Wireframe

LIFTING THE LID ON VIDEO GAMES

ANIMAL FARM

The inside story of a fascinating literary adaptation

TAKING SIDES

How to design better warring game factions

MONKEY ISLAND

Behind the scenes of a classic series

SEA OF STARS

THE MAKERS OF THE MESSENGER RETURN WITH AN ACTION RPG EPIC

The next generation

As a long-time tech and games writer, my house is full of kit. My daughter has grown up surrounded by it, mastering some gadgets at terrifying speed. When I was her age, the height of technology was an Atari joystick. By contrast, she was swiping through apps and games on an iPod touch before her second birthday.

Now she's older (the ripe old age of six), it's interesting to see how she and her friends play games. When I was that age, arcades were packed with punishing titles designed to limit you to a few minutes of game time. But even home console/computer efforts merrily battered your fragile ego as you battled with obtuse, opaque rulesets seemingly designed by sadists.

My daughter, though, buries herself in sedate fare. Her cherished Toca Boca apps focus on exploration and discovery; her favourite puzzlers lack timers and fail states. Games for her are all about passing time in a relaxed way – 'challenge' rarely enters the equation. Mastery happens in a gentle fashion, rather than via a punch in the face. In short, she prefers an experiment/repeat/succeed cycle, rather than an abrupt and brutal YOU DIED/GAME OVER.

This proved problematic when attempting to cajole her into playing games from my childhood. She enjoys watching someone else play and is adorably excited to watch me be terrible at *Super Mario Kart* (helpfully noting "You crashed again, daddy" when my ageing reactions fail to deftly deal with Nintendo's roster of psychopath road hogs), but doesn't want to try herself. The D-pad baffles, since she's long been immersed in worlds of direct – rather than remote – screen interaction.

I've persevered, though; after all, I'd eventually love a *Bubble Bobble* chum (Mrs G isn't keen). And, oddly, we found common ground in, of all games, *Gauntlet*. This arrived from an Arcade1Up review unit that

CRAIG GRANNELL

Craig Grannell has been writing about tech and games for more years than he cares to remember. He shares his time between black rectangles, too many games of *Polytopia*, and rediscovering one-button classics to play with the youngling. Tweet him: **@CraigGrannell**.

#43

sat in our lounge for months. The kid loved it, partly because it was a novelty – something new. But this was also a period where I worked very long hours, and so *Gauntlet* was something my daughter got to do "with dad" after dinner.

Beyond the bonding, though, it was clear *Gauntlet*'s mechanics were something the youngling considered friendly. This threw me, because – as long-time gamers will recall – *Gauntlet* was a notorious coin-muncher. It arrived during an era when games flipped from being about mastery on a single coin to encouraging you to continue indefinitely. That structure never appealed to me – it was so nakedly cynical, rewarding brute-forcing and deep pockets. In the context of the modern day and my daughter, though, *Gauntlet* became a retro take on her way to play.

Obviously, it helped that the Arcade1Up isn't entirely authentic: you can endlessly add virtual coins. So my kid could play, get annoyed at those little gits that lob rocks your way, and scream when multiple Deaths surrounded our battling duo. And all this mirrored her iPad titles in being fundamentally about experimenting, repeating, and succeeding, with effectively no risk and – for her – high reward.

This was a lesson in not making assumptions. Gaming has changed beyond recognition from my childhood loves – stupidly difficult games on now-ancient hardware – but it turns out some old ideas you might have considered bad at the time can find a new life in a different context. So, games creators: don't throw anything away; keep all your ideas stashed for later. And realise that even if you and your youngling – or other kids you're creating games for – are encouraged and motivated by different things than you are, there are nonetheless shared experiences you can enjoy that can appear from the most unlikely of places. Ⓦ

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WELCOME

What will the future look like? When a new era of consoles beckons, both hardware makers and game studios need to answer that question. After all, if they can't give us compelling reasons to part with our cash, then there's no reason to buy their devices. For the past couple of years, we've heard bits of info about The Initiative – the Microsoft-owned studio set up in 2018 with the express goal of "shipping high-quality titles at AAAA standards." At the time of writing, we don't know exactly what it's working on. My main wonder is what a quadruple-A game will look like. Clearly, it's intended to signal that the product will be a notch above the most expensively made games of the current generation. But beyond the marketing patter, what does that mean? An open-world game with a play area bigger than the Earth itself? More detailed snow and trees than even *Red Dead Redemption 2* could muster? Also, what will making a quadruple-A game mean for its developers? Even more crunch; even worse treatment of workers; even longer working hours? Workers chained to desks with vacuum tubes releasing packets of crisps at one-hour intervals?

One of the first big next-gen games will be *Call of Duty: Black Ops Cold War*, with its rubbery-looking Ronald Reagan. So maybe this is what we can expect from quadruple-A games: detailed yet oddly robotic faces from the past, looming eerily from our 4K screens. I've seen the future, and it's the face of a president whose favourite film was *Rambo: First Blood Part II*.

Ryan Lambie
Editor

THE LIGHT
FANTASTIC

The studio behind The Messenger returns with its ambitious homage to RPGs of the past in Sea of Stars

f 2018's *The Messenger* was Canadian studio Sabotage's love letter to the original *Ninja Gaiden* games, then the upcoming *Sea of Stars* is its affectionate homage to such SNES-era JRPGs as *Chrono Trigger* and *Illusion of Gaia*.

Although set in the same colourful, pixel art fantasy universe as *The Messenger*, *Sea of Stars* is also a far more ambitious project: its roster of characters is greater in number, each requiring more frames of animation. Its top-down map, an archipelago of bite-sized islands, is more sprawling and detailed than that earlier ninja platformer. And then there's its most eye-catching mechanic: the ability to dynamically control the movement of the sun with the left and right triggers.

It's an ability that its duo of protagonists, Valere and Zale, can use to solve puzzles and progress to new areas, but it's also a captivating bit of visual sleight of hand: in a world populated by 2D sprites, shadows lengthen and the light fades to a mellow gold and finally to the dead of night. It's a programming feat that *Sea of Stars'* creative director (and Sabotage president) Thierry Boulanger rightly describes as "black magic."

Beyond that solar trickery, *Sea of Stars* continues Sabotage's stated aim of making retro-style games that avoid the frustrations which often beset even the best eighties and nineties classics. So just as *The Messenger* minimised the cheap deaths and repetition of old action platformers, *Sea of Stars* eschews the random encounters and repetitive grind of vintage JRPGs. Sure, there's still turn-based combat and levelling, but like the classic *Chrono Trigger* before it, *Sea of Stars* places its story and exploration front and centre. "It's kind of like curating," Boulanger tells us. "You're taking an experience, recording it, and then analysing it in terms of game design and experience. How can we shape this [classic game] into just giving you the good stuff, and giving you more of it?"

Despite the global disruption wrought by the ongoing coronavirus pandemic, Sabotage managed to garner an impressive CAD$1.6 million from *Sea of Stars'* Kickstarter campaign back in March. So with the game now in full-scale development, we caught up with Boulanger and executive producer Philip Barclay to find out more about its conception, design, and the 'black magic' behind its dynamic lighting system. ➡

I guess you get asked this a lot, but why start a completely new game in *The Messenger* universe rather than a direct sequel?

Thierry Boulanger: When the studio was founded, there were five games that really needed to be made – there was this creative urge to make them and tell these stories that take place in the same universe. *The Messenger* started with three people working evenings and weekends to get a prototype together. And so when the studio was actually founded, we said, 'OK, we can afford maybe four people.' We couldn't afford to do a fully-fledged RPG, because that demands a bigger team. We have 16 people now, which is what we need to make [*Sea of Stars*] properly. *The Messenger* was, of the games we were really excited to make, the one that was the most approachable and made the most sense. The idea was also to build a fan base around this universe, and then have enough people trusting us to take on bigger systems, and believe we'll be able to treat them well. So that's where we are now.

The Kickstarter campaign did incredibly well. What was the planning like, then, before that campaign started? How much time and work went into it?

TB: In terms of the prototype, we started working about a year prior, because there's some black magic going on with the lighting [*more on this later – Ed*]. So on the technical groundwork, we have two people – one technical artist and one tools programmer – just working on the engine to make sure we have the basic concept we needed. Then we took about two and a half months of production with a small portion of the eventual team to make a first slice we could show. Then we knew we had 19 March, which was the spring equinox – which was a really good fit for the game's narrative. Then it was all Phil [Barclay's] planning and months of putting it together.

Philip Barclay: When it came to marketing strategy, we started around mid-September 2019, thinking about the brand and everything related to the deployment. It was also our first crowdfunding campaign, so there was the research and talking to people, getting some inside information about how to run a campaign and the challenges you get.
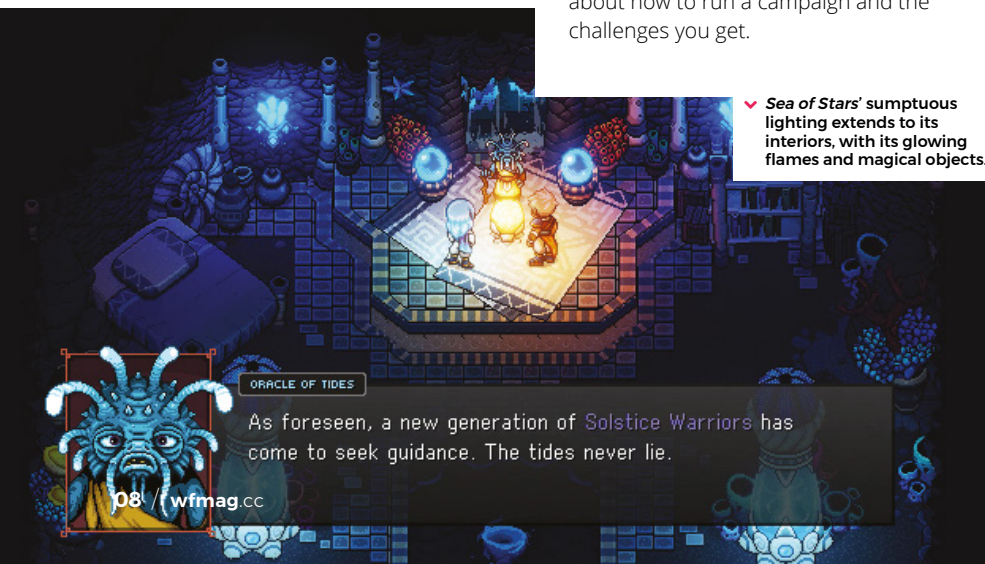
We were planning on revealing at GDC, and to be there physically, so we booked all of the meetings in a suite right in front of the convention centre. All of that got cancelled three weeks prior to the event, so we had to pivot all the strategy for the last three weeks and do it remotely. All in all, everything related to marketing, deployment, and the reveal took close to six months of preparation.

We didn't expect that much of a response [to the Kickstarter] – it was sort of a surprise to us, plus the whole context was… nobody has pandemic marketing experience, so we didn't really know what would happen [laughs]. Is it a faux-pas to reveal your game at the beginning of confinement week? It was a great surprise, but it also led to a lot of community management – just managing all this attention was really super-intense.

The dynamic lighting in *Sea of Stars* feeds into the gameplay itself – was that the creative spark at the start of the game?

TB: Yes, absolutely. The idea of playing with light and letting the player change the time of day and then that affecting mechanisms you can activate. We always start with a simple, cool idea that can serve a big story. In the case of *The Messenger*, it was time travel, but it wasn't like, 'Hey look, here's time travel in this game' and it's the first thing you do a few minutes in. It wasn't presented as a gimmick.
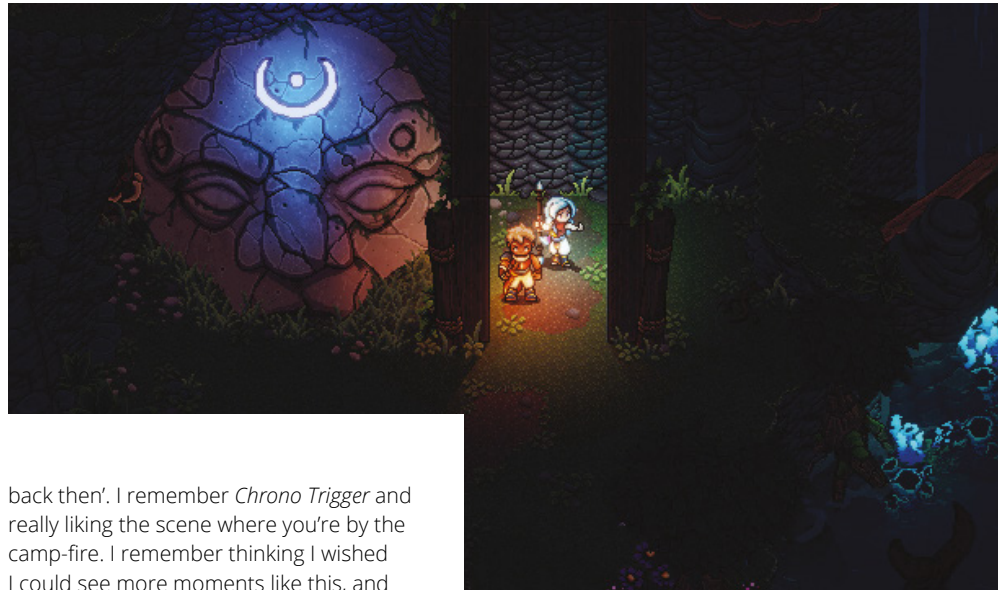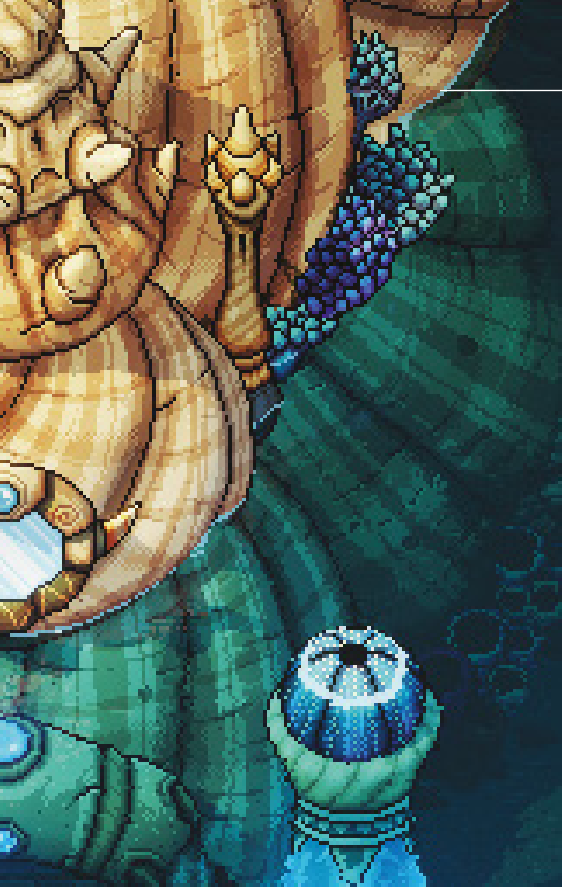
^ Manipulating the lighting allows you to solve puzzles and uncover secrets, like the glowing rune on this statue's forehead.

[With *Sea of Stars*], we aren't saying we can be lazy with all the systems because the lighting is so cool... Lighting control comes fairly late in the game, and it ties meaningfully into the story – or at least that's the intention – and then adds another layer to what you can do.

From a technical standpoint, how does the dynamic lighting work?
TB: Say your character's facing the camera – we already have a sprite for it facing to the left. We already have our character running in eight angles, so we have those eight angles to approximate a shadow that will fit. The black magic is in the morphing algorithm, to give you the 360-degree effect, so when the sun's doing a whole loop of the day, it can calculate and manipulate the pixels between those eight angles.

It's pretty cool, because these shadows are almost free in terms of creating assets. You're going to draw your sprite sheets anyway, so if you have a technical way to reuse them to do your effects, then you're all good.

Is that one of the things you talk about as a team – how to pull things off today that you couldn't hope to on nineties hardware?
TB: For sure. It comes from the creative standpoint of 'things I wish games did

back then'. I remember *Chrono Trigger* and really liking the scene where you're by the camp-fire. I remember thinking I wished I could see more moments like this, and [that] I could see time flow naturally as I'm traversing the world.

[*Sea of Stars*] started with the idea of having [dynamic] shadows in a 2D game, which isn't supposed to happen, even now – you really need solid 3D shapes that you can base [the shadows] on. So it started with this crazy proposition: here's lighting in this perfectly 3D game, and here's a classic RPG, so how do we mix the two? The whole team was like, 'You're crazy – that's impossible'.

One year before we presented the game, we started testing different hypotheses of how we could approach this. We tossed at least 20 approaches before we found the one that felt right, and didn't have a cost that was too steep in terms of production. Because of course you could do the whole thing in 3D, but then think of your animation pipelines – you'd need to add rigging and 3D animators, and constantly make sure that everything is 1:1, and if you make a modification... it would be impossible. It was as much finding a way of making it work visually, but also that would work with a team of four animators and a couple of programmers.

Was there a similar iterative process with combat as well? Because I understand *Sea of Stars*' approach to that element is quite different from a typical JRPG.
TB: The vision for combat was clearer, because by the time the project was presented to the team, it'd been mulled over for years, and came back as something easier to visualise. So we did try a few ➡

TIMELESS

"*Chrono Trigger* is my yearly pilgrimage," Boulanger says of Square Enix's JRPG titan. "And every time, I notice new details, and how seamless it is. It's not just about the adventure. You're not just trumping the systems or managing the numbers, you're just into the story. Also, *Chrono Trigger* is one where you can pretty much skip as much combat as you want and you'll be fine. You'll never be stuck on a boss and think, 'Oh, I should have fought more'. It doesn't seem intuitive at first; you might think, 'Doesn't that ruin the experience?', but it's more about the story first, and then the action is pacing the story. It doesn't necessarily make for the best hardcore RPG with the systems and the grinding and managing your experience points, but it certainly tells the most compelling story, and it's the thing that I care to replay the most."

▲ Sabotage president and creative director, Thierry Boulanger (left) and *Sea of Stars* executive producer, Philip Barclay (right).

USE YOUR ILLUSION

"Another one that's a big influence – and a yearly pilgrimage – is *Illusion of Gaia*, or *Illusion of Time*, depending on where you're from," Boulanger tells us. "You just flow through the story. It could have been twice as long if they'd put more enemies in, or had you kill them many times or whatever, or they'd chucked in boring dungeons by reusing assets. But they didn't, so it becomes a game you can play endlessly, because it has no tedium, and no boring portions that make you think, 'Because of this, I'll never play it again'. It just flows."

things, but the idea that the combat would take place in the area you're traversing, and also that you see all your characters all the time, the dynamic of seeing your characters jumping and attacking, and also the *Mario & Luigi* games' idea of timing your inputs to better the outcome of blocks and attacks… these were the atoms, if you will, that had to be there no matter what.

And no random encounters – I guess that factors back into what you were saying about not padding the game.
TB: Right. The thing with random encounters is, they add friction – I remember giving up on trying to get to a chest in, say, *Final Fantasy VI*, because it's like, 'I don't want to fight six times to get there. It's probably just a potion'. You know? I could use three potions just to get to the chest. But also, I remember how fresh it felt to play *Chrono Trigger* – to be on the world map and there was no combat whatsoever. You're free to roam, listening to the music, looking at the sea-gulls, and it's great. I think that was a standard that was never questioned before then, and has rarely been done – if at all – since.

Do you feel like there are certain things you learned on *The Messenger* that you brought over to this game?
TB: The main thing I learned was, we needed a producer! We didn't have someone like Phil for *The Messenger*. For me, trying to do gameplay coding and writing the story and directing the thing as well as handling the production – it was too much. And now the scope is bigger – in terms of scope, *Sea of Stars* is four times as big. Not necessarily in terms of playtime, but in terms of the team and the timeline. It's twice the team [size]

▼ Combat is turn-based, but the addition of *Mario & Luigi*-style timed hits gives it an arcade feel.

and twice the development time. I would go crazy trying to deal with all that.
PB: I joined four months prior to Picnic Panic, which was the DLC for *The Messenger*. On my end, it was about finding the sweet spot between under-management and over-management of the team. We cherry-picked all the members of the team, and it's a really friendly environment, but still with a lot of pressure. I think the market in 2020 expects blood – the quality of the game has to be there. This was my first experience in an indie studio – I came from a much bigger company. So just finding that spot where you need some kind of processes in the team, you need some structure, but if you put in too much structure, you're going to kill the creative, friendly vibe. But if you don't put in enough structure, then it's going to be chaos – you lose a lot of focus.

With the scope of the production, what's your process for handling that workload and keeping it on track?
TB: If you take *The Messenger*, your character's running from left to right, so it's just one run animation [and you can flip it]. Now there are eight angles – you can flip some of them, but you still have to do five at least. That's what I mean when I say the game's not necessarily four times the playtime, but certainly four times the scope in production. How [do] we approach it? With very long pre-production, which is something we really believe in. It was the main irritation for most of the team, when it didn't happen at most of the other studios we used to work at – they just went straight into production right away.
   We really went with the vertical slice approach. You have two playable characters, because you really need to show the combo
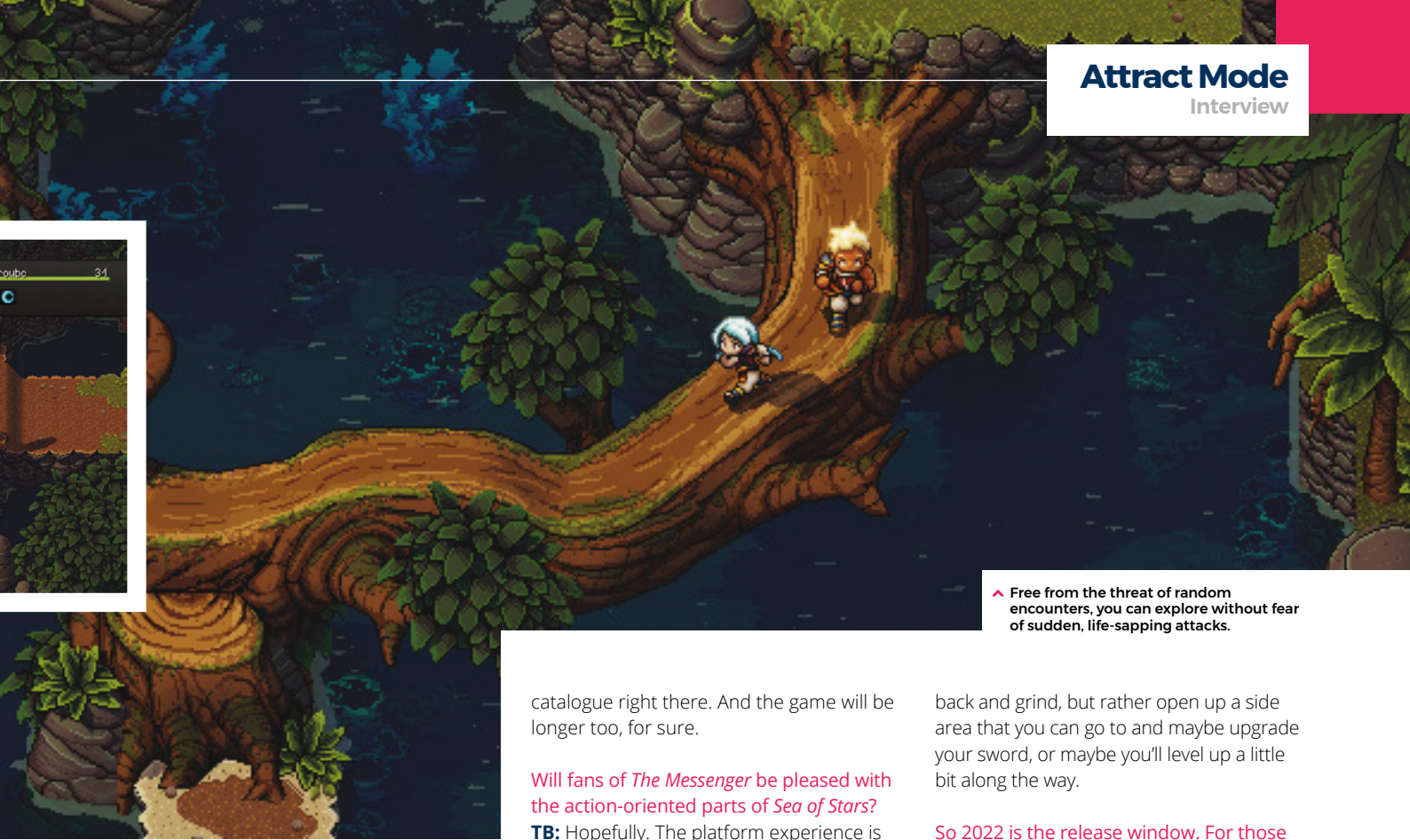
▲ Free from the threat of random encounters, you can explore without fear of sudden, life-sapping attacks.

attacks and the synergy between them, and the different damage types you can use, the decisions in combat, and all that. So one outdoor area would force us to do more vegetation – trees and leaves and whatnot – then an indoor cavern dungeon is more moody with fog. Then one village where you get to talk [to people], and then a miniboss. So it had a bit of everything, right? That forced us to develop all the systems, and so that also made us assess everything.

> ## "I remember how fresh it felt to play *Chrono Trigger* – to be on the map and there was no combat whatsoever"

Do you think in terms of the scale of the world you're building, it's comparable to *The Messenger*?

TB: In *The Messenger*, there was a flood, and there was only one island left. Then that island was cursed, and you played the ninja who had to carry the scroll across it. *Sea of Stars* is a prequel, so we're going back in time to before the flood, and there are many islands. So in terms of the places you'll be going, and the variety of environment, people you'll be meeting, and enemies and all that, it's a much bigger

catalogue right there. And the game will be longer too, for sure.

Will fans of *The Messenger* be pleased with the action-oriented parts of *Sea of Stars*?

TB: Hopefully. The platform experience is being put to really good use, because you can really interact with the environment – you can jump off everything, go tight-rope walking, and ledge walking. We're bringing this adventure feel to it. We want to be careful with the term Metroidvania, especially after *The Messenger* had its own debate about whether or not it is one. But certainly, the idea that there's a thing you can see that you can't reach, and then later on in the game you find some traversal upgrade, and then you think, 'Ah, now I can remove this block of ice or whatever and open up a hidden path'. Sailing hasn't been unveiled yet, but it is its own arcade game you'll get to play with; hopefully, people will find [it] interesting enough that they just want to kick back and sail for a while.

It's a different way of creating a sense of progression, too, rather than grinding.

TB: Right. We're doing away with grinding, so it'll be more about finding every single enemy and destroying all of them if you're stuck somewhere, or if you feel you should be stronger, your best option won't be to go

back and grind, but rather open up a side area that you can go to and maybe upgrade your sword, or maybe you'll level up a little bit along the way.

So 2022 is the release window. For those next two years, is it a case of expanding that vertical slice to all those other islands?

TB: Yeah, it's going from a vertical slice, which is two dungeons and one town, to making the whole thing! We have the script outlined, and everything in the game, who the characters are, and all that. So at the moment we're working on concept art and character designs, and then they go into production on the sprites. We're also blocking with grey boxes – testing level design ideas, finding out if they're fun to navigate. And then finding all these micro-moments that bring satisfaction to using the controls. Then we want hundreds of these that we can sprinkle here and there through the game's dungeons. So now we're in full production, and the team's fully 100-percent focused on making this. Ⓦ

Sea of Stars **is due for release in 2022.**
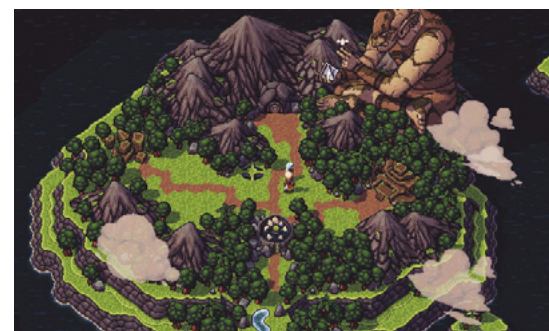
Summer of Joy

Illustrator and art director Tanya Jaiswal chats to us about her romantic musical puzzler

Info

GENRE
Musical puzzler

FORMAT
iOS

DEVELOPER
Hypernova Interactive

PUBLISHER
Hypernova Interactive

RELEASE
TBA 2021

▼ *Summer of Joy*'s clean, simple art style reflects the innocence and nostalgia in the game's story.

I n the UK, the nights are drawing in. Jumpers and cardigans are poised in drawers and wardrobes across the land, waiting to be freed. But in *Summer of Joy*, the forthcoming musical puzzler, the flowers are in bloom, and the sun still shines. This is the upcoming iOS musical-puzzler hybrid from Hypernova Interactive – a handheld game that's less about challenge and more about evoking a mood: the first flourish of young love, and how our emotions change over time. It's a personal game for Tanya Jaiswal; not only is she serving as the animator, illustrator, and art director, but she's also drawing on her experiences for its plot. "It traverses through the pleasures and pressures of young love, and ventures into the difficulty of growing up and discovering yourself," Jaiswal tells us. "The story was inspired by events in my personal life that led me to realise how much our love for others can impact us, and make us dependent. Often when distance and time meet at a crossroads, where we finally have the chance to glance on ourselves, we then realise we no longer recognise the parts that make us."

To tell its story, *Summer of Joy* serves up a series of simple minigames that combine music and light puzzling – tapping objects in time to a beat, say – with interactive storytelling akin to a point-and-click adventure. Tying it all together is Jaiswal's artwork, which, with its clean lines and pastel colour palette, perfectly captures the whimsical yet faintly melancholy tone of her story: we watch as the game's characters meet, play together, grow up, and how their relationships change over time. "The female protagonists of *Summer of Joy* represent a past self – an ever-radiant energy that I feel I may have lost as [I've grown] older," Jaiswal says. "The male protagonist represents a jumble of people I've met, and how some of them, in order to help others, sacrificed a part of themselves. I would say the relationship between the two protagonists was inspired by my own friendships, and my own relationships."

Jaiswal distilled all that into her artwork through a mixture of real-life reference, Photoshop, and Adobe Animate. "The art process for this game has been mostly digital. I'd research for the kind of moment I wanted to create – for example, kids playing in a beautiful field – that is meant to symbolise their childhood… I'd then start roughly drawing the elements – like the kinds of trees, statues, etc that would help bring the scene to life."

Summer of Joy is already two years into its development – a period that has seen it grow far beyond its initial concept. In fact, the game started out under an entirely different title and
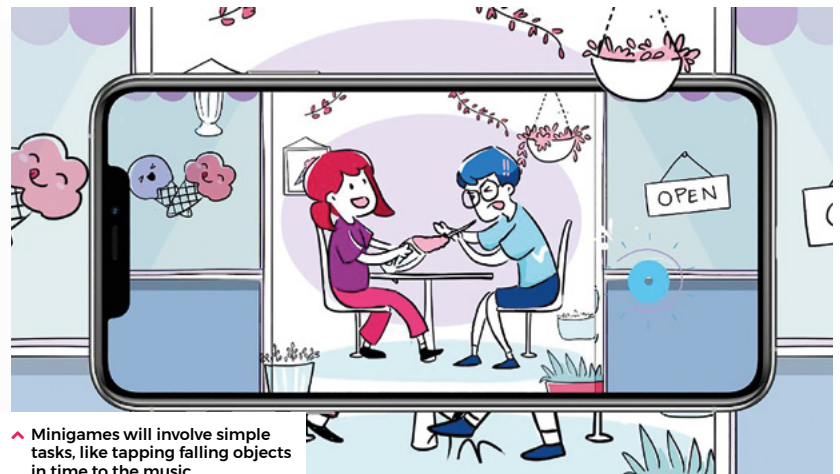
Minigames will involve simple tasks, like tapping falling objects in time to the music.

premise: called *Garden Sonata*, it was a musical game about growing plants. While the concept was still a few grey boxes on a screen, however, a new direction began to present itself, Jaiswal explains. "The first time *Garden Sonata* become *Summer of Joy* was when I created a proof of concept in After Effects – a software used to create movies. I faked interactivity, with an animated mouse cursor clicking things and 'interacting' with them – and created the first 15 minutes of the game… honestly, it was one of the best ways for me to be able to explain how the experience would unfold."

Since then, *Summer of Joy*'s development has been something of a learning process for Jaiswal, who's more from an illustration background than game design. "I started thinking of how I could make my players embody a part of the story," she says. "How they'd participate and choose to feel a certain emotion – and cause key incidents in the story. The learning process was quite fun. I started reading up on the narrative, musical, and social design used in games. I also spent a lot of

"It traverses through the pleasures and pressures of young love"

time playing music- and story-based games and finding their creators' GDC talks to understand their thinking."

Development has stopped and started a couple of times, too, according to Jaiswal, with attention shifting to other projects with more pressing deadlines. But, says Jaiswal, the game's scope has also increased over the past two years. "The game story is actually quite big – so big that we've had to cut it down to three different parts that would release sequentially at different times. So the work never really feels done."

There is an end in sight for *Summer of Joy*'s first part, though: originally scheduled for release this year, it's now pencilled in for launch next summer – when the sun's out again, and those cardigans and jumpers are safely stashed away. "Part one focuses on innocent love, and the blissful childhood," Jaiswal says. "*Summer of Joy* is definitely going to leave you with a warm heart and a bright summer smile – for all the childhood adventures you've had and the adult ones yet to come." Ⓦ

Jaiswal cites *Night in the Woods* as an influence: "It beautifully and metaphorically depicts the changes and stillness in life," she says.

PROOF OF CONCEPT

For Jaiswal, creating a non-interactive video was an ideal way of quickly communicating the game's concept and tone to her team. "I made the first prototype for *Summer of Joy* in After Effects, faking interactivity using a PNG of a mouse cursor. When I was done with the first two chapters, it looked like a full gameplay playthrough video. I had a solid proof of concept that helped the developers plan for the kind of system we'd need – the kind of comic transitions, camera angles, interactivity, and so on. The whole process was quite exciting and new. It was definitely thrilling for my entire team to be able to exactly predict and see the final outcome – knowing that it can only get better from here."
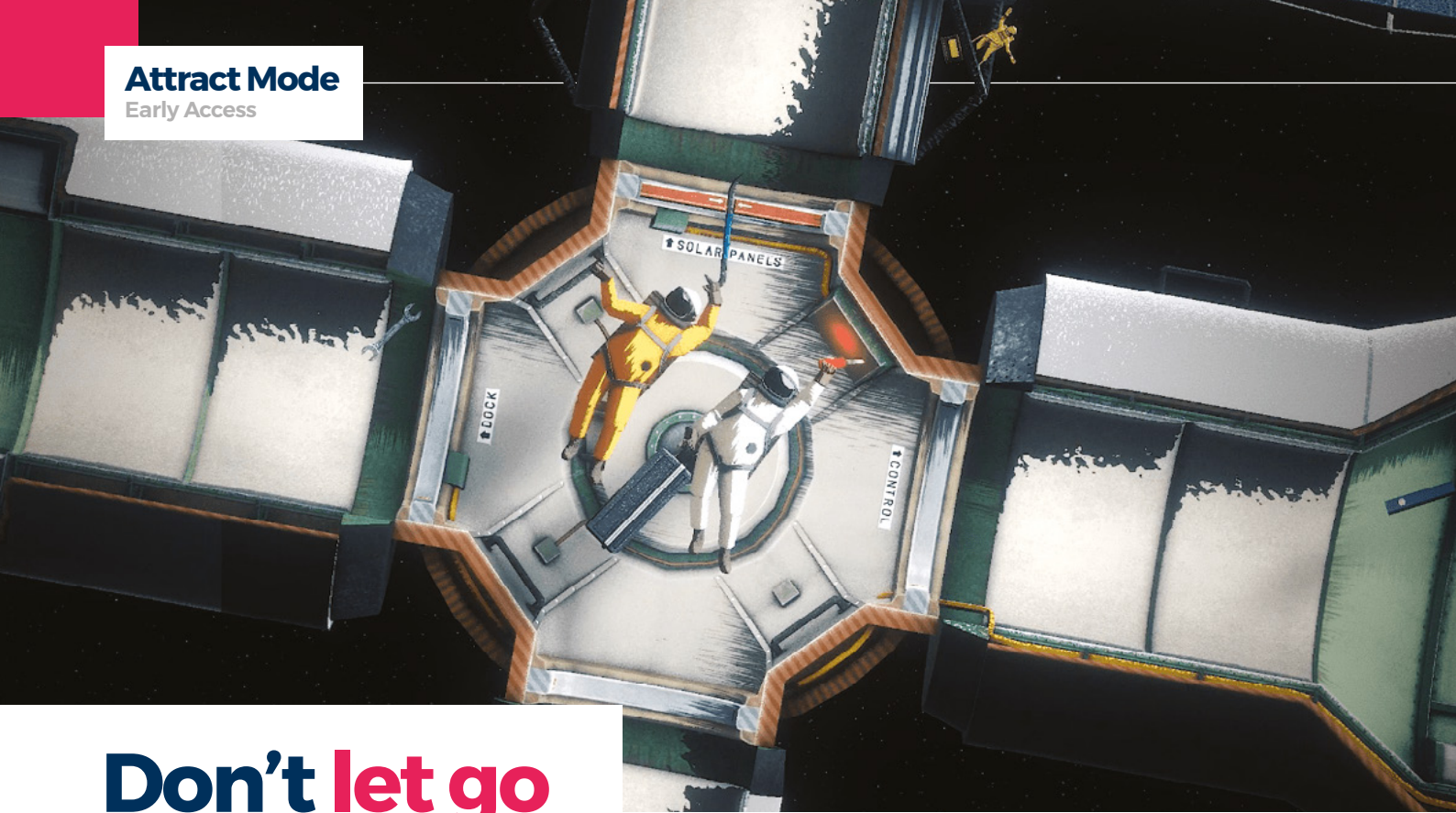
Don't let go

Melbourne's 2pt Interactive gives us the lowdown on its dizzying space sim, Heavenly Bodies

Info

GENRE
Space-'em-up

**FORMAT**
PS4 / PS5 / PC / Mac

DEVELOPER
2pt Interactive

PUBLISHER
2pt Interactive

RELEASE
August 2021

R emember *Gravity*, the 2013 film that cast Sandra Bullock and George Clooney as a pair of beleaguered astronauts clinging to life in our planet's upper atmosphere? There's more than a hint of that movie's vibe flowing through Australian studio 2pt Interactive's upcoming game, *Heavenly Bodies*. Admittedly, their game lacks the movie's star wattage, but ably harnesses the claustrophobia, danger, and sheer panic of working in a weightless environment – particularly when things start to go wrong, and you're left grasping for something, anything to prevent you from being flung into the inky void.

Key to *Heavenly Bodies*' action is its control system, in which your astronaut's arms are individually moved with the left and right analogue sticks, while their grip is opened and closed with the left and right triggers. Pressing the shoulder buttons, meanwhile, will cause the astronaut's legs to kick. This, allied to a detailed 2D simulation of a zero-gravity environment, results in one of those physics-based games where adapting to the controls is part of the challenge. "We wanted to create an experience which captures the nuances of manoeuvring in a weightless vacuum," explains designer and visual artist Josh Tatangelo, "driven by what we imagined it must feel like to be on board something like the International Space Station, gracefully pushing down corridors and tumbling around. It was a compelling design problem for us, and it took many forms along the way as we iterated through ideas."

Mastering the movement of your arms and legs, and using them to kick and haul yourself around the space station's environment, soon becomes pivotal: even in the game's quieter moments, you'll be given routine maintenance tasks to complete that will require the careful operation of tools and switches. But eventually, inevitably, those cerebral moments will give way to critical situations where split-second decisions will mean the difference between life and death.
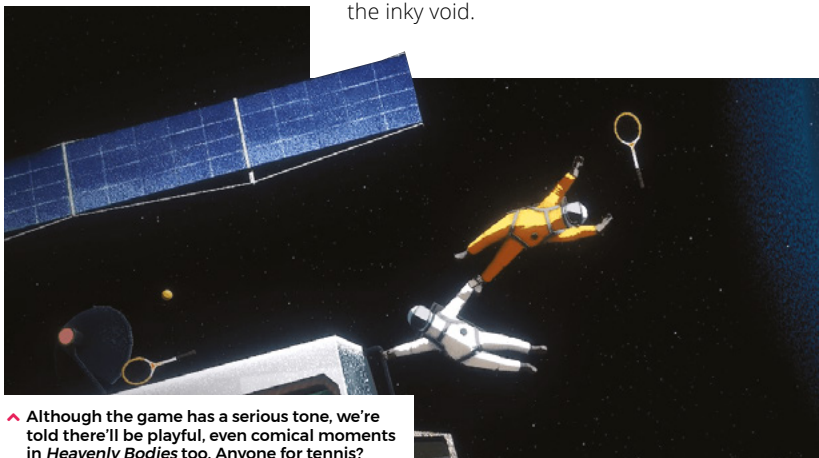
˄ Although the game has a serious tone, we're told there'll be playful, even comical moments in *Heavenly Bodies* too. Anyone for tennis?

▲ *Heavenly Bodies'* look is achieved with 3D models, hand-drawn textures, and custom shaders, and designed to evoke memories of old technical illustrations.

▼ According to 2pt Interactive, research into real-world space stations has been extensive, but they're not entirely beholden to realism.

"The scenarios we have planned all vary in intensity, ranging from slow-paced routine maintenance through to delicate machinery operation and tense [extra-vehicular activities, or scenes outside the space station]," Tatangelo tells us. "We find there is a natural drama that occurs in the game where, with one wrong move, seemingly simple tasks quickly elevate into an intense rescue mission. We like to play on this contrast and drama wherever possible rather than putting players directly in the path of danger – sometimes just getting the job done can be tense enough."

Fortunately, you don't have to perform all these tasks alone – a friend can join the action as the George Clooney to your Sandra Bullock (or vice versa). "Everything can be accomplished alone, but having a friend in the same space opens up avenues for emergent play and role-play," says Tatangelo. "We see co-op as an extension of the single-player experience that encourages creative play and exploration of interesting ways to get tasks done with someone else in the space, which can have a significant impact on the tone of the game, too. Things may seem quite stoic and serious with one person in the scene, and that then suddenly turns into a comedy when there are two people trying to work together."

When an early gameplay demo emerged on Steam in 2019, one of *Heavenly Bodies'* most immediately striking aspects was the detail of its zero-gravity simulation; open an air-lock door, and you could watch as the station's contents got sucked out into space. According to director Alex Perrin, Unity's built-in physics engine has done some of the heavy lifting here, so to speak, but fine-tuning how the player characters behave in this zero-gravity environment has required a lot of work behind the scenes. "One of the greatest challenges has been to have the player's movement generally respect classical laws of motion whilst remaining at least somewhat intuitive and entertaining,"

"Seemingly simple tasks escalate into an intense rescue mission"

says Perrin. "Many players struggle with the idea of inertia and kinetic energy transfer to perform movement, so we're making some more accessible movement modes available where players can swim with their arms and kick with their legs (don't tell Newton)."

We had to ask, though: just how many objects can the game throw around in space? Can we expect the kinds of kaleidoscopic explosions of debris that we saw in the *Gravity* movie? "Surprisingly, we've yet to encounter the upper limit for how many objects we can simulate at once," Perrin reveals. "As one of the greater computational bottlenecks for physics sims is collisions, it's interesting to note that with the absence of gravity, there are actually very few objects in contact with surfaces at any given moment. Because of this, we're comfortably playing in scenes where literally the *entire* level is physically simulated with many hundreds, if not thousands, of objects."

With these interlocking systems in place, 2pt Interactive hope to make a game that's elegant, sometimes faintly comical, and often very tense. Players will be rewarded for getting to grips with the control scheme, but all the same, Perrin says, the game will provide a stern challenge for even the most seasoned astronauts. "If there's one thing we want to make clear, it's that *Heavenly Bodies* is a tough game," he tells us. "One of my favourite challenges, however, is having to reattach a disconnected RCS thruster for an asteroid mining craft that's taken damage and is spinning out of control. It's brain-bending and utterly terrifying." You have been warned. ⓦ

NEXT-GEN GRAVITY

As well as being available on PC and PS4, *Heavenly Bodies* will be among the earlier releases for the PlayStation 5. So will we see any enhancements in the next-gen edition? "It's too early to say exactly what differences we'll see between PS4 and PS5 versions," Perrin says, "though we can pretty well guarantee that you'll feel better performance and see general improved visual fidelity on the PS5. Physics-wise, we'll have to see how far we can push the dials. Maybe we'll need to start simulating things at an atomic level (just because we can)."

One area players will definitely be able to notice a difference, however, is in the PS5's DualSense controller. "With the PS5's DualSense controller, we're excited to enable players to feel the surfaces they're holding onto via adaptive triggers and juicy haptic feedback."

^ Yo ho ho and a bottle of… suntan lotion.

ARRRR**RRRR**
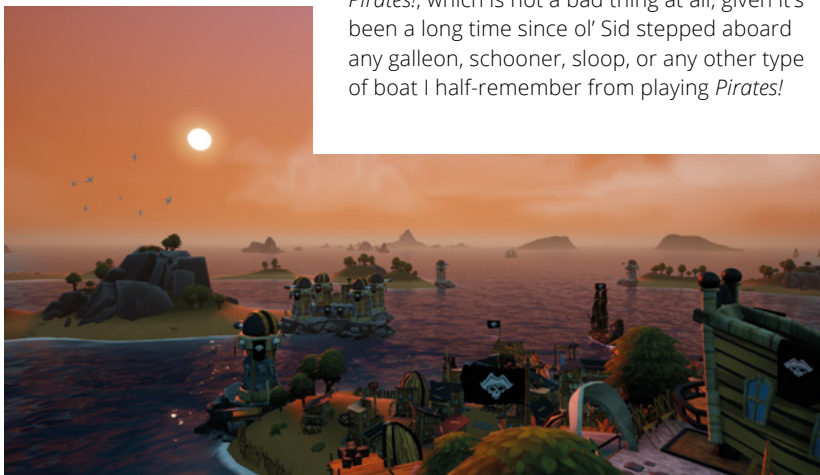
Gettin' all peg-leggy in King of Seas

˅ The procedurally generated world allows the small dev team to make a much bigger world.

I n real terms, pirates were pretty horrible and not particularly worth celebrating, unless you *really* enjoy sticking it to the man (while also engaging in plenty of murdering). In game terms, though, piratical pursuits are the stuff of dreams: sanitised to the point where the grime of reality hardly gets a look-in, games with piratey themes allow us to live life on the high seas, free of the pressures of pesky things like 'rules' and 'decorum'. If I don't want to wear trousers, *I shouldn't have to wear trousers*, you know? It speaks to us all.

King of Seas attempts to go down this well-worn path, calling 'anchors aweigh' and setting sail on a journey to the promised land of… well, it's an action-RPG in a procedurally generated world, basically, and it brings to mind *Sid Meier's Pirates!*, which is not a bad thing at all, given it's been a long time since ol' Sid stepped aboard any galleon, schooner, sloop, or any other type of boat I half-remember from playing *Pirates!*

on PSP religiously. Me hearties thoroughly arr-ed, we threw a few questions in the direction of Luca Cafasso, game director at developer 3DClouds, and chewed on a few limes to stave off scurvy while waiting for his answers.

The studio's previous experience is mainly in the realms of racing games, so a pivot to the open ocean was a big move for the team: "[In most cases], we are a team that has been developing racing games, so we could not radically change too many development pipelines and abandon completely our expertise," Cafasso says. "We wanted to create something where we could apply our strength as a development team. So we started to explore what we could create while sticking to the concept of vehicles, and discovered that there was a chance to develop a great pirate game where the player can control their own pirate ship instead of a vehicle."

It might not seem so at first, but when you think about it, moving from racing to piracy… makes sense. It's all vehicle control, just with different physics and input feedback required. "The thing that made it possible for us to make such a big jump was the shared architecture we could keep from a racing vehicle to a sailing galleon," Cafasso explains. "Instead of reusing existing features, it was the team's expertise in animating and delivering high-quality vehicles that allowed us to have a good-looking and handling prototype. From that point, we knew that the challenge was going to be big, but everyone on the team has always been enthusiastic about it and that helps a lot."

Those *Pirates!* inspirations run throughout the game, and fandom of the classic open-world plunder-'em-up is very much A Thing at the studio, with Cafasso explaining Meier's game was a big influence on *King of Seas*: "I believe there's a lot of players like us out there who have been missing a game as well-executed as that for a long time," he says. "The fact *Sid Meier's Pirates!* is still a reference point for lovers of the pirate genre is a strong reason and inspiration [for] why we decided to create *King of Seas*." That said, 3DClouds' game doesn't stick to any real historical accuracy as the other title did, with the team wanting to move away from that particular constraint.

A constraint *King of Seas* does introduce, however, is staying aboard your ship. There's no moving inland to search for buried treasure or woo the governor's daughter, for example. This decision was made by the team in order to nail the focus; to make sure the experience could be as honed as a studio inexperienced in the genre could make it. "As soon as we tried to think of a solution to let the player step on to the islands, the scope of the game became too broad and we could have risked making the players do a lot of things that were not that memorable," says Cafasso. "But thanks to this limitation, we've been able to add a lot of depth to the gameplay, [including] features like an RPG progression system, a quest system that generates pirate adventures, and a main story campaign, to mention a few."

Rather than crafting everything by hand, the team of 'around 18 members' has worked on a procedural generation system for the world of *King of Seas*, something planned from day one and an element Cafasso is particularly proud of in the game's development. "We had a lot of challenges to face, but this feature is something we've been able to get working in the early phase of development, and from the beginning [it] gave us the opportunity to test the game in this fantastic open world," he says. "We just had to keep filling this unique world with awesome things to bring it to life. It was a really good motivator for the team, seeing from the first day what we were able to create thanks to the procedurally generated system."

▲ Some wrecks you might stumble upon, other wrecks you might just create.

"We had to just keep filling this unique world with awesome things"

The procedural approach allows small teams to make worlds far larger than they might otherwise be able to – while not a solution for every sort of game, it does make sense in *King of Seas*. The open seas, ripe for exploration and ship-to-ship combat, are a perfect place for an algorithm to make things up as you play. Even though that's the case, there are of course linear, crafted elements to the game – elements like the narrative and missions core to the overall progression, say. So it's a mix, with an emphasis on the procedural generation in the most part.

It's fair to say nobody expects the world to be changed with *King of Seas*, but it's nice to see a small indie take the chance to move into uncharted waters (*wahey!*) for a new release. Plus, let's be honest, there's nothing wrong with looking to the best for inspiration, and anything paying homage to *Sid Meier's Pirates!* is very much welcome. Ⓦ

▼ Anyone familiar with *Sid Meier's Pirates!* will immediately notice the similarities here. It's a homage, friends.

That was the month that was

02

01

01. Kicking off

The Xbox Series X and Xbox Series S, to give them their shockingly dull names, will be arriving on shores worldwide on 10 November, priced at £450 and £250 respectively. Pre-orders will be on the go by the time you read this too, so if you've missed that… *sorry*?

Regarding that £200 difference between the big and little machines: the Series X is the flagship and is priced accordingly, with the Series S the cut-back, digital-only machine with an exhaust grill that looks like a speaker. But it's not a case of one being shockingly better than the other – relatively speaking, the 'budget' console punches well above its £250 price. It's the same processor running slightly slower, with games generally lower in resolution and frame rate rather than *sixty eff pee ess four kaaaay*, as with the Series X.

Microsoft is also pushing its 0% interest credit agreement (via Klarna) to the UK, meaning you'll be able to pick up a Series S or X from Game or Smyths Toys for a set cost over 24 months, with a Game Pass subscription. And finally: EA Play is joining Game Pass for free, meaning lots more games on one of the best subscription services out there. Phew.

02. Kicking off (the second half)

Sony waited a whole few days before revealing its release date(s) and prices for the PS5. The full-fat console with UHD Blu-ray drive comes in at £450, exactly the same price as the Series X. The digital-only console lands at £360 – the disparity between competing consoles comes down to the fact that the Series S is a lower spec, whereas the digital edition PS5 is exactly the same as the full-fat model, just lacking that disc drive. So it makes sense, even if many regular consumers will just see the cheaper price and not much else.

Sony also announced the PlayStation Plus Collection which a) adds a bunch of first-and-third-party PS4 titles for PS Plus subscribers with a PS5, and b) feels a bit hastily thrown together to counter Xbox's Game Pass. It'll be nice to have the likes of *Horizon Zero Dawn* and *Uncharted 4* to play, mind.

As for launch, while in the States (and some other areas) it's only a two-day wait following the new Xbox launches, here in Europe we have to wait *a whole week* after the Series series hits – 19 November. The pain might be too much to bear, surely.

The Witcher 3 getting next-gen update, free to current-gen owners

And *Cyberpunk 2077* will see no more delays, apparently (releasing 19 November)

04

03

05
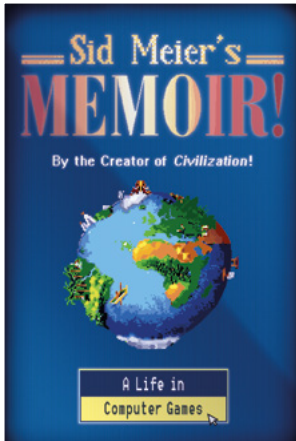
03. Girldoom or Boydoom?

Let's just be upfront about this: it's not 100% true, there's jiggery-pokery involved in that the person who did this ripped the guts out of the test kit and introduced their own hardware into the mix. It's cheating. *But...* a tinkerer by the handle of **@Foone** has introduced the world to the mightiest of all FPSes, *DOOM*, running on... a pregnancy test. It's a few dots and is hard to see what's actually happening, but if you're familiar with E1M1 at all, the video here (**wfmag.cc/Doompreg**) is recognisably *DOOM*-y. Ridiculous.

Added bonus fun: you can now play *DOOM* inside *Minecraft*, using virtual computer tech in the endlessly impressive build-'em-up. *Ridiculous*.

04. Meimories

The man with a name you've seen a million times before but still struggle to spell it, Sid Mey... Mie... Meir... *Meier* has seen a memoir released with the snappy title of *Sid Meier's Memoir!* Yes, the exclamation mark is part of the title. Yes, it's a very *knowing* title. Yes, it's something we're immediately fond of.

The tome includes many a thought and tale from the life of one of strategy gaming's greats, with Sid revealing snacks for the brain like how the Gandhi 'overflow' bug in the original *Civilization* – basically the claim the Indian leader's aggression was set so low, when it was lowered further, below zero, during play it went haywire and hyper-aggressive – wasn't actually the case. Instead, it was a matter of perspective and the humble leader was merely using mutually assured destruction as a peacemaking tool. Constantly. More here: **wfmag.cc/Meimoir**.

05. Wait, what?

Out of absolutely nowhere, Microsoft announced it had entered an agreement to acquire Bethesda Softworks – more specifically, ZeniMax Media, parent company of Bethesda.

Xbox chief Phil Spencer put out an official announcement – the acquisition would be going ahead, Bethesda's games would appear on Game Pass for Xbox and PC, and the future of the company and all its studios is bright. The deal has cost Microsoft $7.5bn in cash, and the structure and staffing at ZeniMax is stated to be remaining as-is – though as with all these things, time will tell. It really does seem like Xbox *really isn't mucking about.*

James McAvoy, Daisy Ridley, and Willem Dafoe to star in Annapurna's *12 Minutes*

No More Heroes 3 sees **Covid-19-related delay to 2021**

06

08

Super Mario Bros. 35th Anniversary Direct

07

06. Ngage

It's a bit more than a gimmick in intent, even if right now in practice it's not *quite* more than a gimmick: it's a solar-powered handheld gaming device! The Engage, clearly modelled on Nintendo's classic Game Boy, runs using the power of sunbeams directed from that bubbling cocktail of... oil? What's the sun made out of? The sun, basically. It uses the sun for power, as well as using the energy you yourself generate when pressing its buttons.

The idea is to, eventually, have a gaming device that runs properly without need of a battery. The reality right now is the capacitor – where the energy generated is stored – discharges in around ten seconds. It's a wonderful idea, though, and the hope is we'll see more progress on the Engage, or other similar projects, because they're both cool and worth it.

07. The fall

How to make companies part with their cash? Offer them the chance to appear in the most popular game of the moment, *Fall Guys* (reviewed on page 95). That's exactly what the devs at Mediatonic and publisher Devolver did, asking for donations to SpecialEffect – the biggest donators would get special skins made for them and displayed in the game. The drive raised a whopping $1m, so... that's really cool, basically.

Oh, those winners of publicity thanks to their highest donation amounts were: *Aim Lab*, YouTuber MrBeast, G2 Esports, and hair-haver Ninja. The snark can fall by the wayside because: a million dollars for charity!

08. Mario Mario's Marios

Also starring Luigi Mario. Yes, Nintendo has a bunch of Mario-y content for the stocky plumber's 35th anniversary, and it's all a doozy. *Super Mario 3D All-Stars* is already out on Switch, though is only available until 31 March 2021. So get on that. Elsewhere, there's *Super Mario 3D World* coming to Switch in February, *Mario Kart Live: Home Circuit* (it's real-world *Mario Kart*), *Super Mario Bros. 35* – a mini battle royale-alike based on the original game, a new take on the old *Mario* Game & Watch devices, and a bunch of events running through to March next year. Huzzah for plumbing and having the same first and last names!

Colin Kaepernick reintroduced to *Madden NFL 21* after multi-year absence

Hyrule Warriors: Age of Calamity is not the *Zelda* sequel we hoped for. Ah, well

11

09

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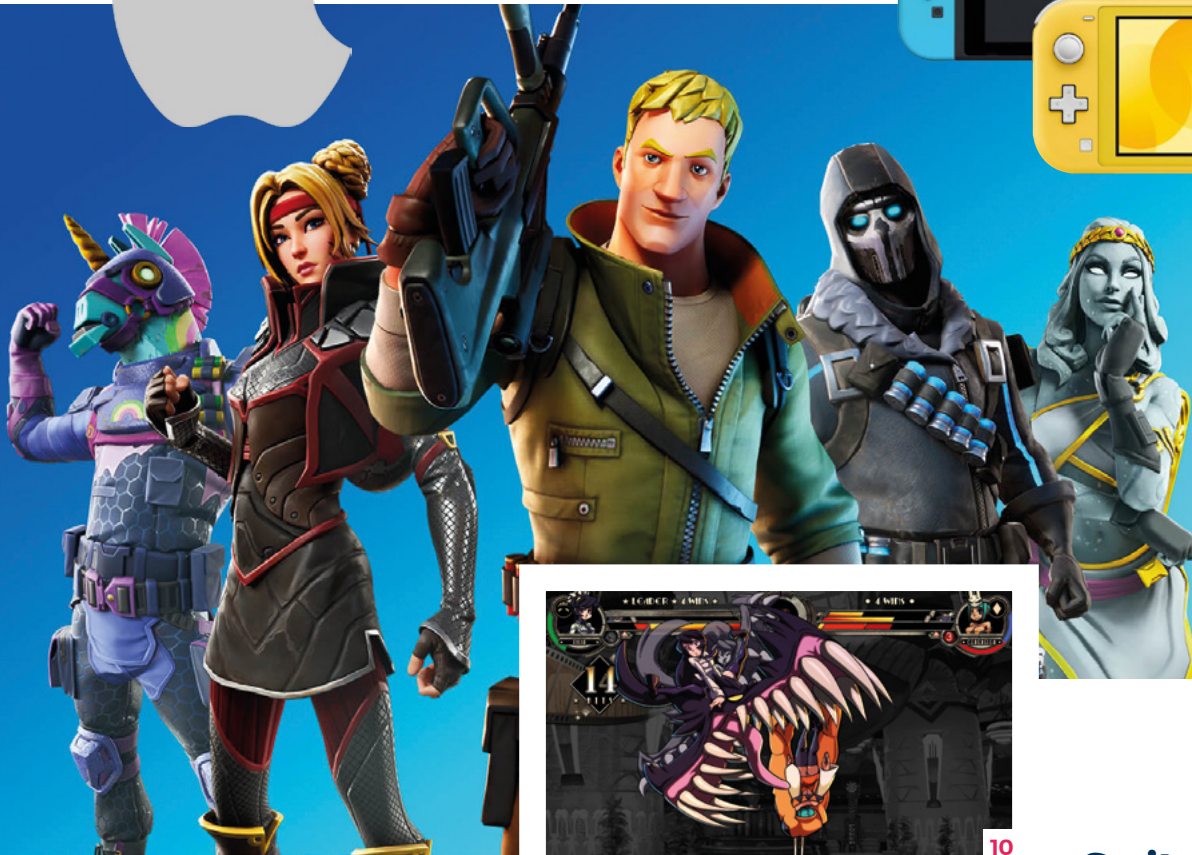
09. **The little guy**

In the least sympathetic clash of companies ever, Epic is in the process of suing Apple over the 30% cut the latter takes for in-game transactions. *Fortnite* was removed from the App Store (and Google Play Store), Epic whipped up its fans into a frenzy, and Apple has since launched a countersuit against Epic. It's fascinating to see it all play out as the billionaire company throws its legal armaments at the trillionaire company and we, actual people, are meant to take sides and/or sympathise with anyone directly involved in this. Hmm.

10. **Lab Zero staff**

Skullgirls and *Indivisible* studio Lab Zero Games should probably be renamed Zero People Games, following an exodus – and firing – of its staff. Allegations hit earlier in the year about studio founder Mike 'Mike Z' Zaimont and resulted in some high-ranking employees leaving the company. Following that, it was reported by Kotaku that Zaimont had laid off everyone else at the studio who hadn't quit, with the founder blaming the economic climate and the fact the studio couldn't meet its payroll commitments. Sad times, in more ways than one.

11. **Switch up**

Bloomberg reports sources outside of Nintendo has told the news org that Nintendo is pushing developers to make upcoming Switch releases '4K-ready', fuelling speculation there's another hardware upgrade on the horizon for the company's little handheld (or is it a console?) that could. The gossip says it's a move to counteract the strides by Sony and Microsoft into the next generation of consoles. Ninty has also ramped up production of the Switch, looking to pump out a total of 30 million units this financial year, up from a 25 million goal stated internally back in August. The Big N enters the next generation when it *feels* like it.

Paradox QAs allege poor treatment, read more here: **wfmag.cc/ParaQA**
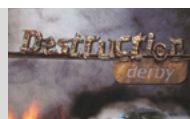
**Happy 25th birthday, *Destruction Derby*!
Time is horrible and refuses to stop**

Post Apocalypse

Next-gen game prices, premium editions, and covertapes – all this and more in this month's reader missives

Issue #42

Set the tape

As much as I've been enjoying your magazine, I do think you should go one step further in capturing the spirit and ethos of games magazines of old. It's obvious, and I can't believe you've not thought of it: bring back the cover-mounted cassette tape!

I look forward to you addressing this in due course.
Steven Cash

Ryan writes:
Believe it or not, an old-fashioned covertape is something we've talked about from time to time. Aside from the logistical question of getting cassettes mass-produced in the year 2020, we've also asked ourselves: what on earth would we put on the thing? Ideas we've considered – and hurriedly dismissed – include: Ryan playing a terrible guitar solo; Ian reciting Dadaist poetry; a demo of *Renegade III* for the ZX Spectrum. The cheaper alternative we considered was to not even bother with the cassette, and simply put a large rectangle on the front cover with the words, "Can't see your free Wireframe covertape? Ask your newsagent!" Now *that* would capture the spirit of old games magazines.

Thrown an Xbone

I've been watching with some fascination now the build-up to the release of the new generation of games consoles. I see that Microsoft is thoroughly backing the new class system of gaming, where the well-off can have the posh version of the machine with all of its whizzes and bangs. Us poorer plebs are being thrown a bone with a cheaper version, that's less powerful, but lets us at least recapture the feeling of watching a music concert or theatre production from the cheap(er) seats.

I couldn't tell you much about the PlayStation 5 yet, because two months before its release, I don't know how much it's going to cost, and every online store is threatening me with not being able to get one unless I register my interest now.

What's being lost in the midst of all of this though is that it seems this new generation of machines is being used as a Trojan horse to knock the retail price of games up. I know this is nothing fresh, but I see that to pre-order the new *Assassin's Creed* game will now cost me north of £50, whilst *Far Cry 6* will leave me little change from £60.

I suspect that it's all part of the masterplan to ultimately have us all on Netflix-like direct debit subscriptions for our games. As much as I don't mind change, I can't help feeling nostalgic for the days when a games console cost under £300, when the games were a bit more reachable, and when I could buy a game, put the disc or cartridge in, and just play it.

I'm interested in that, at least. I just don't think Sony or Microsoft are.

Yours from the cheap seats,
Alice Stewart

Ryan writes:
Regrettably, gaming has long been an expensive pursuit, especially for those hoping to keep up with the latest bits of technology. Still, we can take comfort in the knowledge that – thanks to things like cheap PCs and handheld devices, and Humble – there are more affordable ways to play games in 2020 than ever.

Bargain Hunt

Interested to see the letter from K Wootton in the latest Wireframe where they managed to snag a bargain copy of *The Last Of Us Part II* within weeks of its release. I think I speak for many of us when I ask: please let us know when these deals land! Just for

"This new generation of machines is being used to knock the price of games up"

clarity, I've got my eyes on that new *Mario Kart* game, ideally with a bundled Hoover so I can clean my floor beforehand.
B Darby

Ryan writes:
Magazines aren't the best place for the very latest deals these days, but it's worth following us on Twitter (@wireframemag), where we'll definitely be keeping readers updated when we stumble on worthwhile offers from time to time.

EA by gum

In issue 41, Ian Dransfield – when chatting about the *Command & Conquer* remaster – said it's nice not to have to shout at EA for a change. Please assure him that normal service is being resumed. I've been buying *FIFA* games since, well, forever, it feels like. But once again, EA has come up with a wheeze whereby if we want to play the game a few days early, we can pay for the premium edition of the game. I'd be grateful if you could relay the following message to EA: [fly]

right off. I know it's been doing this for a while, but it's a slap in the face for those who've been loyal to the franchise for so long. Here's hoping this year's *FIFA* is played in front of empty stadiums, and EA gets its priorities straight.
Adam Beavis

Ryan writes: It's the kind of grim practice where we hope that, if enough gamers vote with their wallets, then publishers will change their ways. Sort it out, EA.

Shortcuts

Over on Twitter, we asked: what are your thoughts on the Xbox Series S? Do you want one? What's that big circle on the case all about?

@PilotPlaysGames: It's looking like a speaker will prove useful for shouting at it when that 12 year-old kid no-scopes you from across the map.

@ryanteck: Even though I own a much faster PC, it actually looks nice for the price. Not likely to pre-order, though. [The circle] is likely a mesh for cooling and technically would be the top, as based on the X logo it seems the Series S is more suited to sit flat.

@HdE_playsgames: Hard pass from me. I'll not be supporting any hardware that pushes consumers in a 'digital-only' direction for games.

@Gadgetoid: Remember when they tried to take the optical drives out a generation or so ago and everyone lost their minds? RIP, pre-owned games. And with next-gen purported to see a price hike to $70 it will – on the whole – be *less* affordable to keep up with the Joneses.

@19thisisfine: I'm still planning to get a PS5 at launch, but this is a great next-gen option for a great price. It'll turn a few heads, I'm sure.

@Daethar: Combined with the game pass, it's an enticing offer for people wanting to get into the Xbox ecosystem. For current Xbox One X owners, however, it's not an immediate choice for upgrade, as One X can already do 4K up to 60fps and has a disc drive.
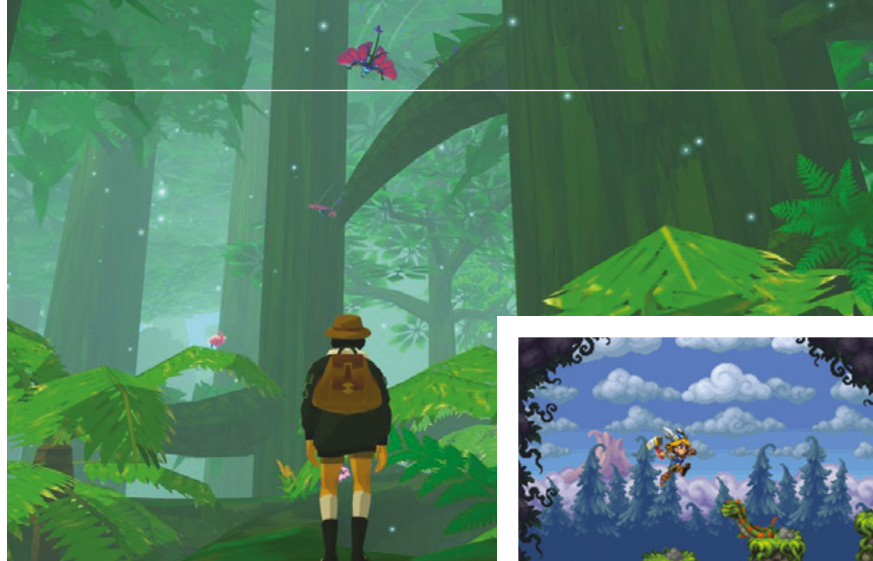
The burning question

With the next generation on the horizon, we thought we'd ask Twitter: which fancy console box are you planning to buy? Based on our decidedly unscientific survey, at least, it looks as though a lot of you are going for Sony's chunkier PlayStation 5…
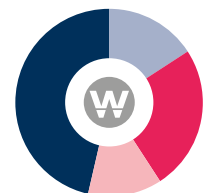
Xbox Series S - 16%
Xbox Series X - 25%
PS5 Diet - 13%
PS5 Full Fat - 46%

Incoming

Beasts of Maravilla Island ⬆

Pokémon Snap was possibly the first game to introduce the idea that a rail shooter needn't be about murdering things, and *Beasts of Maravilla Island* takes this a step further – it's a relaxing-looking adventure where you wander around the leafy environs, taking photographs of the ethereal creatures you find there. Also look out for a bit of light puzzle-solving and plenty of soothing blue skies.
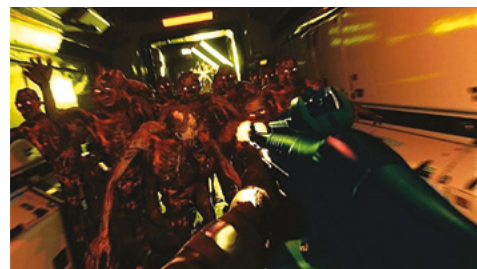
Hell Pie ⬇

Yes, it was the title that first attracted us to this curious-looking 3D action-platformer from Germany. It's the Devil's birthday, so as the diminutive demon Bowner, it's your job to gather a wealth of hideous ingredients and bake the Prince of Darkness a cake. You're joined in your quest by an angel named Nugget, who you can throw around and use a projectile or grappling hook – making the game an unholy union of *Banjo-Kazooie*'s mechanics and the irreverent, saucy humour of *Conker's Bad Fur Day*.

Tiny Thor ⬆

Pixel art platformers have to do an awful lot to stand out in a crowded marketplace these days, but when you have the likes of Henk Nieborg handling said pixel art, then it's well worth paying attention. Nieborg, if you aren't familiar, has been creating stunning video game graphics since the late eighties, and his work most recently lit up the frankly stunning *Xeno Crisis*. We don't yet know how good the jumping and hammer-swinging action will be, but we can safely say that *Tiny Thor* already looks impressive – and with composer Chris Huelsbeck (he of *Turrican* fame) writing the soundtrack, it should sound the part, too.


Quantum Error ⬆

If you like your first-person shooters dark and ominous, then *Quantum Error* – in development for PS4 and PS5 – could be one to add to your to-play list. Developer TeamKill Media has previously described its work-in-progress as "cosmic horror", which in this case means a lot of creeping through shadowy sci-fi corridors while hissing abominations lurk around corners. Your mission is to rescue survivors from a burning science facility of some sort; unfortunately, a horde of monsters has other ideas. Fortunately, you're a firefighter who's also good with firearms.
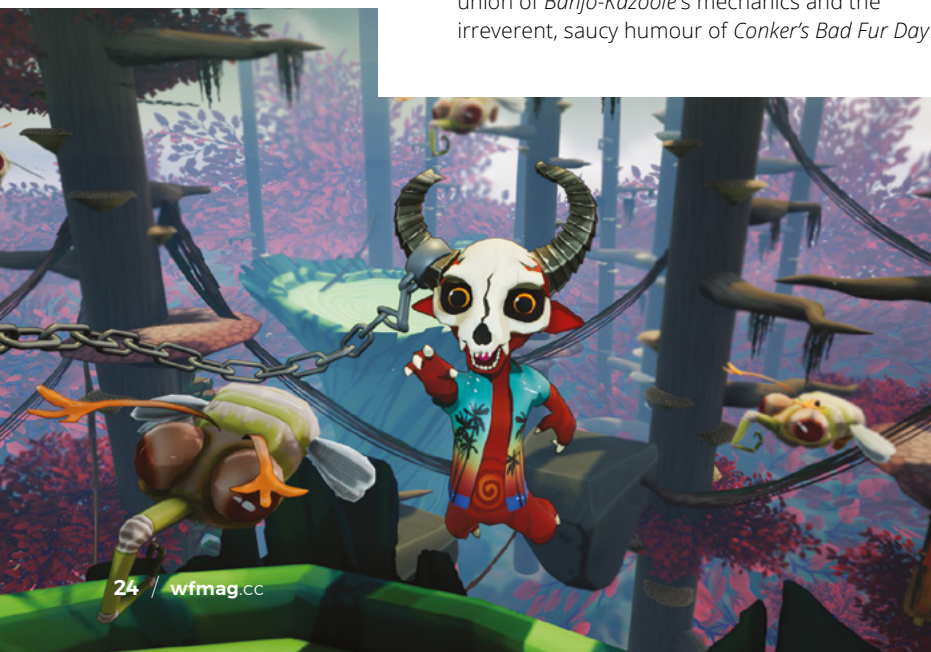
The Good Life ⬆

We've already had one dose of Japanese auteur Hidetaka 'SWERY' Suehiro this year with the characteristically surreal (and scrappy) *Deadly Premonition 2* – you can read Alan Wen's verdict on that opus over on page 94. But there should, in theory, be another SWERY game out in 2020: "debt repayment daily life RPG", *The Good Life*. The game's been in development since its successful 2018 Kickstarter campaign, and delayed more than once: originally due out in 2019, its launch was pushed back to spring 2020. Although *The Good Life* clearly missed that window, SWERY's studio White Owls appears to be still working on its oddball village sim: back in March, the firm uploaded a video showing just how far the game's visuals have come since its 2018 build. The game's still about a young woman roaming a village and taking photographs, and the village's residents still unaccountably transform into animals when night falls, but the character models and environments now look more detailed and richly lit. This wouldn't be a SWERY game, though, without his dreamlike approach to world-building, and that's still in evidence here: *The Good Life*'s setting somewhat resembles a British village, yet the proportions are askew in a way that's faintly disturbing. And when protagonist Naomi isn't taking photos and selling them online for cash, she can ride around on a sheep, or head to the pub and spend £400 on that traditional British speciality, 'Herring Meat'.

Crumble ⬆

We do love a good bit of destruction physics in our games, and there's plenty of it in *Crumble*. It's a 3D platformer where you control a fast-moving gooey blob capable of crawling, swinging, and bouncing through an increasingly tricky set of 3D obstacle courses. Speed and precision are key – particularly when the game starts living up to its title, and those obstacle courses start collapsing all around you. There's a demo available now on Steam, and we're looking forward to playing more of this one when it releases in December.

Little Nightmares II ⬇

The platforming wasn't always without flaws, but Tarsier Studios' *Little Nightmares* really delivered when it came to its atmosphere and suspense. The sequel continues where the previous game and its DLC add-ons left off, but introduces a new protagonist – a small boy named Mono, whose features are obscured by a cardboard box. Once again, its dark, fairytale world looks positively shudder-inducing.

Chorus ⬎

As Sony and Microsoft prepare to launch their next-gen gaming boxes, developers are also gearing up with titles that will – we hope – demonstrate just what this expensive new tech can do. *Chorus* is one of the more eye-catching titles on the horizon; in development for the Xbox Series X and PlayStation 5 as well as PC and current-gen consoles, it's a slick-looking space shooter that moves at a deliciously quick pace. Pulling off barrel rolls to avoid enemy fire, squeezing your ship through the narrow confines of a gigantic space station – it's the kind of game designed to quicken the pulse rather than test your brain power. Also of note is the dark and slightly out-there plot behind the thing: you play Nara, a pilot on the run from a cult, and her best friend is her ship, which happens to be sentient. A combination of arcade action and batty space operatics? We're definitely keen to find out more about this one.

Far Cry 6 ⬏

Ubisoft's latest entry in the *Far Cry* series is out in February 2021, and takes the action from the wild, open spaces of its predecessors to the urban setting of Esperanza, a city ruled by the dead-eyed dictator, Antón Castillo (played, to impressive effect, by a CGI rendering of *Breaking Bad*'s Giancarlo Esposito). From what we've seen before, the new locale – an island on the brink of revolution – makes us think of a *Just Cause* without the fancy gadgets.

Medal of Honor:
Above and Beyond ⬏

Announced at Gamescom, Respawn's upcoming shooter revives the veteran franchise once again, this time as a VR game for Oculus Rift. Remember how the early games sought to capture at least a hint of the violence and blind terror of, say, the Normandy landings? Well, in *Above and Beyond*, you'll be able to throw a frying pan at a Nazi. Just saying.

Wonder Boy: Asha in Monster World

Another month, another revival of a cult Sega title from the last century. Hot on the heels of *Alex Kidd In Miracle World DX*, announced in June, comes *Wonder Boy: Asha in Monster World* – a 3D remake of a game that first graced the Japanese Sega Mega Drive in 1994. Some of the original developers behind that game have returned for this new edition, and while we're not entirely sold on the polygonal adaptations of *Monster World IV*'s pixel graphics, it's still heartening to see this much-loved – and long-overlooked – action adventure getting its turn in the spotlight. Of course, if you can't wait for the remake, then you can play an emulated version of the original right now on the Sega Mega Drive Mini.

Aragami 2

Yes, more sneaking and stealth – but this time, developer Lince Works is applying the first game's premise to a larger, more open-world RPG. Expect more crafting and skill customisation, overhauled combat mechanics, and a generally broader scope than the first game – it's an ambitious goal, given that Lince Works is still an indie studio, in essence. Most enticing element of *Aragami 2* announced so far? The three-player co-op, where we'll be able to form our own little ninja murder squads. Nice.
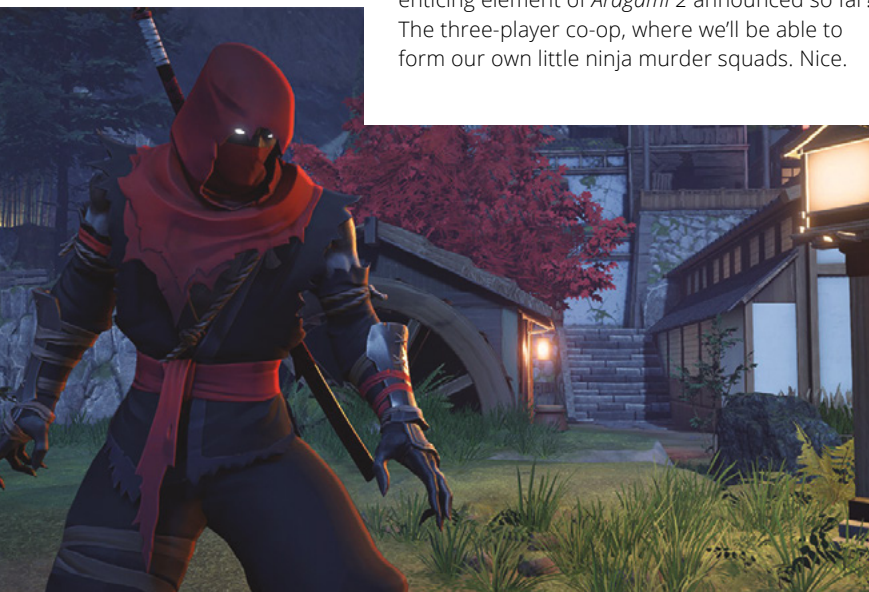
Bridge Constructor: The Walking Dead

This month's prize for 'lateral thinking excellence in licensed games' goes to this curio from Austrian developer ClockStone. It takes the multimedia zombie franchise and applies it to a physics-based puzzler: you build bridges to help survivors make their escape, and fend off the pursuing undead horde with traps and explosives. This one's pegged for release in 2020, so expect to see it landing on Steam fairly soon.

LEGO Star Wars: The Skywalker Saga

It's easy to scoff at the thought of yet another entry in the *Lego* collect-a-thon series appearing on next-gen consoles, but *The Skywalker Saga* genuinely does look like it will make some use of the Xbox Series X and PS5's extra processing power. Developer TT Games is using its new engine, NTT, to drive this latest homage to the *Star Wars* universe, which recreates all nine mainline movies in plastic form. The new, Lego-ised space battles alone are worth a second look.

The Making Of
Monkey Island

30 YEARS OF THREEPWOOD

WRITTEN BY
JACK YARWOOD

We speak to the developers of the Monkey Island games to hear more about the making of the adventure classic and its many sequels

Insult sword-fighting reportedly came from watching old Errol Flynn movies at Skywalker Ranch.

"Somewhere deep in the Caribbean" – those were the words that spirited a generation of players away to a land of pirates, grog, and three-headed monkeys. The brainchild of Ron Gilbert, an employee at Lucasfilm who'd previously worked on the ground-breaking adventure game *Maniac Mansion* and the SCUMM (Script Creation Utility for Maniac Mansion) engine, *The Secret of Monkey Island* is heralded today as one of the most influential point-and-click adventures of all time. It's spawned a number of sequels, many of which were developed after Gilbert's own departure from the company in 1992 to form Humongous Entertainment.

As this year marks the 30th anniversary of the original game, Wireframe reached out to the developers who helped create the series, and those who carried on its legend long after the original creators had left. We contacted a number of ex-Lucasfilm and Telltale staff over a period of months, to talk to them about how the series came to be, the highs and lows, and their hopes for the future. But first, we have to head back to where it all began…

HUMBLE BEGINNINGS

When people talk about the origins of *The Secret of Monkey Island*, they often point to Tim Powers' 1987 novel *On Stranger Tides* and Disney's Pirates of the Caribbean ride. But though it may be true that Lucasfilm drew from both of these sources to derive elements for the game, Ron Gilbert claims that there was another more pressing concern that led him to the idea. "It all started from being frustrated that Sierra sold way more games than we did," Gilbert recalls. "It seemed to me that one of the reasons was, fantasy was hot (as it still is). I never liked fantasy, and didn't want to make a game about dragons. Pirates seemed like a nice compromise…"

Putting together a top-notch team of artists, programmers, and designers at Lucasfilm, Gilbert began developing an idea for a pirate adventure game – the fifth project to take advantage of the SCUMM engine. Among those on the team at Skywalker Ranch were Tim Schafer and Dave Grossman who were helping with the programming, story, and design, as well as art director Gary Winnick and artists Steve Purcell, Martin 'Bucky' Cameron, and Mark Ferrari, to name a few.

> ## "I never liked fantasy, and I didn't want to make a game about dragons"

"We developed a close-knit group, and we all had a great deal in common," states Winnick. "We were pretty similar in age and sense of humour. We'd also worked together on a number of graphic adventures by that time, including *Maniac Mansion*, *Zak McKracken*, *Loom*, and *Indiana Jones and the Last Crusade*."

"It was a very small team, and it was very collegiate," says Ferrari, a background artist on *The Secret of Monkey Island*. "The whole team would often get together in Gary Winnick's office in a barn on Skywalker Ranch and just ➜

GIRLBRUSH

It was out of *The Secret of Monkey Island*'s collegiate atmosphere that the name Guybrush originated. According to legend, the team were struggling to come up with a name for the then male and female protagonists for the game. It was at that moment that Purcell joked that they should call the characters Guybrush and Girlbrush as a joke, riffing on the fact that animated sprites were labelled as a brush in the paint software they were using at the time: Deluxe Paint. The idea of a playable female character was eventually dropped, but the name Guybrush stuck around, with his surname Threepwood apparently originating from a D&D character that Dave Grossman's brother used to play.

sit around, talking about the game in kind of global fashion. Talking about the storyline of the characters and the visuals and storyboarding and plot and jokes and puzzles."

The Secret of Monkey Island begins with the young and excitable Guybrush Threepwood arriving on Mêlèe Island in the hopes of becoming a mighty pirate. Soon after completing the three tests set out by the local pirate leaders, however, he becomes privy to a sinister kidnapping plot and sets out to rescue local governess Elaine Marley from the evil ghost pirate LeChuck – whose hideaway is located within the fiery caverns beneath Monkey Island. All this may sound like your typical pirate fare, but *The Secret of Monkey Island* is anything but. It incorporates a number of anachronistic elements into its world-building, including everything from meta-references to game development, to allusions to theme parks, to a unique spin on sword-fighting that prioritised the quality of your insults over how well you could wield a sword.

"We watched old pirate movies to get in the mood – *Captain Blood* and so on," explains Dave Grossman. "But when it came to writing the dialogue, you may notice that many *Monkey Island* characters speak in an anachronistic and decidedly non-piratey manner... Stan the ship salesman, for instance, was modelled at least partly on Californian used car salesman and TV personality Cal Worthington. Being funny was more important than being authentic or piratey... and I think we were all influenced by 1970s popular media at least as much as by any of the reference material."

> **"Being funny was more important than being authentic or piratey"**

The Monkey Island games borrowed a lot of ideas from Disney's Pirates of the Caribbean ride. Perhaps the most obvious example is this puzzle from Monkey Island 2.

CARNIVALS & CORPORATIONS

On release, *The Secret of Monkey Island* received positive reviews, but sold only modestly according to Ron Gilbert. Nevertheless, it was enough to convince Lucasfilm to green-light a sequel. And so, after a two-week break for the team, the developers started working on a follow-up, *Monkey Island 2: LeChuck's Revenge*.

Around this time, there were some huge changes at Lucasfilm. The company ballooned in size, with the gaming division being rebranded to LucasArts and moved out of its creatively stimulating facilities on Skywalker Ranch into an Allstate office building in San Rafael. For some members of the studio, this symbolised a shift towards a more impersonal, corporate setting – a mentality that would lead to a number of LucasArts employees, including Ferrari, departing the company in protest.

Despite these changes, work on the sequel continued, with the story taking place shortly after Guybrush defeats LeChuck at the end of *The Secret of Monkey Island*. Now on a quest for the famed Treasure of Big Whoop, Guybrush sets out on an adventure across the Tri-Island area, facing off against the nefarious Largo LaGrande and a resurrected zombie LeChuck.

Monkey Island 2: LeChuck's Revenge was another success for LucasArts as a studio, in part due to its many improvements over the first game. *Monkey Island 2*, for instance, introduced the beautiful hand-drawn backgrounds of artists Steve Purcell and Peter Chan, which gave the game a more stylised look. The sequel also marked the arrival of iMUSE, an Interactive Music Streaming Engine created by composers Michael Land and Peter McConnell, which would seamlessly transition between different tracks as Guybrush moved from screen to screen.

In Monkey Island 2, players can call the LucasArts phone line. The person on the other end is named Chester, a reference to the nickname given to Khris Brown by Tim Schafer.

Bill Tiller has recently been repainting some of the game's backgrounds in the hope of convincing Disney to release a new HD version of The Curse of Monkey Island for fans to explore.

The game wasn't without controversy, however; its ambiguous ending – which made it a supposed second chapter in what Gilbert had planned as a trilogy – was particularly divisive. This ending sees Guybrush and the zombie pirate LeChuck duke it out in the tunnels under Dinky Island, before a theme park worker appears and the two characters transform into a pair of squabbling siblings at a carnival. Debate about what this ending means still rages today, with some believing this meant the events of the first two games were simply in the imagination of the two warring siblings. Others argue it was simply another one of LeChuck's voodoo tricks.

A CHANGING OF THE GUARD

Gilbert left LucasArts between *Monkey Island 2* and its sequel, 1997's *The Curse of Monkey Island*, leading to a new creative team led by Larry Ahern and Jonathan Ackley taking over the reins. Making a follow-up to *Monkey Island 2* presented a challenge for the series' new custodians: with Ron Gilbert gone and the ending of *Monkey Island 2* left ambiguous, there was some confusion over how they should continue. Should they create a direct sequel, following on from the events of the last game? Or ignore the ending and reboot the game for a new audience of players?

They landed somewhere in the middle, with *Curse* beginning almost as ambiguously as its predecessor ended. We open on Guybrush drifting alone at sea in a detached bumper car, after somehow managing to escape the carnival of the damned that featured in the ending of the last game. It was a clever solution to the problem, and one that allowed them to continue the game free of any baggage left by the previous game's ending. After all, a number of years had already passed between *Curse* and its predecessor, and to start a rollicking pirate adventure game

inside a present-day carnival may have felt like a little bit of a bait and switch for new players.

One of the most obvious changes this time around was the art style. The decision was made early on to give the game a different look from its predecessors – one heavily inspired by cartoons. For eight to ten weeks, the art team worked together with the lead designers to pool together a range of influences, drawing from everything from MC Wyatt's paintings to Peter De Sève's covers for The New Yorker and the avant-garde cartoon, *Duckman*. Particularly, they wanted the characters, this time around, to have a stronger silhouette – something that wasn't possible in previous series entries. "In the past, when you animated Guybrush you had to shade him in," explains background artist Bill Tiller. "The pixels weren't thin enough to do an outline. Whenever you do an animation, you do animation with an outline – you draw Mickey Mouse, and then you fill him in with colour. But with Guybrush, you never did that. The pixels were too small. You could never draw an outline of Guybrush and fill him in with colour. You had to paint in and shade in every single animation. So now with high-res, we can do an outline, just like we do in regular animation."

Alongside this ambitious new art style, the characters were also given voices for the first time in the series. "We all loved Wally the cartographer and Murray the demonic skull the most," says Khris Brown, who acted as the senior voice editor for *Curse*. "Of course, Dominic was great as Guybrush, and there were a lot of 'usual suspects,' such as Earl Boen as LeChuck, Denny Delk in multiple roles, and ➔

Insidious Picture Projector

Well, at least he's honest.

In Escape From Monkey Island, you had to memorise the right response in order to defeat monkeys in a Mortal Kombat parody that perhaps went on a little too long.

YOU-WIN

Drunken Monkey

Tom Kane as Captain Rottingham, all of whom I've continued to work with since."

When *The Curse of Monkey Island* was finally released in 1997, the reaction was largely positive. Critics praised the visuals and the voice cast, but the ending would again prove somewhat of a sticking point, with many feeling that it ended abruptly. This was something that wasn't lost on the team, who'd been pulled into the studio during the final months in order to scale down the planned ending after running out of time and money.

MONKEY KOMBAT

In spite of this stumbling block, *The Curse of Monkey Island* proved to be another success for LucasArts, so the studio green-lit a sequel a year later. Ackley and Ahern wouldn't return to design the game, however, passing the duties on to *Sam & Max: Hit the Road* designers Mike Stemmle and Sean Clark. "I'd be hard-pressed to remember the exact circumstances of the genesis of *Escape*," Stemmle says. "We probably started discussing it soon after my previous unreleased project [*Justice Unlimited*] collapsed in a fireball of 'meh', and I took six weeks off to drive around the country and get my head together." This was sometime around 1998, as far as he can remember.

Escape from Monkey Island was the first 3D entry in the series, and the second and last game to use the GrimE engine previously used on *Grim Fandango*. According to Kim Lyons, a 3D background artist on *Escape from Monkey Island*, the studio had pushed the team to go down the 3D route. As a result, art director

"It shaped the way my friends and I thought about humour and interactive media "

Chris Miles wanted to take the series in a more Pixar-esque direction. To do this, a number of 3D artists and animators were recruited straight out of college, while several existing employees were trained in the art of 3D modelling.

"*Escape from Monkey Island* was my first 3D job, and I would say probably the same for 90% of the team," explains Lyons, "so there was a learning curve. There were probably about four or five environment artists at a given time on this project, and we worked incredibly closely with the environment concept team and the art director."

Escape From Monkey Island saw Guybrush and Elaine returning from their honeymoon depicted at the end of *Curse* to find that Elaine has been declared dead and that a charismatic character named Charles L. Charles is vying for her role as governor. While Elaine campaigns to reclaim her position, Guybrush sets off to find a secret Marley family heirloom called the Ultimate Insult to fend off an evil Australian property developer named Ozzie Mandrill, who's turning the Caribbean into a tourist trap.

Escape received some strong reviews when it first released, but has since been held to a greater scrutiny from dedicated fans of the series. Their criticisms include the game's story, which retcons key events from the previous games, controversially making *Monkey Island*'s bumbling castaway Herman Toothrot Elaine's long-lost father; its awkward tank controls (the by-product of the game being the first *Monkey Island* to launch on consoles); and the infamous Monkey Kombat, the game's convoluted spin on insult sword-fighting.

Today, Stemmle recognises many of these flaws, reckoning that they'd tried too hard to tie the entry to previous games, though he defends the concept behind the Monkey Kombat, suggesting there was a good idea in there somewhere.

TALL TALES

After *Escape*, the series would remain dormant for a number of years, before eventually being resurrected at Telltale Games with *Tales of Monkey Island*. Telltale was an ideal match for the property, since a number of former LucasArts developers, including Troy Molander, Dan Connors, and Kevin Bruner, had founded the company in 2004 after LucasArts had cancelled sequels to *Full Throttle* and *Sam & Max: Freelance Police*.

Tales of Monkey Island reunited a number of creatives who'd previously worked on the series, including Ron Gilbert, Chuck Jordan, Dave Grossman (who led the project), and Steve Purcell (who did some artwork for the cover). Again, the art style would undergo a change, with the team moving away from pre-rendered backgrounds to fully 3D environments. It was also the first game in the series to be released episodically, which followed the pattern of other Telltale adventure games. For the young team at LucasArts, working on the series was a dream come true.

"*Monkey Island* was *the* game of my formative teenage years," says Mark Darin, one of the key directors and designers on *Tales*. "It shaped the way my friends and I thought about humour and interactive media."

In *Tales*, the story picks up with Guybrush battling against LeChuck on his ship, before unwittingly unleashing a pox on the seas. To put things right, he heads off to find El Esponja Grande, a legendary sea sponge that can rid the world of the illness. Along the way, he encounters bounty-hunters, crazed doctors, and a suspiciously friendly version of his arch-rival LeChuck.

Tales was a breath of fresh air for series fans, but it would also be the last new entry, with Disney's acquisition of Lucasfilm throwing its future into a state of limbo where it remains today.

"We had some vague ideas of what could happen next, but nothing that we really spent a lot of time thinking about," says Darin. "Mostly we had just had the idea that the Voodoo Lady still had some surprises up her sleeve. I think we were all just waiting for a time when we could try to get Ron Gilbert really drunk and then get him to reveal the secret behind his original idea for *Monkey Island 3*! Sadly, that still hasn't happened."

Even today, there remains a demand for a new *Monkey Island* game. But why do people care about *Monkey Island* all these years later? And why has it brought together such a passionate and long-lasting community of fans? Bill Tiller believes he has the answer. "I think *Monkey Island* just kind of captures that desire to escape and go on an exciting adventure with some fun characters and beautiful locations," he says. "The humour's awesome. The puzzles are silly and challenging and fun to do. Pirate insult sword-fighting – it's hilarious. That's why I think it has endured – and why there are so many fans dedicated to it." Ⓦ
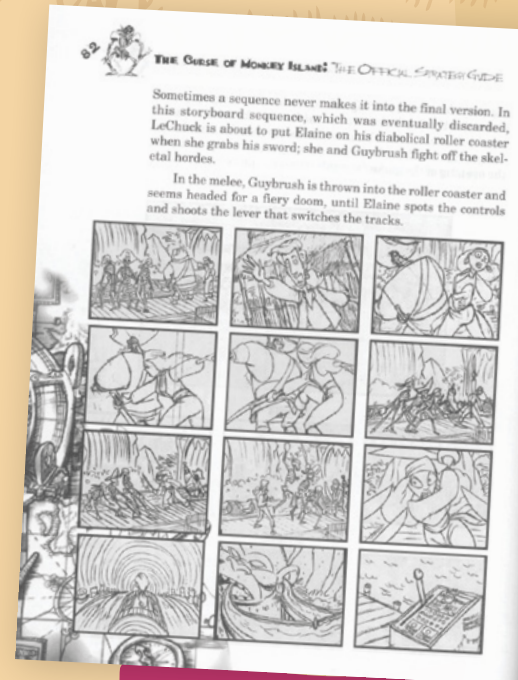
THE CUTTING ROOM FLOOR

The original ending for *The Curse of Monkey Island* was more elaborate, as this storyboard from the official strategy guide shows. The idea was for a longer scene showing a fight break out between Guybrush, Elaine, and LeChuck's crew of the damned. Lacking the time or resources to complete the ending they'd intended, the team dreamed up a way to reduce its scope. "The part that I was more directly responsible for was the long expository dialogue between LeChuck and Guybrush while trapped in a sky bucket," says writer Chuck Jordan. "That's probably the most apparent sign of the final act being scoped down, since it's kind of over-long and not particularly funny…Those are my least favourite parts of the game, but even that has an upside, since keeping the third act fairly short helped the game's pacing. And I still like the final puzzle, on board the rollercoaster, since it was such an elegant solution to everything the finale needed to do."

Here's some sketches the Tales team saved, featuring Elaine, LeChuck, and Club 41 on Flotsam Island.

Who wants to be a millionaire?

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.

"Please join my campaign to fund Wireframe's new Guide To Being Suddenly and Surprisingly Flush 'Cos of Games"

The Financial Times comes with a magazine helping rich people solve a difficult problem. It's called 'How To Spend It'. It's a good audience match for the FT, but it made me wonder: what would games' equivalent be? If Wireframe were to start printing Gold Master: the Gilded Game Dev's Guide To Being Stinking Rich (working title), telling us how to spend our Epic exclusive millions, it would be almost entirely useless. Most of us, most of the time, would glance furiously at it, eject some biting witticism about *l'art pour l'art* and the cretinous consumer base to which we're forced to pander, and pointedly smash it in the bin. But every so often one of us would have just launched the Next Big Thing. Every so often it'd be extremely useful. A small number of us are FT subscribers in waiting, on the cusp of a *Cuphead*, one try from a *Terraria*, one punt away from a new *PUBG*.

When it comes to 'making it suddenly big', two games spring to mind: *Minecraft* and *Stardew Valley*. *Minecraft*'s Notch is worth $1.3 billion and has his candy room in the most expensive house ever sold in Beverly Hills. *Stardew*'s Eric Barone is a comparative pauper with a worth of $34 million, but you can find his age, height, weight and, er, girlfriend listed on a high-ranking wealth record site. So that's a consolation for him.

Neither dev seems to know what to do with their money. Notch has spoken publicly about feeling isolated, hasn't produced a game in nearly a decade, and has now deleted his Twitter account. Barone famously drove around in a broken Toyota Camry and has only this year bought a desk that isn't an upturned cardboard Wii box. Please join my campaign to fund Wireframe's new Guide To Being Suddenly and Surprisingly Flush 'Cos of Games (alternative working title). It's the movement this industry needs.

There's something less frivolous about this, though. Making games for a living is one of the few professions where overnight fame and fortune really is possible. It's worth (however unlikely it may be) having a think about what you'd do if you wake up tomorrow with BTS tweeting about you, PewDiePie begging for a game key, and Gabe Newell asking if he can pay this month's Valve payment in several instalments. Netflix's hot new reality series, *Selling Sunset*, is chock-a-block with technopreneur millionaires sandwiched between impossibly attractive Californian women and, occasionally, their poodles. So it really happens! Netflix says so.

But there's something similar that *will* affect you, many times over, during the course of your indie career. Game dev is volatile. Desperate make-or-break launches, draining post-launch blues, constant Twitter drama, the ever-changing and unpredictable marketplace, and, of course, that addictive idea that maybe, this time, this is your great indie hit. Making games for a living is almost certainly going to throw you into situations you never expected. When it does, your best hope is to have a clear idea of who you are and what you stand for so you can weather the storm.

Now that we've got that out of the way, feel free to go back to being unsympathetic to rich people. And look out for Wireframe's new insert, Bank You Kindly: The Introvert's Guide To Big Spending (third time lucky?) coming soon to San Franciscan hotel lobbies, Tesla dashboards, and candy rooms near you. ⓦ

▲ *Minecraft* **creator Markus 'Notch' Persson's Beverly Hills enclave, worth a reported $70 million. It's a bit ostentatious, if you ask us.**

WIN A SIGNED BLU-RAY COPY OF THE **PLAYSTATION REVOLUTION!**

Here's a chance to get your hands on one of five copies of From Bedrooms To Billions: The PlayStation Revolution. Two lucky Wireframe readers will get a Blu-ray signed by PlayStation 4 and 5 architect Mark Cerny, while three further winners will receive a standard copy

Worth £19.99

> "It was an amazing time as a game creator, and as a game player. That first PlayStation took away so many of the limitations that we'd had in the past. It was a revolution" – Mark Cerny, Chief Architect, PlayStation 4 and 5.

You can enter at **wfmag.cc/PSrevolution**

From Bedrooms to Billions: The PlayStation Revolution is a feature-length documentary that uncovers the incredible story behind the creation of the Sony PlayStation. It's an essential watch for anyone interested in video games and the history of the biggest entertainment industry on Earth. The film investigates why Sony decided to enter the video games business when it was already dominated by both Nintendo and Sega, who not only produced their

own hardware but made and published fantastic games. To compete, Sony would not only have to design and build a new piece of hardware, but also find a way to persuade the game studios to take a chance and develop games for an entirely new system.

The *PlayStation Revolution* features interviews with the people behind the console alongside some of the world's most legendary video game developers, responsible for smash hit titles such as

Tomb Raider, Wipeout, God of War, Metal Gear Solid, Resident Evil, Gran Turismo, Tekken, Driver, Crash Bandicoot, Shadow of the Colossus, Ridge Racer, Ratchet & Clank, Grand Theft Auto III, Oddworld, Jak and Daxter, and many others.

The *PlayStation Revolution* is the third in the *From Bedrooms to Billions* series, which chronicles the hidden story of the video games industry, and is available to purchase now on DVD, Blu-ray, and video on demand.
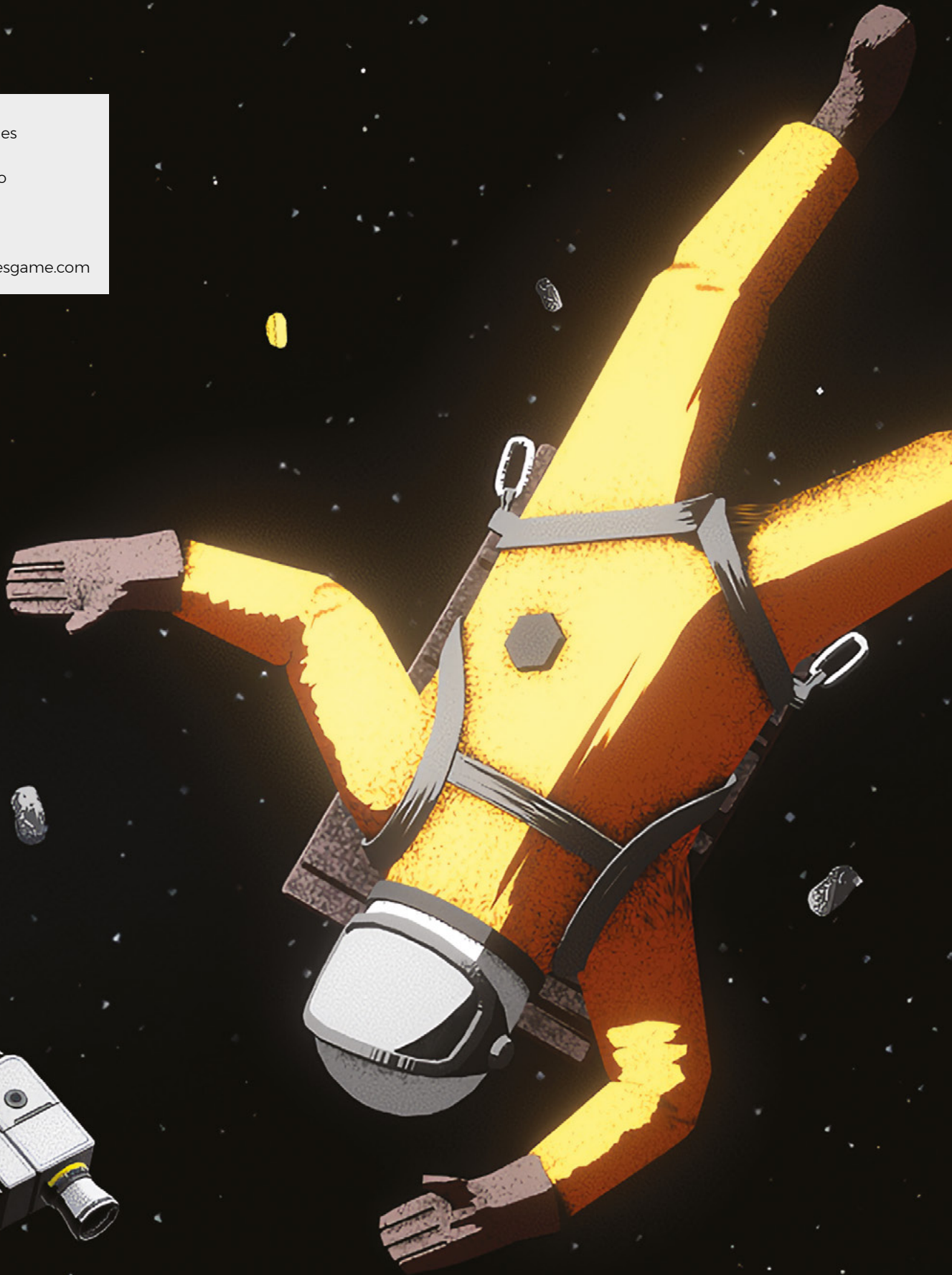
GAME
Heavenly Bodies

ARTIST
Josh Tatangelo

RELEASE
August 2021

WEBSITE
heavenlybodiesgame.com
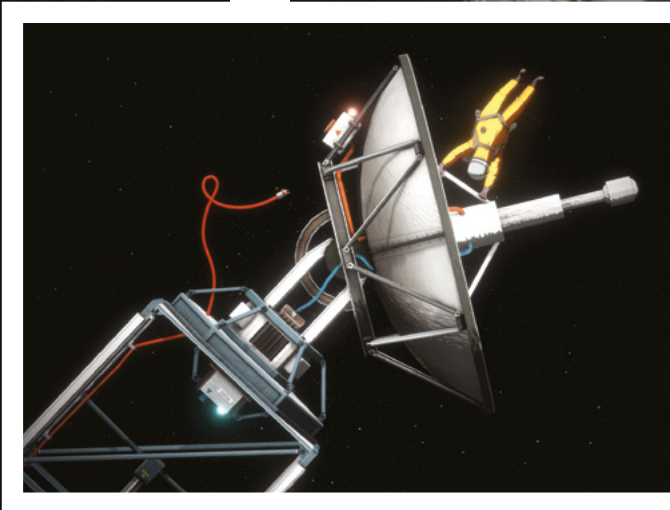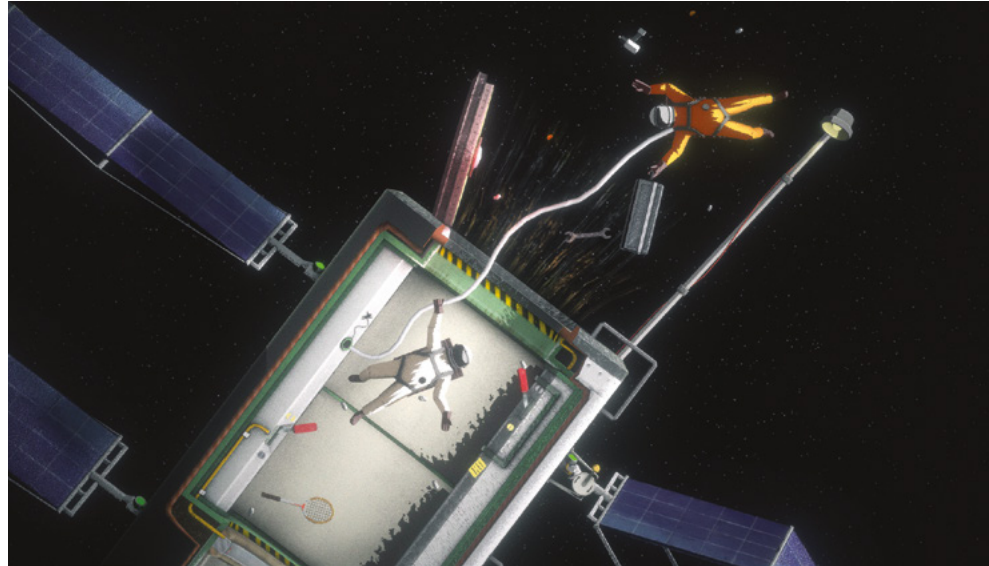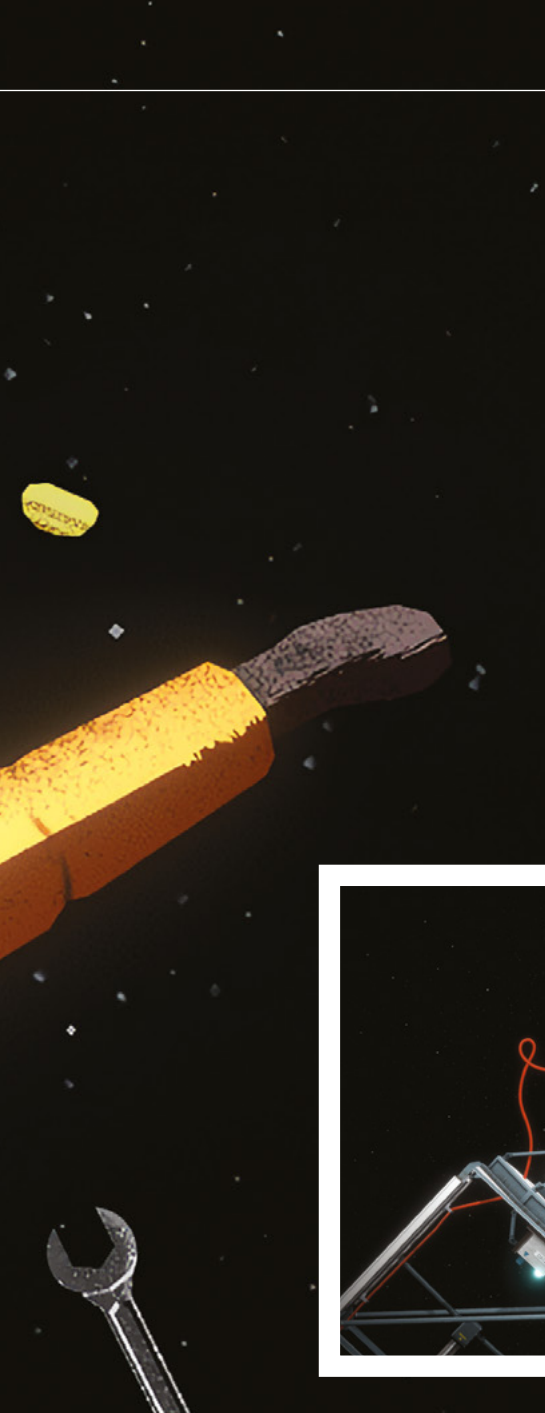
Heavenly Bodies

If you've read our preview on page 14, you'll already be familiar with *Heavenly Bodies*' premise: controlling the flailing limbs of an astronaut, you carry out maintenance tasks on an orbiting space station. There are levers to pull, switches to operate, and bits of high-tech equipment to repair, but the game's main enemy is gravity itself; Australian studio 2pt Interactive's game simulates the motion of humans and objects floating in a weightless environment, and coming to terms with how the unique controls interface with *Heavenly Bodies*' physics will provide the central challenge.

Besides its attention-grabbing premise, there's also the game's eye-catching visuals. Built in Unity and comprised entirely of 3D models, *Heavenly Bodies*' look is inspired by the kinds of utopian, hand-drawn technical drawings that once graced magazines in the mid-20th century space age. "The visual style is achieved through a combination of 3D models, hand-painted textures, and custom shaders – a computational model which describes how material surfaces look and react to light," explains designer and visual artist, Josh Tatangelo. "The lighting and shaders do a lot of the heavy lifting, but the texturing aims to fill in the rest and draw attention to certain details. The style has been strongly influenced by old technical drawings, cutaway illustrations, and artists' interpretations of space, so having a defined, hand-drawn look has been a constant goal. It has taken quite a lot of R&D work and failed experiments early on to achieve this style, and it's still something that we're constantly refining and iterating on as we go."

SOME GAMES ARE MORE EQUAL THAN OTHERS

George Orwell's **Animal Farm** might be the most unlikely inspiration for a video game this winter. Simon finds out more

WRITTEN BY
SIMON BREW

t's hard to think of many game developers who have harboured ambitions of turning a respected novella – an allegory for the Russian Revolution of 1917, no less – into a video game. But then there aren't too many developers quite like Imre Jele. By day, Jele's energies are channelled into his work as chief creative officer at Bossa Studios, which he co-founded in 2010. "I make funny games", he grins, underselling the impact of hits such as the *Surgeon Simulator* series. But as he also freely admits, "I feel like my head is clogged up with ideas."

∧ The storybook-feel visuals are part of the drive to make the story as accessible as possible.

‹ **Periphery characters from the book, such as the birds, will have an extended role in the game.**

› **There's no intention of shielding the book's political undercurrents. Here's some proof of that.**

As part of that de-clogging process, Jele wrote down all the game ideas he had in mind. Then he split them into three lists: list one was for games he felt he must do, list two the ones he really liked the idea of, and the third was for those to be put on the back burner. "I took all three pieces of paper, and set the second and third lists on fire," he tells me. I believe him.

Scrawled on the first piece of paper was 'Animal Farm'.

DOWN ON THE FARM

Written by George Orwell, *Animal Farm* was first published in 1945. Billed as a fairy story, the novella tells the story of Manor Farm and how the animals overthrow the humans running it. Key instigators of the revolution are two young pigs by the name of Snowball and Napoleon, and the novel explores how the new regime becomes just as troubling as the one that preceded it.

What Orwell was doing, though, was writing arguably his most politically charged book – and remember, he authored *1984*, too – in the guise of an animal fable. Napoleon is the stand-in for Joseph Stalin, while other characters are analogues of Karl Marx, Vladamir Lenin,

and Leon Trotsky. The story is an allegory for totalitarianism and, to this day, there are parts of the world where it's banned in schools.

When Jele first read the book, he was living in his native Hungary. "I have memories of reading it really young – I must have been seven, eight, nine," he recalls. "But I looked it up when I first seriously started pursuing this project and I thought my memory must be wrong, because the book wasn't published [when I was that old]. It was still banned in Hungary."

Yet his memory wasn't at fault. It turned out his grandparents had got hold of an illegal copy of the book and read it to their grandson. Jele lived most of his childhood through the end of the communist regime in Hungary, and still "experiencing some of the extremes of oppression". It all left an indelible mark on him, which he's now channelled into a game.

ORWELL AND GOOD

In August 2020, then, Jele's studio announced that its adaptation, *Orwell's Animal Farm*, was on the way. The reaction, not unreasonably, was surprise – some asked how it was possible to make a game out of *Animal Farm*. Others asked ➡

POLITICAL LEANINGS

Animal Farm will join a growing collection of games that have strong political subtexts to them, and when I put to Imre Jele that the medium can be a Trojan horse for such conversations – *Papers, Please* an obvious standout example – he's in full agreement. "Games are art," he says. "Arguably our art form didn't break out of cheap entertainment for the longest time. But over time we see better and more games tackling important subjects. There are some really amazing games which really speak to people on a personal level and really feel like we are fulfilling our destiny as a form of art … I'm really hoping that more companies will do these kind of games".

‹ Yeah. If you don't know the book, things sometimes take, er, 'a bit of a turn'.

FARM TEAM

It's taken a small collective of independent game developers to realise the idea of an *Animal Farm* game. There's The Dairymen, which in itself is a union between Just Flight's Andy Payne and Imre Jele himself, created for the development of the game. Then there's Nerial, the team behind the *Reigns* series of games, which have attracted BAFTA attention and have politics at their core. Emily Short was brought aboard to adapt the book's narrative into a game, and the Orwell Estate has kept a close eye on the project too.

whether anyone *should* try to make a game of it. The Guardian, helpfully, weighed in with one of its tongue-in-cheek Pass Notes columns, chortling at the idea as to what the DLC might contain.

In truth, though, Jele – and the small team of independent developers who came together to make the game – had struggled with how to capture the book for many years before. There were, he says, several false starts before they got the game right. "We had long discussions about who are you as the player," Jele recalls. "We had a version of the game where you were playing as Napoleon or as Snowball, one of the ruling pigs. That was a great version, actually. But what we found was that we ended up apologising for oppression."

It was a red flag. "That wasn't the message that Orwell was trying to say, nor what we wanted to say," Jele argues. Then they experimented with having you play a mid-ranking pig in the farm, amongst three or four further prototype approaches they experimented with. In the end, it was writer Emily Short who had the eureka moment. "When she joined, she said look, in the book, you can identify with the characters, but really, there

is no lead character… the lead character really is the narrator.

"It's a movie path story, she said, and you're choosing which story to listen to."

PERMISSIONS

The resulting adventure game – laced with a hint of resource management – stemmed from there. What's more, the team got permission from the Orwell Estate to extend the narrative beyond the novel's scope – useful, given that *Animal Farm* is a short book. An example: in the text, the birds are used to spy on neighbouring farms. But the game also introduces the idea that the pigs would also use the birds to spy on their own animals. "It makes sense in that Orwellian universe – and it's reflected in the book *1984* – that someone is always watching you," says Jele. It's an intelligent extension of the book, and in turn, adds an extra dimension to the game's narrative.

This level of collaboration between developer and author's estate was a far cry from the very beginning of the project, when Jele attempted to get permission to use the *Animal Farm* rights and was instantly turned down. "I sent them an email that was heartfelt, and honestly, [the rejection]

> **"I sent them an email that was heartfelt, and honestly, [the rejection] was tear-shedding"**

Napoleon

From the look of the pages, Jones never read it himself.

^ On the surface, there's the look of a fairly traditional adventure game.

was a tear-shedding moment," he recalls. The estate's reply arrived within two hours and simply read, 'rights not available, kind regards'.

Fortunately, Jele wasn't deterred. He got in touch with those who'd secured the rights to the novel before – film company The Imaginarium, for instance, which is working on a new movie adaptation to be directed by Andy Serkis. He then used the contacts he made to secure an introduction to Bill Hamilton at the Orwell Estate. Although it still took "a long time" to get the estate to sign off on the project, a deal was finally made. In the end, the flexibility the Orwell Estate offered was crucial. The game now gives you choices the book, of course, can't. Which animal do you listen to? What story path do you want to follow? What do you think is the morally right choice? The guiding ethos was to make a game that – as odd as it may sound – Orwell would design if he were alive.

Orwell's Animal Farm may be the first video game adapted from the book, but it builds on the visuals of adaptations in other media. You can count Imre Jele as a fan of Folio Society books, and during our conversation, he reaches onto the shelf behind him to show off the sublime art in the pages of its deluxe *Animal Farm* edition. "I might as well give them a direct debit," he chuckles as he flips through the pages.

Jele talks with enthusiasm about the British animated adaptation from 1954, and of a recent graphic novel version based on the material. But he always brings things back to the accessibility

of the original novel: "The book is one I could read as an eight-year-old and get something out of it, and read in my 40s and get something out of it." That accessibility and broad appeal is, he says, the heart of the game and its look. "I would love if this game was an entry point for someone into Orwell's work … or for a young person to start thinking about politics and governance in a critical kind of way.

"You might say that I'm being entitled and dreaming too big," he smiles, "but we want to make a game where we can talk to a lot of people in an emotive way, which hopefully is going to kick-start their own thinking. What do they think went wrong with the farm? What do they think is going wrong with modern governance?"

TIMING
As I chat to Jele, the game is on the home stretch and due out this November. The timing might seem uncanny: it coincides with the US presidential election due that same month. But according to Jele, it's merely a coincidence. "I don't think a single election in the United States, no matter who wins, is going to wipe out the discourse about oppression," he reasons.

Orwell's Animal Farm is a quietly ambitious project – and Jele isn't finished yet. While he's focused on making *Animal Farm*, more projects are bubbling away in his head. He won't be drawn on specifics, but I did ask: do any of these projects involve negotiating with anyone's estate again? "I can't confirm or deny that," he grins. Ⓦ

Orwell's Animal Farm is due for release in November for PC and mobile.

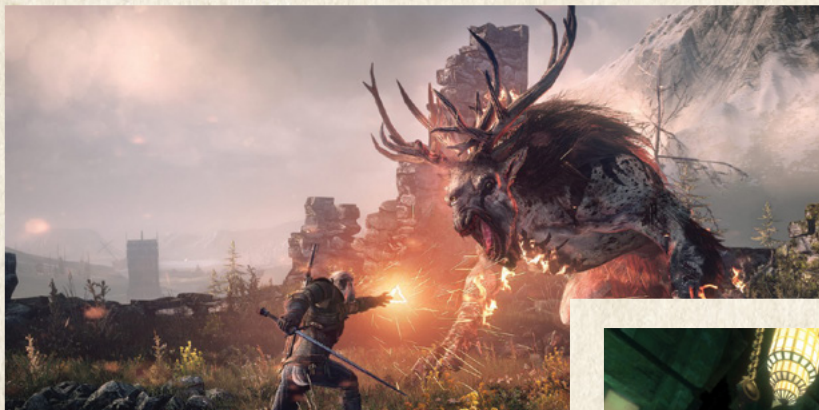

^ The developer behind *Orwell's Animal Farm*: Imre Jele.

ⱽ Those familiar with the book will recognise many of the scenes in the finished game.
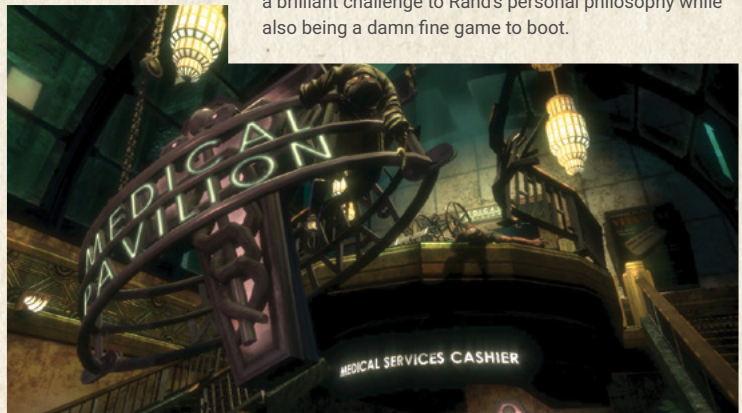

Squealer

2. Whatever goes upon four legs, or has wings, is a friend.

Novel Experiences

Eight notable novel-to-game conversions...
and a couple of game-to-novel travesties

BioShock

Ken Levine's team at Irrational decided to make a game broadly based on the themes of Ayn Rand's novels – notably *The Fountainhead* and *Atlas Shrugged* – not to support the ideas contained within them, but to dismantle them. Objectivism – essentially life solely in pursuit of your own happiness, and screw everything else – was presented as the downfall of *BioShock*'s underwater city, Rapture. It's fair to say many missed the point, but that doesn't distract from the point that *BioShock* worked as a brilliant challenge to Rand's personal philosophy while also being a damn fine game to boot.

The Witcher Series

Originally, Polish author Andrzej Sapkowski was happy to accept a lump sum for the rights to his *Witcher* series of novels. It was the early 2000s: no mere video game would carve out much of a niche for itself based on a bunch of fantasy novels only really known in Poland. A couple of decades and 50 million series sales later, Sapkowski came back knocking on CD Projekt Red's door for an additional $16 million in royalties he felt he was owed. The studio worked out a settlement to preserve its working relationship with the author, and it's safe to assume Sapkowski won't be making that mistake again.

Spec Ops: The Line

Initially appearing like any number of military shooters, *The Line* defied expectations by adding layers of – if you can believe it – *thought* to the process of going about murdering hundreds of people. This nod to critical thought stretched back to creator YAGER Development's source of inspiration: Joseph Conrad's *Heart of Darkness*. While the game itself was basic shooter fare, the strong narrative backing it all up – thanks to Conrad's classic – lifted *The Line* out of obscurity and made it an essential title.
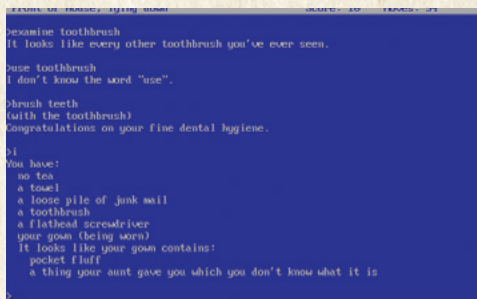
Metro Series

The original in this FPS series, *Metro 2033*, was based on the novel of the same name by Russian author Dmitry Glukhovsky and saw players fighting to survive in a post-apocalyptic world ravaged by nuclear fallout, aggressive mutant beasts, and *other humans*. The sequel, *Last Light*, actually arrived before the novel that tied in with it (*Metro 2035*), as Glukhovsky instead spent time working on the game's story before putting it down in novel form. It's an atmospheric and challenging series, as well as – at times – utterly terrifying.

Deathtrap Dungeon

First appearing as a 1998 hack-and-slash adventure game, *Deathtrap Dungeon* initially took the 'choose your own adventure' template and turned it into a vehicle for a young Kelly Brook to wear a horrible PVC *thing*. It was also a poor game. Fast forward to 2020 and we instead ended up with a much more faithful take on Ian Livingstone's 1984 gamebook: a 'choose your own adventure' interactive story and vehicle for Eddie Marsan to wear regular clothes and act out an interactive *Jackanory* session. It was a great game.

I Have No Mouth, and I Must Scream

Harlan Ellison would, hopefully, have been paid for his work on the game version of his short story of the same name, otherwise he may well have ranted about 'paying the writer'. Anyway, *I Have No Mouth…* actually expanded the concepts of Ellison's story, in which a malicious supercomputer keeps just five people in all of humanity alive with the sole purpose of torturing them via their own personal hells. It is not a bright and airy game. It did not do well in 1995. It is, genuinely, a unique game worth seeking out.

Defender: Hyperswarm

It took 23 years for *Defender* to get a sequel, and when it did, it was in the shape of a novel by one Tim Waggoner. 2004's *Defender: Hyperswarm* uses 'characters and events in the arcade classic' to tell its story, which itself raises so very many questions. Game novels don't get much more peculiar.

The Hitchhiker's Guide to the Galaxy

Technically based on a series of books itself based on a radio show, *The Hitchhiker's Guide to the Galaxy* is arguably more popular in its dead tree form, so that's what we'll go with here. What helps this text adventure stand out is the direct involvement of the incomparable Douglas Adams, creator of the *Guide*, meaning the game's world, its situations, and the text throughout is all very much *on point*. A weird (in the good way), wacky (in the good way), confusing (in the bad way), and thoroughly classic adventure of the eighties, still worth playing by any fans of tea and towels.

William Shatner's TekWar

Kirk himself didn't pen the *TekWar* novels – that was ghost writer Ron Goulart's job – but he did put his face all over them, and the accompanying comic books and TV shows based on this drug-riddled 22nd-century world. The game is *not* good – it's just not – but it is full of ideas and well ahead of its time, with the 1995 game using an open world of sorts, innocent civilians going about their daily lives, and non-enemies reacting to the player depending on whether they had a gun drawn or not. It was still a hot mess, mind.

Rise of the Robots: The Novel

Released in 1995, just a few months after the game it was based on, Jim Murdoch's novelisation of one of the worst games ever made added little to nothing to the hardly-there mythos of the game, and exists solely to remind us of why capitalism is, actually, a bad thing.

Toolbox

The art, theory, and production of video games
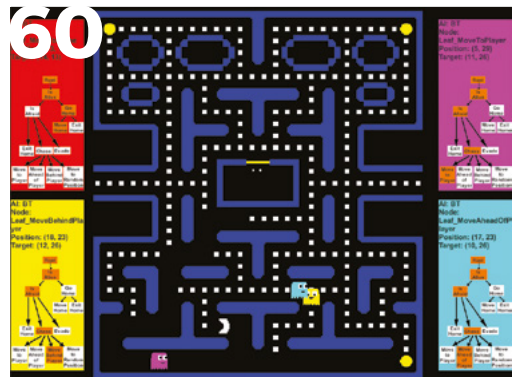
Create rival factions as memorable as anything you'd find in a big-budget title with our in-depth guide on page 50.

The principles of game design

In an excerpt from his upcoming book, Howard recalls a trip to the Alamogordo desert for a fateful reunion with E.T.
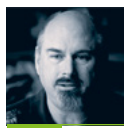
AUTHOR
HOWARD SCOTT WARSHAW

Howard is a video game pioneer who authored several of Atari's most famous and infamous titles. This is an excerpt from his upcoming book, Once Upon ATARI: How I made History by Killing an Industry. **onceuponatari.com**

When you make video games, there are aspects of the job that go way beyond the basic work experience. I'm not talking about the hours or the pressure. I'm talking about the possibilities, the unanticipated increments that accrue from bringing entertainment to people you don't even know. This became clear to me on an April afternoon in 2014 in Alamogordo, New Mexico, while excavating the city's garbage dump for the lost *E.T.* cartridges. As I look out over the vastness of the desert, a phrase comes to mind: 'The Sands of Time'.

The desert is amazing in that something so huge is made up of such small parts. It's a collection of tiny individual grains which combine to make an enormous whole. Sand is fascinating to me; it's a solid that flows like a liquid. And one place where flowing sand becomes significant is an hour-glass.

The hour-glass is nature's traffic jam. I turn it over and every grain in the top is trying to commute to the bottom. After a while, they all get through. You turn it over again for the evening commute and the same bunch of sand moves back to the other end. However, if I trace the path of each grain of sand, I see no two journeys are ever exactly the same. They go in a different order and hang out with different neighbours on each trip. Some grains are together frequently, and some never meet. And then there are ones that connect once and don't reconnect until many trips later. People are like grains of sand in an hour-glass.

BROADCASTING

I have always thought of video games as a broadcast medium. I've touched millions of lives through my games. It's done at a distance, but done nonetheless. The fan mail I've received over the years is a delightful testament to this fact. Whenever someone plays my game, it plants a seed in the life path of the player. Seeing all the people here in Alamogordo, I realise that every one of them has been drawn here by a seed I planted over 30 years ago. The thing is, when I plant a seed remotely in someone's life, I never know if their path will cross my own and what fruit it may bear. By putting this game out into the world, I became part of millions of journeys. Today, hundreds of them are converging in Alamogordo. This isn't a garbage dump; it's a crossroads in time and space.

So many hugs and handshakes. Some are first-time meetings, some are reunions, but everyone here has one thing in common: they feel a connection with the *E.T.* video game – and, by extension, me.

They are all here, proudly displaying their E.T. regalia. Some purchased, some homemade, but every piece is a precious talisman brought to the altar for sanctification (the ritual for which appears to consist of getting my autograph on it, whatever it may be). Over time, I've learned events like this

Ready Player One author Ernest Cline, always the devoted nerd, showed up at the Alamogordo dig in his DeLorean.

❮ Released in 2014, *Atari: Game Over* attempted to solve an urban legend: were excess copies of the doomed *E.T.* game buried in the New Mexico desert?

demand preparation. That's why I bring a cache of indelible markers, in high-contrast colours.

I have never met most of today's attendees. There are a few happy exceptions, however, and one remarkable exception to the exception.

Zak Penn and the film crew are here. They are all recent additions to my life – and welcome ones. As a video producer myself, I always enjoy watching a production crew in action, and these people are good! It's a pleasure to watch their smooth execution and high level of professionalism.

Mike Mika is here, too. Mike is an important part of the video game world, and our paths have crossed before, starting many years (and several Yars) ago. Mike and I first talked in the mid-1990s when he was developing a Game Boy version of *Yars' Revenge*. He is a committed and talented game maker. We became friends, and our paths have run parallel ever since, occasionally crossing. I'm enjoying spending time with Mike again, and today he introduces me to a good friend of his, Ernie Cline.

> **"They are all here, proudly displaying their E.T. regalia"**

You can tell Ernie is here by the ANORAK licence plates on the DeLorean parked at the dig site. The gull-wing doors went up once the storm subsided, revealing a life-size E.T. sitting in the passenger seat. The doors will go back down when the wind returns to prevent the DeLorean from becoming a sandbox with wheels.

Ernie wrote one of my favourite novels, *Ready Player One*, but that's not why he's here. He came because Ernie loves classic games and he cannot resist this kind of opportunity. Ernie is, and I say this with reverence, a nerd's nerd. That's not how he puts it. Ernie describes himself as an enthusiast and a gentleman adventurer. The thing I like about him is he lives up to these titles Ernest-ly.

Upon meeting Ernie, he presents me with a real Indiana Jones-style side bag (containing an autographed copy of *Ready Player One*) and a full-sized bull-whip. This is handy since my old whip from my Atari days is long past its last crack, though I wonder if (and how) he knew.

I'm touched by his thoughtful generosity and awestruck at meeting an international bestselling author. Meanwhile, he is telling me how much he enjoys and admires my games. It's truly an amazing moment in my life. I'm hanging out with a bunch of talented and accomplished people, all because I made some games over three decades ago that touched their lives.

This is the magic of the video game industry. It's the opportunity to create a positive connection with millions of people. As they continue their journey, and I continue mine, no one knows where or when those paths may cross. But it all starts with doing something I love: making a video game. ⓦ

⌃ **Howard Scott Warshaw, in full desert adventurer mode.**

Random factor

Serendipity plays a major role in the video game world. You never know if a concept will work until you try it, and if it doesn't work, you never know from where (or if) a solution will come. We even add randomness to games to make the play and experience less predictable in many cases. The one place you don't want any randomness is when debugging a game. It's an interesting challenge to create a non-random version of a random event. The solution: a pseudorandom number generator. It gives you the same random sequence every time. It's faux-serendipitous.

Exploring the pirate town of Mêlée Island

A detailed look into the workings of Monkey Island's iconic and beautiful settlement

AUTHOR
KONSTANTINOS DIMOPOULOS

Konstantinos Dimopoulos is a game urbanist and designer combining a PhD in urban planning with video games. He is the author of the forthcoming *Virtual Cities* atlas, designs game cities, and consults on their creation. **game-cities.com**

T he otherwise grim year 2020 marks the 30th anniversary of *The Secret of Monkey Island*. It's a game that defined contemporary point-and-click adventure game design and shaped not only its genre, but also how humour, world-building, and puzzles could be interwoven. Despite featuring pirate-themed T-shirts and security doors during the era of buccaneers, *Monkey Island* still managed to conjure a believable sense of place. Its most iconic location was the picturesque and masterfully constructed pirate town on Mêlée Island. This was designed for the EGA graphics format, which only allowed for 16 colours and a resolution of 320×200. Its visuals were the work of Mark Ferrari, who also kindly offered some insights for this article.

▲ Though he doesn't explicitly remember this, Mark Ferrari believes he must have used Rothenburg as visual reference for the downtown.

THE EGA FACTOR

You may have noticed that all screenshots in this month's CityCraft are not only in a particularly low resolution, but also feature an extremely limited number of colours. Sixteen to be precise; the exact number of colours available to the artists working using EGA (Enhanced Graphics Adapter – the graphics standard superseded by VGA, or Video Graphics Array) back in the late eighties. This palette and its restrictions shaped much of the original *Monkey Island*'s artistic style and defined its unique, often cerebral beauty.

MEET THE TOWN

Following the famous opening, where protagonist Guybrush Threepwood introduces himself and declares he wants to become a pirate – suitably, on an outlook above the Caribbean – players walk down a seaside cliff to enter the harbour of Mêlée Town. The first buildings glimpsed are in beautiful, dark shades of blue – most of the game is set at night. The blues of night-time, as Ferrari remembers, worked best under the EGA limitations. Helpfully, four of the EGA format's 16 colours were shades of blue, which allowed Ferrari, through the use of dithering, to create a relatively rich palette that on blurry CRT monitors almost looked VGA quality.

Past the harbour lie two more scrolling screens depicting the walled core of the town – also presented in blues, and with bright yellow-lit windows – and the whole settlement is bookended by the outlook (leading to the rest of Mêlée Island) and the governor's mansion (safely situated inland). It's an elegant, readable, and recognisable structure for a settlement of the time and place, and its limited size feels convincing while also nurturing a sense of familiarity; the town centre was, after all, partly

based on real-life references. This town, packed with activities and locations, is a pithy summation of the whole *Monkey Island* setting.

According to Ferrari, this is a place that feels real predominantly because it's consistent, not realistic. "You couldn't do anything realistic with this palette and resolution," he argues, and there's admittedly nothing realistic about ghost pirates and vegetarian cannibals. "But this world has rules," he adds. "Rules about how light and space work in it, and those rules are consistent enough that the world seems believable in itself." This is how a sense of visual suspension of disbelief was achieved: via the cohesiveness in Ferrari's work, as he always thinks in terms of systems.

As for the distinctive architectural style of cartoon-like buildings that are narrower at the bottom, Ferrari says they were essentially the result of game designer Ron Gilbert wanting dramatic and interesting camera angles in 2D without having the means to correct perspective as the town's screens scrolled. It was decided that buildings had to look correct in (skewed) perspective when players stared at the centre of the screen, and thus the style was born.

"Those rules are consistent enough that the world feels believable in itself"

THE PIRATICAL LIFE

Though not a hub in the traditional sense, Mêlée Town is a place that players are meant to regularly revisit during the game, and a core narrative location. The first major quest – the three trials to become a pirate – is given out here in SCUMM Bar, and the finale takes place here in the church. Several puzzles, most major characters, and some of the series' most memorable locations can also be discovered within the town walls, in a settlement diverse and large enough to support a jail, a piratical store, and the famous International House of Mojo where the Voodoo Lady and a rubber chicken with a pulley in the middle await.

Mêlée Town, of course, remains a setting that has to be complex enough to be interesting, and believable enough to convince players that it's a living place where diverse locations, and colourful characters can fit in and further characterise it. The richly pirate patrons of SCUMM Bar, for example, are a brilliant introduction to the game's world.

A proper city can't be static, though. It has to maintain an illusion of activity, and this

is why the lights of Mêlée Town's windows go periodically on and off, and why non-interactable characters walk around using the town's many doors. "Here's an example of art and technological limitations defining each other," Ferrari says. "This was supposed to be a settlement full of windows and doors. We wanted it to feel active with nightlife going on around you, and we didn't want doors that you couldn't get in. But if you have doors that open, this suggests you should be able to look inside. And that meant adding, drawing, and storing on disk all kinds of new backgrounds. There was no way we could add six or seven rooms we didn't need for gameplay. Ron [Gilbert] decided to solve that problem. He decided you should be able to open all doors, and people would go in and out of them, but when you enter any of them, you simply come out (randomly) from another. Though sadly never used for a puzzle, this is a successful way of making the whole town seem real without actually having to show any of it. It wasn't just the team trying to be funny." ⓦ

∧ Exiting the town gates towards the island hinterland leads to the governor's imposing mansion.

‹ Inside SCUMM Bar. This is the first place most players will visit, and is packed with jokes, pirates, and lore.

Taking Sides: how to create fantastic factions

Introduce warring factions to your game without destroying your design or bewildering players in the process

AUTHOR
PAUL KILDUFF-TAYLOR

Paul is the CEO of Mode 7, an indie game developer and publisher. You can find him on Twitter: **@mode7games**

nterfactional warfare permeates modern pop culture, with TV shows like *The Expanse* and *Game Of Thrones* fuelled by political intrigue and strategic manoeuvring. Game designers also have a particular soft spot for factions: the dynamic interactions, narrative tension, and implied depth they produce can be a powerful driving force within a game world, particularly in strategy and simulation titles.

Introducing factions can be a dangerous move, however, potentially scuppering development schedules and bloating design specifications, so it pays to investigate the pros and cons before populating your universe with a host of rampaging juntas.

In this guide, I'll be taking you through some examples of how factions work and giving you some tips on how to situate them within an appropriate context, in both aesthetic and narrative terms. My focus will be on creative direction, dipping briefly into various individual disciplines such as design and visuals.

Like any large game system, you need to be sure that factions add value to your core gameplay rather than merely pad it out, or at worst, undermine it entirely. The good news is that factions can scale from a subtle background narrative element all the way up to one of the defining features of your title, depending on how you choose to structure your design: if you keep that in mind, you'll remain in control rather than being drawn into fighting battles on every front.

Please bear in mind that compelling faction design isn't something you can create entirely in a document before starting development: iteration and flexibility are key. You'll need to explore your own imagination as well as the nuts and bolts of how factions impact gameplay on the ground – make sure you're prepared for a lot of back and forth.

Kenshi's in-depth faction simulation gives it an atmosphere of total unpredictability… and occasionally creates a significant amount of frustration for the player.

THE FUNCTION OF FACTIONS

Let's start by looking at several differing examples of how factions might be used in a game – we can also use this as something of a scale of complexity…

THE HATE TRIANGLE

The player plays through a set mission sequence and the story gives them cause to interact with two or more opposing factions within the game world, often providing them with the chance to learn deeper backstory or lore information as they progress. This structure is often found in linear FPS titles and classic RPGs, and is probably the simplest possible implementation of factions.

THE OPEN WORLD

Here, factions are often given specific territory which largely remains static throughout the game. The player might visit them at will or be compelled to enter their domain while engaging in quests.

They might have particular quest lines which can change their state, or a variable chance of appearing in certain locations, but frequently little about their behaviour is simulated in detail.

THE CLASSIC RTS

In this example, factions are mostly defined by their distinctive unit types, intended to facilitate asymmetrical strategic situations. The player is required to develop their own toolset in response to the unique challenge posed by encountering specific unit compositions and synergies.

THE GRAND STRATEGY

This paradigm allows factions to have maximal freedom, setting them up with only a starting configuration and an AI system to guide them as they expand their territory, develop their technology, build their forces, and attempt to establish dominance within a competitive environment.

Obviously, there are other possible structures, and it can be an interesting starting point to mix and match different elements together. For example, many RTS games feature a 'world map' or similar, allowing for some element of simulation to be layered on top of the existing faction behaviour, which is largely tactical in nature. This takes them closer to 'grand strategy' without requiring a full complement of procedural freedom.

Defining the challenge that a faction is presenting to the player is critical at all times. This might be as simple as 'figuring out how these alien units function', or as complex as 'is the AI likely to make this particular strategic move, given this set of parameters'. Once you know exactly what a faction's job is intended to be from a game design perspective, then you can move forward with fleshing it out. ➡

> **"You need to be sure that factions add value to your core gameplay"**

BE SPECIFIC

Too many game designers get excited at the idea of warring factions without pausing to think through the implications. Fully dynamic AI agents within your game moving units all over the place will most likely result in noise; you can spend a lot of time and effort arriving at a result which could have been produced in a simpler way. As a thought exercise, try to define some specific interactions with factions that you want the player to have – you may find that you are thinking mostly in narrative terms and require very little simulation at all.

▲ Paradox's forthcoming *Vampire: The Masquerade – Bloodlines 2* taps into the richly detailed clan and faction lore of White Wolf's tabletop RPG series. Consider taking a look at the original RPG source books if you're hankering for some world-building inspiration.

RESOURCE HUNGRY

In-game resources can be something of a black hole for designers! If you have factions actively trying to compete for them, or even simply guarding them, you can inadvertently introduce a world of pain when it comes to balancing. One good way to start thinking about this is to begin with a single implicit resource – perhaps conceptualised as a currency or simply a 'power level' – for a faction which can be used to reward or penalise them. This gives you a strong focal point for faction activity and avoids leaping into an overly complex economy straight off the bat.

HIGH COMMAND – BUILDING FACTION CONCEPTS

Now that we have some fundamental idea of how our factions might be used, and a sense of their practical utility within our game design, it's time to look at how to conceptualise them.

STATUS IN THE WORLD

If our game is centred almost exclusively on combat, we'll need to think about why an individual faction may be fighting beyond just simply 'war is happening'. That requires some understanding of our overall setting.

While a full discussion of setting is beyond the scope of this article, one key point is to ensure that your game world is focused without being too restrictive. A good example of this might be White Wolf's *World of Darkness* series, which relies on fantasy archetypes in a contemporary time period. There's some degree of flexibility around, say, the lore connected with vampires and werewolves (as long as they remain recognisable) but the modern-day setting grounds this and sets convenient expectations for the player.

A faction's position within a social hierarchy, or its function within a community, is often a good starting point. Here are a set of factors which can provide a solid basis – you could choose a single one or mix and match:

Commerce: Is the faction based around making money? If so, from which sector or industry? Are their activities legal or illegal?

Utility: Is the faction useful to the general population somehow? Do they willingly provide a service, or are they oppressed?

Religion: Does the faction have a spiritual motivation which, to them, transcends worldly concerns? Do they have a comprehensive creed or perhaps follow a specific guru?

> **"Ensure that your game world is focused without being too restrictive"**

Politics: Does the faction represent the interests of a particular group of people? What is their proximity to power? Do they have a specific, strong ideology, or are they a loose alliance based on pragmatism?

Race: Is the faction fundamentally bound together by genetic or geographical factors? How do these interact with society: are they modulated by it? One note here: race is often

used as a quick short-cut to arrive at a faction concept; be wary of this and think carefully about managing racial issues with sensitivity and intelligence within your narrative.

Place: Has the faction arisen from the need to survive in a particular environment? Perhaps they're a fish out of water, transplanted from their natural habitat; alternatively, have they shaped the landscape to their own ends?

Methodology: Has the faction optimised itself to perform a singular action or set of actions?

TACTICAL CONSIDERATIONS

Once you have a core concept for a faction, it's time to think about their behaviour and motivations.

GOALS AND OPPOSING FORCES

These are the fundamentals of a faction's role: what are they going after and who stands in their way? Some of this might well be implied by their concept – a political faction might well be seeking to govern, for example, or a particularly bellicose faction might simply want to crush their main adversary – but it's extremely useful to clarify this from the outset.

VALUES

After you know the destination for your faction, take a minute to consider their value system. Our all-conquering warrior faction would perhaps prize physical strength and endurance – how would it foster those and what might happen to individuals who don't measure up? What would be of most value to them within

this context? Thinking about these questions in terms of values and morality can unlock some interesting aspects of characterisation, which will be useful when it comes to more detailed writing. Remember, values don't tend to arise in abstract or via a purely intellectual process; they might well have come about due to a combination of specific historical events.

OBJECTIVES

After a core goal has been defined, consider breaking it down into a series of specific secondary objectives. What territory might the faction want to control, and why does it mean so much to them? What technology might they need or which alliances would they need to forge? Logistical concerns will matter here, but symbolism and emotional attachments can often prove more compelling.

OBSTACLES

Once again, it's good to look at the other side of the coin: what's going to stand in the way of our faction at all of these points? It might be tempting to assume that other factions in the world or the player will provide sufficient opposition, but environmental or technical factors could play a part.

ORIGINS

Many novice narrative designers will leap straight to origin stories as a way to approach faction design. You'll note that we've left this ➡

FORCE FEEDBACK

When thinking about faction concepts, we've encountered a fuzzy area between narrative and game design. In an ideal world, the presentation of a faction will match up neatly with its in-game behaviour: a rebellious group of renegade guerillas will attack sporadically; their units might be cobbled together; their territory will be patchy, and so on. There's nothing wrong with starting from a key narrative concept and then using that as a springboard for gameplay; it's perhaps superior, however, to iterate on design first. You might discover that a scrappy insurgent force is extremely tedious to play against: use caution when developing elaborate faction back stories early on as you may find them being discarded…

quite late in the process! Historical detail can be powerful, but only when it's employed in the service of dynamics that the player will experience directly.

INTERNAL POLITICS AND LEADERSHIP

Finally, once we know some details of our faction's makeup, we can think about its internal power structure. Is there a single charismatic leader or a committee? How secure is their grip on power, and what might it take to overthrow them?

GANG COLOURS

A faction's visual identity is critical for establishing the correct first impressions and also for reinforcing that faction's ethos in subsequent encounters. Hopefully, when the time comes to think about concept art, you'll have a good grasp of the direction your faction is going. Much of this work will be defined by the overall art direction of your game, but there are some specific areas which will benefit from some attention.

ART AND ARCHITECTURE

Start by thinking about how your faction's core values would translate into an aesthetic – would they suit lavish curves or stark geometric forms, for example? Would they be interested in an ostentatious show of wealth or power, or a far more down-to-earth self-presentation? Once established, these aesthetic guidelines can cover everything from clothing to architecture, depending on the scope of your game. Again, it pays to expend the most energy on things players will actually see on a regular basis. Even if you have glorious 'hero art' in a cutscene, it'll be wasted if your common visual elements are bland and uninspiring.

> The Zerg stick in the memory thanks to a strong visual identity combined with consistent design choices.

COLOURS AND EMBLEMS

A logo or emblem for your faction shouldn't try to convey too much detail. Instead, focus on a singular, defining aspect and think about forms which might reflect that. Similarly, palette choices can be agonised over, but in reality often boil down to simple, readable differentiators. Try to use shape as well as colour as much as possible – this helps with readability and also can affect accessibility, particularly for colour-blind players.

FACES

Human (or humanoid) faces, even if rendered in a highly stylised way, can provide a neat visual hook for your faction. It doesn't matter if your game is largely abstracted, or the player doesn't encounter characters in a 3D environment; it can still pay to include character faces which are appropriate for your faction.

CREATIVE SOLUTIONS

Try to think of faction units or technology from the standpoint of 'How would they solve this problem'? *StarCraft*'s Zerg, for example, with their biological units and H.R. Giger stylings, ooze personality because every visual detail is geared to their central theme.

DEVIL'S IN THE DETAIL

If you have the opportunity, even small objects or background elements can be tuned to your faction's aesthetic – think of this as being the video game equivalent of production design in a movie context.

> Westwood Studio's early RTS effort *Dune II* adapted author Frank Herbert's compelling factions from the original *Dune* novels.

BUILDING FACTIONS IN FROZEN SYNAPSE 2

By way of example, I'm going to discuss the development of factions in Mode 7's game *Frozen Synapse 2*, again focusing mostly on creative direction but touching on some elements of design.

BACKGROUND

Frozen Synapse 2 is a tactical game with a strategic element that takes place on a large city map, somewhat similar to older titles like *X-COM Apocalypse*. The player is tasked with defending the city from a mysterious incursion force (Sonata), all while hunting for 'Relics' that appear randomly throughout the area at regular intervals. There are six factions in the city, all of whom also are chasing after relics. This element was set from the earliest stages of design; we knew we wanted a competitive situation that the player would need to continually manage.

THE SETTING

The city of Markov Geist in which the game is set has a fantastical near-future tone. There's a pervasive internet-like network ('the shape') which is home to transcendent AI beings known as shapeforms, and rudimentary cloning technology exists, but other than those elements, things are relatively grounded. The city is run by the Council, a fragile coalition of political interests that is under immense strain, and we wanted to ensure that every faction felt like a potential challenge to the city's overall stability.

THE FACTIONS

When doing creative development on the factions, I was given the following touchstones:

- The factions needed a reason to chase Relics
- They each needed to have a distinctive relationship to Sonata
- They needed to be politically active

I took the decision early on to try and make it possible for the player to sympathise with at least some of each faction's stated beliefs. A more right-wing faction might talk about the need for stability, for example, whereas a left-wing faction would focus on the dangers of inequality and injustice. Tonally, I wanted to explore the idea of varying justifications for violence, with each faction putting their own spin on that concept. Here are the factions we ended up settling on:

DIAMOND BROTHERS

The primary financial force in the city – this was made literal by having them control buildings designated as banks. ➡
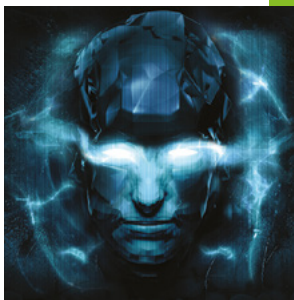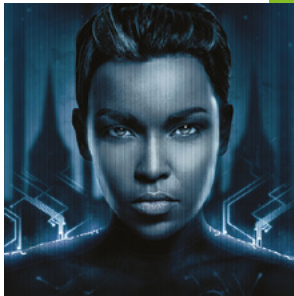
BLUE SUNLIGHT
A religious cult who appear to have a close relationship with Sonata.

GUEST
An anarchist-leaning hacker faction.

SAFEGUARD
An authoritarian military force.

BRIGHTLING UNIVERSITY
The city's premier intellectual institution, seeking to re-establish themselves by force.

FORGIVEN GEOMETRY
A 'shapeform' force attempting to assert themselves in the physical realm by means of a cloned army.

BRINGING THE FACTIONS TO LIFE
As well as competing for Relics, we wanted the major factions to be continually active on the map: this led to the creation of the 'venture' system. I described the narrative elements of this system in detail in Wireframe issue 17, so I'll focus on more functional design elements here.

Factions send squads out on the map to do various tasks, receiving a points reward for success or a penalty for failure. Points contribute to the faction's overall power level, which in turn determines the strength of their squads and the types of venture they might choose to undertake next.
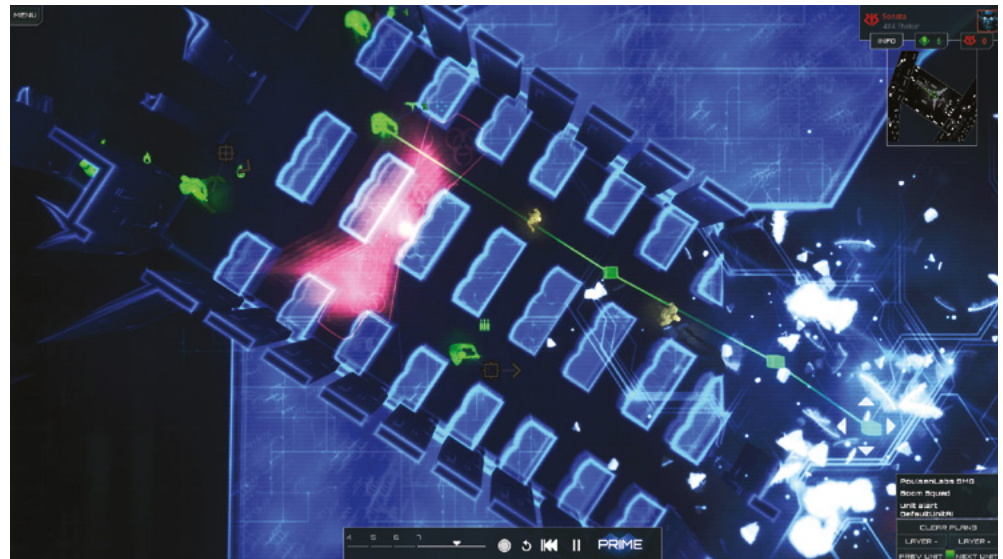
This gives the player regular opportunities to interact with the factions, who also all had cameo appearances in the main plotline. Faction 'face time' like this is an effective way to ensure that the player has a chance to pick up on each faction's main themes and values.

PORTRAITS
Frozen Synapse 2 didn't allow for much real estate for faction visuals, so we had to rely on portraits of the faction leaders for much of the characterisation. We started the concepting process by 'casting' actors we thought would suit the role of faction leader, then finding stock photos which had a similar feel. Our artist Richard Whitelock then painted over the photos and processed these in various ways to make them suitable for inclusion in the game (see images on the left) – you can read more about his work here: **wfmag.cc/RWFS2**.

On previous titles, Richard used MakeHuman (**wfmag.cc/makehuman**) to create base models which he then post-processed. This provided some interesting results, but we found the paintover photo technique to be more effective. Just as with any art, starting from a concrete reference can make the process run much smoother. You don't have to reinvent the wheel with this, either: a simple Trello mood board is a great jumping-off point.

To create our portraits, we combined photorealistic faces with 'digital artefacts' in keeping with the game's cyberpunk aesthetics.

> *Frozen Synapse 2*'s abstracted action meant that factions had to express their personality through dialogue screens and portraits, rather than through unit design and behaviour.

INTERSECTIONS

Factions in *Frozen Synapse 2* are able to encounter each other when moving around the map, but also respond to each other's ventures and behaviour in dialogue. Hearing one faction leader's opinion of another helps to establish rivalries, ensures the player gets a variety of perspectives, and really makes the setting feel more alive. This also provided a neat shortcut to 'emergent narrative': if one faction killed off another, you were likely to have heard their complaints beforehand.

FINAL THOUGHTS

Here are some closing thoughts on how you can craft a phenomenal faction…

COMEDY

As factions can be fairly self-contained entities, you can use an entire faction for comedic effect. The *Command & Conquer* franchise excelled in this, from the overblown pomposity of the Brotherhood of Nod in the original game right through to Tim Curry's game-stealing, scenery-chewing performance in *Red Alert 3*. Game lore and characterisation don't have to be po-faced to be highly effective.

THIRD WHEEL

Neutral factions can be intriguing prospects across both gameplay and narrative dimensions. Don't feel like factions always need to be at each others' throats, especially early on. If you have the capacity, allow some space for a faction which is there simply to take advantage of conflict between others, or whose only desire is to avoid confrontation.

READABILITY

Your game might have some fantastically elaborate system for establishing faction dominance, but if the player can't see a stark representation of it, it's never going to make an impact. Unit compositions or enemy loadouts will often reflect a faction's status, but simple comparative charts or infographics can go a long way.

TAKING ACTION

The player's actions don't have to be the single most important factor in what happens to a faction, but they do have to make an impact. Consider penalising a faction more heavily for losing an encounter with the player, or perhaps making them quicker to anger when a player does something to offend them.
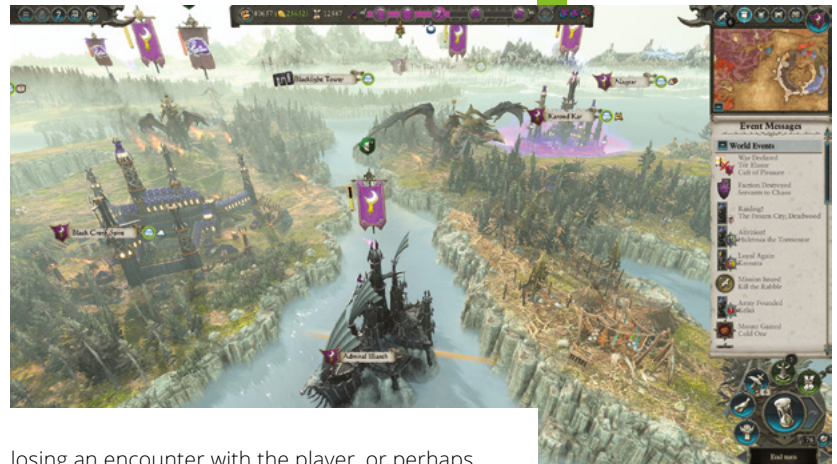
CHANGE

Think about how factions might change during the course of your game, even in small ways. Perhaps a leader could be usurped, or some new cultural movement could come to prominence.

BALANCING AND SYMMETRY

While asymmetric factions might seem cooler and provide more opportunities for individuality, consider whether or not your game really needs this. Identical or reskinned units can provide a point of direct comparison, making their relative power levels more intelligible for new players. When it comes to balancing, ensure you have an easily accessible test bed to throw different unit compositions at each other and see who comes out on top.

PATTERNS AND SURPRISES

Don't typecast your faction. If they're often the aggressor, try to find ways of putting them on the back foot; give them a chance to show a radically different side either in dialogue or in an action sequence. While you do want them to be distinctive, they should certainly have a little range.

PUSHING THE BOAT OUT

There really should be no limits to your imagination when it comes to factions, as long as you can control the overall impact they have on the player's experience. Some truly memorable game factions started off as little more than one-note jokes or light relief; think about the weirdest, most obscure corners of your world and how those might be populated. ⓦ

> **"There really should be no limits to your imagination when it comes to factions"**

EXPOSITORY EXPLOSIONS

Each faction leader is given a brief introductory speech when they encounter the player, a technique we cribbed from classic strategy games like *Sid Meier's Alpha Centauri*. This allows them to establish themselves without overburdening the player. I also created a brainstorm document full of phrases that each faction might use, or brief paragraphs explaining their doctrine, that could be slipped in on occasion to reinforce this.

Choosing choices:
a handy glossary of common terms

This month, Antony provides a handy guide to different kinds of player choices
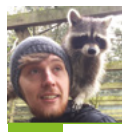
AUTHOR
ANTONY DE FAULT

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Not sure why your story isn't melting players' minds? You're probably using the wrong choice-types for your story's situations. I've defined the categories of player choice in interactive writing and described their use.

Non-choice: Often overlooked, a **Non-choice** is when you present only a single option to the player, and they *must* select it to proceed. This can break up chunks of text by providing a simple interaction (though an **Expressive** choice is better for that), and it's also used to end interactions. This choice format can also be used effectively to

create a feeling of frustration or powerlessness. If your player is being chased by a killer, offering a single choice ("Jump out of the open window…") shows the player they're cornered, not in control.

Inconsequential: The bane of the inexperienced game writer. In it, the player selects between unimportant things which don't appear to have consequences attached. In the intro to the *Black Mirror* episode *Bandersnatch*, the player chooses between Sugar Puffs and Frosties. There's no context for this choice, and no implied consequences. It's simply a bit of interactive fluff. If this sort of choice *does* have consequences, they'll feel unearned and often the player will be unimpressed. There are some stories where this player-feeling is appropriate, but they can almost always be substituted for a more interesting **Expressive** or **Simple Ethical** choice.

Blind: Sometimes, we ask the player to gamble. On their trap-filled dungeon crawl, they encounter a fork in the tunnel: left or right? This differs from an **Inconsequential** choice in two key ways. First, there *are* implied consequences, because the rooms to which each corridor leads could be trapped, or contain riches; there could be a right and wrong choice. Secondly, **Blind** choices are fully opaque, like a magician asking you to choose a card at random. They could be Door 1 and

Dragon Age: Inquisition uses tonal **Weak Expressive** choices liberally, but commits the **Simple Ethical** sin of encouraging you to pick an emotion and never deviating from it.
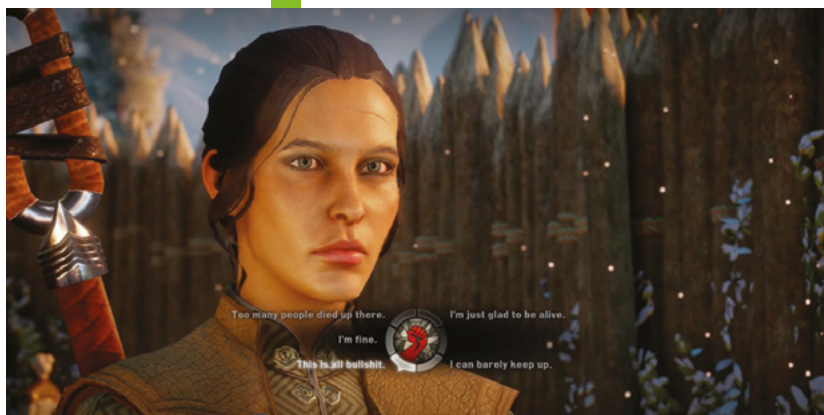
Door 2, for example, or be written in a language the player cannot read. These should almost never have severe consequences.

Fake: This type of choice is always combined with one of the other types, usually **Inconsequential**, **Blind**, or **Weak Expressive**. Simply, it means that the choice was superficial only, and the content hasn't diverged. You could ask the player to choose the right or left corridor, but have both routes lead to the same room. This would be a **Fake Blind** choice. The narrative stream didn't split; the choice meant nothing. A good **Fake** choice can create the illusion that there's more content than there is, but the player can feel pigeonholed if they see through you.

Weak Expressive: A special type of **Fake** choice. They allow the player to choose the *tone* of their action, but the meaning of it is (often) locked in. If a character asks me to marry them, I may have a **Weak Expressive** choice between "OMG, yes!" and "Uh. Yes?" Usually, the other character responds with roughly the same sentiment either way. This can be a way to allow the player to exert their agency without needing to write new branches.

Strong Expressive: Similar to other types already covered, this choice is a superficial decision *with strong implied consequences.* The classic example of this is the BioWare romance option, wherein a player's decision to couple with a certain character will affect multiple characters' stories and give or deny access to several branches, but is ultimately *a matter of personal taste.*

Offering choices between pets, clothing, character archetypes, and more, these choices are usually both ornamental and labour-intensive, so use wisely, and be wary of **Fake** versions of these choices; if seen through, the player will hate it.

Invisible: Often employed by time-looping games, the **Invisible** choice is one which only becomes visible once other choices or conditions have been met. Let's say there's an innkeeper I can choose to speak to every in-game day, and I can ask him about his ales. After ordering ale for five days in a row, a new option appears to ask for "the usual." This type of choice is often a writer's flourish, and can be a delight to discover, so use them whenever you can. It's the system responding to the player's actions in an *unforeseen*

way, so makes them feel noticed, and a well-written **Invisible** choice is ample reward for the player going the extra mile.

Simple Ethical: A mainstay of RPGs, this choice is rightly out of vogue. They tend to place choices along a basic good/bad spectrum, often with morality icons to differentiate which is which. Do you kill a mind-control victim to loot their treasure, or break the mind control and accept a few coins as thanks? The choices themselves aren't interesting, as after a while, the player will have settled on a good or bad path and will simply go for the corresponding option in every choice.

Complex Ethical: The gold standard of choices. This choice, or dilemma, presents us with a decision that we aren't quite equipped to make. The player's given context and two or more priorities to weigh, but all choices possess an amount of risk. For example, if I take the priorities 'need for love' and 'creative freedom', I could formulate a **Complex Ethical** choice: You make a small sum of money selling paintings with the subject of fatherhood, which is important to you. You love your partner, but they've been distant since their father passed a year ago. You can't afford a studio, but you need to earn money. Your partner asks if you're breaking up with them. Do you part ways? Or find less fulfilling work? There are high stakes to this choice, and complex enough factors involved that the outcomes are unpredictable. **Complex Ethical** choices are stressful, so are best given some breathing room, but are incredibly rewarding and engaging.

And that's it! These definitions build on the great *interactive* taxonomy by Clara Fernández-Vara, playable here: **wfmag.cc/choices**. ⓦ

ACCIDENTAL EVILNESS?

Naturally, most of us want to be good, so in an attempt to sway the player and make things more interesting, writers of **Simple Ethical** choices will often give 'evil' choices additional rewards, such as more EXP, more loot, or other situational advantages. This has the unfortunate political outcome of training players in the mindset that being evil is beneficial, and easier than doing good, which is a dangerous message to give out, and also *not true* in my experience.

AI-Man: a handy guide to video game artificial intelligence

Discover how non-player characters make decisions by tinkering with our Unity-based Pac-Man homage
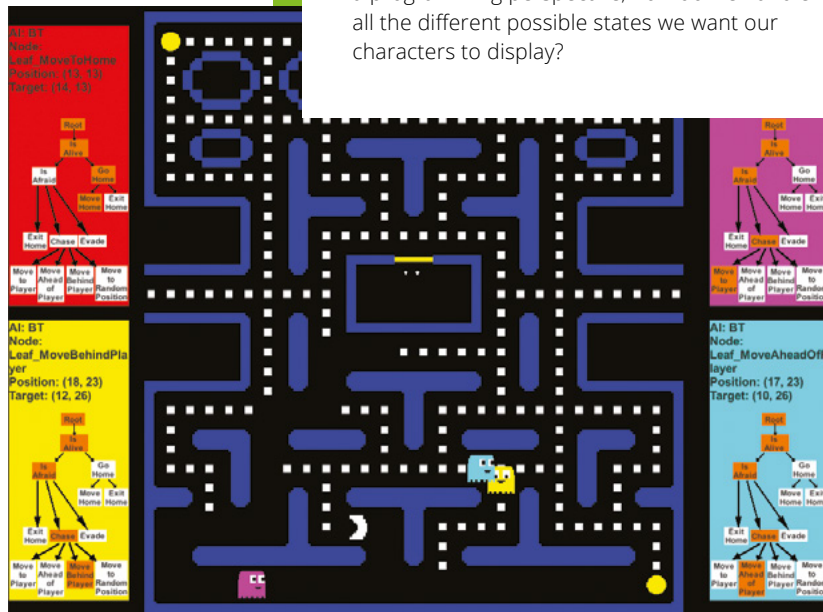
AUTHOR
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From the first video game to the present, artificial intelligence has been a vital part of the medium. While most early games had enemies that simply walked left and right, like the Goombas in *Super Mario Bros.*, there were also games like *Pac-Man*, where each ghost appeared to move intelligently. But from a programming perspective, how do we handle all the different possible states we want our characters to display?

For example, how do we control whether a ghost is chasing Pac-Man, or running away, or even returning to their home? To explore these behaviours, we'll be tinkering with *AI-Man* – a *Pac-Man*-style game developed in Unity. It will show you how the approaches discussed in this article are implemented, and there's code available for you to modify and add to. You can freely download the *AI-Man* project from **wfmag.cc/wfmag43**.
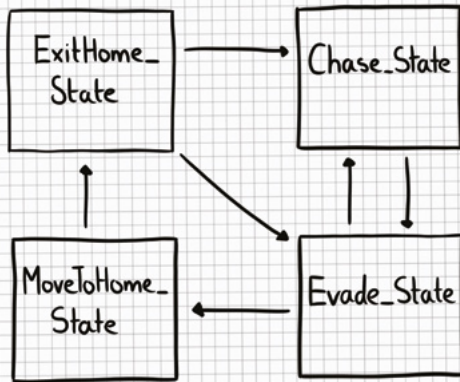
One solution to managing the different states a character can be in, which has been used for decades, is a finite state machine, or FSM for short. It's an approach that describes the high-level actions of an agent, and takes its name simply from the fact that there are a finite number of states from which to transition between, with each state only ever doing one thing.

ALTERED STATES

To explain what's meant by high level, let's take a closer look at the ghosts in *Pac-Man*. The high-level state of a ghost is to 'Chase' Pac-Man, but the low level is how the ghost actually does this. In *Pac-Man*, each ghost has its own behaviour in which it hunts the player down, but they're all in the same high-level state of 'Chase'.

Looking at **Figure 1**, you can see how the overall behaviour of a ghost can be depicted

Here's *AI-Man*, our homage to a certain Namco maze game. You can switch between AI types to see how they affect the ghosts' behaviours.

▲ **Figure 1: A finite state machine.**

extremely easily, but there's a lot of hidden complexity. At what point do we transition between states? What are the conditions on moving between states across the connecting lines? Once we have this information, the diagram can be turned into code with relative ease. You could use simple switch statements to achieve this, or we could achieve the same using an object-oriented approach.

Using switch statements can quickly become cumbersome the more states we add, so I've used the object-oriented approach in the accompanying project, and an example code snippet can be seen in **Code Listing 1**. Each state handles whether it needs to transition into another state, and lets the state machine know. If a transition's required, the `Exit()` function is called on the current state, before calling the `Enter()` function on the new state. This is done to ensure any setup or cleanup is done, after which the `Update()` function is called on whatever the current state is. The `Update()` function is where the low-level code for completing the state is processed. For a project as simple as *Pac-Man*, this only involves setting a different position for the ghost to move to.

HIDDEN COMPLEXITY

Extending this approach, it's reasonable for a state to call multiple states from within. This is called a hierarchical finite state machine, or HFSM for short. An example is an agent in *Call of Duty: Strike Team* being instructed to seek a stealthy position, so the high-level state is 'Find Cover', but within that, the agent needs to exit the dumpster he's currently hiding in, find a safe location, calculate a safe path to that location, then repeatedly move between points on that path until he reaches the target position.

FSMs can appear somewhat predictable as the agent will always transition into the same state. This can be accommodated for by having multiple options that achieve the same goal. For example, when the ghosts in our Unity project are in the 'Chase' state, they can either move to the player, get in front of the player, or move to a position behind the player. There's also an option to move to a random position. The FSM implemented has each ghost do one of these, whereas the behaviour tree allows all ghosts to switch between the options every ten seconds.

A limitation of the FSM approach is that you can only ever be in a single state at a particular time. Imagine a tank battle game where multiple enemies can be engaged. Simply being in the 'Retreat' state doesn't look smart if you're about to run into the sights of another enemy. The worst-case scenario would be our tank transitions between 'Attack' and 'Retreat' states on each frame – an issue known as state thrashing – and gets stuck, and seemingly confused about what to do in this situation. What we need is a way to be in multiple states at the same time: ideally retreating from tank A, whilst attacking tank B. This is where fuzzy finite state machines, or FFSM for short, come in useful. ➡

IN THE TREES

Another benefit to using a behaviour tree approach is that it reduces code replication. Behaviour trees can be built from smaller behaviour trees, and passage down the tree can be passed to other parts of the tree. You can even make parts of the tree inaccessible, unlocking them during gameplay, making agents appear to be learning behaviours throughout the game.

CODE LISTING 1:

FINITE STATE MACHINE EXAMPLE

```
void Update()
{
    //Do we need to transition out of the current state.
    GhostStatenextState = availableStates[(int)currentState].CheckTransitions();
    if (nextState != currentState)
    {
        //Exit current state.
        availableStates[(int)currentState].OnExit();
        //Enter the next state.
        availableStates[(int)nextState].OnEnter();
        //Remember the change.
        currentState = nextState;
    }

    //Update the current state.
    availableStates[(int)currentState].OnUpdate();
}
```

PAC-MAN FEVER

Download our *Pac-Man* sample project (**wfmag.cc/wfmag43**) and step through the code to see how it's put together. There's always more than one way to solve a problem, and the one in our *Pac-Man* game is just one of them. Use the project as a stepping stone to develop your own ideas and behaviours – why not see if you can make the ghosts smarter than the player?

This approach allows you to be in a particular state to a certain degree. For example, my tank could be 80% committed to the Retreat state (avoid tank A), and 20% committed to the Attack state (attack tank B). This allows us to both Retreat and Attack at the same time. To achieve this, on each update, your agent needs to check each possible state to determine its degree of commitment, and then call each of the active states' updates.

This differs from a standard FSM, where you can only ever be in a single state. FFSMs can be in none, one, two, or however many states you like at one time. This can prove tricky to balance, but it does offer an alternative to the standard approach.

> **"FFSMs can be in one, none, two, or however many states you like"**

NO MEMORY

Another potential issue with an FSM is that the agent has no memory of what they were previously doing. Granted, this may not be important: in the example given, the ghosts in *Pac-Man* don't care about what they *were* doing, they only care about what they *are* doing, but in other games, memory can be extremely important. Imagine instructing a character to gather wood in a game like *Age of Empires*, and then the character gets into a fight. It would be extremely frustrating if the characters just stood around with nothing to do after the fight had concluded, and for the player to have to go back

through all these characters and reinstruct them after the fight is over. It would be much better for the characters to return to their previous duties.

We can incorporate the idea of memory quite easily by using the stack data structure. The stack will hold AI states, with only the top-most element receiving the update. This in effect means that when a state is completed, it's removed from the stack and the previous state is then processed.

Figure 2 depicts how this was achieved in our Unity project.

To differentiate the states from the FSM approach, I've called them tasks for the stack-based implementation. Looking at **Figure 2**, it shows how (from the bottom), the ghost was chasing the player, then the player collected a power pill, which resulted in the AI adding an `Evade_Task` – this now gets the update call, not the `Chase_Task`. While evading the player, the ghost was then eaten. At this point, the ghost needed to return home, so the appropriate task was added. Once home, the ghost needed to exit this area, so again, the relevant task was added. At the point the ghost exited home, the `ExitHome_Task` was removed, which drops processing back to `MoveToHome_Task`. This was no longer required, so it was also removed. Back in the `Evade_Task`, if the power pill was still active, the ghost would return to avoiding the player, but if it had worn off, this task, in turn, got removed, putting the ghost back in its default task of `Chase_Task`, which will get the update calls until something else in the world changes.

BEHAVIOUR TREES

In 2002, *Halo 2* programmer Damian Isla expanded on the idea of HFSM in a way that made it more scalable and modular for the game's AI. This became known as the behaviour tree approach. It's now a staple in AI game development. The behaviour tree is made up of nodes, which can be one of three types – composite, decorator, or leaf nodes. Each has a different function within the tree and affects the flow through the tree. **Figure 3** shows how this approach is set up for our Unity project. The states we've explored so far are called leaf nodes. Leaf nodes end a particular branch of the tree and don't have child nodes – these
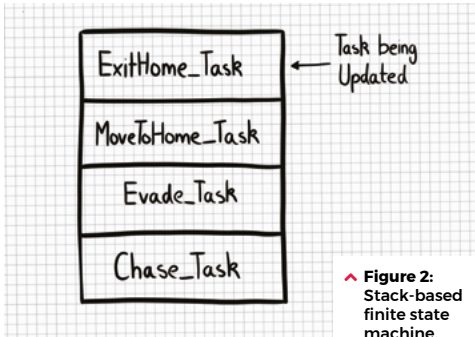
CODE LISTING 2:

BEHAVIOUR TREE: SELECTOR_CHASE EXAMPLE

```
public override Status OnUpdate(Ghost ghost, Player player)
{
    Status ghostStatus = childrenNodes[previousRunningNode].OnUpdate(ghost,
player);
    if (ghostStatus == Status.SUCCESS)
    {
        //Choose a random index for the next update..
        System.Randomrnd = new System.Random();
        previousRunningNode = rnd.Next(0, childrenNodes.Count);
    }

returnghostStatus;
}
```

▲ **Figure 2:**
Stack-based
finite state
machine.

BEHAVIOUR TREE: SEQUENCE_GOHOME EXAMPLE

```
public override Status OnUpdate(Ghost ghost, Player player)
{
    //Sequence needs all children to SUCCEED to be SUCCESSFUL.
    Status ghostStatus = Status.RUNNING;
    boolchildIsRunning = false;
    for(inti =0; i<childrenNodes.Count; i++)
    {
    switch (childrenNodes[i].OnUpdate(ghost, player))
    {
        caseStatus.FAILURE:
            //Leave immediately, we have failed in a child leaf node.
            returnStatus.FAILURE;
        break;

caseStatus.SUCCESS:
            //Overall SUCCESS is determined below.
            continue;
        break;


caseStatus.RUNNING:
            i = childrenNodes.Count;
            childIsRunning = true;
            continue;
        break;

default:
            ghostStatus = Status.SUCCESS;
        break;
    }
    }

    ghostStatus = childIsRunning ? Status.RUNNING :Status.SUCCESS;
    returnghostStatus;
}
```
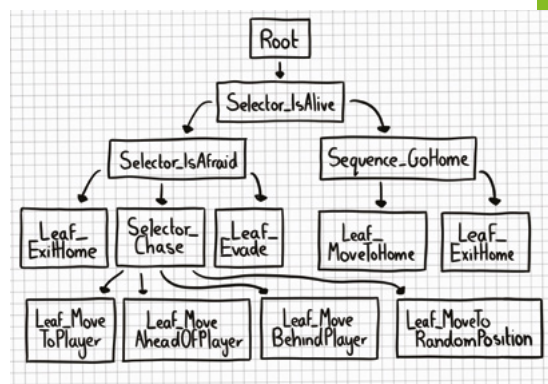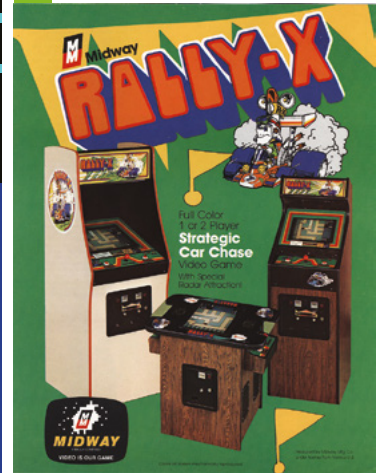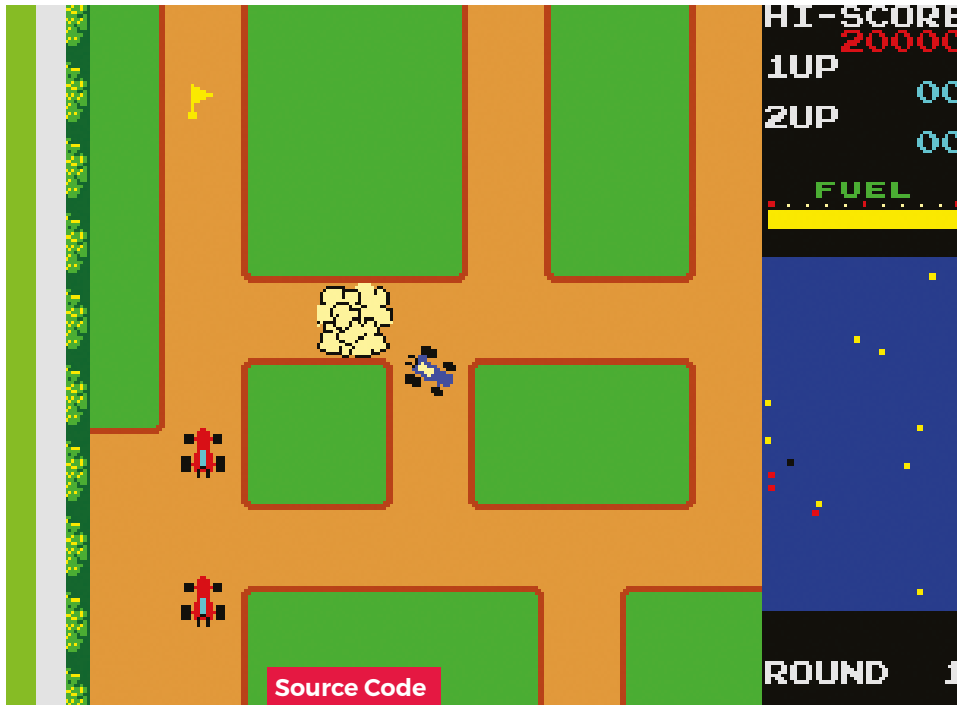
are where the AI behaviours are located. For example, **Leaf_ExitHome**, **Leaf_Evade**, and **Leaf_MoveAheadOfPlayer** all tell the ghost where to move to. Composite nodes can have multiple child nodes and are used to determine the order in which the children are called. This could be in the order in which they're described by the tree, or by selection, where the children nodes will compete, with the parent node selecting which child node gets the go-ahead. **Selector_Chase** allows the ghost to select a single path down the tree by choosing a random option, whereas **Sequence_GoHome** has to complete all the child paths to complete its behaviour.

Code Listing 2 shows how simple it is to choose a random behaviour to use – just be sure to store the index for the next update. **Code Listing 3** demonstrates how to go through all child nodes, and to return **SUCCESS** only when all have completed, otherwise the status **RUNNING** is returned. **FAILURE** only gets returned when a child node itself returns a **FAILURE** status.

COMPLEX BEHAVIOURS
Although not used in our example project, behaviour trees can also have nodes called decorators. A decorator node can only have a single child, and can modify the result returned. For example, a decorator may iterate the child node for a set period, perhaps indefinitely, or even flip the result returned from being a success to a failure. From what first appears to be a collection of simple concepts, complex behaviours can then develop.

Video game AI is all about the illusion of intelligence. As long as the characters are believable in their context, the player should maintain their immersion in the game world and enjoy the experience we've made. Hopefully, the approaches introduced here highlight how even simple approaches can be used to develop complex characters. This is just the tip of the iceberg: AI development is a complex subject, but it's also fun and rewarding to explore. ⓦ

‹ **Figure 3:**
Behaviour tree.

Source Code

^ Three different cabinet styles were
available for *Rally-X*.

< In Namco's original arcade game, the
red cars chased the player relentlessly
around each level. Note the handy
mini-map on the right.

Code a Rally-X-style
mini-map

Race around using a mini–map for navigation,
just like the arcade classic, Rally–X

AUTHOR
MARK VANSTONE

The original *Rally-X* arcade game
blasted onto the market in
1980, at the same time as
Pac-Man and *Defender*. This was
the first year that developer
Namco had exported its games outside
Japan thanks to the deal it struck with
Midway, an American game distributor.
The aim of *Rally-X* is to race a car around a
maze, avoiding enemy cars while collecting
yellow flags – all before your fuel runs out.

The aspect of *Rally-X* that we'll cover here
is the mini-map. As the car moves around
the maze, its position can be seen relative to
the flags on the right of the screen. The main
view of the maze only shows a section of the
whole map, and scrolls as the car moves,
whereas the mini-map shows the whole
size of the map but without any of the maze
walls – just dots where the car and flags are
(and in the original, the enemy cars). In our
example, the mini-map is five times smaller
than the main map, so it's easy to work
out the calculation to translate large map
co-ordinates to mini-map co-ordinates.

To set up our *Rally-X* homage in Pygame
Zero, we can stick with the default screen
size of 800×600. If we use 200 pixels for the
side panel, that leaves us with a 600×600
play area. Our player's car will be drawn in
the centre of this area at the co-ordinates
300,300. We can use the in-built rotation
of the Actor object by setting the angle
property of the car. The maze scrolls
depending on which direction the car is
pointing, and this can be done by having
a lookup table in the form of a dictionary
list (`directionMap`) where we define x and y
increments for each angle the car can travel.
When the cursor keys are pressed, the car
stays central and the map moves.

To detect the car hitting a wall, we can
use a collision map. This isn't a particularly
memory-efficient way of doing it, but it's easy
to code. We just use a bitmap the same size
as the main map which has all the roads as
black and all the walls as white. With this
map, we can detect if there's a wall in the
direction in which the car's moving by testing
the pixels directly in front of it. If a wall is

detected, we rotate the car rather than
moving it. If we draw the side panel after the
main map, we'll then be able to see the full
layout of the screen with the map scrolling
as the car navigates through the maze.

We can add flags as a list of Actor objects.
We could make these random, but for the
sake of simplicity, our sample code has them
defined in a list of x and y co-ordinates. We
need to move the flags with the map, so
in each `update()`, we loop through the list
and add the same increments to the x and
y co-ordinates as the main map. If the car
collides with any flags, we just take them
off the list of items to draw by adding a
`collected` variable. Having put all of this in
place, we can draw the mini-map, which will
show the car and the flags. All we need to
do is divide the object co-ordinates by five
and add an x and y offset so that the objects
appear in the right place on the mini-map.

And those are the basics of *Rally-X*! All it
needs now is a fuel gauge, some enemy cars,
and obstacles – but we'll leave those for you
to sort out... ⓦ

Rally-X racing in Python

Here's Mark's code for a *Rally-X*-style racer, complete with mini-map. To get it working on your system, you'll need to install Pygame Zero – full instructions are available at **wfmag.cc/pgzero**.

```python
# Rally X
from pygame import image, Color

car = Actor('car', center=(300, 300))
car.angle = 180
mapx = -100
mapy = 0
directionMap = {0:(0,1), 90:(1,0), 180:(0,-1), 270:(-1,0)}
speed = 5
collisionmap = image.load('images/collisionmap.png')
count = gameStatus = 0
flagsXY=[(200,1900),(300,1100),(300,300),
(400,600),(600,1600),(800,350)]
flags = []
for f in range(0, 6):
    flags.append(Actor('flag', center=(0, 0)))
    flags[len(flags)-1].collected = False

def draw():
    screen.blit("colourmap",(mapx,mapy))
    car.draw()
    for f in range(0, 6):
        if not flags[f].collected: flags[f].draw()
    screen.blit("sidepanel",(600,0))
    drawMiniMap()
    if gameStatus == 1 : screen.draw.text("YOU GOT
ALL THE FLAGS!", center = (400, 300), owidth=0.5,
ocolor=(255,255,255), color=(0,0,255) , fontsize=80)

def update():
    global mapx,mapy,count,gameStatus
    if gameStatus == 0 :
        checkInput()
        testmove = (int((-mapx+300) - ((directionMap[car.
angle][0]*8) * speed)),int((-mapy+300) - ((directionMap[car.
angle][1]*8) * speed)))
        if collisionmap.get_at(testmove) == Color('black'):
            mapx += directionMap[car.angle][0] * speed
            mapy += directionMap[car.angle][1] * speed
        else:
            car.angle += 90
            if car.angle == 360: car.angle = 0
        if collisionmap.get_at((int(-mapx+330), int(-
mapy+300))) == Color('white'): mapx += 1
        if collisionmap.get_at((int(-mapx+270), int(-
mapy+300))) == Color('white'): mapx -= 1
        if collisionmap.get_at((int(-mapx+300), int(-
mapy+330))) == Color('white'): mapy += 1
        if collisionmap.get_at((int(-mapx+300), int(-
mapy+270))) == Color('white'): mapy -= 1
        flagCount = 0
        for f in range(0, 6):
            flags[f].x = flagsXY[f][0]+mapx
            flags[f].y = flagsXY[f][1]+mapy
            if flags[f].collidepoint(car.pos):
                flags[f].collected = True
            if flags[f].collected == True: flagCount += 1
        count += 1
        if flagCount == 6: gameStatus = 1

def checkInput():
    if keyboard.left: car.angle = 90
    if keyboard.right: car.angle = 270
    if keyboard.up: car.angle = 0
    if keyboard.down: car.angle = 180

def drawMiniMap():
    carRect = Rect((658+(-mapx/5),208+(-mapy/5)),(4,4))
    if count%10 > 5:
        screen.draw.filled_rect(carRect,(0,0,0))
    else:
        screen.draw.filled_rect(carRect,(100,100,100))
    for f in range(0, 6):
        if not flags[f].collected:
            flagRect = Rect((600+(flagsXY[f]
[0]/5),150+(flagsXY[f][1]/5)),(4,4))
            screen.draw.filled_rect(flagRect,(255,255,0))
```


Roam the maze and collect those flags in our Python homage to *Rally-X*.
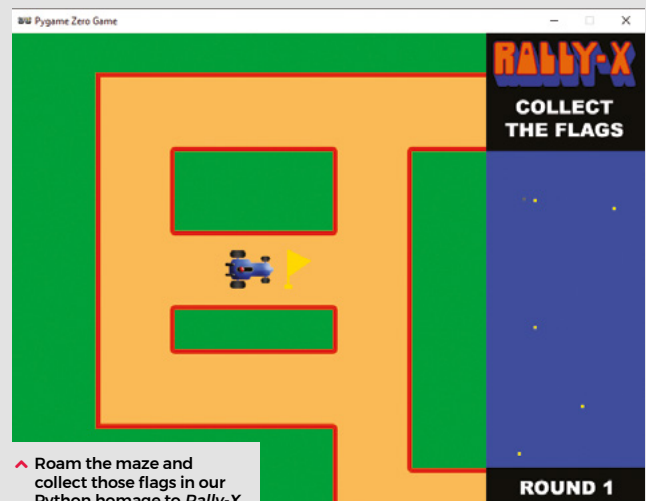
PSI-PRINT
DOWNLOADED;

SUBJECT:
MORGAN, ALEX

PROFESSION:
SOCCER PLAYER

SKILLS:
SOCCER

NOTES:
OLYMPIC GOLD MEDAL--
2012;
WORLD CUP--
2015, 2019;
ATHLETE OF THE YEAR--
2012, 2018;
<MORE>

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NOT THE END OF THE RAINBOW

Exploring modern queer game development

Three queer game designers tell us how they centre LGBTQA+ experiences in their work

WRITTEN BY
FLORENCE SMITH
NICHOLLS

What's queer about video games? In their book *Video Games Have Always Been Queer*, author Bonnie Ruberg contends: "Queerness and video games share a common ethos: the longing to imagine alternative ways of being and to make space within structures of power for resistance through play."

A pejorative word in the 19th century, queer has been reclaimed by some members of the LGBTQA+ community as an umbrella term for people who are not cisgender and/or heterosexual. Today, there's a thriving contemporary queer development scene which not only centres queer experience and identity through games, but also challenges player expectations through unusual game mechanics.

I'm queer myself. At a time when games journalism can be dominated by discussion of heteronormative, triple-A studio culture, it's refreshing to turn to the queer games community for an alternative perspective on development. I was lucky enough to speak with three queer developers about how their personal experiences influence their work.

THE PERSONAL IS POLITICAL

Perseids, or *All This Will Go On Forever*, is a Twine game made by Freya Campbell about four trans girlfriends going on a road trip. Campbell

drew on her own memories of "road trips with friends, camping and trading jokes, discussing your hopes and fears for the future." This went beyond thematic inspiration, though; Campbell created a five-song soundtrack deliberately distorted to sound like it was filtered through a car speaker. "It was a desire to capture a specific autobiographical moment," says Campbell. "Summers spent driving in a 1996 Ford Fiesta in which half the speakers are blown, but you don't care, and the distortion of the music only hammers home the fact that you're in a car with your friends and probably on the way to

▼ Freya Campbell's most recent queer slice-of-life game was called *Superlunary*, and appeared at the National Video Game Museum in 2019.
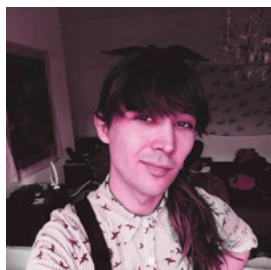
▲ "*Perseids* came from a few disparate elements slowly coming together into an idea, like 'the crunch of tyres on loose gravel.'"

Created by Sisi Jiang, *LIONKILLER* doesn't shy away from exploring mature and often difficult themes.

V

do something fun. For the true experience, you should wind the window down and let your arm hang out in the breeze."

Perseids was created as part of the Trans Gal Jam, an event organised specifically for trans women. "I think it's fantastic to have a space to allow trans women – and people who are still figuring themselves out – to make their own work, encourage each other, get advice," Campbell says. "Sometimes I think people who are new to creative work can feel like they need [permission] to create, especially when it's creating something personal or against mainstream work; so having a space where people explicitly say, 'You can make a game, and you can make it about people like you' is great."

> **"You can make a game, and you can make it about people like you"**

TWINE FOR SOMETHING DIFFERENT

Since its launch in 2009, Twine, the open-source tool for creating interactive fiction, has become strongly associated with the queer games community. "I would say that queer developers are among the foremost pioneers in Twine," agrees developer Sisi Jiang. "It's impossible to explore the Twine landscape without encountering the work of queer developers. We've contributed to Twine as a medium as much as Twine has opened up new opportunities to us. The relationship between game developers and tool developers is a two-way street."

This last point is well demonstrated by the clever use of different coloured text in Jiang's Twine game, *LIONKILLER*. In it, you play Hua Mulan, a lesbian who's conscripted into the First Opium War against the British Empire in the mid-19th century. "Accessibility was really important to me," Jiang says. "One of my major criticisms of Twine games is that some of them trade legibility for artistic expression. The colour coding was a way to make sure that players were never stuck on wondering what they were supposed to do."

The accessibility of Twine as a creative tool has been lauded as one of its strengths, with queer creators such as Anna Anthropy having written in *Rise of the Videogame Zinesters* about the value of

lo-fi experimental games creation. It's important to remember, however, that it takes time and skill to weave interactive stories in Twine, Jiang says. "I don't think anyone could necessarily wake up one day and make a Twine game that's as mechanically intricate as *LIONKILLER* without a ton of invisible practice in the background."

LIONKILLER is particularly effective in its depiction of a queer protagonist struggling against British colonialism. I was especially struck by one point in the game where the player is invited to type in a description of the English, with the comment on screen stating: "There is no wrong answer." Jiang expands on the thinking behind this small yet important moment. "In order for a game to be post-colonial, it has to champion the perspectives of the colonised. I wanted players to be able to give their own answer in the role-play, but only after they've suffered a lot of loss.

"The most meaningful choices are the ones in which the developer gives the players the most authorship. Plus, there's nothing that brings out personal honesty like being alone in a darkened room. That's basically what a Twine is!" ➡

FINDING TIME

Sisi Jiang started development on *LIONKILLER* in May 2018, working on it when they could between graveyard shifts and job hunting. The game was on hiatus when it caught the attention of Emily Nguyen, product lead at Wattpad. *LIONKILLER* was launched as a test product on their app.

Though set in the 19th century, *LIONKILLER* has some fantastic moments which reference contemporary internet meme humour.

You have shopped for a family before, but never an army. You feel uneasy at some of the quantities. The budget didn't seem to make any sense?

Food: 200 wén
Sheepskin: 150 wén
Horses: 800 wén
Gunpowder: 3,600 wén
Wages: 150 wén

If nobody helps to budget for the Major-General, then this army might be dying.

The visuals of *RoTM* are all handmade objects crafted by the art team of Rekha Ramachandran, Julia Gingrich, and Kara Stone.

When designing the witch for *RoTM*, the art team deliberately chose not to make her white and skinny as a default.

Kara Stone is a currently a PhD student in Film and Digital Media with a designated emphasis in Feminist Studies at University of California, Santa Cruz.

Within the 'dark room' of Twine, then, snapshots of queer experience can develop. When asked about the queerness of *LIONKILLER*, Jiang's answer is unequivocal. "I think the only thing that makes a game queer is 'Did the developer sincerely intend it for queer audiences?' In the case of *LIONKILLER*, yes."

QUEER AND NOW

While historical context was especially important for *LIONKILLER*, temporality is often an important theme or mechanic in queer games in general. Kara Stone's *Ritual of the Moon* is a brilliant example; it's a multi-narrative game spanning five minutes of daily gameplay spread over 28 days. The protagonist is a queer witch exiled to the moon during a neo-Salem witch-trial, who has the power to destroy or protect the Earth.

With *Ritual of the Moon* defined by its brief, intimate play sessions, I wondered whether it was intended as an antidote to open-world games, with their campaigns which can last dozens of hours or more. "I don't think it's those vast, open-world games that are oppositional to *Ritual of the Moon*, but rather the long, more narrative-based ones, with distinct beginnings and ends," Stone argues. "In open-world games like *Skyrim*, you can more easily stop playing because you can divide up the quests, grind, and mini-narratives easier. Games like *Uncharted* – where there's one path that's barely broken up – require you to play as fast as possible, as one can easily forget
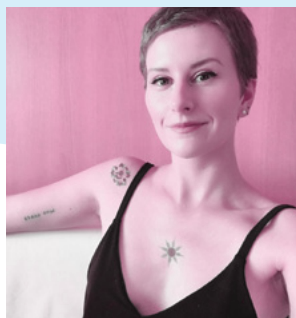
ENDING CRUNCH?

With crunch culture in triple-A studios a regular source of debate, I wondered whether those companies could benefit from the way queer developers make games. "Maybe these massive studios would benefit from queer crafting practices," says *Ritual of the Moon* creator Kara Stone, before voicing concern that these practices could then be co-opted and destroyed. "Because they would try to turn it into something hyper-productive and fitting of representation politics, [it could end up being] antithetical to the anti-capitalism of the original practices. I'd be open to hearing the possibility of it, though."

where they are in the narrative. I can see the value in this – if it's paced correctly. If [a game is] hyper-fast, requiring 100 hours in three weeks, that's when it starts to mimic overwork, addiction, and isolation."

The power of being able to focus on small moments without the pressure of chasing a narrative is at the heart of *Perseids*. "There are so many styles of media that don't allow for these moments," Stone says. "I think of it as a kind of capitalist creativity, where if there's no 'narrative profit' to each scene, then it's worthless to the overall plot."
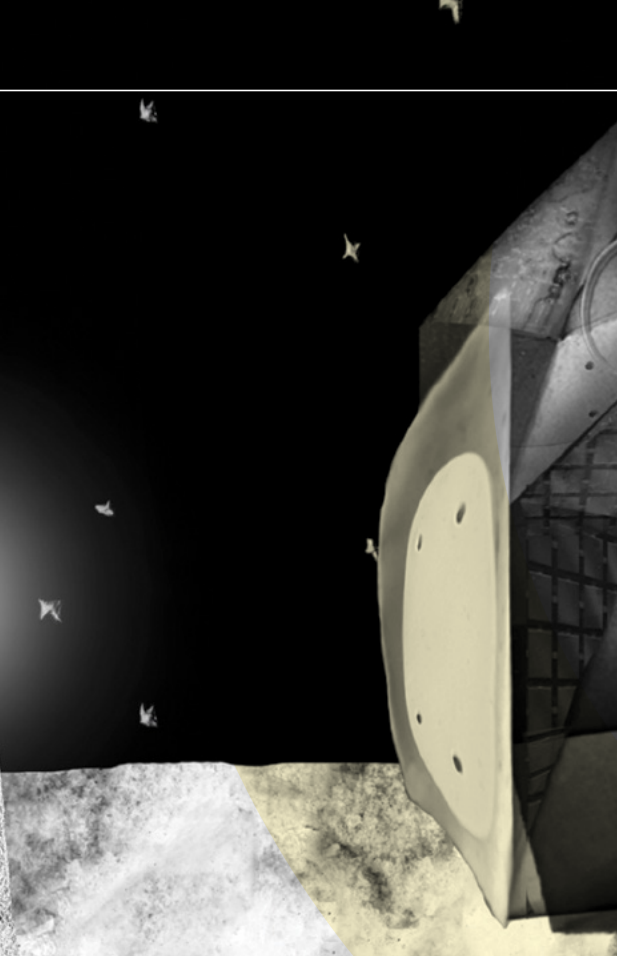
Freya Campbell is particularly drawn to the slice-of-life game genre, but there's "very little in that genre that's explicitly about queer people," she says. "To me, that's a tragedy. The trans experience is so much about the fear and excitement of change – physically, emotionally, socially – and it can be daunting to face that change head-on.

"The stereotypical queer narrative is about coming out, or is about transition; it's about change. It's a narrative that is deeply important for a lot of people yet one that I am absolutely tired of personally. So in *Perseids*, nothing changes, start to end."

REPARATIVE GAME DESIGN

The process of making a game isn't necessarily just an external act of world-building, but also an internal one. In her article *Time and Reparative*

limited resources available to them. "I spent a lot of development time being broke," says Jiang, "so my references were mostly library books and Wikipedia articles. [But] there are a lot of historical references in *LIONKILLER* that shine because I was able to perform my due diligence without a university library subscription.

"One big research challenge was the fact that the war was mostly recorded in the form of government documents (on both sides). It was impossible to get a layperson's perspective of the war, but the lack of information also offered me more freedom to write characters as I wanted."

The ability for queer games creators to write their understanding of the world into digital existence can be healing, then, but that doesn't mean that it isn't also demanding work.

⌃ While pursuing their degree in History, Sisi Jiang spent over 40 hours a week writing and designing play-by-post games.

NOT OVER THE RAINBOW

The success of queer games shouldn't be measured by commercial gain – it isn't a matter of chasing a pot of gold at the end of the rainbow. The queer developers I interviewed for this piece have all centred their own experiences, and those of their community, within their games. Creating art about queer experience has led to experimentation with unusual game mechanics and creativity within the confines of what limited resources, time, and income are available.

And perhaps best of all, queer games are freed from the conventions that confine triple-A games, which so often fall back on sprawling tales with definitive beginnings and endings.

Or, as Campbell so aptly sums it up in the postscript to *Perseids*: "We can aspire to some grand destination, or something better over the horizon. But my day-to-day story doesn't have a neat plot arc or resolution." Ⓦ

Game Design: Queerness, Disability, and Affect, Stone meditates on the potential for healing through game-making. This is something that Campbell related to as well. "Sometimes I create games or other work just to get something out of my head, or sometimes to try and process something, in the same way that a play-acted argument in the shower is processing, or a diary entry is. Writing the argument down gives it more legitimacy."

Games allow for queer creators to express themselves and how they see the world in an interactive and intimate setting. As Campbell says, "Games can grant you permission to succeed, and to define what that success looks like."

Though game development can be therapeutic, it's still labour – and queer game developers working on solo projects can sometimes have

RITUAL OF THE NIGHT

Given the nature of the game, I wondered if Kara Stone had any development rituals during the making of *Ritual of the Moon*. "The day *Ritual of the Moon* was finally released, programmer Chris Kerich and I, since we were the only ones living in the same city, had a release ritual," Stone says. "We wrote things down we wanted to let go of on little bits of paper and then burned them in the back yard. I won't share what they are."

…and that song was Broken Sunglasses, and you're listening to TMFM 91.4, live from a basement in—
The radio crackles and you lose signal, the presenter's voice drowned out by static.
Rosie whines and prods the radio, trying to seek back onto a stronger frequency.
As she leans across, you stare at the back of her head, her hair curled and draping around her shoulders.
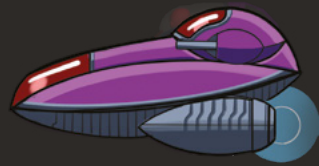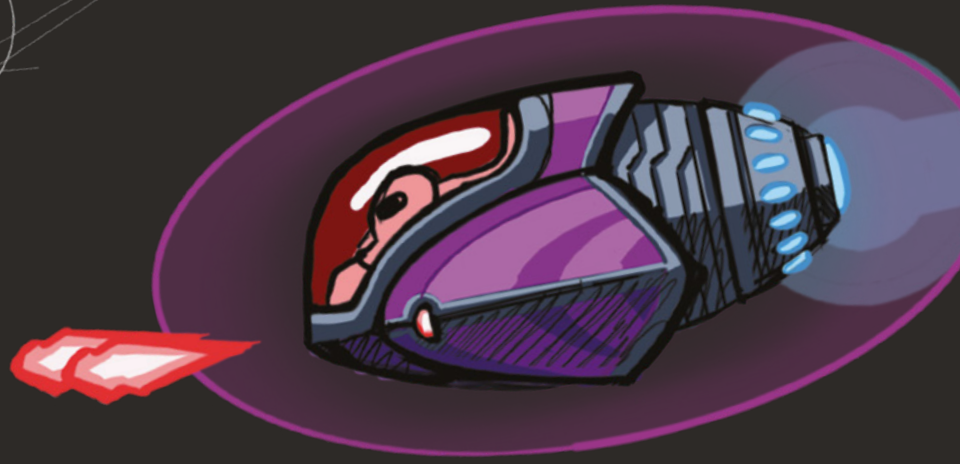The urge to reach out and feel it between your fingers comes across you.
Reach Out *(z)*
Don't Reach Out *(x)*

⌃ The interplay of music and text is key to the creation of a cosy, intimate atmosphere in *Perseids*.
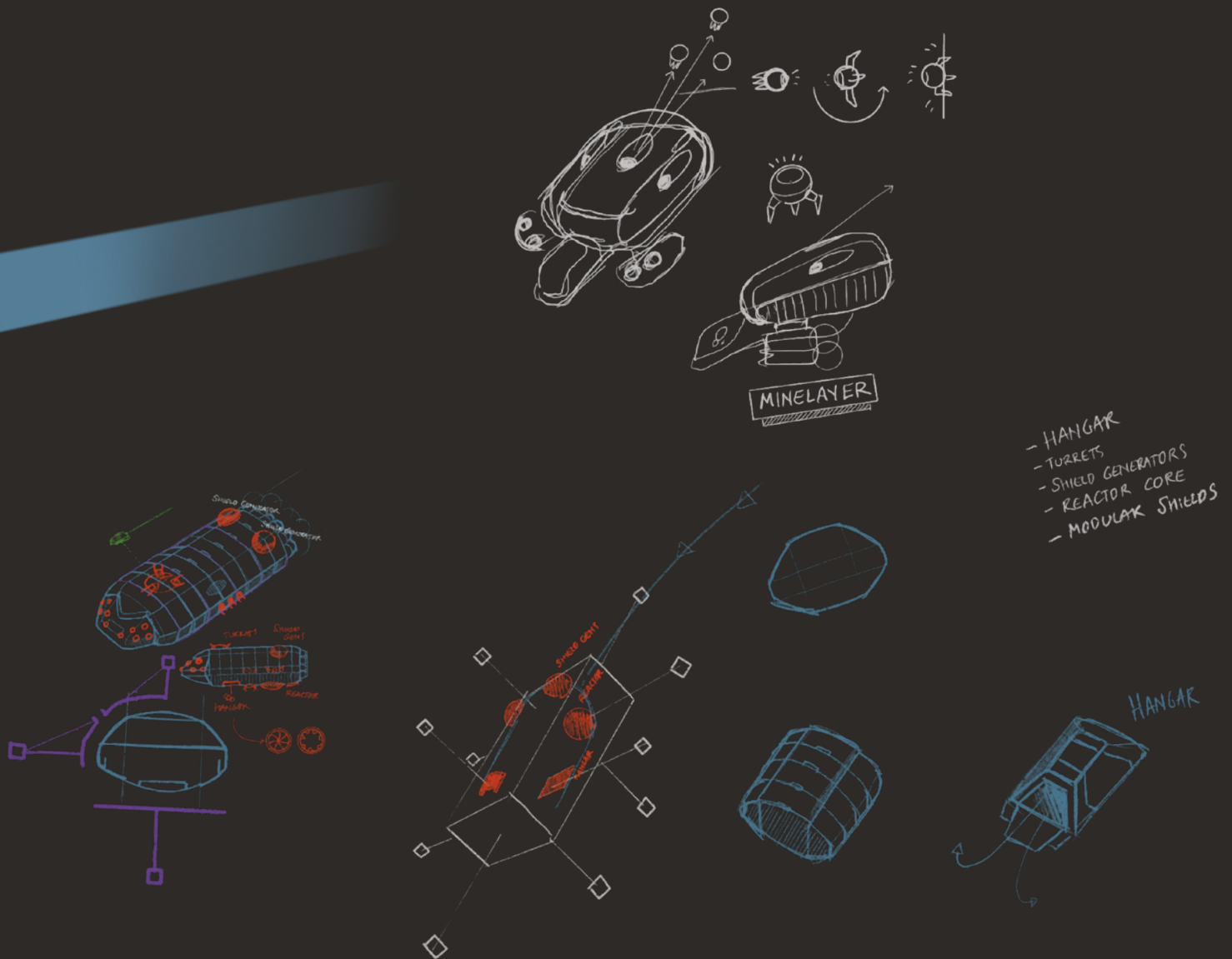
GAME
Space Crew

ARTIST
Dave Miller

RELEASE
15 October

WEBSITE
wfmag.cc/SpaceCrew

Labels in sketches:

MINELAYER

– HANGAR
– TURRETS
– SHIELD GENERATORS
– REACTOR CORE
– MODULAR SHIELDS

HANGAR

Space Crew

Space Crew moves the wonderfully successful playbook of *Bomber Crew* into… well, space, oddly enough. With the shift to the stars comes a new enemy to fight: the alien Phasmids, which you can see designs of here on these pages. "We took inspiration from H.G. Wells' description of 'Selenites', which later became generally recognised as the 'Greys'," explains Dave Miller, art director and founder at Runner Duck Games. "[We added] glowing red eyes to make them instantly recognisable as both alien and malevolent.

"The Phasmid spaceships were designed to hint at a mixture of classic flying saucer forms and insect-like elements; for example, their mine-layer craft features a large bug-like 'abdomen', while their light gunship's nose is shaped similar to the head of a weevil! For the spacecraft's materials, we took inspiration from the exotic, beetle-shell look of the Covenant vehicles from the *Halo* series."

Space Crew is out on 15 October, or 'now' (depending on when you're reading this) for PC, PS4, Xbox One, and Switch.

STRIKING THE RIGHT
TONE

Writer and musician James Holland speaks to
a broad selection of musicians to find out how
they use sound to create immersive games

WRITTEN BY **JAMES HOLLAND**

t's easy to pinpoint when I first understood the power of audio in video games. I was 14 years old and completely gripped by *Silent Hill*. That ominous fog, the cumbersome controls, the bad things scratching and shuffling just off-screen. I was so enthralled by it that I dared to break one of my parents' strict house rules: one night, I snuck downstairs to turn the TV on after dark.

Of course, I had the foresight to mute the TV. And everything in *Silent Hill* was different. The images were flat. My heart wasn't racing; my controller was no longer held in a grip of terror. Creepy corridors were rendered into boring, fiddly pathways, without texture. *Silent Hill* without sound was, well, kind of boring.

At the time, I couldn't even begin to imagine how the sounds which made *Silent Hill* so effectively chilling could be produced, recorded, or applied to gameplay. I understood the impact audio had on my immersion, but had no idea how it was put together. Even years later – as someone who produces music and has a keen interest in gaming – I had little insight into how game developers harness the power of sound to create their worlds. To clear the whole thing up, I spoke to a bunch of clever people in the industry, from freelance composers and sound designers working on indie projects, to songwriters and engineers producing music for triple-A releases. Here's what I discovered.

GAME KEYS

Released in 2014, *Whispering Willows* is less bombastic than *Silent Hill*, but it remains a beguiling horror-adventure. Its sounds, meanwhile, are lonely, ethereal, yet still rooted in the physical world. This level of aural cohesion isn't an accident – creating it took time and expertise. Cat Arthur, the musician and sound designer behind the game, explains how she created this unified soundscape. "I consider the tonal relationships of all the sounds in the game as much as I would sounds in a piece of music," Arthur says. "When I'm making the first few defining sounds, I decide what key that game's going to be in, and that's a primary consideration with all the sounds for that game.

▲ *Whispering Willows* uses liberal reverb and delay effects throughout its audio to evoke the spirit world.

I also heavily reuse core elements of a sound all over. For example, in *Whispering Willows*, I made this creepy sound by blowing into a trumpet mute like you'd blow into a jug. That sound is all over the place. I made looping pads out of it. I pitch-shifted it up and down. I made a convolution reverb out of it. It's a layer in tons of sounds throughout the game."

EAR FATIGUE

There's a similar level of complexity going on in Edmund McMillen and Tyler Glaiel's playfully macabre *The End Is Nigh*. There's one sound in particular that players hear a lot in this brutally hard platformer: the lonely thud whenever they die. It's elegantly simple, sounding like a muted drum hit emanating from an abandoned basement, yet it's somehow also interesting enough that it never becomes annoying. So how did audio artist Jay Fernandes weave this particular magic? "My workflow involves looking at a video/GIF of the animation and working in lots of layers," he says. "I'll also ask the designers about what the user should be doing or feeling at that point so I can help reiterate that through sound as well."

As for that death sound, there's actually a lot going on in that dull thud, with subtle variations used to keep it interesting to the ear. "I used probably seven to ten layers to get the final thing working," Fernandes explains. "I tried to avoid any audible tones except for the low 'boom', since I didn't want people to hear the equivalent of playing the same key on a piano over and over. The death sound also has variations where the pitches and lengths of things change slightly, which helps to ➡

> **"AS FOR THAT DEATH SOUND, THERE'S ACTUALLY A LOT GOING ON IN THAT DULL THUD"**

˅ Considering your audience is key – most players will hear your sounds on headphones or via their TV, so you should listen to them in the same way, too.

LITTLE DETAILS

Even within a unified sound palette, an individual detail can still stand out. As *Whispering Willows* sound designer Cat Arthur explains, these details can have a profound impact on players. "People mention the footstep sounds in *Whispering Willows*, which surprises me," she says. "In most games, you don't really notice the foley sounds. I emphasised the footsteps a lot to convey how lonely and spacious the game is. I didn't expect people to consciously notice them, though. I just recorded really close to the microphone, boosted the high frequencies, and compressed it."

^ Jungle and drum-and-bass music is usually around 170 beats per minute, which is partly why it works so well in racing games like *Forza Horizon* 4.

expressive with your drums. It's fairly quick to do because you can just move parts around, and because it's all quantised, it all sounds good. You can just mess around and something ends up sticking, but it's knowing when to hold back, which parts to keep, that makes the difference."

make sure players don't hear the exact same thing over and over. I tried to avoid any unnecessary modifications that might result in something being overly digital or crunchy in a bad way, which can cause ear fatigue."

MUSIC TO DRIVE BY

Less subtle, yet no less satisfying to the ears, is the music to the *Forza Horizon* series of racers. Creators Playground Games collaborated with Hospital Records on the soundtrack for the 2018 entry, *Forza Horizon 4*, which turned out to be a fruitful partnership. The rolling jungle inflexions, delicate piano riffs, and uplifting rhythm of the drum-and-bass tracks fuse brilliantly with the boisterous racing. It's a great example of music complementing other sounds to evoke a petrol-fuelled rush.

Hugh Hardie, who produced the thundering track *Offshore*, says that his work for the game began with one or two simple loops. "This track started as a couple of pads just looping," he explains. "That's usually the thing I start with: pads or a sample, something that lends an atmosphere. And then I added the drum breaks. The main break is originally from an old soul record, with layered drums and little cuts at the end of each bar. There are lots of edits, and when producing jungle, you can be more

JUST AN ILLUSION

Even games that look retro on the surface can have hidden complexities in their music, which is something Manchester-based composer and sound designer Rob Fenn – who also works under the name Fractures – knows a thing or two about. He worked on 2018's *Hyper Sentinel*, Huey Games' award-winning, top-down shoot-'em-up. Fenn's manic soundtrack and vocal effects work initially sounds like a chiptune track written on the Commodore 64's famous SID chip, but behind the scenes it's actually a bit more detailed. "I started with a Sound Interface Device [SID] chip emulator for the main parts of all the music," Fenn says, "but then I cut it all up and reassembled it in Logic [Pro] with no regard to what the limitations of the SID chip actually were. I stacked the many parts together, passing them through sweeping filters and crunching them up for some of that lo-fi, retro goodness. So what you're really hearing is effectively a SID chip on steroids. I also used some modern synths for additional parts, but made sure it was all in keeping with that classic SID chip 'feel'."

This added complexity also helps keep the music sounding fresh, even on the hundredth playthrough. "The in-game music definitely has to loop seamlessly, to keep the frantic, bullet-hell pace," Fenn tells us. "So, when I'm arranging the composition it almost has to become a bit

v You can program in individual notes or chords into a sequencer, but it can feel more natural and intuitive to use a MIDI keyboard.
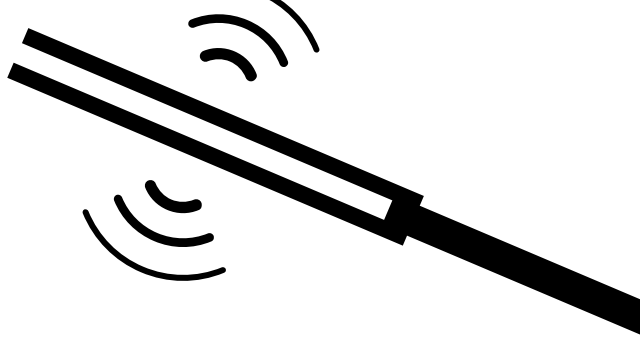
of an illusion, where unless they're really paying attention, the player doesn't necessarily notice that it's back to the beginning again."

Just as *Hyper Sentinel*'s music keeps the player feeling exhilarated, sound is key to keeping us invested in a hugely successful MOBA like *League of Legends*. Sound and voice-over designer Julian Samal works at Riot Games and, among other things, developed the sound elements for its Ranked system. This is integral to making players feel rewarded for their triumphs – something Samal and his team of designers strove to reflect in each sound element. "When thinking about the audio goals of the project, we wanted to give players the opportunity to feel proud when showcasing their Ranked accomplishments, while simultaneously strengthening their resolve for that gruelling next part of the climb," Samal tells us. "It was important to me to show progression and to define the upper limits of the tier celebrations. I wanted each tier to feel fresh and distinct from one another, so there was tangible audio feedback of the ranked climb. We tried to provide the sonic equivalent of a narrative arc to each tier."

Samal also has some advice for people wanting to get into the industry. "It's common in the early stages of your career to be hyper-focused on the design of each individual sound asset," he says. "But ultimately, it comes down to designing sounds that will contribute to the game as a whole. UX-focused audio design for software and games means also thinking heavily about things like systems, contexts, gameplay, the emotional subtext of different musical intervals, and about human behaviour. It's about

> **"IN-GAME MUSIC DEFINITELY HAS TO LOOP SEAMLESSLY TO KEEP THE FRANTIC, BULLET-HELL PACE"**

knowing the game and the player incredibly deeply, and borrowing some of the mindset of an engineer and a product manager."

In the process of speaking to the broad range of musicians and sound designers for this piece, a few uniting truths emerged. Studio time and expensive gear aren't as important as innovative ideas or a keen focus on the intricate details of each sound you make – indeed, as Jay Fernandes explains, the barrier to entry for a budding video game sound designer is now lower than ever.

"Nowadays," he says, "if you have a computer and a phone that can record audio, you can get started almost entirely for free, since there are free DAWs (digital audio workstations) plug-ins, instruments, and sample libraries. There are tons of great tutorials on YouTube for lots of things related to audio now, including game engine-specific stuff."

It's also clear that the artists and designers I spoke to work incredibly hard on the sounds they craft – sounds that help immerse you in a game's setting, atmosphere, and character. Talk of pixels and frame rates may dominate much of video game media, and publishers rarely spend much advertising budget on getting across how great a game sounds. But just imagine Sonic without the "whip-whip-whip-whoosh" noise that follows him everywhere. Or Super Mario collecting coins without a single tinkling effect. Or *Silent Hill*, playing out in total, utter *silence*. ⓦ
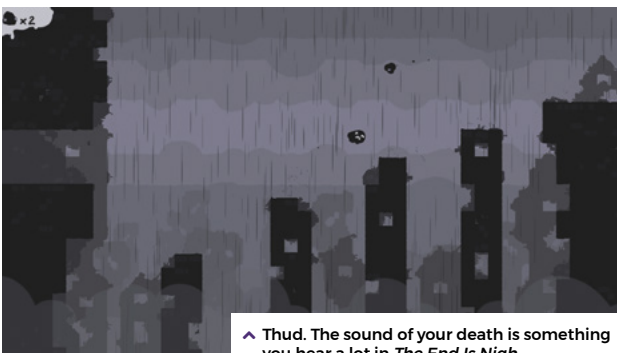
DIY AUDIO

If this article has inspired you to start making your own video game music and sound effects, take a look back at our in-depth feature in issue 40. In it, writer and developer K.G. Orphanides shows you how to choose the right recording equipment, how to build an effective studio, and generally get started in audio production – all on an affordable budget. You can buy a physical copy or download a free PDF at **wfmag.cc/40**.

⌄ **Fractures' studio in Manchester, showcasing an enviable collection of hardware.**

⌃ **Thud. The sound of your death is something you hear a lot in *The End Is Nigh*.**

BIT FRY

Licence to thrill

How indie developer Bit Fry has managed to compete with gaming's biggest publishers when it comes to its Ultimate Rivals games

● BIT FRY

WRITTEN BY
RYAN LAMBIE

Think of licensed sports games in 2020, and your mind might automatically drift to the big, obvious hitters: EA's *FIFA*, and 2K Sports' *NBA 2K* series. It's all the more impressive, then, that a relatively small studio based in Portsmouth, New Hampshire has managed to acquire such a hefty list of big-name licences: *Ultimate Rivals: The Rink*, the first game in a planned of titles, was made with the likes of the NHL and NBA as licensors, while its roster of players features some real-world sporting legends: ice hockey star Wayne Gretzky, basketball star LeBron James, and American soccer player Alex Morgan are among its fantasy roster. So how is Bit Fry competing with some of gaming's biggest publishers when it comes to licensing deals?

For co-founder Ben Freidlin, the Bit Fry story began back in 2013 as something of a passion project: having previously worked at Microsoft and then in finance on Wall Street, Freidlin decided he wanted to switch paths and set up a game studio. As a youth, Freidlin grew up playing games like *Blades of Steel* and *NBA Jam* – sports titles with more of an arcade edge. "I'd always wanted to make these games – I missed them so much," Freidlin tells us. "And, you know, I felt like someone's got to make them again. And after years of wishing for them to come back, I just dropped my career and started the studio."

Those early years at Bit Fry were, as the studio itself admits on its website, "arduous." Its first project was an unlicensed baseball title set in the 1920s – a setting partly inspired by such sports movies as *Field of Dreams* and *The Natural*. During the early development of that game, however, Freidlin says that "it wasn't very easy to build a studio around that vision", and therefore, "through sheer survival" the decision was made to pursue the idea of making a licensed sports game instead. It's here the fledgling company changed up the project almost entirely – the game's setting went from the 1920s to a colourful yet dystopian future, while the sport itself shifted dramatically. Or, as Freidlin puts it: "Ironically, I started the company to make a baseball game set in the 1920s and ended up releasing a hockey game set in the future. So there's really no way of knowing how things are going to turn out when you build something like this. It kind of takes on a life of its own."

Bit Fry stuck to its plans of making an accessible sports game with an eye on the arcade action titles of the past, while also introducing a nifty new idea: the ability to pick athletes from

∧ **The Bit Fry mothership in Portsmouth, New Hampshire.**

▲ Frank Miller's *Batman*, *Blade Runner*, and Disney's *TRON* are all reference points for *Ultimate Rivals: The Rink*'s look.

different sporting disciplines to build up your hockey team. But again, it's the kind of thing that would require several licensing deals to be made, both with bodies like the NHL and NFL, and also individual players. The process was, Freidlin says, as challenging as it sounds. "Breaking into the games industry, without a background or without ever working at a studio, is difficult. There are a lot of big players, and licensed games typically don't go to small studios. If small studios are doing them at all, they're usually hired to do them by big studios. It's rare that you see a small studio get their hands on licences."

Predictably, acquiring the licences involved a lot of meetings and pitching, but fortunately, Bit Fry also had a bit of help from a well-known sportsman: former baseball star, Todd Zeile. "At one point, I was looking for voice acting for the baseball game, and I was trying to get hold of Charlie Sheen," Freidlin tells us. "And then Todd happens to be really good friends with Charlie. I met Todd, and he got on board. And through his connections in sports, he was friends with Don Fehr, who ran the MLBPA [Major League Baseball Players' Association] and now runs the NHLPA [National Hockey League Players' Association]. We started to just have a lot of meetings and build a vision for a sports

> **"I'd always wanted to make these games – I missed them so much"**

franchise. It took a long time, but we [eventually found] people looking to innovate."

All of this led to *Ultimate Rivals: The Rink* appearing on Apple Arcade in December 2009. An action title that owes as much to arcade brawlers as it does typical licensed sports games, *The Rink* has the pace, futurism, and chaos of the classic *Speedball* series – which Freidlin cites those 16-bit games as another reference point. "I think we infused a little bit of [*Speedball*] into our world – where all these athletes come together in this virtual future, dystopian world," Freidlin says.

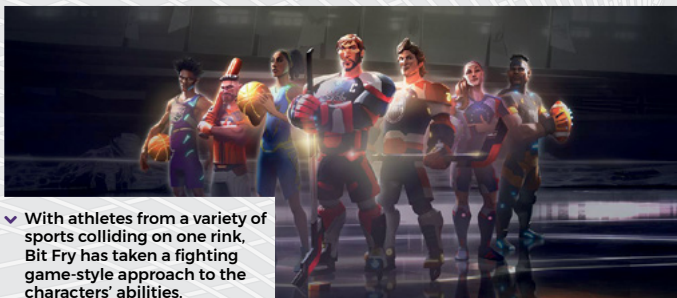As of September 2020, Bit Fry has around 50 employees, and offices in Los Angeles and New York as well as its central base in Portsmouth. There are big plans ahead for its sports series, too, with basketball title *Ultimate Rivals: The Court* due out in 2021, and the next in a planned series of interlocking titles for consoles as well as Apple devices. "We're definitely going to bring this [series] to consoles," Freidlin says. "There are other sports titles planned, but the franchise has a long road map ahead of it. When you start thinking about having two or four titles on the market in a couple of years, and athletes from different sports, and how you use them in one game to reflect how they perform in another – there's a lot of potential to do things that are really unique." Ⓦ

∨ With athletes from a variety of sports colliding on one rink, Bit Fry has taken a fighting game-style approach to the characters' abilities.

STAT WARS

With 50 athletes from the world of baseball, basketball, and more appearing in *Ultimate Rivals: The Rink*, we had to ask: how does Bit Fry go about deciding how players from such different sports will handle on an ice hockey rink? "We have pretty good data to support how [ice hockey player] Alex Ovechkin plays hockey," explains lead designer, Arjun Rao. "So we set up a sort of sports agnostic attribute system, close to what you'd find in any RPG, with stats that define the gameplay. But those attributes carry over between games, so if Ovechkin has an 8 out of 10 on a certain stat, they'll have that 8 out of 10 in any *Ultimate Rivals* game, but it will be interpreted differently from game to game."

Rao adds, however, that *The Rink*'s arcade tone means that it has a bit of creative licence when it comes to a sporting legend's prowess. "Nobody's objectively bad compared to another player," Rao says. "While a hockey player may have better control on the rink, some basketball players have better shooting stats."

Online Diary

GITTIN' GUD

A foray into nostalgia turns sour. This month:
Tony Hawk's Pro Skater 1 + 2

WRITTEN BY **IAN 'NOLLIE' DRANSFIELD**

▲ Graffiti mode was never a personal favourite, and being beaten at it by people constantly and consistently has made me want to skip out on it from now on.

▼ Wireframe-o the not-so-great takes their brand of mediocrity to the world of pro skating. Clothes and mask: model's own.
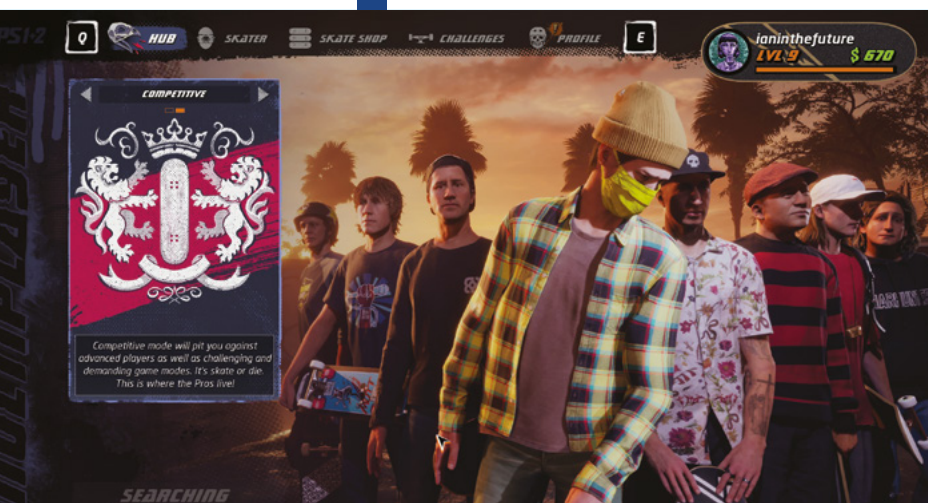

So here I am, growing older all the time, feeling younger in my mind, doing everything I can, pretending I'm a Super... nope, bailed. Aaaand someone else has bagged a million-plus combo in mere seconds, thus ending this 'first to 150,000 round' and making me wonder, once again, if all the hours I spent playing the *Tony Hawk's* games in my youth were actually a very long fever dream. Because playing *Tony Hawk's Pro Skater 1 + 2* has taught me one very important lesson: the soundtrack is still a banger. Actually, two things: I'm really not as good at this game as Everyone Else In The World.

The *Tony Hawk's* series was there at that particular point in my life where it was *perfect* – it was *my* game – we played it religiously, me and a group of friends, endless rounds of Horse and Score Attack and whatever else we could be bothered with. Not graffiti, that's rubbish. And I was good – not the best, but up there in the running all the time, able to pull off supreme combos and link a grind to hitting a 900 over a gap and sometimes landing a manual for that bit of extra pep. I was a contender. *THPS 1 + 2* is played against a slightly broader group than my childhood friends, though, plus it's added in revert functionality (only added in *THPS 3* in the real world), so combos are longer, and much higher-scoring. As you might expect, those other people from around the world are quite good at stringing together 100 moves and scoring far too many points from one single run. I'm... not a contender.

The fortunate thing is that *Tony Hawk's* is a game where, even in multiplayer, you're more or less playing entirely by yourself. You're playing against a score; it doesn't matter where other players are or what they're doing, they won't have an impact on you – so you can focus entirely on trying to do something, anything, to try and keep up with them. From my experience, you won't, but you *can* try, and it's surprisingly low pressure as a result of the lack of interaction with other players. So at least there's not much stress, because that would push it to unbearable territory.

Another huge boon for the online mode, even with it just being a high definition simulation of losing consistently, is matches last a minute and a half, tops. Two minutes, including the pregame 30-second free session. That's deliciously

Score: 1,952
SPECIAL

Combo Mambo
1:42

1st	jauhoPHUN		640,425
2nd	ianityphoUn		134,705
3rd	Kypari		61,392
4th	Pyra113-X		16,729
5th	npcrispy		16,420
6th	kaninthefuture		1,952

3,908 X 11

Nose Manual ✦ Double Heelflip ✦ FS Revert ✦ Nose Manual ✦ Pogo ✦ Wrap Around ✦ Hand Stand ✦
Handflip ✦ Pogo ✦ Wrap Around ✦ Hand Stand
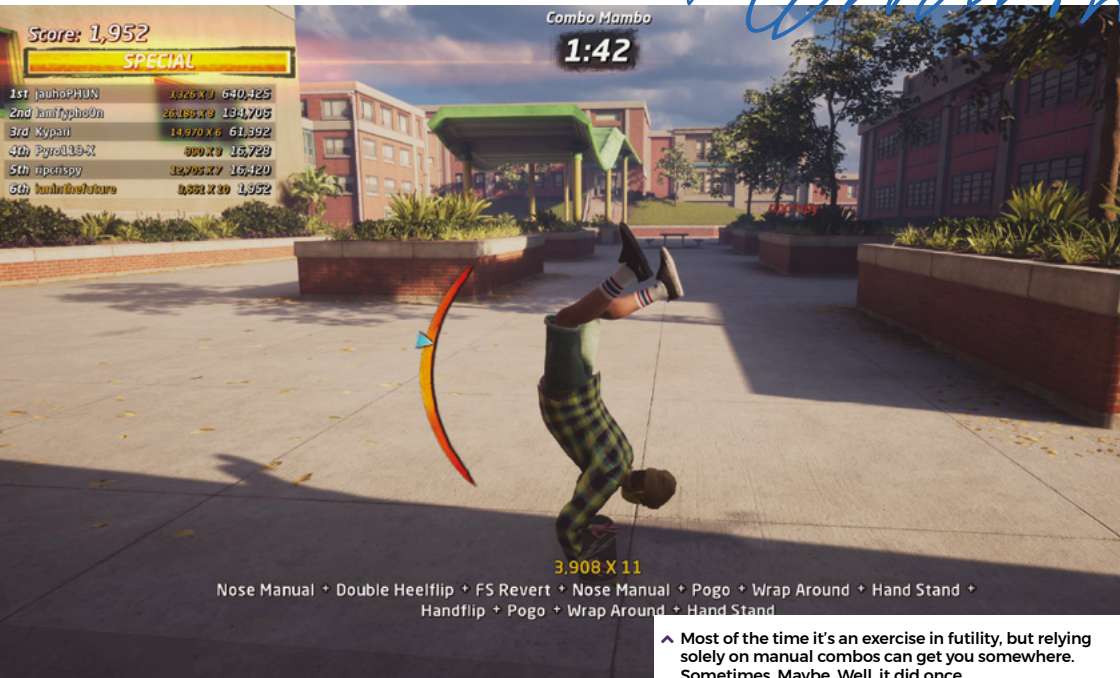
▲ **Most of the time it's an exercise in futility, but relying solely on manual combos can get you somewhere. Sometimes. Maybe. Well, it did once.**
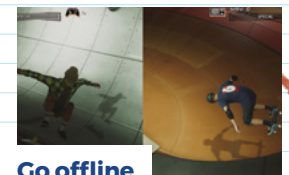
A veteran's tips and tricks

REVERT
Fact of the matter is, you're getting nowhere in *THPS* unless you learn to revert, so for the love of the Birdman, learn to time your shoulder button presses as you land. Pick that up, then learn to manual immediately after. Soon enough you too can pull off ludicrous combos!

Practise
I don't think people would ever not know how to play it, daft as that is, but *THPS 1 + 2* does have a just-deep-enough tutorial in there ready to teach nollie newcomers all about the things I've been doing naturally (apparently not very well) for decades now. An obvious point, but a useful one.

Go offline
Seriously, whoever pushed for the remake to feature split-screen multiplayer needs some kind of gaming knighthood, because it means you can veer away from the online modes where seemingly everyone is indeed some kind of Superman. Instead, you can *actually win* against friends.

brief, and means just as soon as you realise you're in with no chance of bagging a podium finish, the match might as well be over. On to the next match. And the next. And the next. I played for a solid two hours, without a break, playing match after match and only bagging two podium finishes in that entire time – one of which because I mistakenly ended a combo too early before someone else (someone better) intentionally ended theirs at a much higher score and instantly ended the round. But hey, a medal's a medal, right?

It's constantly jumping from one game mode to the next, mixing up the levels you're on from a selection of the first two games' arenas and some of the best of the rest, and there's even the hope that one of the better players will get bored or have to go to bed, so maybe you can finish above fifth place by sheer virtue of there being fewer players. It's an incredibly simple way of doing things, is what I'm getting at, and it suits the game perfectly. For those reasons, I can't recommend *Tony Hawk's Pro Skater 1 + 2*'s online play enough. And yet…

That snappy play, the fact you can focus so much just on what you do – while also choosing to observe other players and how they do this inhuman nonsense, if you like – makes *THPS 1 + 2* a weird one. It's an intense nostalgia punch, it's incredibly well done, that soundtrack

▲ **It may be third place because I failed to nail a revert and exited the combo early, but it's still a podium finish, gosh darn it.**

> **"The *Tony Hawk's* series was there at that point in my life where it was *perfect*"**

makes my heart hurt, and I'm basically in love with it. Honestly, it's one of the most impressively crafted do-overs I've ever seen, and it's a hand-on-heart shock that Activision of all publishers has pulled it out of the bag like this without ruining *something* about it. Online multiplayer is a fantastic addition to this hybrid of the first two games, and I'm sure we'll be seeing videos of some wild combos and seemingly impossible feats for months and years to come… but none of them will be from me. Fortunately, *THPS 1 + 2* has split-screen multiplayer, so I can indeed *revert* to type and be a Superman in my own home. And *only* in my own home. ⓦ

If the psychedelic fantasy backgrounds of *Space Harrier* look familiar, it's because Suzuki took inspiration from British artist, Roger Dean. Dean's work appeared on prog rock album covers, and the game boxes of UK studio, Psygnosis.

Developer Profile

Yu Suzuki

The genius behind OutRun, Space Harrier, Shenmue, and dozens of other Sega classics

Designer Yu Suzuki's games industry career has lasted so long, and his contributions are so numerous, that his name will mean different things to different readers. Some might associate him with his 'Taikan' – or 'body sensation' – arcade machines of the 1980s; others, his 3D fighting and racing games of the nineties; still others, the groundbreaking open-world sandbox trilogy, *Shenmue*, which finally got its concluding chapter in 2019.

It's a testament to the strength of Suzuki's ideas that so many of the games he developed at Sega are still talked about and played today. Although rooted in the arcade scene of the eighties, games such as *OutRun* and *After Burner* have appeared on successive generations of home systems; most recently, developer M2 has spent the past couple of years bringing several Suzuki-led titles to the Nintendo Switch. Suzuki's impact on Sega's history is such that his influence crept into games he had no direct hand in: look again at *Sonic the Hedgehog*, and you can see the same vibrant colours, blue skies, and pseudo-3D effects that lit up *OutRun* and *Space Harrier*.

Suzuki was in his mid-twenties when he joined Sega as a programmer in 1983, and his technical prowess was so keen that he made his mark almost right away. His fighting simulator *Champion Boxing*

▲ Unsurprisingly, Yu Suzuki and his team leaned heavily on the success of Tony Scott's hit 1986 film, *Top Gun*, when it came up with the premise for *After Burner*.

was one of the most impressive games developed for the company's poorly received (and sorely underpowered) home console, the SG-1000. (Indeed, Suzuki's superiors were so impressed by *Champion Boxing* that they swiftly turned it into an arcade machine – without changing a line of code.)

Thereafter, Suzuki's ascent at Sega was swift. Not long after the completion of *Champion Boxing*, he began work on the seminal racer, *Hang-On* – the first in a series of arcade games that mixed pseudo-3D graphics and a custom cabinet that enhanced the player's sense of immersion. In *Hang-On*'s case, this meant the player got to sit astride a replica motorcycle, which then had to be tilted left and right in order to tackle on-screen bends. *Hang-On* was a bold and quite ingenious amalgam of cutting-edge hardware and programming; its cabinet used two 16-bit processors to power the sprite scaling, which gave the game a sense of speed and realism that was, in the mid-eighties, unparalleled. "I started out as a programmer on the software side,"

Suzuki told Gamasutra in 2011, "but by and large, we were making hardware for the express purpose of the games I and everyone else at Sega were working on."

Released in 1985, *Hang-On* set the tempo for a run of thrilling arcade games that fused into-the-screen action and hydraulic arcade cabinets, each building on the last in terms of technical innovation. *Space Harrier*, also released in 1985, was a 3D shooter where the cabinet rocked and shifted in time with the player's movements (albeit with an unavoidable lag that Suzuki lamented even years later); 1986's *OutRun* simulated the fantasy of driving a Ferrari Testarossa; and 1987's *After Burner*, with its fully enclosed, pod-like cabinet and booming speakers, put players right into the seat of a fighter jet.

Suzuki worked at a ferocious rate – often sleeping on a fold-out bed under his desk between long coding sessions – and it's incredible to think that some of the most famous games of his career (many of which you'll find on page 88) were released within months of one another. Beyond his desire to push the technical envelope, Suzuki evidently had another talent: gently coaxing his bosses at Sega into taking creative risks. When Suzuki took over the development of *Space Harrier*, Sega was nervous ➡

> **"Suzuki evidently had another talent: coaxing his bosses at Sega into taking creative risks"**

Is it a bird?
Is it a plane?

Given its sci-fi fantasy theme, *Space Harrier*'s title always seemed a little strange. What was the 'Harrier' referring to? Is it a reference to a species of bird? Something to do with aeroplanes? It's the latter, as Suzuki later revealed in interviews. Before Suzuki took over the project, *Space Harrier* was very different: it was dreamed up as a flying game featuring a helicopter, and later a Harrier Jump Jet. Due to technical limitations, Suzuki decided to introduce a fantasy setting, and changed the difficult-to-animate aeroplane with a simple humanoid figure holding a laser cannon. The word 'Harrier' was left in the title as a nod to the original designer's idea.

▼ *OutRun*'s sights, sounds, and eye-catching Ferrari arcade cabinet made it one of Sega's biggest eighties successes.

▲ **Still innovating in the nineties, Suzuki produced and directed *Virtua Fighter*, the first fully 3D combat game of its type.**


WORLD'S BEST HYPER REALISTIC 3-D RACING!

about making a 3D shooting game, since previous attempts at the genre had failed to turn a profit; according to programmer Satoshi Mifune, Suzuki convinced Sega to proceed with the project by offering to forgo his salary if *Space Harrier* failed to sell.

Space Harrier was, naturally, a big hit, and so too were many of the subsequent games created by AM2, the division Suzuki set up within Sega during the second half of the 1980s.

At AM2, Suzuki began testing boundaries on a new front: *Virtua Racing*, released in 1992, was Sega's first foray into polygonal 3D. Compared to other attempts at making true 3D racing games, it was a revelation; where Atari's *Hard Drivin'* chugged along at a dismal pace, *Virtua Racing* actually felt akin to sitting at the helm of a dangerously quick Formula One car. Allied to another eye-catching, sit-down arcade cabinet, *Virtua Racing* was one of the pivotal games of its era, paving the way not only for a string of other titles in the *Virtua* series – *Virtua Fighter*, *Virtua Cop* – but a new wave of ever more detailed driving sims, including Suzuki's own *Daytona USA*, released just one year after *Virtua Racer*.

The sheer speed at which Suzuki directed, designed, or produced games in the eighties and nineties hints at a

restless mind, always kicking against the limits of current technology and thinking ahead to what might be next. "Making more and more realistic games is the direction I want to go in," Suzuki said in a 1988 interview translated by Shmuplations.com. "Games aren't reality, of course, so you do need a lot of tricks and techniques to bring a sense of realism to a game. But to the extent possible, I still want to avoid doing things that seem to clash with reality and make the player go 'That's weird.' A world that seems like it could really exist, where you can do things that seem like they'd really be possible – that's what I'm aiming for."

I SEE

Suzuki built his reputation on making games that thrilled the senses, but plans for a slower-paced experience had loitered at the back of his mind, even in the mid-eighties. "I wanted to make a 3D adventure or role-playing-style game,"

❯ ***Virtua Racing* wasn't the first 3D driving game of its type, but it was the first to prove that a polygonal racer could be as truly thrilling as a sprite-based one.**
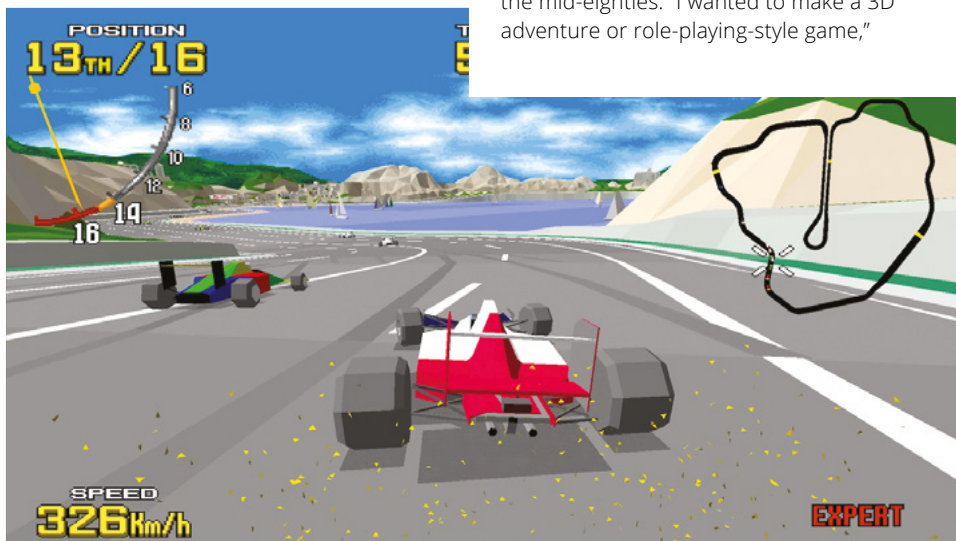
∧ *Shenmue* was a huge production for its time, with around 300 staff working on the game, often working evenings and weekends to get the thing finished.

Suzuki told Japan's Beep! magazine back in 1986, discussing the project he wanted to embark on after *Hang-On*. "But that would have taken too long to develop."

Suzuki finally got the chance to make his 3D adventure over a decade later, when he started work on an RPG for the Sega Saturn. Initially based on the *Virtua Fighter* games, the project was ambitious, even by Suzuki's standards: it would feature an open 3D environment, a huge cast of characters, and a storyline which took place over dozens of hours. The project was eventually moved over to the Saturn's successor, the Dreamcast, by which point it had shifted identities from *Virtua Fighter RPG* to *Shenmue*, and its scale had ballooned. "Thanks to all the voicework, the biggest struggle for us was the amount of memory," Suzuki recalled in a 2000 interview. "We miscalculated there for sure… At first we said it would all fit one disc maybe, then two discs, then three… and we kept adding new things to the game, it was getting crazy."

Shenmue finally emerged from its three-year development in 1999, and while it was a critical success, it wasn't quite the blockbuster Sega had banked a reported $47 million on; certainly,

> **"At first we said it would all fit one disc maybe, then two discs, then three…**

neither it nor its sequel could reverse the Dreamcast's dwindling fortunes. *Shenmue II* came out in September 2001, six months after Sega ceased production on the console. There was no doubt that the *Shenmue* games were truly innovative – it told a genre-bending, grandiose revenge saga released years before such things were common on consoles – but the games also marked the end of Suzuki's most creative run at Sega. Several projects Suzuki worked on in the 2000s – among them *Shenmue Online* and an arcade fighting game called *Psy-Phi* – were cancelled during production as Sega's finances declined.

Perhaps sensing that his tenure at Sega was almost up, Suzuki founded his own company, Ys Net, in 2008, and left Sega for good in 2011. It was under this banner that Suzuki finally made the third *Shenmue* game, released in 2019; but with a tighter budget and a smaller development team than its predecessors, *Shenmue III* didn't make quite the same impact as those earlier games, even if its story did give fans the

conclusion they'd been waiting almost two decades for. Although now in his sixties, Suzuki's showing no signs of retiring just yet: earlier in 2020, he even suggested making a fourth *Shenmue* that would appeal to "a broader audience" in an interview with IGN Japan. It remains to be seen whether he can keep innovating to the extent that he did in the eighties and nineties, particularly as he no longer has the financial backing of Sega at the height of its powers. As he said in 1988: "If only I could create things without having to worry about the cost." Whatever Suzuki does next, though, his contribution to gaming – as an innovator, a technical visionary, and a creator of ruddy good games – remains assured. Ⓦ

Yu need to play these
Ten Yu Suzuki sizzlers

Welcome to the fantasy zone. Get ready...
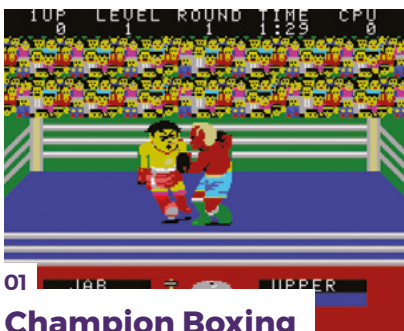
### 01 Champion Boxing
SG-1000 / Arcade — 1984

Yu Suzuki's talent for getting the most out of a piece of hardware began here, with his first game for Sega. Sure, this plodding 2D fighting sim might not look like much today, but its large, colourful sprites – on a fairly feeble home system not known for outputting such things – provided a taste of Suzuki's later, infinitely superior work.

02 Hang-On
Arcade — 1985

Here it is: the first of Suzuki's Super Scaler games, and the first time the designer had the idea of marrying an into-the-screen action game with a moving arcade cabinet. There were initial doubts about whether the Japanese public would take to the game, but *Hang-On* soon became a hit – paving the way for a decade of thrilling Taikan experiences.
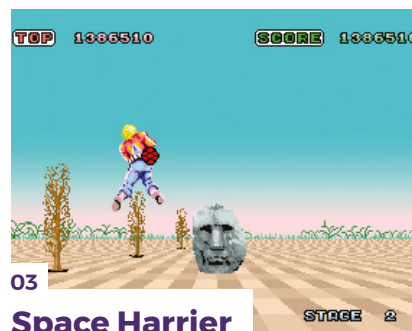
03 Space Harrier
Arcade — 1985

Even today, the sheer speed of this surreal 3D shooter is quite a sight to behold; in concert with its hydraulic cabinet, which rocked and swayed as you swooped around the screen, this was one of the most nerve-jangling experiences available in mid-eighties arcades. Even the most flawless modern emulation can't recreate the arcade original's visceral power.

04 OutRun
Arcade — 1986

Suzuki always strove for all the realism he could muster, but he was also a master of creating enticing fantasy worlds: *OutRun*, where you get to enjoy the thrill of driving a Ferrari down sun-kissed roads without the expensive repair bill, was one of his absolute best. While it's a racing game, there's also a carefree tone to *OutRun* that makes it oddly timeless.
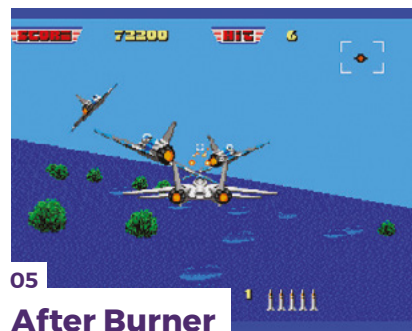
05 After Burner
Arcade — 1987

The game itself was so fast that it almost felt impossible to hit enemy planes at times, but that hardly mattered; *After Burner* wasn't about depth or longevity, but the brief thrill of being thrown around in a hydraulic chair as your F-14 Tomcat pitched and rolled, explosions filled the screen, and Hiroshi Kawaguchi's music massaged your ears. Bliss.
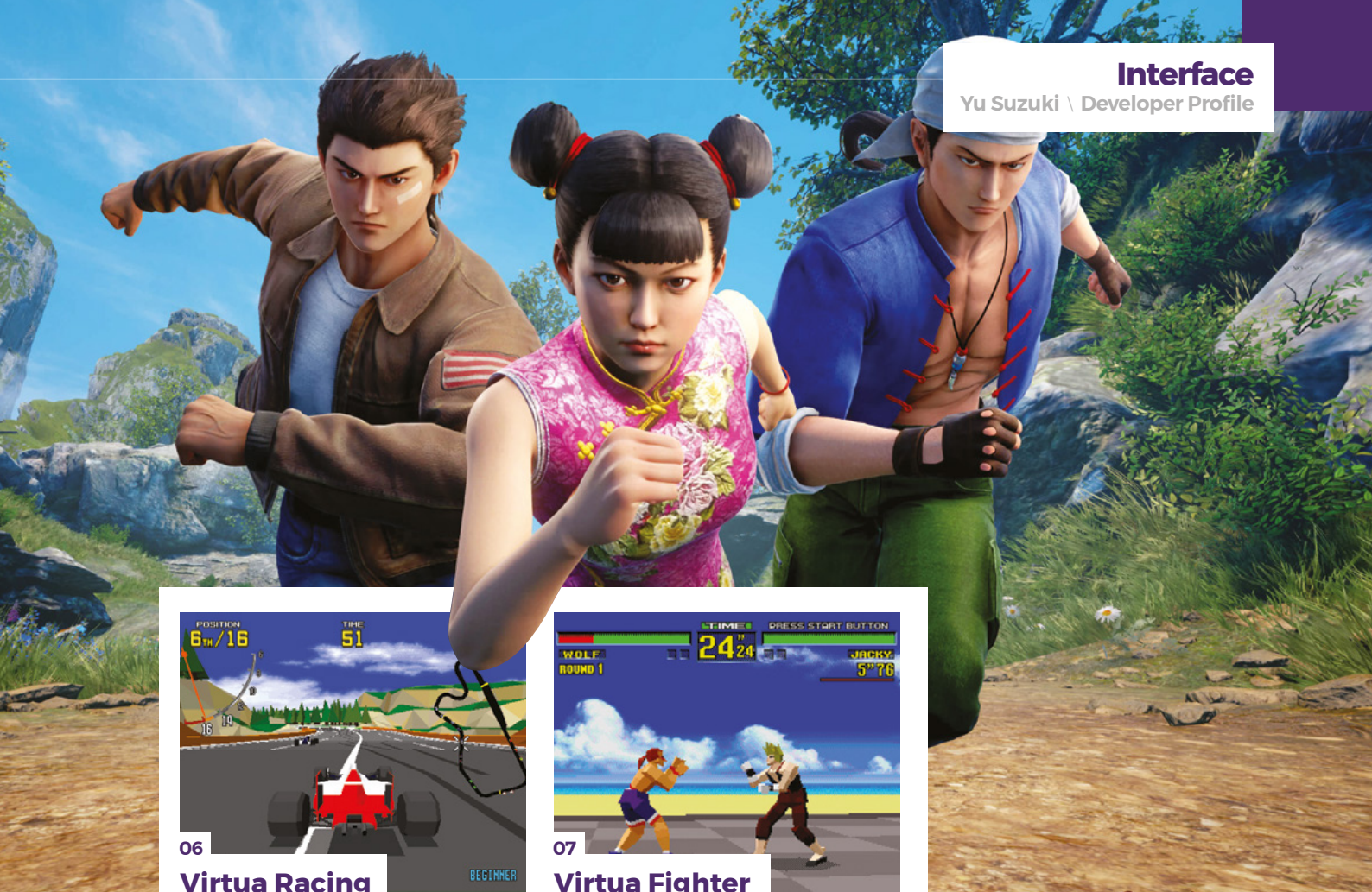
06
Virtua Racing
Arcade — **1992**

Suzuki's first foray into polygonal 3D, *Virtua Racing* was a showstopping showcase of what could be done with Sega's then-new Sega Model 1 hardware. This wasn't the first true 3D racer by a long shot, but it was arguably the most thrilling released up to this point, especially when played against eight other racers in a busy amusement arcade.

07
Virtua Fighter
Arcade — **1993**

This brawler's success hinged entirely on one question: whether it was possible to render and animate full-3D humans on the Model 1 hardware. Could a polygonal fighter compete with the might of the sprite-based *Street Fighter* series? Incredibly, Sega AM2 pulled it off: its characters' kicks and punches packed a convincing wallop.

08
Daytona USA
Arcade — **1993**

Transplanting the action from *Virtua Racing*'s Formula One to NASCAR (or an unlicensed take on it), *Daytona USA* was another exhilarating thrill-ride. Is it better than Namco's rival, *Ridge Racer*? Tough to say, but *Daytona USA* has some superb handling, nicely designed courses, and a killer soundtrack by Takenobu Mitsuyoshi. "*Daytooonnaaaa…*"

09
OutRun 2
Arcade / Various — **2003**

Suzuki returned as producer for this belated series entry, the first since 1992's largely forgotten *OutRunners* – and what a sequel this is. To date, it contains some of the finest arcade handling of any racer, with perfectly judged drifting that isn't necessarily realistic, but feels hugely satisfying when you get it right. Now, where's *OutRun 3*, Sega?

10
Shenmue (series)
Dreamcast / Various — **1999–2019**

Suzuki switched genres – and slowed down the pace – for his magnum opus. *Shenmue*, released in 1999, began the story of Ryo Hazuki, the jacket-owning tough guy out to avenge the death of his father. Sprawling, cinematic, sometimes frustrating, but full of surprises, the *Shenmue* series was perhaps Suzuki's boldest creative leap.

Shows in the time of coronavirus

STEVE MCNEIL

The only thing that Steve knows about *Love in the Time of Cholera* is its title.

As some of you may be aware, in the 'Before Times' I was a team captain on a TV show called *Go 8 Bit*, where comedians battled on video games. It was a huge production involving over 100 cast and crew.

Towards the end of last year, I began working on a new live, interactive show where patrons in bars across the country could compete against each other on games and quiz rounds, individually and as part of their venue's 'team', against everyone else nationwide.

The week before we launched the show, lockdown happened. Take that, my wallet. Since then, my career-husband Rob Sedgebeer and I have been hard at work on retooling our new show for an entirely online audience, and we've just done it. By we, I mean Rob. He's a genius, responsible for creating the tech that underpins all our *WiFi Wars* shows. I, on the other hand, am just a fast-talking gob on a stick.

As I write, yesterday we finally broadcast our first show. We did this from a professional studio, with all the lighting, camera angles, stage-set, and production values you would expect but, of course, it was impossible to do this with 100 people due to current work and distancing regulations.

What instead happened was the incredible team at Promod worked masked, distanced, over days and weeks, to plan and create a safe studio environment, and implemented countless procedures to ensure everyone could exist within the space without risk. I have never seen so much hand sanitiser or so many masks in my whole life – except once, but I don't like to talk about that.

The broadcast itself was conducted with most of the team working entirely remotely. The few who were in the building were distanced into separate areas and, in fact, there was not a single person on the studio floor other than myself and Rob (suitably distanced at either end of a massive desk) for the duration of the show. Normally, the view from the stage would be one of many camera operators, sound crew, technicians, runners, floor manager, and more. Instead, we stared back at an empty room, controlled and mixed remotely. In two weeks' time we'll be beginning a yet-more-complicated version of the show where we dial in influencers to be Team Captains, allowing them to be 'present' in the show without in any way affecting the health and safety of the minimal on-site team.

It's been strange seeing the extent to which the entertainment industry has shut down during this year, and I hope that more and more teams are finding ways to deliver shows during what increasingly appears likely to be a protracted period of restrictions. God knows we could all do with things to distract us. Have you seen the news? It's rubbish. ⓦ

> "I have never seen so much hand sanitiser or so many masks in my whole life – except once, but I don't like to talk about that"

⌃ it's *Who's the Captain Now?*, by way of *WiFi Wars*.

Backend Contents

Reviews, retro games, and lots more besides

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?

Page 95: The sensation sweeping the gaming nation – is *Fall Guys* any cop?

PLUS

Info

GENRE
Rhythm action

FORMAT
PS4 (tested) /
PC / Xbox One /
Switch

DEVELOPER
Metronomik

PUBLISHER
Sold Out
Software

PRICE
£34.99

RELEASE
Out now

REVIEWED BY
Jon Bailes

HIGHLIGHT

It would be criminal if *NSR*'s soundtrack wasn't its standout feature, and in the end, it is by a long way. The EDM umbrella plays host to a whole gamut of styles, from thumping club beats to bouncy K-pop. Every boss battle has a distinct toe-tapping flavour, with shifts in intensity as each stage unfolds.

No Straight Roads

Playing the right notes, just not necessarily in the right order

N o Straight Roads is like the HD remaster of a Dreamcast or PlayStation 2 game that never existed – it's a journey through a time warp to the heyday of colourful mid-tier oddities like *Katamari Damacy* and *Jet Set Radio*. But while it shares the vibrant enthusiasm of those millennial classics, so did many less successful experiments of the era that have long since faded from memory. When it comes to providing a coherent experience, *NSR* would likely have more in common with the latter.

There's certainly a strong vision behind *NSR*, but it's heavily fixated on its infectiously cheesy retro vibe. The sassy characters are all bold poses and sculpted haircuts, delivering dated nineties attitude and humour that somehow sustains

a quaintly offbeat charm. Brattish protagonist Mayday is irrepressible in her single-minded mission to reintroduce rock music to Vinyl City. Arch-villain Tatiana, who enforces the order of electronica over the land, channels peak Anne Robinson to fine effect. Vinyl City itself pulses with electro-pop, its streets floodlit by animated billboards and dotted with bouncing pedestrians. As Mayday and partner Zuke bound around its districts, even its flat textures and invisible walls seem fittingly old-school.

When it comes to actually doing anything in *NSR* though, it's not charming so much as under-developed and messy. Once the game settles, each stage sees you aiming to 'hijack' the performance of one of the city's favoured EDM artists and win over fans to your band, Bunk Bed Junction (don't ask). The first task in each stage is simply to cross the city to the next location. In each themed area, you can collect items that bestow temporary buffs and energy canisters which power up various electrical devices,

▲ Increasing your fan base provides access to upgrades on skill trees, but most feel largely superfluous.

▲ Boss battles can be replayed at higher difficulty levels with remixes of their music.

earning you extra fans. But there's very little exploration required in these small squares of streets and façades, and no platforms or puzzles to navigate to access items. A few wacky sights and NPCs don't make up for an absence of meaningful interaction.

When you're done with that, you amble over to your destination, and first have to run the gauntlet of security protecting the act you're out to challenge. This means moving into the screen, smashing up robots that sporadically jump up and down, or fire missiles in time to the music. It's amazing how loosely constructed these sections are, not to mention how little they evolve over the course of the game. Most bizarrely, while your opponents work to a fixed tempo, you never really need to attune yourself to it. Like a particularly dull fighting game, you can single out individual enemies, wait for their attack, then step in and clobber them.

Any difficulty here is the result of exasperating design. The fixed camera is set too low, hampering your spatial judgement when trying to strike or jump with any accuracy. Floating defence systems blend into busy backgrounds, launching projectiles you won't see coming. Fudgy controls and your characters' lolloping gait make it hard to act with any kind of fluidity, scuppering even the simplest hit-and-run manoeuvres.

Things do improve some once you reach the multiphase artist battles that cap each stage. In fact, it's only in these set pieces that *NSR*

"Heavily fixated on its infectiously cheesy retro vibe"
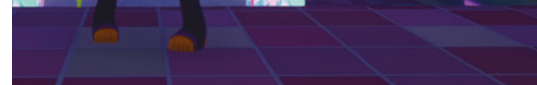
seems truly invested in its experience – as close as it gets to killer tracks on an album stuffed with filler. Finally, the game reveals a talent for choreographed spectacle and properly enjoys itself by sending up a range of music styles and archetypes. In one contest, you're circling a huge disc spun by an egotistical DJ, in others, you're pitted against the synchronised dance moves of a literally manufactured boy band, or forced to confront a child piano prodigy controlled by a pushy mother. Each of these scenarios throws up its own demands, and a variety of twists along the way.

Yet the production still isn't as tight as it should be, and the strongest ideas are often squandered beneath mounting confusion. Again, it's rarely a case of reacting to the rhythm, just a desperate scramble to get things done between accelerating bombardments of attack waves. And as the camera, control, and visual noise issues combine with poorly defined patterns, it's hard to fully understand what's going on. Respawning health crates and instant restarts add a strong suspicion that the game is aware of these problems, but decides to help you stumble through rather than refine the experience.

Perhaps the aim in *NSR* is to represent the clash between EDM and rock by opposing the predictable rhythm of the computer against the human player's improvised movements. But that's little comfort when struggling through something so disjointed. It's a game so enamoured with its raucous characters that it lets their haphazard goofiness seep into its underlying machinery. And despite the exuberance and feel-good celebration of all music, it hasn't much soul, either. It's crying out for clarity, commitment, and deeper synergy between its soundtrack and action. *NSR* conjures up an alluring image of gaming's past, only to remind us how rare the real classics were, and how far we've come. Ⓦ

▼ Character designs are consistently lively and detailed, even for the most minor NPCs.

MAYDAY

Woah, take it easy there, kiddo! What's with the cape?
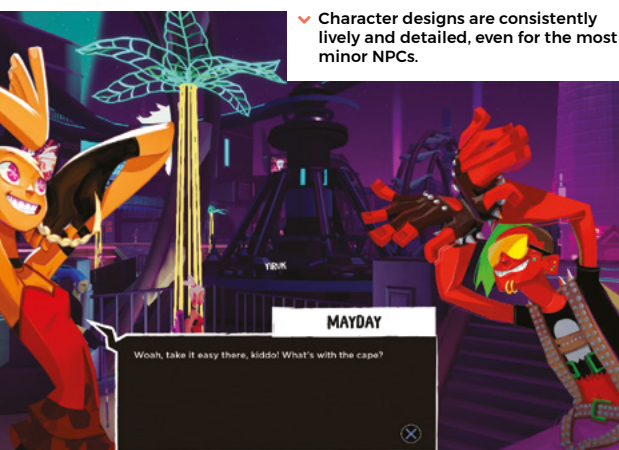
VERDICT

NSR has its image well-honed, but gets stage-fright when it's time to play.

49%

Francis York Morgan

It's a Voodoo shop!!

Review

Just like Tony Hawk, York is down with the kids as he gets around town on a skateboard – there's even a whole scene explaining how this came to be. It does prove more convenient than a car, since you can cut through lawns and alleys, and is also pivotal to one hilarious epic fail.

▲ The game employs a semi cel-shading art style, probably to better suit the Switch's hardware. It still runs worse than its predecessor, though.

Info

GENRE
Sleuth-'em-up

FORMAT
Switch (tested)

DEVELOPER
TOYBOX /
White Owls

PUBLISHER
Rising Star Games

PRICE
£39.99

RELEASE
Out now

REVIEWED BY
Alan Wen

VERDICT

Blessed with SWERY's unbridled weirdness, but disguised under layers of a tedious, broken game.

42%

Deadly Premonition 2: A Blessing in Disguise

Cements SWERY as the Ed Wood of video game auteurs

If *Deadly Premonition 2* appears to eschew pretences of *Twin Peaks* in favour of the first season of *True Detective*, both with a primary setting in the Deep South of Louisiana (incidentally, just prior to Hurricane Katrina) as well as a narrative structure split between two time periods, rest assured it still has the bizarre idiosyncrasies of its creator, SWERY – and most definitely not on a better budget.

Like many sequels, *Deadly Premonition 2* recycles certain beats from the original. Once again, the plot centres on the murder of a young woman whose corpse is discovered in a grotesque arrangement that's meant to serve a divine purpose. There's also a fascination with a transgender character who's handled so poorly that SWERY issued a public apology and vowed to fix this in an update. And despite claims that the combat in the first game was a late addition insisted by the publisher, these sections return, seemingly even more dragged out. I suspect most fans who lauded the original as a cult classic will overlook these qualms, since you still spend most of the time with FBI Special Agent Francis York Morgan, one of video gaming's most peculiar protagonists, who can go from seriously investigating crime scenes with his unique supernatural abilities, to lighting up with childlike enthusiasm for random

> **"There's only so long a game can get by on 'charm'"**

movie trivia at the drop of a hat (where else would you find 'Michael Bay' and 'arthouse' in the same sentence?). It's that kind of knowing absurdity that I'm mostly here for, even if other eccentric characters such as the man functioning as hotel chef, concierge, and bellboy all at once feel a bit forced. But there's only so long a game can get by on 'charm', and after a while, *Deadly Premonition 2* becomes an insufferable, overlong slog. Its duration is artificially extended by a painfully slow in-game clock that only makes sense if there were actually interesting things to do in its empty open world. You'll more likely chain-smoke yourself to an early grave in order to speed up time, only to find you need to fulfil other needless parameters like hunger, fatigue, and cleanliness. The sequel's worst offence is forcing you into the most pointless fetch quest ever devised before excusing it with a couple of winking asides from York, as if other games haven't used this old chestnut before in a less time-wasting way.

It's just such a dull affair – and that's not even diving into the myriad technical issues that may or may not have been patched by the time you read this. Any flashes of inspiration, wackiness, or even poignancy you can derive from *Deadly Premonition 2*'s story feel like ending a bad day with a weak cup of coffee. And even York can't forgive bad coffee. ⓦ

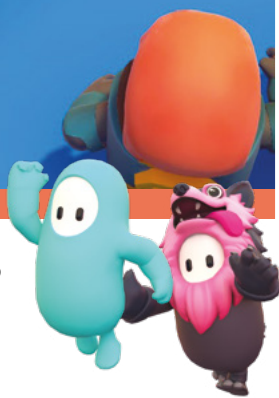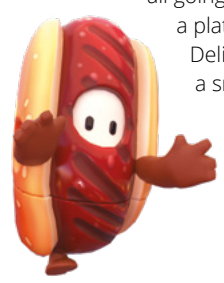▲ **Perfect Match is pretty dull compared to the rest of the minigames.**

Review

Fall Guys

Do all the pieces fall into place?

It feels almost pointless reviewing a game like *Fall Guys*. In the few weeks it's been out, millions of players have been through its challenges, and hundreds of thousands have watched along on Twitch. It's even breached the gap between the gaming community and the wider public – my parents have made references to *Fall Guys*. And yet, I do think there are a few areas where the game... falls flat.

Fall Guys is a physics-based platformer-meets-battle royale inspired by game shows like *Takeshi's Castle* and *Total Wipeout*. Sixty jelly beans enter, and through a series of minigames and races, only one emerges the victor. To contrast with its cutesy style, it could just as easily be called *Cyber Bullying: The Game*. It's everyone for themselves as they push, jostle, and pull you out of the way to ensure their own survival. It's ruthless, but mere seconds after a disappointing defeat, I jumped straight back in for another whack at it.

It's no surprise that *Fall Guys* has become what it has when its art style is so endearing. Every character and costume is bursting with colour and charm. A horde of 60 jelly beans all going "Wooo!" as they career off a platform into the pink Angel Delight below never fails to raise a smile. The bright colours and simple shapes also make each challenge immediately readable, which is a refreshing rarity for the battle royale genre's usual vistas of brown, khaki, and russet.

Fall Guys' biggest problem is in its minigame variety. They range from the brilliant, like the racing level Slime Climb or the final snake-like level Hex-a-Gone, to the awful, like the pace-destroying, mind-numbing memory game Perfect Match. The team games are a particular low point, as playing your best and still being eliminated because of your team feels against the spirit of the rest of the game. The result is that each match has an iffy pacing between the speedy, intense modes and the slower ones, and often ends in frustration at a team you had no choice but to be a part of.

> ## "Seconds after a defeat, I jumped straight back in"

It also suffers from a number of bugs. Aside from the launch window's expected server problems, there have been random freezes, disconnects, and physics glitches, and at the time of writing, PC players still can't use their own usernames due to an exploit.

Fall Guys has reached a popularity that many developers can only dream of, thanks to a simple idea cleanly presented, and is released at a time when most people are still stuck indoors. But I can't wait to see what Mediatonic can do with *Fall Guys* in the months ahead – and find out how the few niggling issues that mar it can be rectified. ⓦ

VERDICT

A slightly rocky start to a game that'll be with us for a very long time.

74%

∧ *Pattern* always looks at its best when the sun is rising or setting, bringing out some beautiful colours.

Info

GENRE
Walking sim

FORMAT
PC (tested)

DEVELOPER
Galen Drew, Michael Bell, Badru

PUBLISHER
Ice Water Games

PRICE
£11.39

RELEASE
Out now

REVIEWED BY
Paul Walker-Emig

VERDICT

An occasionally beautiful but forgettable walking sim.

57%

Review

Pattern

Walking a well-trodden path

Pattern appears tailor-made to irk people who get angry about the very idea of an 'art game'. It's a procedurally generated walking simulator – the premier genre for prompting those aforementioned angry individuals to exasperatedly proclaim, "It's not a game!". Then there's the fact that it bills itself as "a video game about making video games" (an admittedly navel-gazey tag). You can imagine Monster Energy-filled-gamer-veins pulsating on foreheads across the globe.

Pattern isn't the kind of game I'd get even slightly angry about, but then again, I also wish I could muster any level of passion about it.

The game starts off with you waking up in a grand-looking, glass-topped dome, smoke rising from what appears to be an altar at its centre. Look at it, and you'll be given the option to rest. You then wake up in a procedurally generated landscape, smoke in the sky providing a beacon to a campfire that will allow you to rest and start the cycle again.

These worlds can be incredibly beautiful at times, with sunsets over scenes resembling Northern Ireland's Giant's Causeway, deserts dotted with signs of former civilisation, and natural environments turned into an unexpected canvas for bold strokes of violet and turquoise. A game like this needs an algorithm that can consistently generate captivating landscapes, and *Pattern* is able to do this with reasonable regularity. The ability to climb terrain and glide from it

> **"I wish I could muster any level of passion about it"**
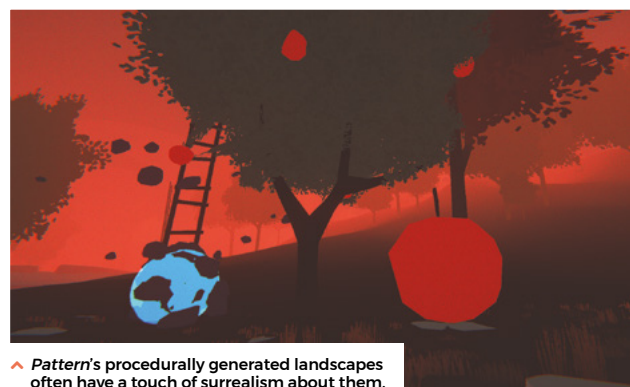
∧ *Pattern*'s procedurally generated landscapes often have a touch of surrealism about them.

complements the more interesting areas, and provides an impetus to explore without worrying about straying too far from your goal. If I'm honest, though, it was rarely long before I wanted to head for that goal, a couple of pleasant views the most I could get out of exploring any given landscape.

Later on in the cycle, you encounter blue orbs that reveal bits of text reflecting on the process of making games. That sounds pretentious, but these excerpts mostly feel like earnest personal thoughts or theories, rather than a self-aggrandising attempt to make profound proclamations about the creative process. Regardless, they're perhaps more useful for the creator than for the player, and do little to enhance our experience in the game or make us consider it in a different light.

Harsh as it may sound, this leaves *Pattern* doing little more than looking nice sometimes. Plenty of games have gotten mileage out of doing just that, of course, but they've been doing so for at least a decade or so – *Proteus* immediately springs to mind as an example. *Pattern* fails to find a way to stand out from these titles. It's a pleasant enough place to be for the short time it lasts, but I left *Pattern* with little that will live long in the memory. ⓦ

Review

Wildfire

A stealth-platformer that succumbs to the elements

Every game has both good and bad points to it, but few manage to swing so wildly between utterly superb and dismally frustrating as frequently as *Wildfire*.

A 2D stealth platformer set in a world where magic has been banned, you play as a child who must save their village from an oppressive army. By wielding fire, water, and grass, you must take on both the army and the harsh environments in order to return your people to safety.

Where *Wildfire* succeeds is in its elemental systems. All three are open-ended in their uses, letting you experiment with how each interacts both with the environment and with each other. For instance, if you need more fire than there is in the immediate vicinity, setting a patch of grass ablaze will provide plenty more for a limited time. Burning bridges will isolate the enemy, while the gaps left behind can still be crossed by trapping yourself in a floating water bubble, or by jumping from grassy vine to vine instead. Each element is individually upgradable and does a good job of allowing you to specialise for your preferred playstyle.

The aesthetic design of *Wildfire* is absolutely gorgeous. Its detailed pixel art is both vivid and intricate, but also easily readable. All the information you need is conveyed quickly and simply, letting you focus more on the stunning art direction each level offers. One thing that can't be conveyed through print quite as easily is the sublime audio design. The crunching of grass underfoot, the smouldering of extinguished fires, the growling of a feral bobcat, all are realised in fantastic 3D audio that begs you to play it with a decent pair of headphones.

Unfortunately, great systems and presentation don't cancel out the frankly annoying stealth elements. As a massive stealth fan, it pains me to say that *Wildfire* is at its best when it isn't trying to be a stealth game, and instead leans wholeheartedly into more of a puzzle-platforming vibe. The controls are too stiff, the enemies are too aware of their surroundings, the 'optional' (each gives you an upgrade point, which makes beating them crucial) objectives are often flat-out unfair, and the tendency for levels to turn into bland escort missions with dull AI kills much of the experimentation central to good stealth design. And the less said about bobcats, who can detect you in cover and through walls via scent, the better.

Wildfire is a capricious game. One moment it's a stunning platformer which encourages creative use of its elemental gimmick, the next it forces you into sadistic and irritating stealth that strips away the joy that comes with controlling nature itself. While the technology behind *Wildfire*'s physical interactions is impressive, it's been bolted onto a game that fundamentally doesn't meet the same standard. ⓦ

> **"At its best when it isn't trying to be a stealth game"**

▼ **Fire is a powerful force that can quickly spiral out of control.**

VERDICT

A beautiful game let down by its rudimentary and overly brutal stealth.

65%

HIGHLIGHT

Partway through, you're forced by a devilish being to judge the fates of certain townsfolk whose misdeeds have gone unpunished in reality. Picking up clues around their homes will unveil the truth, finally leading to an encounter where you can either forgive or condemn. With better writing, these decisions might have felt weighty and interesting.
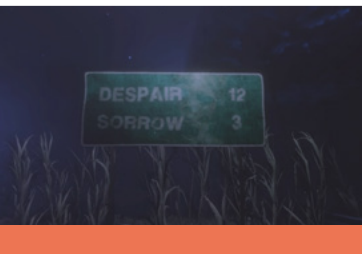
⌃ **Stepping through portals sends you to a hellish mirror world where strange messages appear and stuff floats around upside down.**

Info

GENRE
Horror/puzzle

FORMAT
PS4 (tested) /
PC / Xbox One

DEVELOPER
Camel 101

PUBLISHER
Wired Productions

PRICE
£15.99

RELEASE
Out now

REVIEWED BY
Jon Bailes

VERDICT

Those Who Remain is certainly a horror game.

22%

Those Who Remain

Fumbling around in the dark

Being charitable, it could be argued that the flaws in *Those Who Remain* add to its psychological horror. The malformed visuals, vague level design, and disjointed dialogue will certainly leave you confused and disoriented. Except, there's no sense of horror to add to in the first place – in a terrifying twist, the flaws are all there is.

The warning signs in this first-person narrative puzzler are clear as soon as you move around. A juddering frame rate induces low-level nausea, while glitches can push you out of bounds or leave you floating helplessly in mid-air. The art design exudes a wooden ugliness that even a low budget can't excuse. At a glance, it's a sinister *Gone Home*, its plain background textures plastered with scanned real-world photos, but the poorly drawn generic props evoke no sense of place.

These technical limitations disrupt a promising central idea. You're stranded at night in a small, empty town, as murderous silhouette figures assemble in the darkness. Your only defence is light – every lamp, candle, or car beam you illuminate keeps them at bay and creates a path forward, deeper into the mystery. But the lighting effects themselves are crude and unreliable, casting austere spotlights that leave corners of rooms shrouded in black, or emitting a raw blinding glare that reflects off every surface. At times, you can't see a door or passage right in front of you, or the boundaries between safety and danger are ill-defined, as you try to cross unlit ground.

The visual impairment is doubly problematic since you often have to scour interiors for points of interest, armed with a tiny, fussy cursor. The game's favourite trick is to fill buildings with dozens of drawers and cupboards, most completely empty, which you'll have to open because one might contain a key item or clue. Once you do find what's required, it's a relief when it's something straightforward, like a key to a locked door, as some 'puzzles' work by triggering a mystery change in another room, forcing you to search the place again.

Still, you'll be pining for this tedious routine once you encounter the game's instant death stealth sections. Here, an unfortunate-looking creature sporting a traffic cone on its shoulder randomly jerks around, and you try to evade its attention despite lacking basic skills like an ability to crouch, or any understanding of this thing's sensory range. All you can do is hope it meanders off in the wrong direction long enough for you to get by.

Any last hope for tension or intrigue is finally put to rest by a flat script that seems uninterested in its characters, and blunt direction that fails to build suspense. When the camera suddenly pans to reveal a group of hooded figures, or locker doors start banging open and shut, it's about as creepy as a fairground ghost train. The only psychological torment in *Those Who Remain* comes from attempting to engage with its purgatory of lifeless clichés. ⓦ

Review

The bots are about as intelligent as a rationed tin of spam.
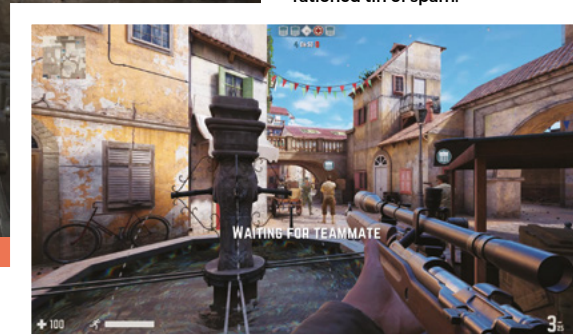
Days of War

More sigh of defeat than Day of Defeat

Making a spiritual successor to *Day of Defeat: Source* is certainly a bold move. The game was dropped by Valve not long after its 2006 release, and, while it never hit the popularity of *Counter-Strike* or *Team Fortress Classic*, it's since enjoyed something of a cult status with a dedicated community still playing. For developer Driven Arts to look at that and think, "Yeah, we can carry this torch" is commendable, but the result, *Days of War*, just doesn't match its inspiration.

Like *Day of Defeat*, *Days of War* is a close-quarters multiplayer WW2 shooter. Maps are often winding and crowded, full of ambush spots and sneaky sniper vantage points rather than big, sprawling spaces. Each team fights across these blasted-out maps to capture control points in an endless tug of war. The player classes are almost identical to *Day of Defeat* as well, letting you pick between various loadouts such as snipers, riflemen, a fully-automatic assault class, and rocket launchers.

For all I'm about to say regarding *Days of War*, its map design is simply excellent. Each one is bursting with detail and character, while also feeling decently balanced. They each have a great mix of blind corners, alternate paths, and slightly more open, sniper-friendly areas. There's also some variation in which armies get to fight it out in each map, with the Russian, British, and American armies all getting a few shots in at the Axis. It's always nice to see a WW2 game look at the various fronts of conflict, rather than getting hung up on a specific locale.

It's a shame that attention to detail doesn't also extend to its moment-to-moment play. Lacking any sort of punch, shooting feels floaty and bland, more like playing with papier mâché than beefy guns. The grenades are particularly awful, giving off little more than a wisp of smoke and only killing anybody unlucky enough to be sat right on top of them.

Capturing points is almost instant, meaning winning is less the hard-earned victories of *Day of Defeat* and more of a sprint to see which team can run in a circle around the map first. Like the shooting, it comes off as being weirdly disconnected from the presentation – an afterthought once all the work had been put into the maps themselves.

Most importantly, the game's absolutely dead online. Playing a few days after launch, at peak hours, I was dropped into a match filled with some of the worst AI-driven bots I've ever seen in a game. My record so far is seeing four real players in a 16-player match. This inactivity is probably due to the game's shaky time in Early Access (it was removed from sale and went MIA for many months before returning), and it could be improved with some major work from Driven Arts, but right now it's an absolute ghost town.

Multiplayer games come and go every day, but *Days of War* hurts. It hurts because there's a clear amount of passion and love put into its stages and environments, but a shiny lick of paint doesn't make for a worthwhile successor to a cult classic. I would kill for more *Day of Defeat*, but *Days of War* just isn't what we need. ⓦ

> **"More like playing with papier mâché than beefy guns"**

VERDICT

An online ghost town with flimsy shooting, there are much better WW2 shooters out there.

49%

HIGHLIGHT

Taking to the waves in your tiny boat is pure joy, and there are some fun things to discover out in the ocean, like an island where vases move when you're not looking. At certain points, you can stop to catch fish or go diving, and occasionally eccentric but lovely pirates will demand odd things like sandwiches and soap.

Sleep in the boat

RT Speed up

Info

GENRE
Farming-RPG

FORMAT
PC (tested) /
Xbox One /
PS4 / Switch

DEVELOPER
Chibig

PUBLISHER
Chibig

PRICE
£19.99

RELEASE
Out now

REVIEWED BY
Lewis Packwood

VERDICT

A sedate, conflict-free slice of summer in an otherwise chaotic world.

76%

Review

Summer in Mara

On an island in the sun, we'll be playing and having fun

Summer in Mara is the most wholesome video game I've ever played. There's no conflict in the world of Mara, just long, sunny days spent tending to vegetables and being nice to people. Even the animal husbandry portion of this farming-RPG is entirely bloodless. You don't raise pigs so they can be chopped up into ham; instead, their destiny is to happily root out truffles when fed with carrots.

And my god do we need some cheery blue-sky gaming in this hell year of 2020. Mucking about in Mara has been the soothing balm at the end of my working day, blissful hours exploring a world where no one has a bad word to say, and no one has even heard of Nigel Farage. Instead, the various races that dwell on the islands of Mara live together in harmony, with the only real peril coming from an invasive race called the Elits, who plan to harvest Mara's natural resources. Even then, only a few of them are real baddies.

The protagonist, Koa, is an orphaned human child who's been raised on an island by a qüido called Yaya Haku. Haku disappears at the start of the game, so Koa is left to tend to the island and gradually explore the rest of Mara by steadily upgrading her boat to go further and further into the ocean. The exploration is undoubtedly the most exciting part, being hugely reminiscent of the serene sailing of *The Legend of Zelda: The Wind Waker*. Yet the loading screens between grid squares and the relative lack of sights to see quickly remind you that this is an indie game developed by a tiny team rather than being a triple-A Nintendo title.

It's also very slow: it took nearly eight hours for me to unlock the first outbuilding on my island – a humble chicken coop. And playing *Summer in Mara* feels weirdly aimless. The game is essentially a series of fetch quests, with characters demanding items which you then have to grow, make, or find. But beyond your immediate task, there's little to shoot for. The most engaging parts are when you're told you need to raise the funds to upgrade your boat, giving you a financial target and prompting you to work out the most profitable crops and goods to pursue. Otherwise, there's not much incentive to craft the dozens of things you're given blueprints for. I have complicated recipes for everything from fajitas to paella, but little reason to make any of them.

Then again, it's immensely satisfying to gradually shape your island by planting palm trees, building beehives, and generally making it feel like home. If you're able to embrace the aimlessness, to grow for the sake of growing, and wander for the sake of wandering, then *Summer in Mara* can be thoroughly enchanting. There's a lot to be said for spending time in a world where nothing bad ever happens. ⓦ

⌄ Koa's garden is littered with rocks at the start: you'll have to upgrade your tools to remove them.
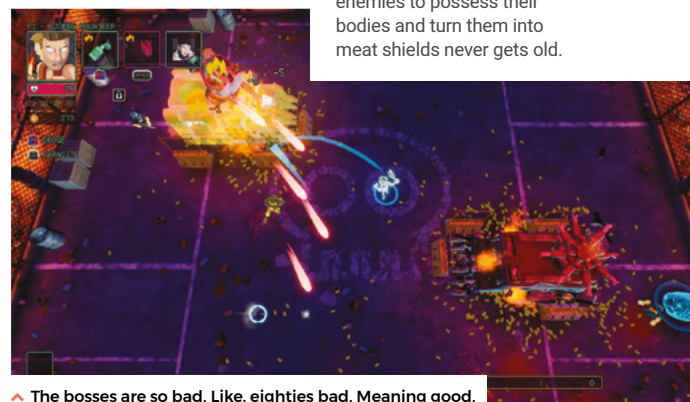
273

DODGE

HIGHLIGHT

When the bullets are flying, *HyperParasite* turns into a gruesome dance of space goo and enemy chunks. Throwing yourself between enemies to possess their bodies and turn them into meat shields never gets old.

Review

HyperParasite

Think of it as a hectic, roguelike Invasion of the Body Snatchers

▲ The bosses are so bad. Like, eighties bad. Meaning good.

I t's weird how quaint a roguelike feels these days, considering it was only a few years ago we had titles like *The Binding of Isaac* and *Crypt of the NecroDancer* dominating the indie space. Of course, their monolithic popularity was eventually toppled by survival sims and battle royales, but, every once in a while, you'll still see a roguelike pop up and surprise you. That's exactly what *HyperParasite* does.

Aping 1980s action films, *HyperParasite* sees you roll around as an amorphous blob hell-bent on ending the world. Each run includes its own enemies, power-ups, and level structures that reset on death, in true roguelike fashion, but the big gimmick of the game is you can hijack enemies. By absorbing a baddie into your gooey mass, you can use their weapons and wield their corpse like a meat shield to protect you from enemy fire.

The combat is excellent. Each potential victim's weapons radically change how you play, from the basketball player's ricocheting shots to the Ghostbuster's plasma beams, meaning you'll often flit between forms to handle specific situations. Fights can become bullet-hell levels of hectic, and so chaining together attacks to keep your soft, slimy bulk safe is a vital strategy.

The boss encounters are also incredibly well done, feeling daunting but not impossible. It took me a good few hours to beat the first area's final boss, and it was only once I'd learned the area's possessable victims inside-out (literally...) that I

"Fights can become bullet-hell levels of hectic"

started making headway against them. Each stage is littered with minibosses, too, which provide a hefty challenge with great rewards.

HyperParasite's biggest flaw is in its presentation. While the pixel-art style isn't awful, it also isn't particularly inspired or unique in its execution either. Then there's its tone; the game not only makes a few pop culture references to sell its eighties setting, but it also uncritically adopts some of the more problematic aspects of the era. The only Black enemies in the first area are basketball players, and the 'Asia Town' segment is so full of racial stereotypes it's hard not to cringe. In a game all about becoming the enemy, a lot more work could've been put into making the enemies not rely on tired, inappropriate visual shorthand just because they came from the era being paid homage to.

It's easy to look at *HyperParasite* and dismiss it as a game that desperately wants to be *Hotline Miami*, but to do so would be wrong. Dated representation aside, this is a solid roguelike shooter that shows there's still life in the genre yet. ⓦ

▼ You're not playing *HyperParasite* right if you can still process what's on screen.
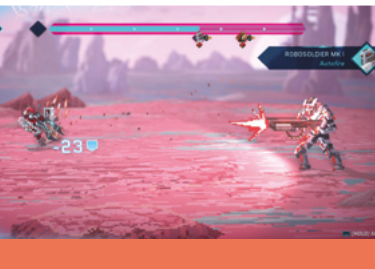
VERDICT

Let down by its aesthetic, *HyperParasite* is still a ruthlessly challenging and fun roguelike shooter.

67%

It is my laser eyes. They often give the impression that I am staring. Resting laser face, I call it.

Review

▲ Dialogue ranges from not very funny at all to not really that funny. A shame, as there's a real energy to some of the writing.

▲ Armour, shields, health: look after the first so you can look after the second, because the third doesn't regenerate.

Info

GENRE
Rogue-lite strategy

FORMAT
PC (tested) / PS4 / XBO / Switch

DEVELOPER
Massive Damage, Inc.

PUBLISHER
Raw Fury

PRICE
£19.99

RELEASE
Out now

REVIEWED BY
Ian Dransfield

VERDICT

A gorgeous, fun rogue-lite with a few irritating drawbacks.

70%

Star Renegades

Flawed-but-fun strategy that never stops repeating

Live, die, repeat, and so on and so forth. It's the rogue mantra and it's out in full force here in *Star Renegades*; this time around, the ever-restarting game world justified through some basic multiverse waffle. You're trying to stop some bad people from destroying a universe, you fail, you transport to a new universe and try again. Live, die, repeat. Along the way, you'll pick up a crew of combatants to choose from, each with their own perks and battle suitability, and it's up to you to take your team of three and tackle a bunch of timeline-based combat situations along with a sprinkling of (very) light exploration.

Basically, *Star Renegades* is a mix of *FTL*, *Darkest Dungeon*, *Fire Emblem*, and *Shadow of Mordor*, and for the most part, it's a darn successful mix at that. Not only is it gorgeous and backed by a lovely soundtrack, but it also mashes together disparate elements from these other games and comes out with something actually worthwhile. While the relationship-building aspect (*Fire Emblem*) does feel a bit loose and like it doesn't add *that* much, the desperate mission to Save Everything (*FTL*) is suitable motivation, the exploration and a few other bits (*Darkest Dungeon*) add shallow-but-fun layers, and the nemesis system (*Mordor*) is well implemented and works perfectly in making you want to defeat enemy lieutenants who initially best you. Because, by crikey, will they best you.

The glue of binding in this particular title, though, is the combat system. It's all based around a timeline, with different actions taking a different amount of time to occur. A light attack is quicker than a strong one, with a hell of a lot of variations on that basic line of logic. What mixes it up is the ability – the need – to push your opponent back on the timeline with the ultimate aim of breaking their turn, disallowing them from making a move in that round. It's a fantastic addition to combat and makes for some genuinely strategic planning in harder battles, requiring you crunch the numbers (or 'look at the timeline', more accurately) to figure out just who should do what to who, and when.
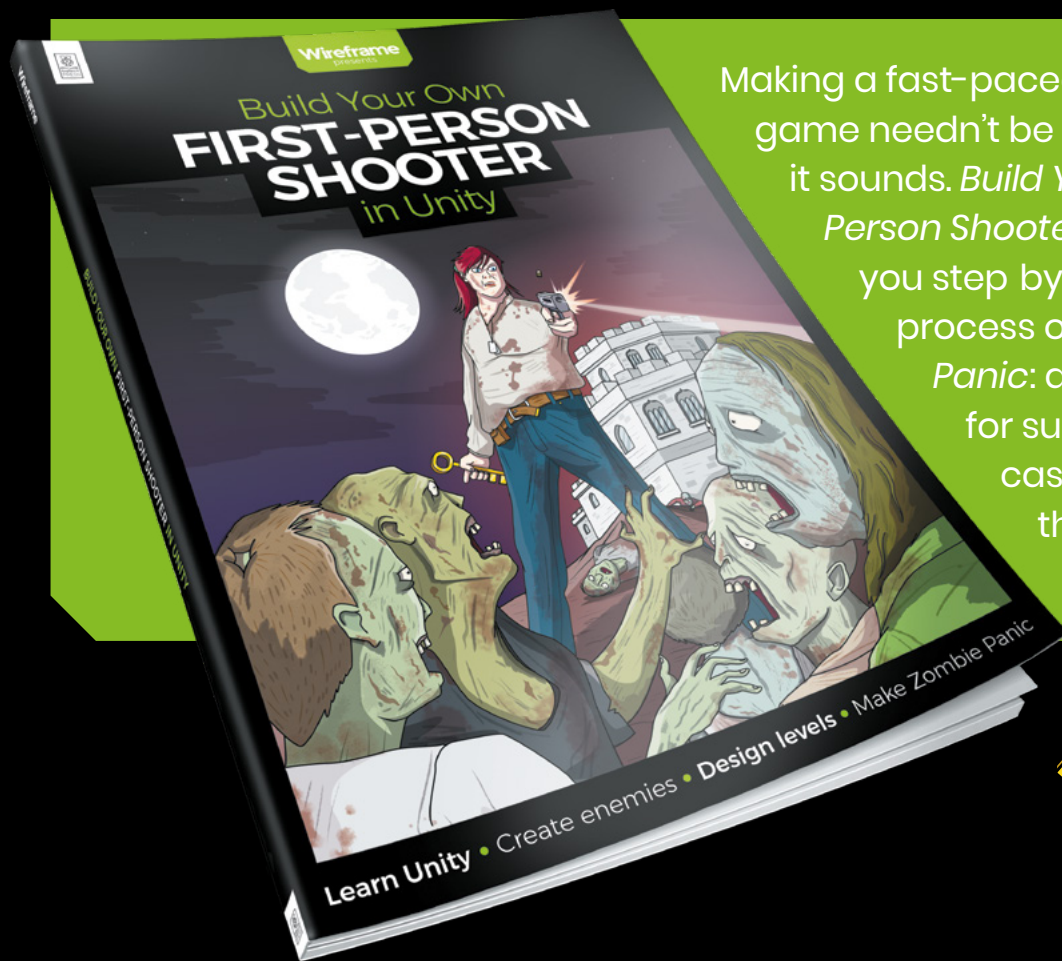
On top of that, there's plenty of other effects, from healing through armour breaking, a bunch of buffs and debuffs, and everything else you'd hope for in an RPG-like combat system. Pulling off a perfect one-two to push a strong enemy off the timeline and allow your tank party member to inflict massive damage without your foe even getting a shot off? Yeah, that's some satisfying stuff.

It's not the chosen one, though. Poor pathfinding in levels makes it even harder to care about searching out the already-wafer-thin lore backing the game's *meh* story. There's the randomness that comes with roguelikes sometimes interfering with runs and making them genuinely unfair. The pacing is way off for something made to be so stop-start, with full runs taking many hours, not *an* hour. It can be obtuse in what certain effects and impacts are in combat, thus making planning harder than it needs to be at times.
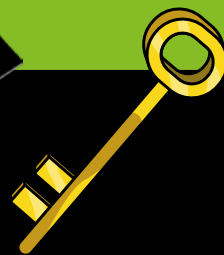
Star Renegades is good – sometimes great – but its flaws do drag it down and make it so that sometimes you just want to live, die, switch off. ⓦ
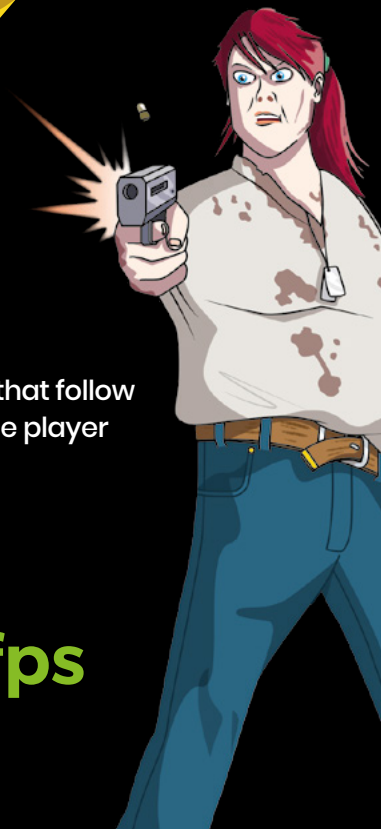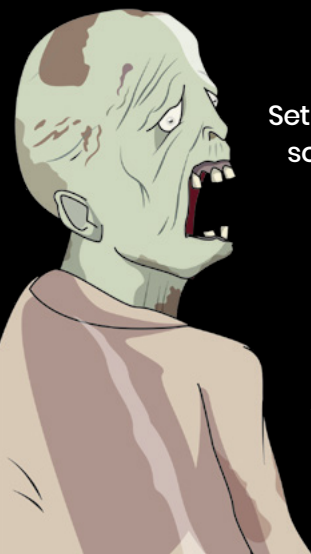
Backwards compatible
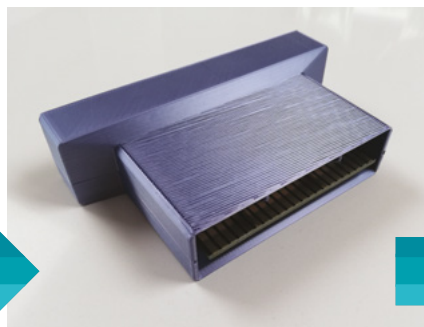
WRITTEN BY RYAN LAMBIE

Making the case

Last month, I acquired a slightly yellowed but perfectly functional Sega Mark III – an early, Japan-only precursor to the Master System. The only trouble was, the Mark III wasn't compatible with my library of tatty but much-loved Master System games – and given that my European Master System died a while back, I was keen to find a way to get all those old titles running on the Mark III. Fortunately, an unknown company in China had me covered: I found an adapter on a well-known online outlet that lets me plug western games into my Japanese system. But here too

was a slight drawback: presumably to keep costs down, the adapter was little more than a bare printed circuit board, which likely means that, with repeated use, grubby fingers could leave my shiny contacts looking dull and grubby, while constantly shoving cartridges into the top of the device will inevitably put stress on the connector.

What my device really needed was a nice, protective plastic shell – and to this end, I decided to head out of my comfort zone and dabble in a bit of amateur case design. Hunting around online, I found Steve Rasmussen's 3D model of a Mark III cartridge on **Thingiverse.com**, which I could use as a basis for my new adapter case. Importing that into my 3D editing package of choice, I then made a rough model of the adapter circuit board, and using it as a template, began altering the cartridge model's vertices to create an opening at the top that was wide and deep enough for a Master System cart, and could also provide a valuable bit of support for the cartridge as it slots into the connector. Naturally, precision was key here – I was painfully aware that a discrepancy of even a fraction of a millimetre would mean that

the cartridge wouldn't fit in the adapter, or that the adapter wouldn't seat in the console correctly.

With the model complete (or so I hoped) the next step was to turn this chunk of data into a physical object – and here, the wonderful Ben Everard at our sister title HackSpace magazine came to the rescue. Within a day or two, he'd printed out my adapter case in a fetching shade of purple – and once Royal Mail shoved the thing through my letterbox later in the week, I could finally see whether my little project had worked or not. And guess what? It did! I had to use some superglue to fit the two halves of the case together, but the whole device functions just fine: western carts go into the top, and the adapter fits cleanly into the Mark III. It's only a simple thing, and there are some refinements to be made if I attempted to do this again – the addition of some proper clips, perhaps, to sidestep my use of superglue – but it now means I can play European games on my Mark III to my heart's content. If you happen to own a 3D printer and want to make your own, you can download the STL files from **wfmag.cc/wfmag43**.

Give it some stick

Sticking with the Sega theme, you may have spotted that the former House of Sonic is poised to release the Astro City Mini – a palm-sized replica of an arcade machine which was (and is) a familiar sight in Japanese game centres. It will come preloaded with the sorts of eighties and nineties games you'd expect from Sega – *Altered Beast*, *Shinobi*, *Fantasy Zone*, and so forth – and is due out in December. It's pretty close to SNK's recent Neo Geo system, in essence. What's

really caught our eye, though, is the separate, full-sized arcade stick Sega's set to release alongside the Astro City Mini. Not only does it look the part, with its six mashable buttons and ball-topped joystick, but it also uses proper Sanwa Denshi components, so it should feel arcade-quality, too. That quality does come at a premium: **amazon.jp** is selling the arcade stick for 12,800 yen, which is about £94 at the current exchange rate – almost as much as the Astro City Mini itself, which is selling for around 14,000 yen.

Alternatively…

If Sega's Arcade City stick is a bit pricey for you – by the time you've imported the thing, it will likely cost you well over £100 – 8BitDo has a potential alternative for you. It has an arcade stick of its own scheduled for release on 30 October, and it looks every bit as usable as Sega's: it has eight buttons which are fully customisable, wireless and wired support, and there's also the option to mod it with other arcade stick parts from, say, Sanwa Denshi

or Seimitsu. Pre-orders are open on Amazon at the time of writing, with the arcade stick currently priced at £81.99.

Geared up

The surprise success of my Mark III adapter gambit left me looking around for other retro hardware projects to try out – and it didn't take long before I found something called the GGTV board. Sold by Tim Worthington on his website **etim.net.au**, this little bit of tech allows Sega's Game Gear handheld to output its video signal to a television, with support for RGB, S-video, and composite. It's compact, too: the whole PCB is small enough to fit inside the handheld case, meaning that modification is restricted to drilling a hole or two for the video output jacks. The GGTV has been available for a good few years now, and some people have done some impressive things with it – in 2014, YouTuber Luke Morse took the GGTV, a broken Game Gear, and an unwanted Nintendo 64 case to create what he dubbed the Mega Gear: a custom console complete with a nine-pin port for a Master System or Mega Drive controller to plug into (**wfmag.cc/megagear**). More recently, Twitter user Magic Trashman took the idea even further: his custom Game Gear console (pictured top left) has a more compact form factor, with tidy on-off switches on the front and a neat spring-tensioned cartridge slot at the top (**wfmag.cc/trashgear**). I'm not convinced I have the skill to create a custom console as handsome as either of these, and to be honest, simply fitting the GGTV board looks like a test of my (average at best) soldering skills; with the mod costing a not-too-expensive AU$63 (or about £35 in sterling), though, I'm just about willing to give it a try. Of course, I could just spend a bit more and buy a modern RetroN 5 console with a Master System and Game Gear adapter and play handheld games on my TV that way – but where's the fun in that?

Backwards compatible

WRITTEN BY IAN DRANSFIELD

Hey now

As you might have seen in the news (from page 18), Nintendo is celebrating the 35th birthday of one Mario Mario. Well, his games, not him. Otherwise he would have been a newborn in the original *Mario Bros.* game, and as we all know, that didn't happen until *Yoshi's Island*. Obviously. Anyway, with the celebration came the re-re-rerelease of *Super Mario All-Stars*, this time on the Switch's Online service. I, of course, had to jump right in there.

See, this is actually the way in which I played those original three *Mario* games back in the day – I don't count *The Lost Levels*, given it never released over here in its original form. I didn't have a NES, and while I did play all three games at friends' houses or on displays in Rumbelows, it wasn't until mother dear bought my brother and me a SNES with *Super Mario All-Stars* packed in that I was able to really get stuck into the adventures of a mushroom-murdering plumber (and his oft-forgotten brother).

Even with all the time in the world to play as a child, though, I never finished them. So Nintendo's announcement caused a sense of nostalgic aspiration through my very soul: I would load it up. I would play. I would finish at least one of these lovingly remastered classics of the Nintendo stable. So far, it's slow going. I remember how to cheat my way to World 7 on *Super Mario Bros.*, so that's the most likely candidate for success. But really the overriding thought going through my brain? *Super Mario World*'s a much better game than any of these. *Sigh*.

The leaky breakthrough

Back in July, a hell of a lot of Nintendo *stuff* was leaked online – assets, source code, financial information... *a hell of a lot of stuff*. Since then there's been a steady trickle of info coming out from those poring through it all, with early Yoshi sprites, unused areas from *Zelda* games, dropped enemies from *Super Mario 64* recoded and made to function in the game, and plenty more.

None of it has resonated in my mind, though, until now: one of the games included in the leak is *Edd the Duck*, the platformer based on the CBBC Broom Cupboard's finest denizen, itself based on *Baby T-Rex* – a game reskinned more times than Winamp in the early noughties. That original game is... meh... and honestly *Edd the Duck* is part of my nostalgiabrain that doesn't exactly keep me captivated for long stretches, but it's weird how *this* was the thing in those leaks that set me off. I jumped down the rabbit hole – duck hole – and came away with not
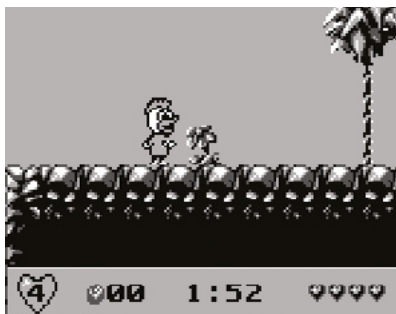
just a sense of wonder at all this lost Nintendo history people are (less-than-legally) showing off, but with a true sense of satisfaction that Nintendo actually bothered to keep hold of these things. So many dev studios in the 1980s and 1990s (and beyond) just didn't bother keeping track of unimportant things like, y'know, *source code*. So for a powerhouse like Nintendo to have it all there – even if we're not supposed to be seeing it – is a great thing. And no, I'm not offering a link here, we might get shouted at.

MAKE IT AGAIN II

I'm finding I just want to make people's heads explode these days. In games, I mean. So periodically stepping back into the world of Midway's *Psi-Ops: The Mindgate Conspiracy* is fulfilling that particular (definitely in-game) desire nicely. Problem is, it was a bit of a shonky game even on release back in 2004, so

going back and playing it now with hands weathered by the annals of time in Space Year 2020 is a mildly aggrieving experience.

And so I must call on those who might possibly have picked up the IP for *Psi-Ops* to give us another one. I beseech thee. Midway's implosion about a decade ago resulted in Warner Bros. picking up the rights to the game and name, so the chances of it happening are so low it's enough to make your head explode, but if I can't wield the power of these pages to fight the good fight, I don't know what else I can do. Enough with the *Lego*, the *Batman*, the *Mordor*: give people what they want, Warner. Give them surfing on brain-controlled paving slabs. What a game.

APLP

We have a significant soft spot for classic gaming mag Amiga Power around these parts – to the point it was a big influence on the ethos, the mantra, the need to DISSEMINATE ESSENTIAL INFORMATION during the genesis of Wireframe. So believe me when I say reading through the booklet that comes with Kickstarter project *Amiga Power: The Album With Attitude* was a delightful mix of nostalgia and delight that many of the voices from the greatest mag that ever existed returned to throw in a few (or more) words. It's almost like a new issue of AP, except... not, at all. But still, brand new words!

Also, there's the whole album thing, which you might have picked up on from the title of this collection. What does it include? Well, two CD's worth of music, coming both from legendary Amiga titles like *Cannon Fodder*, *The Chaos Engine*, and *Bill's Tomato Game*, *as well as* from beloved coverdisk games featured through the magazine's run. BUT WAIT, THERE'S MORE: the music is – get this – remixed! Not in a rubbish way, either – many of the original compositions' composers, writers, and other musicfolk have returned to put a fresh spin on 30-ish-year-old tunes. You also get the full lyrics to *Goal Scoring Superstar Hero*, which is worth the price of entry in my book. More stuff through the link, natch: **wfmag.cc/APLP**.

Shadow of the Colossus had some of the best hair animation of any game of its era. It looks even more luxuriant in the 2018 remake.

Return to the Forbidden Land

Just in time for its 15th anniversary, Ryan takes another stab at Shadow of the Colossus

R eleased in 2005, *Shadow of the Colossus* was in many ways ahead of its time – certainly, its design was slightly beyond the ageing PlayStation 2's capabilities, with its frame rate juddering and slowing when one of the game's lonely colossi lumbered into view. But the game's atmosphere, minimalist storytelling, and

I think he might have spotted me.

bold idea consistently outshone its technical flaws, and it's fascinating to think of the number of other titles that have borrowed in some way from *Shadow of the Colossus*. *The Legend of Zelda: Breath of the Wild* was a true classic in its own right, of course, but *Shadow of the Colossus'* tone, its elaborate design flourishes, and even the idea of dungeons taking the form of giant creatures, are all etched into Nintendo's *Zelda* sequel.

Revisiting *Shadow of the Colossus* in 2020, I'm struck by how it feels both familiar and oddly different. That I've chosen to play Bluepoint's delectably polished 2018 HD remaster for the PS4 might account for some of the differences, but not all: I remembered the game's Forbidden Land as a vast, desolate territory that took ages to traverse, when in reality, you're rarely more than a few minutes away from one of its legendary boss encounters. I'd filed away those boss encounters as lengthy and complex, yet playing the game today, it dawned on me that each colossus can be felled quite quickly once its vulnerabilities have been isolated (that I'd already

⌄ Although not a long game, *Shadow of the Colossus* still manages to conjure the illusion of a vast world.

done much of the grunt work of finding all these 15 years ago might also explain this). Perhaps the sheer number of vast sandbox games that have emerged in the intervening years have conspired to make *Shadow of the Colossus* seem smaller by contrast; games like *Skyrim* and the aforementioned *Breath of the Wild* can take dozens of hours to complete. A skilled player could finish *Shadow of the Colossus* in as little as four.

What remains unchanged, though, is the world's sense of age and weight. Designer Fumito Ueda laid the groundwork for some of this in his earlier title, *Ico*, which introduced his predilection for terse storytelling and impossibly outsized stone architecture. But *Shadow of the Colossus* progresses many of the ideas from that game – the environmental puzzles, the co-operation between the player and a computer-controlled character, the themes of isolation and sacrifice. In *Shadow of the Colossus*, however, *Ico*'s discrete areas of obstacles and switches become living, moving creatures whose bodies are puzzles waiting to be solved. It was a novel concept in 2005 – it was certainly an idea that couldn't have been achieved in the same way on earlier generations of hardware – and remains enthralling today.

Grabbing hold of a bucking, writhing giant and slowly inching your way to its weak spot still carries a cinematic air of drama, not least because of the masterful way the game makes

> **"Ueda's encounters rarely feel like traditional video game boss battles"**

the mechanical feel organic. Ueda's encounters rarely feel like traditional video game boss battles, even though you're essentially doing some of the same boss battle-type things presented in other 3D action games, like Capcom's *Lost Planet*, released in 2006: find glowing weak spot; hit the weak spot until the creature dies.

But by making the colossi feel mythical yet palpably real, the process of hunting and killing them takes on an entirely different hue – each lunge of Wanda's sword is met with a shudder and an agonised roar, and when a beast finally drops to the ground, the lasting feeling is of guilt rather than triumph.

Bluepoint's elegant update accentuates the game's poetic melancholy, but it also serves to accentuate how clunky the controls can often feel. Even in the mid-2000s, the process of controlling both a wayward horse and a camera with its own strange agenda felt like something to get used to rather than enjoy, and time hasn't exactly been especially kind to this aspect. (It's a pity, really, that Bluepoint couldn't have provided some alternative control options.)

Despite those gripes, though, I've enjoyed my return journey to the Forbidden Land – that is, if you can truly *enjoy* a game about slaughtering majestic beings. Other games may have built on what Ueda created in the years since, but *Shadow of the Colossus* has lost none of its gloomy allure. ⓦ
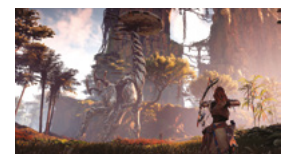
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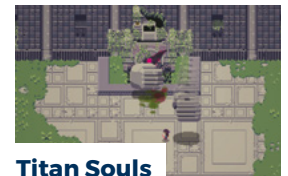
### Titan Souls
PC, PS4, VITA, IOS, ANDROID
Acid Nerve's 2015 game fused the top-down perspective of traditional *Zelda* games with *Shadow of the Colossus*' boss battles and overall air of ancient mystery. It's startlingly hard, but an immensely satisfying use of your time.

Horizon: Zero Dawn
PS4, PC
Here's one of those games that draws on some of *Shadow of the Colossus*' concepts – namely, massive titans to find and kill – but vastly ups the scale. *Horizon: Zero Dawn* is, of course, a terrific game in its own right.
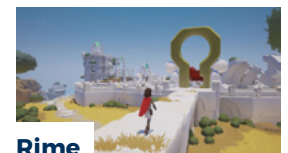
Rime
PC, PS4, SWITCH, XBO
No, there aren't any shambling giants to murder in *Rime*, but the tone of this charming 3D adventure is decidedly, shall we say, Ueda-like. The puzzles aren't always great, but the design of its world is captivating.

Making time

Ian finds dozens of free hours for Final Fantasy VII Remake

The common complaint is having no time to play the massive time sinks that make up a hell of a lot of triple-A gaming these days. I'm pretty sure I've whined about it on these very pages just a few issues ago, when talking about another JRPG, *Persona 5 Royal*. The thing is, though, where I wasn't able to force myself to play much more of Atlus' school-kid-'em-up, I have actually been able to find more than two dozen free hours to pump into the *Final Fantasy VII* remake, cunningly entitled *Final Fantasy VII Remake*.

When I think about it, it's been a pretty easy process. I've broken the back of this thing – discovered the secret. I now know how to make time appear for you; to make it so there's enough space in life to sit down with a game that demands dozens – nay, hundreds – of hours of that most precious, ever-dwindling commodity. And I'm going to share my secret now (doctors hate it, etc). All you have to do, right, is to have got into the original release of a game in such a powerful, all-encompassing way back when you were about 13 years old, yeah, so that when a remake appears a quarter of a century later, you're overwhelmed with a nostalgic passion that nigh-on *forces* you to give up on other things in life in order to fit in an hour here or there. Mainly on Saturdays, admittedly. It's a simple equation, really: adoration × youth + nostalgia = timefind.

I want to say 'Helpfully, *Final Fantasy VII Remake* is brilliant and has been well worth it', but that'd be a lie. Ignoring the nostalgia, I'm met with a decent game, but nothing great, and honestly the voice acting has made me cringe so hard I think I popped a few vertebrae. It was much better when it was just reading text boxes, and I didn't have to put up with whatever the hell direction the actor behind Barret was given. 'Sound angry and be weirdly monotonous and say idiotic sentences', that's probably the script notes. But I digress.

The time has been found, though, even though I'm allegedly an adult and don't have time for these things, and even though the

⌄ **This particular remake sure looks pretty.**

❯ Even eco-terrorists/activists are shocked by how well *Remake* turned out.

game is very much the good-not-great 79% we gave it back in Wireframe #39. Because it gets things right, and the things it does get right are the sorts of things that actually make me either smirk in recognition, or actively hum along. I'm talking about the music, in the most part. Some of the remixes and do-overs of *Final Fantasy VII Remake*'s music are fantastic, easily on a par with how my brain remembers the original tunes, and some even doing a better job. A smirk was raised at Barret singing the game's famous victory fanfare (at least the first time, then it became instantly grating). It looks phenomenal, bar those few dodgy textures the internet is still in a meltdown about. It triggers the nostalgia gland, basically, and does it well.

The other month, I bleated on about *Command & Conquer Remastered*'s superb run on the nostalgia market, and last month it was about how *STORY OF SEASONS: Friends of Mineral Town* hugely missed a (nostalgic) trick for me. This month, we complete the trifecta with the game that has a bit of a superb run, but also misses a lot of tricks… it's in the nostalgia-middle, really. It's not enough of the original game to be a (relatively) straightforward do-over like *C&C*. It is, in fact, an entirely different game, really. But it's not a clunky mess of boredom like *STORY OF SEASONS*. *Final Fantasy VII Remake* is a modern

> **"*FFVII Remake* is a modern game that has paid attention to other modern games"**

game that has paid attention to other modern games, and so plays like them. And so, it sits in the middle.

I'm going to finish it. I've put in too many hours where I could have been doing other things, like comparing light bulb specifications, or tapping skirting boards, or whatever it is 37-year-old homeowners do. I don't want to waste all this effort, after all. But when I'm done with *Final Fantasy VII Remake*, I'm not going to go back and do it again – I won't be challenging myself with the game's hard mode. I won't be talking about it in glowing terms to my friends. We won't be discussing where to find the best materia, or sharing memory cards to borrow saves and get a leg up. I won't be using my Xploder cartridge to outright cheat. I won't get told off in registration for not listening because I wanted to explain to Cookie just how to get a gold chocobo.

Because I'm not a teenager, I'm not at school, this isn't the original *Final Fantasy VII*, and things are different now. I sincerely hope this new mini-series of *Remakes* – there's going to be one or two more to round out the whole of the original game – has as big an impact on younger players as that original did on me. But, as with all this aimless nostalgia, all it does is leave me feeling a bit empty at the end. And definitely like I should have helped painting the wall a bit, and not just put it off so I could hear what utter nonsense Barret was spouting. ⓦ
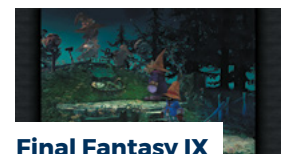
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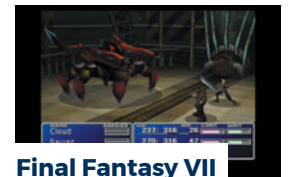
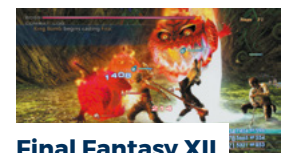**Final Fantasy VII**
PSONE, PC, MULTI
If you're going into this for the first time, please play the modern releases on PC and consoles. The ability to speed the game up, turn off random battles, and… well, *cheat*, makes it a much more engaging way to spend your time.

Final Fantasy IX
PSONE, PC, MULTI
Ah, the best of the *Final Fantasy* games – that's an official statement condoned by me, myself, and I. *FFIX* is still criminally overlooked even though it's got the best story of any *Final Fantasy*, as well as the best character, Quina.

Final Fantasy XII
PSONE, PC, MULTI
Ah, the other best of the *Final Fantasy* games. *FFXII* was ahead of its time with a real-time-ish active battle system, and while the story is a confusing mess, it does have Simon Templeman doing voicework on it. So it's perfect.

DOOM

Spinning Ian right round baby right round with some
classic circle–strafing

ID SOFTWARE / **1993** / **EVERYTHING**

The stage was set – the last marine alive, a Mars base overrun with hellspawn, an impossible battle one lone soldier could never hope to survive. Until he discovered the miracle of running around, sideways, in a circle, shooting at the stationary demonspawn in the middle. By no means did *DOOM* invent the circle-strafe, but it certainly popularised the move away from having A and D act as your keys to turn left and right. No, that simply wouldn't do – a true warrior, battling legions of undead and beasts from the underworld wants those keys to function as a left or right step. All the easier to shotgun some faces off with.

The circle-strafe is an odd one. It's very much a video game thing. You don't see footage of whatever foreign war we're in this week, where the troops involved stick their guns out in front of them before propelling themselves around a fixed point in a near-perfect circle. For one, human foes are capable of doing more than just standing still in the middle of this circle. For two, it's really hard to actually circle-strafe in real life without falling over and/or getting a bit dizzy; anathema to a good war, as we all know.

But in video games, the art of spinning round, right round baby right round, like a record (etc.) has long been something we've taken advantage of in our ongoing quest to kill almost everything we (digitally) come into contact with. The move to more realistic shooters has dampened the impact of the

classic circle-strafe, of course – it doesn't fit the style of a game where you're being ordered to commit war crimes by Reagan for the player to be able to run around in an unrealistic manner, after all.

But the classics like *DOOM* and the retro-inspired modern shooters like *Dusk* all take the sideways-stride in their own stride, and... well, it's just fun, isn't it? Yes, it feels more like you're piloting a drone than propelling a person about, but – when it's at its best – the circle-strafe is about playing something fast, punchy, and satisfying, not dwelling on the whys and hows of a human's range of motion/ability to balance. Plus, without circle-strafing, I would literally have never beaten a cyberdemon in a stand-up fight.

> **"Without circle-strafing, I would never have beaten a cyberdemon"**

Things have changed in very recent memory, too. We now live in a world where the *DOOM* you're most likely to be playing – that being the ports to today's consoles – has seen a bump in smoothness, with things now running at 60 frames per second (it was originally 35), and something approaching peripheral vision for Doomguy with the move to a widescreen display. Honestly, it's a weird change for this *DOOM* vet, and I'm not entirely convinced it's a necessary one. What it does do, though, is ensures all your future circle-strafing against the minions of Hell will be done in a silky-smooth fashion, and you'll be able to see more of the monsters you're doing a maypole dance around thanks to your wider line of sight. Kids these days, they get things handed to them on a plate... ⓦ

Realism? Psh

Special shout to those other FPS techniques that still pop up periodically, even if they're not particularly fashionable. The rocket-jump – sure to get its own entry on these very pages one day – where a player would use the explosive force of a projectile to allow themselves to jump higher. Strafe-running, where inputting more than one direction at once increased your speed thanks to some wacky code maths behind the scenes. And, of course, bunny-hopping, which does still happen, and is both ridiculous *and* annoying. Brilliant!
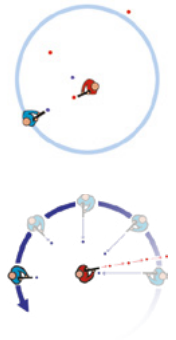
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ON SALE 5 NOV

WORMS RUMBLE

Team17 chat to us about the anarchic sequel – and take us on a tour of the series' long history

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