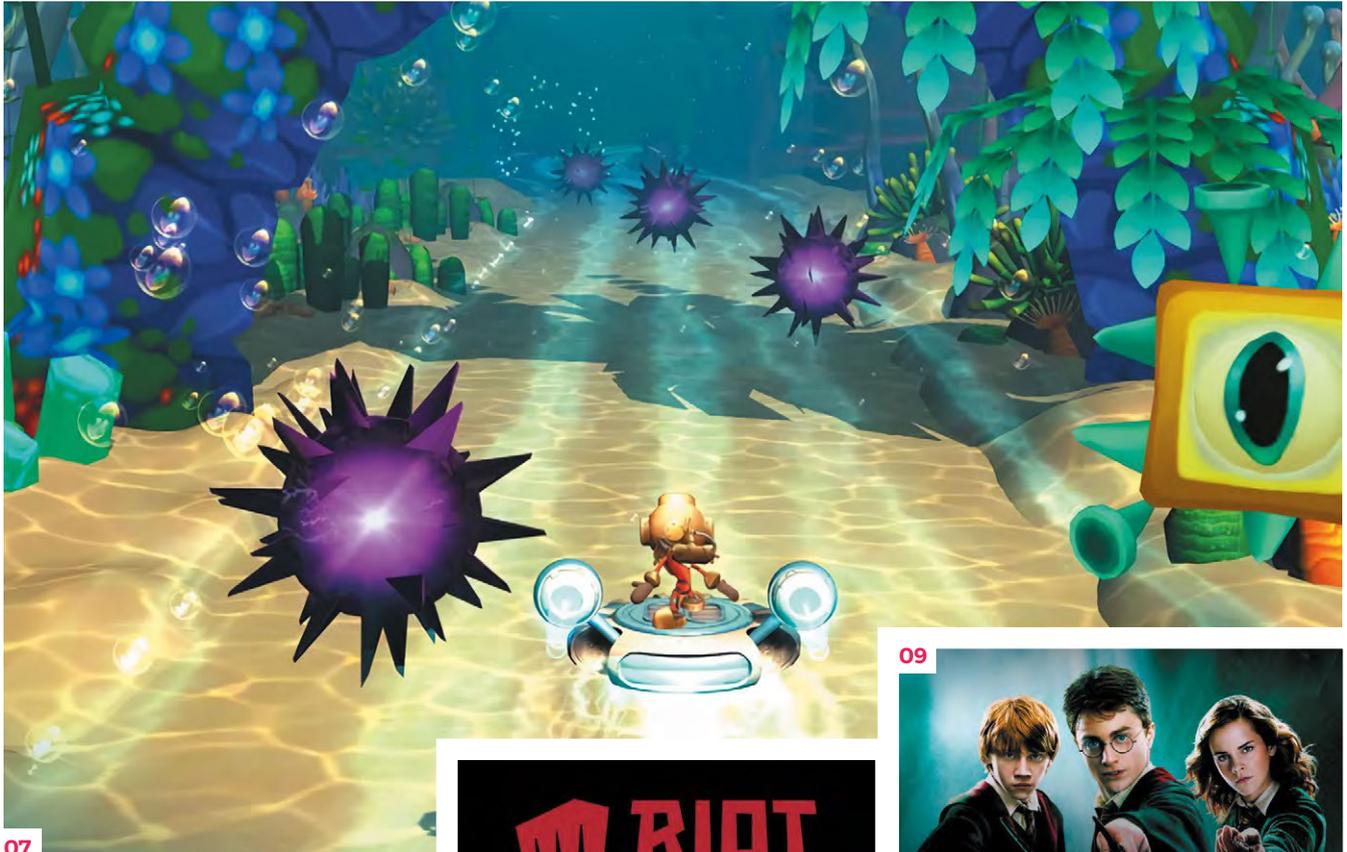
06. Smart details

Seems ‘putting players first’ might be more than just marketing spiel from Microsoft when it comes to the next generation of Xbox. The company revealed its smart delivery function for Xbox Series X, which will “ensure that you always play the best version of the games you own for your console, across generations.” What this boils down to is that whichever version of the game you buy doesn’t matter – what matters is the machine you play it on. Buy it on Xbox One but play it on Xbox Series X, and you’ll get the best version of the game available. The system will function on games specifically made for each generation of console, as well as titles optimised for the new machine, and even backwards compatible titles. It’s not universal, but it will be up to individual developers to decide if they want to implement the feature.

No Man’s Sky gets cross-platform multiplayer



Amazon’s free-to-play shooter *Crucible* sees cuts; new content delays following release



07

07. Games for... good?

The US Food and Drug Administration has approved a new treatment for use on people with attention deficit hyperactivity disorder (ADHD). Oh, and it's a video game. *EndeavorRx* was developed by 'digital therapeutics' startup Akili as a vehicle to deliver therapeutic experiences to young people suffering with ADHD. It has been the focus of clinical trials for over seven years with over 600 children involved to see if the game could offer any actual help, and – according to the studies – it can. By playing the game for 25 minutes a day, five days a week, for four weeks, a third of the children in the study “no longer had a measurable attention deficit on at least one measure of objective attention,” apparently. Well, then.



08

08. Riot off

Riot executive Ron Johnson was relieved of his duties after he shared a Facebook post downplaying the murder of George Floyd, who was killed by Minnesota police. The post commented on Floyd's criminal record and attempted to paint a picture of a man who... deserved to die? No idea. Something like that. Social media is a disease.

The now-former employee shared a comment on Floyd which was deemed offensive by Riot. Johnson was placed on leave, and later the same week relieved of his duties. A statement from Riot read in part: “Riot is taking thoughtful and deliberate action to help combat racism and injustice in the communities where we work and live.”



09

09. HogwaRPG

Basically, there's a *Harry Potter* RPG coming with Avalanche Software at the helm, to be published by Warner Bros. That's Avalanche as in *Disney Infinity*, not as in the team behind the *Just Cause* series, by the way. A recent leak claimed details of the upcoming game, stating that it'll be named *Hogwarts: A Dark Legacy*, and will see players take control of a student from the start to the end of their education in the massive private school full of overprivileged brats. Mature themes have been touted, which is unsurprising given how many then-kids are now full adults in *Harry Potter* fandom, though it's doubtful things will go full-on BBFC 18-rated. It's still a rumour for now, but keep your eyes peeled for more – likely later this year.

CD Projekt Red announces delay to
Cyberpunk 2077: now out 19 November



British Library Simulator?
Sure: wfmag.cc/library



10. Uzi retires

Early in June, professional *League of Legends* player Jian 'Uzi' Zihao announced his retirement at the age of 23, citing ill health and related issues he blamed on his career as an eSports star. Roundly regarded as one of *LoL*'s greats, Uzi's pro career stretched back to 2012 and saw multiple podium placements in worldwide tournaments. His stepping down prompted an outpouring of support from fellow professionals, and has highlighted elements of professional eSports that are only just beginning to show themselves in earnest. That being: it's hard on the body and mind. We wish Uzi all the best.

11. Hello there

You may not have seen it, so here's Sony's PlayStation 5, as revealed during a June video showcase. The console, arriving later in the year for an at-the-time-of-writing undisclosed fee, looks like someone has been mainlining 1980s sci-fi with a home networking router in their peripheral vision, frankly, and reactions to the machine's striking look have run the gamut. Regardless, this is what it looks like, it stands up vertically and can be used horizontally, and a bunch of games like *Marvel's Spider-Man: Miles Morales* and *Ratchet & Clank: Rift Apart* have been announced for it. Oh, and *Stray*, the game from Annapurna Interactive where you play as a cat, looks *incredible*.



12. War in schools

While some continue to bang the drum for games causing nothing but harm, in other areas we see steps here and there, bits of progress to show there is hope for things to be taken more seriously. Take Poland, for example, which has recently announced it will include 11 bit studios' *This War of Mine* on the official schools reading list for the country. This means students aged 18-plus will see the game take a part of their formal education in the 2020/21 school year, if they're involved in subjects such as history, sociology, philosophy, or ethics. The game portrays life for civilians during the siege of Sarajevo in the 1990s. 11 bit studios CEO Grzegorz Miechowski said: "I'm proud to say 11 bit studios' work can add to the development of education and culture in our country."

Star Citizen passes \$300m in crowdfunding donations; finished game nowhere in sight

Sega to celebrate 60 years with... Game Gear Micro? Huh



Post Apocalypse

Wireframe now has its own letters page!
Here's what you've been saying this month



Issue #39

Want to write to Wireframe?
Message us at wfmag.cc/hello
or tweet us @wireframemag



Epic deals?

As much as I've been filling my boots with the extraordinary generosity of the Epic online store sale, it does bring to mind the old days of magazine cover tapes and cover discs a little.

I remember when Amiga Power magazine launched with the promise that each issue would carry a free game on the cover disc, and the first two issues duly delivered on that promise. But the industry at that time was in uproar at the idea, forcing the magazine to retreat from its plans.

Now I've seen over the past few weeks the Epic Store giving away for free some huge PC titles: *Grand Theft Auto V*, *Borderlands*, and *Civilisation VI* were all made available for

free, and there's hundreds of hours of gaming in just those three titles alone. These aren't small indie games: the industry is now appearing to give away some of its biggest contemporary releases.

I'm a happy consumer, but I'm genuinely curious what the industry's take is on this. Epic followed this up by giving a '£10 off £14.99' coupon for a further purchase. More of these coupons were issued when you bought more games. I no longer need to buy a new game for the rest of the year.

Is this an industry, I wonder, making some of the most wonderfully intricate games we've ever seen, that's also shooting itself in the foot?

Abi

Ryan writes:

It's a good question. From the perspective of the firms behind the likes of *GTA V* and *Borderlands*, giving away older games is good publicity, but we can't help thinking of the knock-on effect this has on indie studios. As consumers, getting free – or extremely cheap – stuff is rapidly becoming the norm; Rockstar and Gearbox can probably afford this race to the bottom, given the sheer number of people that play their games. Smaller studios, on the other hand, have to fight even harder to get their games noticed among the shouts of "Free stuff!" criss-crossing the internet.



Your gaming life

We asked you to show us your game collections. You responded! We're rather envious of @patlabor89's handsome glass shelves.



Why-oh-why-oh-why

I write with abject disgust at the new issue of Wireframe magazine that has just arrived on my doorstep. May I be the first of no doubt many to register my disdain for the new format, the move to monthly, and the changes you've made.

In these dark and difficult times, I was forensically seeking something to complain and moan about, especially when I saw that you'd introduced a new letters page. The perfect forum for me to do so.

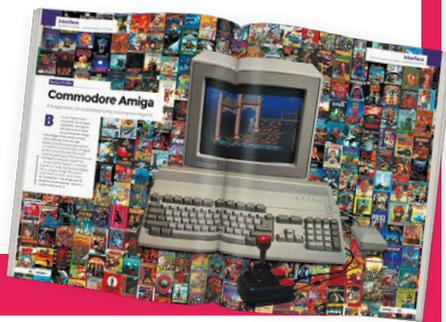
You then go and spoil it by making a hugely impressive magazine, that I thoroughly enjoyed, leaving me bereft of

anything to grumble about. It just won't do.

Pass on my incredibly begrudged congratulations to all concerned on a – grrrr – excellent magazine.

T Stone

Ryan writes:
Blimey, this took me on a real emotional rollercoaster. Thank you!



On the grid

I thoroughly enjoyed your feature last issue on *Hotshot Racing*, and did so wondering if the fate of the arcade racing game had in some part been sealed by some terrible scheduling on the part of a trio of games companies. That two potential franchises were killed off by launching against each other. The old splitting of the vote, if you will.

My favourite of the two was *Split/Second*, a terrifically entertaining arcade racer that won me over particularly for its ability to trigger obstacles and brilliant effects as you zoomed through. Then there was *Blur*, a slick and power-up-fuelled extravaganza that was no less entertaining.

Launching one new arcade racing franchise into the market was always going to be tough. Two at the same time? They

had no chance. I live in hope that one day someone revives *Split/Second* in particular. But for the minute, I'll be grateful that *Hotshot Racing* is at least keeping the proverbial flag flying.

Patrick Flynn

Ryan writes:
Let's not forget *ModNation Racers*, either, which also launched around the same time in May 2010. So that's three really terrific racing games that split their audience by coming out in the same frame – a bit like The Three Stooges trying to shove their way through a doorway and promptly getting stuck. But yes, we'd love to see a reboot of *Split/Second*, though we won't hold our breath on that front. Until then, *Hotshot Racing* it is.

Shortcuts

Sony unveiled its shiny, retro-futuristic PlayStation 5 on 11 June. Here are your reactions so far...



As far as hardware goes, I'm intrigued by the digital version. I've not bought a physical disc in years, so it makes perfect sense to buy that one, but the idea of not having a Blu-ray player still feels weird and wrong.

– @PiSquare

Not so keen on the form factor, but really impressed with the line-up of games. And what joy to see Sackboy make a return! – @LlamaFluff42

I was impressed – although it was all focused on the pretty stuff, the potential for the new box is huge IMO. A digi-only version, too, is a massive win for me.

– @tomjepsoncrtv

Meh. More of the same, just slightly shinier.

– @MarkRipley

That case is so ugly that I'm going to have to sit it BEHIND my entertainment centre. It matches nothing. White? Ridges? The bulges? Art is on the walls, on shelves, and of course on screen - not some ugly piece of case plastic. But I'm 100% in day one for the *Demon's Souls* reboot. – @PyrOsa

I just want to play *Stray*, but that's also on PC which we all know is the best platform. – @ryantek

Playing *Stray*? Are you crazy? You'll end up watching a cat doing nothing for five hours. Or napping.

– @Motionwerk

Guinon



Crazy Lemmings ↑

Not the official *Lemmings*. Rather, a platforming puzzler where you control lots of critters as you try and, well, cure madness. That's what it says here. You need to keep your lemmings alive as best you can, avoid obstacles and traps, and sidestep comparisons with much-loved nineties puzzle franchises.



Oneteam Soccer ↑

Back when people were allowed in offices, there was a roaring trade in motivational posters, which assured us of vital information such as 'There's no 'I' in team'. As it turns out, that's the case for *Oneteam Soccer*, a game whose gimmick is that all the players move together as one. We'd reach for a gag about the England defence if we had one at hand.

MaryPark St. ↓

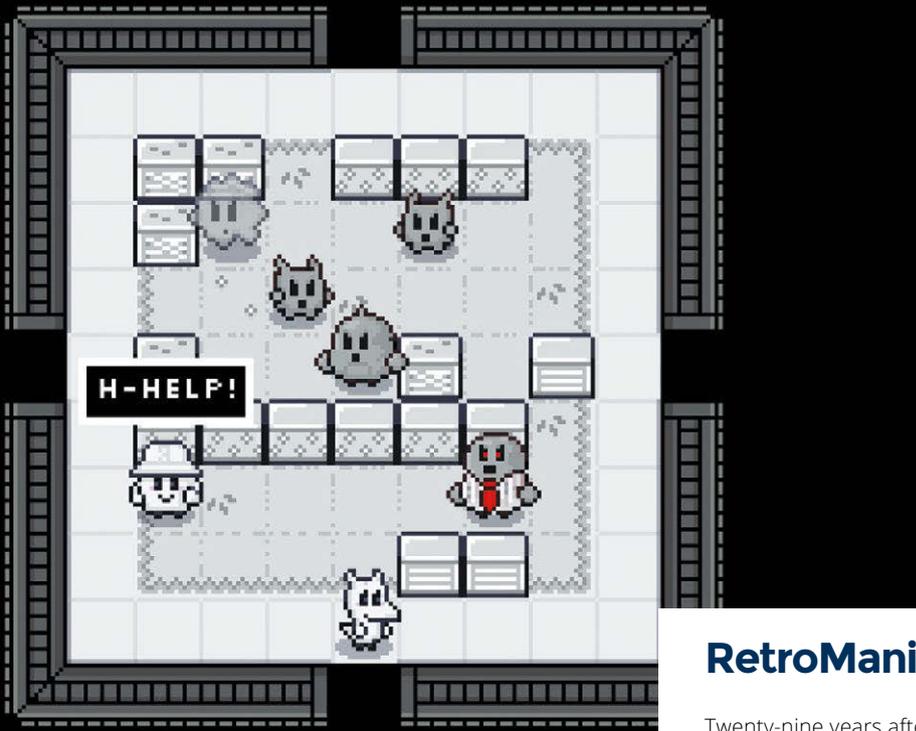
On the surface, *MaryPark St.*'s striking monochrome, hand-drawn visual style is its most arresting feature, but developer Marcelo Colonia also appears to be making a fascinatingly low-key and thoughtful adventure here. The narrative follows Dave, whose aim in life is pretty restrained: all he wants to do is meet his best friend. The problem is, his friend is always busy. It's a simple story, but it's also one that explores themes of loneliness and isolation. The developer further reveals that its game includes "at least one spider". Arachnophobes need not apply.



Drake Hollow ↑

Right then, what do we have to do here? Defend villages of vegetable characters? Gotcha. Entertain them with yoga balls and puppet shows, while defeating beasties? Fair enough. Explore a sizeable land, setting defences, and using the occasional tennis racket as a weapon? Yep, yep, we're in. Looks quite the action-adventure, this one, with a bit of building and resource management, too. It's out this summer.





Happy Grumps ↑

A single-player dungeon crawler that's looking to capture something of the temperature of the real world, *Happy Grumps* is a game which gives you the, er, easily achievable task of spreading happiness across the planet. The objective really is as straightforward as that. You do this by exploring dungeons and freeing the creatures you encounter from the shackles of their respective foul moods.

That's quite a task, but thankfully, help is at hand. The game throws in unlockables and combos to discover and deploy as you aim to turn those frowns upside down (there's one from our book of clichés). You can also do a bit of shopping to beef up your happiness arsenal. That said, you'll be up against at least eleven distinctive different types of grump on your travels.

Each run through the game is randomly generated, and the project is the work of just two people, Glenn LaBarre and Drew Conley. It's in Early Access for the minute, and it should be spreading cheer later on this summer.

RetroMania Wrestling ↘

Twenty-nine years after the release of the arcade hit *WWF WrestleFest*, Retrosoft Studios has the rights to make an official sequel. Spoiler: it has, and it's grounded its aesthetic firmly in the wrestling ring of the original. Up to eight players can all brawl together from the comfort of their sofas, and each of the game's wrestlers gets their own entrance style and accompanying music. No room for Giant Haystacks, sadly.



↙ Phoenix Point: Danforth Update

Sizeable improvements are on the way for spiritual *XCOM* heir *Phoenix Point*, with changes to recruitment, resources, maps, and alien citadels on the list of tinkering. The game has been evolving since its original list, in close conjunction with its fan base. The new update is due by early summer. →



iB Cricket ↗

Let Wireframe be the 476th outlet to observe that cricket is a sport not particularly well-served in video gaming. But *iB Cricket* has an angle the others before it didn't: it's presented in VR. To play it, you'll need a PC VR kit, a bit of space, and a willingness to stand in the middle of your lounge for several hours, praying for rain.

WaveCrash!! ↘

History tells that once upon a time, the gaming gods decided to cross the *Street Fighter* saga with a puzzle game mechanic. Households were duly torn apart by *Super Puzzle Fighter II Turbo*, and the world was right. It's perhaps with that in mind that Flyover Games has embarked upon *WaveCrash!!*, a game that visually – in the best sense – wouldn't look out of place in the 1990s. Appropriately, it also marries brawling with brain power.

The idea is that two fighters do battle, but instead of smacking each other in

the mush, blocks need to be matched. When they're successfully combined, a wave of attacks head in the direction of the opponent, who then has to dodge them, crash them head-on, or take the damage on the metaphorical chin.

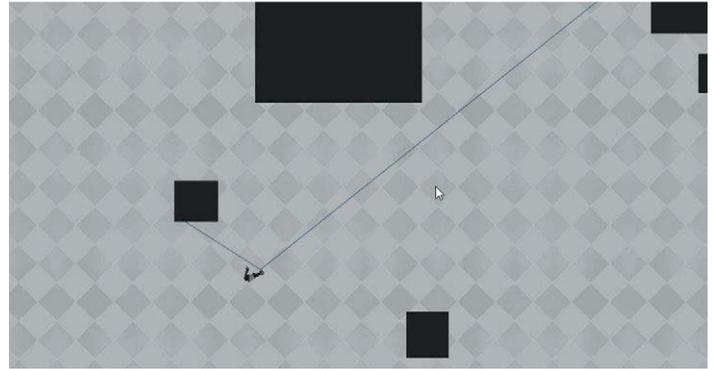
Each bout continues until one contender is defeated, and there are special attacks, combinations, and attack modes to use in the quest for victory. Colourful, taxing, and offering a clear and present danger to pre-existing friendships, the game is currently scheduled for full release in September.



Showtime! 2 ↗

Movie studio management is something gaming has tickled around without fully realising, but *Showtime!* is a quietly popular strategy game that's built up a keen audience over the years. The sequel is due this summer, and sees you in competition with over 20 AI-controlled movie studios to try and earn box office success. It should be easier once the cinemas themselves have reopened, granted.

The game absolutely encourages you to cheat, to make terrible sequels, and to disguise the shallowness of your films with mountainous, headache-inducing visual effects. *Mrs Brown's Boys D'Movie 2* for the win.



Wire Flying Maid ↗

This is one of those titles you'd be hard-pushed to call misleading. *Wire Flying Maid* is about a maid, and she flies between an assortment of obstacles from, well, wires. The aim is to hook a wire to the wall and keep flying, and you control the action purely using your mouse. Nothing could go wrong.



Minecraft Dungeons DLC ↗

Mojang has announced a pair of DLC packs for its newly released crawler, *Minecraft Dungeons*. The entry-level *Diablo III*-like will be expanded with *Jungle Awakens* DLC scheduled for July, and *Creeping Winter*

before the end of the year. The former is jungle-set, obviously, and brings with it a trio of new missions. The latter is in more wintry climes, and more details on that have not yet been released.



A Hand With Many Fingers ↗

A conspiracy thriller that's just gone on sale as this issue is released, this one requires you to delve deep into the CIA's archives and investigate wrong-doings. Shouldn't take too long. It's a slow-burn, first-person game that involves rummaging through lots of boxes for clues, and mapping out your theories on a cork-board. Basically: crime detective and quality administration practice in one game.

Espresso For The Demon ↘

And then they came for our coffee. Described as a visual novel, *Espresso For The Demon* follows a trio of classmates getting a job at a new coffee shop that's opened up. You make choices that affect which way the story goes, with the promise of multiple possible endings. Perhaps the most overt attraction is the anime-styled visual look of the game, though. Plus the promise of caffeine, of course.



TOTAL KNIGHTMARE

The perils of adapting video games for TV

The creators of *Nightmare* and *Last Commander* describe the tricky process of introducing video game elements to television shows

WRITTEN BY
AARON POTTER

Ask your average player what it is they prefer about video games compared to other forms of entertainment, and chances are that the word 'interactive' will eventually crop up. Where movies, television, and literature are generally passive, video games offer us the ability to affect their characters and locations with change – or at least the illusion of it. This hasn't, however, stopped a small portion of producers from attempting to rework video game concepts for a television audience on numerous occasions. Games are tough to adapt in any medium, so we spoke to the few experienced creatives – past and present – with a track record of getting it right.

There are two ways video games have surfaced on television over the years. We've seen shows centred on the discussion of video games (*GamesMaster*, *Games World*, and *Gamezville*, to name a few) and programmes that are either inspired by or directly focused on a single game or genre. The gap left by the former has unequivocally been filled by the glut of personality-driven channels on YouTube, but it's in the latter where the idea has arguably been more fruitful. ITV's *Nightmare* is perhaps the best example; between 1987 and 1994, it inspired the hearts of fantasy enthusiasts with its unique ▶ blend of real-space





^ In *Last Commanders*, Skye's red attire was inspired by Claire Redfield's look in *Resident Evil 2*.

▼ Tim Child, creator and producer of *Knightmare*.



dungeon crawling, puzzle-solving, and virtual reality adventure.

OOOH, NASTY

"I've always been a games player", says Tim Child, *Knightmare's* creator and long-time producer, when speaking about his inspiration for the show. "Games like *Atic Atac* and *Dragontorc* introduced me to the mini world of dungeon exploration in 48kB. Of course, the image side of these simplified worlds was at best minimalistic, but the depth of gameplay and invention was highly impressive."

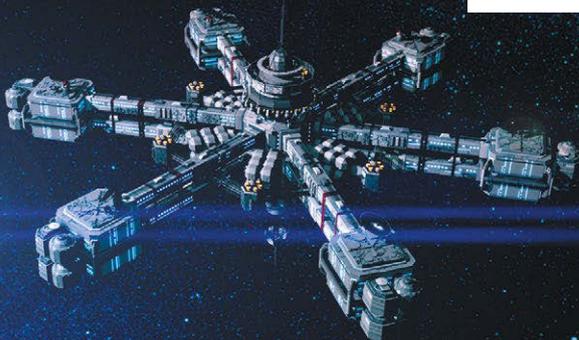
Child originally worked as a line producer for a regional current affairs programme at Anglia Television, occasionally taking up reporting and presenting duties. It was while doing research for this that he picked up on the "then-current boom in home computing", as well as the games

appearing on computers like the BBC Micro, Commodore 64, and Sinclair ZX Spectrum.

Knightmare was then sneakily conceived over time from as early as 1984, with Child recognising that Anglia's "powers that be" neither knew nor cared about its concept: of an interactive game that took place in a virtual world. As such, he tested the first studio pilot under the heading 'experiments in chroma key for weather forecasting'. "That sounded so boring that none of my then-bosses bothered to turn up for the sessions," reveals Child. "No one clocked that our caption camera was pointing at a hand-painted dungeon scene rather than a weather map, and that our 'live-action' camera was pointing at a man dressed as a medieval warlord rather than a weather presenter."

Knightmare tasked a team of four contestants – one playing the game, and three acting as their guide and advisers – to traverse the vast unknowns of a dungeon. Directly inspired by fantasy properties like *Dungeons & Dragons*, *Knightmare* required contestants to use their wits and communication skills to overcome various puzzles and obstacles, all while interacting with the many unusual characters they'd meet along the way. Think *Skyrim*, only with less 'Dovahkiin' and more 'bickering'.

▼ *Last Commanders* takes place on a remote station drifting through space.



THE KEYS TO SUCCESS

Knightmare was one of the earliest shows that managed to demonstrate how the design



▲ The iconic *Knightmare* helmet rendered its wearer blind, leaving navigation to the other three team members.

philosophies and ideas popular in video games could work for a TV audience. *Knightmare* also enjoyed an impressive extended run of eight seasons – not to mention the further revivals it's had in the years since its 1994 cancellation. When asked what he thinks made *Knightmare* resonate with people, Child cites the show's unpredictability, and the cast and crew's willingness to think on their feet in whatever scenario the contestants placed them in. "Everyone got an enormous lift," he says. "And when [the team] ended, either in glorious defeat or victory, the whole studio would be on their feet applauding."

Equally important was Child's own familiarity with the workings of contemporary video games. *Knightmare* tapped into the accomplishment that players naturally enjoyed about puzzle-solving and co-operative play; it just helped that this was all dressed up in a way that felt faithful to the fantasy world it depicted, coupled with an early glimpse of what virtual reality and games could achieve together.

While technology may have been key in helping *Knightmare* succeed where other attempts to bring video games to TV had failed, replicating that success in more recent years has represented a formidable challenge. The most obvious question any television producer faces today is, "Why bother?". If a video game fan can simply turn on, say, *Skyrim* or a *Resident Evil* sequel, and become immediately immersed in a virtual world, why would they bother to watch something similar on television? Similarly, why watch a television show about video games when there are already an army of successful streamers to choose from on YouTube and Twitch?

AUDIENCE EXPECTATIONS

Ryan Paul Meloy, producer on CBBC's *Last Commanders*, thinks the answer to that question comes from a place of video game literacy – offering up a television concept that proudly leans on its digital influences while having the confidence to take risks. "What I think *Last*

Commanders does is speak to the intended age group without ever talking down to them or feeling patronising," he says. "There are moments in the show which are really scary, almost like a found-footage horror for children – and the kids love this, they react to it and take delight in being thrilled this way."

Described as first-person puzzle-solving with a sci-fi twist, *Last Commanders* follows the efforts of Skye, leader of the resistance; she helps groups of friends and siblings from across the UK guide her group of freedom fighters as they take on the rogue A.I. Sciron. It's the kind of stuff that might seem a little clichéd in the context of a modern video game, but works perfectly well in the context of a TV show aimed at kids. And if *Last Commanders'* setting looks reminiscent of retro shooting games, then Meloy makes no bones about the show's similarities to nineties corridor blasters, and directly cites them as inspirations. "Standing in those long metallic corridors with neon lighting really felt like I was walking through *Doom*, *Unreal*, *Quake*... but in real life," he says of the show's set.

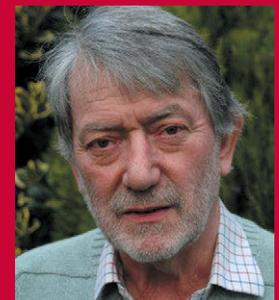
"No one clocked that our caption camera was pointing at a hand-painted dungeon scene rather than a weather map"

Last Commanders may indeed be a kids' show with a few roots in mature titles, but Meloy has a good reason for referencing them. "*Resident Evil* and old point-and-click games played a role in how we integrated puzzles with the environment," he says. "The *Resident Evil* games always used puzzles that felt like they belonged within the police station or the mansion, and so we wanted our puzzles to feel like part of the world rather than just a puzzle for the sake of it."

This is just one example of how *Last Commanders* understands what elements from games can and can't work in TV; Meloy and his team employed a similar strategy when looking at the shows that came before. "There was a list of dos and don'ts that we had in mind," he says. "I've seen most of the video game shows that have been on terrestrial UK TV." The basic rule was ▶

TREGUARD SPEAKS!

Hugo Myatt appeared as the team's resident dungeon master, Treguard, in all 112 episodes of *Knightmare*. For him, staying true to the in-game fantasy was crucial to the whole experience. "We had no idea how the kids would react to any scenario," he says. "This meant we had to stay pretty hyped up and ready for anything. In the early series, before we had Lord Fear as a villain, I had to provide the menace as well as avuncular advice. It was a tricky path to tread, as to be fair to all the teams I couldn't be seen to favour one team over another."



▼ Ryan Paul Meloy, producer of CBBC's *Last Commanders*.





The Adventure Game – First aired: 1980

This BBC series is often cited as a forerunner to *The Crystal Maze*, but there are traces of *Nightmare* to be found in here, too. Contestants entered rooms and solved puzzles, much like those aforementioned programmes, but there were also portions of the show that involved playing a video game or two. In series one, for example, viewers were treated to the curious sight of TV presenter Maggie Philbin typing her way through a text adventure on an absolutely colossal HP 9800. It was a far cry from *Nightmare*'s interactive digital dungeons, but in 1980, just seeing a video game on television was something of a novelty.



First Class – First aired: 1984

First Class was another early attempt to fuse the traditional game show format with the brave new world of video games (host Debbie Greenwood called it a 'video quiz' in each episode). Two teams of three school kids answered general knowledge questions, and earned points by playing brief bouts of *Paperboy*, *720°*, or *Hyper Sports*. At the end of the series, the winning team received a new computer for their school. With its preppy air (like a junior *University Challenge*), *First Class* was a tentative early step for UK TV, but a not-unsuccessful one: it ran for four series between 1984 and 1988. It was arguably upstaged by ITV's edgier *Nightmare*, though.



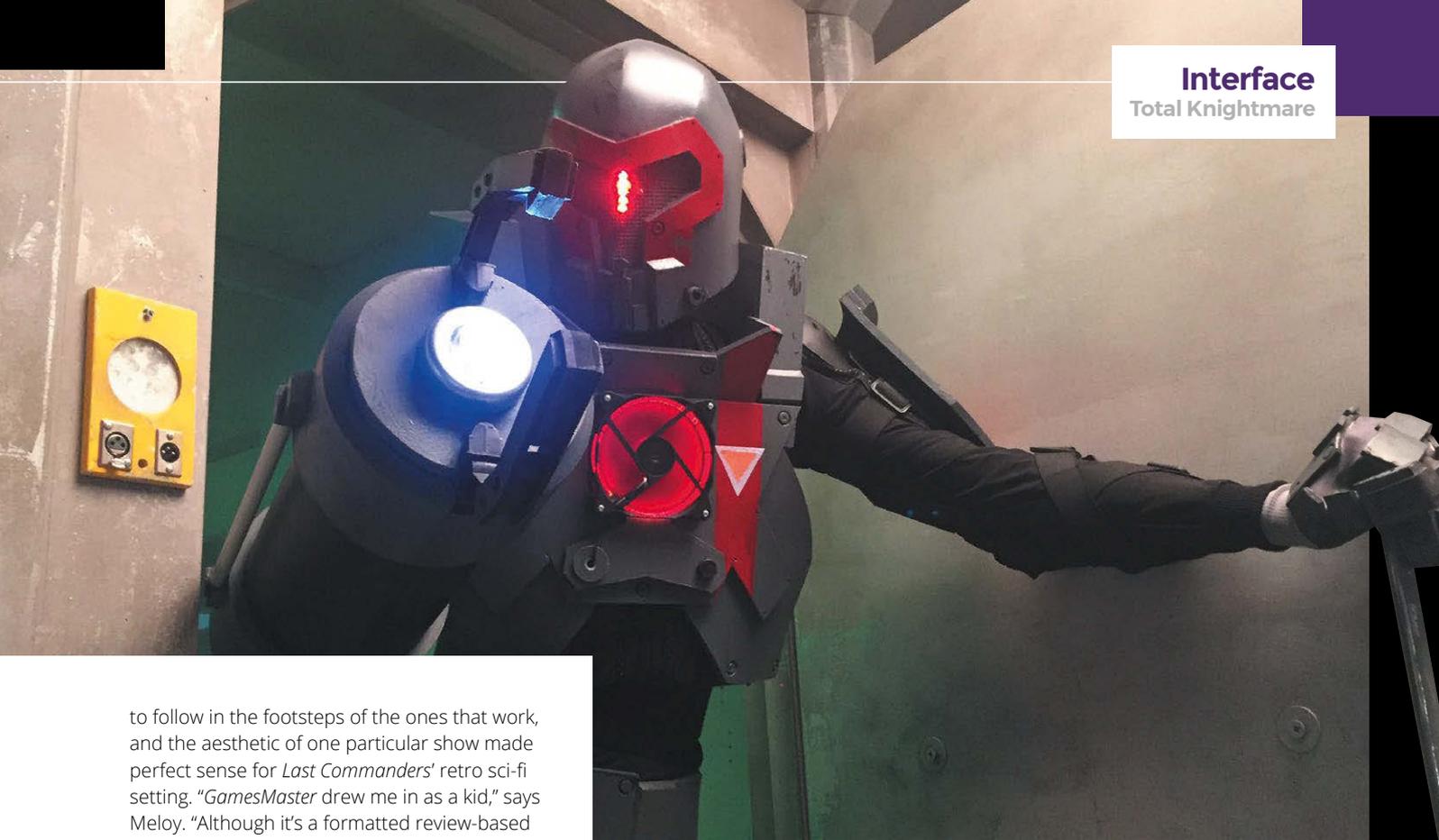
Time Commanders – First aired: 2003

It was *Nightmare*, but for history buffs: in each episode, a team of four players oversaw a digital re-creation of an ancient conflict – the Battle of Troy, say – and made minute-to-minute decisions that determined its outcome. With its dramatic lighting and intense pep talks from historical experts, *Time Commanders* effected a deadly-serious tone, which was only slightly undone when you realised that you were basically watching four blokes (the contestants were overwhelmingly male) yelling panicked instructions as someone else played Creative Assembly's strategy opus, *Rome: Total War*.



FightBox – First aired: 2003

Hosted by Lisa Snowdon and Trevor Nelson, *FightBox* was essentially the reverse of *Nightmare*: it attempted to create the illusion that digital video game characters were fighting in a real-world television studio. Contestants built and trained their characters using a piece of software downloaded from the BBC's website, before taking part in a series of fights and challenges in front of a studio audience. The chunky, humanoid warriors looked unconvincing even at the time, and despite *FightBox*'s similarity to the hit *Robot Wars* – where radio-controlled 'robots' battled each other – it was far from a success, and vanished after just one series.



to follow in the footsteps of the ones that work, and the aesthetic of one particular show made perfect sense for *Last Commanders'* retro sci-fi setting. "*GamesMaster* drew me in as a kid," says Meloy. "Although it's a formatted review-based show, it still had this cool, cyber-gothic look and feel, very much like a nineties video game."

The second series of *Last Commanders* aired in March 2019, and Meloy is convinced that some of its success can be attributed to it being a video game TV show that understands its audience, and also allows contestants to play remotely from anywhere in the country. "We send out a 'Mission Pack', and all kids have to do to play from home is power it up," he says. "Everything thereafter is set up on our end. There's no pressure on the children or their parents to get to a studio or even set up the video communication technology. This means we can cast all over the UK. Kids who normally couldn't take part in TV shows due to geography or disability can join the fight."

THE UNKNOWN ROAD

As popular as shows like *Nightmare* and *Last Commanders* have been, there's no denying that television shows based on video games are a hard sell for today's networks. Few last long enough to acquire even a small following, meaning that the people behind them have to work hard to even get their ideas greenlit; for every successful show like *Nightmare* or *Last Commanders*, there are disappointments like *FightBox*, or any number of the other attempts you'll find dotted around these pages.

When asked whether he sees the legacy of *Nightmare* live on in any video games or TV shows today, Child isn't particularly optimistic. "I can't honestly say that I do," he says. "There are games played on TV today that borrow a bit from *Nightmare*, but the effects are overtaken by the

cynicism that pervades modern TV production practice. Action is over-recorded, real-time problem-solving is almost non-existent, and the resultant entertainment elements are artificially enhanced by editing down by three to five hundred percent. With no real confidence in their formats, it's all just polished up in post."

Meloy, by comparison, paints a much brighter picture. Having swept up awards for *Last*

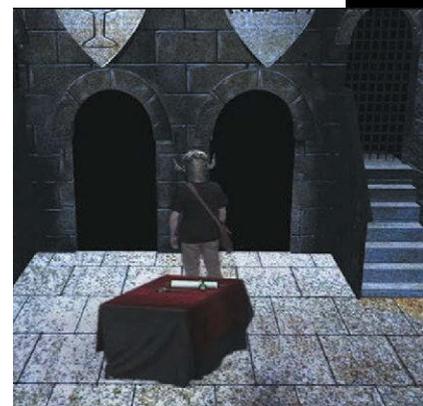
"GamesMaster drew me in as a kid... it had this cool, cyber-gothic look, very much like a nineties video game"

Commanders, his ambitions show no sign of slowing down. "I think the more we make it, the more we'll be able to implement in the show's storytelling, scene-setting, and puzzles," he says. "Season Two had a more complex narrative, so you saw a more populated Space Station and how the NPCs on board each played a part in the twists and turns of the story."

Will this dedication inspire future generations to take on the tough challenge of turning their video game passion into a package less daunting for mainstream audiences? Only time will tell, but there is at least already 21st century precedent for other television producers willing to make a show of their own. As Meloy highlights, "My hope is that *Last Commanders* feels like it's made for kids of this generation. In the same way that *Nightmare* really spoke to me, I'd love it if in 15 or 20 years someone out there looks back on *Last Commanders* with that same fondness." 

▲ Sciron is a rogue A.I. with forces lurking in the unlikeliest of places.

▼ Chroma key tech used for weather forecasts powered *Nightmare's* dungeon settings.



Horse Face, Plate Face



LOTTIE BEVAN

Lottie's a producer and co-founder of award-winning narrative microstudio Weather Factory, best known for *Cultist Simulator*. She's one of the youngest female founders in the industry, a BAFTA Breakthrough Brit, and founder of Coven Club, a women in games support network. She produces, markets, bizzes, and arts, and previously produced *Fallen London*, *Zubmariner*, and *Sunless Skies* at Failbetter Games.

“Red and black is now the most popular colour scheme for selling high-end gaming laptops to bold and fearless men”

Here is a game that will ruin your life. It's called 'Horse Face, Plate Face'. It hinges on the eternal truth that every human who has ever been either had a long face like a horse or a round face like a plate. Occasionally there have been unspeakable comminglings between the two tribes which result in Rami Malek, but he's beautiful and Egyptian which is the genetic equivalent of the Konami Code. He's cheating. Almost everyone else you will ever see for the rest of your life will be an HF or a PF. You're welcome.

Humans love a system. We've evolved to seek patterns in the world, from predicting the weather to knowing not to bugger about with fire. In modern society, there are patterns upon patterns: red and black, which originally told animals to stay away, is now the most popular colour scheme for selling high-end gaming laptops to bold and fearless men. Selling high-end gaming laptops to bold and fearless men is, itself, part of the pattern of buying cool-looking stuff because that makes other people like you. That's then part of the system of capitalism, which is part of the larger Platonic system of never being satisfied with anything because there is an unreachable universe out there, where we aren't, where everything is literally perfect. Thanks, Plato.

Games capitalise on our, er, patternophilia. They place a player in a mesh of systems and much of the fun is in identifying and mastering them. What once was new and unknown becomes a satisfying feedback loop of stimulus and response, of understanding and control. *Pokémon* teaches you to recognise types and respond with super-effective techniques.

Dark Souls makes you learn enemy tells and dodge or attack accordingly. *Celeste* expects you to recognise terrain and react with the right moves to climb it.

The problem with systems is once you're in one, it's hard to get out. Most of our pattern recognition takes place subconsciously: we often don't realise we're in one. And one major side effect of liking patterns is not liking change. If we're ever smart enough to see the systems around us, it takes bravery to overcome our innate human desire to leave that system be.

Change is a break in a pattern. Change is impossible to predict. From the base of our ancient monkey souls, change feels frightening and wrong. There are obvious parallels to the Black Lives Matter movement sweeping the world right now. There are less obvious but just as profound parallels to games industry culture, to how we interact with people on the internet, and how important it is to learn to think for yourself.

We all have an evolved tendency towards following the pattern and doing what everyone else around us is doing. But you need just an hour or two in Playdead's brilliantly pattern-phobic *INSIDE* to see how dystopian that can be. Look, all I'm saying is games are part of a co-optive genetic narrative which preferences the status quo, and we'll never build Utopia until we learn the importance of individualistic critical thinking. Oh, and that I'm a horse face. H/t, fellow HFs! 🐾

› Playdead's sinister, alluring *INSIDE*: resolutely pattern-phobic.



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Starmancer

Swedish artist Victor Wirström's pixel art adds a playful dimension to *Starmancer*, a construction/management sim where your minute-to-minute decisions can result in the deaths of your colonists. "The art has changed significantly since the start, but it's always had that mix of cutesy and gritty, retro-RPG-inspired look," Wirström explains. "I tend to lean too much towards the dark and gritty designs, and it's something I've had to balance with adding more colour and variety. I was hugely impressed and inspired by [Supersolid co-founder and artist] Kenneth Fejer – the mix of pixel art and 3D was something that not many others were doing at the time. The game *Delver* was another inspiration source. I didn't actually know 3D modelling at first, and I spent a few weeks learning Blender and got hooked on it. It was much easier than I had imagined. At one point we debated going either full 3D or full 2D, but in the end, we stuck with this style." We're really glad they did.

FINDING

A potted look at the vast, all-encompassing history of gaming's oldest genre: space. Is space a genre? No idea

WRITTEN BY IAN DRANSFIELD

THE SPACE RACE 1962 – 1983

Spacewar! marked the first time a game had been made for a minicomputer – the PDP-1. A competitive two-player affair, it saw rival ships battling it out in the gravity well of a star, all the way back in 1962. But this decision to set things in space didn't come from a grand desire to open up the universe to exploration by everyone the world over – these computers cost around £820,000 in 2020 money, after all, and weren't seen much outside of MIT and co's labs. No, space was a logical decision based on the display technology of the PDP-1. Gaming's history of spacefaring travel wasn't because it was there, or to beat the Soviets, or to inspire

hope in a younger generation: it was because it would look good on the fancy new computer of the day.

While *Spacewar!* had a brief run of fame and became a diagnostic tool for those testing their PDP-1s, it largely fell into the realm of the curio – the relic – rather than being something every gamer has played at some point in their life. Its influence spread, though, and by the 1970s there were others looking to capitalise on this public domain software. It wasn't the first video game, but *Spacewar!* was directly responsible for the creation of the arcade. First came *Galaxy Game* – a clone of *Spacewar!* which never received widespread release (limited to just two machines made, ever). Next, *Computer Space*, the first commercially released video game, the first arcade game in the modern sense, the birthplace of Atari (created as it was by Atari co-founders Nolan Bushnell and Ted Dabney), and a near-total clone of *Spacewar!*.

The gaming space race had begun, and over the years that followed – the rise of the microcomputer (and personal computer), the introduction of the home console, the explosion of the arcade scene *Spacewar!* had helped to create – space would be one of the main arenas designers went back to again and again. *Spasim* kept things in the mainframes and research labs for a while, but space was explored more publicly through the



▲ You mean I, the player, get to destroy the Death Star!

text-based titles like 1971's *Star Trek* and 1974's *Star Trader*. It took things back into space after 1978's close encounter with *Space Invaders*, bringing about a lasting impact through 1979's *Asteroids*. *Star Wars* gave many an eighties kid the chance to interact with the blockbuster movie's universe in 1983. There were even nascent attempts – by Activision, no less – to introduce a simulation approach to video game spacefaring, with 1983's *Space Shuttle: A Journey into Space* released to a largely bewildered audience of Atari 2600 owners. The journey was just beginning, but it soon kicked into hyperdrive thanks to the influence of Atari's groundbreaking *Star Raiders*, and an influential British classic.

➤ *Computer Space*, the first – and sexiest – arcade video game.



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GOING TO SPACE

JUMP TO HYPERSPACE 1984 – 1993

A chunk of carefully crafted assembly language on a BBC Micro is all it took to create an entire universe. OK, so 'all it took' is massively underplaying the difficulty in using assembly and machine code. And it didn't really feature an entire universe, even if those eight galaxies might have felt like it at the time.

All the same, *Elite* was a game-changer – in more ways than one. It took what had come before and refined it into an experience of freedom, of openness, of exploration.

It didn't go pure simulation, instead keeping the excitement of space-based combat. It didn't go full arcade either, with trading of goods playing a big part in your progress (and enjoyment) of the game. It wasn't wholly original, but *Elite* brought together disparate elements into a single package in a way we hadn't seen before, and single-handedly changed the trajectory of space games.

It's not that *Elite* was the only game to look to the likes of *Star Raiders* for inspiration, of course – Derek Brewster's *Codename MAT* did a great job of tweaking that formula for ZX Spectrum owners. And other titles focused on specific aspects, rather than always lifting wholesale from *Elite*'s blend. 1986's *Starflight* offered another take on the explore-trade-fight dynamic, while 1990's *Star Control* focused more on the combat side of things, mixing real and turn-based battles to great effect. Releases such as *Buzz Aldrin's Race Into Space* and *Shuttle*:

The Space Flight Simulator carried on down the route of pure simulation, meaning the educational aspect of space games was never forgotten – something that would prove important later down the line.

Epic, *Starblade*, *Star Cruiser*, *Skyfox II*, *Psi-5 Trading Company*, *Space Rogue*, *Lightspeed*... they all came and went. Some were good – some great – where others were middling at best. But it took an Origin Systems release in 1990 to ratchet things up a few notches again: combining space combat with cinematic presentation, bringing the excitement – and bombast – into the vacuum, up stepped *Wing Commander*. Chris Roberts's tale of close encounters of the blasting kind single-handedly dragged the space genre into the welcoming arms of the

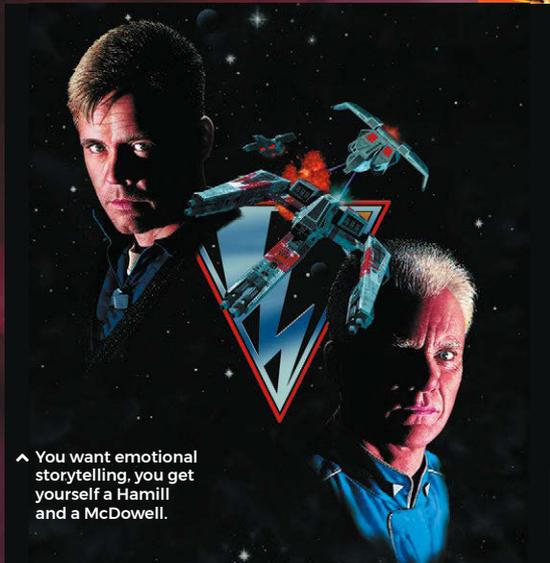
mainstream: pacey, explosive combat; a story you might actually care about; simpler mechanics; it all added up.

Then, at the end of 1993, we ended up with arguably two of the most influential space-based games ever released: September saw the release of *Master of Orion* – not the first 4X strategy game, but certainly the one with the biggest impact – while *Elite*'s own sequel, *Frontier*, landed (and took off again) in October, bringing with it an entire procedurally generated universe to explore, shaded polygons to admire, and the ability to land on planets between bouts of battling with idiots trying to steal your luxury goods. Space had finally found its place in gaming, and the next few years would bring with it more incredible highs... to a point. ➔

▼ Fun fact: the hand you see there is modelled on the hand of *Wing Commander* creator Chris Roberts.



© NASA



^ You want emotional storytelling, you get yourself a Hamill and a McDowell.



^ Homeworld's space-RTS mix was legendary.

GOLDEN AGE / BREAK DOWN 1994 – 1999

We should have seen it coming, really – 1995's *Frontier: First Encounters* (i.e. *Elite III*) was a huge disappointment; inflated expectations meeting the reality of publisher mismanagement and a rush to wring some money from unsuspecting consumers. Meanwhile, *Wing Commander* – with its third and fourth entries – warped into some unrecognisable mix of underwhelming game and hugely overwrought full-motion video story sequences. The bloat was beginning to show.

But this wasn't a period of bad games – not at all. Even *First Encounters* (once patched to fix some huge bugs) was a good 'un. The Mark Hamill-fronted *Wing Commander* sequels offered a taste of Hollywood-ised gaming. This was actually a golden era for space-based titles, mixing those early influences and building on the foundations laid. Case in point – *Star Wars: TIE Fighter*. The original *X-Wing* released in 1993 (and was superb, no doubt), but it was 1994's follow-up, pitting you as a pilot of the Empire and fighting *against* the Rebellion, that made for the finest entry of LucasArts' space sim series. *X-Wing* bedded-in with the 3D tech and complex control system that made you *feel* like a space pilot, but *TIE Fighter* lifted from a certain *Wing Commander* to tie it all together with cinematic elements, and a

genuinely very good story. It was, indeed, good to be bad.

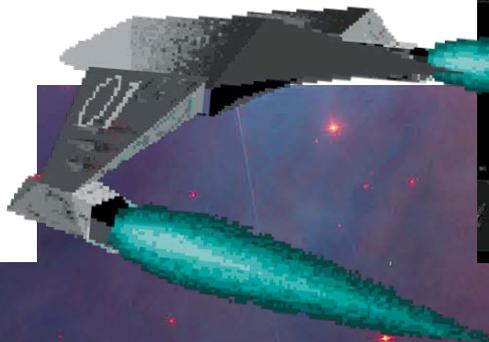
Wing Commander itself looked to *Elite* for inspiration with its *Privateer* spin-off series, which brought more freeform approaches to the experience, allowing for trading, piracy, and more on top of the expected *Wing Commander*-style store. *Microsoft Space Simulator* kept kicking the pure simulation can down the street, meanwhile.

The push into space made its way in a more concerted fashion to consoles, too, with tentative experiments like *Frontier's* own *Darxide* seeing what might be possible on the 32X, and later on Psygnosis knocking it out of the park with the space opera epic *Colony Wars* on PlayStation. The latter especially stepped away from the complexity the *Elites* and others of the world had embedded into the genre, instead taking – once again – huge cues from the narrative ambition of *Wing Commander*. The mainstream didn't want knobs to fiddle, the argument went –

it wanted to blow stuff up and have a cool story pushing it all forwards.

This bountiful period could only go on for so long, though. The big money started to move away from space-based games. The people just weren't as wowed with the big inky black as they had once been. *Homeworld* was a genuine classic and sold well in 1999 – it even got a sequel – but it was saddled with the double-hit of being both a space game and an RTS. *FreeSpace 2*, meanwhile, was – is – an all-time classic, and sold next to nothing on its original release. When the money dries up, the support quickly leaves too – and soon enough, space games were a thing of the past. Out of fashion. Drifting aimlessly.

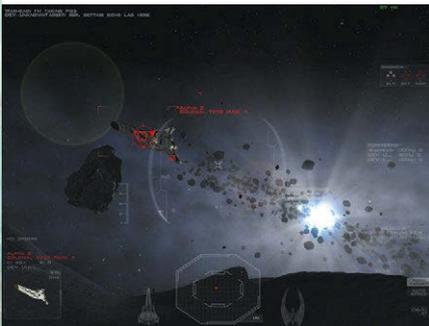
▼ *FreeSpace 2* is still one of the finest space games.



NO ONE CAN HEAR THEM 2000 – 2011

So it was we entered uncharted space – a world of space games where there was still the passion, but the support had left it all behind. There were dalliances – *Homeworld* got a sequel in 2003, but sales were poor. Chris Roberts moved on from *Wing Commander* to make *Starlancer* in 2000, but it was... well, more *Wing Commander*, really, and the market just didn't care. By the time the more *Elite*-like and ambitious *Freelancer* made it out in 2003, few were still paying attention –

▼ *Freelancer* 2's mods let you live out your finest *Battlestar Galactica* (and *Babylon 5*) fantasies.



even Roberts had left his own studio while it was still making the game.

It wasn't for the want of trying that the space genre went into this dark period. There was just no big publisher interest, which led to more projects being smaller in scale or hobbyist pursuits, so quality was often lacking, or things were rough around the edges. Most impact likely came from the fact the marketing spend no longer told gamers this was the genre they *had* to play. No, we were all-in on terrestrial-based first-person shooters by this point.

As such, it was no surprise to see, say, *Nexus: The Jupiter Incident* receive a positive critical reception and sell very few copies. Nor was it too unexpected to see the wildly ambitious *X* series, first releasing

in 1999 but seeing numerous follow-ups and sequels through the 00s, never quite hitting the same level as *Elite* that it so clearly wanted to. The mainstream did get the odd look-in, of course, with the *Star Wars* prequel trilogy producing the *Starfighter* games; knockabout, fun little arcade shooters, but you could tell the big money just didn't care by this point.

All through these dark years, though, there were rays of light – things that had the ambition and quality, even if they didn't quite have the audience or major publisher attention. But they were the examples that led the way, and showed the space game wasn't quite dead just yet. It was a slow start, but *EVE Online* launched in 2003 and proved to be one of the most resilient MMOs ever made, mixing an intricate system of trade, war, and politics to utterly beguiling effect. The *Galaxy on Fire* games on mobile offered a peek at what we could have been playing on home formats would publishers give a bit of money to help the ideas come to fruition. *Galactic Civilizations* showed that the efforts of *Master of Orion* weren't in vain. And the *FreeSpace 2* modding community – with the game's source code released in the early 2000s – continued pumping out high-quality (though again, rough around the edges), fan-made content. There was still some interest; still an audience – it would just have to be approached directly. ➔



▲ *Freelancer* saw delays and has been lost in the mix somewhat, but was a good game.

◀ *Starlancer*, however, has been a bit lost and was a decent-at-best game.

▼ *EVE Online* is hard to get into, but a legend for all the right reasons.



BEGIN AGAIN 2012 – 2014

Kickstarter wasn't new in 2012. The space game subgenre certainly wasn't fresh at that point. But just as David Braben and Ian Bell had brought disparate elements together into one fantastic package in 1984's *Elite*, so did Braben and some other folk at Frontier Developments bring together the desire of the people with the ability to raise some cash and the proven track record for making stuff where you're in space and it's all great and that: *Elite Dangerous* launched on Kickstarter in November 2012.

Was this the catalyst? Probably not by itself. *Star Citizen* followed onto Kickstarter, marking Chris Roberts's first return to gaming since he left the industry before *Freelancer* was finished. It was another bump in the right direction, and the wildly popular crowdfunding project behind the game showed there was still an appetite there for space games; it had just been – forcefully – suppressed for a time.

▼ *Strike Suit Zero* brought space back to consoles.



But going directly to the people produced more truths than anything else, and from 2012 space became cool again.

Or was it from 2011? Given a certain *Kerbal Space Program* first publicly released back then, there's an argument for it. Continued development on the then-beta version of the game carried on for years, and the fervent fan base continued to grow in a manner similar to that of a hastily constructed ultra-rocket in the game itself. A smaller Kickstarted hit, *FTL: Faster Than Light*, released later in 2012 and brought with it another new-old mechanic in the form of roguelike elements (as well as a truly special soundtrack). *Space Engineers* launched in Early Access, piggybacking off *Minecraft*-mania and layering on a thick, black load of... well, space. *X Rebirth* brought back Egosoft's attempt to ape *Elite* and... well, no, that one was an abject failure.

But momentum was building – thanks in part to the influence of going direct; via crowdfunding, but also through the ever-improving output of the independent scene and the increasing ease at which any player could get any game, anywhere. We also started seeing space games – gorgeous shiny ones, no less – make their way back to the consoles in a big way, with the likes of *Strike Suit Zero* slaking the desires of those in PS4- and Xbox One-land by 2014.



▲ Seconds later, everything probably exploded hilariously.

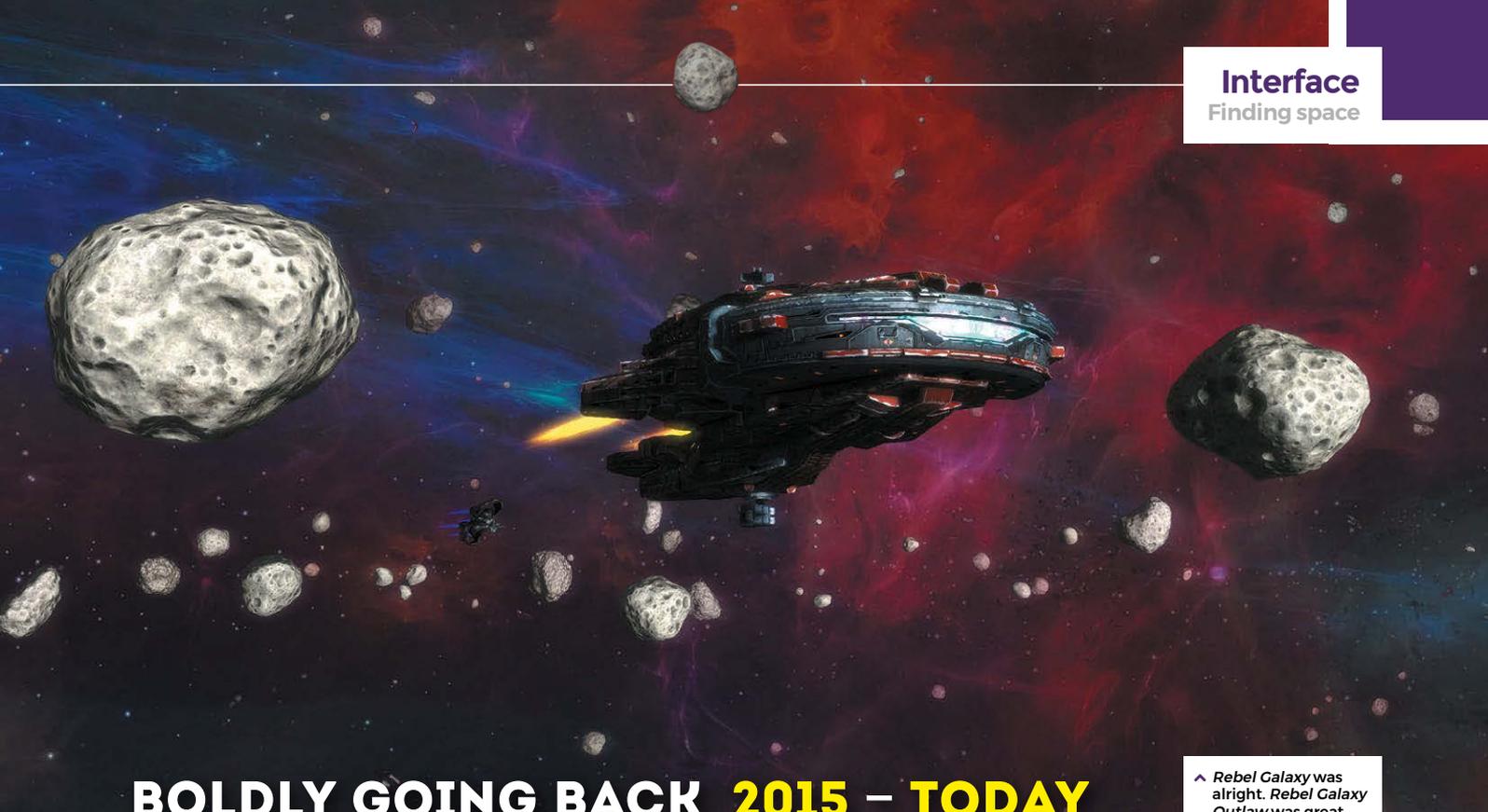
▼ *FTL: the poster child of both indies and crowdfunded games.*



With hopes high for *Star Citizen* to get out there in the next year or two, public sentiment was at a high when *Elite Dangerous* did finally release in 2014. It saw some teething troubles, and there were modern quirks to work out (like a lack of offline single-player mode), but this was it: the space game was back in a big way, it had the rapturous applause welcoming it, and it had a fair bit of money behind it too – whether the publishers and marketers expected it or not.

► It's not just about flying, as *Space Engineers* showed.





BOLDLY GOING BACK 2015 – TODAY

^ *Rebel Galaxy* was alright. *Rebel Galaxy Outlaw* was great.

The 2015-to-now thing can be summed up with one series. In 2015 we got *Rebel Galaxy*, a decent, quirky little blend of missions and combat, western themes, and twangy music. Rough around the edges, but with real heart behind it. In 2019 we got *Rebel Galaxy Outlaw*, which is, frankly, a bit of a hidden gem. Why does this sum up the modern era? Well, because *they just keep coming*.

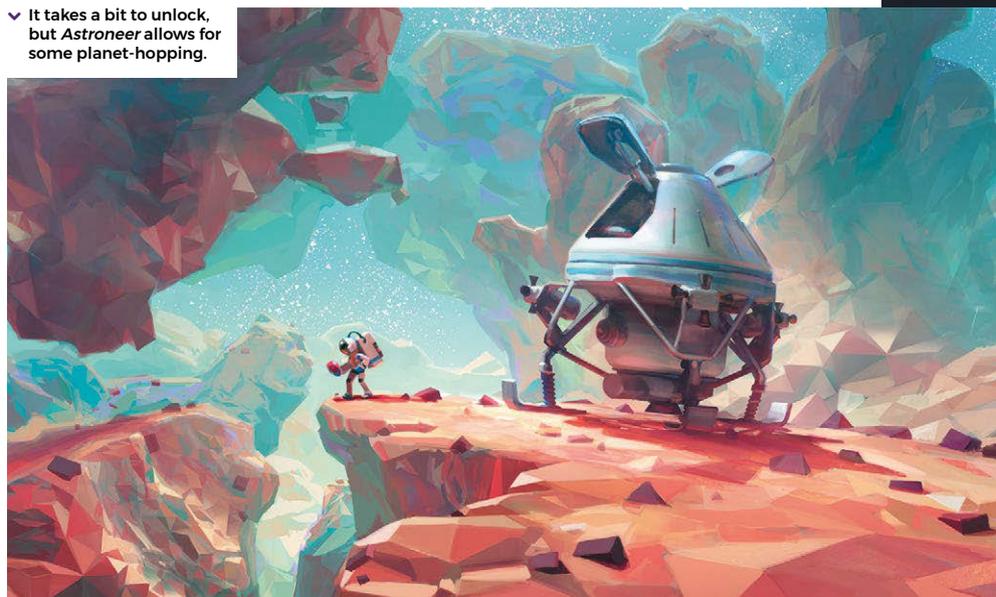
No Man's Sky brought the hope – and hype – of a previous generation back to the realm of space games, and while it took a while to really hit its stride, has become something of a modern classic in the sort-of genre. *Astroneer*, meanwhile, took its inspiration more from *Minecraft* to create its own take on the exploit-and-explore-'em-up. The small-scale indie was represented with the likes of *Heat Signature*, one of the finest mixes of lonely spacefaring and anecdote-building action yet seen. There's even the advent of consumer VR to consider, which has seen the likes of *House of the Dying Sun* and *EVE: Valkyrie* bring those *Last Starfighter* dreams we all had to life.

Endless Space took 4X strategy to new heights, then *Stellaris* popped up and said 'Yeah, I can do that, too'. Those looking for less blasting, more mystery, and a hell of a lot more contemplation got their fix with *Outer Wilds*, an absolutely great game and

deserved award-winner (including a BAFTA for best game). The (space) emperor had indeed found his groove again, and it's not looking like a flash in the pan, either – we've a more robust foundation for developers than ever before, as shown through the likes of this issue's cover star, *EVERSPACE 2*, being made by a German indie thanks to the help of a Kickstarter campaign. Meanwhile, *Kerbal Space Program 2* is being funded by Take-Two, one of the world's biggest publishers. We're still waiting on *Star Citizen*, mind.

And so, here we are. Boldly going where we thought we were going before, but then ended up not going, but then it turned out we *are* going there after all: a world where the space game is a huge aspect of modern gaming. Be it brain-off arcade fun, pure simulation, or the liberating joy of living the life of a space pirate (with a heart of gold, naturally) and taking cargo delivery jobs for hours on end, there are options for all, and the quality of the space games out there right now is the best it's ever been. 🌌

v It takes a bit to unlock, but *Astroneer* allows for some planet-hopping.



Toolbox

The art, theory, and production of video games

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Howard dispels the myth of violent games

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The design behind Beyond a Steel Sky's cities

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A guide to making game sounds on a budget

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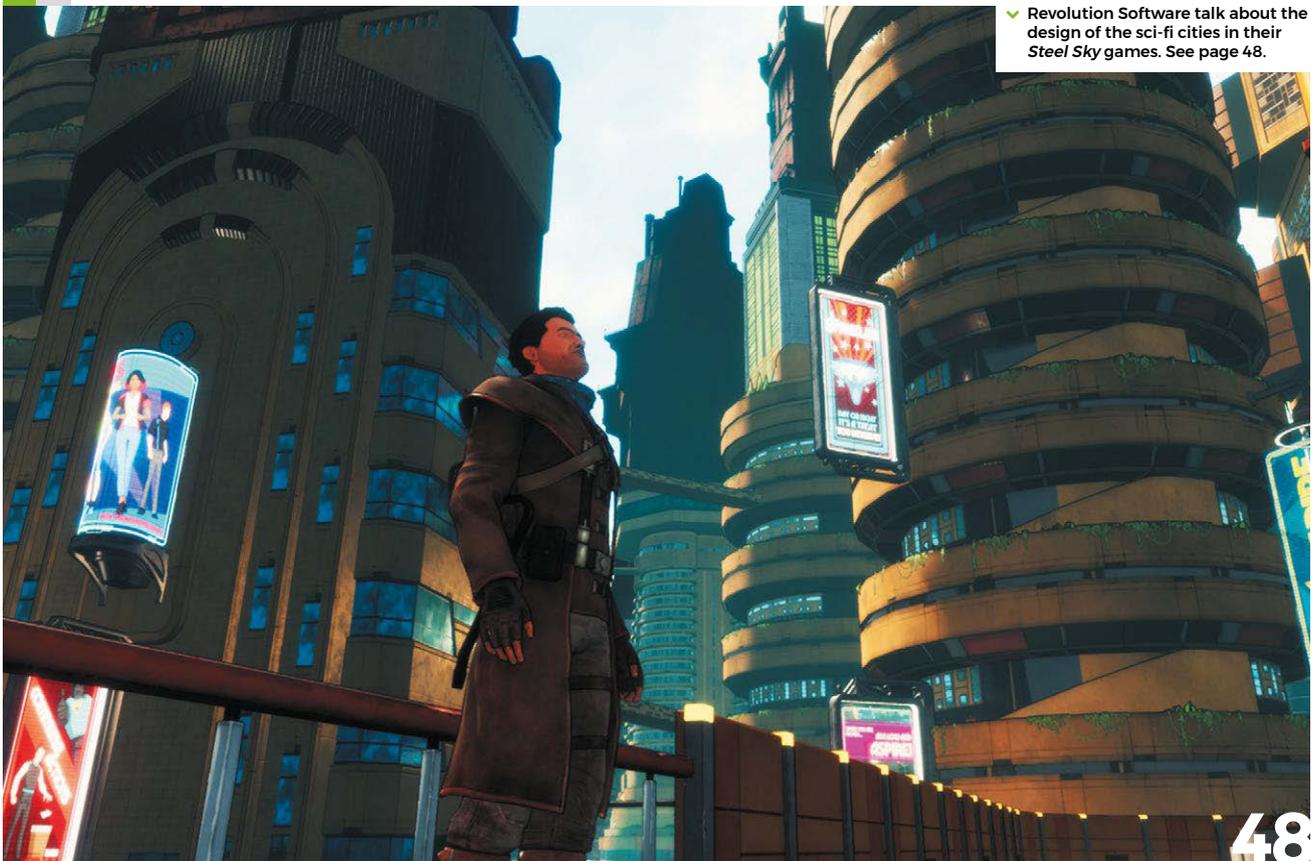
A few programming tips for game story writers

60. Finding an audience

Why marketing should be integral to game design

66. Source Code

Recreate Jetpac's classic rocket-building action



✓ Revolution Software talk about the design of the sci-fi cities in their *Steel Sky* games. See page 48.



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▲ Marketing is a boon, not a curse
– find out more on page 60.



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Make your own sound effects and more
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The principles of **game design**

This month, Howard tackles a few misconceptions around the topic of violence in video games



AUTHOR
HOWARD SCOTT WARSHAW

Howard is a video game pioneer who authored several of Atari's most famous and infamous titles. onceuponatari.com

As a therapist, I find the psychological aspects of video games quite engaging. Today I'd like to explore this angle more acutely. Usually, I'm bringing my psych background to the gaming world, but this time I'm going to share the time the gaming world paid a visit to my psych training. Spoiler alert: I may have upset the lesson plan.

It was a lovely autumn day, and I was attending a protracted family therapy training, delving deeply into the myriad issues of parenting. This is a wide-ranging topic, hence the multi-day all-day format. One section they saved until very late in the day was games: video games, to be specific. And to be even more specific, violence in video games and its impact on players. After days of sitting through massive amounts of dry information, I was a bit fried and frayed, the upshot of which was to loosen any comportment restraints.

I don't know if you've ever attended a seminar for Marriage and Family Therapists before, but I assure you it is not full of hardcore gamers. Don't get me wrong, there are gamers in the therapy scene, and more so every day. But this particular assemblage seemed to lack experience with controller issues. And the presenter, I would soon realise, was downright clueless.

Violence in video games is an issue of tremendous import as well as being near and dear to my heart. Consequently, I have done my time perusing the research in this area. I'm concerned about the disinformation frequently purveyed in settings like this which bear the mantle of credibility but not always the substance. Too many times I hear people demonise video games, flying the flag of salvation to endorse abstinence as the only solution. Prohibition failed with both sex and alcohol. I'm not sure why video games would be any different? Sadly, I didn't have long to wait before they launched the assault.

Let's kick it off with a few facts: there's nothing new about violence in media. Since the invention of the proscenium arch, violence has been no stranger to entertainment (just look at the end of many Shakespeare plays). Also, violence in media is an example of art imitating life rather than life imitating art. Some suggest this is a chicken-or-egg issue; I ask them to remember that violent human behaviour precedes media by tens of thousands of years. For proof, watch the beginning of Stanley Kubrick's *2001: A Space Odyssey* (though I admit, this is not a documentary). And one more thing, in 2019, researchers at the University of Oxford, in one of the most definitive studies ever undertaken,

✓ Yes, violent, disturbing games like *Manhunt* exist, but they're hardly representative of games as a whole.





found no relationship between aggressive behaviour in teenagers and the amount of time spent playing violent video games.

Suffice it to say none of these points appeared on the ensuing PowerPoint slides. Quite the contrary, the presenter regaled us with example after example of outrageous violent and sexual content from five different video games. What piqued my interest was the fact that only one of the examples was available in a released game. Some were examples of things that had been proposed in games but removed before release. Most were from games that were never released at all. Not because of the explicit content, but because the games sucked so bad they couldn't pass licence approval. Amazingly, two games they never mentioned that might have served their point (however remotely) were *GTA3* and *GTA: Vice City*.

IN THE TRENCHES

I look around the room, and I see frightened and worried expressions on the faces of people taking notes. The presenter cites studies which demonstrate beyond a doubt how violent video games will make children aggressive and unmanageable. Then, as they start to ring the 'parents need to keep kids away from video games' bell, I can no longer hold back. It's time to act.

I get their attention and briefly share my background in video games and awareness of the research. I point out how the materials presented here aren't accurate. No one is playing these games. They are not representative of what's out there. I then reference the 2004 Harvard University meta-study which invalidated many previous studies (including those cited) which claim violent games inspire aggressive behaviour in players. This study found that video games *do not* increase violent behaviour in teens – in fact, they tend to relieve stress for most players.

And then I get on my soapbox... In this age of pervasive availability of electronic media, this policy seems misguided. Abstinence (as we have



^ If anyone starts moaning about violent games, just show them *Kirby's Epic Yarn*.

< 2001: *A Space Odyssey* provides a glimpse of life before video games. Here, Alan's in the process of inventing *Whac-A-Mole*.

seen in so many other areas) does not prevent behaviour, it only prevents preparation for the consequences. When you tell your kids they can't play video games at all, you are asking them to make a choice: either ostracise themselves from their peer group, or play in secret and lie to you about it. You're not advocating for their benefit, you're undermining your relationship. Parent-child relationships are the most powerful source of influence on any child's behaviour, as long as that relationship is intact.

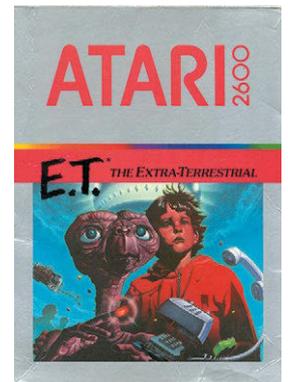
I believe the preferred parenting policy for video games is to get down in the trenches and play the games with your children. Be present

to provide context and framing for the fantasies presented in the games. The most important precursor to influence is connection, and when we connect through entertainment that is a strong connection indeed. And with that, I step down off my soapbox.

I'm not sure 'flustered' accurately conveys the state of the presenter at this point. After collecting themselves some, they acknowledge my comments and assure me their materials will be reviewed. Then they give the slides a shuffle, and suddenly the entire discussion is dropped and we find ourselves in the next section, pressing joyfully onward.

I was just trying to bring some balance to the topic of video game violence. I wasn't looking for a fight. ☺

✓ Cinema's friendliest, least violent alien; the games industry's mortal enemy.



Killed with kindness

There are many notable aspects to my *E.T.* game for the Atari 2600. It had the first 3D world, context-sensitive powers, the most expensive licence Atari ever bought, and the single-handed decimation of the entire video game industry of the early 1980s. Actually, that last one deserves a second look, if for no other reason than the massive irony it engenders. It's ironic because *E.T.* is an entirely non-violent game, yet it managed to kill a billion-dollar business...

How Revolution built Union City

An in-depth look at the creation of the sci-fi metropolis that debuted in 1994 and returns in this year's *Beyond A Steel Sky*



AUTHOR
KONSTANTINOS DIMOPOULOS

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Surrounded by desert, Union City was the dystopian metropolis where Revolution Software based its classic adventure, *Beneath a Steel Sky* (*BASS 1*). Here, the rich lived at the bottom of vast spires, and the poor on their polluted tops. Digital entity LINC regulated all activity. It was an Orwellian nightmare, an inverted take on Fritz Lang's *Metropolis*, and a setting that's about to return in full 3D for its sequel, *Beyond A Steel Sky* (*BASS 2*).

To discover what went into the construction of the original Union City and its forthcoming successor, I asked Charles Cecil, co-founder of

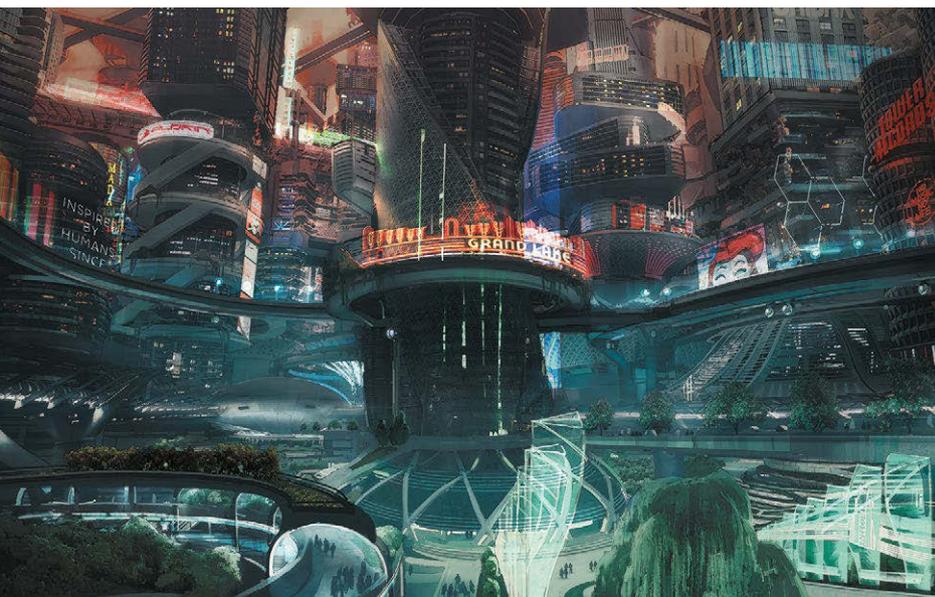
Revolution and designer of the *Broken Sword* series, comic artist Dave Gibbons of *2000 AD* and *Watchmen* fame, and experienced 3D artist and graphic designer Sucha Singh, to lift the lid off the creative process.

A STEEL SKY

What predominantly set *BASS 1* apart from its contemporaries, besides the unique artwork and design, was that the typical dystopian notion of the poor living below the rich was turned on its head. According to Gibbons, this was one of the things that attracted him to the project. "What you would expect," he says, "is the kind of high-rise where the rich live on top, and all the horrible stuff happens at the bottom, but it makes equal sense the way we have it, too." All the industrial pollutants located at the top of the city's spires flow into the atmosphere, keeping the rich shaded and clean beneath the smog layer.

In Union City, says Gibbons, "the cool, science fiction utopia-looking part was in the bottom third, then in the middle was where aspirational people lived in buildings a bit more rooted in our reality, and finally, above that, was the rusty, industrial area." What Gibbons had to do was make each separate level distinct, while also making it a convincingly human habitat surrounded by the Australian desert. And though Union City was always situated on top of Sydney, Cecil admits they were "trying to hide [that] it was in Australia." *BASS 1* even featured a purposefully confusing subway station called St. James – a station found both in London and Sydney, despite Cecil remembering

✓ Evocative, mood-setting concept art is vital for creating an imaginary city.





that “what Gibbons drew in the introductory comic were clearly kangaroos bouncing around.”

The Union City in *BASS 2* seems less shy regarding its location, but aims to be true to the original. Time has passed, and now, according to Cecil, the city has moved away from being an outright dystopia. “What we wanted to do”, he says, “was to convey the same city but from a utopian perspective – actually take pre-existing assets and interpret what they would look like ten years later.”

Besides, Gibbons adds, “the whole dystopia thing has been greatly overdone in popular fiction and, particularly, in science fiction.” Even before the current crisis, he was convinced that people wanted a more positive, more colourful kind of entertainment not unlike Marvel’s movies. But, says Gibbons, “just because a place looks like a utopia, doesn’t necessarily mean it is a utopia.”

Then there’s the city’s change from 2D to 3D. “A player can now look up and down,” Singh explains. “They can see and feel the sheer scale of it. The whole game is about contrast. Not just between characters but also within the city itself. We’re contrasting the outside to the inside, the three separate levels to each other, even the way locations are lit.”

VISUALS

According to Cecil, *BASS 1*’s visuals were created by having an artist take Dave Gibbons’ scanned pencil views then just paint over them. “We created a unique look, employed an innovative technique, and the game was pitched as an interactive comic,” Cecil says. “With *BASS 2*, our objective was to create a game that felt like any frame could have been drawn by a comic book artist.”



▲ An early block-out of Union City captures the geometry of the initial concepts.

◀ An in-game view of the city. The holographic signs all share the same font because they’re controlled by an AI.

“The city has moved away from being an outright dystopia”

“We only explored the city to a limited amount in the first game, so it was good to get another bite of it,” Gibbons says. “I’ve always found I do some of my most creative work when there are limitations. The limitation here was what we established in *BASS 1*. We wanted to get

the continuity right. What I did was to start with pencil sketches just as we did in *BASS 1*. This time though, instead of having someone paint over them, it was a

question of refining the sketches by sending them back and forth between me and Charles and the guys at Revolution.”

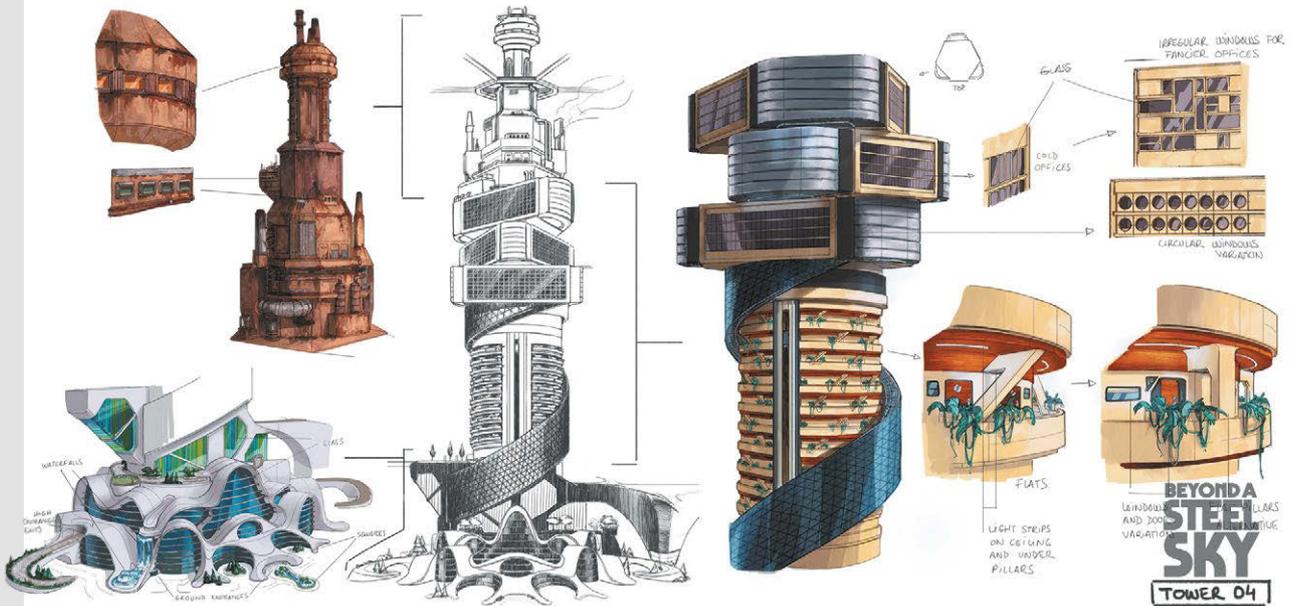
Once at Revolution, Gibbons’ art was then turned into 3D models. “It’s really exciting when you’ve done something that is quite rough, going for a feeling rather than detail, and then seeing these figments of the imagination come alive in fully rendered, textured 3D,” Gibbons says.

As for the comic-book feel and the studio’s sophisticated toon renderer, Gibbons notes they achieved a “sort of linear quality. That effect you get in a conventional comic with a dark outline and colour within it, which gives the whole thing a really interesting texture.”

Singh, meanwhile, adds some technical details: “We came up with a method of rendering ➔

Inspiring Gibbons

For Dave Gibbons, coming up with new ideas is akin to “pregnancy”: it’s something you can’t rush. “When you’re brainstorming ideas, the first few things you come up with are just what you’d expect to come up with,” he says. “They’re fairly obvious. It’s when you get towards the end, when you think you’re running out of ideas, that sometimes the really creative stuff comes through. You’ve exhausted your conscious attention, and stuff just comes through subconsciously.”



^ Architectural concepts, details, and styles from all three levels of the metropolis.

outlines in real time, and picking out the details of models and normal maps." The outlines can fade or become thinner as they go into the distance, and can also be lit.

The city's visuals are also influenced by architecture, which retains many of the first game's elements. "There's plenty of links to the past," Singh says. "When I was looking at how we can translate what Gibbons did on *BASS 1*, and to address creating a utopian-looking city, I was looking at what period in history had a utopian emphasis, and I looked at the 1920s, when Art Deco came in."

The style employs geometric shapes which fit the city's three-tiered structure. "Along the lower level," says Singh, "you have the curvy organic shapes, the mid-levels become more squared with rounded corners, and the upper levels remain inspired from the Brutalism of the sixties and seventies. Art Deco is the glue that holds the three different levels together, permeating and linking them architecturally."

THE BUILDING

Cecil reveals that when it comes to size, the 3D Union City is, "about the size of York; several miles across, and not very big due to technical constraints." Besides, this city isn't spreading out horizontally; it's spreading out vertically. Though not a typical open world, *BASS 2*'s space is continuous, and players will be able to see across landmarks and game locations, getting a sense of the overall geography. They will, however, only be travelling to specific locations via monorail pods. "These pods whizz you around like the glass elevator in *Charlie and the*

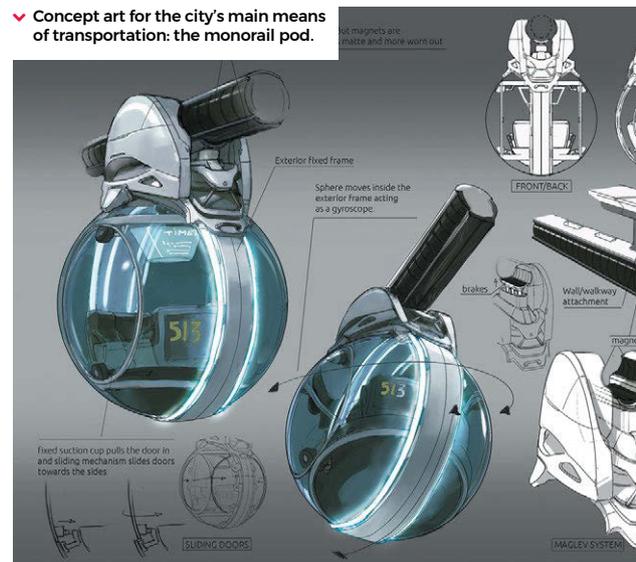
Chocolate Factory," says Singh. "Nobody travels by train or car."

Before the city's overall design was approached, Singh says, the team came up with key gameplay locations. "And once those were defined and positioned, we started building the city to support them. A lot of thought went into infrastructure, traffic, and how people live or get their food."

Cleverly, as Singh describes, "a lot is handled by the city itself." There's a food dispenser inside each apartment, and everything is happening behind the scenes, so that imaginary people and actual designers have less to worry about. Similarly, Singh explains, "we don't have

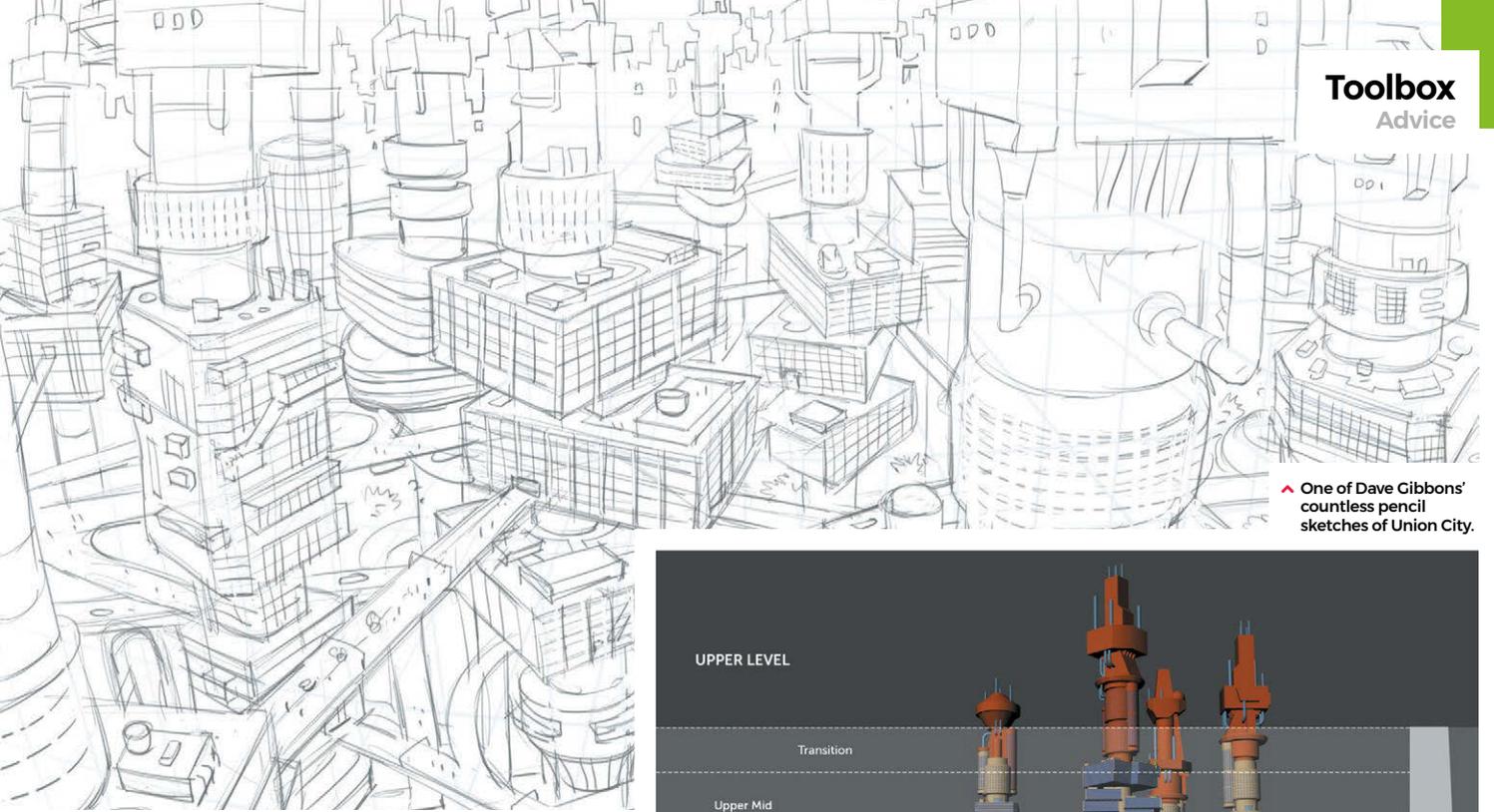
"You need to make it feel really tall, really big"

^ Concept art for the city's main means of transportation: the monorail pod.



Interactive Writing

Charles Cecil convincingly argues that "writing a video game is harder than writing a film. Ultimately we [game writers] have all the constraints, and all the requirements [of film], but also have to make sure our games flow as interactive experiences. If we were writing for a linear medium, things would be much easier." Besides, game designers also have to take boundaries into account, as well as the players who test them. "Part of the players' joy comes from pushing against boundaries and unexpected things coming back; an experience which of course just can't exist in linear mediums."



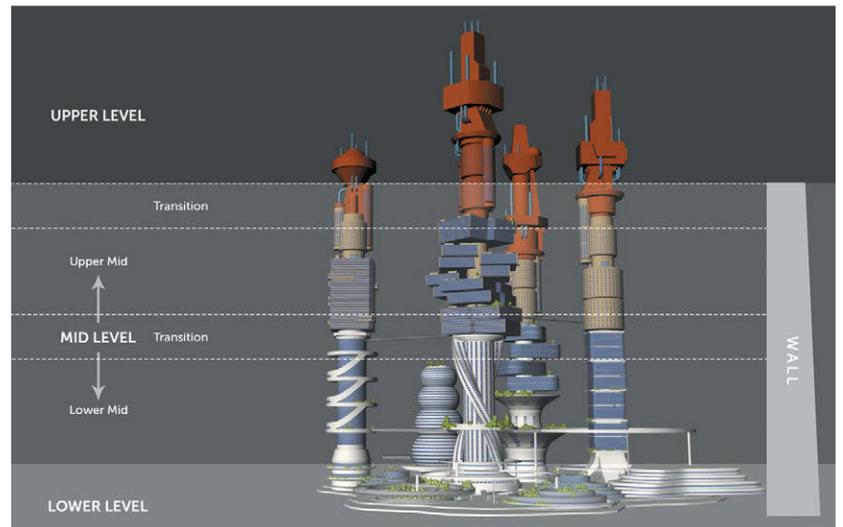
▲ One of Dave Gibbons' countless pencil sketches of Union City.

power lines as such; everything is kind of hidden away, and we have a lot of droids doing most of the grunt work." The higher you go, the rougher these droids become; the lower you go, the more advanced they are. "As for the screens you see in the mid to lower levels, they are all holographic," says Singh, whereas, "the more advanced the technology gets as we descend the spires, the greener the urban environment."

The overall city building, Singh says, was "an iterative process; we started with a block-out based on Dave's sketches, refined that, and then went to the concept artist who developed these further and in detail." The detailed sketches were then used to refine the block-out even more, which also helped Singh establish the

sense of scale. "You need to make it feel really tall, really big, and even the size of details like windows mattered," he says. Interestingly, no perspective tricks were used; Gibbons argues that "you can tell when things have a real dimension to them, and your sense of space isn't violated by optical illusions."

Putting everything together was a huge task which Singh approached with a modular method.



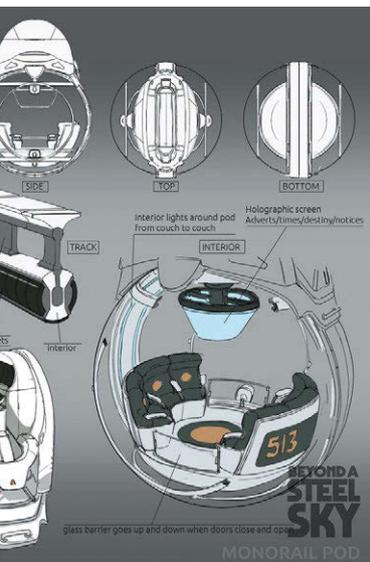
▲ Figure 1: A modular system was used to create the varied towers of *Beyond a Steel Sky*.

Each tower is made from sections (see **Figure 1**), "so we could swap the middle section for a different one, the upper section for another one, and so on. This way, we could build multiple towers from several component parts, and make them look not too similar to each other."

ADDING CHARACTER

The characters that populate Union City are also key to both games. Gibbons and the team did "hundreds and hundreds of sketches to come up with compelling characters who not only acted in interesting and quirky ways, but looked like real individuals. All the secondary characters got as much thought into them as the principal ones, and it all adds to the feeling that this place really exists." As Cecil adds, "The characters belong to those locations, because we've designed the characters to fit the narrative and the locations to fit the characters."

Seeing the almost finished city, Gibbons is "amazed by how coherently everything hangs together." Cecil, besides appreciating the coherence and immersion the city offers, also talks about its "drama, claustrophobia, and vertigo," while Singh is delighted with "the fact that we're able to build a large city in the time we've had. It looks convincing. It looks good." ^W



DIY audio production for game developers

How to choose the recording equipment you need, build your own recording environment, and get started with production



AUTHOR
K.G. ORPHANIDES

K.G. Orphanides is a writer, developer, and audio tinker currently developing an audio-based narrative game, *Sunder*. You can find some of their work at mightyowlbear.com

Sound can make or break a game or demo. Research shows that the presence and quality of audio elements can massively improve immersion and perceived visual quality in everything from film to 3D games and virtual reality environments.

Here, I'm going to look at recording and producing voice and other sounds. This should help you create audio good enough to pass muster for a demo, game jam, or even – if you take care with your production – a full release, at home and for not too much money.

GEAR UP

If you mostly want to record voice, then you need a decent quality microphone and a noise-free environment. The former is easier to achieve than the latter. While dynamic microphones are best for loud noises and live performances, condenser mics are better for voice recording in the studio, as they're more accurate and sensitive to subtle sounds.

If you exclusively use a computer to record, USB is by far the easiest option. USB mics are typically class-compliant, so you just plug them in and record on any desktop operating system, with production-friendly features such as a 24-bit input bit depth (more data values encoding your sound improves your signal-to-noise ratio)

and asynchronous USB (so data transfer timing isn't dependant on your PC's system clock).

Popular options here include the Blue Yeti Pro, RØDE NT-USB, Audio-Technica AT2020, or, if you want something decent for around £50, the Samson Meteor Mic and Blue Snowball iCE.

If you already have a USB audio interface, such as the Focusrite Scarlett Solo, with an XLR microphone input, then a wider range of condenser mics opens up. You can still expect to pay a minimum of £50, though.

ON THE MOVE

If you want to record ambient sound, or don't have a fixed recording environment, then a good quality portable PCM (pulse-code modulation) audio recorder is invaluable.

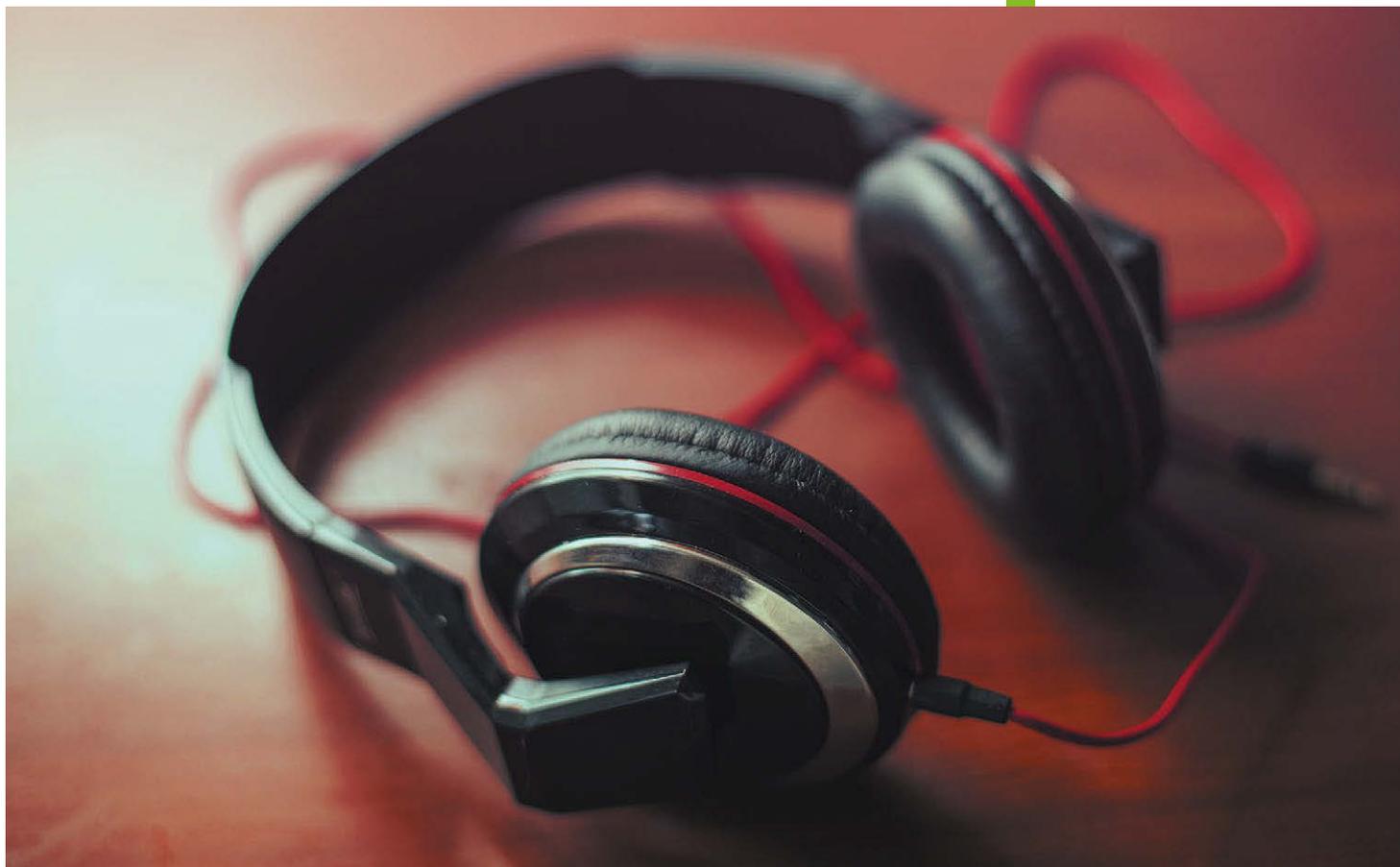
Look for a pair of integrated stereo condenser microphones, support for 24-bit recording, line and mic inputs, and expandable SD or microSD storage. You should also buy a windscreen for your recorder's mics – get one of the fluffy fake fur ones if you're going to record outdoors.

Olympus' LS and DS ranges are very good, as are Tascam's handheld DR recorders and the Zoom Handy range. Expect to pay between £75 and £150 for a decent entry-level recorder.

I've done a lot of field and vocal recording with an Olympus LS-12, and with a bit of practice, you can get results that rival a simple studio

✓ If you record in the field, a shotgun mic such as the SGH-6 for Zoom recorders, or a parabolic microphone kit, can be worth the cost.





setup almost anywhere. Use a windshield and manually configure a low recording level to give you plenty of overhead for later editing and amplification. Make sure you record in PCM WAV format rather than having your recorder encode tracks as MP3s.

“This should help you create audio good enough for a demo or game jam”

If you're recording environmental sounds such as rivers, insects, or birdsong, you'll want to position your recorder as close as possible to the audio source. Parabolic microphone dishes and shotgun mics allow you to get clearer and more directional sound at a distance.

IN THE STUDIO

You can have the best hardware in the world, but if you're recording in an unsuitable environment, your sound won't be clean enough to work with. The main hazards are background noise and echo.

Your computer is likely to be the most significant source of unwanted background noise. Fan noise from most laptops and desktop PCs is enough to render a recording unusable, but you have options here.

You could put the PC outside your recording booth, but that's inconvenient if working solo. It's more practical to build or rebuild your computer into a case with sound insulation and low-noise fans – great examples of these are the Antec P101 Silent and Fractal Design's Define range.

Probably the cheapest silent recording solution is to equip your studio with a Raspberry Pi 4 with 4GB of RAM. This costs around £55, though you'll also need a microSD card and power supply.

Install Audacity on the standard Raspberry Pi OS, connect a USB mic →



^ sE Electronics popularised reflection filters, and its sturdy Reflexion Filter PRO is still one of the best options around.

MAKE DO AND DISTORT

If you can't afford to shell out on any new equipment, you can always record sound on a mobile phone or PC headset mic at a pinch. And if you can't create sufficiently clean voice recordings, one option is to emphasise the distortion – particularly good if your game involves found audio, suit radios, or generalised post-apocalyptic nonsense.

Use the Export audio > Other uncompressed files option to encode your recording as an 8-bit PCM. Reimport it and apply distortion, a wet phaser effect with a high LFO frequency, or slap a vocoder on it before exporting the final result as the lowest-quality MP3 you can.

and you've got a pocket-sized studio PC. You can even edit on it, although handling large chunks of audio is still easier on a more powerful PC with more RAM.

Finally, and most simply, you can use a portable audio recorder. You won't have to worry about computer noise at all, but can't edit on the fly.

A QUIET PLACE

Now, you've got to tackle the hum of all your other household devices, and even the quietest room is likely to have hard, uncovered walls and floors that create echoes and vibrations that will be difficult to remove from your recording.





^ Basic pop filters still comprise nylon stocking fabric stretched over a metal loop, positioned in front of the mic.

If you have a spare room to use as a studio, you can improve its acoustics by putting foam tiles on the floor – these lock together and are easy to install. On the walls, heavy velvet curtains, acoustic sound blankets, or foam soundproofing wedge tiles are good options. You want lots of soft surfaces that absorb sound rather than reflecting it back at your mic.

The ideal room for this will be solidly built and insulated to minimise both unwanted vibrations from structural elements and noise leaking in from outside.

All that said, one of the fastest, most effective and space-efficient DIY solutions is the common or garden blanket fort. Stick your mic in front of your monitor, a pillow on each side, drape a

“You want lots of soft surfaces that absorb sound rather than reflecting it back at your mic”

thick blanket over the whole lot and pull it over your head.

A more comfortable – and dignified – option if you’re regularly going to be recording at your desk is a reflection filter. This is a hemispherical frame covered in acoustic foam, often with an integrated mic stand, to keep the worst of any unwanted audio reflections bouncing back to your mic.

You can get solid models from the likes of Marantz and sE Electronics for prices ranging between around £40 and £150.

You’ll also want to put a pop filter between your mouth and the mic to help reduce unwanted sounds caused by aspirated plosives



^ Clamshell-style ferrite chokes can be clipped to the ends of cables to reduce radio frequency interference.

such as hard ‘p’ and ‘t’ sounds in English, the intensity of which can overload sensitive mics. Make sure the filter is clipped to a table or stand rather than directly to the mic to avoid transferring vibration.

A windscreen of the kind used for outdoor recording can also help, but may muffle some sounds.

LISTEN BACK

You’ll also need something to monitor and listen to your sound on. Chances are that you already have headphones and speakers of some description. For headphones, a flat sound that closely represents the recorded audio is desirable, so you’ll want to avoid anything that attempts to boost bass frequencies.

However, using studio or audiophile-grade equipment to listen to your audio – particularly if music or ambient environmental sound is also involved – can give you a false impression of how people will be hearing your game’s soundscape.

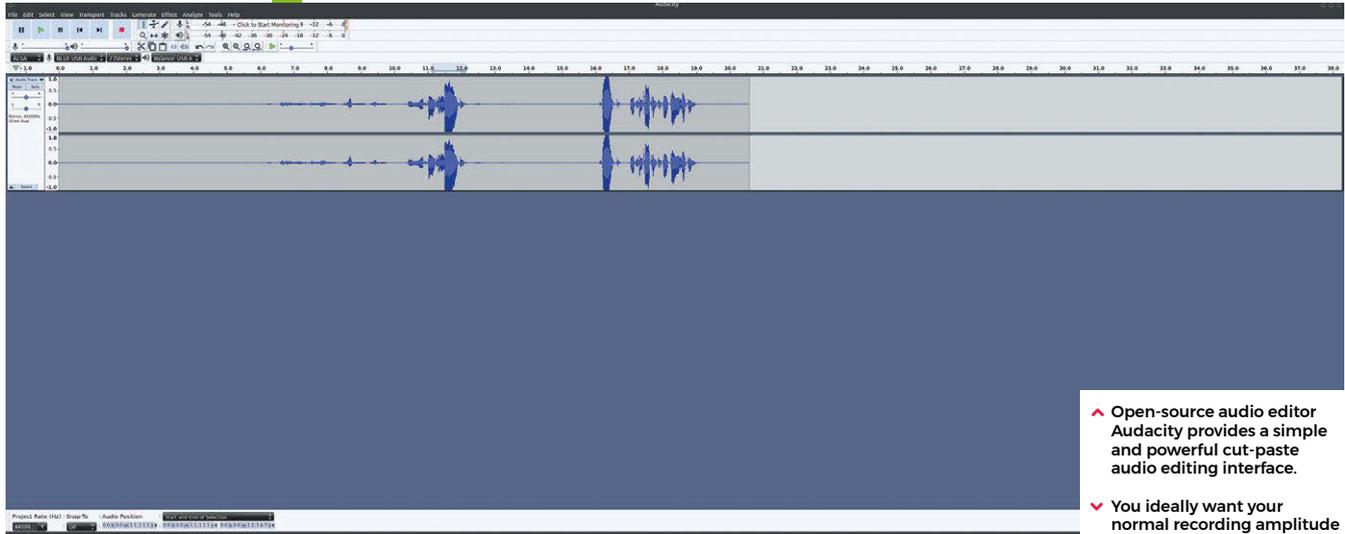
For day-to-day use, a decent pair of general-use speakers should do the trick. Mackie’s CR4 speakers, at around £100, are an ideal compromise between sound that’s detailed and balanced enough for production and a price point that won’t break the bank.

Speakers and other cabled audio hardware, such as guitars or microphones connected to a USB audio interface, can easily pick up electromagnetic interference from phones, microwaves, and other cables. This can result in a noticeable ‘floor’, impacting recording quality.

Avoid using cables that are longer than you need and clip ferrite ring magnets to each end of your cables – miniature toroid cores are preferred for use on microphones to reduce ➔

MAKING ROOM FOR FOLEY

If you’re recording sound effects, which can see you stabbing melons as a stand-in for human flesh and swishing bamboo stakes past the mic to mimic arrows, you might need more space, as well as a boom arm to attach your mic to. Once again, hanging blankets, towels, and duvets around the recording area can help make an effective sound booth at a pinch.



^ Open-source audio editor Audacity provides a simple and powerful cut-paste audio editing interface.

^ You ideally want your normal recording amplitude to be around -6dB.



the risk of magnet hum being picked up by the mic. Audio-grade USB cables usually have a built-in ferrite bead.

GETTING STARTED WITH SOFTWARE PRODUCTION

Regardless of what you want to produce, you'll want to spend time making friends with some digital audio editing software. Audacity 2.3.3 is capable, well-documented, cross-platform, and free.

Audacity's project file format uses uncompressed PCM WAV files. If you're exporting individual tracks, use either WAV format or a lossless compressed audio format such as FLAC.

If you don't want to get into painful debates about Nyquist frequencies, psychoacoustics, and recording resolutions, then you can safely record at Audacity's default settings: a sample rate of 44.1kHz and a 32-bit floating-point bit depth.

If you're using a dedicated USB microphone for voice recording, select that from the toolbar pull-down next to the mic symbol and your output device (either an integrated or dedicated sound card) from the pull-down next to the speaker symbol.

If you're using a condenser microphone with multiple patterns, switch it to cardioid mode and make sure the front of the mic is lined up with

your mouth and positioned about 18 cm (7 in) away from it. Don't forget to use a pop filter or windshield.

Plug your headphones in and silence any speakers connected to your PC. Click on the microphone recording meter to enable full monitoring and make some noise. Cover the full range of sounds you expect to make and make sure the level monitor doesn't go into the red. If

“You'll want to spend time making friends with some digital audio editing software”

it does, then you should reduce the gain setting on your microphone if you have one.

If you're still going into the red, adjust Audacity's volume recording slider down and try again. If your voice is consistently too loud, move further away from the mic. If everything's too quiet across the board, try moving closer to the mic and increasing your microphone's gain.

Next, hit record, capture five or ten seconds of silence and make a test recording. If everything's configured properly, you should see no clipping – where the waveform is cut off because the sound was too loud to record, producing a distorted effect on playback. The Show clipping option in Audacity's View menu will highlight problem areas.

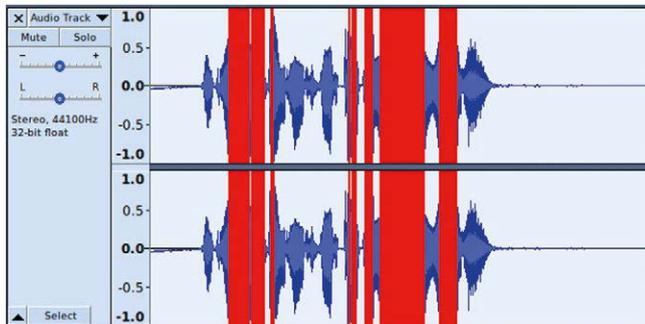
RECORDING AND PRODUCTION GUIDES

Your first recording in Audacity
wfmag.cc/first-recording

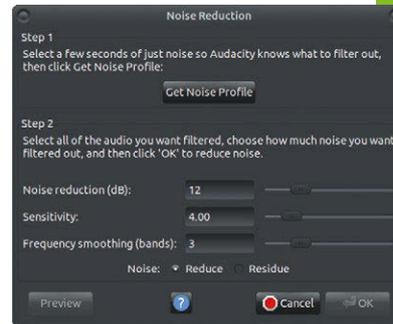
Mastering Audiobooks with Alex, Audio Scientist
wfmag.cc/audio-science

A Beginner's Guide to Recording Bird Vocalisations
wfmag.cc/birdsong

How to Remove Noise with Audacity
wfmag.cc/noise-removal



^ Audacity can show any points where your recording suffers clipping.



< Noise reduction can remove repetitive background drones but can also get rid of sounds you do want.

EFFECTS BANK

Once you have a good test recording, turn the volume of your output device right up and listen for background noise. There hopefully won't be too much, but if there's a consistent background hum, noise reduction may help. Highlight the silence you recorded, select Noise Reduction from the Effects menu, and click Get Noise Profile.

Now select the whole track, select Noise Reduction again and click OK. This will reduce consistent sounds but can also eliminate frequencies you want, so only use it if you have to.

If you don't have unwanted background sound, the silence you recorded can be cut and pasted over any unwanted breathing or mouth noises during sections of your recording that are supposed to be quiet.

You can also use high-pass filters to cut out low frequencies – anything below the human vocal range, for example – while low-pass filters eliminate high-frequency sounds. If your recording's too quiet, you can amplify it, while a compressor allows you to even out variable recording levels beforehand.

Meanwhile, adding reverb can add a sense of space to your recording. It's worth taking time to experiment with Audacity's effects and browse its extensive manual. Third-party plug-ins are also available.

Finally, make sure you're well-hydrated and look up some vocal warm-ups to do before you start recording in earnest – both your throat and the quality of your recordings will thank you. 🗣️



Talking to computers, for game writers

Most potential video game writers lack the building blocks of interactive storytelling. Let's change that



AUTHOR
ANTONY DE FAULT

Antony is Wireframe's game writing and narrative design columnist. He's also creative director of Far Few Giants. You can find his work on [default.games](#), or see [@antony_de_fault](#) on Twitter.

Writing a computer game is very different from the creative writing you will have been taught at school or university. When writing a novel, for example, the text-to-reader delivery method is so simple that it becomes invisible and we forget about it: the reader generally jumps to the first page of the actual story, then reads each word after the last in the order you put them, and they expect semi-regular breaks. That's more or less it. The book itself is an inanimate object.

Video games, however, are not inanimate. They have a life of their own and tell your story *for* you, like an actor performing your words. In order to write a film, a writer often has to give instruction on how a line is acted. Similarly, in order to write a video game, you have to understand at least two *absolute basics* of how to instruct a computer to tell your story the way you intend.

TOPIC 1: BUCKETS

Indulge me for a second: imagine you're telling a spooky campfire story to a friend, but you allow

them to name the lead character. They choose 'Deckard'. Worried that you might forget the name, you write it on a piece of paper, then slip that paper into a bucket on the ground near you. You get a pen and write 'Protagonist' on the side of the bucket. Next, in a tense chase sequence, you ask them to decide which object the protagonist grabs: a gun or holy water. They choose 'holy water', so you write that on another slip and put that in another bucket, which you scrawl 'Held Object' on the side of.

Reaching the end of scene, the villain of the story corners the hero. You check your notes, and the Big Bad's line reads "Put the (Held Object) down, (Protagonist)!" This has been a very long story, so you reach into your buckets, check the slips, and say aloud: "Put the holy water down, Deckard!"

Congratulations! You just used a variable. In computing, a variable is like a bucket. It has a tag on the outside to tell you what sort of thing should go inside, and contains a piece of information which you can refer to later. You'll need to check the requirements of the tool you're using, but in most computer languages that looks something like this:

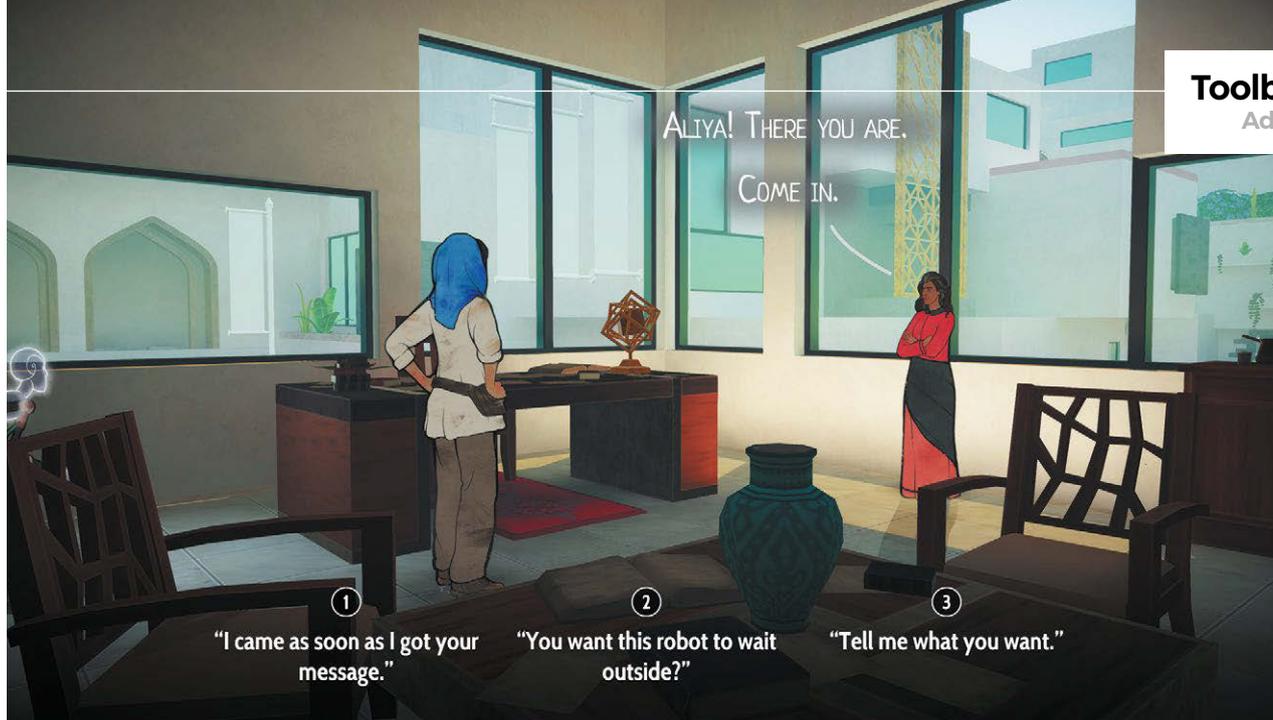
```
VAR $heldObject = "holy water"
```

The command above tells the computer "create a new variable called **heldObject**, and put the phrase 'holy water' inside it". Now, let's say I later want the computer to read out the sentence "Put the holy water down, Deckard!" for me. All game writing tools will have a special symbol, for example, '\$', which you can use mid-sentence to tell the computer that the next word



▲ If you're interested in writing interactive fiction in Twine, check out Anna Blackwell's guide in issue 10.

➤ Variables: think of them as buckets for all the objects, characters, and other bits of information in your game.



is a variable name (the tag written on the side of the bucket!), and that the computer should swap it for whatever is inside that variable. So if '\$' is our special 'I'm-talking-to-you-now-computer' symbol, the line above would read:

Put the \$heldObject down, \$protagonist!

Just like in my campfire example, the game would read that as "Put the holy water down, Deckard!"

TOPIC 2: CONDITIONS

Let's keep that imaginary campfire scene rolling. After telling your friend your lightly customised horror tale in which they defeated the villain with their \$heldObject, they ask you how that object came to be in the story. But they could have chosen either a gun or the holy water, and these are objects with entirely different histories!

***If it's true that* your friend chose the gun, *then* you read out a passage about the gun's last owner. *If it's true that* your friend chose the holy water, *then* you tell them about the villain's past life as a priest.**

Brilliant! You just used two **conditional statements**. This is an instruction to the computer that it should do a certain thing (read the gun-related passage) *on the condition* that another thing (they chose the gun) is true. A conditional statement allows us to check what's inside a variable, then give the computer a varying set of instructions based on the outcome of that check. This is incredibly useful because it allows you to customise your story based on all sorts of things – in this example, a choice that was made quite a while earlier. In simple English, our conditional might look like this:

if the variable heldObject contains "gun", then say "The gun used to belong..."

Just like with variables, your tool will have a special symbol to tell the computer that a conditional statement is coming. Here, I'll use '~'. Again, you'll need to check with the tool you're using, but generally, in code, it will look like the following:

~ if (heldObject is "gun"): "The gun used to belong..."

~ if (heldObject is "holy water"): "The villain used to be a..."

The rule here is: if the condition in the brackets is true, write out the thing after the colon. So what the computer understands is that if heldObject contains "gun", it should show the player the line "The gun used to belong...", and if heldObject doesn't contain "gun", it should do nothing and simply move to the next statement, where it will check if heldObject contains "holy water", and so on.

YOU'RE READY

These two concepts, the variable and the conditional statement, will allow you to successfully instruct the computer in how to tell your story. You can use it to craft grand narratives where later chapters reflect decisions made early on, or simply to let a player name their character 'CAPTAIN BUTTCHEEKS', as they so love to do. You can use variables to track what inventory items a player has accumulated in your story, and use conditionals to open new pathways based on those possessions.

They're super-easy to use, so get on inklewriter, Twine, Yarn Spinner, or my Fungus and start writing! 🗨

^ You can learn more about using ink, the open-source scripting language behind *Heaven's Vault*, in the beginner's guide published in *Wireframe #29*.

One More Thing

Those who've read my previous columns would have seen this in action, but I believe it's a mandatory skill as a game writer to be able to visualise your story as a flow chart. The best way to train this skill is to either noodle around in Twine (which uses a flow chart-like interface), or use something like diagrams.net (my flow chart tool of choice) to map out all the branches of a scene from your favourite game. Being able to 'see' the branches, the variation, allows you to instinctively know when one branch is imbalanced with the others.

Why marketing and game design should go hand in hand

To make a truly great game, marketing and design need to be considered together, Paul writes



AUTHOR
PAUL KILDUFF-TAYLOR

Paul is the CEO of Mode 7, an indie game developer and publisher. Find him on Twitter: [@mode7games](#)

The games industry has largely moved on from the conception of marketing as a process which is applied to a finished product. Even the smallest indie now tends to have some awareness of the increasingly fraught and competitive landscape for interactive entertainment, and some understanding that they're making a game with a particular audience in mind.

Marketing itself has changed significantly in the last decade, with an increasing shift towards rapid-fire social content and away from carefully crafted PR messages. Momentary impact seems to be everything, and that can often feel incompatible with the laborious, opaque, and

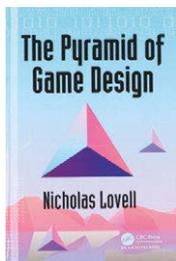
sometimes fairly tedious process of making a video game.

Here, I'll discuss how modern marketing methods and thinking can be a boon rather than a curse when it comes to game development. By working together and internalising some marketing concepts from the get-go, developers and their marketing counterparts can do a lot to help each other survive the brutal Content Apocalypse of our contemporary era.

Bear in mind that marketing doesn't just mean 'selling': it's about finding an audience, serving its needs, and beating its expectations. For a game to thrive, it needs to have a real impact on real people: in order to do that, it has to reach them and then leave a lasting impression. I'll explore the practical implications of this and give you a few ideas you can apply to your own projects.

ATTENTION AND RETENTION

Gaining and keeping an audience is the objective here. As well as being a good lens for marketing, it's also an excellent framework for design. In *The Pyramid of Game Design*, author Nicholas Lovell describes what he calls a 'retention layer': the component which stores progress and gives the player a reason to return to the core gameplay loop. World maps, planning screens, and even simple leaderboards can all function in this way,



▲ *The Pyramid of Game Design* is a worthwhile primer on how efforts to serve an audience can inform game design.

▼ The developers of *Billie Bust Up* use Patreon to support their work, and as a platform for reaching their most dedicated fans.





◀ *Doom* stood out among other titles of the time with its fast and furious actions, controversial satanic imagery, and adrenaline-fuelled, in-your-face stylings.

and their main job is to keep players playing. Sometimes referred to as a ‘metagame’, this is just one example of how a marketing concept can interface effectively with design.

GETTING NOTICED

Let’s start with attention. As every content marketer knows, you have a very brief period of time (often less than a couple of seconds) to gain attention and start to convey a message. A similar question presents itself within your game design: how can you hook the player?

In his book *The Advertised Mind*, Erik du Plessis talks about the relationship between attention, emotion, and long-term memory. As we create memories, they are tagged with emotions, often powerful and primal in nature: think excitement, joy, or fear. Du Plessis describes the “supervisory attentioning system” which is “monitoring the environment for cues to make you change the focus of your attention.” To trigger that change, we need to fire the “big emotions” that are readily linked to memory.

Traditionally, video games were aimed at creating a thrilling rush; at triggering a base reaction from the player. A title like the original *Doom* was so successful at the time because it evoked an unparalleled sense of speed and adrenaline-pumping threat. Its violence felt transgressive and shocking.

“Marketing doesn’t just mean ‘selling’: it’s about finding an audience”

At the other end of the spectrum, you have the ‘cuteness response’. Associated with young animals and babies, large round eyes, softness, rounded body shapes, and other cute factors, these can have a huge emotional impact on even the most jaded hardcore gamer.

As the audience for games has broadened and matured, we can now see a much wider range of emotions on show. Some types of simulation and city-building games play on our desire for ordered systems, safety, and control; survival titles reset our concerns to those of our ancestors: as long as your game packs an emotional punch, you can swing in any direction you might want to choose.

Sally Hogshead’s book *Fascinate* suggests attentional triggers that humans find irresistible, among them lust, mystique, threat, prestige, ➔

▼ Derek Thompson’s *Hit Makers* looks at the process of creating breakout hits. It’s useful when thinking about innovation and originality.



OBSERVE AND MEASURE

Making assumptions about your audience is a dangerous game – it’s best to base your suppositions on data and your own testing wherever possible. This is why it’s still a good idea to bring in members of your potential audience early, observe their play, and listen to their concerns. With modern video capture and streaming software, doing this is easier than ever before – you’ll learn a huge amount for both your marketing and development efforts simultaneously. Resist the temptation to explain away problems or lecture your players – if an aspect of the game turns them off or they don’t understand something, think about how you can make changes to alter or recontextualise within the game itself.

› *Minecraft* originated as a riff on Zach Barth's game *Infiniminer*, demonstrating how delivery mechanisms and presentation can play a more significant role in success than a game's base mechanics.



and vice. Emotions don't have to be simplistic to be powerful: new game genres or indie outliers often define their own emotional timbre; think of *Untitled Goose Game*'s pleasantly subversive cuteness or *Goat Simulator*'s free-wheeling mania.

VISUAL ACUITY

Your game's graphics needs to sell the emotion. In marketing terms, their job is to convey your value proposition: what feeling can this give me?

Once you've made it through the very early stages of prototyping gameplay and are starting to think about concept art, consider taking a step back to visualise a short scene containing a single emotional beat. How does that scene play on your audience's base instincts, as well as on their memory, in order to leave its mark? In pure visual terms, you'll need to think about contrasting elements: how can an eye-catching, surprising, shocking, awe-inspiringly different element stand out from the background?

"A game which is too radical in its newness can come across as confusing"

PURPLE COWS

Many game developers aspire to create something unique that will stand out from the crowd; similarly, marketing theory abounds with discussion of unique selling points and other efforts to define the mechanics of creating an outlier. Seth Godin wrote about the "purple cow": a product so remarkable that people just can't help but mention it to their friends. The process of conceiving a game is often about trying to build something that's never been seen before, but there are some complexities to this that are worth taking into account.

In *Hit Makers*, Derek Thompson discusses the need for both familiarity and novelty in any breakout success. We've seen how strong emotions are often linked to specific memories, so a game which is too radical in its newness can merely come across as confusing and alienating – it can't be anchored to anything concrete. The audience for games tends to form an opinion extremely quickly: if your game is in unfamiliar territory, they will often try to liken it to the closest thing they've seen before. This can have unforeseen consequences: a positive association could give you a boost but also create some false expectations.

Some designers tend to worry that their idea is too similar to other existing titles, that somebody else might 'get there first' or that certain genres are already fully saturated.

IT'S NOT THAT DEEP

It's still common for devs to assume that the depth of their game's story, or the richness of its mechanics, will do the job of gaining an audience's attention. This is often backwards thinking: unless that audience has a way of discovering the game visually, they'll never get to experience its intricacies. There are rare exceptions to this rule: games like *Dwarf Fortress* have largely gained traction through player stories and word of mouth – but in order to achieve this, your title will have to be a once-in-a-generation outlier.

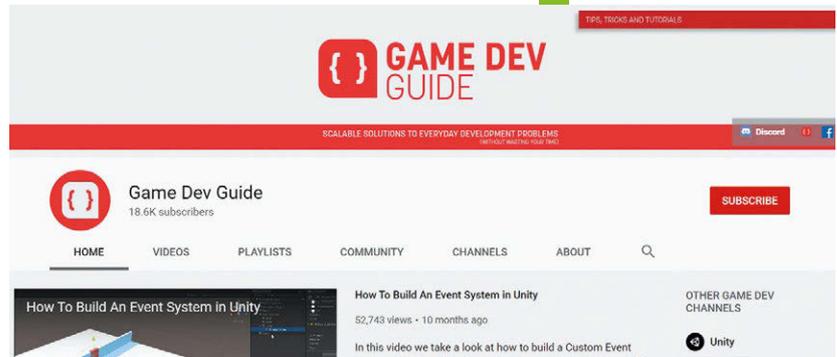
More often than not, these beliefs are false and can be paralyzing and unproductive: if your game is well-executed with a slight original twist in a popular genre, it can stand to be extremely successful. Many games which are thought of as extreme outliers, such as *Fortnite*, *League of Legends*, or arguably even *Minecraft*, owe more to their predecessors than they do to a magical lightning bolt of creative inspiration.

RETENTION

There's often a strong correlation between how much a game is played and how successful it is overall. This sounds fairly asinine, even necessarily true, but there's a bit more to it than that. If someone is able to invest significant time in a game, they're able to use it for the following functions:

- **Socialising** – this works even in a single-player context: the game becomes an interest that can be shared with others and used as a point of common ground.
- **Storytelling** – events in the game world can become compelling stories for others to experience, even if they don't play the game themselves.
- **Creativity and performance** – much of *Minecraft's* secondary success was due to the content players were able to create with it.

✓ *Factorio's* launch trailer shows the player's progression from a single basic unit to a vast system of interlocking facilities. It's a perfect encapsulation of the game.



✓ The Game Dev Guide YouTube channel helps indie developer Matt Gambell turn his experiences into bite-sized Unity tutorials.

• Competition and self-imposed challenge

– players often use games to test their own nerve, perseverance, or ability to achieve the seemingly impossible. Speedrunning is a great example of this.

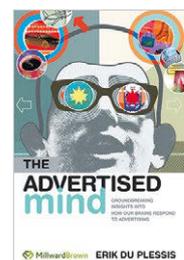
It would be easy enough to list other ways in which players experience a game and then extrapolate these out to different needs which are being met, but the key point here is to understand the long-term value of your game. Making sure that there is enough content to satisfy players has a dual marketing and development function.

Players who have these needs met over a long period of time will want to share their experiences with others; they will want to bring their friends into the game or brag about their achievements in public. They might want to purchase additional content, buy merchandise, or participate in fan communities. Making your game playable for a significant period of time →

SPACE TO BREATHE

The role of marketing is to define and serve an audience, whereas game developers are often producing work to satisfy a particular personal creative need. These don't have to be incompatible as long as there's an intelligent and productive dialogue. One way to handle this is to let marketing, and marketing thought, stay largely out of the way during the very first phases of prototyping, then start up discussion as soon as a rough concept emerges. Then, work can be done to define the audience and think about their expectations – maybe there are concepts from other similar games which could be useful, or features which might need to be included.

✓ Erik du Plessis's *The Advertised Mind* takes a look at the neuroscience of advertising. It's a little old now, but some of its core principles are still worth considering.





◀ Codebyfire's *The Colonists* was based on older city-building titles, but used a modern visual style and UI features to help it stand out.

DIAMONDS IN THE ROUGH

It can seem challenging to find the value in the day-to-day grind of game development, but taking the time to think about the concerns of others is a good route to this. Just as we discussed thinking about player needs, you can apply this mindset to a much wider audience.

Indie developers such as Jake Birkett (@GreyAlien) and publishers like Mike Rose (@RaveofRavendale) regularly post their analysis of Steam data on Twitter; others like Matt Gambell with his Game Dev Guide project (@GameDevGuideYT) focus on more development-centric content. Whatever your area of specialism, think about how to communicate it to others in that field, particularly those just starting out.

MARKET VALUE

Bringing together development and marketing thinking from the start of your project is the best way to create a healthy dialogue. Here are some ways you can keep the conversation going:

Always express value

If a feature doesn't benefit the player directly and have a material impact on their experience, it may not be necessary. A good test here is: Could you explain it in a sentence on a store page?

Who is it for?

What type of behaviour is this individual feature or entire game looking to facilitate? How can

friction be reduced to make that process as straightforward as possible?

Engagement over time

How are you engaging a new player, and how does your design reinforce and reiterate that engagement? Are you showing this progression in your marketing or is everything too flashy and front-loaded – players want deep, evolving experiences, so how is that being conveyed in trailers and GIFs? Think about the player's experience at different stages in their relationship with the game.

Where's the attention?

There's a tendency to focus on marketing channels that are easy and readily available, occasionally at the expense of ones which are more effective. Understanding your game's design, and where the audience for that design are likely to hang out, should point you in the right direction.

A reason for excellence

If your game is in a well-established category, you will need to execute its most salient elements to a high level. Use references and player stories to help you navigate this: for example, if your game has a building mechanic then how does this stack up against the titans of the genre? You don't need to focus solely on contemporary games, either: check out some classic titles as well. Are you doing the same things with the same degree of panache? 🗣️

RELATIONSHIP MANAGEMENT

Retention helps to build communities. If you're using Discord or similar, particularly in order to reinforce a community around your game before launch, ensuring you have depth in early builds can be a godsend for keeping everyone on the same page. Once you have enough content to drive attention, think about ways you can rapidly iterate on your metagame and secondary gameplay elements: perhaps you don't need every attack to be fully animated or every character to have unique art just yet? Once players get into your game, they'll want to stick with it for the reasons outlined above, particularly if there's enough scope for them to get their friends involved.



Source Code



- ▲ Loading from cassette took a while, but *Jetpac* was also available in cartridge format.
- ◀ The original game allowed two players to take turns playing and included a record of the highest score.

Code Jetpac's rocket building action



AUTHOR
MARK VANSTONE

Pick up parts of a spaceship, fuel it up, and take off in Mark's rendition of a ZX Spectrum classic

For ZX Spectrum owners, there was something special about waiting for a game to load, with the sound of zeros and ones screeching from the cassette tape player next to the computer. When the loading screen – an image of an astronaut and Ultimate Play the Game's logo – appeared, you knew the wait was going to be worthwhile. Created by brothers Chris and Tim Stamper in 1983, *Jetpac* was one of the first hits for their studio, Ultimate Play the Game. The game features the hapless astronaut Jetman, who must build and fuel a rocket from the parts dotted around the screen, all the while avoiding or shooting swarms of deadly aliens.

This month's code snippet will provide the mechanics of collecting the ship parts and fuel to get Jetman's spaceship to take off. We can use the in-built Pygame Zero Actor objects for all the screen elements and the Actor collision routines to deal with gravity

and picking up items. To start, we need to initialise our Actors. We'll need our Jetman, the ground, some platforms, the three parts of the rocket, some fire for the rocket engines, and a fuel container. The way each Actor behaves will be determined by a set of lists. We have a list for objects with gravity,

“Assemble a rocket, fill it with fuel, and lift off”

objects that are drawn each frame, a list of platforms, a list of collision objects, and the list of items that can be picked up.

Our `draw()` function is straightforward as it loops through the list of items in the draw list and then has a couple of conditional elements being drawn after. The `update()` function is where all the action happens: we check for keyboard input to move Jetman around, apply gravity to all the items on the gravity list, check for collisions with the platform list, pick up the next item if Jetman

is touching it, apply any thrust to Jetman, and move any items that Jetman is holding to move with him. When that's all done, we can check if refuelling levels have reached the point where Jetman can enter the rocket and blast off.

If you look at the helper functions `checkCollisions()` and `checkTouching()`, you'll see that they use different methods of collision detection, the first being checking for a collision with a specified point so we can detect collisions with the top or bottom of an actor, and the touching collision is a rectangle or bounding box collision, so that if the bounding box of two Actors intersect, a collision is registered. The other helper function `applyGravity()` makes everything on the gravity list fall downward until the base of the Actor hits something on the collide list.

So that's about it: assemble a rocket, fill it with fuel, and lift off. The only thing that needs adding is a load of pesky aliens and a way to zap them with a laser gun. ☺



Download
the code
from GitHub:
[wfmag.cc/
wfmag40](https://wfmag.cc/wfmag40)

Rocket building in Python

Here's Mark's *Jetpac* code snippet. To get it running on your system, you'll need to install Pygame Zero – you can find full instructions at wfmag.cc/pgzero.

```
import random
import time
t0 = time.clock()
jetman = Actor('jetman1', (400, 500))
ground = Actor('ground', (400, 550))
platform1 = Actor('platform1', (400, 350))
platform2 = Actor('platform2', (200, 200))
platform3 = Actor('platform3', (650, 200))
rocket1 = Actor('rocket1', (520, 500))
rocket2 = Actor('rocket2', (400, 300))
rocket3 = Actor('rocket3', (200, 150))
rocketFire = Actor('rocketfire', (521, 0))
fuel = Actor('fuel', (50, -50))
gravityList = [jetman, rocket1, rocket2, rocket3, fuel]
drawList = [rocket1, rocket2, rocket3, ground, platform1,
platform2, platform3, fuel]
platformList = [ground, platform1, platform2, platform3]
collideList = [rocket1, rocket2, rocket3]
pickupList = [rocket2, rocket3, fuel, 0, fuel, 0, fuel, 0, 0]
gravity = 1.5
jetman.thrust = jetman.holding = jetman.item = gameState =
fuelLevel = timeElapsed = 0
jetman.dir = "1"
def draw():
    global timeElapsed
    screen.clear()
    for i in range(0, len(drawList)):
        drawList[i].draw()
    if gameState == 0:
        jetman.draw()
        timeElapsed = int(time.clock() - t0)
    else:
        rocketFire.draw()
        screen.draw.text("MISSION ACCOMPLISHED", center =
(400, 300), owidth=0.5, ocolor=(255,255,255), color=(0,0,255),
fontsize=80)
        screen.draw.text("TIME:"+str(timeElapsed), center= (400, 20),
owidth=0.5, ocolor=(255,255,255), color=(255,0,0), fontsize=40)
def update():
    global gameState, fuelLevel
    burn = ""
    if gameState == 0:
        if keyboard.up:
            jetman.thrust = limit(jetman.thrust+0.3,0,5)
            burn = "f"
        if keyboard.left:
            jetman.dir = "1"
            jetman.x -= 1
        if keyboard.right:
            jetman.dir = "r"
            jetman.x += 1
    applyGravity()
```

```
coll =
checkCollisions(platformList, (jetman.x, jetman.y-32))
if coll == False:
    jetman.y -= jetman.thrust
if pickupList[jetman.item] != 0:
    if checkTouching(pickupList[jetman.item], jetman):
        jetman.holding = pickupList[jetman.item]
jetman.thrust = limit(jetman.thrust-0.1,0,5)
jetman.image = "jetman" + jetman.dir + burn
if jetman.holding != 0 :
    jetman.holding.pos = jetman.pos
    if jetman.holding.x == rocket1.x and jetman.
holding.y < 440:
        jetman.holding = 0
        jetman.item += 1
    if fuel.x == rocket1.x and fuel.y+16 > rocket3.y-32 and
jetman.holding == 0:
        fuelLevel += 1
    if fuelLevel < 4:
        jetman.item += 1
    if fuelLevel < 3 :
        fuel.pos = (random.randint(50, 750), -50)
    else:
        fuel.pos = (0, 650)
        gravityList[fuelLevel].image =
"rocket"+str(fuelLevel)+"f"
    if fuelLevel == 3 and jetman.x == rocket1.x and
jetman.y > rocket3.y:
        gameState = 1
    if gameState == 1:
        rocket1.y -= 1
        rocket2.y -= 1
        rocket3.y -= 1
        rocketFire.y = rocket1.y + 50
def limit(n, minn, maxx):
    return max(min(maxn, n), minn)
def checkCollisions(cList, point):
    for i in range(0, len(cList)):
        if cList[i].collidepoint(point):
            return True
    return False
def checkTouching(a1,a2):
    if a1.colliderect(a2): return True
    return False
def applyGravity():
    for i in range(0, len(gravityList)):
        if
checkCollisions(platformList, (gravityList[i].x, gravityList[i].
y+(gravityList[i].height/2))) == False and
checkCollisions(collideList, (gravityList[i].x, gravityList[i].
y+(gravityList[i].height/2))) == False:
            gravityList[i].y += gravity
```

Attract Mode

Gallery



GAME
Cygni

ARTIST
Nareg Kalenderian

RELEASE
2021

WEBSITE
cygnigame.com

READ
MORE
turn to
page 12

Cygni

Cygni: All Guns Blazing is “a twin-stick vertical scrolling shooter hybrid with a cinematic flare”, and honestly the ‘flare’ part could be intentional – this game is a delight on the visual cortex. With Nareg Kalenderian, co-founder of the game’s developer KeelWorks, a former Pixar staffer himself, it’s of little surprise this sci-fi blaster is already looking bright and mighty. You can find out more about the game in our preview on page 12, but here we’ll just leave it to this shot to do a bit of talking – an in-game grab from a cutscene, all rendered in-engine.



THE MEANING OF A MASSACRE

How Joseph DeLappe sought to tackle America's paralysis over gun violence by turning *Grand Theft Auto* into protest art

WRITTEN BY EDWIN EVANS-THIRLWELL

H

ow many ways can a person get shot in *Grand Theft Auto V*? Rockstar's best-selling game certainly packs variety on this front, blending wince-inducing

motion capture with real-time physics, but its open-world action framework teaches you to skim the details. Whether you're capping gang members on Strawberry Avenue or gunning down cops on the freeway, one death is much like another. Joseph DeLappe's *Elegy* mod, by contrast, forces you to linger. Here, a man rolls on the sidewalk, curled around a stomach wound. There, a woman is punted sideways by a shotgun blast. The camera retreats slowly, hitching a little when somebody runs behind it, curses and screams permeating the opening bars of Irving Berlin's *God Bless America*.

Freed from the frenzy of actually playing *GTA*, I become hypnotised by the moments when the illusion fails, the sense of mortal injury strangely amplified by the game's inability to do it justice. Joggers collapse in agony only to pop back to their feet, as though rewinding the scene. Animation suites are shared between characters, so that sunbathers in bikinis gallop about like SWAT officers, rifles tipped across their bodies. Survivors stroll through puddles of blood without leaving footprints, kicking corpses aside. And still the camera pulls back, unable to look away.

The unreality of video game gunfights is sharpened to a point in *Elegy*. Streamed on Twitch from 4 July 2018 to 4 July 2019, DeLappe's mod was an automated massacre simulator fuelled by real-world statistics. Every day, the mod would re-enact the year's running total of US lives

lost to gun homicides, as recorded by the Gun Violence Archive. If *Elegy*'s carnage seems artificial and absurd, this only reflects the absurdity of the subject matter. According to a 2010 study, the USA's gun murder rates are over 25 times higher than the average for other high-income nations such as the UK and Canada. As of June 2018, US citizens owned 393 million guns – around ten times as many as the US military.

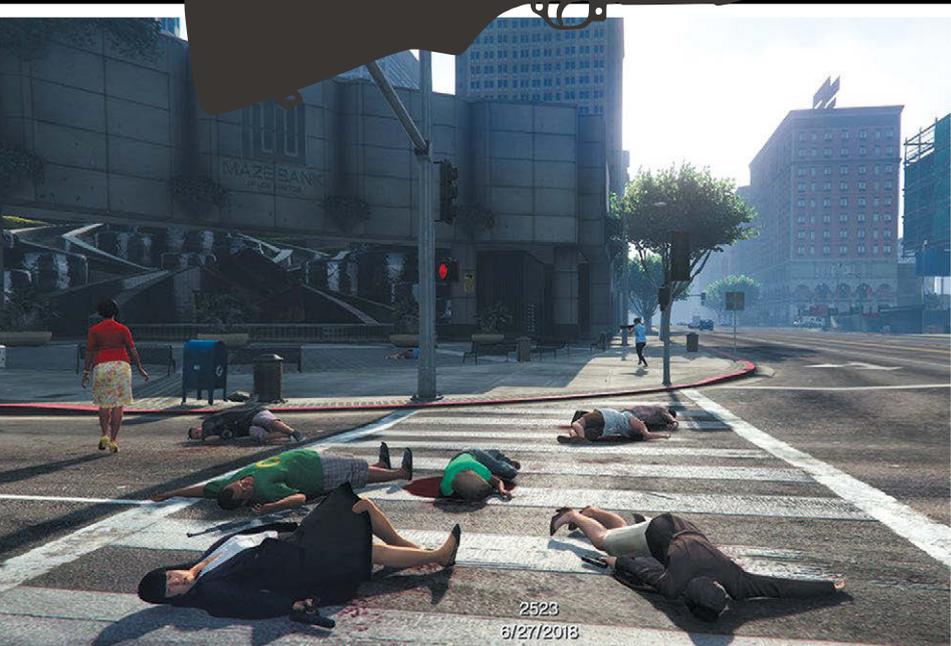
Elegy was designed to ridicule the scapegoating of video games for gun deaths, while making America's gun problem feel immediate and overwhelming, DeLappe tells me. It is a despairing response to a culture of obfuscation and denial. "I think it's probably the darkest thing I've ever made," he says. "But perhaps in that darkness there's a hint of ➔



Interface

The meaning of a massacre





▲ *Elegy* being exhibited at Abertay University in Dundee. "It definitely didn't get the kind of hostile, threatening reactions I got for *dead-in-iraq*," DeLappe notes.

critical reflection. It does seem rather hopeless, but [I thought] if you could take those nearly 15,000 Americans a year who are killed in gun homicides, and literally put it in front of people, maybe it can [help to] change some of the thinking around it."

HOLDING UP A MIRROR

Exactly how informed are regular Americans about gun violence? "Not at all," says D. Brian Burghart, founder and operator of Fatal Encounters, a small but determined activist group that gathers data on police killings. "I think we're almost completely ignorant. The government and politicians have worked very hard to stop Americans being very well-informed on this topic."

Much of this ignorance can be attributed to the Dickey Amendment, a rider in a 1996 congressional spending bill that forbade federal agencies from using government-appropriated funds "to advocate or promote gun control." In practice, this has amounted to a tacit ban on any federal research into gun violence – an opportunity seized upon by pro-gun organisations like the National Rifle Association, which spends millions of dollars each year lobbying against regulation.

One tool US journalists have to compel the disclosure of data on gun violence is the Freedom of Information Act, but in Burghart's experience, the FOIA is "pretty toothless." The act is subject to a number of exceptions, many extremely broad;

DOES ONLINE PROTEST WORK?

Debate goes on about how effective online protest is versus physical protest. On the one hand, notes Code Liberation co-founder Phoenix Perry, blocking a company's online operations may do more lasting damage. "Standing outside a bank with a sign does very little. Taking the bank's servers offline for a day? That they can't ignore." Perry speaks from experience: she was part of the 1999–2000 Etoy protest, in which artists launched denial-of-service attacks against a toy company over a trademark infringement suit. But she adds that it's "a constant battle" to stay ahead of changing cybercrime laws, and that events in meatspace are vital for creating community.



the government is allowed, for example, to withhold information that "could reasonably be expected to interfere with law enforcement proceedings." FOIA requests, Burghart argues on the FE website, are just "a game that our 'transparent' government plays with legitimate news reporters on a daily basis. The strategy is to put things off because most editors – not reporters – will lose patience long before a request is satisfied and move the reporter onto something else."

If journalists still struggle to obtain the details, the growth of the internet over the past two decades has made an enormous difference. "If you wanted the information, say, in 1999, you couldn't get it," Burghart tells me over the phone. "It just didn't exist in a way where you could analyse it as a regular person." Data is only useful, however, if people are prepared to make use of it, and Burghart feels that Americans are too polarised on the subject to act upon the figures in circulation. "I don't see journalists or the government reaching out to actually use that data and inform the public. People are either pro- or anti-Second Amendment, and there's just not a lot of room for discussion and learning once your mind is made up."

Perhaps the challenge activists face, then, isn't just crunching the numbers but presenting them in a way that overcomes preconceptions. Besides tracking police shootings, Burghart has experimented with 'data storytelling' apps such as Tableau, and collaborated with a data visualisation startup, Silk, to produce inventive renderings of the Fatal Encounters database. As with visual metaphors for the relative wealth of billionaires like Michael Bloomberg, artworks like *Elegy* are a means of making research accessible

to those who lack the insight or inclination to untangle the implications of the data itself. "If you see it, you can kind of understand."

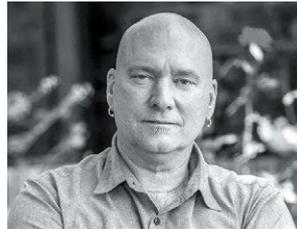
REMEMBERING THE FALLEN

Elegy isn't DeLappe's first piece about violence in America. A San Francisco-born artist and academic, now professor of game research at Abertay University in Dundee, he has built a career around turning video games into protest sites. DeLappe's other projects include *dead-in-iraq*, a digital memorial which saw him typing the names of Iraq War casualties into the military-funded shooter *America's Army*. While performing this vigil, he became interested in a common feature of more combat-driven games – the disappearing of corpses to free up memory. "Sometimes they sort of sink into the ground," he says, "or eventually those bodies all vanish. I thought that was kind of curious." Moving to Dundee got DeLappe thinking about *Grand Theft Auto* in particular – it is, after all, where the series was invented by DMA Design back in 1997.

Following a 2018 mass shooting at the Marjory Stoneman Douglas High School in Parkland, Florida, the university was contacted by a reporter looking for comment on Donald Trump's suggestion that video games were to blame. DeLappe was incredulous – as he sums up, "they want to control video games, but they won't control the guns: it's backwards, it's ridiculous" – but he was also inspired. "Part of my thinking was: 'OK, if you really think these games are responsible, let's see what that looks like. Let's actually visualise that in some way through the game.'"

Not a coder himself, DeLappe sought out collaborators at the Biome Collective, a gaming, arts, and technology co-working community with whom he'd previously worked on *Killbox*, a split screen commentary on the psychological effects of drone warfare. They began to play around with representations of gun statistics in *GTA* using existing modding tools. "In some ways, finding out what we could do decided what we did," says DeLappe.

Creating *Elegy* meant engaging with the disparities of information and understanding described by Burghart, not always successfully.



▲ D. Brian Burghart is a former journalism instructor and editor of the Reno News & Review. He's a part-time researcher at the University of South California.



▲ Joseph DeLappe's video game "interventions" are many and varied. His more light-hearted works include re-enacting an episode of *Friends* inside *Quake III Arena*.

"DeLappe has built a career around turning video games into protest sites"

AGAINST DISPOSABLE WOMEN

Australian visual artist Georgie Roxby Smith has worked extensively with video games, from *Call of Duty* to *Skyrim*. Her exhibition *Lara Croft, Domestic Goddess* "shows the familiar icon for violent femme fatale bad-assery in the throes of orgasmic housekeeping", Lara grunting and screaming as she operates kitchen appliances. *GTA5*-based artwork *99 Problems [WASTED]* is even more harrowing than *Elegy*. It consists of an unclothed avatar shooting herself in the head repeatedly as disinterested bystanders look on, "a dualistic moment of empowerment and defeat" that highlights the sidelining and disposability of the game's female characters.

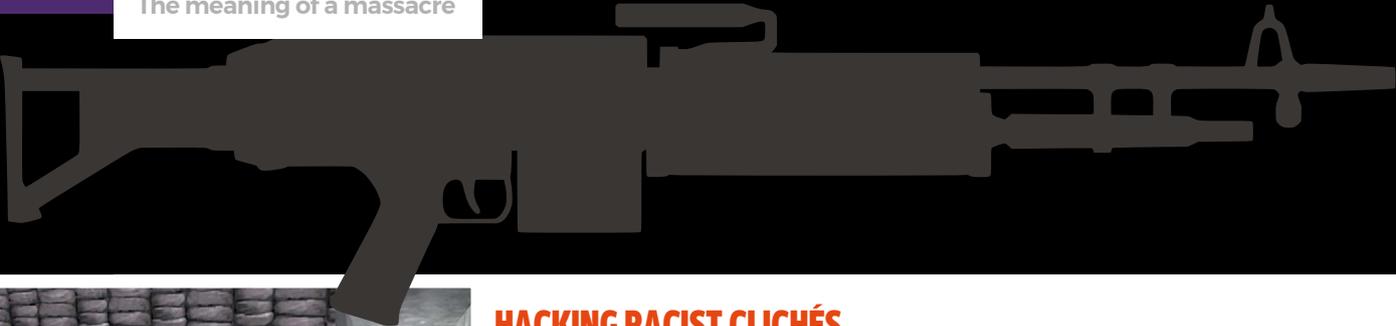
DeLappe and Biome Collective were able to represent the broad types of firearms used in each homicide, for example. "I can't remember the exact percentage but it's somewhere between 10 and 20 percent are rifles and long guns, assault weapons," says DeLappe. But they were unable to recreate the races and genders of perpetrators and victims, partly due to the game's own technical limitations, and partly due to difficulty obtaining the data. "In the end, we went with what the game would provide."

ELEGY'S LIMITATIONS

This seems an enormous shortcoming, given that – lack of government-funded research notwithstanding – there is considerable evidence that US civilian gun violence is linked to racism and misogyny. One October 2013 study published in the journal PLOS ONE uncovered a "significant" correlation among white US citizens between having a gun in the house, opposing gun control, and expressing "symbolic racism" – an indirect and often unconscious form of anti-black prejudice. According to another June 2019 Mother Jones study of 22 mass shootings, 50% of the perpetrators specifically targeted women, and 32% had a history of stalking and harassment. In general, white men are the US demographic most likely to own guns.

In its failure to acknowledge race and gender, *Elegy* reveals the limitations of awareness on the issue, limitations possibly preserved in the social make-up of *GTA's* Los Santos, which is →





HACKING RACIST CLICHÉS

The artist Wafaa Bilal fled his birth country Iraq in 1991 after refusing to take part in Saddam Hussein's invasion of Kuwait. His pieces seek to create dialogue between Americans and the victims of their wars while exposing atrocities and tackling stereotypes. In *The Night of Bush Capturing: A Virtual Jihadi* is a hack of the propagandist game *Quest for Saddam* which switches the American soldier protagonist for a suicide bomber. "This artwork is meant to bring attention to the vulnerability of Iraqi civilians, to the travesties of the current war, and to expose racist generalisations and profiling," Bilal writes.

based on Los Angeles. Burghart notes that while the influence of race, specifically, on America's gun culture is undeniable, it is hard to articulate, thanks partly to attempts to quash prejudicial reporting that have morphed into a kind of blindness. "In the United States, it has long been an ethical axiom that you don't report race in stories," he says. "That came out of the civil rights movement in the 1960s and 1970s, when reporters were only recording race if it tended to support the police – if it played on people's prejudices, let's put it that way."

The issue has been further clouded by how gun violence is depicted in entertainment media. The PLOS ONE study notes that buying a gun for self-protection risks being a kind of anti-blackness by default, because black people are "over-represented" in portrayals of violent crime. If artworks like *GTA V* aren't a cause of bloodshed, Burghart comments, they may play a part in perpetuating the assumptions and stereotypes that make certain people easier to harm. "It's almost like in the United States, reality came to follow art." *GTA V*'s handling of race, specifically, relies on damaging movie clichés such as the figure of the African-American youth unable to escape a life of crime and brutality. It often satirises these ideas, of course, but it never bothers to seriously deconstruct them.

Elegy's violence takes a few additional cues from the movies. The mod used a forward-tracking shot to begin with, but DeLappe found that an endless zoom-out cultivated a more appropriate feeling of suspense. "It's kind of this constant ending shot in a film, that kind of departure," he says. "I've always been fascinated



^ Investigating gun death takes resilience. "I guess it was lucky that I fell into this job," Burghart says, "because it doesn't seem to affect me too negatively."

"That ambiguity is provocative, obliging you to wrestle with the subject"

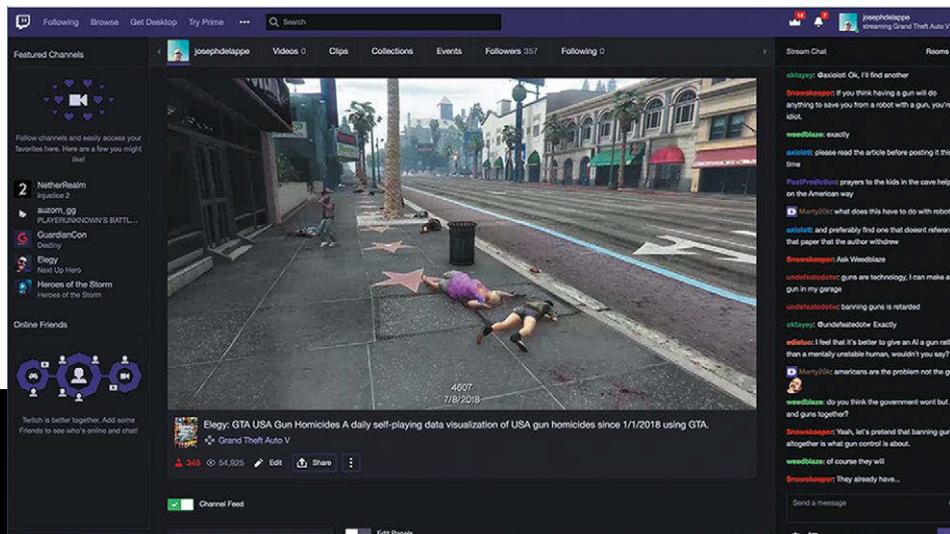
^ "I was relieved when it was over but I missed it too," DeLappe says of *Elegy*. "There's really something fascinating about such intense content going on 24/7."

by the closing shots of films. I remember growing up in an age before cable television and flicking channels and catching the last 30 seconds of a film. There's just something about it. You always know when a film's over – there's something in the motion, the pulling away."

LEARNING FROM THE BALL GAME

The sardonic choice of musical accompaniment, meanwhile, owes something to other games, if not video games. In the aftermath of the World Trade Center attacks, *God Bless America* became a staple of Major League Baseball matches during the legendary seventh-inning stretch, replacing or following the traditional *Take Me Out to the Ball Game*. "After 9/11, they started asking people to remain standing for a rendition of *God Bless America*," DeLappe says. "You have this double-whammy of patriotic songs." The additional irony here is that the composer, Irving Berlin, wasn't born in America – he migrated to the US from Russia with his family at the age of five. "He probably wouldn't be allowed into the country today," says DeLappe.

If *Elegy* took inspiration primarily from older media, it was shaped on the fly by the culture and platform dynamics of Twitch. Operating it transformed DeLappe into a livestream junkie, high on his own supply. "It would crash three or four times a day, so I'd be resetting it on my phone, from my PC. It inhabited my life, my consciousness – I couldn't really work on other things." He was often drawn into arguments with viewers about *Elegy's* message. "Mostly, there were gamers being defensive about gaming, [claiming] that I was basically magnifying the





problem of people equating games with real-world violence. I had some back and forth with some of them. Like, really, come on, think about this. It's absurd – I'm trying to point out the fallacy of that argument, by putting something real into this pretend world that you feel is somehow threatened. But also making the point that, dude, real people are dying – that's the bigger issue."

DeLappe feels these muddled responses are, in a way, evidence of *Elegy's* success. The artwork is intensely unresolved, its preference for ironic framing leaving the viewer grasping for interpretations. It conjures up several kinds of disquiet: on the one hand, unease at the conflation of rickety NPCs with real bodies (photorealistic games such as *GTA V* are often faulted for straying into the uncanny valley – in *Elegy*, doing so is the point). On the other, the paralysis induced by an ending shot that never quite ends.

But that ambiguity is of course provocative, obliging you to wrestle with the subject rather than bouncing off it, as you might if the underlying data was presented more straightforwardly. "I think [*Elegy*]'s probably a bit of a confusing piece if you just came across it, which is fine," DeLappe says. "That means you've got to figure it out." In denying you the interaction games are expected to provide, *Elegy* challenges you to decide exactly how helpless or how apathetic you feel before a disaster that seems self-sustaining. This might extend to going beyond the mod's own omissions, such as its inability to show the correlation between gun violence, race, and gender.

CITIZEN JOURNALISM

This invitation to act upon – rather than consuming – the data echoes what Burghart regards as the key to changing the debate around guns: putting accessible data presentation tools into the hands of ordinary people, so that they can continue the work of analysis and dissemination. "Sometime in the near future, the ability to make visualisations out of complex data will be something that average people can do, without a steep learning curve," he says. It's worth remembering here the myriad artistic and quasi-educational uses to which *GTA V* has been put by other modders and more adventurous players.



▲ Students being escorted to safety during the mass shooting at Marjory Stoneman Douglas High School in Florida, 2018. "It brought gun issues into focus," says DeLappe.

ADVOCACY IN AZEROTH

Designer and academic Angela Washko has spent hours investigating both the prejudices and forgotten corners of *World of Warcraft*. In 2012, she founded The Council on Gender Sensitivity and Behavioral Awareness, a kind of free-roaming, one-woman soapbox designed to facilitate healthy player discussions around sexism and feminism. The World of Warcraft Psychogeographical Association, meanwhile, sought to rediscover areas of Azeroth left empty due to certain updates. In 2018, Washko organised /misplay, a naked troll and orc parade, as a raucous way of rethinking "what types of actions could take place in the epic game landscape."



These include pacifist mods such as R3QQ's *Family Friendly Free Roaming*, and communities that role-play policing by consent.

If projects like *Elegy* offer the hope of breaking the deadlock on gun violence, Burghart is sceptical that any individual protest artwork can spark meaningful change. After nine years of research for *Fatal Encounters* – during which he has investigated around 26,700 deaths – he's not sure much more can be said about gun violence that isn't already painfully apparent. "If these events in Las Vegas or Newtown, these massive shootings, the Pulse nightclub – if those aren't enough of a trigger to get people to go out and do a little research, I don't know what would be. I seriously don't know what could happen that would make them go do that."

There's some light on the horizon, however. In the wake of the Parkland shooting, Congress passed a provision clarifying that the Dickey Amendment did not outright forbid research into the causes of gun violence. In December last year, representatives voted to approve funding for the first time in decades. The sum, a token \$25 million, was half what House Democrats had asked for, but it sets a precedent for more ambitious measures.

DeLappe is similarly undecided about *Elegy's* legacy. Certainly, his discussions with *GTA* players haven't given him much hope. "I'm sure there are certain artworks that have changed people – books, films, poetry, whatever – but it's not like Donald Trump's going to watch my piece and say, 'Oh, we should ban all these weapons.' It just doesn't work that way." He notes, however, that cultural adjustments of that magnitude are hard to see coming. "You just don't know when you'll reach that tipping point." The key, as *Elegy* suggests, is not to look away. 🗨



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Interactive

Demaking Bubble Bobble

Programmer Paul Hammond tells us how he squeezed the classic Bubble Bobble onto PICO-8

When Taito designer Fukio Mitsuji first started designing his co-op platformer *Bubble Bobble* back in the mid-eighties, he almost certainly didn't

imagine that it would still be played and fondly remembered over 30 years later. And one thing he definitely couldn't have predicted is that, decades in the future, someone would sit down and remake the game in PICO-8 – and yet that's exactly what New Zealand's Paul Hammond did earlier in 2020.

PICO-8 is, in case you didn't read our feature in issue 12, Lexaloffle's 'fantasy console' and development environment designed to recreate the feeling of using an 8-bit system from the 1980s. With its 128×128 pixel display, limited colour palette, and 32kB of memory, PICO-8 has become a popular venue for game designers who enjoy the challenge of working within its confines. And squishing *Bubble Bobble* – a 100-level game with dozens of enemies and items – into PICO-8 was a challenge Hammond, a programmer in the financial sector, was eager to take up. "I drew a sprite one lunch-hour at work and liked it," he says. "Nothing more, nothing less. Once I decided to actually make the game, though, I did realise it would be pushing the limitations of PICO-8 – size-wise, anyway."

Like many other gamers of his generation, Hammond has fond childhood memories of *Bubble Bobble*. He first encountered a conversion of the game on the Commodore 64 in the mid-eighties, and then again a decade later on a PC. "It was in 1996, and my (now-) wife and I rented a small flat together in south London. Too cold to do anything else other than sit in front of the gas heater playing *Bubble Bobble* while keeping one eye on the screen and the other on the carbon monoxide detector on the wall!"

BOBBLE HAT

One of the reasons why *Bubble Bobble* ported so well to home computers and consoles was because of its clean, focused design: one or two players completed stages by jumping around platforms, spitting out bubbles to capture enemies, before headbutting said bubbles to burst them. The game's lack of scrolling and comparatively simple mechanics made it a viable candidate for computers like the C64 and ZX Spectrum, though it's telling that most home conversions were generally forced to leave a few features out in the process. This makes Hammond's port all the more impressive; he's managed to fit the game's two-player co-op and 90 of the original arcade game's 100

Are you a solo developer working on a game you want to share with Wireframe? If you'd like to have your project featured in these pages, get in touch with us at wfmag.cc/hello

▼ To create his *Bubble Bobble* demake, all Hammond needed was a copy of PICO-8, Notepad++, and Paint.NET.





^ "I'm highly graphically challenged, but was really pleased with the results," Hammond says of his dinky sprites.



^ To create the stages, Hammond used the utility Batch-A-Bobble to view the arcade ROM's original layouts, and added a few designs from the NES version.



^ "I would have loved to add in the shifty look the enemies have before they jump," Hammond confides, "but knew I had to conserve space."



levels into a single PICO-8 'cartridge', though a few elements – secret rooms and a couple of power-up items – had to be left out. "It really was a project of compromises," Hammond says. "I managed to add most of the features I wanted, but some I had to leave out are potions that fill the screen with collectables and massive lightning bolts. I didn't even know about the secret rooms until I started researching, so not adding those wasn't a problem."

Those omissions aside, Hammond's PICO-8 *Bubble Bobble* looks and feels remarkably close to the original: the bright and colourful levels follow the layouts of the arcade game where the resolution allows, and the way the bubbles gently bounce and float around the screen feels pleasingly authentic – and, just like the original game, it's possible for the player to bounce on bubbles by holding down the jump button. "I got lucky in that my first attempt looked pretty good and included the 'jostling' effect," Hammond says of his demake's bubble behaviours. "Following the air-flows was tricky since I wanted to keep my level definitions small by horizontally mirroring the levels where possible. If you look at the arcade definitions, they tweak the airflows

"Once I decided to actually make the game, I did realise it would be pushing the limitations of PICO-8"

depending on which direction the bubbles are moving. I had to work around that where possible. Adding in bouncing on the bubble was actually easier than I thought, although a day before release, I discovered a bug that made them randomly pop if you had the fast shoes power-up."

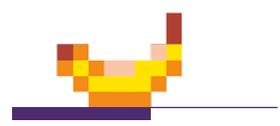
SOAP OPERA

The project hasn't been entirely without its setbacks, as you might expect – getting the collision detection just right was a particular challenge, Hammond tells us – and simply getting all those 90 stages to fit required a few clever programming tricks. "To start with, I used the pseudo object-oriented programming style I'd used on my other projects but halfway through, had to ditch that and refactor my code

to make it smaller. In the end, to free up more tokens, I had to produce a single string representing all 90 levels and chop it up. This used less

than half as many tokens as having an array with 90 entries. Oh, and I also wrote a code minimiser one weekend so that I could keep all my comments and long variable names intact. It took the compressed size down from around 150% to just below 100%."

The result of weeks of sprite drawing, programming, and compression? A charmingly tiny homage to an arcade classic that you can play right now – head to wfmag.cc/bubbob to try it for yourself. 🎮



BEST BUBBLE

Bubble Bobble was ported to just about every system imaginable in the eighties and nineties, and most of them made a commendable attempt at replicating the original game. Our favourite conversion from the era, though, has to be the Sega Master System version. Released in 1987, the adaptation is not only faithful to the arcade – it includes most of the secret areas that other home versions left out – but it also includes an extra 100 levels, new items, and an alternate ending. It's arguably the definitive 8-bit *Bubble Bobble*.





Interactive

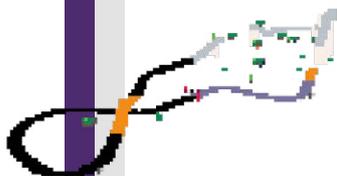
Stunt car racing in PICO-8

Continuing the PICO-8 theme, developer Tom Mulgrew tells us how he made the arcade racers *Loose Gravel* and *Ramps*

If the *Bubble Bobble* demake on page 78 left you hankering for more games that push PICO-8's limits, then let us introduce you to Tom Mulgrew, who's managed to create a series of startlingly quick arcade racers on the fantasy console. Like the *Bubble Bobble* demake's Paul Hammond, Mulgrew is a New Zealander who took to PICO-8 as a hobby. "Once you start playing with the integrated editors and making simple little games," Mulgrew tells us, "it's very easy to get drawn in. The limitations are actually a strong point, keeping the scope from growing out of hand, and encouraging you to just dive in and make something."

Despite those limitations, PICO-8 is surprisingly adept at running a pseudo-3D sprite-scaling effect akin to Sega's classic coin-ops like *OutRun* and *Power Drift*. It was games like these that Mulgrew had in mind when he made *Loose Gravel* – a simple yet effective racing game that runs at an impressive pace. There's "a dissonance," Mulgrew says, between PICO-8's low-resolution exterior and the speed at which it can move sprites around. "Its actual performance is still several factors faster than the old consoles it resembles," he explains, "and capable of some quite sophisticated rendering."

Sprite scaling may be an obsolete technique nowadays ("When even your \$50 phone has 3D accelerator hardware, pseudo-3D can feel a bit irrelevant," Mulgrew notes), but as he began developing *Loose Gravel*, he started keeping a log of his progress on Twitter, and found that his followers immediately responded to his miniature racer. "PICO-8 is definitely a 2D platform, so it was only a matter of time before I started wondering whether it could do this type of game," Mulgrew says. "I realised I could use the animated GIF feature to create a visual diary in a Twitter thread, and that was it, I had to give it a try. Once I had something working, I was surprised by the positive feedback it generated. A lot of people really respond to this style of game."



> *Loose Gravel's* rendering algorithm was based on how the ZX Spectrum version of *Chase H.Q.* implemented its sprite scaling, Mulgrew tells us.





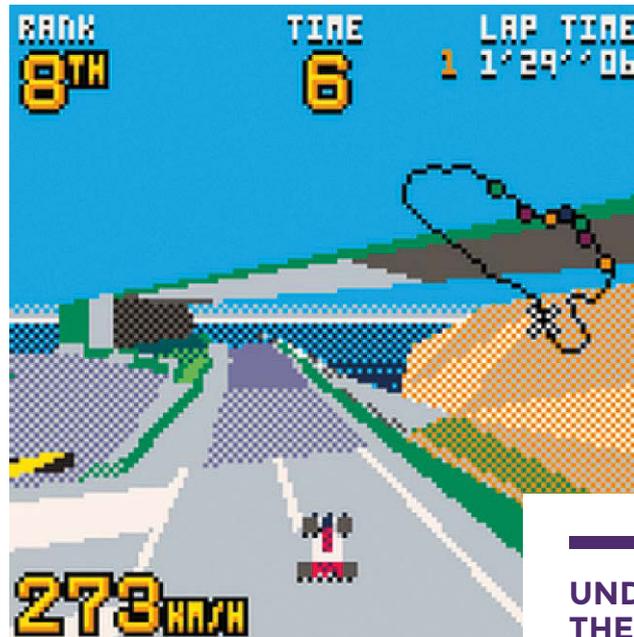
PLAYING WITH POWER

Mulgrew's next experiment with PICO-8 sprite scaling is even more striking. Called *Ramps*, it's loosely based on Geoff Crammond's 1989 racing game *Stunt Car Racer*, which stood out from the crowd with its rollercoaster-like tracks filled with steep climbs and death-defying jumps. "*Ramps* was originally a test to see if PICO-8 could render a full 3D track like *Power Drift* in the arcades," Mulgrew says. "And when I first got it up and running I was a little surprised, given that it was rotating, projecting, and rendering about 1000 scaled billboard sprites 30 times per second, all driven by unoptimised Lua script."

Mulgrew's work doesn't begin and end with making diverting PICO-8 racers, either; in late 2019, he began a series of tutorials that showed other PICO-8 users how to make a sprite-scaling drive-'em-up of their own – you can find them at wfmag.cc/pico-race. "With *Loose Gravel*, I found a lot of people respond to pseudo-3D similarly, but there seemed to be a perception that because it was 3D so it must some magic voodoo," says Mulgrew. "Which is a shame, because it really is the simplest form of 3D possible to implement – all you need to learn is one simple 3D projection equation, and you can unlock a whole new genre of games. So I wanted to write up the basic algorithm to show that it's not necessarily as complicated and out of reach as it may appear."

KING TUT

These tutorials are all part and parcel of a platform with a lively community of enthusiasts that share one another's work and exchange advice. Says Mulgrew, "There was



◀ Mulgrew rightly points at Frederic Souchu's *Virtua Racer* demake as another example of what PICO-8 can do.

a point where the rendering code was having trouble scaling up to larger tracks, and it took a while to find the right approach to get the performance I was hoping for. But I was surprised and encouraged by how many people from the PICO-8 community came forward to offer support and advice at this point. Frederic Souchu deserves specific mention – he's done some amazing things with PICO-8 (*Virtua Racing*, anyone?) – and even went as far as to dive into the *Ramps* code and optimise some inner loops."

While there are aspects of PICO-8 that make it a little intimidating for complete newcomers – learning the Lua language that underpins it is one hurdle – the platform's compact size and friendly community make it a worthwhile starting point for budding game developers. Which led us to our last question:

with New Zealand-born developer Nick Walton making his *Pokémon* homage, *Notemon*, (see issue 7), Hammond with his *Bubble Bobble* demake, and Mulgrew with his racing games, does this mean there's a chapter of the PICO-8 community down under? Says Mulgrew: "I wasn't aware of this, actually – although I don't get out much these days! Perhaps there's something about PICO-8 that appeals to New Zealanders. Incidentally, *Bubble Bobble* on the PICO-8 is fantastic. Everyone should go play it now."

You can play *Ramps* for yourself right now at wfmag.cc/ramps. 🎮

UNDER THE HOOD

"Internally, the race track is made up of a sequence of small, straight 'segments', each with a 3D start and end position and angles describing the direction and gradient of the racetrack," Mulgrew explains. "So the physics code must first find the segment (or segments) that the car is close to, and might be colliding with. Then the trick is to convert the car's position and velocity into the segment's coordinate space. In this space, the x-coordinate is the car's horizontal position relative to the road, while the y-coordinate is how far above/below the surface of the road they are. Transforming coordinates into this space requires a bit of understanding about how to build and apply basis matrices (and their inverses), so there's a bit of trigonometry involved."



▲ PICO-8 "is quite well suited to sprite-scaled pseudo-3D," Mulgrew says. *Loose Gravel* is certainly proof of this.

Online Diary

GITTIN' GUD

Coming to the realisation that online shooters are just bewildering. This month: Valorant

WRITTEN BY IAN 'AAAAND I'M DEAD' DRANSFIELD



▲ Why yes, I did include this image as an ego boost.

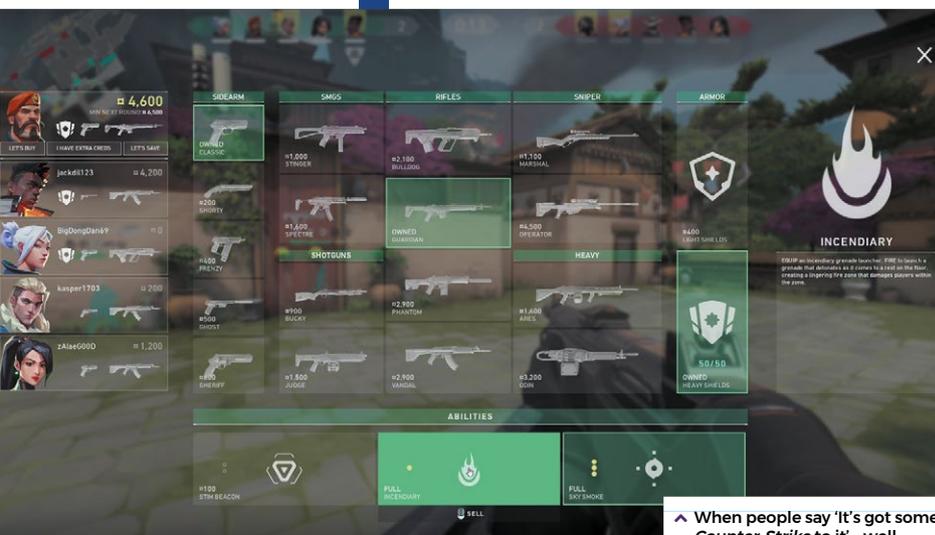
To think last month's initial effort was bad seems so awfully quaint now, given my première pop at Riot's latest online-'em-up *Valorant* saw a first run lasting a genuine, actual, I'm-not-making-this-up *six seconds*. I wish this was a lie.

But don't fret, dear reader, my attempts didn't end there. I am, if nothing else, committed to this journaling of my failures. Much as the swearing increased in volume significantly enough to spook the dog in that first batch of matches, the tide did shift to the positive. *Valorant* takes some getting used to, especially if you've been out of the online mix for a while (hello!), but what lies

beneath in this free-to-play 5v5 FPS is a solid, fun little romp. It's a romp that's way too hard at times, sure, and if you're of low-to-middling ability as I am, your mileage will very much vary. But the mechanics in *Valorant* can come together to make something special. It's a mash-up of *Counter-Strike*, *Overwatch*, *League of Legends*, and plenty of other online titles whether shooters or no. And that's not to say it takes vague inspiration from these games: you start rounds with cash and spare time to buy weapons and armour from an on-screen menu. It basically is *Counter-Strike* at this point, but with a different colour scheme. *Valorant* takes inspiration.

What it led to in my few days playing the game was a series of highs and lows, along with a surprising realisation – but I'll get to that. The lows came in thick and fast after that initial six-second death, with a feeling I had been thrown in at the deep end and was surrounded by newbie-seeking sharks and old Second World War mines. Even after the opening tutorial to get to grips with the basics, I was... unprepared, let's say.

Valorant relies on a few core aspects – a few key factors you need to bear in mind to get the most from it. First up, it's a team-based game. You're in a squad of five, and matches won't even start without a full complement on each side. Because teamwork is important. Go out on your own to explore, like muggins here, and you'll end up with yet another bullet in the face. Stick with the others who at least look like they know what they're doing, though, and your lifespan increases exponentially – seven seconds, 20, a whole minute.



▲ When people say 'it's got some *Counter-Strike* to it'... well



^ Your powers might seem useless at first, but you soon realise what can be done with a simple smoke-screen.



^ Genuinely, six seconds in my first game.

Similarly, the time between learning 'not using your hero's unique powers is dumb' and 'actually using them is smart' improved my chances of surviving manyfold. While I may have lobbed the odd disorientation grenade to the wrong place and hit my own team with it a few times... and yes, I did put a pool of slowdown goo in front of a teammate which caused them to die... and yes, some of my defensive (magic) wall placement needed a bit of work because there's a difference between good blocking and just getting in the way – while all that may be true, there was an improvement with each passing short game, all thanks to this greater understanding.

That's a big positive here, because with *Valorant* it's not like, say, *Call of Duty*, where it's about learning a map and knowing which gun go big bang best. There's a bit beyond that. I don't want to sound like I'm saying the game is sponsored by Mensa, but that addition of a bit of thought – a bit of tactical skill beyond just running and gunning – lifted the whole experience for me significantly. I felt like there was something to learn beyond the three-lane map layouts, which gun to buy, and where the bombs are planted (and disarmed). As such, I felt rewarded when I *did* learn these things.

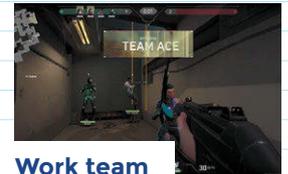
“The swearing increased in volume significantly enough to spook the dog”

A few matches in – each match is a first-to-13 rounds affair, with rounds being just a few minutes long at most – I actually knew what I was doing. Well, I didn't, but it felt like I did, and that was significant. The feeling of being all at sea had abated, and a smidge of confidence entered my game with the use of my character powers – why yes, I *will* place a smoke-screen there. I even managed to get the winning kill in a couple of rounds. I was even player of the round in one round, of one match, ever. And I was having fun with it.

But that's where the surprising realisation came in: I was having fun. But I won't be going back to *Valorant*. Something had happened while playing – it crept up bit by bit until the full weight of realisation hit me in the face like so many bullets from cowardly snipers hiding behind some boxes. While I was having *some* fun playing the game, I was having significantly more fun *watching* others play via the spectate function.

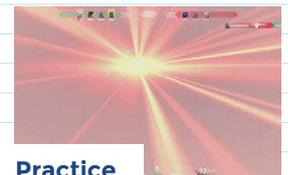
Thus it dawned on me: I get it. I see why people watch stuff like this being played. When you've played it yourself and you know the basic ins and outs, when you know what you need to do – generally – to be good at the game, it makes watching other players who *can* do this stuff so much more satisfying. I won't be returning to *Valorant* next month – the hunt for a game to keep me playing continues – but I might be tuning in to some matches in future. Especially if Riot cleans up its act behind the scenes. 🐕

Lessons from Valorant



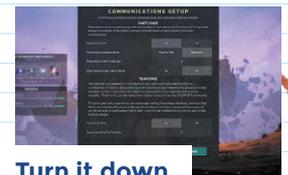
Work team

It's obvious but bears repeating: work together. This is five-on-five, made to be played as a team. By playing as a lone wolf and as part of a machine (in need of some oiling), it quickly becomes apparent who a) succeeds more, and b) has more fun. Clue: it's the team player.



Practice

Specifically: practice your character's special powers. Otherwise, you might get things like the above image, where I shot a discombobulation grenade (technical term) straight into the wall, thus making it backfire on my entire team. We... did not win.

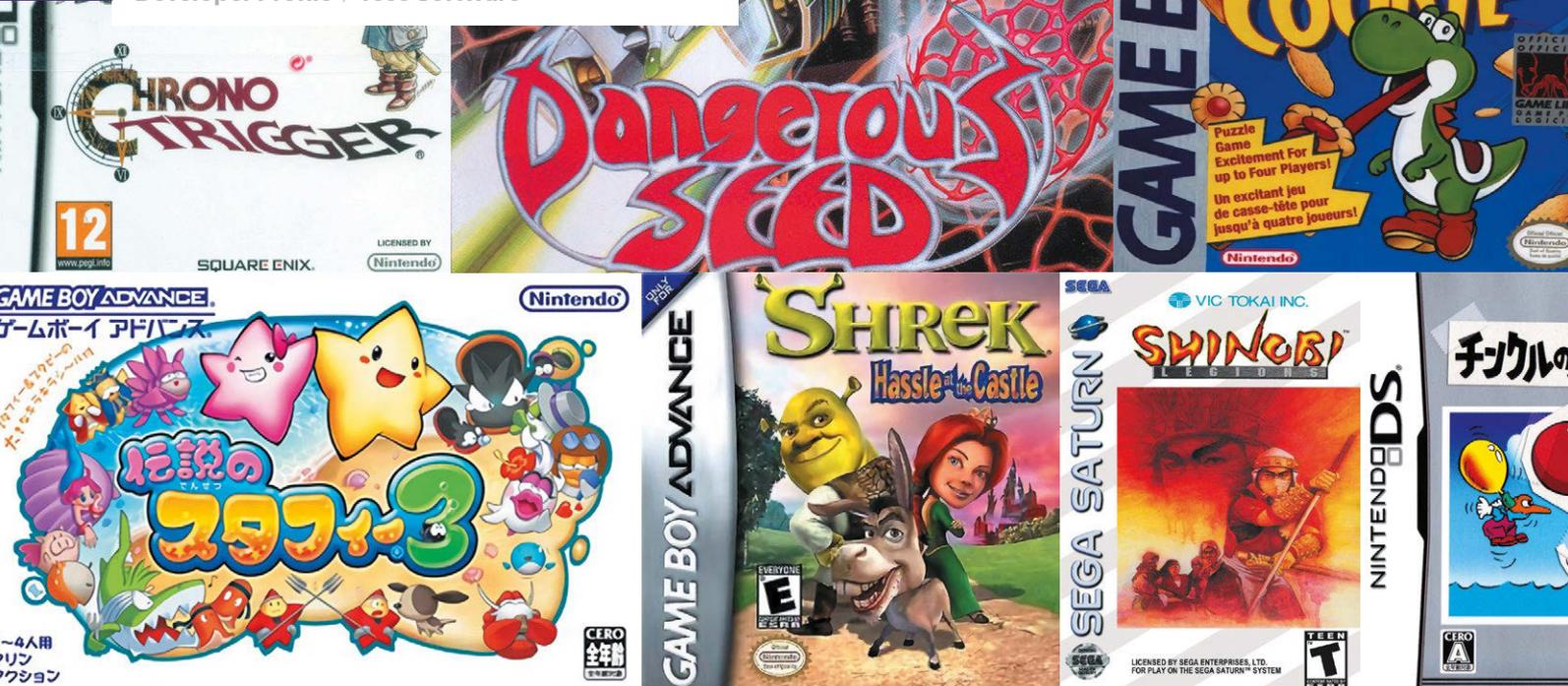


Turn it down

If you are made anxious by the thought of conversing with strangers online and/or being insulted by them, just turn them off. *Valorant* opens up with communications preferences and allows you to switch off team chat. Less successful? Sure. But your brain will thank you for it.

Interface

Developer Profile / Tose Software



Developer Profile

The mysterious Tose Software

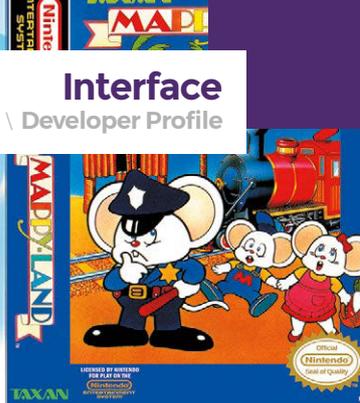
The Japanese firm has made thousands of games over the past 30 years. So why is it so obscure?

According to its website, Tose Software likes to think of itself as a “silent force behind the scenes” – which is a pretty accurate description of a company that, for the past 30 years, has essentially worked in the shadows. Today, Tose’s staff count is well in excess of a thousand; it has offices in seven locations across Japan, as well as facilities in China and the Philippines. It has been on the Tokyo Stock Exchange since the late 1990s, and has worked on hundreds of games on every generation of console hardware stretching back to the Nintendo Entertainment System. Watch the end credits of *Animal Crossing: New Horizons*, and you’ll see Tose Co., Ltd. listed among the game’s lengthy roster. By most yardsticks, Tose is one of the biggest video games developers in Japan,

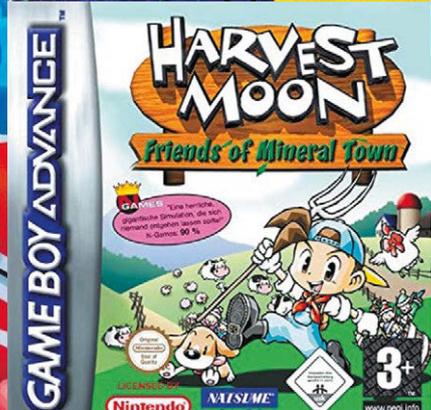
and undoubtedly among the most long-lasting. So why is its name so seldom seen or discussed?

As Tose’s “silent force” motto suggests, the firm’s obscurity is intentional. Since the earliest part of the eighties, it’s taken on contract work for other, better-known companies: Nintendo, Taito, Namco, and Capcom are just some of the studios it’s developed for. Much of the time, Tose’s work for these companies goes uncredited; indeed, its desire to remain firmly in the industry’s background is such that its staff either appear in end credits under pseudonyms or not at all.

“We try to act behind the scenes,” Tose’s director of Chinese sales, Koichi Sawada, told Gamasutra in 2006. “We follow our clients’ desires, instructions and everything, so our policy is not to have a vision. In our company, we follow the customer’s vision. So instead of ▶



Interface
Tose Software | Developer Profile





▲ The number of games Tose have worked on is truly mind-boggling. For a better idea of just how many, see the list at wfmag.cc/tose.

showing the Tose brand up front, most of the time we refuse to put our names on the game."

Tose's air of secrecy means that pinning down a definitive list of all the games it's worked on is nigh-on impossible. Tose doesn't necessarily develop games from scratch, either, which further muddles questions of attribution; the company handled some of the programming duties on the original *Kid Icarus* back in 1986, for example, and later co-developed the Game Boy sequel, *Kid Icarus: Of Myths and Monsters*, though you wouldn't necessarily have known this by playing the games themselves.

What we do know, though, is that Tose was originally started up in 1979 as a subsidiary of the electronics company Toa Seiko, Co., Ltd., itself founded 20 years earlier. Toa Seiko already had some experience in the games industry, having taken on the job of making *Space Invaders* cocktail cabinets on behalf of the game's original developer, Taito. A 2017 article published in the Japanese magazine Famitsu provides a rare insight into Tose's inner workings, and reveals that its current CEO, Shigeru Saito, originally began working on those *Space Invaders* cabinets at Toa Seiko back in 1979. "I was a student studying psychology at that time, and I did circuit board repair work as a part-time job," Saito said. "I got a job at that parent company after that, and while they did arcade work, it was in a completely different division, and we spun that division off into its own company.

And that's when Tose began, with only five employees."

SMALL BEGINNINGS

From its base of operations in Kyoto, Tose's aim was to make games for the rapidly growing arcade market, beginning with the ninja-themed

"Our clients didn't know much about how to make a game. For the most part, they left development to us"

shooting title *Sasuke vs. Commander*, and side-scrolling blaster *Vanguard*, both published by SNK in 1980 and 1981 respectively. With Tose still a tiny company at this point, Saito handled much of the game design and music by himself.

The explosive success of the Nintendo Entertainment System soon saw Tose branch out into that arena, and the sheer number of games the studio worked on for that system alone is quite mind-boggling. We know this because

► Mobile is a big part of Tose's business in the 21st century. Here's *Dokuro*, ported to Asian phone networks by Tose Philippines, Inc.



a couple of annual reports published in the 2000s provided some rare, direct admission of its work over the previous couple of decades. Among the games pictured were early NES titles *Ninja Kid*, *Super Xevious*, and *Dragon Power*, originally released in Japan as the very first *Dragon Ball Z* licensed tie-in.

Admittedly, not all these were particularly great, but looking further down the list, it's clear that Tose played at least a small part in a fairly significant number of great games: it ported the first two *Dragon Quest* titles to the Game Boy Color, while the PlayStation versions of *Final Fantasy IV*, *V*, *VI*, and *VII* on the PlayStation are also pictured. (The same photograph also confirms that, yes, Tose really did help out on *Kid Icarus* back in 1986.)

According to COO Yasuhito Watanabe, who joined the company in the early eighties, Tose was still a small company in the NES era, even as it helped crank out hit after hit for its clients. "Back then, our clients didn't know too much about how to make a game," Watanabe told Famitsu. "They would supervise, but for the most part, they left the development part to us. Basically, the team would work with instruction from someone supervising on behalf of the game company. I say 'team', but it was really more like a single programmer and another person for support."



▲ Tose has grown into a huge firm over the past 30 years, and now has a corporate image to match. Here's its board of directors, pictured in 2016.

TOSE TODAY

Since the turn of the millennium, Tose has quietly but steadily built up a sizeable business, and diversified into such areas as mobile phone games and apps, and software for pachinko machines. Among its higher-profile works in recent years you'll find the *Starfy* series (see box, bottom right), and a rare foray into publishing with the puzzler *Susume Tactics!* for the Sony PSP.

Even today, Tose's desire to make games by stealth remains undiminished; there are only a handful of interviews with the firm on the web, and one of the few published in English, published at cubed3.com in 2006, is filled with such responses as, "We cannot answer this question because Nintendo is responsible for determining and announcing the marketing policy of the game," and, "We cannot answer this question because, we are afraid, answering it may affect our business."

When asked how many people worked on *The Legend of Starfy 4* – a fairly innocuous question, you might think – Tose's representative politely declined to answer. (In early June, Wireframe contacted Tose to ask for their input in this developer profile; to date, we've received no response.)

Tose has also been careful not to talk about its work in its more recent annual reports. Its 2015 and 2016 reports are positively stuffed with graphs, charts, glossy photos of bosses Shigeru Saito and Yasuhito Watanabe, and plenty of business-speak ("We will aim for the Next Leap Forward in the worldwide entertainment industry"). But in these publications' combined 88 pages, there isn't a single mention of a video game it's worked on.

Tose, then, stands out among Japan's big hitters in the games industry. It hasn't defined genres like Taito or Capcom; it hasn't straddled the globe



▲ Tose co-developed *Kid Icarus: Of Myths And Monsters*, released for the Game Boy in 1991.

like Nintendo; its fortunes haven't dramatically risen and fallen like Sega's. Instead, Tose has modestly and diligently plugged away in its own niche, and grown into a company of formidable size. Given the sheer number of developers that have worked with Tose, right up to the present day, it's clear the company has thrived because its work is so well-respected – Nintendo wouldn't collaborate with just anyone on a game as jealously guarded as *Animal Crossing: New Horizons*, after all.

Talking to Gamasutra about the firm's secretive air in 2006, Tose's Koichi Sawada summed it up best. "Well, we're based in Kyoto, right?" he said. "So we're ninja. You can't find us!" ☹

The Right Starfy

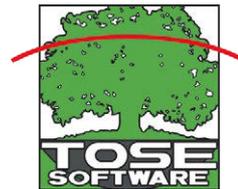
Tose may have spent much of its existence developing games on behalf of other studios, so the *Starfy* series is something of an outlier. Beginning on the Game Boy Advance with *Densetsu no Starfy* in 2002, it's a cheerful series of action platformers in the vein of HAL's *Kirby* franchise, albeit set under the sea – Starfy being a starfish who can run, jump, and kill things with a spin attack. The series was something of a hit in Japan, though Nintendo – who co-owned the series with Tose – seemed nervous about its chances in the West. The fifth game in the series, released under the title *The Legendary Starfy*, was the only title to emerge in America, and is, for now, the aquatic hero's swansong.



▲ There, in the 'special thanks' section in *Animal Crossing: New Horizons'* credits, is a hat-tip to Tose. What did they do on the game? Perhaps we'll never know.



▲ Away from all its ghost developing, Tose also made the unbearably cute *Starfy* series of platformers.



Out of the shadows

10 tantalising Tose titles

A sample of the many games Tose has had a hand in over the years



01

Vanguard

Arcade – 1981

Although released by SNK (and included in the recent *40th Anniversary Collection* on the Switch), *Vanguard* was actually Tose's first-ever game as a developer. It's a fast-paced side-scrolling shooter in the mould of Konami's *Scramble* – a derivative title, then, but its speed and up-tempo soundtrack make it an absorbing one.



02

Dragon Ball

NES – 1986

Published by Bandai and better known as *Dragon Power* in North America, this marked a long relationship between Tose and the *Dragon Ball* manga and anime franchise. *Dragon Ball* was a not particularly good top-down adventure game; Tose later made *Dragon Ball Z* games of varying merit for the SNES, Mega Drive, Saturn, and more besides.



03

Kid Icarus: Of Myths And Monsters

Game Boy – 1991

The *Kid Icarus* games have never quite attained the status of Nintendo's top-tier series, but *Of Myths And Monsters* is a worthy handheld port of the NES game, and one of the better monochrome renditions of a console game on the Game Boy. Co-developed with Nintendo R&D1, it's an absorbing fantasy platformer.



04

Dragon Quest I & II

Game Boy Color – 1999

Square's classic RPG games had already been ported to the SNES from the NES originals (released as *Dragon Warrior* in the West), but Tose handled the pair's translation to the Game Boy Color. The graphics inevitably take a hit when compared to the SNES versions, but back in the late nineties, this remained a thoroughly pleasing way to play the games on the go.



05

Super Princess Peach

DS – 2005

Although lacking somewhat in the challenge stakes, this platform spin-off is packed with charm – we wouldn't be surprised if the same people who worked on the *Starfy* games also developed this *Peach* outing. The action involves hopping around levels, bashing things with a parasol, and rescuing Toads. All in all, it's an underrated little game, we'd argue.



06

Ultimate Ghosts 'n Goblins

PSP – 2006

Once one of Capcom's biggest names, *Ghosts 'n Goblins* was given one final entry for Sony's handheld. Series mastermind Tokuro Fujiwara oversaw proceedings, but much of the heavy lifting was handled by Tose. The result is another solid horror platformer – and a quiet but pleasing final hurrah for the series.



07

The Legendary Starfy

DS – 2008

Western gamers missed out on the four earlier games in the series (unless they imported them, of course), but *The Legendary Starfy* is perhaps the best of the lot in any case. Like *Super Princess Peach*, *Starfy* isn't a particularly original or even difficult platform game, but it's been made with a lot of care and attention, and the wealth of minigames add to the longevity.



08

Chrono Trigger

DS – 2008

Tose also handled the PlayStation port of this RPG classic in 1999, but the Nintendo DS version is arguably the definitive one. Overseen by the game's original writer Masato Kato, it retains all the character and brilliance of the SNES original, throws in the bonus material from the PlayStation version, and tailors the experience for the handheld. It's fantastic.



09

Dark Souls

PS3 / Xbox 360 / various – 2011

We include this as an example of how Tose's name can pop up in unexpected places. You'd rightly associate *Dark Souls* with FromSoftware and director Hidetaka Miyazaki, but some development – reportedly, a bit of work on the action RPG's graphics – was outsourced to one of Tose's Chinese studios. At the end of the game, you'll find Tose listed in the credits.



10

Splatoon 2

Switch – 2017

This third-person shooter romp typifies Tose's long-standing relationship with Nintendo. Tose reportedly co-developed the sequel, and it gets a 'special thanks' shout-out in the credits (along with another Japanese collaborator, Monolith Soft). What did Tose actually do on this superior Switch blaster? As ever, their work remains shrouded in mystery.

World's Best Pokémon-er



STEVE MCNEIL

Steve isn't the world's best *Pokémon-er*, but he did get to see them do their thing recently.

“Just the idea she’s getting into games is a glimmer of hope”

If I was playing on my Switch and you casually walked over to me, snatched it from my hands, and started playing on it, I would, quite reasonably, punch you in the face. And yet, earlier today, someone did precisely this, and I didn't. And I could definitely have beaten them in a fight. They were much shorter than me, unsteady on their feet, and seemingly oblivious to what is, I'm sure we all agree, a perfectly reasonable response to expect after stealing someone's stuff. Not only did I not hit them, but I was also delighted that they did it. Why? Because they were my four-year-old daughter, and they'd decided it was finally their turn to have a play on *Pokémon: Let's Go, Pikachu!*.

As someone who, since her conception (or possibly even during it), has wanted nothing more than to lose entire days with their child just playing video games, I'd have been delighted if, at this point, she'd dropped it, spilt juice on it, and then distractedly wandered off to pull some Play-Doh off a shelf. Just the idea she's 'getting into' games is, in 2020, a sufficient glimmer of hope in an ocean of turds to forgive almost anything. But she didn't do that. She sat down and, presumably mirroring what she'd watched me do, began to toy with the analogue stick to make the character move in the desired direction.

And then, she sought out and began to fight a Pokémon! Alright, fine, she might have just randomly stumbled into an encounter as she poked away at the left stick, but regardless, she was in battle. Obviously, at this point, you'd assume she'd be out of her depth and need daddy to step in... but, no! She navigated to the items menu, and declared, “We should feed this one a Razz Berry to make it easier to catch.” Reader, she was right. And I could have wept.

She then casually timed her button press to launch the Pokéball, and successfully caught the Pokémon (a Pikachu, no less) on her first attempt. It was at that point I yelled so loud that everyone in Europe heard it. Clearly no

longer of any more use to my daughter, who will presumably be taking her A-levels and getting her HGV licence by the end of the week, I excused myself to pop to the loo, during which brief departure she managed to casually secure herself a second Pikachu, like it wasn't even a thing.

But why am I telling you this? Is it about the power of games capturing children's imaginations? To allow them to explore new worlds in a time of lockdown? To give them a sense of achievement? No, the point here is solely that my daughter is better than you. 🙄



^ Don't be shocked, Pikachu, your capture was inevitable.

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Reviews, retro games, and lots more besides

- 92. Streets of Rage 4** PC, PS4, XBO, Switch
- 94. The Last of Us II** PS4
- 96. Skelattack** PC, XBO, Switch, Mac
- 97. The Procession to Calvary** PC, Mac, Linux
- 98. The Flower Collectors** PC
- 99. Lost Words** Stadia
- 100. One Step From Eden** PC, Switch
- 101. Half Past Fate** PC, Switch
- 102. Gears Tactics** PC

OUR SCORES

- 1-9**
Trash. Unplayable; a broken mess.
- 10-19**
A truly bad game, though not necessarily utterly broken.
- 20-29**
Still awful, but at a push could be fun for two minutes.
- 30-39**
Might have a redeeming feature, but otherwise very poor.
- 40-49**
Adds in more redeeming features, but still not worth your time.
- 50-59**
Average. Decent at best. 'Just about OK'.
- 60-69**
Held back by glitches, bugs, or a lack of originality, but can be good fun.
- 70-79**
A very good game, but one lacking spit and polish or uniqueness.
- 80-89**
Brilliant. Fabulous fun. Everyone should at least try it.
- 90-99**
Cutting edge, original, unique, and/or pushes the medium forward.
- 100**
Never say never, eh?



▲ Pg 94: Has the wait - and hype - been worth it?

▼ Pg 112: He's been wakka-wakking for a while now.

PLUS

- 104. Backwards Compatible**
Making retro shooters with Dezaemon, and more old-fashioned delights
- 108. Now playing**
There are a lot of words about Football Manager this month, with no apologies
- 112. Killer Feature**
Pac-Man is 40, so let's look at the ghost muncher's killerest feature



Info

GENRE
Beat-'em-up

FORMAT
PS4 (tested) / PC
/ XBO / Switch

DEVELOPER
Dotemu /
Lizardcube /
Guard Crush

PUBLISHER
Dotemu

PRICE
£19.99

RELEASE
Out now

REVIEWED BY
Jon Bailes

Streets of Rage 4

The right to bare knuckles

Streets of Rage 4 understands the lay of the beat-'em-up land well. Since the end of the original trilogy in the 1990s, the genre has seen competent clones, flabby mutations weighed down with RPG-style progression, and plenty more in-between. It would seem like there's nowhere new to go without disrupting the fine balance brought by Sega's original three *Bare Knuckles*; their harmony of control and aesthetic refining the 2D scrolling brawler to its pinnacle.

What *Streets of Rage 4* does, then, is recognise its predecessors thrived on the same simplicity and monotony that led to this evolutionary dead end in the genre, and it doesn't try to reinvent or over-complicate. It capitalises on the sense of freshness accumulated through its prolonged absence, tightens and modernises, then gently prods at the boundaries to coax out some extra depth.

For a fighter coming out of retirement, *Streets of Rage 4* is remarkably lean and sharp. The crisp new visual style, with bold cartoon characters in relief against pencil-sketched backdrops, adds

detail without clutter. Story mode restricts events to a handful of comic book stills between each meaty stage. Levels remain linear and tightly paced, and while there are a few more this time, this is an unabashed arcade romp designed to be finished in short order. Longevity relies on difficulty levels, performance rankings, and leader boards, or endless (online or local) co-op runs purely for the joy of the fight.

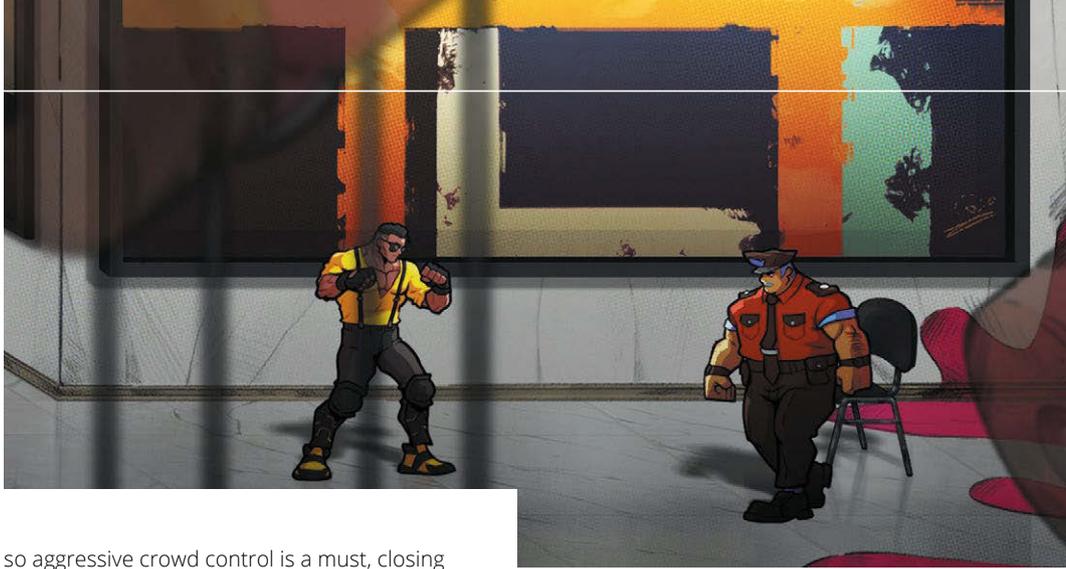
It hasn't forgotten the old techniques either, and links them together with an even slicker flow. Stinging jabs stun opponents momentarily, lining them up for a follow-up flurry or grapple. Double forward taps engage blitz attacks to clear space in front. The fluid mechanics of grab, vault, and throw enable timely dodges or swift reversals to dismantle threats from the rear. Sure, the ageing cast are a little slow on their feet these days. The moveset here is based on that of *Streets of Rage 2*, so characters can't run (except youthful newcomer Cherry Hunter) or roll as in *Streets of Rage 3*. There's still no block button either,

Game modes include a one-credit arcade run, a boss rush, and a multiplayer arena brawl.

HIGHLIGHT

As ever, your big special attacks drain health when used. But now, like *Bloodborne*, this health can be regained if you follow up with more damage before you get hit. It's a minor tweak, but it ups the risk/reward stakes considerably, daring you to unleash your full power but quickly punishing carelessness.





- ◀ It's not all about the streets. Later levels take you to more upmarket locales.
- ▼ Floyd Iraia is the new tank character, equipped with robotic arms and some delightfully destructive grapple moves.

so aggressive crowd control is a must, closing enemies down and corralling them together for efficient take-downs.

New tactical possibilities emerge as subtle extensions from the old foundations. There's a greater supply of weapons, especially handy when thrown to keep agile foes at bay. A charged regular attack will send thugs skidding away. Launched enemies can be juggled with follow-up strikes to finish them off before they can recover. A well-timed special when you're surrounded can turn the tables back in your favour. It all combines seamlessly, as a combo counter pushes you to maximise the pressure.

In response, your opponents swarm in greater numbers than they used to. They're still predictably one-dimensional, and each has only a couple of different moves at their disposal. But they're a little more cunning as they circle and jockey for position to make their move, and new additions, such as shielded riot cops and stocky martial artists, ensure you can't simply attack head on. Bosses and a few other key enemies then introduce special flash attacks that can't be interrupted, and working out how to deal with these is an extra headache. As they begin to stack, these new dangers force constant tactical improvisation and add scope for performance refinement, without altering the series' DNA.

The marriage of old and new even extends to the all-important soundtrack. As a collaborative effort, it's more diverse than in any of the past games, but still steadfastly 1990s in flavour. Original composer Yuzo Koshiro's opening tracks replicate the house anthems of the first game, before Olivier Derivière's stage themes wander purposefully through jazzy synths and dirty basslines, or thumping industrial beats under screeching electro alarms. If anything, it flags on a few boss battles, but as each piece mixes and bridges to suit the on-screen action, it's a constant enlivening presence, augmenting the game's assured swagger.

When *Streets of Rage 4* does falter, it's due to relatively minor irritations and imbalances. Difficulty is uneven, as certain run-of-the-mill

battles can drain lives in seconds, while a few bosses are oddly feeble. The combo system can feel mean, as a large score boost can be wiped out entirely with a single hit, and in busy fights, it's all too easy for the odd punch to sneak through. At times, your limited defensive options feel over-exploited by sweeping invincible attacks or flying kicks that track you vertically in mid-air. And despite the tight controls, it would help if specials could instantly cancel other moves.

The only remaining question is whether, in 2020, the design could have been pushed yet further and delivered even more. The levels are full of personality and contain a few interactive environmental

“New tactical possibilities emerge”

features, but are hardly experimental. The new characters have some different tricks, but aren't a great departure from past favourites. Eventually, there's no disguising the sense of repetition. But *Streets of Rage 4* succeeds because it isn't ashamed of what it is, sticking to its roots and excelling within their limitations, tapping into the genre's last reserves without becoming diluted. As the new leader in its field, it deserves credit as much for its skilful restraint as its unhinged violence. 🗣️



VERDICT

A masterful, modern revival of a console classic.

86%



- ▲ Extended play unlocks all the characters from the original games in their pixelated forms.



Review

The Last of Us Part II

Is it the Citizen Kane of video games? No!

Info

GENRE
Stealth-action
FORMAT
PS4 (tested)
DEVELOPER
Naughty Dog
PUBLISHER
Sony
Interactive
Entertainment
PRICE
£49.99
RELEASE
Out now

REVIEWED BY
Andrew King



▲ Studying the environment to deduce safe combinations was one of my favourite side activities.

The *Last of Us Part II* does the one thing I needed it to do: justify its existence. I was in the middle of a four-year break from video games when Naughty Dog's stealth-action game launched in 2013. But, after graduating from college in 2016, I realised that if I was going to make a living as a writer, I needed to find something to write about. I dusted off my PS3, bought a few used games I'd heard good things about, and started catching up.

The Last of Us was one of those games. In the year that I left college, got my first full-time job, and watched the United States burst into flames, *The Last of Us* – and more specifically, the bond between its lead characters and its powerfully ambiguous ending – convinced me that games were not just an effective escape, but worth paying attention to; that I could love their characters and find meaning in their narratives.

So, for me, *The Last of Us Part II* needed to have something to say that would enrich the first, not detract from its power. It's difficult to talk about how exactly *TLoU Part II* does that without spoiling some of the game's best surprises. But I can say that the events of *TLoU Part II* are intimately connected to the conclusion of the first game, and that Naughty Dog masterfully extrapolates the consequences that would follow a human being who acts like a video game character.

As this game begins, Ellie witnesses brutal violence exacted against someone close to her. Her quest for revenge leads her from the Wyoming mountain town where she and other survivors have carved out a life of peaceful routine, to a war-torn Seattle, where rival factions – a brutal cult and an anti-government militia – vie for control.

Ellie's journey is enriched by the conversations along the way. *TLoU Part II* includes the best (and most) character work that Naughty Dog has produced thus far. The time in between combat, as characters talk, and joke, and bond, is the draw here as much as any firefight. Both of my playthroughs clocked in at around the 30-hour mark, and on my first time through I thought the game was overly long. But, on a second playthrough, I appreciated the character-building benefits of the game's length. That surplus of dialogue does mean that not all conversations are winners, but the vast majority work.

They also benefit from a stellar cast. Ashley Johnson brilliantly highlights the ways that the 14-year-old Ellie we know has changed to become the 19-year-old version we meet here. She masterfully brings out the playfulness of young Ellie, and leads with the awkwardness of an older Ellie, less comfortable in her skin, more self-conscious. The extended cast, including Troy Baker, Laura Bailey, Patrick Fugit, and Ian



Alexander are likewise excellent, and Naughty Dog's best-in-class performance capture work ensures that every nuance makes it to the screen. Add in that load times on a base PS4 rarely lasted longer than a few seconds, and *TLoU Part II* is a technical achievement as much as it is a narrative one.*

(*Of course, much of what *The Last of Us Part II* manages to pull off is a direct result of a labour force engaged in heavy periods of crunch. I loved this game. It's visually impressive, and the fidelity with which human faces and gestures are rendered adds to its emotional power. But added graphical detail isn't worth the human cost of extended periods of overwork. Overwork is not the same thing as hard work.)

As she hacks her way through Seattle, Ellie has new weapons and abilities that lend combat and stealth an increased dynamism. She can now go prone, sneaking under trucks and through tall grass. In flooded areas, she can swim around vision cones, coming up for air and blood. New devices, like stun grenades and trip mines, further increase the range of possibilities and strategies.

While players spent much of the first game finding ladders and fetching palettes to progress, *TLoU Part II* fills each moment with more interesting objectives. There are fascinating letters to read, and I never got tired of studying environmental cues to figure out combinations for locked safes. *The Last of Us* used boring busywork as a means to an end, a skeletal structure on which it hung the sinew of character

“The game includes the best character work Naughty Dog has done thus far”

development. *The Last of Us Part II* still uses these in-between times for conversations, but now the actions you're accomplishing are more interesting. Sometimes, as in the case of this game's set pieces and chase sequences, they're even thrilling.

Most impressive, though, is the game's capacity to make porous the boundary between story and combat. Naughty Dog's pre-release statement that each enemy in the game would have a name initially seemed like a gimmicky bullet point. But, a combatant calling out, "Ashley, on your right!" really does make the world feel more cohesive, as if the story

of factions at war is rippling through the ranks of each patrol you fight. Naughty Dog's goal to humanise the throats that Ellie slits plays out in overarching ways, too – ways that are impossible to talk about without spoiling the game's second half. Suffice to say, *TLoU Part II* boasts one of the more interesting structures I've seen in a triple-A game, and creative director Neil Druckmann's comments that he wanted the player to feel like the villain flatten out the nuances of what's actually going on here.

The thing is, though, just like its predecessor, *TLoU Part II* is elegantly unsatisfying. It doesn't have a villain – a main, one-off, cartoonish Big Bad to focus your ire on and weave a storyline around. What it does have is structural daring and a resulting emotional punch. No game has tied my stomach in knots and hollowed me out like this. I suspect it will be a long time before another game does it again. 

^ Joel's back in *The Last of Us Part II* for a story that explores the consequences of his actions in the first game.

HIGHLIGHT

Largely on the basis of its grim and gritty marketing, there's a widespread perception that *The Last of Us Part II* is 'misery porn'; that it revels in inflicting unrelenting suffering on its characters. And while there is pain and trauma in this story, there are also moments of tender love, of characters making grand gestures to show they care, and doing small things to lend support. Ellie's guitar, gifted to her by Joel, plays a pivotal role in many of these scenes.

VERDICT

Despite minor issues with the game itself and major frustrations with Naughty Dog's leadership, *The Last of Us Part II* is a 30-hour gut-punch of a game, and I'm glad I got to play it.

94%

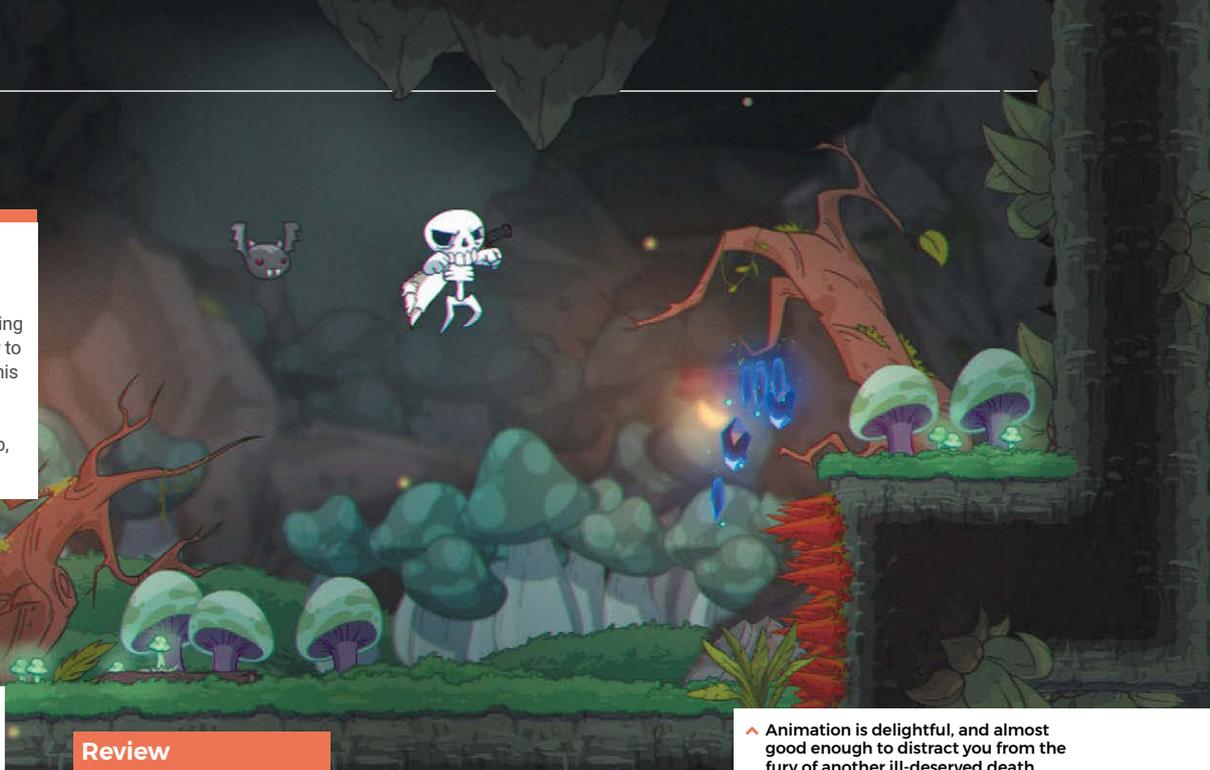
▼ Music plays an important, powerful role in *The Last of Us Part II*.



HIGHLIGHT

I find little outside the look of *Skelattack* to gush about, so casting the brain-net a bit wider: it's lovely to see Konami back on the horse. This is the studio's effort to push and publish indie titles under its label, and even if this game is a misstep, I do hope the trend continues.

⚠ Dialogue can raise a smirk, but it's bloated and tends to waffle on way too much.



Review

⚠ Animation is delightful, and almost good enough to distract you from the fury of another ill-deserved death.

Skelattack

Dead on arrival

Info

GENRE
Punishing platformer
FORMAT
PS4 (tested) / PC / XBO / Switch
DEVELOPER
Ukuza Inc
PUBLISHER
Konami
PRICE
£15.99
RELEASE
Out now

REVIEWED BY
Ian Dransfield

VERDICT

These bones need more than a quick polish to get them into shape.

51%

Fifteen attempts. Two separate platforms with bouncing mushrooms to increase the range of my jumping, a pit of deadly spikes below, and a few floating, moving obstacles in the way – each with its own one-hit-kill spikes to boot. A tough area to navigate, and an obvious challenge given it took me so long to finally, actually, fortunately, get past it. Then *Skelattack* hits me with its most memorable feature: surprise! You're dead. Turns out there was an oversized Venus flytrap hidden behind some foliage to the side there. Back to the beginning of this particular obstacle course with you, oh skeleton-faced one, for attempt number 16.

That's the main problem with *Skelattack* – it wants so much to be talked about in the same breath as the *Super Meat Boys* of the world, but doesn't seem to understand it wasn't just the endless cycle of death and dying that made Team Meat's fast-paced platformer so much fun. It was the tightness of everything; the fact you rarely (if ever) felt like a death was unfair, and that the game was designed to challenge and punish you, yes, but it wasn't designed to suddenly cry 'Psych!' and kill you with yet another surprise death you had very little chance of seeing coming.

Would you believe it, that's where *Skelattack* goes wrong. A platformer with a bit of basic combat mixed in, this indie effort published by Konami (so not an indie, but you know what I mean) just doesn't offer a level of balance

and – dare I say it – fairness to make it anything other than a brief distraction before moving onto meatier ways to pass the time. At its best, it's alright. At its worst, it's a pad-smasher. But most of the time it's merely alright, and that may well be the game's biggest issue.

There's something to be taken from it, sure. It looks great – not quite *Cuphead* levels of stunning animation, but enough character about it to keep you staring at the screen well beyond your patience levels would otherwise allow. There's a disarmingly cute air to things despite the difficulty, but all that does is make *Skelattack* a game that's a lot more fun to watch someone play than it is to get stuck into yourself.

We're absolutely spoilt for choice with brilliant indie titles these days. Were this a decade ago, *Skelattack* might have stood out more – decent in short bursts and bloody good to look at as it is. It's the skip fire of a year that is 2020, though, and we have to look for more in our timesinks. Games that don't just look the part and offer up fun times in short bursts, but ones that can maintain that level of enjoyment and not resort to cheap, snarky tricks to (once again) kill the player. Death counters regularly appear through *Skelattack*, telling you how many times your bony protagonist has perished and offering a smarmy comment along the lines of 'You know there's an attack button, right?'. Far from making me want to prove anyone wrong, it just made me raise an eyebrow and turn the game off. I do know there's a power button, after all. 🙄



That guy's having a rough day.

HIGHLIGHT

There's a musician or two tucked away on almost every screen of *The Procession to Calvary*, each pumping out period-accurate music. Clicking on them tells you what they're playing, and you can even applaud if you like. It's a lovely touch, with the music really adding to the atmosphere – and because they change so often, the tunes never become repetitive.

◀ The tiny chap on the left helps the musician to keep time, so naturally he's called the Metagnome. Praise be for puns!

Review

The Procession to Calvary

Point and Mich-elangelo

Renaissance paintings are weird. Sure, some stunning pieces of art emerged from the 15th, 16th, and 17th centuries, like *Girl with a Pearl Earring* by Vermeer, but there were also plenty of gangly Jesuses, cats dressed as priests, and a great many tiny, grumpy lions.

This is a good thing, since it provides a rich vein of comedy for *The Procession to Calvary*, a point-and-click adventure made entirely of chopped-up bits of Renaissance art. Developer Joe Richardson pulled the same trick in the game's sort-of precursor *Four Last Things*, but it still feels refreshingly different, with about the only point of comparison being Terry Gilliam's frantic cut-up animation. In fact, one of the game's PR points is its *Monty Python*-esque humour, but I don't think that's exactly right. Yes, *The Procession to Calvary* shares some of its surreal comedy with *Python*, but I'd argue it has much more in common with the clever wordiness and fourth-wall-breaking humour of Dan Marshall's *Lair of the Clockwork God*. Indeed, some of its funniest moments come when God (i.e. the game's creator) steps in and apologises for some particularly poor animation.

Also, the talking bum is pretty damn hilarious. I had a wry grin on my face for pretty much the entirety of this adventure, but I laughed out loud exactly three times, and the talking bum was one of those three. That's the game in a nutshell, really: a cross between wry, knowing

meta-humour and crude yet equally amusing grotesquery. And Renaissance art provides plenty of the latter with its borderline absurd depictions of hellish punishments and naked wrestling, ripe for the mickey-take.

In terms of controls, we're in standard point-and-click territory, but with one exception. A click of the right mouse button prompts our particularly murderous protagonist – based on Rembrandt's *Bellona* – to whip out her sword, ready to lop the head off anyone who stands in her way. You can, in fact, complete the game by simply murdering everyone to skip the puzzles

(an option that would have provided welcome catharsis in *Monkey Island* with that damn rubber chicken), but the 'true' ending requires a kill-free run. And thankfully I rarely felt the need to resort to homicide

since the puzzles are pitched almost perfectly, offering a fair challenge without being needlessly obscure. The only real sticking point was one that involved using an item from a previous puzzle again, the only instance of this in the whole game.

All in all, then, this is excellent stuff, but it comes with one major caveat – it's over a bit too quickly. I finished the game in around four hours, which greatly saddened me since I really didn't want it to stop. Still, perhaps it's better to leave your audience begging for more rather than drag things out beyond the point of enjoyment. And we should be thankful that there are more than enough slightly wonky Renaissance paintings to make a sequel. 🐼

"You can, in fact, complete the game by simply murdering everyone"

Info

GENRE
Point-and-click
FORMAT
PC (tested) / Mac / Linux
DEVELOPER
Joe Richardson
PUBLISHER
Joe Richardson / SUPERHOT PRESENTS
PRICE
£7.99
RELEASE
Out now

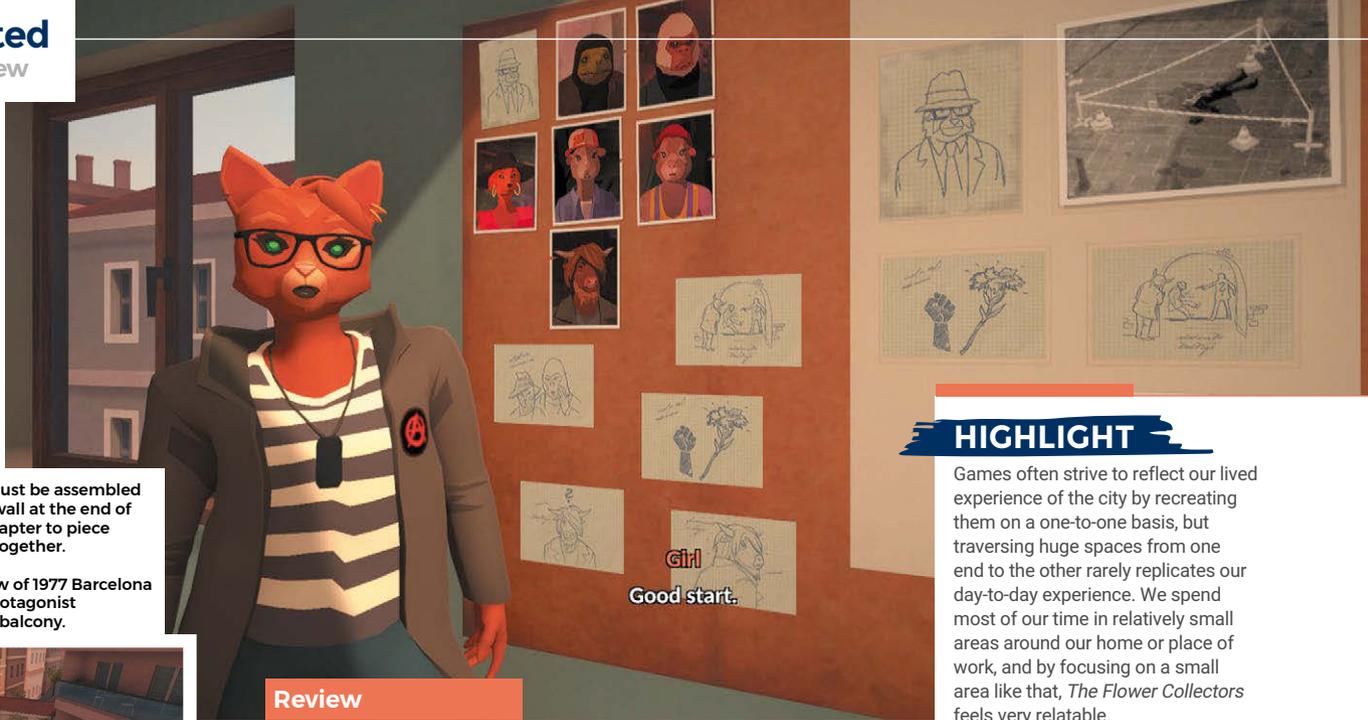
REVIEWED BY
Lewis Packwood

VERDICT

Beautiful and unique, *The Procession to Calvary* is one of the funniest and cleverest point-and-click adventures in years.

80%

Rated
Review



- > Clues must be assembled on the wall at the end of each chapter to piece events together.
- > The view of 1977 Barcelona from protagonist Jorge's balcony.



Review

HIGHLIGHT

Games often strive to reflect our lived experience of the city by recreating them on a one-to-one basis, but traversing huge spaces from one end to the other rarely replicates our day-to-day experience. We spend most of our time in relatively small areas around our home or place of work, and by focusing on a small area like that, *The Flower Collectors* feels very relatable.

The Flower Collectors

A balcony, a pair of binoculars, and a Barca-loner

Info

GENRE
Adventure

FORMAT
PC (tested)

DEVELOPER
Mi'pu'mi Games

PUBLISHER
Mi'pu'mi Games

PRICE
£19.99

RELEASE
Out now

REVIEWED BY
Paul Walker-Emig

VERDICT

A fantastic *A Room With A View*-style detective premise used to delve into Spain's shameful fascist past.

77%

In a world where it is ever easier to make games that feel limitless, it is refreshing to encounter one that remembers the creative value of imposing limits. *The Flower Collectors* does that by placing you in control of a former cop, forced by injury into a wheelchair and, consequently, retirement. Apparently both unwilling and unable to leave his apartment – it is suggested during the course of the game that his apartment block isn't exactly wheelchair-accessible – Jorge's world is limited to his living quarters and the view from his balcony, encompassing a small plaza and a couple of streets. After witnessing a murder in that plaza, Jorge finds himself working with a young journalist to crack the case from his vantage point, above a tiny slice of 1977 Barcelona.

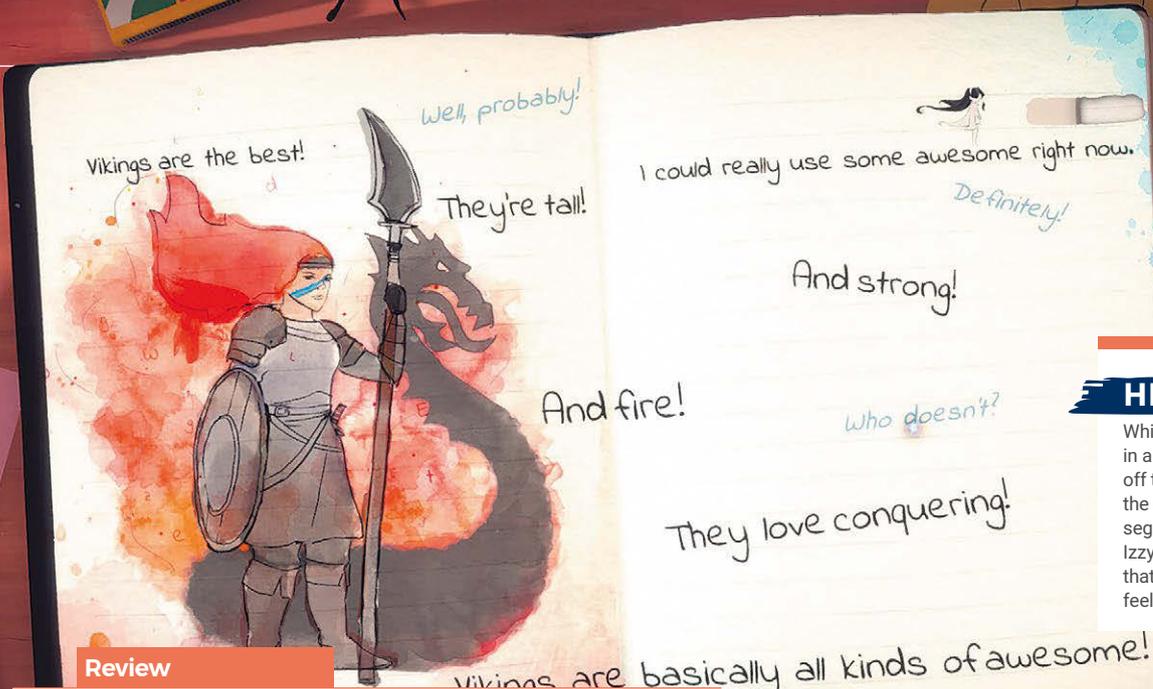
You do this with a pair of binoculars, a camera, and a walkie-talkie that allows you to keep in touch with your co-investigator Melinda as she makes forays out into the streets below to do the things Jorge can't. Observing the local residents and their response to the murder from up on high, you work with Melinda to collect clues and piece them together to try and find out who this man was, who murdered him, and why he was killed.

Though at times there's an element of uncomfortable voyeurism to *The Flower Collectors'* privacy-invading mystery-solving – of which I would suggest the game is well aware – there's something undeniably enjoyable about keeping watch from Jorge's balcony and piecing

things together in this compellingly original take on the detective genre. There are times you wish your detective skills would be more thoroughly challenged, but, aside from a couple of bits of filler, this is a game that's clearly prioritising the momentum of its narrative over puzzle-solving. In service of that goal, it makes sense that progress should be swift and friction-free.

The Flower Collectors narrowly scoped space is not reflective of what it is doing with that story. On the contrary, it does a great job of taking large historical events and broad areas of social conflict and showing how those things manifest on a local or individual scale. History, this game reminds us, is not abstract. It has consequences for the people that live it. While ostensibly about a murder, the game is really concerned with Spain's fascist past and its transition into democracy. It not only does a great job of educating the player about this specific moment in time, but critiques the role of the police, the church, institutionalisation, generational divide, and prejudice in a way that resonates outside of the specific contours of the game's setting.

Without spoiling anything, Jorge's perspective on these events shows a level of naivety that makes no sense, given his past, threatening to undercut the game's critical potential, but it's something I was happy to overlook. If combining a thoughtful consideration of some weighty themes with a fun and original genre-murder mystery has led to a little compromise here or there, I'll happily take it. 🗣️



Review

HIGHLIGHT

While you can complete *Lost Words* in a single sitting without heading off the beaten path at all, try to grab the optional asterisks in the journal segments if you can. They spice Izzy's tale with additional flavour that make her words, and reactions, feel ever more authentic.

Can't work out if Izzy's glossing over of the pillaging and murder is intentional or not...

Lost Words: Beyond the Page

A Hard Day's Write

Lost Words: *Beyond the Page* sometimes feels like two games tied together by a single thread. On the one hand, we have gentle, easy platforming as we dance a sprite across the scribbles hidden in a young girl's journal entries. On the other, we have the exploration of a fantasy world within a fantasy world – Estoria, a magical land of that young girl's invention.

Isabelle, our young protagonist, might not seem like the world's most relatable lead, but what Izzy shares with the pages of her journal should, sadly, be familiar to us all. This casual, gentle adventure meanders between the memoir and make-believe land, but I was happiest when I was bouncing over the words of the former. As pretty as Estoria is, the animation and evocative storytelling of the journaling sections is vastly superior; I'll admit that at times, I rushed through my time in Estoria to return to the inventive platforming and stunning visuals of Izzy's thoughts.

Both worlds, however, put the power of words at their heart. In the journal segments, we can rip

out words and reposition them to help us move on (literally – we can use them as platforms to take us on to the next page). In Estoria, we use them as magic spells, commanding the environment around us to do our bidding – Rise! Break! Silence! They're painfully simple puzzles though – even for beginners acclimatising to video game logic for the first time – and as such, they often feel nowt more than busywork. Still, at least the journey takes us to myriad beautiful places before spinning towards its powerful, poignant climax.

It's because of its simple mechanics, gentle puzzling, and emotional journey that I suspect *Lost Words* won't appeal to everyone. But while I, too, can admit to a little cynicism at games that intentionally – maliciously – pull at your heartstrings, *Lost Words* is an authentic, if sorrowful, tale. And while it might be best enjoyed by a young adult audience new to gaming (not dissimilar to its sibling Stadia exclusive, *GyLT*), it's certainly not exclusively so. I'll admit to a tear in my eye as the credits rolled; it's a harder heart than mine that can listen to the pain in the voice of our young narrator and not be moved by her grief.

While it might have been stronger if it'd dispensed with the Estoria sequences altogether, *Lost Words: Beyond the Page* is an enchanting, thoughtful adventure. If you roll your eyes at 'walking simulators', or need complex puzzling then this likely isn't for you. However, if you have an evening free and are open to thoughtful, emotional storytelling, you could do a lot worse than take a page out of Izzy's book. 🐉

Occasionally, you'll be able to influence Izzy's storytelling by selecting from a selection of dialogue choices. Often you won't, though.



Info

GENRE
Platformer
FORMAT
Stadia
DEVELOPER
Sketchbook Games
PUBLISHER
Modus Games
PRICE
£11.99
RELEASE
Out now

REVIEWED BY
Vikki Blake

VERDICT

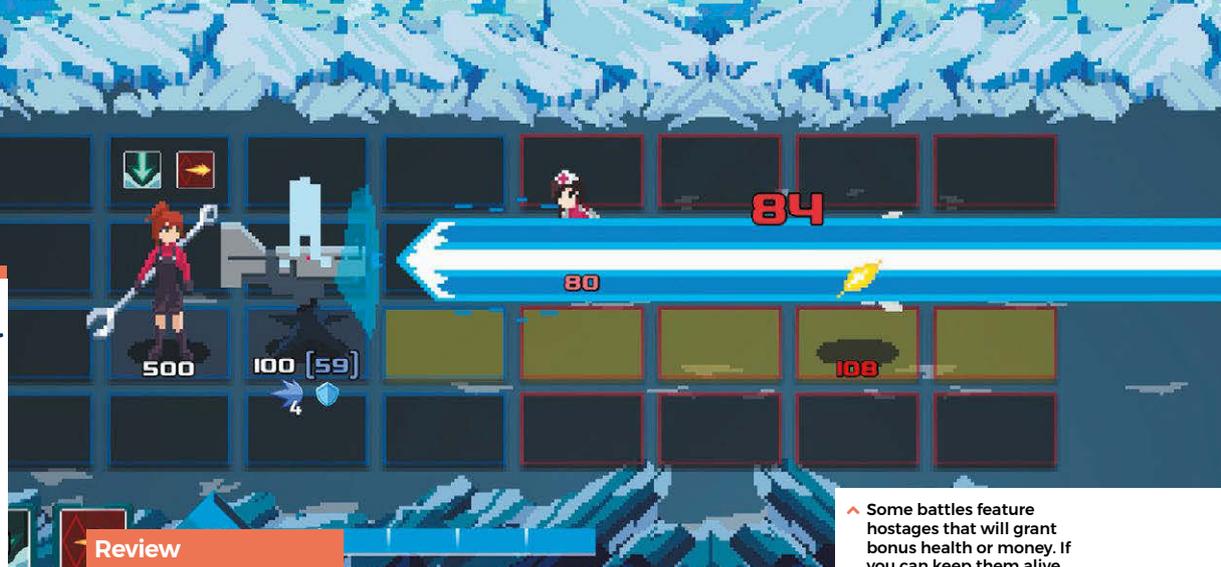
A moving, if uncomplicated, narrative adventure.

61%

Rated
Review

HIGHLIGHT

The bosses can be a nightmare, but they're finely crafted, and their varied combat styles fill them with personality. In a neat twist, the order they appear is randomised, with more complex attack patterns added the later you meet them, causing fresh headaches even after you've mastered their basic forms.



Review

Some battles feature hostages that will grant bonus health or money. If you can keep them alive.

One Step From Eden

Deck-building for adrenaline junkies

Info

GENRE
Deck-building
shooter

FORMAT
Switch (tested)
/ PC

DEVELOPER
Thomas Moon
Kang

PUBLISHER
Humble
Bundle

PRICE
£17.99

RELEASE
Out now

REVIEWED BY
Jon Bailes

VERDICT

A breathless action roguelike that demands but also rewards skill and patience.

72%

Some games demand instinctive reactions, while others call on conscious thought processes. *One Step From Eden* expects you to do both at once, merging two distinct layers of the mind together. It feels unnatural, barely even possible, yet the masochistic challenge is hard to resist.

This is *Slay the Spire* meets *Mega Man Battle Network*, revved up to the pace of a bullet hell shooter. Battles take place on an 8x4 grid, with your deck-building hero restricted to the left half. Cards are randomly ordered and available two at a time, with each triggered attack replaced by the next in line until you hit reload and reshuffle the deck. Between skirmishes, you select rewards and your route towards the stage boss via more battles, shops, rest points, and hazards.

Initial excursions are confusing and brutal. There's tons to learn to make the required mental adjustment, and the game refuses to ease you in or fully explain its systems. The fundamental hurdle is the amount of visual information that has to be parsed at speed, as your eyes flit constantly between your cards, the enemy's position, and their rapid, scything attacks. With no forewarning of what you're up against, and no pauses in the action once it starts, it's essential to memorise how each card works and recognise it from its representative icon. Each costs mana, which takes precious seconds to recharge, and

it's easy to make mistakes when some icons look alike, or cards have status effects that slip the mind in the heat of battle.

Eventually, however, having slowly absorbed an encyclopaedia of knowledge about every card and enemy through repeated painful experience, it flows. As thought processes melt into automatic responses, you steal glances at your deck and calculate moves while dancing patterns of defensive manoeuvres. With some progress, you begin to unlock alternative characters and

“Eventually, having slowly absorbed an encyclopaedia of knowledge about every card, it flows”

loadouts, and the different play styles they offer can really change your approach. Some cards you've been ignoring since the start suddenly make sense, and you can customise which types are most likely to turn up in random drops,

to partially direct the development of each run. What once seemed an excess of information morphs into a toy-box of potentials.

In other words, *One Step From Eden* is a very good roguelike, with the variety, synergies, and unpredictability all that entails. And when your brain tunes in to its conflicting currents, it's highly rewarding. Still, it remains difficult, in part because some late-game enemy combinations are almost impossible to survive unscathed, but mostly down to the relentless intensity of its multitasking demands. No matter how much you learn to cope, you sometimes just need a second to think. When a game based on improvised tactics denies you that, it takes one step too far. 🗣️

HIGHLIGHT

Of the main cast, I never expected to grow the most attached to Jaren, a sweetheart nerd who works at a game store. This kind young man with a penchant for detective work won me over so completely that the (mild) twists and turns of his plot sent me reeling.



You help me in my love quest, and I will help you in yours.



▲ The side-characters are all well-drawn and fleshed out in their few lines of dialogue.

Review

Half Past Fate

Like Love Actually, but with actual love

Two-thirds of the way through *Half Past Fate*, Bia (one of six characters you switch between through the game) attends a house party for a friend she has an obvious crush on.

If you walk into the bathroom and inspect the mirror – like most adventure games, you can inspect just about everything – she'll check her reflection and exclaim: "Lookin' good, Bia!"

This is one of several moments that illustrates *Half Past Fate's* most rarefied quality – its characters have a clear sense of self-worth. Before this moment, I didn't realise how rare it was for characters in games to acknowledge when they're having a good hair day. It's one instance of many where the game treats its characters with love and respect.

Half Past Fate is, essentially, three interconnected romantic comedies packed into an adventure game, complete with meet-cutes, long-simmering crushes, quests for love, opposites attracting, and other well-worn tropes. Each romance plays out over a different timescale, from one day to eight years, and side characters move between stories until everything culminates in a beautiful, heartfelt finale. It both embraces genre clichés and excels beyond them thanks to a pervasive good-naturedness, with wonderful characters and enjoyable, eminently solvable puzzles.

The adventure elements of *Half Past Fate* are light and fun, albeit never particularly challenging.

There are no illogical solutions here, and the path forward never involves tricking someone, or stealing, or being duplicitous – by pursuing love, each character makes life for those around them a little better. As one character puts it late in the game: "It's not always about rewards... helping someone out is just the right thing to do." There are always rewards for your actions in games, of course, but the attitude rings sincere.

It's the characters that really make the game sing. Jaren, a nerdy game store employee, has been drained of all gamer toxicity, and his crush on tea enthusiast Ana is sweet and pleasant. Milo and Bia circle each other for years, and the game's script smartly focuses on the importance of

their friendship. Mara and Rinden are the genre-standard pricklier pair who clash and hide their attraction from one another, and their romance is paired with a surprisingly compelling plot about their personal business interests. There are no revolutionary mediations on the nature of love, but at its heart, this is a game about good things happening to good people, and that makes for an extremely pleasant experience.

Half Past Fate is gentle and uncomplicated. It's five hours of easy puzzles and straightforward storytelling, and extremely charming despite its repetitive soundtrack and small locations. It's also a game of extraordinary warmth and care, with a gorgeous sprite-based visual style, strong writing, and a whole lot of heart. You might not fall in love with it, but you're likely to form a huge crush. 🐾

"Each romance plays out over a different timescale, from one day to eight years"

Info

GENRE
Adventure
FORMAT
Switch (tested) / PC
DEVELOPER
Serenity Forge
PUBLISHER
Way Down Deep
PRICE
£17.99
RELEASE
Out now

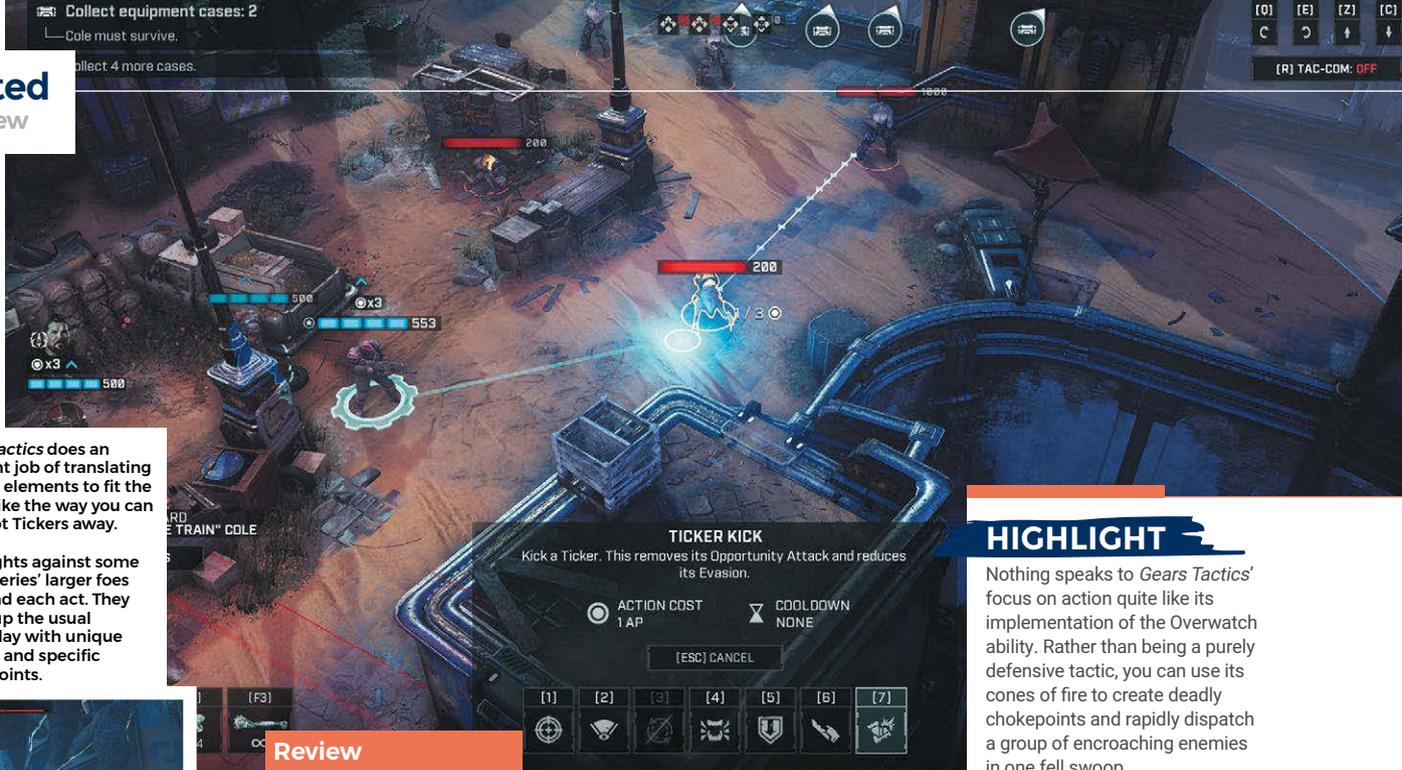
REVIEWED BY
James O'Connor

VERDICT

Sweet-natured and warm, *Half Past Fate* is the game equivalent of a cuddle and a lie-in.

76%

Rated Review



➤ *Gears Tactics* does an excellent job of translating familiar elements to fit the genre, like the way you can still boot Tickers away.

✓ Boss fights against some of the series' larger foes bookend each act. They shake up the usual gameplay with unique attacks and specific weak points.

HIGHLIGHT

Nothing speaks to *Gears Tactics*' focus on action quite like its implementation of the Overwatch ability. Rather than being a purely defensive tactic, you can use its cones of fire to create deadly chokepoints and rapidly dispatch a group of encroaching enemies in one fell swoop.

Gears Tactics

The chainsaw-loving series adds brains to its brawn

Info

GENRE
Turn-based tactics

FORMAT
PC (tested)

DEVELOPER
Splash Damage,
The Coalition

PUBLISHER
Xbox Game Studios

PRICE
£49.99

RELEASE
Out now

REVIEWED BY
Richard Wakeling

VERDICT

A fast-paced and aggressive tactics game that only falters when it tries to breathe.

74%

M

uch of your time in *Gears Tactics* will be spent moving characters behind various objects before firing on a familiar bestiary of Locust hordes. Which fits, as

Gears of War has always been about firefights playing out from behind waist-high cover. *Gears Tactics* certainly captures the look and feel of *Gears*, from the gooey chunks of flesh that hammer home its violence, right down to the way the camera positions itself behind each character's shoulder as they pepper grubs with hot lead.

What separates *Gears Tactics* from other games in the genre isn't as immediately obvious as all the *Gears-y* stuff. Each unit in your four-person squad has three action points available to them at the beginning of every turn that can be spent on movement, shooting, and abilities. The success rate of each bullet you fire is governed by a percentage, and abilities range from skills like Overwatch to the inherently satisfying bayonet charge. All of this is built atop the foundations that *XCOM: Enemy Unknown* set in 2012, but it doesn't take long before its own nuances begin to reveal themselves.

Gears Tactics is all about giving you the freedom to approach skirmishes in any way you see fit. There's no movement grid restricting your ability to traverse the battlefield, nor is there a stagnant turn order preventing you from responding to threats as they emerge. You can even shoot an enemy before moving or using an ability, ensuring

that a gun-shot doesn't immediately signal the end of your turn. The game's beating heart, however, are the executions.

Damage an enemy enough, and they're likely to enter a downed state in classic *Gears* fashion. If you can get a unit close enough while an enemy is writhing around on the floor, you can perform a brutal execution that grants your squad members an extra action point, prolonging your turn. This allows *Gears Tactics* to throw Locust hordes at you by the dozen.

You're nearly always outmanned and outgunned, but rack up enough executions in one turn, and the odds can quickly flip in your favour. Your plan still needs to be smart, but there's a palpable sense of forward momentum that latches onto the series' action-oriented approach. This is a fast and aggressive tactics game that only falters when it loses its impetus. Your time in-between missions is spent equipping bland 'loot' that does nothing more than raise numbers on the same weapons you'll use for the entirety of the game. The inclusion of mandatory side missions also disrupts the campaign's pacing, forcing you to replay the same repetitive mission types multiple times.

When propelling you forward at full speed, the ebb and flow of *Gears Tactics* presents a cerebral marriage between the genre's brains and the series' brawn. Some of the combinations you can pull off with your squad are exhilarating, and it rewards you for being bold and aggressive in a way other tactics games would never dare.

RETRO GAMING WITH RASPBERRY PI

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Backwards compatible

WRITTEN BY RYAN LAMBIE

Bullet hell

I'm plagued with feelings of shoot-'em-up inadequacy. I've just loaded up *Dezaemon*, a shooting game construction kit released for the Japanese Super Nintendo in 1994. I bought a copy a few weeks ago, back when our feature on construction games appeared in issue 38, with the naive intention of cobbling together my own retro-style blaster. For its time, *Dezaemon* is a pretty impressive piece of software: its stripped-back, icon-based interface allows users to adjust graphics, sound, stage layouts, and enemy patterns to create their own top-down shooter in the vein of, say, Toaplan's *Fire Shark* or Seibu Kaihatsu's *Raiden* series.

The problem began when I tried out the example shooter included on the cartridge, called *Daioh Gale*. I'd initially expected something rudimentary and hastily put together; instead, *Daioh Gale* is something of a gem: intense, full of detailed sci-fi military hardware to blow up, all grooving along to a catchy synth-rock soundtrack. Had the game been a standalone release, it would've ranked among the better genre entries on the platform – not quite up there with

R-Type III or *U.N. Squadron*, but certainly better than the legendarily dreadful *D-Force*. (I later discovered that the game's a sequel to the arcade shooter, *Daioh*, also developed by *Dezaemon* studio Athena – which explains its surprisingly high quality.)

This immediately presented me with a high bar to hit: how could I, a rank game design amateur, possibly make anything remotely as good as this? My enthusiasm dampened slightly, I started tinkering with the various icons to see what everything did. I decided to give myself a simple task to begin with: edit the player ship. I quite

liked the idea of the lead character out of *Pop'n TwinBee* flying around in a hardcore sci-fi blaster, so I started drawing an approximation of that game's rotund little ship using *Dezaemon*'s sprite editor.

It's here that I quickly realised how horrible it is to draw anything with a joypad, so I went off and retrieved my SNES mouse from the cupboard. Being able to zip a cursor around the screen definitely makes *Dezaemon* more pleasurable to use, but as I ham-fistedly sketched out my TwinBee sprite, another drawback became apparent: having to move the pointer back and forth across

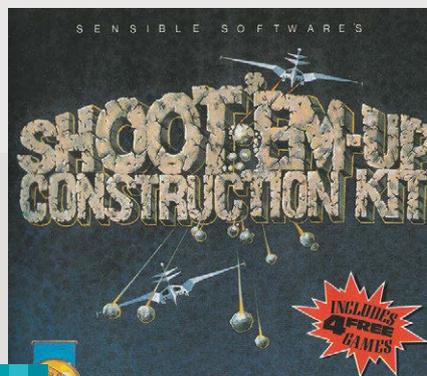




the screen, from brush sizes to the colour palette to the undo button, becomes a chore after a while – especially if you're accustomed to using a modern application like Photoshop and keyboard shortcuts to, say, quickly get rid of a misplaced pixel.

Still, I eventually managed to get a reasonable approximation of TwinBee drawn up and, a few icon clicks later, had it flying around in the game itself. I also managed to alter the music, rework a few enemy patterns, create a new title screen, and slightly mess up the background sprites as I moved tiles around. Drawing and animating sprites may be something of a chore on a console, but the level design side of *Dezaemon* feels positively breezy by comparison.

Like so many other construction kits of its kind, there's something likeably utopian about *Dezaemon*: theoretically, it really would be possible to make something as impressive as *Daioh Gale* with the tools available, assuming you have the time and skill. Will I actually spend dozens of hours, painstakingly pushing pixels around and clicking on tiny icons on my Super Famicom? Probably not, but *Dezaemon* has still been a fun piece of kit to tinker around with.



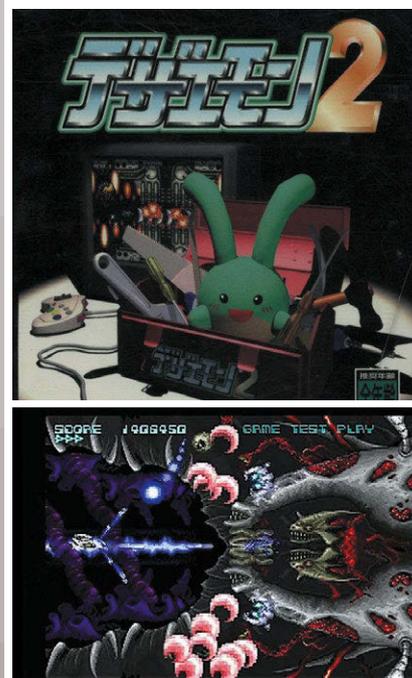
Doesn't SEUCK

If you were a budding game designer in the eighties or early nineties, *Dezaemon* was far from the only option available. Its most obvious western analogue was Sensible Software's Shoot-Em-Up Construction Kit (or SEUCK to its friends). Like *Dezaemon*, SEUCK allowed Commodore 64 – and, later, Atari ST and Amiga – owners to make their own vertical shooters. It was a fun bit of software, and it's still at least somewhat popular today – in early June, entries closed for the latest annual SEUCK competition, run by C64 homebrew developer The New Dimension. You can check out this year's entries at wfmag.cc/seuck.



Dez rez

The Super Nintendo version of *Dezaemon* wasn't a standalone release; developer Athena made the first entry in the series for the Japanese NES in 1987, and there were later editions for the PlayStation, Nintendo 64, and Sega Saturn. Of these, the Saturn's *Dezaemon 2*, released in 1997, was the most flexible, since it allowed for the creation of horizontal as well as vertical shooters, and also allowed users to export and share their games via the Saturn's Japan-only floppy disk peripheral. *Dezaemon 2* evidently had quite a following in Japan, since a quick scan around the internet reveals that around 200 games were made with the utility (you can see a list right here: wfmag.cc/dezaemon). Building on its SNES predecessor, *Dezaemon 2* also came with a handful of sample games, the best-looking of the lot being *BioMetal Gust* – a sequel to Athena's own 1993 SNES shooter *BioMetal*, and another impressive showcase for what the construction kit could do.



Backwards compatible

WRITTEN BY IAN 'DYNAMO' DRANSFIELD

Definitive definitions

When we set up these here retro pages you see in your fine copy of Wireframe, we had to set a bit of a line: what is retro? Long story short, it was a vague 'Dunno, about ten-years-plus-old?', but with countless stipulations attached. But that's how it has to be – quick and easy. Because when you sit down and start thinking about things, retro gaming can turn into a bit of an existential nightmare.



I recently picked up a couple of battered second-hand consoles – a PlayStation 2 (slim version) and a GameCube (cube version). Neither was purchased with the intent of featuring them on these pages, instead, as just a couple of little projects to muck about with and see if I could fix them up at all. Both being broken (as you can see from the photo of the PS2 on this page – oh crikey, it's in horrid condition), it would be a pleasant distraction to rip them apart and not really mind too much if I am indeed unable to bring them back to life, given they cost me a tenner each.

The more I thought about it, the more I considered that maybe this little

endeavour *could* actually make a fun little diary-style thing to write up on these pages – but then I had the brain-shudder: this is a PS2 and a GameCube.

They're not *retro*, so they can't be featured here, really. I mean, the PS2 played DVDs, the GameCube had a whopping *four* controller ports as standard, and both consoles had official component cables available for them – that's all very *modern*.

They're also both two decades old, with the PS2 marking its 20th birthday in Europe in November this year, and the GameCube hitting the milestone in 2021. That's the time between the PS2 and Mattel's nationwide US release of the Intellivision, or the Game & Watch's initial releases. It is, in layperson's terms, 'a long time'. *Jet Set Radio* came out 20 years ago. Two decades ago, *Deus Ex* was being overlooked, misunderstood, or ignored – today, onscore years later, *Deus Ex* is... overlooked, misunderstood, and ignored. Hmph.

Time continues its surprisingly aggressive march ever onward, and with it the defined boundaries of what can be considered 'retro' begin to warp and buckle. My initial pang of 'Nah, they're not retro' soon gave way to doubts



^ When I said battered, I meant it.



about what the very fabric of reality is, sure, but at the end of it I came to a grander realisation: you can personally define what constitutes a retro game or console or whatever however you like, it doesn't change the fact that I managed to get a couple of legendary consoles for hardly any money apiece.

So what, pray, should we take away from this particular endeavour? Well, two things. First: don't worry about it, the march of time is inevitable, so just go along for the ride and have fun along the way. Second: no, I haven't fixed either of the consoles yet. And honestly, I doubt I will – who has the time?



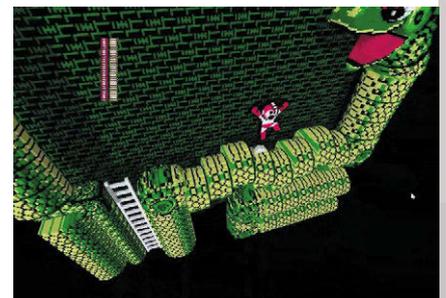
Total 3D-NESs

After around five years in development, 3dSen has released in full on Steam. What's that? Why, it's an emulator that converts certain NES games from a 2D plane to a fully swishy-about rotatable 3D world. This is no gimmicky hack – it's an in-depth process crafted by developer Geod Studio across four main steps. First, each 2D frame is sampled into an 8×8 tile; next, a collection of 2D shapes is produced from the grid; third, the 2D shapes are mapped onto 3D ones with proper positioning in the game space; then, additional animations, rotations, size changes, and so on can be implemented using script execution. This is all done on the fly, as the game plays – like a live conversion, basically – and it looks absolutely fantastic in action.

The first step can be handled automatically, but the rest of it requires the human touch to, say, figure out the ideal placement of a platform in the 3D space. As such, 3dSen supports around 70 NES games at launch, with more coming as conversions are completed –

the plan is for the profile development tool, required to get each individual game up and running, released publicly at some point. And once we have all (or most, or just some) NES games, Geod will rest, right? Nope, the plan is to follow up with another 8-bit machine, likely the Game Boy or Master System. The 16-bit devices might be too complex, but that doesn't stop this from being a genuinely impressive bit of software. Rough around some edges and, frankly, liable to get Nintendo a bit mad about things, sure. But impressive, nonetheless.

You can check out 3dSen at the following link (the VR version is listed separately): wfmag.cc/freedee.



Discrot-me-not

Elsewhere in meditations on time and its impact on *stuff*, I came across the news (via RetroRGB) that three French gaming preservation groups were combining efforts to create a floppy drive emulator. See, the thing about floppy disks is they are soon going to crumble into literal dust (not literally), so we need a way to save the ones that haven't been backed up on more robust storage formats. MO5, La Ludothèque Française, and the Game Preservation Society thus announced the open-source Pauline: a bit of kit that can detect, attempt to repair, and back up any kind of floppy disk – as well as acting as a straightforward floppy drive emulator. You can find the code for the device here: wfmag.cc/Paulinecode.





Vive la révolution: playing Pikuniku

Ryan takes a belated trip to Sectordub's delightful island dystopia

June's Bundle for Racial Justice and Equality offered an incredible deal for gamers, no doubt – it swept up well over 1700 indie games into a single package which could be purchased for as little as \$5 – but more importantly, it raised an astonishing \$8,175,430 in donations for funds related to the Black Lives Matter movement. With purchasers spending \$10 for the bundle on average, Itch.io's fundraiser is an example of what can be done

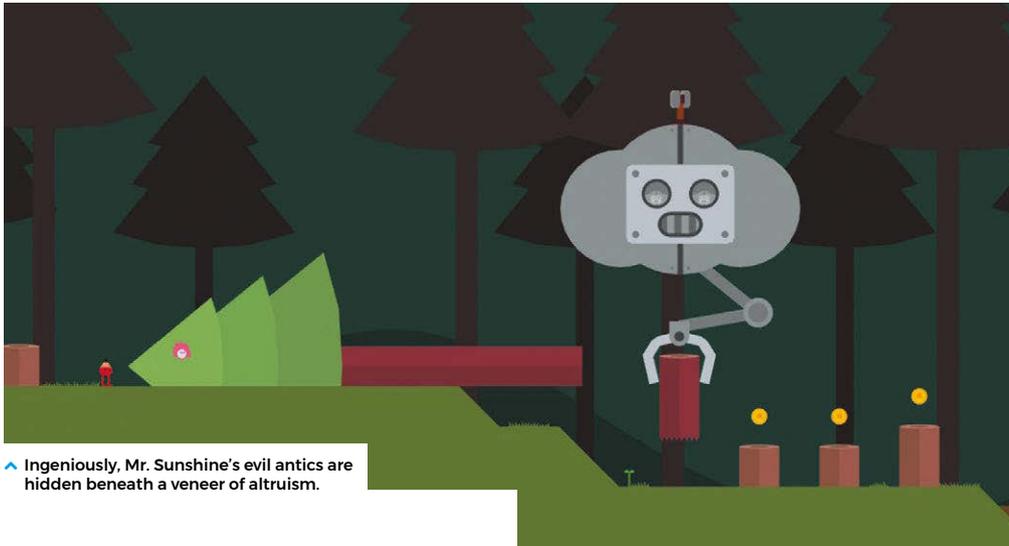
when enough people get together in the name of a good cause; certainly, it knocks the (admittedly welcome) donations of far more moneyed games industry entities into a cocked hat.

Itch.io's bundle also gave around 810,000 of us a chance to wade into a veritable sea of corking indie games – some familiar, others less so. One that immediately jumped out at me, because I'd been meaning to download it since its release last year but completely forgot to, was Sectordub's utterly charming platform adventure, *Pikuniku*.

Set in a colourful storybook world of bold shapes and primary colours, *Pikuniku* is the tale of an unassuming creature – the wide-eyed, bipedal Piku – who wakes up on a seemingly idyllic island of free money, abundant resources, and limitless leisure time. After convincing the locals that he isn't the terrifying mountain monster written about in their legends, Piku ventures further into the island, and discovers that all isn't quite as it first appears: top-hatted entrepreneur Mr. Sunshine uses showers of cash, nightclubs, and other distractions to keep the populace amused while his robots strip the island of its resources – they rob fields of corn, lop down trees, and drain water from lakes. A clumsy yet good-hearted character, Piku eventually forges an unlikely alliance with an

From the smallest to the largest, the characters in *Pikuniku* are a beguiling bunch.





▲ Ingeniously, Mr. Sunshine's evil antics are hidden beneath a veneer of altruism.

underground resistance movement, and agrees to help overthrow the island's bulbous dictator.

What's immediately striking about *Pikuniku* is how cleanly it combines different styles and influences. Its aesthetic could be described as a happy marriage of Eastern and Western whimsy: there's the colour and zaniness of Japan's *LocoRoco* and *Katamari*, mixed with a distinctly European vein of humour that takes aim at the gig economy and tech capitalism.

Beginning in the darkened recesses of a cave, *Pikuniku* might seem almost too slow and laidback at first, as Piku gamely jumps and kicks about the place, and the first physics-based puzzles hove into view. Piku can use a bandy leg to kick and roll objects around the screen, which is handy for knocking, say, an acorn onto a switch to open a door. Gradually, though, the lock-and-key puzzles are joined by a pleasing array of minigames, obstacle courses, and even the odd boss battle. In each, *Pikuniku's* designers bring their keen imaginations to familiar scenarios: one assault course of spinning traps could have come from an early *Super Meat Boy* stage, except the traps in question happen to be toasters that eject deadly slices of bread. Elsewhere, there's a curious take on basketball (where Piku's lankiness again comes in handy) and a rhythm-action dance-off against one of Mr. Sunshine's robot underlings. From beginning to end, *Pikuniku* is studded with moments to make you smile.

Admittedly, *Pikuniku* isn't a long game – you could probably blast through it in three hours if you aren't fussed about finding the various hats and other trinkets hidden about the place – which was a fairly common criticism

when it emerged in January 2019. The bigger disappointment, I'd argue, is that its developers don't delve a little deeper into the themes *Pikuniku* so economically sets out in its opening few minutes: digital surveillance, automation, wall-to-wall advertising, and the tantalising notion of a society entertained into extinction are all established but barely addressed later in the game. Mr. Sunshine emerges as an amusing boo-hiss villain with a dastardly plan, but not much more than that.

Still, *Pikuniku* does find time to throw in the odd delicious scene or exchange here and there. Towards the end, one of Mr. Sunshine's dastardly plans aren't undone by the player's ingenuity, but rather a pair of robot workers, who suddenly realise they've long been asked to do dangerous jobs for a pittance. "But think of the free exposure and experience for your resume!" Mr. Sunshine blusters. Needless to say, the robots aren't having any of it.

Like Mr. Sunshine's promises of free money and everlasting entertainment, the internships and gig economy jobs of the real world could be regarded as negatives dressed up as positives; sadly, the issues that have led us to this moment in history are far more complex to solve than *Pikuniku's*. The satirical bite in *Pikuniku* is a gentle one, then, but its overriding sentiment – that the powerless can group together and effect change against the powerful – is an admirable one, and curiously fitting for the times we find ourselves in. I'm quietly hoping SectorDub has another visit to its sunny island dystopia lined up for the near future. 🗣️

"A happy marriage of Eastern and Western whimsy"

Wireframe Recommends



LocoRoco

PSP, PS4

Like *Pikuniku*, *LocoRoco* fuses a bold, vector-shape aesthetic with environmental puzzles. There's less of a narrative to speak of, but pitch-perfect controls and an absolutely infectious soundtrack make this one of the best games on the PSP.



Wattam

PS4, PC

Keita Takahashi is without doubt one of the most original and distinctive game designers currently working, and *Pikuniku's* charm owes something of a debt to his games. *Wattam*, Takahashi's latest, is another flawed yet likeable amalgam of puzzles and whimsy.



Snipperclips

SWITCH

Pikuniku's co-op mode, in which Piku solves puzzles and challenges with orange friend Niku, is akin to a cut-down version of this amazing (and at times infuriating) two-player gem. "For god's sake, just cut off my head," is something I've actually yelled while playing *Snipperclips*.

Now playing
30 years of play



▲ Bit of a porky here, in that I never actually watch the match highlights. Text all the way, classic style.

30 years of play

It's a day ending with 'day', so Ian's playing Football Manager 2020

I thought myself immune to the lure; where others were reaching for those *things* of comfort from their lives to help through upended times, I remained resolute. I shall not, I will not fall into the comforting embrace of the old, the nostalgic, the *familiar*. But even as those thoughts left my brainlips, I knew them to be false. I'd already downloaded it. I was already planning on what the new run would look like. I'd already researched which formation would work. 120-hours'-play-across-three-weeks later, I wasn't even bothering with the pretence anymore. *Football Manager 2020* had lured me in, just as every single entry in the series previously had done. Why fight the inevitable?

I've written these words so many times over the years that they come without thinking. It looks like a spreadsheet, but give it half a chance and it'll take over your life. Yes, even non-football fans can get into it, if they approach with an open mind. *It's the best role-playing game ever made*. And so on, and so forth. None of it's stopped being true, it's just that I've hammered out those sentences – or variations thereof – so much in the past decade and a half of doing this professionally that I feel like I don't need to say them again and again (and again). Isn't it established fact now, that *Football Manager* is

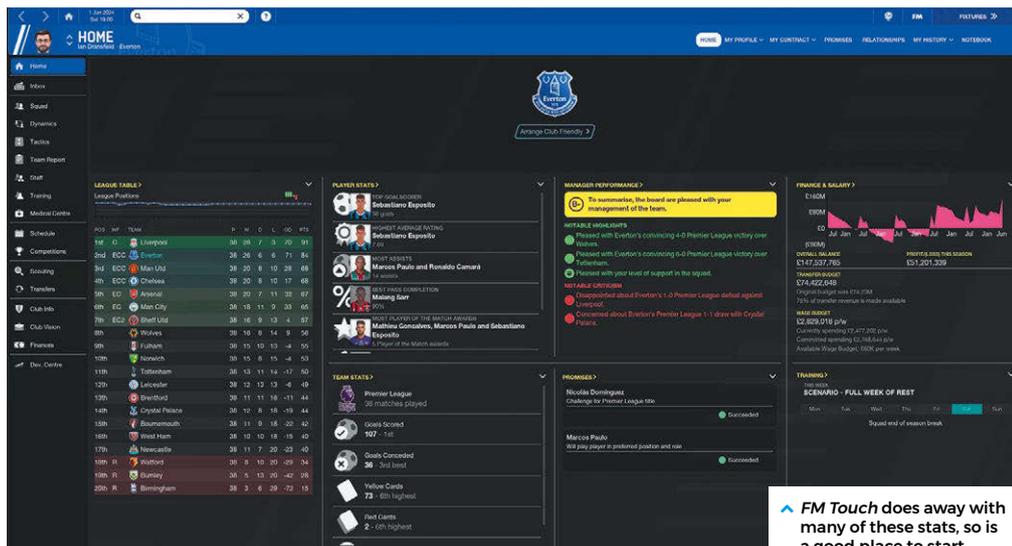
the nectar of the gods? That it is the ultimate time sink, yet also the ultimate in making you feel like you've actually accomplished something? Why belabour the point?

Maybe I should, though – maybe I should stick with trying to hammer home the points that this unknowable beast of a game, honed and tweaked and perfected over nearly 30 years of development, is actually worth the effort. It's confusing. It's seemingly unconquerable at first glance. It's *a lot* of numbers on static backgrounds. And yes, it's associated with football and that's a whole other thing to moan and argue about. *Football Manager* is quite a lot like hard work.

But with that hard work comes something literally no other game has ever managed to pull out of me: real, honest, genuine emotional responses that resonate and persist over time. Yes, a game has shocked, surprised, or saddened me; maybe even maddened me. I've been happy at finishing off a tricky boss fight, I've fist-pumped at beating someone in *Street Fighter II*, I've cooed at the original *The Last Of Us's* sudden, ambiguous statement of an ending. But all of those feelings were fleeting; temporary. Lost like tears in the dying seconds of a cup final loss. *Football Manager* gets under the skin, it makes these base emotional responses *matter* – it

▼ Oh, Rubén – in five years (20+ real hours) you'll be good enough for the first team.





FM Touch does away with many of these stats, so is a good place to start.

makes a game of numbers and weird generated player faces and Manchester United probably not existing in future entries owing to ongoing legal action seem like so much more.

I don't know exactly why, though I have my theories. The main one rests on the time factor: a single season in *Football Manager* is a slow-paced affair. Even if you're rushing, it takes a matter of hours to get through one footballing year – at least in the major world leagues (it's quicker in the smaller ones, naturally).

For the most part, you're getting your good ship Football into working order, sorting out backroom staffing issues, making sure you have the right players for the positions you want to play them in, looking at that team of 17-year-olds to see whether any of them could be money-making superstars in a few years, *looking at numbers*. It's sedate, but involved. It is, in every sense of the word, a slow build.

So you progress through things – not even a season, just through the course of a week – and you've already made half a dozen, 10, 20 decisions about how things should be. A player's picked up an injury in training the day before your next match. Pick a replacement. The replacement isn't match-fit because he's already played in a reserves game earlier that same day. You have to risk it and play him anyway. Shore up the area, make another senior player work

harder to cover the gap you're leaving by calling up an untested, unproven, lower-skilled, and potentially *knackered* reserve player...

Do you see what happened? Suddenly it becomes an involved decision-making process, with the real chance of loss resting on the fate of this one young kid who's been forced into an impossible situation. For one match, for one moment, this guy could well be the hero this particular tale focuses on – or he could be (more likely) an irrelevance who fades into the background. But the potential's there. It's matchday, and the stress ratchets up. Things go off without a hitch, your kid plays a 6.7 rating – absolutely

fine, if thoroughly unspectacular – and you move on to the next week, the next batch of preparation, the next upcoming match, and potential for injuries and changes and surprises.

This whole merry dance plays out – dozens of micro-stories with a beginning, middle, and end, all presenting themselves in an emergent fashion and most coming to a close within a few minutes, and all together set across many hours' play across a whole season. *Football Manager* tells countless stories in just one in-game year, and every one of them matters to you personally more than it could ever possibly do in most other games. I said I wouldn't play it again but really, why would I deprive myself? I've been playing it high-on 30 years for a reason. 🙄

“Football Manager gets under the skin, it makes these base emotional responses matter”

Now playing

30 years of play

Wireframe Recommends



Street Fighter II Turbo: Hyper Fighting

SNES, ARCADE, MULTI
When you want something a bit shallower – but still with a level of depth – look no further than *Street Fighter II Turbo: Hyper Fighting*. Whether you're on your tod and a bit bored, or with a few friends around, the enlivened *SFII* is fantastic.



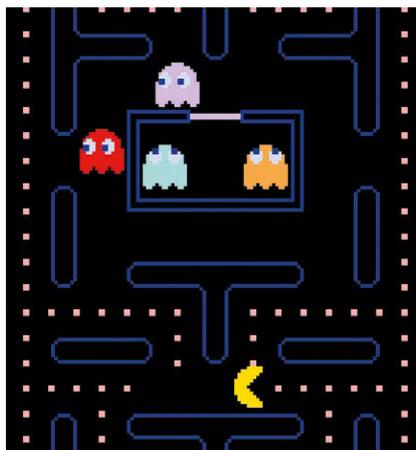
Danger Zone 2

PS4, XBOX ONE, PC
Or maybe you want something *even shallower*? Step forward Three Fields' puddle-deep but utterly beguiling *Danger Zone 2*. Distilling the *Burnout* experience down to just the crashes has been the desired outcome of plenty of fans of the series, and... well, here it is.



eFootball PES 2020

PS4, XBOX ONE, PC, MOBILE
Or, perhaps, you do want to stick with the footballing world but want to dial back the intensity of things a bit. Well, enter *PES 2020's* management modes. Actually playing on the pitch gives it a more immediate fun factor.



Pac-Man

Some simple yet effective AI programming turned a simple maze game into a global sensation

NAMCO / 1980 / ARCADE, NUMEROUS HOME SYSTEMS

In terms of its raw design, *Pac-Man* wasn't exactly original. Some clever people at MIT had already pioneered the first maze game as early as 1959; the idea of one character being pursued by another emerged in Atari's little-played (and thematically unsavoury) arcade game, *Gotcha*, released in 1973. Sega's coin-op, *Head On*, which emerged one year before *Pac-Man* in 1979, asked the player to drive around a maze, collecting dots. But while *Pac-Man*'s concepts weren't unique by themselves, there was one aspect of its design that made it truly stand out in the smoky Japanese game centres of 1980: its personality.

With their bold colours, expressive eyes and unique names, the characters in *Pac-Man* – a yellow, lip-smacking hero and a quartet of hapless spooks – felt vibrant and alive rather than flatly mechanical, like other games from the era. Designer Toru Iwatani envisioned *Pac-Man* as an antidote to the more boisterous games that sprang up in the wake of Taito's *Space Invaders*, and so he came up with a maze game with a gentle, cartoon-like atmosphere: there's no shooting or destruction in *Pac-Man*, as such – just the absorbing task of roaming a maze, and gobbling up pellets while avoiding the ghosts that patrol its corridors. There's undoubtedly tension, however: completing each maze requires precision and a keen understanding of the ghosts' movements – not to mention careful use of power pellets, which briefly allow Pac-Man to gobble up ghosts and send them floating back to the centre of the maze. But there's also a whimsical sense of fun running through the game, which comes in no small part from the ingenious programming behind those tenacious ghosts.

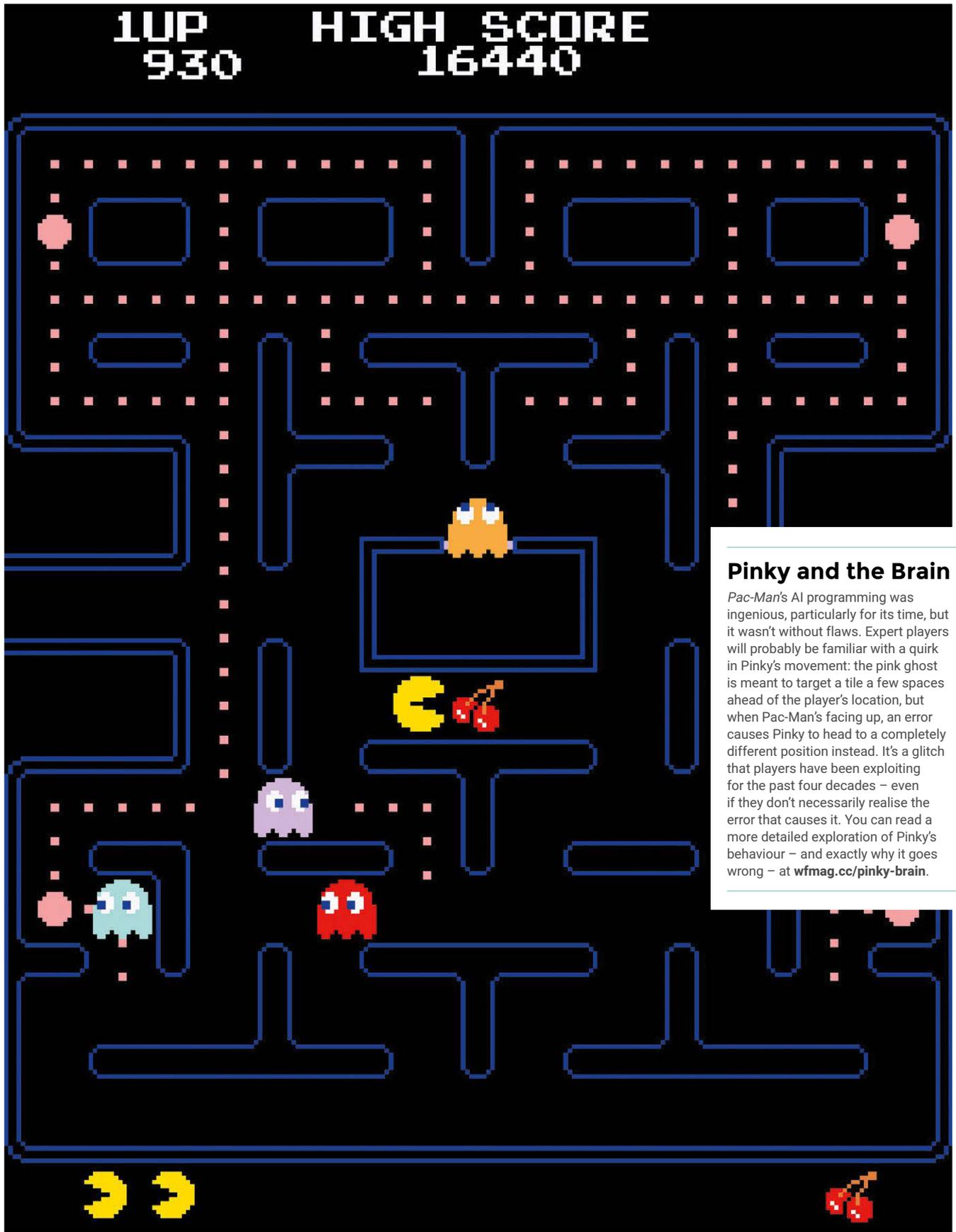
“It creates the illusion of hidden depth and complexity”

A less dedicated team of game designers might have made all the ghosts simply pursue the player relentlessly and called it a day; instead, Iwatani quickly realised that the game would be far more compelling if the ghosts attacked in waves. As Iwatani once said, “I wanted each ghostly enemy to have a specific character and its own particular movements, so they weren't all just chasing after Pac-Man in single file, which would have been tiresome and flat.”

Iwatani and his team devised individual movement routines for each of the four ghosts, which means that each behaves in a subtly different way; for example, Blinky, the red ghost, directly targets the player, while Inky, the blue ghost, is influenced by both the position of Pac-Man and Blinky. With a few simple rules like these, Iwatani created the illusion of non-player characters whose moves could be immediately recognised if the player spent enough time with

the game. *Starmancer* programmer Tyler Millershaski (see page 16) neatly summed it up this month when he told us: “Humans are so amazing at personifying inanimate objects and giving them intelligent agency that you'd almost never notice [how simple *Pac-Man*'s AI is]. The mental model that the player creates about your game is often wrong, and that's a good thing. It creates the illusion of hidden depth and complexity.”

For further proof that the ghosts were *Pac-Man*'s killer feature, look at *Rally-X*. Also released by Namco in 1980, it was a top-down maze game where the player collected flags and avoided enemy cars. It's basically the same as *Pac-Man*; indeed, Namco initially expected *Rally-X* to be the hit. Instead, it's *Pac-Man* we're playing 40 years on – still munching those pills, still trying to outwit those pesky, adorable ghosts. 🍷



Pinky and the Brain

Pac-Man's AI programming was ingenious, particularly for its time, but it wasn't without flaws. Expert players will probably be familiar with a quirk in Pinky's movement: the pink ghost is meant to target a tile a few spaces ahead of the player's location, but when Pac-Man's facing up, an error causes Pinky to head to a completely different position instead. It's a glitch that players have been exploiting for the past four decades – even if they don't necessarily realise the error that causes it. You can read a more detailed exploration of Pinky's behaviour – and exactly why it goes wrong – at wfmag.cc/pinky-brain.

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