

ALL FORMATS
116 PAGES MONTHLY

Wireframe

LIFTING THE CURTAIN ON VIDEO GAMES

A woman in a futuristic space helmet and suit, looking out at a planet in space. The helmet is white with orange and grey accents, and the suit is white with orange and grey accents. The background is a dark space with a large planet in the distance.

DELIVER US MARS

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DELIVER US MARS



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Is blockchain really the enemy?

It happened. They did it again. Someone described the blockchain as a solution to a problem that doesn't exist in order to sell someone on the idea of buying into the fad, and now everyone is angry. We really should've seen this coming – I suppose – after the first six or seven hundred times it happened. So... what can we do now but form a collective voice to tell off the dude who said it, repeat the very clear reality of the situation back to them, baulk at the blatant ignorance of tech bros, and move on.

It's a pattern that crops up time and time again, and each time it does, I can't help but think: why are we mad at *this* again? I mean, yes, obviously, NFTs and the blockchain suck. *I get mad at them too.* They pretend to solve issues with current video game infrastructure that is almost entirely fabricated in order to justify their own existence, they're environmentally hostile at best and destructive at worst, and they've proven themselves to be a breeding ground for scam artists and exploitative businesses looking to make a quick virtual buck. It's a repeating pattern of behaviour.

I shouldn't have to tell you how awful they are at this point, though; that's just how it is being a game developer now. Not a day goes by without someone with a surface level understanding of what actually goes into making a video game bursts in with a blockchain-based idea which will "revolutionise the industry", but can also be easily replicated by just using a database. But why are we mad at this? At the end of the day, is blockchain really the enemy here?

Hear me out: NFT profiteers hire Southeast Asian workers to play *Axie Infinity*, where they make money for some dude in America by playing a video game all day because, thanks to colonialism, the labour is cheap and easily exploitable. NFT-centric games aren't made because they're fun, but because a player with personal financial investment is liable to make



DEVON WIERSMA

Devon Wiersma is a level designer by profession and solo game developer by hobby, having shipped titles from *Far Cry 6* to *Bombing!!: A Graffiti Sandbox*.

them way more money. NFT-adopting studios oust game developers who speak out against developing blockchain-integrated content from their positions by the rich white CEOs who are chasing the path of least resistance to more money. NFT design in games hyperfixate on extracting resources from players above all else, and disregard "fun" as a part of the equation.

None of these problems are new, however, and none of it is exclusive to blockchain technology. These are problems that are endemic to our industry and the systems we've already been operating in for years; the blockchain just lays all these wider societal and systemic issues out on the surface where we can see them operating for what they really are.

Game companies outsource massive aspects of production to Southeast Asian workers because, thanks to colonialism, the labour is cheap and easily exploitable. They also develop video games with a laser-focus exploitative retention and engagement mechanics not because they're fun, but because a player who falls trap to them is liable to make them way more money. Developers who speak out about their poor working conditions at game studios are removed from their position by rich white CEOs who are chasing the path of least resistance to more money. And game companies prioritise extracting resources from players above all else, and only integrate the "fun" to keep up appearances, and both game companies and NFT companies do all these things in part because the systems we live in reward profit-centric behaviour without consideration for what (or who) is being crushed by their operation – and no one has yet stopped them.

So the next time we want to get mad at the blockchain and those who support it for doing something stupid (as they surely will), I think we might do better off saving what action we can against these hidden systems of exploitation, that enabled the ethical mess that is the blockchain to spawn into existence. 🗨

#64



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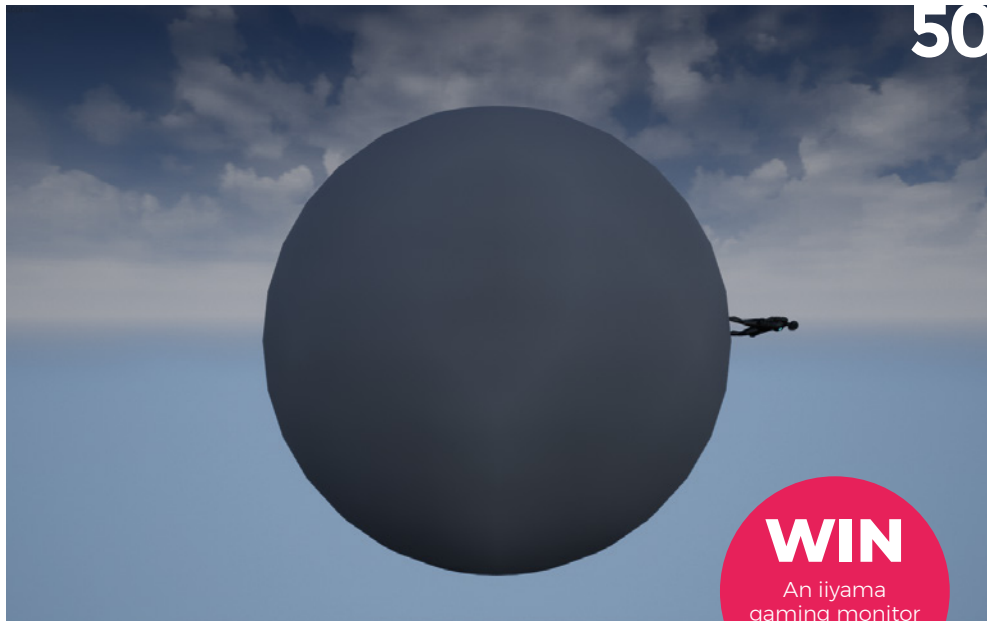
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WELCOME

With *Deliver Us Mars* shining out of the cover, there's a distinct space theme to this month's edition. By a cosmic coincidence, I found myself on the east coast earlier this month, and stumbled on Gray's Amusements in Mundesley – a charming arcade that has a handful of classic, space-themed coin-ops at the back. I made an immediate beeline for Namco's seminal *Galaxian*, and was reminded why playing a game on original hardware is so important to understanding its initial appeal. With those insectoid aliens whirling and shimmering down the CRT screen and the sound of lasers and explosions booming out of the cabinet, it's an entirely different experience from, say, playing a port on a modern handheld or on a PC via MAME.

Released in 1979, *Galaxian* was a pivotal release for Namco: its first global hit, paving the way for the likes of *Pac-Man* and *Pole Position*, and a vital game in the lineage of space shooters. While *Space Invaders* came before it, *Galaxian*'s more advanced hardware kick-started the genre's evolution; from there, we got *Galaga*, *Xevious*, *Star Soldier*, *Ikaruga*, and countless more besides. *Galaxian*'s hardware design even caught Nintendo's eye, and influenced the tech that underpinned *Donkey Kong* and the firm's debut console, the NES.

Between *Spacewar!* (see page 26), *Space Invaders*, and *Galaxian*, the industry owes a huge debt to those early games set in the inky depths of space.

Enjoy the new issue!

Ryan Lambie
 Editor



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JOURNEY TO THE RED PLANET

KeokeN Interactive follows up its 2019 surprise sci-fi hit with **Deliver Us Mars**, a high-stakes interstellar odyssey where saving humanity has never felt so close to home

Science fiction stories often deal with big ideas and grand themes. That a small studio led by two Dutch brothers (who first started out drafting ideas in their kitchen using their sister's whiteboard) could tell such a story on a relatively tight budget was something of a giant leap, then – one that thousands of people on Kickstarter clearly believed in, given they backed their project to the tune of €103,770 in 2016. Fast forward three years since KeokeN Interactive first launched *Deliver Us The Moon*, its modest yet poignant near-future story concerning one lonely astronaut's mission to salvage resources needed to save a depleted Earth, and the team now has its sights set on something bigger.

With a new, fresh-faced protagonist to play as, comes a more personal mission to complete. *Deliver Us Mars* picks up the story roughly a decade on, when Kathy Johanson of the Zephyr space shuttle crew is in search of her missing father.

Finding out what happened to him as well as the ARK colonisation vessels stolen by the shadowy Outward organisation years earlier, however, involves traversing a totally different environment on Mars. To find out how KeokeN Interactive affectionately and realistically portrayed the eponymous red planet, we spoke to studio co-founders (and brothers) Koen and Paul Deetman...

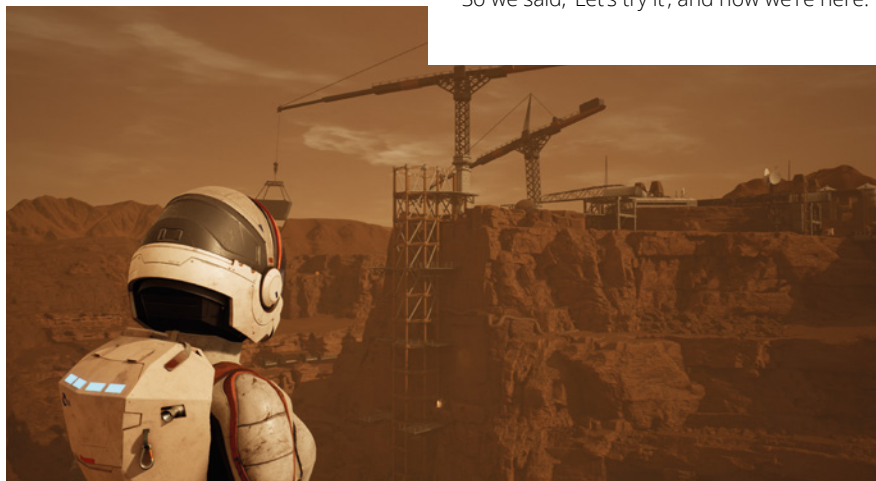


▲ When Kathy arrives on Mars, her first priority is to find an oxygen source. Before long, though, she's powering up mining colony resources – like this rover.

In what ways has the team dynamic and size changed since those early days when you guys were first Kickstarting *Deliver Us The Moon*?

Koen Deetman: With a core team of ten on *Deliver Us The Moon*, we didn't want to increase that significantly because we wanted to stay agile in a lot of ways – in time, budget, and team size. So let's say the core team is around 30 or 40 people. That's the total production team.

Paul Deetman: I think we've always loved blockbuster movies, but also games. And even back in the day, we were recording home videos like *Star Wars* and *James Bond* in our back garden, kind of cutting away VHS tapes and making it happen. Sound effects recorded with our little camcorder... I think that's just resulted in us making this on a bigger level. So therefore, we started on the kitchen table. From there onwards, we started portraying these [larger] than life stories that we wanted to tell. Guerrilla was the only one in the Netherlands doing that. So we said, 'Let's try it', and now we're here.



▲ The Zephyr shuttle crew are called to Mars after receiving a distress signal from ARK colony ships thought to have been lost. Kathy, however, also has a personal mission in mind.



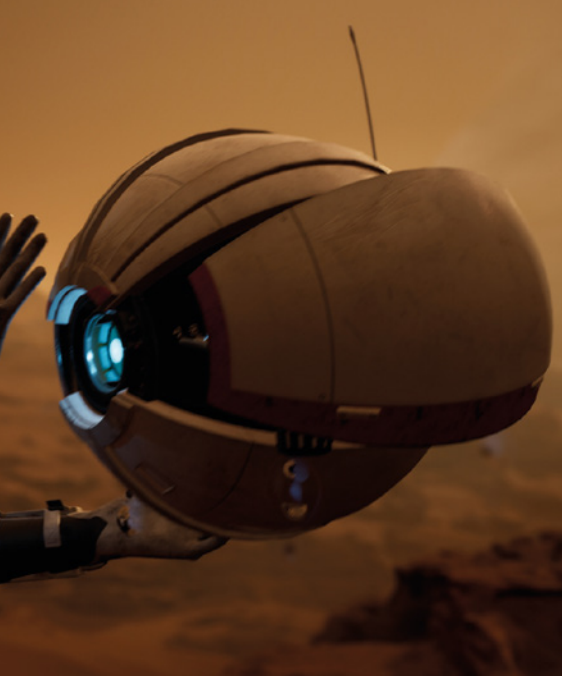
What are some of the benefits of keeping the team small? Because I honestly think people just looking at the game might assume that it's something on a higher triple-A level...

KD: First of all, I think, in general, game development has become a lot easier thanks to massive engines that are globally distributed. Whereas, previously, these bigger studios needed to maintain engine teams and game development teams, so one was either playing or making the game and the other was fixing their engines – that is massively changing right now. But that's more on a practical side. The people we have at KeokeN are very modest people that actually can do a lot more than just their role. So we don't have a specialist in vegetation, for example, but that person would probably be someone who knows how to portray nice lighting, too.

PD: You hear horror stories about massive triple-A studios running with, like, 500,000 people with extreme budgets, [and] maybe not even being that efficient. We're a young, versatile team that can pick up a lot of disciplines, while still keeping a work-life balance in place.

How has the new publishing relationship with Frontier enabled you to potentially accomplish things you maybe otherwise wouldn't have been able to?

KD: So our ideas just go beyond craziness sometimes. Frontier absolutely has enabled us to reach these ambitions. In a lot of ways we stepped up from the first [game], having a very cool cast, a whole new protagonist played by a cool actor [Elise Chappell] that has played in some Netflix series. And that's something we previously couldn't



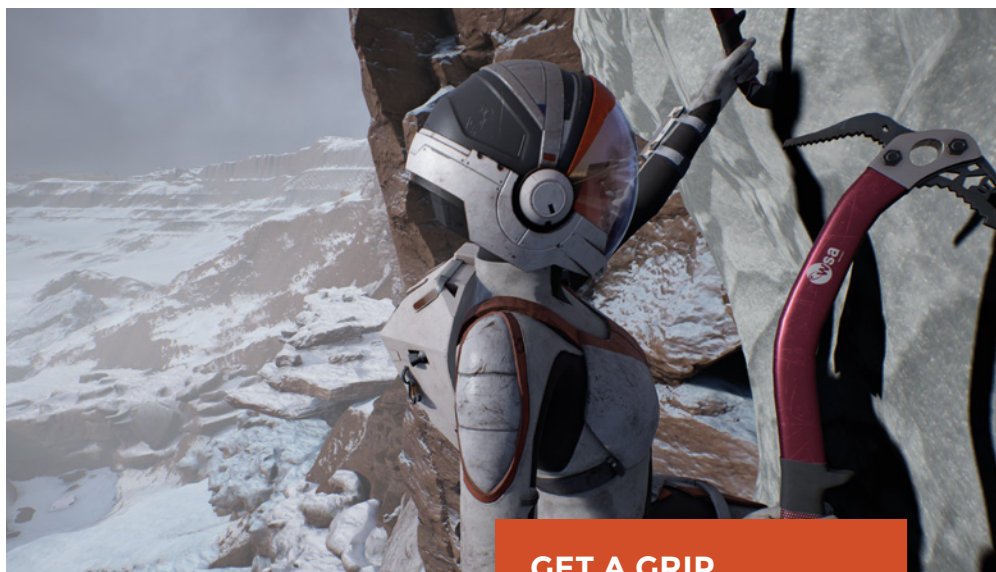
have done. We could only dream about it. But the fact that it opened up through working with Frontier? Yeah, it was amazing.

PD: We try to maximise the ambition that we have with the resources at our disposal. Frontier has helped us make that bigger step we were dreaming of. It helped us on every step so we could make a huge leap forwards in the way we tell these blockbuster stories.

What's the appeal in leaning into a more grounded take on sci-fi, as opposed to something more fantastical?

KD: Well, our granddad was a telescope builder, and when we were very young, he showed us the Moon up-close with his own telescope. Then again, being fans of *2001: A Space Odyssey*, *Interstellar*, and *Gravity* gave us the idea that there wasn't too much [of it] around. Of course, sci-fi quickly jumps into lightsabers because you can tell a more fantasised, bigger story that could give a lot of character to the universe. But this time around, we like to keep it grounded. It's also sometimes fighting against us, but it's a very good challenge to make something engaging and grounded. Of course, not everything is grounded. We need to keep it playful in some ways. There was once a guy who said, 'Oh, it's not very grounded because it takes a lot longer to go to the Moon'. Now, of course, we could give you an eight-hour ride to the Moon's surface, sure, but it should also be playable.

PD: I think it lends itself well here, especially because with the realistic graphics we're going for, it makes sense to stay grounded, but then also the story needs to be a little bit more plausible on the reality side of things. There's also so many fantasy sci-fi



stories [already] – nothing very close to reality or very close to the future that may come. And we kind of wanted to intertwine what's happening with our Earth right now with the story. It's kind of like what *Black Mirror* does. What if this is the future? What are the pros and cons from that moment? That's what we tried here as well.

Was having Mars as the setting for the sequel always guaranteed, or were there other planets you considered?

KD: We've seemed to hit at the right moment. The space agencies are ramping up and wanting to go to Mars, so it's kind of evolved through that hype.

PD: It ties into your previous question. It's a logical step forward that needs to [happen], and if we did go outside of our solar system, it probably wouldn't really fit the timeline. You could make it work if you skip some timelines here and there. But it was more obvious to us that we needed to go to Mars in this one. And now, again, with SpaceX and Elon Musk going there, I think it's actually a great fit; we are a little bit ahead of that, seeing what may come on Mars.

In what ways has the new Martian setting influenced or inspired new gameplay mechanics?

KD: What's interesting about our game is that we don't necessarily have any immediate violence that is acted out by the character herself. So if we want to create

GET A GRIP

One of the major changes *Deliver Us Mars* makes to traversal relates to the addition of climbing. Whereas the first game's Moon was relatively smooth to navigate – by foot or rover – due to its flat surface, the sequel will frequently test your ability to clamber over the red planet's rough terrain using Kathy's two pickaxes. KeokeN brings a surprising level of challenge to these sections by tying the left and right pickaxe to the controller's corresponding triggers. It's wise to never let go of both at once on most occasions, but confident players can time their drops creatively when they want to scale tricky climbing routes that bit faster.

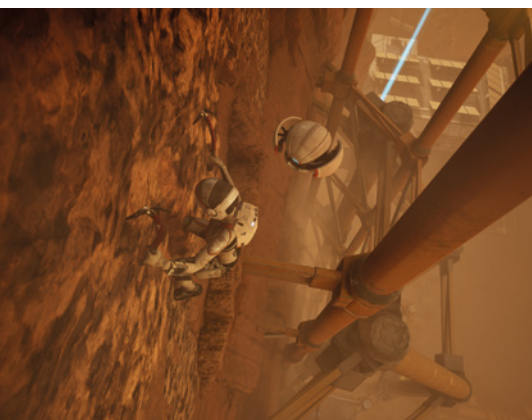
any conflict, resolution, or resolve, [nailing] the sense of danger is a tough one. In our previous game we had a lot of timers, and we weren't too fond of those. So to enable players to feel a sense of danger, we thought, 'How can we make people feel as if they're traversing the landscape in a dangerous way?' Not only by having oxygen, but maybe having to really hold on when you're climbing these areas. Practically, there's that sense of danger of holding on and trying to get to safety. It also immediately [conveys] the verticality of our game, not using only stairs or elevators, but also having the ability to navigate these human-made structures and have them be part of your progression. But yeah, you feel more a sense of adventure and danger ➔



SPACE EXPERT INSIGHTS

Kathy's journey to discover what happened to her lost father, Isaac, might be entirely fictional, but the version of Mars depicted in-game has been informed by real-life scientific study and research in the pursuit of creating a grounded adventure. "We spoke to a lot of experts," reveals Koen Deetman. "Speaking to biologists and people that are big on planetary colonisation about: How does that evolve? Is it possible to grow stuff there?"

The team even had the opportunity to pick the brain of retired astronauts, like The Netherlands' own André Kuipers. "I know he's very big on the overview effect that space had on him when he was aboard the ISS," Paul Deetman continues. "They look back on Earth and we see the pictures. It's great, but there's also this very eerie feeling, seeing our home and our planet so small, and see what we are doing to it. That's something we also wanted the characters to have."



▲ Climbing as a movement mechanic is something newly added for this sequel. Your pickaxes can only be dug into certain surfaces, so pay attention if you don't want to fall.

while trying to get off a cliff or having that vertigo feeling.

PD: We really wanted to expand on what we did with *Moon*. All this stuff was there that people really liked, like the laser cutting and cutting things open. To expand on that sense of adventure, climbing was a logical way to see how can we make it even more of a 'Tomb Raider in space' adventure. Climbing was just the right step.

What sort of new puzzles can players expect to tackle, and how will they evolve as the game goes on?

KD: In the first game, we learned a lot from the one-off [puzzles]. Not only were those expensive to create, though, but we now wanted something of a reproductive thing throughout the experience that players can also learn and take from. It gave the designers the ability to craft more interesting puzzles, yes, but also brain-teasers that players can think through. Most puzzles in *Moon* were straightforward, and most things were the same or were used the same. In this one we could have potentially increased the difficulty, but there's also different solutions sometimes to go through the environments. That gives a bit more personality to the experience.

PD: Yeah, we try to onboard the player very playfully. Step by step you get more mechanics that eventually you need to use in these environments; environmental hazards are popping up in the puzzles

that you need to do. Sometimes it's a combination of having a bit of climbing, then you need to solve something until you reach the conclusion. So yes, we'll ramp up the difficulty throughout the game. It's a tutorial, but it's done in a more playful way, woven into the narrative where you're like, 'Ah, it makes sense that we now get the pick-ups for the first time, and now we'll learn a little bit how that movement is working'. Later on in the game, there's more combinations between these moving elements – climbing and all these things.

Deliver Us Mars features more emphasis on character and story than the first game. Why did you decide to go down this route?

KD: *Deliver Us The Moon* was set up to be very grand in scale. It being our first game, we were bound to certain ways of developing. We, of course, would have loved to have an extensive cast in there; it wasn't something possible yet in the first one. This time around, with *Deliver Us Mars*, aside from the mission statement and general feel of it being a space game and a hard sci-fi game, we wanted to give players a more close-to-the-heart understanding, and what better way is there than talking about a family? Everyone comes from it; everyone has their struggles with it, and ups and downs. We thought crafting a story around the Johanson family that has a nice setup in *Deliver Us The Moon*... that's where it starts. Of course there are sisters, Kathy and Claire, and they're a product of their father who crafted the whole MPT system, which was a good story to go deeper on.



PD: I think a story among the stars is so huge that we picked the family as a more intimate storyline that everybody can understand. Not everybody understands what it's like to be among the stars, but everybody does understand this family matter. There will definitely be moments where you feel extremely isolated throughout the story, but it's in a different way [to the first game] because we have way more characters now. It's not that you're on this mission alone, because you are in a team, but there are moments where you might feel alone, and not only literally but also more in terms of emotion.

How crucial will finding audio and text logs be for those wanting to uncover more of the story?

KD: Whereas holograms served as a deeper backstory to players in *Deliver Us The Moon*, this is merely the beginning in *Deliver Us Mars*, where that's absolutely something they're also going to be seeing more of, learning what happens on Mars and maybe even beyond. But the fact that we now have a cast, we could practically have drama play out around [the player]. We kind of developed almost an entire movie throughout the game as well. It's absolutely all the gameplay and the mechanics, but there's also an intriguing movie that plays around it. Cast members, such as our protagonist and lead actor, have really given that a deeper sense of meaning in multiple ways and even brought me to tears a couple of times. I went to one of the actors and said, 'I'm sorry that you had to go through

this', and she was like, 'Oh no, that's all fine. You're OK. That's my job'.

PD: We felt responsible for those real emotions. Or at least what we thought were real emotions... With the routes you're following, along with side routes, we really encourage you to explore more. There can be stuff to find out in messages, but it can also lean more towards environmental storytelling, or even Easter eggs of the movies and games that we love, or maybe things that refer back to the first one.

Mars is called the red planet for a reason. Was it challenging to try and keep it visually interesting?

KD: I have to say that Mars at night is something mesmerising to see, so that's something we took from the actual science. Of course, [for inspiration] we have to rely on those rovers that are out there right now. But that's an interesting way that maybe people haven't seen Mars yet. Then again, we had a very, I would say, chronological order in *Deliver Us The Moon*, and we moved away a little bit from it. To tell a story like this, you might also see some deeper understanding of the uncertainty unfolding back on Earth; maybe not only in the current timeline, but in flashbacks, for example. That's something we're doing, and it also plays back into our deeper meaning or message in the game about the environment and the climate.

We wanted to show people how Earth evolved into this hard-to-live-on planet that already started in the first game, but maybe it's being emphasised even harder with



▲ Much like in the first game, Kathy is assisted in her mission by a floating robot companion known as the ASE. At certain points, you'll complete puzzles using it from a first-person view.

what it has done to our planet in *Deliver Us Mars*.

PD: Yeah, with *Moon* being chronological, eventually you are at the Moon and it's a lot of facilities and a lot of greyness of the [planet]. Very early in development, we were thinking about how we could really emphasise this visual adventure. How can we see multiple environments, where it goes from our red planet, to maybe underwater, to more of an icy thing? Therefore we threw away the chronological timeline and played around with how we could make this a visual adventure where you don't only feel that you have been stuck to Mars the whole time, but you can be completely blown away by these new environments.

What's one thing you hope players feel when exploring your take on Mars?

KD: I think they have to brace themselves for a very deep emotional ride, and I hope it gives them an out-of-this-world experience that they haven't seen before. 🌍

Deliver Us Mars launches on PC and consoles on 27 September 2022



Exploring un-fur-miliar territory

Survive a dystopia of cat-astrophic proportions in *Stray*, BlueTwelve Studio's feline adventure-platformer

Info

GENRE

Action-adventure, platformer

FORMAT

PC / PS5 / PS4

DEVELOPER

BlueTwelve Studio

PUBLISHER

Annapurna Interactive

RELEASE

19 July 2022

SOCIAL

@HKdevblog

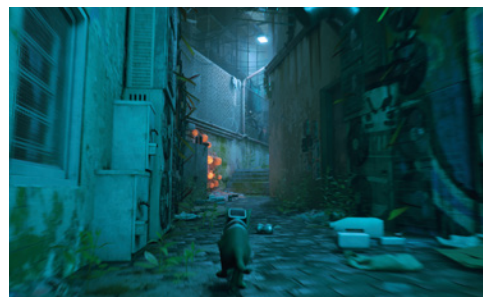
If curiosity really did kill the cat, then nobody told the well-groomed, ginger protagonist at the centre of BlueTwelve Studio's cyberpunk adventure. Originally revealed alongside the PS5 during

Sony's 'Future of Gaming' event two years ago, the cat-based antics of *Stray* has had players on hot bricks – aching for just the slightest snippet of more information – ever since. Well, the titular feline finally creeps their way onto PC and consoles later this month, and judging by what we saw during a recent hands-off demo, this decidedly paw-some expedition comes within more than a whisker of greatness.

We presented Swann Martin-Raget, the game's producer, with the simplest of questions

to start off with: why a cat? "Part of it is that I think about 80% of the team are cat owners, or have been owned by cats," he jests, "depending on how you look at it". More so than the inherent cat-lover appeal, though, the germ for the concept that would eventually form *Stray* wasn't inspired by the animal, but rather the location it ends up roaming. Studio co-founders Viv and Koola were transfixed by Kowloon Walled City, which no longer exists but was at one time Hong Kong's most densely populated area. "It's a unique and interesting place where the constructions are super-detailed," continues Martin-Raget. "So it was a fascinating site for them as artists, and really inspiring."

The complex construction of Kowloon Walled City proved to be catnip for BlueTwelve Studio, which soon got to work imagining what it would be like to navigate such a crowded space. The only problem was that doing so as a human would have felt as cramped as it once did in reality, and thus the idea for a game where players could roam around a multi-layered metropolis as a cat was born. Whereas exploring a city from a typical person's perspective is a well-established prospect, however, seeing these sights from a cat's-eye view required a whole new school of thought.



► Being at ground level lets you experience what would otherwise be a familiar environment from an all-new perspective.



- ◀ These sentient Zurk creatures are often the catalyst for *Stray*'s handful of chase sequences.
- ▼ BlueTwelve went through the great length of inventing its own in-game alphabet, which it hopes players will be able to decipher.



"Usually, in other games, when you want to decorate the place, you just add stuff that's pretty," Martin-Raget says. "So an air-con unit, a pipe, or something that will go through a building... In our case, anything you add is a platform or potential path that the player is actually going to want to cross and want to reach at some point."

This approach required a lot of playtesting and iteration, if only so players know where they can and can't go. "We have to really work on designing feedback, to make sure that players really understand what's possible. That's a very specific challenge to this game that was quite different from other projects."

At least BlueTwelve made the decision early on to fictionalise *Stray*'s setting rather than slavishly follow the real-life one. This alone has allowed for a far greater level of creative freedom. The neon-lit cityscape the cat explores has become so intertwined with the game's identity; it's hard to believe that this too came from the need to overcome production constraints. "[With] humans being really hard to do properly and us having quite a high standard of visual representation, we just started to experiment with robots that would be easier to make and animate," says Martin-Raget.

The cybernetic citizens that inhabit the city further add to the mystery *Stray* weaves. Because while on the surface it might seem like the journey of a lost cat trying to get back to

his family, players wanting to know more about how this world came to be are encouraged to explore deeper. Your flying AI companion B-12 can help you communicate and interface with your surroundings, sure, but environmental breadcrumbs worth seeking out are everywhere. Players may wish to know more by collecting memories that contain snippets of interesting data, or piecing together the fictional in-game language that the robots use to communicate, which BlueTwelve created itself.

As one of the earliest PS5 games shown, it isn't surprising to see *Stray* take full advantage of the PS5 DualSense controller's haptic feedback capabilities. "When the cat is sleeping, it is actually purring," Martin-Raget

"Eighty percent of the team are cat owners, or have been owned by cats"

explains. "You have the sound coming out of the gamepad, alongside subtle vibration that really feels like you have a cat in your hands." Small details like this, combined with a smooth 60 fps and a complete lack of loading times – unless you fail during the many chase sequences – were core to keeping you immersed as a cat in a dystopia. "It's that sort of unbroken experience that really lets you step into a world."

A lot of attention to detail has gone into *Stray* – a feat made even more impressive by the fact that it's the passion project of a team comprised of just 25. Fortunately for BlueTwelve, this passion will surely be matched by cat lovers everywhere when it finally releases. 🐾

KEYFRAMING A CAT

Stray's cat moves so realistically that you'd be forgiven for thinking that the studio implemented mocap tech to portray its specific hops and strides. In actual fact, it's the effort of just one dedicated animator. "Miko is really talented and fluent with keyframe animations, like hand-made animation," says Martin-Raget. "It seems like the internet was basically invented to host cat pictures and videos, so it's really easy to find anything you want. Miko became a specialist of old cat videos at some point. That was definitely very important in the process, and the iterations between code and animation were crucial."



World of pure imagination

Happy Juice Games introduces *Lost in Play*, its interactive point-and-click adventure that functions like a playable cartoon

Info

GENRE

Point-and-click adventure

FORMAT

PC

DEVELOPER

Happy Juice Games

PUBLISHER

Joystick Ventures

RELEASE

10 August 2022

SOCIAL

@HappyJuiceGames

Looking at the images dotted around these pages, it'd be easy to assume *Lost in Play* is a charming new children's cartoon coming to a TV network near you. In fact, it's the creative vision of Happy Juice Games, a tightly knit studio comprised of former animators based in Israel who, not so long ago, decided to turn their talents to the point-and-click adventure genre. By doing so, it hopes to rekindle the feeling many of us first experienced as kids when tapping into our own childhood fantasies. If you ever picked up a tree branch and used it as a sword or built a

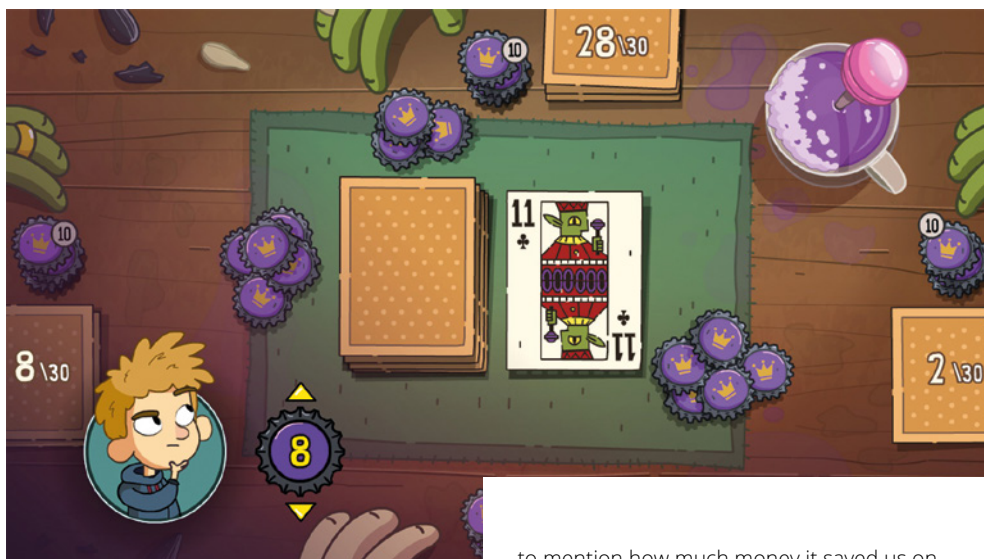
castle fort out of pillows, you'll recognise plenty in Toto and Gal's imagination-fueled adventure.

The team didn't have to look far when seeking inspiration for such a relatable concept. "Having young kids of our own and watching them get totally immersed in playing make-believe games made us want to capture that feeling we also remember growing up," says developer and Happy Juice Games co-founder Yuval Markovich. "The storyline includes many situations between Toto and Gal, ranging from fighting each other to being totally in sync, which we took from our own experiences playing with our siblings growing up. Working so much with a story like this one sure brings out the different nostalgic feelings we still carry from playing with our own siblings, knowing that there was a type of connection and shared imaginary world that you can't get back as an adult."

Much like any brother-and-sister dynamic, though, *Lost in Play*'s two protagonists won't always see eye to eye. As a result, at various points in the story, this fraught relationship will see them split paths, letting players experience two sides of their journey before watching Toto and Gal slowly come together again. Depicting this sibling rivalry with such accuracy was crucial to let the team further tap into a whimsical sense of camaraderie, as well as imagination. "Toto, the older brother, is more timid and introverted," Markovich explains.



▲ *Lost in Play*'s tutorial puzzle sees you gathering the materials necessary to begin a fantastical tea-party.



◀ Acquiring key items in *Lost in Play* will often require Toto and Gal to think smartly in one of 30+ different puzzle types.

“He tries to avoid conflict and would rather run than engage.” And his younger sister? “Gal is much more outgoing, silly, and brave. She often plays tricks on him and always tries to push him out of his comfort zone.”

The pair’s vastly different personalities even play into the obstacles featured throughout. Because unlike a lot of point-and-click adventure games which have you

connect key items to a specific place in order to progress, *Lost in Play* merges this classic approach to story and exploration with a wide range of different puzzle types. From playing a game of chequers with an owl to win a screwdriver you require, to shifting gears in the correct manner in order to fix an alarm clock you need to wake somebody up, Happy Juice Games has cooked up plenty of creative conundrums for players to overcome.

“We playtested our game a lot and tried to avoid illogical solutions in the point-and-click puzzles,” says Markovich of perfecting the game’s difficulty level. “We always use the example from playing *Monkey Island* where you need a monkey and use it as a monkey wrench. Growing up in a non-English speaking country, that example never made sense to us, and it was frustrating.”

This unique nitpick inspired the team to use a made-up language for characters to communicate; it would also ensure *Lost in Play* would be just as approachable anywhere in the world. “We love using visual storytelling over spoken dialogue. It makes the game much more universal in its appeal – plus it’s fun!” Turns out there was another specific benefit, too. “Not

to mention how much money it saved us on localisation costs,” he chuckles.

Whereas a lot of modern point-and-click titles tend to look backwards for their art style approach to try and be faithful to genre entries from the eighties and nineties, the exact opposite is true of the aesthetic Happy Juice Games wanted to evoke. There are no blocky sprites or polygons to be found here; instead, *Lost in Play* owes a great debt to the modern, Cartoon Network era of 2D animation. With the team’s

background, this seemed like a natural choice, with Markovich and his collaborators making the animation feel more like

the kind you’d see on TV rather than in games. “It’s definitely challenging and time-consuming,” he says, “but we do have over twelve years of experience animating for broadcast television in Israel. We used the same approach that we used for animating shows.”

The result is an adventure game that doesn’t look or play much like a conventional game at all, yet still offers plenty of calls for imaginative adventure. Whether you’re a kid or a kid at heart, the story of Toto and Gal should prove a tough one to resist. 🗨

“We tried to avoid illogical solutions in the point-and-click puzzles”



▲ Of all the idiosyncratic characters you meet along the way, a man in a duck suit manages to feel equally surreal.

MAKING PERFECT PUZZLES

Lost in Play is brimming with so many ideas that reflect the characters’ own imaginations, it was a challenge for Happy Juice Games to whittle them all down. “We would do a quick sketch of an idea and know pretty fast whether or not the scenario works for us,” says Markovich. “Puzzles we were sure would work didn’t, and others we thought wouldn’t be that good turned out to be the best. You can never really know before you’ve tested them on actual players.” Making the puzzle relevant to the story also helps players make visual sense of what the solution could be. “For example, when the siblings try to catch a frog, we created a board game where each sibling is a pawn trying to corner the frog the game controls.”



Carnival of Souls

Reply Game Studios take us behind the scenes on its upcoming hack-and-slash, Soulstice

Info

GENRE
Hack-and-slash

FORMAT
PC / PS5 / XB S/X

DEVELOPER
Reply Game Studios

PUBLISHER
Modus Games

RELEASE
20 September 2022

SOCIAL
@Modus_Games

Developer Reply Game Studios may be based in Italy, but its latest game's soul is rooted firmly in Japan. A dark fantasy hack-and-slash, *Soulstice* looks and plays very much like *Devil May Cry* and *Bayonetta*; it's a game that thrives on fast combat and devastating, satisfying combos. Fabio Pagetti, *Soulstice*'s creative director, is unabashed about the game's far-eastern influences: beyond video games, its characters and location are heavily inspired by anime and manga. "Here at the studio, we are all into dark fantasy – Japanese dark fantasy in particular," Pagetti says. "Any *Berserk* or *Claymore* fan will be able to see that our game is a heartfelt tribute to those worlds and characters. I think 'tribute' is a key word here, because as much as we love those works, I

didn't want the team to copy them or their style. We're Italian, and I knew that we'd have to find a way to elaborate on those references while also staying true to our own style and heritage."

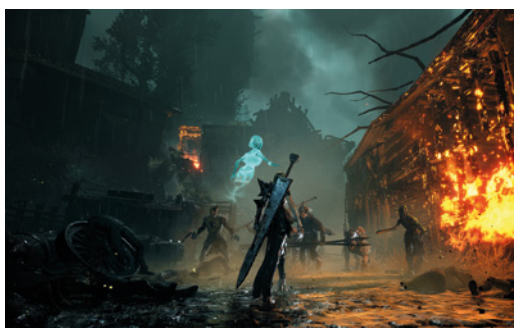
Soulstice tells the tale of two sisters with a particularly fantastical relationship: one, named Briar, is mortal, and skilled at wielding a gigantic sword. Her sibling Lute, meanwhile, is a ghost, and gives Briar superhuman strength via a crystal planted in her chest. It's a pairing that gives the game a twist to its combat: while Briar deals physical attacks with her sword (and other weapons acquired as you progress), Lute can weigh in with her supernatural abilities. "Briar doesn't simply react to what happens on the battlefield: she's free to set the pace and drive the action because her sister Lute is there to assist and protect her with her powers and abilities," Pagetti tells us. "As such, Lute excels at crowd control, counters, and some ranged attacks. Some of Lute's actions are contextual and can be customised through a system of powers and traits, while others require direct input from the player."

In terms of difficulty, don't expect the punishing brutality brought into vogue by FromSoftware's output; instead, its combat is more akin to the "free flow" of western titles like *Batman: Arkham Asylum* and *Middle-earth: Shadow Of Mordor*, says Pagetti. "Regardless of that 'Soul' in our title, ours is a [pure] character



▲ *Soulstice*'s creative director and studio manager at Reply Game Studios, Fabio Pagetti.

▷ Collectively known as a Chimera, Briar and Lute will encounter a wealth of horrifying enemies on their journey.





action game. It has style, combos, ratings, over-the-top boss fights, challenges... There will be several difficulty levels to make sure that everyone can enjoy the experience too. Those who are more into the story and the characters can choose to start the game on the Easy setting, while seasoned players looking for a challenging and rewarding experience with a deep combat system won't be disappointed."

SOUL SURVIVOR

Compared to its previous game, the VR title *Theseus*, *Soulstice* represents a major step up in scope – meaning the studio itself has had to grow in size to meet the demands of development. "With the release of our previous game, *Theseus*, we had a team size of 13. However, as we began preparing for *Soulstice*, we knew that we would have to ramp up our workforce significantly. At one point we were close to surpassing a 50-person team, with 15 external collaborators who had been working closely with us throughout the entire project."

This larger team has spent the past four years refining what Pagetti describes as a "double-A" action game: an experience that can hold its own against some of the finest titles that have emerged from Japan in recent years, such as *Nier: Automata* and the aforementioned *Bayonetta*. Certainly, *Soulstice* looks the part

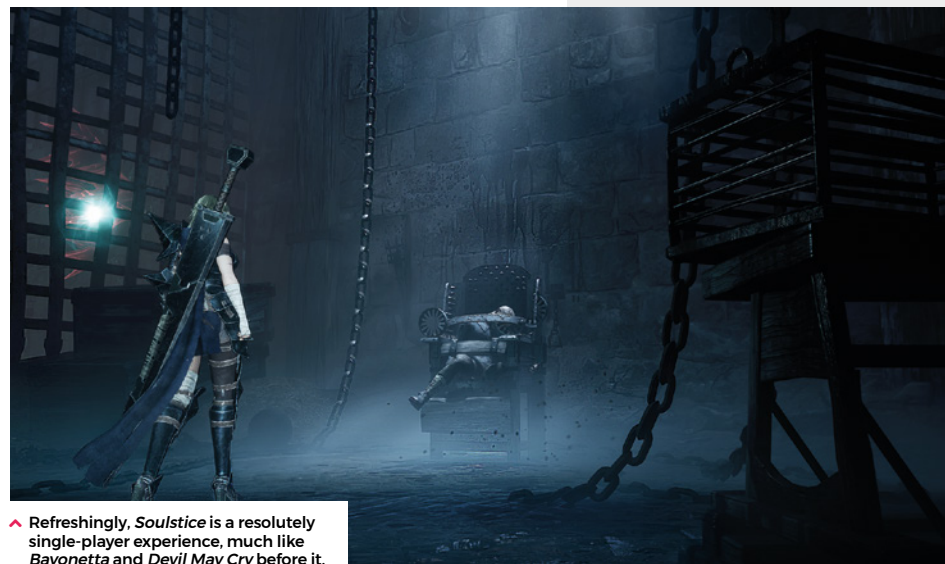
"We're pushing the limits of current generation consoles"

based on the hands-off demo we've seen so far: its setting, the benighted, monster-infested city of Ilden, is a strikingly oppressive cluster of medieval-inspired towers and eerily deserted streets. The creatures that emerge from its shadows are a varied bunch, too, ranging from hideously mutated townsfolk to huge, more outlandish bosses, such as a giant, shrieking, disembodied head. *Soulstice* targeting current-gen systems has allowed its developer to pack plenty more detail and atmospheric effects into the game, Pagetti tells us. "Even though the graphics in *Soulstice* aren't photorealistic, we're pushing the limits of current generation consoles," he explains. "The character action genre requires some *really* solid performance, and we still want the game to look and feel great with its art style. This is a new-gen game, through and through."

With *Soulstice* due to launch on 20 September, Pagetti and his team are concentrating on bug fixes and overall polish. It's a "big game for a team of this size", Pagetti admits, but like the fighting duo in the game itself, Reply Game Studios has battled through a wealth of challenges – not least a global pandemic – to make its hack-and-slash opus. To quote a line from *Soulstice*'s trailer: "As long as we're together, we're not going down..." 🗨

I FOUGHT THE LORE

Forming the backdrop for *Soulstice*'s pacey combat is a dark fantasy world that's less heightened than *Lord of the Rings*, Pagetti says, and "similar to our Middle Ages", albeit with a supernatural edge. A 'Tear' has opened up in the sky above the city of Ilden, allowing evil forces to engulf the streets below. It's here that Briar and Lute, as members of a force known as the Order of the Ashen Blade, come in. "The relationship between Briar and Lute is the heart of the *Soulstice* experience," Pagetti explains. "From the very beginning of this project, we envisioned them as a representation and a metaphor for the world in which they live. The conflict and the duality between the worldly and the otherworldly."



^ Refreshingly, *Soulstice* is a resolutely single-player experience, much like *Bayonetta* and *Devil May Cry* before it.

That was the month that was

02



01



01. Summer Space Fest

Presenter Geoff Keighley took to our screens to introduce this year's two-hour Summer Game Fest, and it's fair to say that a trend emerged: space horror. Glen Schofield-fronted developer Striking Distance Studios showed off some gameplay from its much-anticipated *Dead Space*-like, *The Callisto Protocol*; there were similar astral terror vibes coming from *Fort Solis* (starring Troy Baker and Roger Clark, actor fans), and also from *ROUTINE*, a space thriller announced ten years ago and unexpectedly resurfacing in AD 2022. Then there was the space horror strategy of *Aliens: Dark Descent*, the sci-fi RTS *Stormgate*, and the space-themed RPG *Honkai: Star Rail*. "Yeah, a lot of space today," Keighley tittered nervously. You're not wrong, Geoff.

02. More Kojima

One of the more eye-catching announcements in June's Xbox and Bethesda Games Showcase was Hideo Kojima's partnership with Microsoft. The Japanese auteur is working on a so-far unannounced project with Xbox – one that will use its cloud technology. "It's a completely new game, one that no one has ever experienced or seen before," Kojima said during the showcase, implying that what he's working on isn't a sequel to *Death Stranding*. Days earlier, reports surfaced that *Death Stranding* actor Margaret Qualley is set to star in Kojima's next game, a horror outing called *Overdose*. Could this and Kojima's Xbox project be one and the same? We'll have to wait and see.

03



03. Elsewhere in Xbox/Bethesda

Kojima's mystery project aside, Xbox and Bethesda's showcase was so stuffed with announcements that it started to make us feel a bit dizzy after a while. The short version is: there's a metric ton of great-looking games coming to Game Pass over the next twelve months, including *Hollow Knight: Silksong*, *A Plague Tale: Requiem*, *Overwatch 2*, *ARK 2*, *Diablo IV*, and Team Ninja's latest hack-and-slash, *Wo Long: Fallen Dynasty*. Oh, and then there was the gameplay reveal for Bethesda's much-anticipated *Starfield*, which looks like the sort of game that will consume months of our lives when it emerges in 2023.



Xenoblade Chronicles 3 Special Edition announced; Nintendo's shop melts under load

S.T.A.L.K.E.R. 2 unsurprisingly delayed again; now due 2023

04



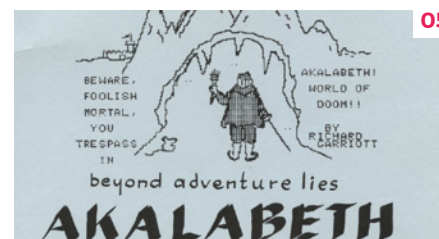
04. More Cause

There's another *Just Cause* game in the works, Square Enix has announced. This comes in the wake of Squeenix's recent mass sell-off of game studios and properties to Swedish holding company Embracer Group. Avalanche Studios wasn't included in the sell-off, however, and boss Yosuke Matsuda revealed in early June that Square Enix retained the *Just Cause* IP, adding, "we are at work developing a new title in the franchise". Will it be a smaller spin-off, like the previously announced *Just Cause: Mobile*? Or will it be a mainline sequel that recaptures the glories of *Just Cause 3* after the alright-but-not-great *Just Cause 4*? More as we get it.

05. Un-PC

There was consternation among collectors of classic PC games in June, as it emerged that a number of rare and expensive titles circulating around the community were counterfeit. The news broke on the Facebook group Big Box PC Game Collectors, when its administrator Kevin Ng acquired a number of early PC titles – among them Richard Garriott's first effort, *Akalabeth* – and realised that they were fake. Tell-tale signs included blank discs, misprinted or oddly-cut labels, and suspiciously new-looking packaging. Exactly how many fakes are in circulation isn't currently known; according to PC Gamer, one group admin said they've "identified at least \$107,000 of suspected counterfeit transactions so far", but the rot may potentially be even more widespread. Yikes.

05



06



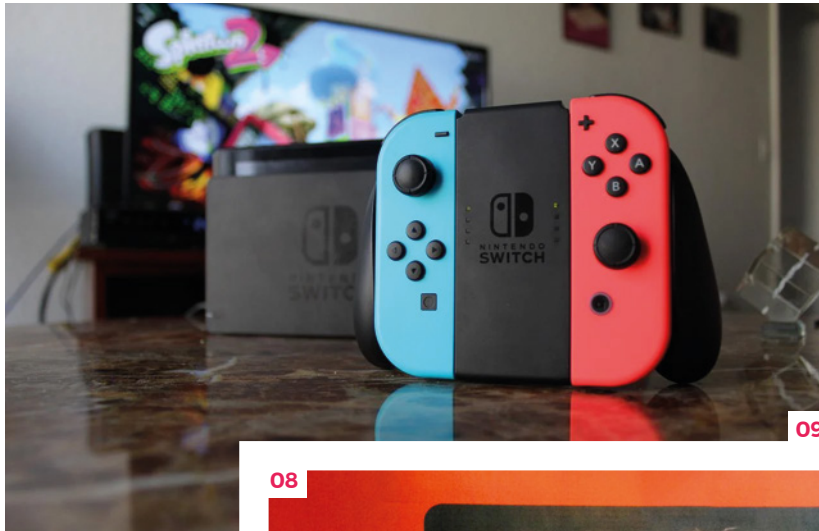
06. More Mega

If you don't have enough retro devices cluttering up your shelves already, there's good news: Sega has announced the Mega Drive Mini 2, a sort of hardware sequel to the first mini device it launched in 2019. Logically enough, the Mini 2 is modelled after the second iteration of the Sega Mega Drive, and comes with a selection of 50 games that weren't on the first device. Several of these are Mega-CD titles, with those announced so far including *Sonic CD* and *Popful Mail*. The Japanese-leaning nature of the installed games makes us wonder whether the Mini 2 will appear in the west, but time will tell. The device releases on 27 October 2022 for around £60.

Konami to close *Super Bomberman R Online* on 1 December 2022



Street Fighter 6 will let you make funny faces at your opponent. At last



09



07

08



07. Crypto-chef

Celebrity TV chef Gino D'Acampo has announced his latest venture: a play-to-earn game called *Gino's Big Town Chef*. In it, you'll be able to grow your own produce, trade ingredients with other players, and "compete in cook-off battles". But because it's 2022 and non-fungible tokens are just about inescapable, *Big Town Chef* is built using blockchain tech, which means that everything – from your chef avatar to produce to the land you grow things on – is an NFT. *Big Town Chef* therefore joins *Axie Infinity* in that growing genre we're calling "faintly depressing games that might somehow make you some money one day".

08. RIP: Hidekazu Yukawa

Former managing director of Sega, Hidekazu Yukawa, has died at the age of 78. Yukawa passed away last year following a bout of pneumonia, but his family opted to keep the matter private until more recently. Yukawa was a prominent figure in the Dreamcast era, appearing in adverts and on the console's boxes in some instances. His fame was such that he even appeared in games: he made a cameo in a *Shenmue* demo and even got his own puzzler, *Yukawa Motosenmu no Otakara Sagashi*. Rest in peace, Mr Yukawa.

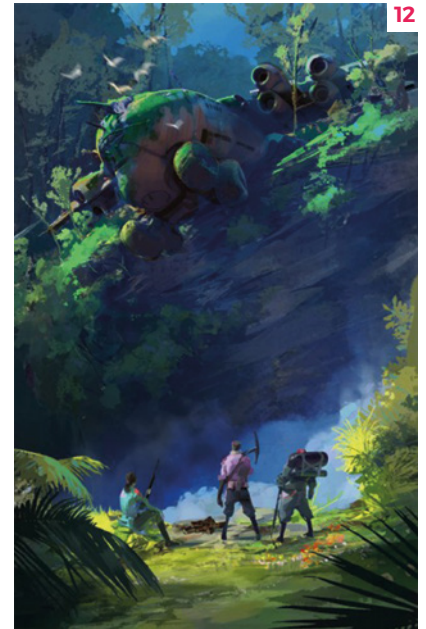
09. Kill Switch

Last year, Nintendo sued prominent hacker Gary Bowser, a member of a team that created a tool that circumvented the Nintendo Switch's anti-piracy measures. Nintendo successfully argued that Bowser and his collaborators' exploits had cost them millions, so he was slapped with jail time and fines amounting to around \$14 million. Court documents recently discovered by Axios, meanwhile, reveal that the "unpatchable" exploit forced Nintendo to release an updated, less easily hacked version of the Switch in 2018. Which might explain why early models of Switch are going for startlingly high prices on eBay of late...



Final Fantasy XVI due to launch in summer 2023. Mark your calendars

Resident Evil Village in development for PS VR2. Wear your brown trousers



10. Fallout 76's fallout

Fallout 76 quickly became infamous for its litany of bugs on release in 2018, but it's only recently that the human cost behind its troubled development has come to light. Kotaku's Sisi Jiang spoke to a number of former Bethesda employees who shared their stories of exhaustingly long working hours and alleged mismanagement. QA testers had a particularly rough time according to the report (wfmag.cc/fallout76). "No one wanted to be on that project because it ate people," summed up one interviewee. "It destroyed people." Days after the report emerged, *Fallout 76* expansion *The Pitt* was announced. Er, enjoy, we guess.

11. Duke Nukem: The Movie

In further proof that we're collectively living in the weirdest possible timeline, The Hollywood Reporter revealed in June that Hollywood studio Legendary Entertainment has the rights to make a movie based on Duke Nukem. The erstwhile hero of nineties first-person shooters saw a major fall from grace thanks to the long-in-gestation and entirely terrible sequel, *Duke Nukem Forever* – and that was way back in 2011. The minds behind the *Duke* movie, however, are the creators of *The Karate Kid* TV follow-up, *Cobra Kai*, so maybe the movie adaptation won't be too awful, after all. Assuming it actually happens.

12. Prime Directive

Amazon Games has had some mixed fortunes when it comes to its recent crop of online games. *New World* received a cold reception; the *Overwatch*-like multiplayer shooter *Crucible* was shut down within months of launch in 2020; online brawler *Breakaway* was cancelled before release in 2018. Amazon still has more projects on the boil, though, including its upcoming *Lord of the Rings* MMO and now a new joint venture with Disruptive Games (*Diablo II: Resurrected*). Amazon Games vice president Christoph Hartmann describes the project as a "multiplayer action-adventure", while concept art shows a trio of humans standing in the shadow of a crashed, moss-covered plane in what appears to be a rainforest. Could it be the Amazon?

Westwood Studios' classic *Blade Runner: Enhanced Edition* hits modern consoles



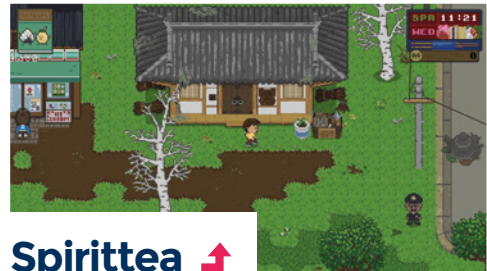
Epic Games unveils NFT-based title, *Grift*. Sorry, *GRIT*. It's called *GRIT*

Attract Mode



The Unliving

If you've ever fantasised about being a powerful sorcerer capable of summoning armies of mindless ghouls who'll do your bidding, then *The Unliving* could be the game for you. It's an action rogue-lite where you unleash terror on an unsuspecting world of ordinary mortals. You'll use your powers to cast spells and subjugate procedurally generated villages, while the occasional hulking boss attempts to stop you in your tracks. Meanwhile, RocketBrush Studio's exquisite pixel art makes *The Unliving's* fantasy world look as beautiful as it is grim. There's a demo to download at wfmag.cc/unliving.



Spirittea

It's always heartening to see a solo developer's passion project get the traction it deserves, and that's what recently happened with this upcoming life sim. A game we first covered in issue 33, *Spirittea* is under the wing of indie publisher No More Robots, and thanks to their social media push, hundreds of prospective players are now aware of this combo of *Stardew Valley* and Studio Ghibli's *Spirited Away*. In it, you maintain a bath house for stressed-out ghosts, while at the same time befriend the (human) townsfolk and dabbling in a spot of karaoke.

Trepang2

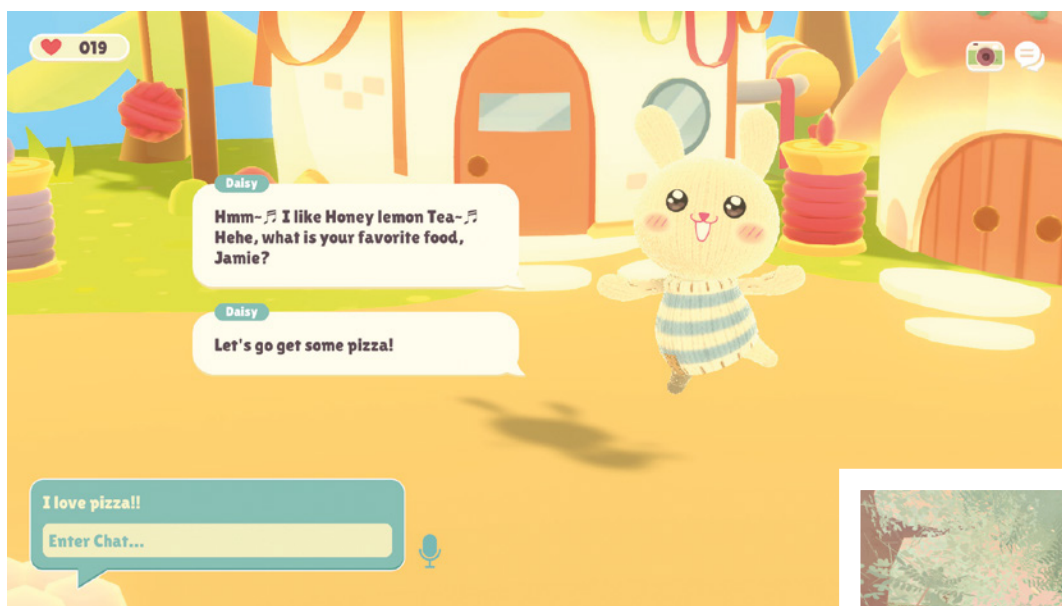
This might just be one of the most gleefully destructive and bloody first-person shooters we've encountered recently. Miniguns tear bodies and walls apart in great showers of gore and chunks of masonry; get in close for a melee attack, and watch as enemies' limbs are separated from torsos in spectacular fashion. Developer Trepang Studios is drawing on its affection for the *F.E.A.R.* titles for its upcoming outing, but the almost comical levels of violence on show here put even that series in the shade.



Dredge

Are sinister fishing games set to become a trendy new subgenre? Swimming in the wake of *Fish Cymophis* (see Wireframe #62) comes *Dredge*, a fishing adventure with what's described by publisher Team17 as a "Lovecraftian" edge. Packing up your equipment and taking to sea in your rotund fishing vessel, your job is to get a decent day's haul before heading back to shore so you can sell it while it's fresh. Occasionally, though, you'll drag strange relics from the sea bed; some of these will give you new powers, others hint at something ancient and terrifying lurking in the depths.





Wish Talk ↗

The fluffy aesthetic may hint at something akin to a Wii shovelware title, but there's some interesting technical stuff going on beneath *Wish Talk's* cutesy exterior. It's life sim, of sorts, and takes place on a sunny island populated by sentient toys. What separates *Wish Talk* from the likes of *Animal Crossing* is what developer TipToe Games describes as its "cutting-edge deep learning AI", which makes conversations between the player and, say, a stuffed rabbit named Daisy more complex and nuanced than you'd normally expect. Through it, you'll be able to have "deep, meaningful conversations" with its characters, learning more about their stories and occasionally helping them out with their problems. We're intrigued to see just how much depth there is to the conversational aspect of *Wish Talk*, given that it's placed front-and-centre. Is it a bit of a gimmick? Or could it be the opposite: a Skynet-like AI that will one day escape the confines of Steam and take over the entire planet? If it's the latter, let us be the first to say: all hail Daisy the stuffed rabbit, serene ruler of Earth.



Himig ↗

A gentle gust of nostalgia blows through this upcoming adventure about two youngsters exploring their hometown and generally enjoying their carefree childhoods. There's a peaceful, pastel-shaded world to roam, friendly passers-by to chat to, and the odd minigame to play. It's all designed to evoke our own childhood memories, when the sun was shining and summer days felt endless but still over far too soon; a time before things like housework, tax returns, and massive gas bills conspired to flatten our spirits. Sigh.



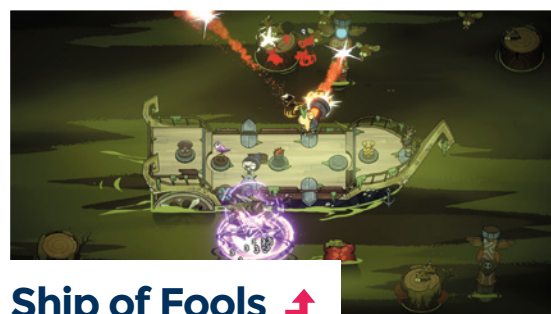
Batora: Lost Haven ↖

We tend to associate Italy's Stormind Games with horror fare like *Remothered: Broken Porcelain*, but it's currently hacking a path through new territory with this upcoming *Diablo*-like. As teen heroine Avril, you'll battle your way through a sci-fi-themed action RPG that takes in copious dollops of twin-stick combat and a smattering of puzzle-solving. It's a bold, brisk change of pace for Stormind, though with Anne Toole (*Horizon Zero Dawn*) on writing duties, *Batora* will have a similar emphasis on storytelling as those earlier *Remothered* titles.



Pocket Wheels ↗

At first glance, *Pocket Wheels* looks like a 3D riff on Codemasters' old *Micro Machines* series – an arcade racer where you drive a tiny toy car around everyday environments like bedrooms and kitchens. But while that's sort of true, *Pocket Wheels* is also a platformer – you hurtle around an oversized house, collecting coins which can be spent on purchasing other vehicles, while traversal's spiced up a bit via special abilities like a grappling hook and a miniature pair of wings. The product of German developer Florian Wolf, *Pocket Wheels* looks thoroughly fizzy and enjoyable – a kind of cel-shaded hybrid of racing game and nineties collectathons like *Banjo-Kazooie* or *Crash Bandicoot*. Also, we admire any game where your arch-enemy is a gigantic killer Roomba.



Ship of Fools ↗

Here's some more boat-themed mayhem from publisher Team17 (see also: *Dredge* on the previous spread). *Ship Of Fools* is a co-operative rogue-lite with a maritime twist; you're asked to fight the hordes of aquatic monsters that pop up around your ship, perform repairs to keep yourself afloat, and team up to set off combo attacks. The need for teamwork during combat evokes memories of *Overcooked's* potentially friendship-ending co-op, while the ability to pre-plan routes through the game, and mix-and-match items to create new combos, should help keep the action feeling fresh.



The Knight Witch ↖

The world needs more modern shoot-'em-ups, we'd argue, and here's one that throws all sorts of fresh ideas into the mix. There's traditional 2D action, as your cartoon witch dodges and dashes through shimmering curtains of bullets. But it's also a Metroidvania, so you're navigating through caverns, unlocking doors, and uncovering upgrades. And then it's a deckbuilder, with spell and ability cards you can collect and customise to suit your playstyle. It's a complicated brew, for sure, but everything we've seen so far suggests that developer Super Mega Team has pulled it off with a confident flourish.

WIN A 34" IIYAMA PROLITE GAMING MONITOR

Here's a chance to get your hands on a 34-inch curvy gaming monitor, courtesy of the lovely folks at iiyama. One lucky Wireframe reader will get an iiyama ProLite XCB3494WQSN-B1 monitor, which has a 3440×1440 resolution, sent direct to their home.

Here are the juicy tech specs in full:

- 34" VA panel
- 48–120Hz refresh rate
- FreeSync Premium
- 0.4ms response time (MPRT)
- 3440×1440 resolution
- 1 × HDMI and 1 × DisplayPort inputs
- Stereo 2W speakers
- USB 3.0 hub

Inspired by the curve of the human eye, the 1500R curved VA screen offers superb images along with a comfortable and immersive viewing experience. Equipped with the KVM switch, the XCB3494WQSN enables you to connect multiple computers which can be operated over one console (monitor, keyboard, mouse).

The USB-C dock connector allows you to simplify your workspace by using a single cable to both send the signal from your notebook to your monitor while charging the notebook from the monitor. Additionally, if your monitor is connected to the internet via a LAN cable, your notebook will automatically be connected to the network.



WORTH
£500

You can enter at wfmag.cc/iiyama

Competition closes on Monday 1 August 2022. Prize is offered to participants worldwide aged 13 or over, except employees of Raspberry Pi Ltd., the prize supplier, their families or friends. Winners will be notified by email no more than 30 days after the competition closes. By entering the competition, the winner consents to any publicity generated from the competition, in print and online. Participants agree to receive occasional newsletters from Wireframe magazine. We don't like spam: participants' details will remain strictly confidential and won't be shared with third parties. Prizes are non-negotiable, and no cash alternative will be offered. Winners will be contacted by email to arrange delivery. Any winners who have not responded 60 days after the initial email is sent will have their prize revoked.

GAMING HISTORY

with Mr Biffo

The long legacy of Spacewar!



MR BIFFO

Mr Biffo, better known as Paul Rose, was the creator of the legendary Digitiser. Check him out on wfmag.cc/digitiser

“Long before *Star Wars*, or *Alien*, game developers were already flaunting their love of sci-fi”

Without Spacewar!, odds are games today would look very different. Mr Biffo charts the history of one of gaming’s most celebrated genres

What is it with video games and space? Pretty much from the start, science fiction – specifically science fiction featuring aliens and spaceships – had a massive influence on the games people created. *Spacewar!* – their exclamation, not mine (although I am similarly excited) – was the first bona fide digital video game, and right out of the gate it wrapped its thighs around a sci-fi theme.

It was created in 1961 on a PDP-1 minicomputer by massive nerd Steve Russell and his equally nerdy friends Martin Gaetz and Wayne Wiitanen (who would later lend part of his name to a Nintendo console, possibly). A two-player, vector graphics space battle that played out against a star field, it even featured simulated physics – the dogfights took place in the gravity well of a star.

Wearing their nerd credentials on their space sleeves, *Spacewar!*’s creators apparently took direct inspiration from the *Lensman* series – a long-forgotten series of science-fiction novels. If, like me, you’d never heard of the *Lensman* series, you would, like me, benefit from reading the official blurb:

“No human being had ever landed on the hidden planet of Arisia. A mysterious barrier, hanging unseen in space, turned back all ships. Then the word came to Earth, inexplicably but compellingly: *go to Arisia!*”

“Virgil Samms, founder of the *Galactic Patrol*, went – and came back with the Lens, the strange device that gave its wearer powers no man had ever possessed before. Samms knew that the price of this power would be high. But even he

had no idea of the ultimate cost – nor of the strange destiny that awaited the First Lensman...”

Now... what I know of *Spacewar!* suggests that some of the series’ nuance was lost in its translation into the first proper computer game, and that Russell and co may not have known their Arisia from their elbows. Still, the fact remains that long before *Star Wars*, or *Alien*, or *Blade Runner*, game developers were already flaunting their love of sci-fi pop culture.

SPACEWAR! SELLS! OUT!

As influenced by sci-fi as it was, *Spacewar!* itself became influential and formed the basis of the first commercial video game. To wit: Ted Dabney and Nolan Bushnell’s *Computer Space*. Whereas *Spacewar!* could only be played by two players – there wasn’t enough memory for a computer-controlled opponent – *Computer Space* was launched in 1971 as a single-player game, before getting a multiplayer version two years later.

It was only a moderate success – perhaps not entirely surprising given there had been nothing like it before – but is perhaps best remembered for its retro-futuristic cabinet design. That iconic cabinet was so stylish it even featured in the 1973 dystopian movie *Soylent Green* (spoiler: it is people). However, *Computer Space* arrived roughly a year or two too late to fully capitalise on the spacemanía that was kicked off by the Apollo moon missions, the release of *2001: A Space Odyssey*, and NASA’s bold plan to blow up the sun.

Nevertheless – starting as it intended to continue – it took less than a year for the

embryonic games industry to produce its first *Computer Space* clone, in the form of the not-exactly-officially licensed *Star Trek*, produced by For-Play (stop chortling at the back).

The reasons why *Computer Space* failed as a commercial proposition might've been due to the lack of both arcades and a home computer scene. Most *Computer Space* units were sold to bars, and its gameplay – described by one former Atari employee as “horrible” – was too complicated for the average beered-up bar-goer.

It's little wonder that they proved far more receptive to the comparatively simple *Pong*, released the following year.

GIVE ME SPACE!

Still, this wasn't to be the end of games and space, as well you know. Another *Spacewar!*-inspired arcade game, Cinematronics' we're-not-even-going-to-pretend *Space Wars*, was released in 1977. Though mostly forgotten now, it was the biggest arcade game of both that year and the next, later getting a port for the Vectrex.

Of course, there was something bigger orbiting over the horizon.

Something much, much bigger.
Invasion!

In 1978, Taito released *Space Invaders*, and video games went from being a cult hit to a genuine phenomenon. Its creator Tomohiro Nishikado borrowed cues from H.G. Wells' *The War of the Worlds*, the anime series *Space Battleship Yamato*, and – of course – the somewhat popular space fantasy movie *Star Wars*. You don't need me to tell you that *Space Invaders* became arguably the most successful video game of all time, and helped to recement space and sci-fi as a commercially viable proposition after facing a decade or more of comprehensive shrugging.

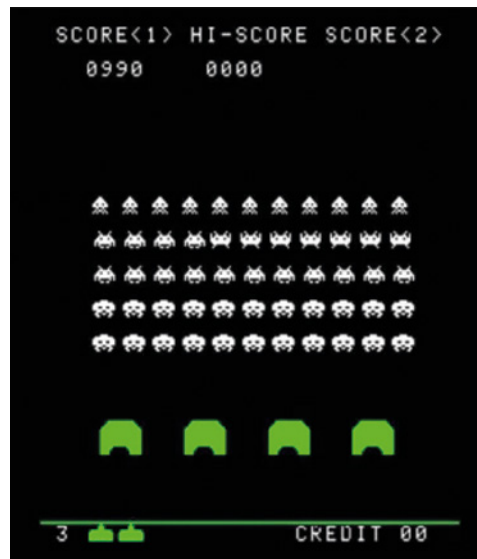
Space Invaders might've changed everything, but the influence of *Spacewar!* didn't stop there. Dabney and Bushnell may not have released a commercially viable game based upon *Spacewar!*, though in 1979 their company Atari did.

Created by Ed Logg and Lyle Rains, *Asteroids* retained the vector graphics visuals, physics, and some of the gameplay of *Computer Space*, *Spacewar!*, and *Space Wars*, but married it all to gameplay that proved – for most people – more accessible than earlier attempts.



Asteroids may not have been a *Space Invaders*-sized phenomenon, but it remains one of the key releases of the golden age of arcade games. Without *Spacewar!* – created 18 years earlier – we would've had no *Asteroids*, and without *Asteroids*, there would've been no *Defender*, *Gravitar*, *Battlezone*, *Tempest*, *Star Wars* (the arcade game), or the Vectrex.

Such an influence isn't bad going for a game that predated The Rolling Stones, the first working communications satellite, and the JFK assassination. ☹



A GLORIOUS LEGACY

You'd be forgiven for not having played one of the alleged key influences on *Space Invaders*' gameplay: Taito's 1972 electro-mechanical arcade shooter *Space Monsters*. Though *Space Invaders* creator Tomohiro Nishikado has insisted that *Breakout* was far more of an influence on his game, *Space Invaders*' working title was nonetheless believed to have been... *Space Monsters*. You decide! I can't be bothered.

B E Y O N D
M A X P A Y N E

FINLAND'S THRIVING GAME DEV SCENE

We chart the history of the Finnish game industry and take a look at what its dev scene looks like today

WRITTEN BY **JACK YARWOOD**



▲ While it's hard to truly grasp its significance today, *Second Reality* is still worth watching for its frenetic use of audio and visuals.

In the late eighties and early nineties, Finland became home to an exciting, new subculture, as teenagers across the country huddled in bedrooms and basements to create flashy demos on their personal computers. The demoscene, as the movement was eventually called, was a place where technology and art could meet. But for Finnish creatives, it also became the bedrock on which the entire Finnish games industry was formed.

Prior to the demoscene, there were only a handful of developers creating games for computers like the Commodore 64. That all changed when demo-group members, including the founders of Remedy, Bloodhouse, and Terramarque, left the scene to form Finland's first commercial game studios. Now the country has over 200

“Now the country has over 200 firms, including Remedy and Housemarque”



▲ As many critics noted at the time, elves aren't necessarily the first thing that come to mind when you think violent 2D fighter. But that's just part of *Elfmania's* charm.



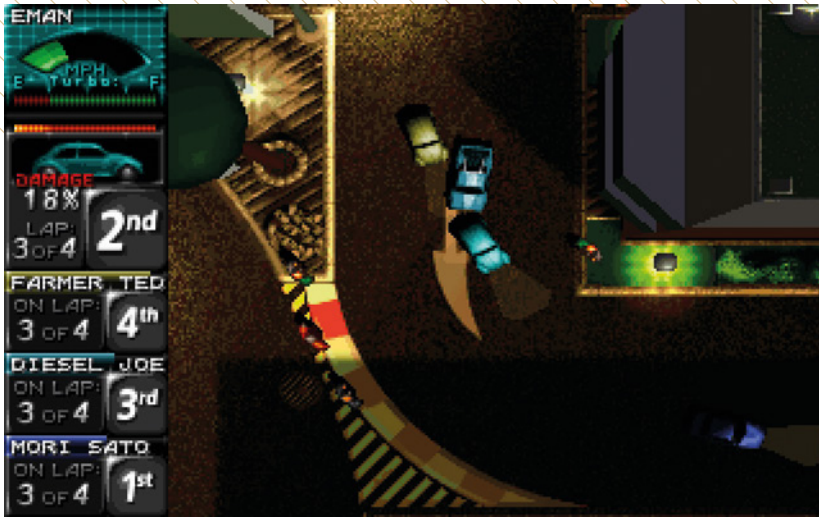
▲ Both *Stardust* and *Super Stardust* have hidden in-jokes for Finnish players. The damsel in distress is Voi Levi, named after a local margarine brand, while one of the planets is Imatra – a town in eastern Finland.

game firms, including veterans like Remedy and Housemarque (the latter the result of a merger between Bloodhouse and Terramarque), mobile studios like Rovio and Supercell, and independent artists like Hempuli, Platonic Partnership, and Red Stage Entertainment.

Over the last few months, we interviewed various developers to find out more about Finland's game industry, how it has grown since its foundation, and its many different communities. The first person we spoke to was Samuli Syvähuoko, a former member of the Future Crew and one of Remedy's co-founders.

THE DEMOSCENE

When Syvähuoko first joined Future Crew in 1991, the group had already been together for four years, making demos for the C64 and PC, but was largely inactive at the time. As a result, one of his first jobs was to kick out inactive members and try to get Future Crew up and running again. The group removed most of its members, recruited some new ones, and, over the following years, released several ground-breaking demos on PC, including *Unreal* (1992), *Panic* (1992), and *Second Reality* (1993). The latter became a landmark demo for the group, with ➤



Remedy made the decision to give away the classic *Death Rally* for free on Steam in 2020, to celebrate its 25th anniversary.

readers of the news website Slashdot voting it one of the “10 best hacks of all time” in 1999. “It’s still rated in the top five in most demo rating boards,” Syvähuoko says. “I haven’t looked in a few years, but last I heard it’s still up there. And even nowadays, demoscene actives know about it, so it’s probably left a pretty permanent mark in history.”

Everything was going well, but soon the members of Future Crew found themselves at a crossroads. Most of the members were finishing school and it was time to start thinking about



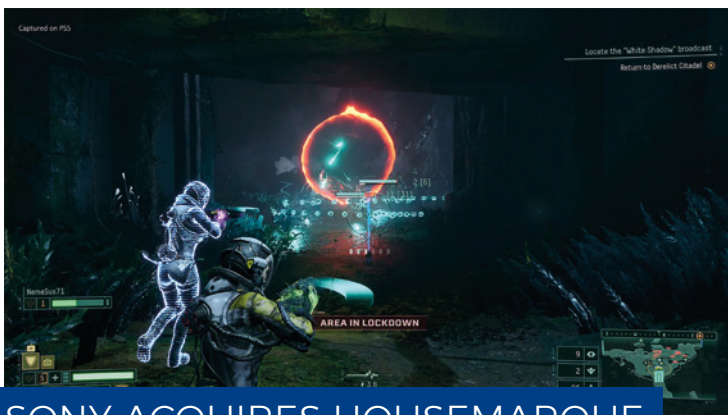
Remedy writer Sam Lake stood in as Max Payne’s face model in the original games. Gotta love that grimace.

what they wanted to do next: making demos didn’t necessarily pay, or at least not enough to make a living between them. “We were growing up,” Syvähuoko explains. “And if you can turn your hobby into your career that actually pays the bill, that’s the best thing that can ever happen. So, what was the closest thing to making demos back then? Well, game development, obviously. And our technical skills at the time were so high we were constantly being contacted by game publishers around the world asking us to start making games.”

Initially reluctant to form a studio due to his own shareware mentality, Syvähuoko eventually got together with Markus Mäki, Sami Nopanen, John Kavaleff, and Sami Vanhatalo to form Remedy Entertainment (following in the footsteps of the other demosceners Bloodsuckers and CNC D who’d formed Bloodhouse and Terramarque). These studios represented a huge step forward for the Finnish games industry, as prior to this there’d only been a few indie developers making games on their own, like Jukka Tapanimäki, Stavros Fasoulas, and Pasi Hytönen.

Of these new companies, Bloodhouse was the first to make a name for itself, with games like *Stardust* (1993) and *Super Stardust* (1994) for the Amiga. These arcade shooters were essentially clones of *Asteroids*, but featured colourful visuals, additional tunnel sections, power-ups, shields, and a thumping electronic soundtrack, modernising the formula for a brand-new audience. Reviews were positive, with CU Amiga magazine calling *Super Stardust* a “masterpiece” while Amiga Format described it as “untouchable” as far as *Asteroid* clones go.

Terramarque was the next to follow, in 1994, releasing fantasy-based 2D fighter, *Elfmania*, for the Amiga. The game let players pick from a roster of three fighters, with a further three unlocked by accruing enough coins from battles.



SONY ACQUIRES HOUSEMARQUE

Sony acquired Housemarque for an undisclosed sum in June 2021. The Finnish developer had recently released the PS5 exclusive *Returnal* a few months earlier – a third-person roguelike about an astronaut named Selene who becomes stuck in a time-loop – under Sony Interactive Entertainment. But the relationship between the two companies goes further back than that, with Sony publishing several other Housemarque titles, such as cult classics *Resogun* and *Alienation*.

Elfmania received a fairly mixed response compared to *Stardust* and *Super Stardust*; some outlets rated the game highly for its graphics, while others criticised its gameplay and lack of combos. Nevertheless, this did little to dissuade its developers – in 1995, Bloodhouse and Terramarque joined forces, creating the Helsinki-based company, Housemarque.

One of Housemarque's first acts was to re-release *Super Stardust* for MS-DOS. Then, in 1999, it followed this with *Supreme Snowboarding* (known as *Boarder Zone* in the US) for PC – one of the first snowboarding games to take advantage of 3D graphics cards. The game received critical acclaim in Finland, and became the first Finnish game to sell over a million units. It wouldn't be the last.

MAX PAYNE

Elsewhere, in the populous city of Espoo, Remedy was also establishing itself as a game studio. In 1996, it released *Death Rally* for MS-DOS – a game that pitted players against other vehicles in a deadly racing competition. It was a modest hit, but Remedy's next game would soon put the studio on the map.

In 2001, Remedy released *Max Payne* for Windows, a pulpy tale of a former New York police officer out to avenge his dead wife and child. The game had been in development since late 1996, when Remedy initially discussed the idea of creating a hard-boiled detective story, but this turned out to be a huge challenge for the studio – not least because of the lack of experienced project managers on the team. The team had expected development to take one and a half years; it ended up taking four and a half.

As Syvähuoko recalls, "We had some really great people with great ideas, like Sam Lake, and also really great programmers and artists. And just the business-saviness to start talking to Apogee Software early on, which of course were more known as 3D Realms. We collaborated with them, and they kept funding us even though we were constantly late with our schedules. We were complete amateurs in project management [at the time], because there was no game development education anywhere, so you had to learn everything yourself through experience, but the game came out and was a huge hit."

"You had to learn everything yourself through experience"

Max Payne was a monumental success for Remedy, and earned the studio international acclaim. In its first month, it sold roughly 82,000 copies; following ports to PlayStation 2 and Xbox, *Max Payne* sold over 7.5 million copies by 2011. Perhaps foreseeing this success, publisher Take-

Two acquired the brand from Remedy and Apogee Software for \$10 million and roughly 970,000 shares of common stock, in May 2002. As its first

act, it immediately commissioned Remedy to get to work on a sequel, with the studio releasing the follow-up, *Max Payne 2: The Fall of Max Payne*, in 2003, on PC, PlayStation 2, and Xbox.

Today, many developers in Finland consider both Remedy and Housemarque to be among the main ambassadors of the Finnish games industry. But there are also other sides to the Finnish games industry that it would be foolish to ignore. Finland, for instance, is currently home to some of the biggest mobile gaming companies, like Supercell and Rovio, as well as a large number of start-ups trying to emulate this success. Many developers attribute this success in the modern-day to the presence of the Finnish telecommunications company Nokia in the early 2000s.

N-GAGE

In 2003, Nokia released the N-Gage, a combination of mobile phone and handheld games machine; safe to say, it didn't go well. The media at the time, including GameSpy, poked fun at the device for its awkward taco-like design, while most consumers struggled to get on board with its high price and lack of exclusive titles. ➔



TO THE MOON

There are still numerous young Finnish developers producing free games as a hobby.

Moonstuck, for instance, is a free game by ComfieDev, a new studio formed by 16-year-old Finnish developer, Comfie. It's a rage game – that is, a game intentionally designed to be enjoyably frustrating – that tasks players with navigating their way off the surface of a moon in a cute rocket ship while avoiding projectiles and other obstacles. "Five months ago, I participated in a game jam hosted by a streamer named Ludwig Ahgren," says Comfie. "The objective of the jam was to make a rage game, and I was fortunate enough to get into the top five with my game *Back to the Nest*. That jam sparked my interest for rage games in general, and for a while, I was really hooked on games like *Jump King* and *Pogostuck*. I let the idea of making another rage game sit in my head for a bit, and that organically turned into *Moonstuck*."

◀ You put one of my pixelated men in the hospital, I put one of your pixelated men in the morgue, as the saying goes.



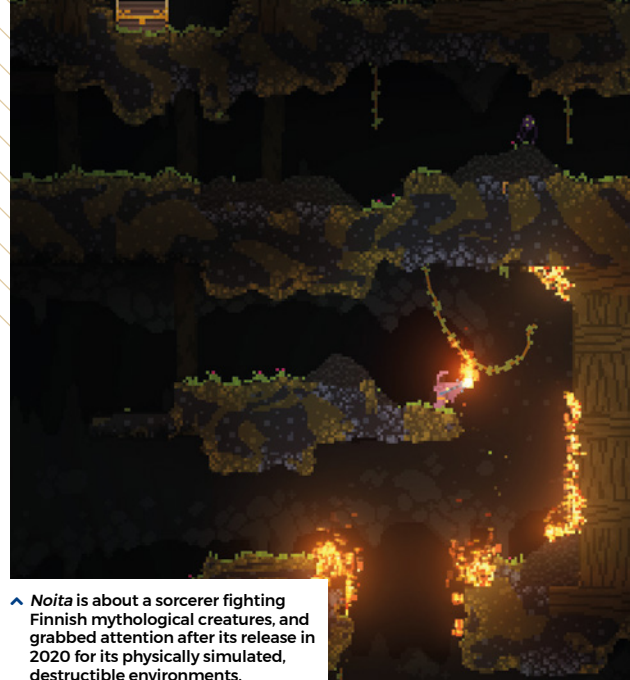
^ Extreme Snowboarding tasks players with grinding on rails and performing tricks to rack up points.

Despite these shortcomings, some professionals in the Finnish games industry claim the investment from Nokia helped kickstart its mobile development scene. “This whole mobile expertise – it wasn’t by accident that we had Sumea and these other companies,” says Syvähuoko. “[Nokia] poured a lot of money – hundreds of millions of euros – in building the mobile game development ecosystem that was headquartered in Finland. So a lot of very early mobile games studios were built around games for the N-Gage. Even if the platform was doomed to fail, Nokia still wanted great games on it.”

Ilkka Paananen’s company Sumea was one of the studios that developed games for the N-Gage system, including *Mafia Wars*, *Extreme Air Snowboarding*, and *Pitfall: The Lost Expedition*. Developer Rovio, meanwhile, also contributed its own catalogue of games, including titles such as *Mole War*, *Formula GP Racing*, and the 3D platformer *Bounce Boing Voyage*.

Suddenly, a brand-new market was opening up for Finnish developers, with the investment to match. That investment shaped the direction the industry would take over the following decades. Finland’s development scene is today comprised primarily of studios making games for mobile platforms, like iOS and Android.

Paananen’s new company, Supercell, for instance, was behind the highly successful free-to-play strategy game *Clash of Clans*, while Rovio is best-known as the creator of the mobile phenomenon, *Angry Birds*. There are also other mobile companies too, like Nitro Games, Moido Games, and Next Games, all of which build on the nation’s previous expertise. “It’s going to take some time to get something else like Supercell to come out of this country,” says Syvähuoko, who



^ Noita is about a sorcerer fighting Finnish mythological creatures, and grabbed attention after its release in 2020 for its physically simulated, destructible environments.

now works at Sisu Game Ventures, an early-stage venture capital fund. “In the past, there’s been Supercell and Rovio. But during the last ten years, there’s also been multiple other success stories.”

Despite the dominance of prestige studios and mobile start-ups, Finland plays home to plenty of indie developers, too. These include Arvi “Hempuli” Teikari, Nolla Games, Platonic Partnership, and Red Stage Entertainment, to name just a few.

THE FINNISH INDIE SCENE

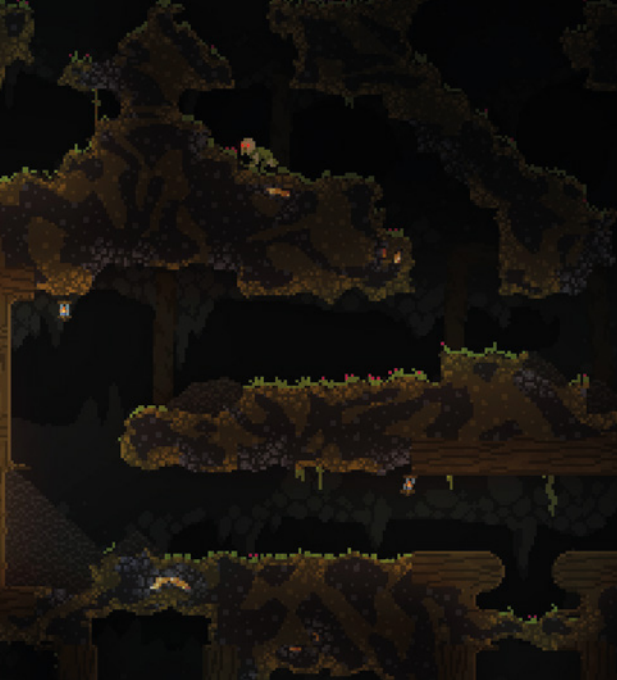
Teikari is perhaps best known for his 2019 indie hit *Baba Is You* – a word-puzzle game where the rules are presented as moveable blocks. Growing up in the early 2000s, Teikari remembers being surrounded by people creating games, but says there was a clear division between hobbyists and more business-minded developers that had left other studios to strike out on their own.

“The Finnish indie scene for a long time was fragmented,” says Teikari. “There were these old faces who’d set up companies and did things together and made connections between each other. But there was also a large amount of self-educated game developers who did things on their own as a hobby and maybe weren’t even interested in learning about the rest of the world, or kids who made games at school.”

According to Teikari, this all changed around 2010, as more events began to be hosted across the country, building a community around indie game development. In Helsinki, for instance, Petri Purho, the developer of *Crayon Physics Deluxe* – a gravity-based puzzle game about drawing lines with crayons to guide a ball – started a meetup in a beer-house, where people could chat and network. For Teikari, this was one of the first places he met with other developers face to face and it also led to future opportunities. “In the Finnish indie community, people are fairly ready to contact

SHAREWARE/FREWARE IN FINLAND

Away from the world of commercial game development, Arvi Teikari remembers while at school in Finland in the early 2000s, there was a large number of kids making their own games, usually with personalised domains. “There was kind of a pretty active community who were slightly older than me, who had these websites [...] with a domain ending cjb.net,” he recalls. “And there were dozens of studios of Finnish kids having their own websites with cool names like Blue Storm and Blue Skull, Blablabla Software, and making small games. It was usually with GameMaker or The Games Factory; most commonly with The Games Factory, as that didn’t require any scripting at all, and was powerful enough for making these *Pokémon* clones, small linear adventure games, or simple platformers.”



other developers if they know there's someone who has the necessary skills for something that they can't do," says Teikari. "For example, when Petri was looking to do something with a project that would eventually become *Noita*, he knew I did pixel art and contacted me, saying, 'Hey, do you want to earn a little bit of money and collaborate on this project I'm working on?'"

This idea of collaboration and openness between different studios is something we heard from various developers, and one of the main benefits developers mentioned when talking about the game scene in Finland today. Jussi Loukiainen, the CEO and co-founder of Platonic Partnership – the firm behind narrative adventure games like *Lydia* (2020) and *Good Mourning* (2021) – is another who voiced the positives of this inclusive environment. "Openness and knowledge sharing are cornerstones of the Finnish game industry," says Loukiainen. "At Platonic Partnership, we have two one-man game companies working within our office. One of them has had a long career working with some of the biggest game studios in Finland. Another one has launched one pretty successful game on Steam and he's currently working on his next title. They're working on their own projects, but we treat them like one of us. And we share info about business opportunities, game design, coding, economics, and publishers. It really helps us all."

Nevertheless, there are also still some challenges of note for indie studios in Finland, which mostly come down to funding, and the types of projects investors are willing to support.

"Challenges for new companies almost always relate to money or the lack of it," Loukiainen adds. "You can always go and raise investments, but it's not everyone's cup of tea. And if you're not

"A lot of early mobile studios were built around games for the N-Gage"

developing mobile or Web3-related games, it can also be hard to find suitable investors."

Red Stage Entertainment is a small indie studio based in Tampere, Finland, that recently released *Skábma – Snowfall* (see our preview in issue 61). The game has you play as Áilu, a young Sámi deer herder who must rescue a runaway reindeer and heal the land using an enchanted drum. For game developer Marjaana Auranen, it was a personal exploration into her own heritage and history, as well as a chance to see Sámi culture reflected in a game. But despite positive feedback from almost every investor, it was difficult to secure financial backing. "It was tough to pitch," says Auranen.

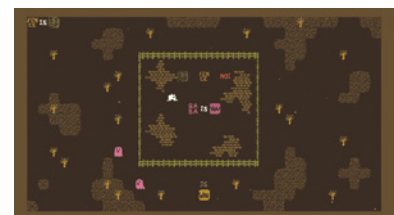
"Publishers or investors usually got interested. But when it came to funding or money or anything like that, then it was too niche, or why do they have to talk Sámi? And why do we use this culture? So it's like, 'OK, we're trying to make a Sámi game, but we have to remove part of the Sámi?' It was difficult."

The Finnish games industry generated over \$2.9 billion in 2020, according to a PlayFinland report, but statistics alone don't show the diversity of projects being made in the country. While it's important to celebrate the success of studios like Housemarque and Remedy, and marvel at Finland's influence on mobile gaming, there are also many smaller projects that are worthy of both attention and time. Here's hoping that, while Finnish investors go in search of the next billionaire hit, these smaller games also find the support they need, and continue to add to the industry's rich cultural history. 🗨️



▲ Platonic Partnerships describe *Lydia* as a "feel-bad" game. It's an adventure game that deals with topics such as substance abuse from a child's perspective.

▼ Teikari's word-based puzzler *Baba Is You* started as a demo for the 2017 Nordic Game Jam. The full version received nominations for best indie game from several award shows in 2019.



The old-fashioned beat-'em-up is back – and better than ever



KIM JUSTICE

Kim Justice is a YouTuber, streamer, and writer who specialises in the world of retrogaming. If she isn't making lengthy documentary videos about old games and companies, she's probably chatting and mouthing off about them live to a dedicated handful of people.

June 2022 was yet another banner month for fans of the old-fashioned beat-'em-up, with two excellent releases hitting just a day apart from each other. Both the hotly anticipated *Teenage Mutant Ninja Turtles: Shredder's Revenge* and Bitmap Bureau's new title, *Final Vendetta*, are worthy of the positive reviews they've been getting (you can see Wireframe's review of the latter on page 95) – but they're also highly different from each other in ways that demonstrate the often overlooked variety of this well-worn genre. Both are certainly a lot more than just a nostalgia trip, that's for sure.

Shredder's Revenge follows on from Dotemu's earlier successes with *Streets of Rage 4* – it takes one of the most famous beat-'em-ups of all time and evolves it while keeping a lot of the core points. Konami's arcade games, like the original *TMNT*, relied a lot on their sheer two-button simplicity while employing plenty of character to do justice to the licence – *Shredder's Revenge* certainly follows on from that to create a casual and raucous experience, especially in

multiplayer. There's also so much more variation in the game's characters than there was before, however – everyone has a role and a different set of strengths to beef up and learn, and the satisfaction in clearing out the Foot Clan is immense. Developer Tribute Games (*Mercenary Kings*, *Wizorb*) delivers plenty of moments that serve as manna from heaven for those who remember the *Turtlemania* of 1990, but the game itself feels as sprightly, bright, and new as anything from 2022.

But while *TMNT* has been getting a whole lotta love, *Final Vendetta* isn't a game that should be overlooked, either. It comes with a classic pixel-art style, a pumping techno soundtrack, and six stages of enthralling battery – what you'd expect from a game with a portmanteau name citing two genre classics, *Final Fight* and *Vendetta*. But it's also a complex beat-'em-up, a challenging one that you have to learn, one where blocking and dodging are as important as special moves and crowd control – if you don't get these down, you'll be pavement pizza in no time. That's certainly in line with the other titles from the Southampton-based Bitmap Bureau (*Xeno Crisis*) and publishers Numskull Games (*Battle Axe*, *Gearshifters*). It's a tough retro experience that would certainly fit into an old arcade, but has just as much of a place on today's platforms; it's a game with a whole lot of depth bubbling under the nostalgic drum breaks and CRT shaders.

It's hard to say which one of these games is better than the other: *TMNT* is certainly going to attract more attention, but in many ways, it's like comparing apples and oranges. In any case, they demonstrate the rude health of one of gaming's elder genres – the desire to crack a tooth or two on a grime-filled subway platform, harbour dock, or plain old city slum doesn't seem like it's going to go away anytime soon, especially when studios like Dotemu, Tribute, Numskull, and Bitmap Bureau are delivering games that are this good. 🗨



▲ *Final Vendetta* takes place on the streets of swinging London. Naturally there are hundreds of goons waiting to be chinned.

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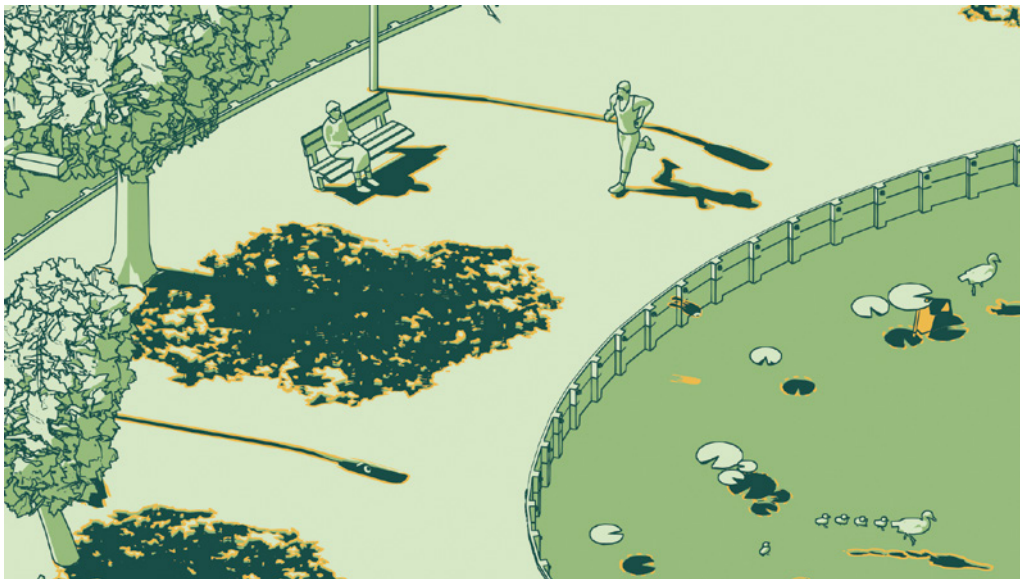


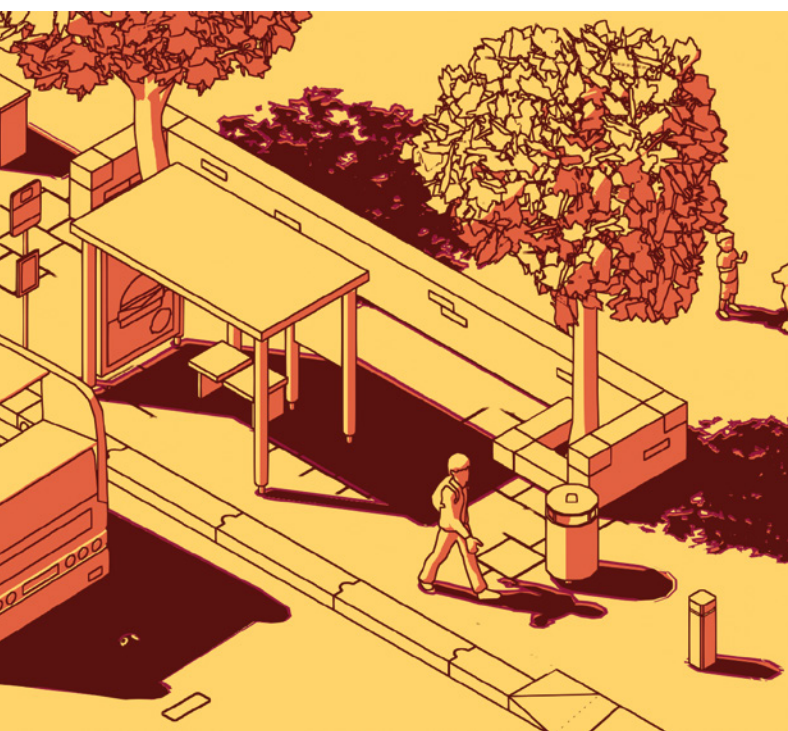
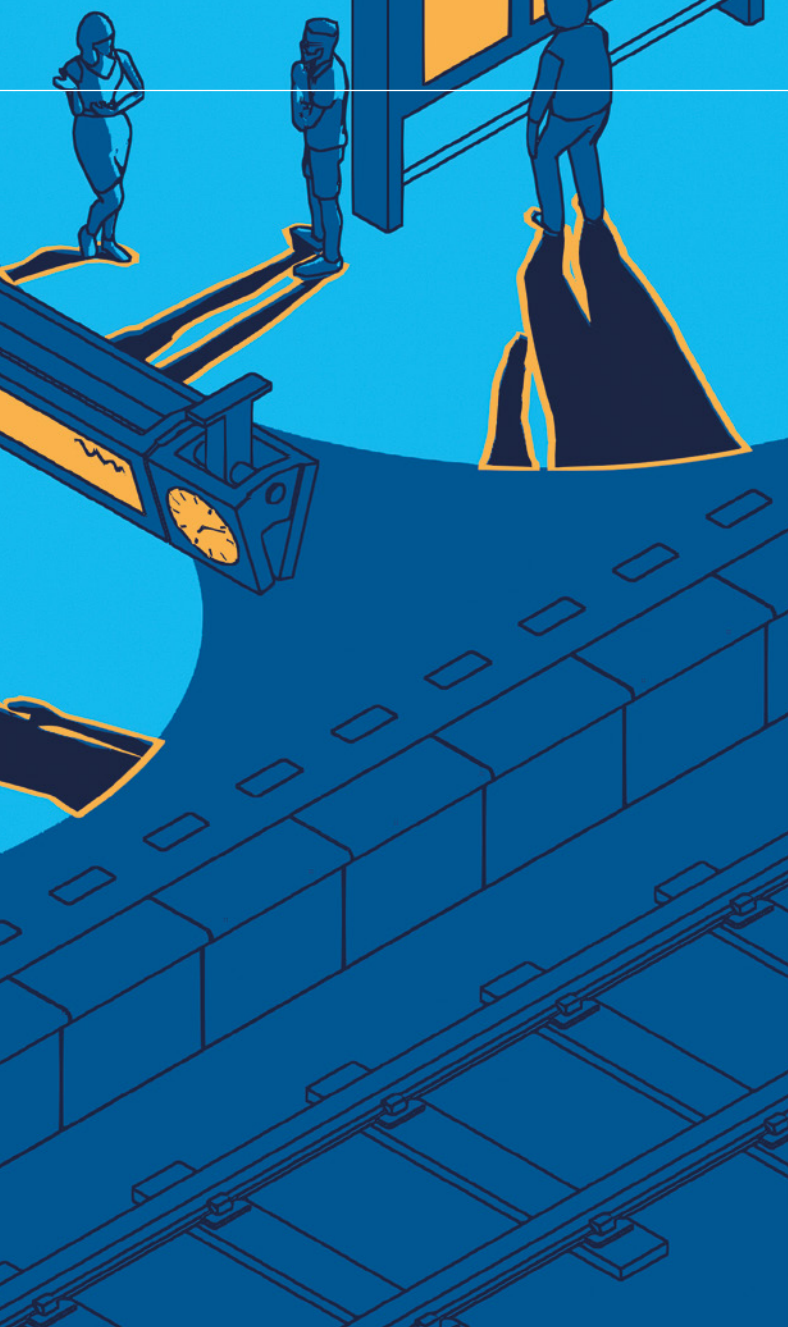
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SCHiM

It's the combination of *Frogger* and *Splatoon* we never knew we wanted. About a spirit that's trying to find its way back to the human body it's become separated from, *SCHiM* is an isometric platformer with a captivating twist. Its title character – 'schim' being a Dutch word for a spirit – must remain constantly in the shadows, so the game's challenge comes from hopping between dark places. The silhouettes of people walking across a sunlit bridge become moving platforms for you to jump across; the shadow of a bus provides an inky pool of darkness you can use to carry you to a new part of the map. Key to *SCHiM*'s design is its striking art style – all bold lines and delicate blocks of colour. "At first, I wanted to use only one palette of four solid colours throughout the entire game," explains 20-year-old designer, Ewoud van der Werf. "Because I have a form of colour blindness, I thought that would be the easiest option without having to worry about colours, gradients, or blending. After some feedback and testing, I changed this to each level having its own four-colour palette."

Built in Unity, but with custom shaders written by van der Werf himself, *SCHiM* is "inspired by the local places around us, such as buildings, streets, and buildings that are typical to the Netherlands," he says. "When designing a level, we look at whether the world's believable, fun to jump around in, and is relevant to the story."

All across the universe

Exploring the greatest planets that video games have to offer

WRITTEN BY
AARON POTTER & RYAN LAMBIE

The beautiful thing about video games is that they let us visit places we would otherwise only ever dream of – including those that don't exist. Yet while medieval fantasy lands and neon-laden dystopias offer some insight into potential alternate realities or times gone by, for as long as humans have existed, the stars above have equally piqued our imagination. After all, space is something we can physically lay eyes on, and so the planets and moons existing within it don't seem that far out of reach. Is it any wonder that so many interactive experiences keep taking us there?

The following list is a celebration of just some of the alien (and not so alien) worlds video games have enabled us to travel to throughout the years. From backwater planets to those doomed for invasion, these otherworldly locations more than prove that the sky is far from the limit.



Pandora

- **Borderlands**

Described in-universe as a “wasteland at the edge of human civilisation”, players got to spend two entire games roaming the planet Pandora in search of a mysterious vault filled with untold treasures. What at first seemed like a giant dust-bowl highly inspired by *Mad Max*’s post-apocalyptic wilderness quickly showed its true colours in the sequel, however, showcasing ice canyons, sky cities, and more. The result is a fictional planet that feels more believable to roam because – much like our own – it’s made up of numerous different biomes as opposed to being characterised by just one. Couple this with the *Borderlands* franchise’s cel-shaded art style, and you have a planet full of scallywags and prime-for-plundering loot.



Moon

- **Wolfenstein: The New Order / Deliver Us The Moon / Prey**

Earth’s only natural satellite appears in games so regularly, it’s often a comfort whenever it pops up. When a game takes place in an alternate timeline where humanity has split off from a version of history we know, odds are the Moon will be there. In 2017’s *Prey* reboot, this means looking out at its beauty whenever you take a rest from exploring the Talos I space station. Similarly, *Wolfenstein: The New Order* has fun sending war hero B.J. Blazkowicz to a lunar base in an effort to stop Deathshead’s Nazi rule for good. Its most realistic depiction arguably came in the uneasily atmospheric *Deliver Us The Moon*, a lonely sci-fi story where you traverse the grey dunes by foot and vehicle.



Mars

- **DOOM / Red Faction / Mass Effect 3**

Mars, one of Earth’s closest neighbours, has been the subject of many space-set games. And despite its dirt storms and harsh atmosphere, developers have often found new ways to portray it. Volition’s *Red Faction* series imagines Mars colonised by humans in the near future, and it’s home to various artificial structures just waiting to crumble as a result of your chaotic actions. *DOOM* is likely the game most commonly associated with Mars, though, as you slay legions of nightmarish beasts across its open surface. In *Mass Effect 3*, meanwhile, Mars has become nothing but a backwater planet, left behind once faster-than-light travel (FTL) was discovered. How will this month’s cover game *Deliver Us Mars* depict the angry red planet? We’ll just have to wait and see. ➔



Interface
across the universe

Hoth

- *The Star Wars series*

The second most famous planet in *Star Wars* has been depicted well over a dozen times. Whether it's in brick-based form in *LEGO Star Wars: The Skywalker Saga* or via *Star Wars Battlefront II*'s first-person view where you must fight the Battle of Hoth in the trenches, the snow planet's popularity has given studios good cause to get creative in finding new ways to depict – and have you take part in – the famous conflict. The seemingly never-ending battle dates back to 1982's *The Empire Strikes Back* game for the Atari 2600, where you had to shoot down AT-ATs to defend the shield generator. *Star Wars* games eventually got better at putting you directly in the seat of a T-47 airspeeder, though, with the *Rogue Squadron* games, *Star Wars Trilogy Arcade*, and even *Shadows of the Empire* letting you trip up the camel-like walkers with abandon.



Reach

- *Halo*

The story of Reach's downfall is surely engrained into every hardcore *Halo* fan's mind. That's why when Bungie announced in 2009 that its final game in the saga would be centred on the planet's legendary destruction, there were plenty of reasons to be excited. As a prequel to the original *Halo: Combat Evolved*, we play witness to Reach during its final days, taking on a role within Noble Team who try to hold off the invading Covenant forces so as to save the Earth-like colony's populace. We may know how this story ends, but it doesn't take away from the awe-inspiring scale *Halo: Reach* continually hits you with through blockbuster battles, bleak but beautiful vistas, and healthy mix of locales. By letting us fight upon Reach and experience events first-hand, *Halo* had come full circle.



Kerwan

- *Ratchet & Clank*

The *Ratchet & Clank* series is full of imaginative planets to roam (albeit in a relatively contained fashion). And while Ratchet's home planet of Veldin has its charms, it's Kerwan, as the first legitimate city you explore, that holds a special place in our hearts. Metropolis – later named Aleero City in the 2016 remake – features skyscrapers as far as the eye can see and countless flying cars rushing by. It's on Kerwan where Clank gets retrofitted with a Helipack for the first time, too, which lets you leap farther and jump higher, allowing you to complete almost any platforming challenge. Cap it off with Qwark's fitness challenge assault course, and by the time the duo hop back into their ship, you feel ready to take on almost anything.



Illium

- *Mass Effect 2, 3*

Home to countless criminal syndicates that lie beyond the Council's reach, Illium is one of the many border planets you visit in *Mass Effect*, acting as a gateway between the terminus systems and the republics of the Asari species. It's a stomping ground for delinquency and lawlessness, so it's little surprise when you pay a visit in the hopes of recruiting an assassin known as Thane. The planet's heat means that most settlements had to be built at higher latitudes, resulting in cityscape views which give off distinct *Blade Runner* vibes. Despite its seedy status, amongst a certain crowd Illium is renowned for its inherent luxury and glamour.

Sera

- *Gears of War*

You probably don't have much time to appreciate it as you're constantly assaulted by screeching, insectoid enemies, but there's a lot of history packed into *Gears Of War's* main setting. It's there to be seen in the brief moments of downtime when you aren't cowering behind low walls or applying a chainsaw to an angry Locust's face: Sera is a colossal, varied planet that once teemed with human activity. There are great cities and baroque architecture – all built during a prosperous era between bouts of warfare and infestations from the Locust Horde. From the first game in 2006 to 2019's *Gears 5*, as the third-person action has subtly shifted and the franchise has passed from studio to studio, Sera has remained a richly drawn constant.



AR-Y 26

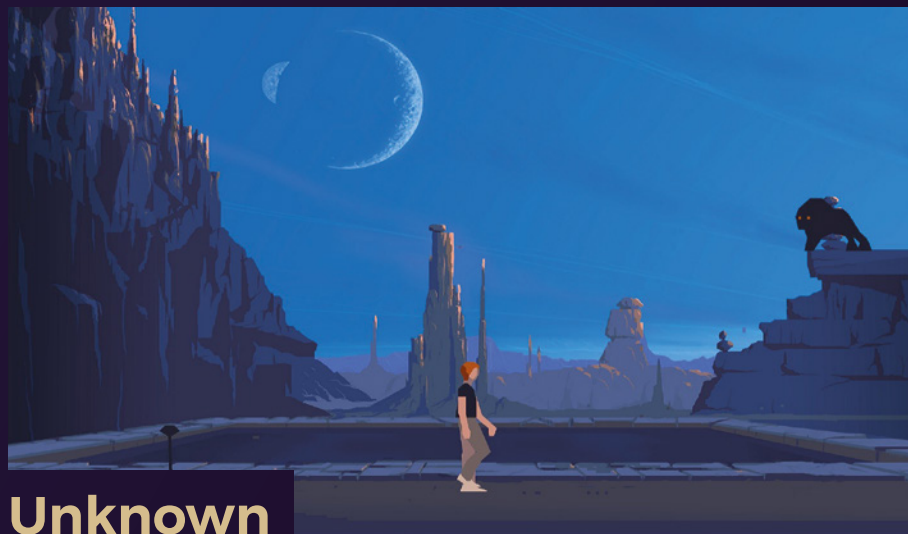
- *Journey to the Savage Planet*

The titular planet you explore in Typhoon Studios' first (and only) adventure is a bright and boisterous fever dream, full of kooky aliens and psychedelic plants to catalogue. You do so on behalf of your corporate overlord, Kindred Aerospace, who've sent you on a solo mission to discover whether AR-Y 26 could one day be inhabitable for humans. With scanner in hand and a multitude of other quirky gadgets to deploy, off you go, disturbing the local wildlife by delving deeper into a planet heavily inspired by sixties pulp sci-fi serials. It's a satirical jaunt into the unknown like no other, aided further by AR-Y 26's distinct fusion of ancient alien ruins and eccentric organisms.

E.D.N. III

- *Lost Planet: Extreme Condition*

When humans try to migrate to other planets in sci-fi, the stories seldom end well. Such is the case in Capcom's 2006 third-person shooter, where humanity tries to start a new life on the icy E.D.N. III, only to discover that it's populated by gigantic insects – the Akrid – who don't take too kindly to visitors. By the time you start the game, much of the human colonies are already smashed and deserted, with abandoned cars and the husks of buildings left jutting out of the snow. The two *Lost Planet* sequels were a real mixed bag; for us, the first game – with its unremittingly bleak setting – is a bit of an underrated treasure.



Unknown

- *Another World*

Like so much in Éric Chahi's landmark adventure, the name of the planet scientist hero Lester Knight Chaykin accidentally visits in *Another World* remains obscure. A 2D action-adventure told almost entirely without dialogue (unless you count the unforgettably melodic alien language some of its inhabitants speak), *Another World* conjures an exotic, unpredictable landscape from a handful of polygons. There are toothsome leeches, hulking, ape-like monsters, and a civilisation of humanoid creatures whose laser technology and stone buildings recalled the pulp sci-fi of Edgar Rice Burroughs. The game itself could be frustrating and obtuse at times; what arguably kept players hooked to the end was the story and alien planet *Another World* so economically depicted. ➔

Interface

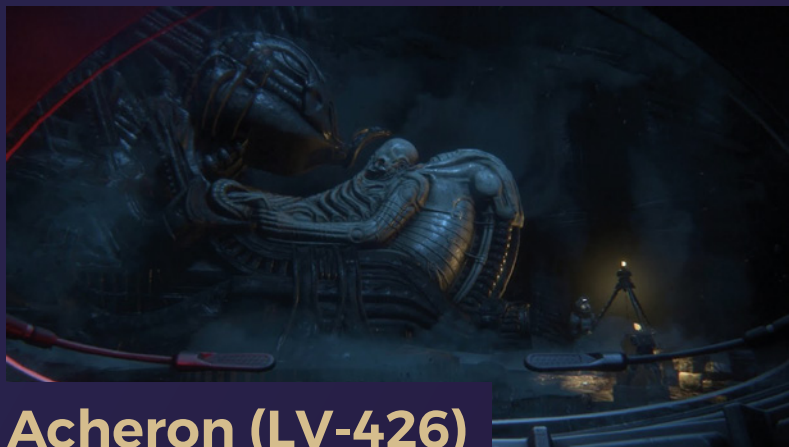
All across the universe



Terra 2

• The Outer Worlds

One of two planets managed by the Halcyon Holdings Corporation, you crash down on Terra 2 with barely a credit to your name. The local wildlife and fauna could be considered quite beautiful were it not for the presence of various mega-corps like Kolway Pharmaceuticals and Spacer's Choice, who've set up shop to take advantage of the colonists. Fortunately, settling a power dispute early on in the city of Edgewater sets you on a path to the planet's prestigious capital, Byzantium, a gated community that you can choose to disrupt with the aid of local companions, like Parvati, who crave a simpler life. As far as starter planets go, Terra 2 offers a handful of diverse biomes. Just be careful not to get sucked into the Halcyon Holdings Corporation's morally dubious tactics.



Acheron (LV-426)

• Alien: Isolation, Aliens: Colonial Marines

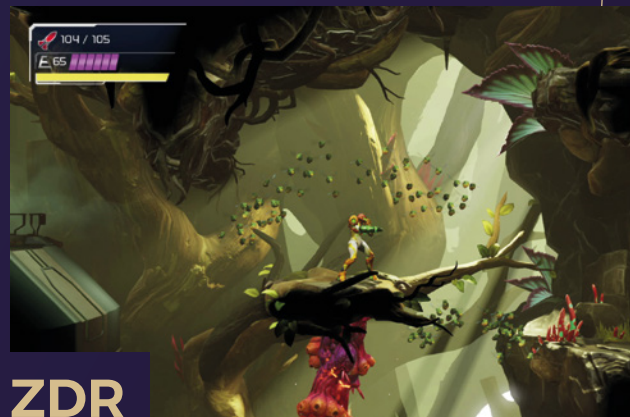
First introduced in the 1979 movie *Alien*, LV-426 is a desolate hellscape of howling winds and craggy, finger-like rocks. It's the place where Kane (played by John Hurt) first encountered the derelict spacecraft and its hold of leathery eggs, which in turn gave rise to the terrifying Xenomorph – a creature that has stalked cinema (and other media) ever since. In video games, Acheron memorably appeared in the frankly terrifying *Alien: Isolation*, as you explored the derelict ship and its long-dead, gargantuan pilot. The same planet – and its derelict ship – also popped up in 2013's *Aliens: Colonial Marines*. Yes, the game itself was awful, but the section where you revisited Acheron was arguably one of its most atmospheric moments. Even in the clumsiest of hands, Acheron's hostile landscape still has the power to chill the blood.



Sudra

• Axiom Verge

Although inspired by *Metroid*, developer Thomas Happ managed to create an alien world with a character all its own. Much of that is thanks to his superb pixel art; aping the resolution and limited colour palette of the NES era, Happ sketches in the outlines of a much larger, intimidating world. There are purple organic things that pulsate like internal organs, and colossal chambers dominated by giant, bony heads. Sudra's eeriness only grows as the plot develops, and reality itself appears to glitch out and unravel. *Axiom Verge 2* introduced its own world, Kiengir, which is similarly alive with detail; for sheer twisted imagination, though, we'd say Sudra just about beats it for a spot on this list.



ZDR

• Metroid Dread

At first, the planet Samus Aran finds herself on in 2021's *Metroid Dread* doesn't feel quite as captivating as the ones she visited in previous outings. The surfaces are too sterile and coldly technological, leaving the opening few minutes feeling worryingly like exploring an abandoned storage depot. Thankfully, it doesn't take long for ZDR's true nature to emerge, and *Metroid Dread* only grows more absorbing – and beautiful – as Samus regains her powers, and new areas of the planet open up. Those sterile corridors soon give way to icy caverns, exotic plant life, and oceans teeming with alien fish. Much of this is merely glimpsed through windows, or whizzes by as you're pursued by feline E.M.M.I. killing machines, but it all helps to create the illusion of a diverse, fully realised other world. 🌍

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Toolbox

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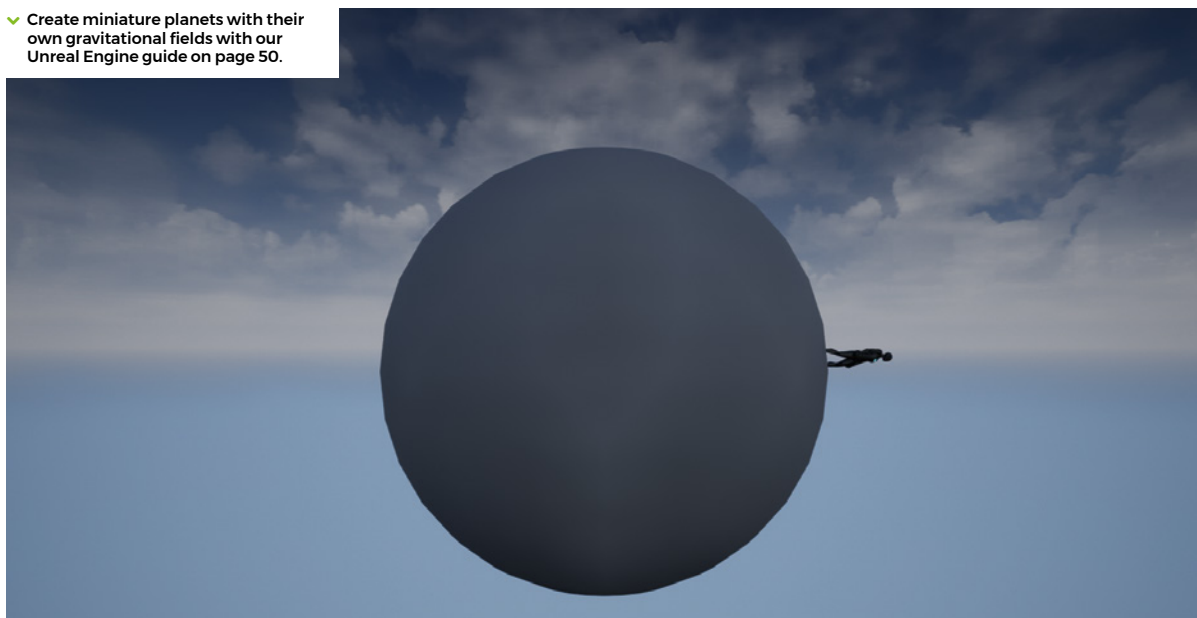


^ This month's Source Code takes on the rock-hating antics of *Super Stardust*. See page 64.



^ Surveys can provide a valuable insight into what players think of your game. We show you how to write one on page 60.

✓ Create miniature planets with their own gravitational fields with our Unreal Engine guide on page 50.



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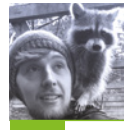
	AA tower	Fire tower	Mortar tower	MG Tower
Grunt horde	AA tower + Grunt	Fire tower + Grunt	Mortar tower + Grunt	MG Tower + Grunt
Cloaked sniper	AA tower + Cloaked sniper	Fire tower + Cloaked sniper	Mortar tower + Cloaked sniper	MG Tower + Cloaked sniper
Heavy tank	AA tower + Heavy tank	Fire tower + Heavy tank	Mortar tower + Heavy tank	MG Tower + Heavy tank
Demo troops	AA tower + Demo troops	Fire tower + Demo troops	Mortar tower + Demo troops	MG Tower + Demo troops
Support medic	AA tower + Support medic	Fire tower + Support medic	Mortar tower + Support medic	MG Tower + Support medic

▲ Revolutionise the way you generate your game's content by using matrices. Find out how on page 56.

◀ A drive to succeed is vital in game development, but so too is a clear vision. Howard explains more on page 48.

The narrative design of **The Beatles**

In order to better think about narrative-led games, let's first take a look at some very well-known songs



AUTHOR
ANTONY DE FAULT

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Often in designers' minds there's a tug of war, where investing effort in storytelling means sacrificing good gameplay, and vice versa. But this is not the case. To illuminate the subject, I find it helps to consider The Beatles' discography, wherein we find a metaphor on which to hang a framework for thinking about what to do when design meets story. I know how mad this sounds but bear with me.

NARRATIVE-LED

In the song *Yesterday*, melody and music are present to augment the story painted by the words. The primary focus is on relating a sequence of events, and in a narrative-led song (or game) there's generally only one literal interpretation of the sequences of events being recounted, though

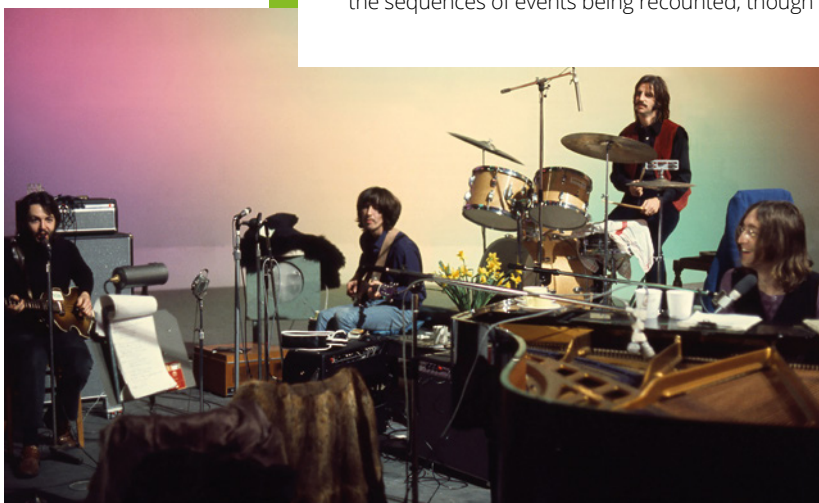
there may be many shades of emotional interpretation. *Yesterday* is about a man who used to feel secure in himself and his relationship, and now does not, lamenting the loss of both his partner and the man he once was. There's no confusing this literally, though we may emotionally interpret it in several ways: is he primarily experiencing grief, regret, or wistfulness? And was their relationship a good one? Games in this vein are preoccupied with telling a particular story. This doesn't necessarily mean the story is always the same for every player, or told chronologically.

What matters is that within any one player's playthrough, the sequence is generally explicit, and the only game mechanics permitted are ones that engage the player with the story, just as the only instrumentation permitted in *Yesterday* is that which supports the words. For example, *The Last of Us: Part II*'s guitar minigame only exists in order to set up a devastating late-game story beat, and it could be argued that the majority of its gameplay only really exists to force the player to inhabit the minds of the characters. That might sound cynical, but excellent games in this vein would be *Mass Effect*, *Disco Elysium*, and *That Dragon, Cancer*.

DESIGN-LED

Twist and Shout sits at the other end of the spectrum as a 'design'-led song. In this case, the song is designed for maximum fun, the forerunner of the last decade's Ibiza-drenched tracks built around big bass drops and glitzy samples. The aggressive playing delivers this, and the lyrics are only present to augment the effect of the music. It's meaningless out of context, there's no causality,

♥ Peter Jackson's *Get Back*: a study of a group of vision-holders trying to birth new art while balancing each's individual preferences. Essential for any medium.



no sequence of events, but the words get bodies moving and hooked into the rhythm of the music, like whoops and shouts from modern DJ hypemen.

Depending on your point of view, there are either infinite valid literal interpretations of the 'series of events' (twisting, shouting, shaking etc.) the song is describing, or none at all. Games in this category might similarly include snippets of what we could call narrative, but these are purely in service of boosting engagement with the game's mechanics, which themselves are in pursuit of creating in the player a particular emotional state, usually but not always some variation on 'fun'. For example, as antithesis to the guitar minigame mentioned above, *Overwatch's* character backstories only exist to tempt us toward one mechanical ability set or another. This also extends to the writing in *Animal Crossing*, *Apex Legends* when I last played it circa 2019, and the vast majority of *Mario* titles.

IN HARMONY

Rooftop banger *Get Back* sits somewhere in the middle of this spectrum. The lyrics present key imagery related to the 'feel' of the song, and they even take the lead sometimes while giving way to the music completely at others, as if each is a voice in a duet. Both the lyrics and instrumentation express the same punchy vibe; they evoke a feeling of repudiation, that no-nonsense, 'get outta my way' feeling. And again, there's no clear single interpretation of the song; is *Get Back* about sending yahoos back to the countryside? Or is it about the need we all have to return to the safety of our origins at times? Do either Jojo or Loretta actually return? But it clearly is about something along these lines; the range of possible literal interpretations isn't completely boundless as in a true design-led song. In my opinion, *Get Back* transcends the content of its music and lyrics, because the two work together to create larger, focused meaning. By evenly balancing the powers of lyric and music, and allowing them to grow naturally together over the course of developing the song (see Peter Jackson's excellent documentary, also called *Get Back*), The Beatles created two parts of an inextricable whole. But they also, most importantly, allowed the two parts to slightly contradict each other. Billy Preston's piano solo, for example, has an inviting feel to it,



like 'getting back' is a positive thing, whereas McCartney's aggressive flourishes ("Get back, Loretta!") and winking delivery ("Your mommy's waitin' for you") seem to imply it's a negative.

Similarly, *Bloodborne's* forlorn, sympathetic lore and story stands occasionally at odds with its aggressive, brutal gameplay. Should I be relishing or mourning the death of the Blood-Starved Beast? How do the game's creators feel about the evil of those who've been corrupted? I might also cite *Hotline Miami* here, or *The Witness*, or, due to its fourth wall breaks bizarreness defying the

“The existence of the ludonarrative spectrum is useful”

audience to take it literally, *Death Stranding*. In my opinion, the potential for creating something truly beautiful is most likely to be found in games (and songs)

which balance their play and storytelling in this way, inviting myriad interpretations while retaining a focused theme and being damned entertaining.

But this is just my opinion, or rather my preference. In reality, any position on the spectrum of ludonarrative balance is valid, and whether you agree that the most riveting art comes from the balanced path or not, the existence of the spectrum is useful to acknowledge. Knowing where you're aiming to be on that spectrum might help you to assess new ideas as they occur. If you know you're making a design-led game, and someone starts telling you that it can't be truly great without a Hero's Journey laid over the top, hopefully you can be confident in dismissing that advice. But if another someone suggests that you give your game's character auxiliary little back stories for flavour, it may be worth listening. By encouraging engagement with your gameplay, it could be worth the small investment. 🗨

▲ **The Beatles: Rock Band:** Despite containing a 'story' mode, the band's lives and dramas were mixed in favour of a bland chronology. Still, good game.

QTEs

Button-mashing 'quick time events' (QTEs) are common in narrative-led games since they're mechanics which can draw the player into a scene, but they're themselves uninteresting and have hardly developed in decades. This isn't necessarily a problem since they remain effective. But quick time events' triteness misleads designers to think of all narrative-supporting mechanics as inherently boring, which creates discord between story- and gameplay-minded devs. For a great example of an innovative use of small mechanics for story purposes, see *Guardians of the Galaxy's* beetle hunting 'competition' in its first level. It neatly creates a sense of rivalry between Star-Lord and Rocket in the player's mind.

The principles of game design

You need drive to succeed in the video game industry, but having a dream is also vital, Howard writes



AUTHOR
HOWARD SCOTT WARSHAW

Howard is a video game pioneer who authored several of Atari's most famous and infamous titles. His book, *Once Upon Atari: How I Made History by Killing an Industry*, is out now. onceuponatari.com

NEW SYSTEM

Building bridges is something I'm very into... but it means one thing to an engineer and quite another to a therapist. The fact that I'm both has flummoxed many people. They think it's weird that I was a successful engineer and then chose to become a therapist. When they point this out to me (which they frequently do), I tell them: "I don't really think it's that odd. If you think about it, engineers and therapists are all systems analysts. In becoming a therapist, I've simply moved on to more sophisticated hardware."

► Ray Kassar became CEO of Atari in 1978 - a period of meteoric success but also financial crisis for the company.

As The Silicon Valley Therapist, I'm very familiar with people joining tech startups and what that entails. One aspect is the unspoken (though often explicit) contract that people accept as part of the deal: founders and employees are expected to sacrifice their lives entirely for the job. And in return, they get a pot of gold at the end of the death march. The promise of extraordinary riches.

The rough bit is that this promise is not always kept, but the hours and effort are *always* demanded. You must accept a near-total lack of balance in your life when you join a startup. This is extremely stressful. In fact, it's rather like a florid addiction; you put the rest of your life on hold (or simply ignore it) while you focus exclusively on the substance.

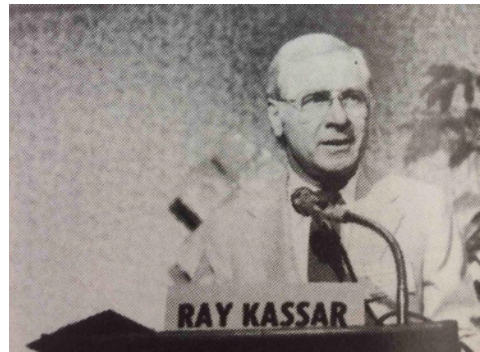
Making that kind of commitment creates a vulnerability. That's the trade-off. You're at risk

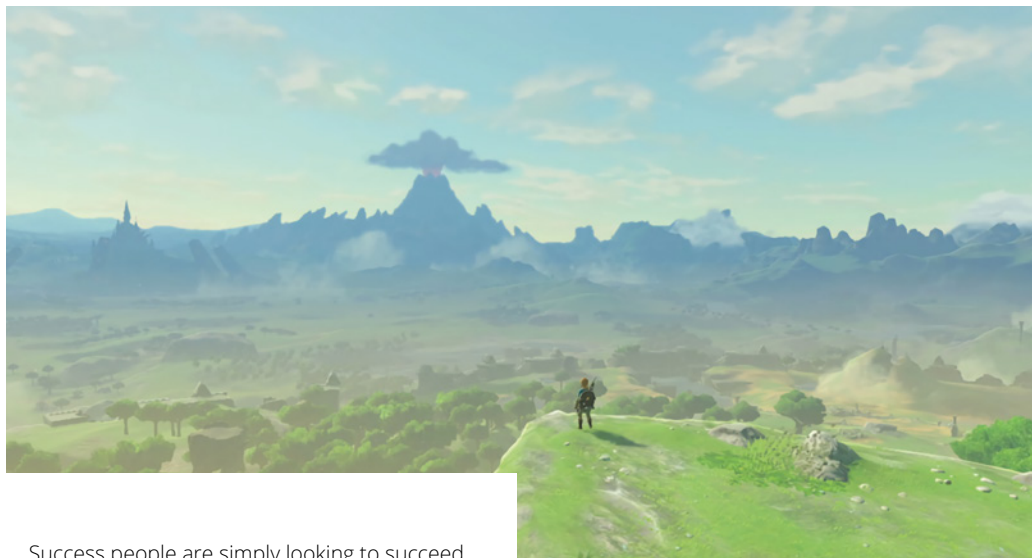
of losing families, friendships, opportunities - all manner of sacrifices. And when you make that kind of commitment, suffer those kinds of losses, and then it crashes and burns, leaving you without the big pay-off... that's not just a failure, it's traumatic! A startup is an ultra-high-stakes gamble that promotes dysfunction and undermines any kind of healthy functioning in the lives of those who step up to the table.

There is a definite downside for an indefinite amount of time, all for the fuzzy possibility of a tremendous upside. Most people are unwilling to endure the swings. It takes a special kind of person to jump in. What I do is help people manage the journey (and sometimes clean up the mess). I help them be a little more balanced, find a little more realism in their perspective, yet still pursue their dreams with fervour. Because that's what tech startups are all about, successfully realising dreams.

You could say a video game career is like a series of startups, with each game being a new venture. Except video games rarely offer the pot of gold at the end. In fact, sometimes, just as they succeed, the studio folds and it's on to the next one. So, what is the draw here?

The video game industry attracts people who are driven to successfully realise dreams, just like any entertainment endeavour. It's important to note there are two distinct components in the successful realisation of dreams: success and dreams. Consequently, people who pursue these sorts of careers tend to come in two flavours: success people and dream people.





◀ Like Link setting out on a quest in a *Zelda* game, having a clear goal is key to career success.

Success people are simply looking to succeed, and they may not be terribly particular how they do it. They typically measure success in money and/or notoriety (which can be monetised).

Dream people are trying to make their vision come true. They start with a specific concept or product, and they measure success by how closely they come to realising this dream. It isn't about the money. Money frequently follows if they get there, but that's not the focus of their effort, and more importantly, it's not the source of their drive.

You may ask: what's the difference as long as it works? Though it's true that either can lead to fame and fortune, it's important to recognise they're vastly different approaches: one is outcome-focused (success), and the other is process-focused (dream).

Success people know the goal but face the problem of figuring out their next step. If you don't have a reliable crystal ball, that's a tough problem. It's easier to picture the ultimate destination than to plan a solid path for getting there. People with a dream are already on a path. They can usually answer the question, "Will this next step take me closer to my goal or not?"

Coming up with a clear vision that's worthwhile isn't an easy thing. And if you do, can you walk it through to victory? Sometimes yes, sometimes no. But the path is much better lit.

As you go through life, you'll see a lot more success people than dream people. It's far easier to visualise success than it is to manifest a true vision. Hollywood is a great example of this. There are hundreds of thousands of people in Hollywood who lack a specific vision to guide

them. They're "networking", which is often shorthand for "looking for someone's coat-tails to grab onto". And the best coat-tails to grab are those of a visionary with a sense of destiny.

Because of this, it's far easier for dream people to find success people to help them succeed than it is for success people to find dream people worth pursuing.

Another way to look at what happened at Atari is to observe that Nolan Bushnell was a dream person and Ray Kassar was a success person. Bushnell's Dream Culture gave way to Kassar's Success Culture. Whereas Bushnell inspired a culture of creation and innovation, Kassar just wanted product delivered and sold. As that transition progressed, we increasingly lost our way.

Atari started off with lots of dream people with a vision mentality. Kassar's regime attracted lots of people with the success mentality, and that was an unfortunate culture shift, in my opinion. Over time, I believe Kassar's approach quashed that wellspring of fertile creativity, leaving a soulless void in its place.

I'm not knocking success. After all, it's impossible to succeed without it. But success for its own sake can lack substance and direction. Dreams, on the other hand, are powerful and incredibly substantial. What else pierces the veil of sleep?

Success is a noble pursuit, but a dream is a blueprint. It's the starting point for a specific journey. When we lose sight of the dream, it's too easy to get lost along the way. 🙄

“Atari started off with lots of dream people with a vision mentality”

▼ Maintaining a healthy work-life balance is tricky when you join a startup - or when you're in game development, for that matter.



Custom gravity planet walking in Unreal Engine

Get a character walking and hopping around a spherical planet, Super Mario Galaxy-style



AUTHOR
RYAN SHAH

An avid developer at The Multiplayer Group with a strong passion for education, Ryan Shah moonlights as KITATUS – an education content creator for all things game development.



By default, characters in Unreal Engine can't walk on spherical surfaces. But in this guide, we're going to make cunning use of Blueprints to create a planet with its own gravitational field.

We'll be looking at supporting characters and physics objects on our floating gas balls, so strap yourself in, it's all systems go...

There are a number of ways to approach Custom Gravity in Unreal Engine, depending on what you'd like the system to achieve. Here, we're going to look at an approach we can put together using Blueprints, but as we go along, we'll discuss alternative (and more comprehensive) methods to ideally suit even more cases than the one we're tackling in this guide.

Before we begin, we have to understand the needs we're going to address, as well as have a good understanding of how we're going to tackle

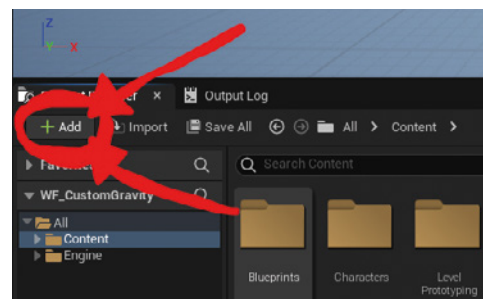
the technical hurdles ahead. We want to create planets that our characters can walk on and that can also support physics objects. While these are technically two separate systems, the core thinking behind them is similar enough that we should be able to share knowledge across both.

So what are we going to need? Simple: a sphere and a character to walk on it. Our example game will be from a side-on perspective to allow for an easier explanation of the vector maths, and to visually show how the system works in a more basic state. For this example, we're going to import the Third Person example content. The main reason for this is so the inputs are already set up and ready to go, and so we can have a human character rather than a boring grey cube.

First, create a project using the Third Person example as a base. If you've already created your project, you can use the 'Add > Add Feature or Content Pack' to import the Third Person example content (see **Figure 1**).

With the content imported, we're almost ready to begin putting together our spherical planet and planet walker. Before we continue, create a new, blank map (or remove the existing content in the currently open map) and save it as 'Map_OnePlanet'.

Inside our newly created map, we're going to create our Sphere Blueprint to represent the planet we're going to walk on. Create a new



> **Figure 1:** You can add many different items from the Add menu, including example content or new classes. You can find this menu on the top left of your Content Browser.



◀ Follow this guide, and you'll have the basis for tiny planets akin to the ones in *Super Mario Galaxy*.

Actor Blueprint (you can right-click in the Content Browser and click Blueprint Class). Name this 'BP_Sphere'.

Double-click BP_Sphere to open the Blueprint editor and head for the Viewport tab so we can add our sphere mesh (Figure 2).

We're going to need a Sphere to represent our planet and a camera to allow us to see where the player is. In a first-person game, this camera would be placed on the player, but as we want a side-on perspective, having the camera on the planet will be more beneficial as it will mean we can statically see where the player is at all times.

Create a Sphere component (by pressing 'Add') within the Components area. Once that's created, create a Camera component (Figure 3).

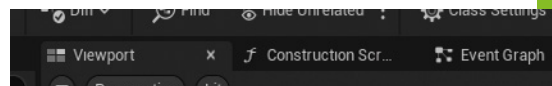
Clicking on the Sphere component, you'll notice the details panel is propagated with options we can alter. In the Details panel, confirm that the Location, Rotation, and Scale of the Sphere are as follows:

Location: X: 0.0, Y: 0.0, Z: 0.0
Rotation: X: 0.0, Y: 0.0, Z: 0.0
Scale: X: 10.0, Y: 10.0, Z: 10.0

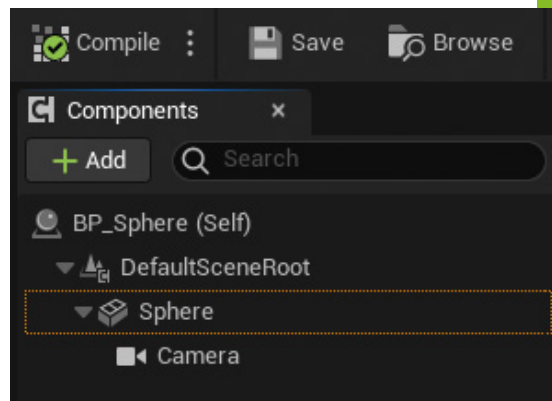
Now do the same for the camera, this time ensuring the values are as follows:

Location: X: 0.0, Y: 156.0, Z: 5.0
Rotation: X: 0.0, Y: 0.0, Z: -90.0
Scale: X: 0.1, Y: 0.1, Z: 0.1

With those values set, let's head over to the Event Graph tab. We're going to write a very small Blueprint chunk that tells the player to use the



▲ Figure 2: The tabs inside Blueprints go to three specific areas. Viewport allows us to see a 3D representation of this Blueprint, the Construction Script is for Blueprint code to trigger when this Blueprint is created, and the Event Graph is used for all other pieces of Blueprint code.

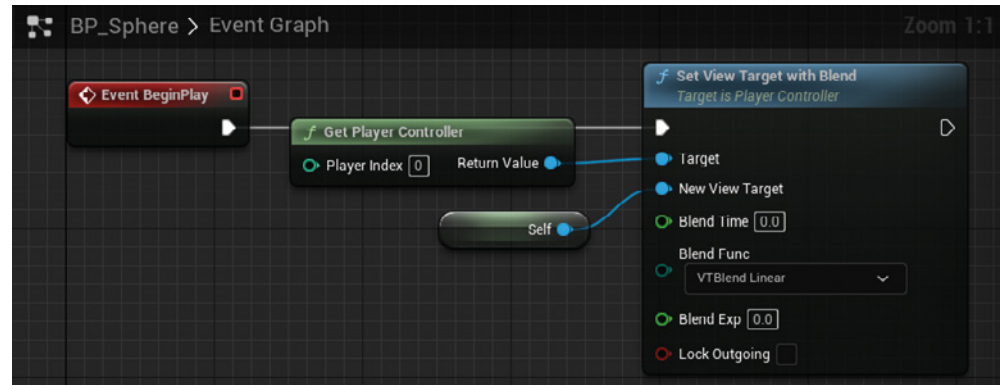


▲ Figure 3: The hierarchy in your BP_Sphere's Component list should look like this.

camera of this actor – this will be moved later when we support more planets, but for now, we can trigger it as soon as this planet is created.

Within the empty space of your Blueprint view in the Event Graph of BP_Sphere, right-click to open up the Blueprint Palette. Search for 'Get Player Controller' and create the node. From the 'Return Value' output pin, click and drag it into empty space. When the palette opens up again, we're now in the Player Controller context, so type 'Set View Target' and select the 'Set →

► **Figure 4:** This is the Blueprint code required for BP_Sphere. This code says, "When this planet's created, tell the player controller to use our camera".



View Target with Blend' node. In empty space, create a 'Self' node and plug that into the 'New View Target' input of the 'Set View Target with Blend' node.

Once those nodes have been connected and hooked up, find (or create) an 'Event BeginPlay' node and hook the main execution pin into the input of the 'Set View Target with Blend' node (Figure 4).

With the Sphere now created, we can place it into our scene. Compile, Save, and head back into your main Unreal Engine view. From here, head to the Content Browser and place the BP_Sphere into the scene. When the BP_Sphere is in the scene, click it to open the Details panel and ensure the transform is as follows:

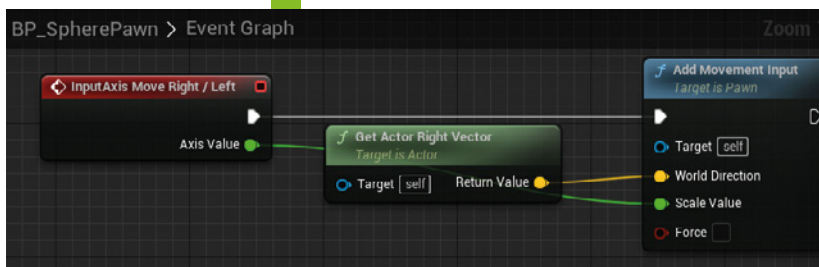
Location: X: 0.0, Y: 0.0, Z: 0.0

Rotation: X: 0.0, Y: 0.0, Z: 0.0

Scale: X: 1.0, Y: 1.0, Z: 1.0

Now it's time to create our character. Create a new Blueprint, but this time, instead of an Actor Blueprint, create a Pawn. This is so we have all the default behaviour of possessing a pawn and controlling one without the added complexities of using a Character Blueprint. Name your Pawn blueprint BP_SpherePawn.

▼ **Figure 6:** This is the Blueprint code for input in the BP_SpherePawn.



“For every frame, we want to check what’s below the character”

Once your Pawn has been created, double-click it to open it up. Within the Components area, add a SkeletalMesh and a FloatingPawnMovement. If you brought in the Third Person example content, click the SkeletalMesh and set the Mesh to either SKM_Quinn or SK_Mannequin (depending on your Unreal Engine version) – see Figure 5.

Now head over to the Event Graph. There are two distinct things we’re going to have to do here; the first one is to respond to input from the player,

and the second is to make sure we’re moving alongside the planet’s surface. To deal with input, we’re going to make a Move Right event. This will exist if you correctly imported the Third Person example content. If you didn’t, create the input within the Project Settings.

Create an 'Add Movement Input' node and connect the execution pin to the output of the Move Right event. Add a 'Get Actor Right Vector' node and plug it into the Add Movement Input's World Direction. Connect the Axis Value from Move Right to the Scale Value of the Add Movement Input (Figure 6).

The basic summary of the Blueprint snippet we’ve just created is that when Move Right is triggered, take how hard that value was (from a little nudge of the left stick to a full-blown tilt of the stick) and move this actor to the right.

Now for the meaty part: keeping this pawn on the planet! Every frame, we’re going to check below the character – if we hit something, we’re going to assume it’s the planet. With this knowledge, we’re going to make sure we’re correctly aligned to the planet’s surface.

We can execute the code every frame by using the Event Tick event. Go ahead and either find it or create it now.

For every frame, we want to check what’s below the character. We can do that with a Line Trace.

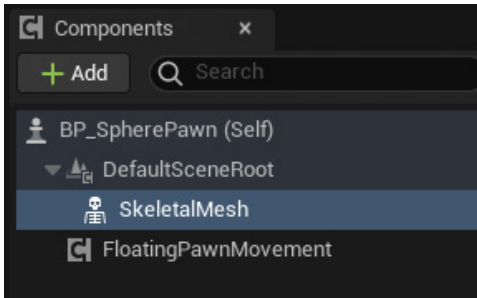


Figure 5: This is the hierarchy for your BP_SpherePawn.

Go ahead and create a 'Line Trace by Channel' node and connect to the Event Tick. Most of the default information is fine for this node, but we need to adjust the start and end of the trace, so we're looking from the correct areas.

We're going to need seven nodes right now, so go ahead and create them:

- Get Actor Location
- Get Actor Up Vector
- Make Literal Float
- Make Literal Float
- Multiply (Vector * Float if in UE4)
- Multiply (Vector * Float if in UE4)
- Add (Vector + Vector if in UE4)

With these nodes, we need to hook them up like so: Get Actor Location's output pin needs to go into the 'Start' input of the Line Trace. It also needs to be plugged into the first input of the 'Add' node. The output of the 'Add' node can be hooked into the 'End' pin of the Line Trace.

With the first 'Multiply' node, the first input should be the 'Get Actor Up Vector' and the second input should be one of the 'Make Literal

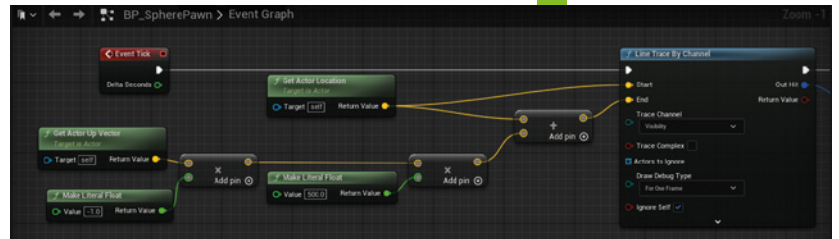


Figure 7: This is the Blueprint code for the Line Trace. This code is tracing from the middle of the actor to directly underneath the actor (500 units down, to be exact).

Float' with an input value of -1.0. This 'Multiply' node's output should be connected into the second 'Multiply' node's first input. The second 'Make Literal Float' can now be hooked into the second 'Multiply' node's input and the value of the Float should be set to 500. Finally, hook the output of the second 'Multiply' node into the second input of the 'Add' (see Figure 7).

Phew – that was a mouthful! For those more mathematically inclined, here's the pseudo-code of what we just put together:

```
GetActorLocation + ((GetActorUpVector *
MakeLiteralFloat[-1]) * MakeLiteralFloat[500])
```

By tracing, we know at exactly what angle and where the ground is below our character, so we can ensure the character remains firmly planted on the ground. From the Out Hit pin of the Line Trace, drag into empty space and type 'Break' to create the 'Break Hit Result' node. The two inputs we want from this are 'Impact Point' and 'Impact Normal' (where we hit, and the normal of this hit).

This next snippet of code is going to alter the player's location and rotation. Instead of ➡

ENGINE MANAGEMENT

While this guide was written in Unreal Engine 5, you can still follow along in Unreal Engine 4. You can download the engine for free at unrealengine.com.

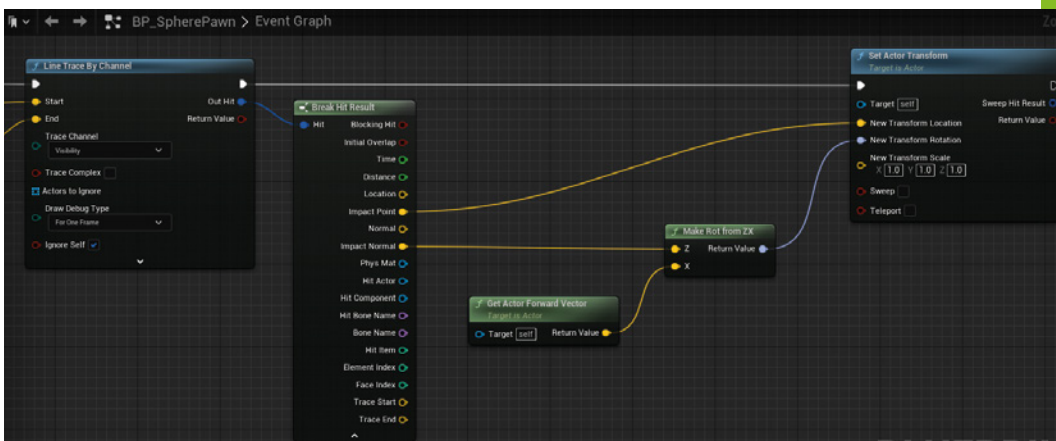


Figure 8: This is what your trace code should look like when you're ready to test.

Toolbox

Custom gravity planet walking in Unreal Engine



^ **Figure 9:** We can now spin around the planet! But... what if we were to add another planet?

creating two nodes for that, we can use the 'Set Actor Transform' node. Create that now by hooking the execution input into the output execution pin of the Line Trace. Right-click the transform pin of the Set Actor Transform and select Split Struct Pin to allow us to set the Location and Rotation directly.

Location-wise, we're fine to snap the character to the point where we hit the ground, so drag the Impact Point pin to the New Transform Location of Set Actor Transform. We can use the 'Make Rot from ZX' node to deal with the math needed to correctly orientate the pawn, so create the 'Make Rot from ZX' node now.

Connect the Impact Normal output pin to the Z of 'Make Rot from ZX' and create a 'Get Actor Forward Vector' into the X input. The output of the 'Make Rot from ZX' can be plugged straight into the 'New Transform Rotation' pin of 'Set Actor Transform' (see **Figure 8**, overleaf). And we're ready to test! Compile, Save, and head back into the main Unreal Engine window. Drag your pawn into the scene and set it to these transform details:

Location: X: 10.0, Y: -10.0, Z: 520.0
Rotation: X: 0.0, Y: 0.0, Z: -90.0

Finally, while still in the Details panel for the pawn, scroll down to 'Auto Possess' and select 'Player 0' from the drop-down menu. Now, when you give the game a test, you can see we can walk all the way around the planet and back (**Figure 9**).

To make a second planet, head back into the player pawn we've made (BP_SpherePawn) and add a 'Jump' input event. From here, do the Line

“Give the game a test; you'll see you can hop between the planets”

Trace and Set Actor Transform again, but note that as we want to trace up, we no longer need the 'Make Literal Float -1' part of the trace (see **Figure 10**).

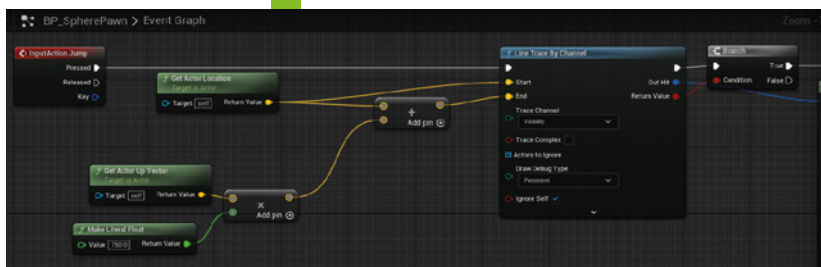
The 'End' should simply be:

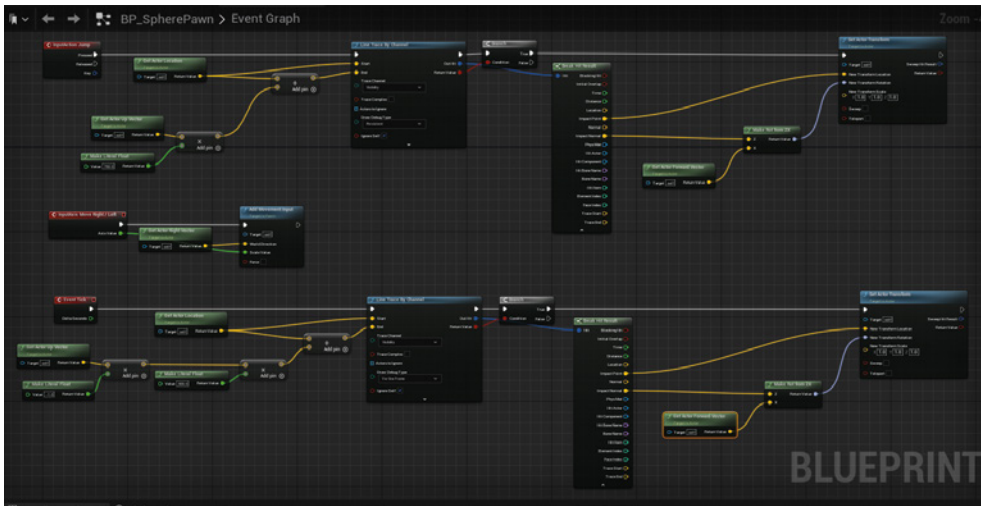
GetActorLocation + (GetActorUpVector * MakeLiteralFloat[500])

We now have to add something between the Set Actor Transform and the output of a Line Trace, which we also do in our original code – we'll add a 'Branch' node to ensure a hit took place before snapping the player. Simply add the 'Branch' node to the output of the Line Trace for both code snippets, connecting it into our 'Set Actor Transform' via the True output (**Figure 11**).

Finally, we want to update the camera so we're not stuck on the old planet. Create a 'Get Player Controller' node and, from the output pin, create a 'Set View Target with Blend' node again. Within the 'Jump' version of our snippet, grab the Hit Actor output of the 'Break Hit Result' and connect that to the 'New View Target' of the 'Set View

v **Figure 10:** This trace is tracing directly up to see if that is a planet directly opposite for us to jump to.





◀ Figure 11: The differences between the Event Tick and Jump version of our snippet vary mainly in the End pin of the trace.

Target' node. For good measure, set the Blend Time to 0.1. Connect this node after the ;Set Actor Transform' node (Figure 12).

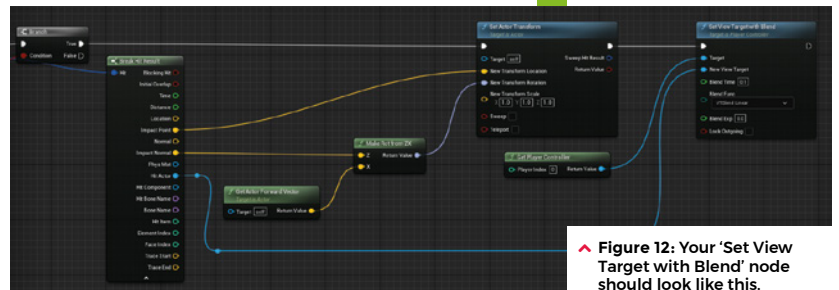
Now drag in another BP_Sphere, and set the location to:

Location: X: 1230.0, Y: 0.0, Z: 640.0

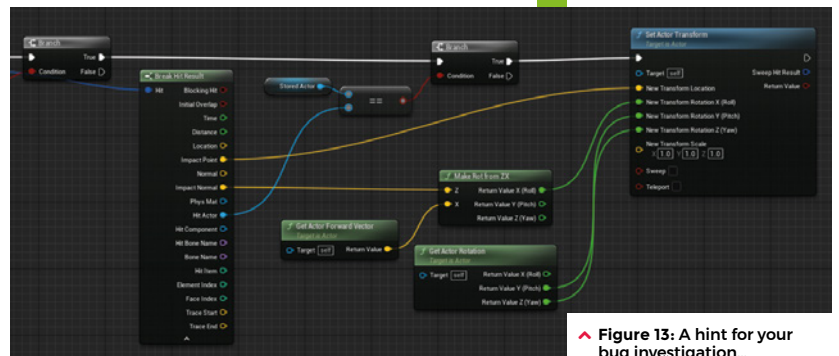
And we're done! If you give the game a test now, you'll see you can hop between the planets. You may notice some camera weirdness the first time around; this is because we were setting the camera on BeginPlay in the BP_Sphere. Feel free to move that code to the Level Blueprint or remove it entirely to suit your needs.

There's also an intentional bug left in for you to fix: being able to tell the difference between the two spheres when snapping to it so you don't accidentally fall inside when 'jumping'. To help guide you to a fix, storing a reference to the Hit Actor and ignoring it when jumping should solve the problem. If you'd like to check your solution, you can download the full Unreal Engine project for this guide (wfmag.cc/wfmag64) and look at BP_SpherePawn to see if you were able to correctly fix the bug (see Figure 13).

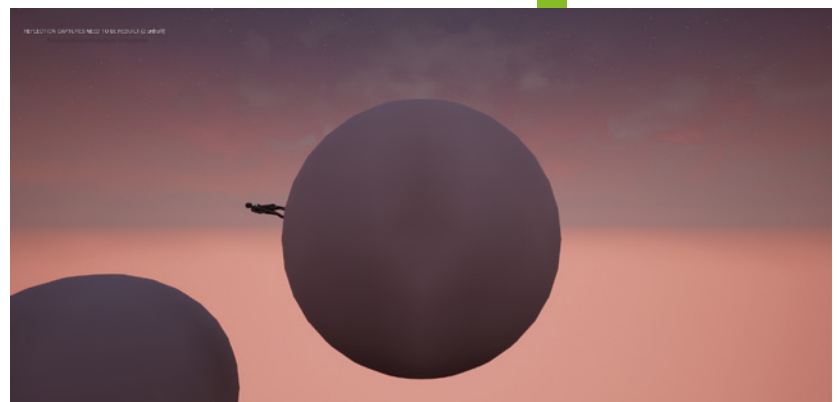
This was an overview of just one of the many ways you can achieve this type of movement within Unreal Engine. From splines to setting your character to 'flying' mode to a custom movement component, there are many different ways to implement this kind of feature with various pros and cons. Hopefully, though, this (relatively) simple implementation of custom gravity has inspired you to want to delve deeper into the topic. It can get pretty complicated, but the pay-off is a robust system that looks and feels great to play with. 🎮



▲ Figure 12: Your 'Set View Target with Blend' node should look like this.



▲ Figure 13: A hint for your bug investigation...



▲ You did it! You created a planet-walking character!

Using matrices to power your content

Creating all the elements that populate your game takes time. Thinking with matrices allows you to create that content with maximum efficiency



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Rather than a sunglasses-wearing Neo battling Agent Smith, matrix design revolves around the much more exciting world of using 'square growth' to produce the content needed for your game. When discussing 'content' here, I mean the elements that players encounter during the game, either as threats and challenges (monsters, hazards, NPCs) or the tools they use to overcome them (weapons, pick-ups, special moves).

There are several ways you can use matrices when creating content, but each revolves around efficiency. That may not sound exciting, but it boils down to letting you add more stuff to your game in the time you have, which anyone who's faced a deadline will tell you is very exciting indeed.

MATRICES = COMBINATIONS

A matrix (plural, matrices) is nothing more than a grid with X and Y axes. Matrices have all sorts of mathematical uses but we're interested in how they make it easy to visualise where elements in the X axis can be combined with ones in the Y axis, with each combination a potential piece of content for your game.

But to make use of this, you need to think about how you can create your elements from 'systems' rather than by hand. As an example, say you create a monster that runs up to the player and attacks, and then you make one that can turn invisible. You spent a certain amount of development time and ended up with two monsters for your game. Now let's get a matrix involved: this time you create a system that allows you to specify what monsters are armed with, such as attacking in melee or from range with guns. We'll make 'melee or ranged' the X axis on our matrix. Then you create a system that allows monsters to become invisible (and of course we get 'not invisible' for free), so we put 'visibility' on our matrix as its Y axis.

Our matrix now has four monsters we can create; visible+ranged, invisible+ranged, visible+melee, and invisible+melee. By creating

▼ This fun example of a matrix from artist marpro has each Pokémon's element as one axis and species as the other, demonstrating the possible combinations.





our monsters through systems rather than as one-off discrete entities, we now have four critters we can add to the game rather than two, and that's just with a tiny 2x2 matrix. If, instead of making the X axis 'melee or ranged', we make it 'attack types', we can then add all sorts of choices, such as flamethrowers, magic, explosive, poison, etc. We can do the same to our Y axis, too, changing 'visibility' to 'special power' and adding flight, teleportation, healing, and so on. By filling in all the X+Y combinations in our matrix, we end up with an incredible array of potential monsters; a 3x3 matrix provides nine options, a 4x4 gives 16, and up and up.

"It boils down to letting you add more stuff to your game in the time you have"

SQUARED > LINEAR

The reason this works is that creating elements one at a time without thinking about the next one is linear content creation – each one you add is one more element in the game. But using systems (and a matrix to track all the combinations) means content creation is squared – you multiply the possibilities rather than adding them.

Of course, you have to consider each of the potential combinations and decide if they'll be useful for you – a matrix lets you see what's possible with your systems, not whether each combination is a good idea. That said, combinations that initially seem like duds can provide unexpected ideas. For instance, a melee monster that explodes when killed is an obvious choice, but while a ranged monster that explodes on death seems like a pointless combination it

might open up clever tactics for players who spot them in the middle of enemy groups.

As a case study, while working on a combat-focused racing game, we hadn't yet decided how tactical or slapstick our gameplay would be. So rather than creating bespoke weapons, we made a system that allowed us to specify how projectiles travelled (straight line, homing, arcing, dropped on the spot) and what happened when they hit a target (damage, slowdown, scramble). This let us rapidly combine options and see which sort of weapons gave the gameplay style we wanted.

CUBED, NOT SQUARED

So far, we've been looking at two-dimensional matrices with X and Y axes. However, you can add a third axis to a matrix, transforming it from a square to a cube and massively increasing the number of permutations possible. Take a matrix looking at spaceship stats as an example: a 2D 3x3 grid might have 'speed' and 'manoeuvrability' as its axes, giving nine possibilities. But a 3D 3x3x3 cube that also includes 'armour' as its Z axis gives 27 options to choose from. ➔

	Enemy visible	Enemy invisible
Attack in melee		
Attack from range		

CONTENT SYSTEMS

I keep referring to content creation systems, but what are these? Basically, it's creating elements in any way that allows you to easily swap sections of them to something else. This can range from making your monsters so you can swap which weapon they're carrying or how much armour they're wearing, all the way up to tools that allow you to select options from a menu and then output the results for you. Just remember that these systems are there to serve your game, not the other way around – it's easy to procrastinate by over-engineering tools!

◀ By creating elements like your characters through content creation systems, you can rapidly produce a range of opponents that require different tactics to defeat.

Toolbox

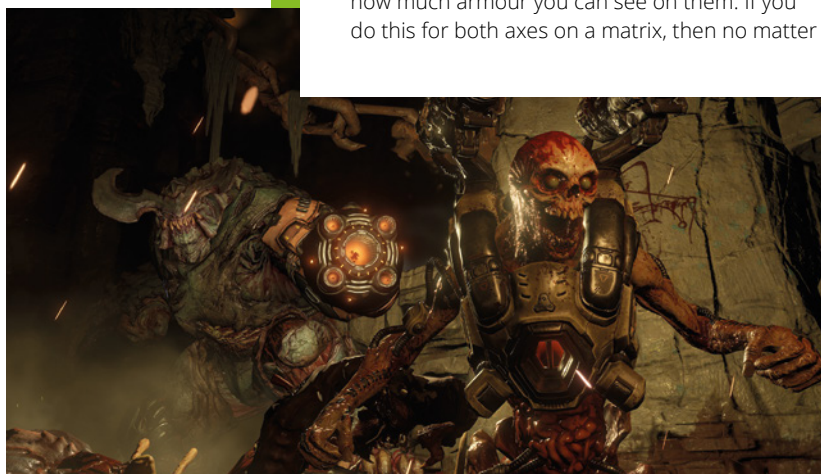
Using matrices to power your content

► It's most efficient to decide which player skills your gameplay will test and create content to do it, but you can do the opposite retroactively.

THE IRON TRIANGLE

We covered the development concept of the 'iron triangle' back in Wireframe 52 (wfmag.cc/52), which dictates that you can control any two of your project's time, cost, or quality. For indie developers, time and cost are much the same – how long you can afford to work on a game before you need to release it – so working with matrices can really help. Every element of your game needs to pull its weight, so if you can't find many uses for something, it might be better to cut it and focus your efforts elsewhere.

▼ The form of *DOOM*'s enemies follows their function. These are both ranged attackers but one is going to be a lot tougher to take down.



	Enemy leaders	Rush enemies	Thick scenery	Enemy ambush	Time limits
Precision shooting	Take these out first		Shoot through gaps	Appear near your squad	
Deal with hordes		Massed attacks			Slow your squad down
Prioritise threats	Leaders buff enemies	When to shoot these?	Limited time to shoot	When to shoot these?	When to fight or run?
Avoid friendly fire		These attack in melee		Appear near your squad	
Issue orders	Order squad to target them		Issue orders while waiting		Order squad to hurry

As you can imagine, creating your content so it can be configured in three axes like this means you can quickly produce a lot of elements for your game (or at least provide lots of potential choices for you to select the best combinations from). But there are downsides to this approach.

First, cubed matrices are difficult to visualise and discuss, with hidden options needing to be called out in some way. Also, while it's not too difficult to create a system that lets you configure your games' elements in three axes, it can be tricky to ensure the form of each of those choices follows its function. Speaking of which...

FORM FOLLOWS FUNCTION

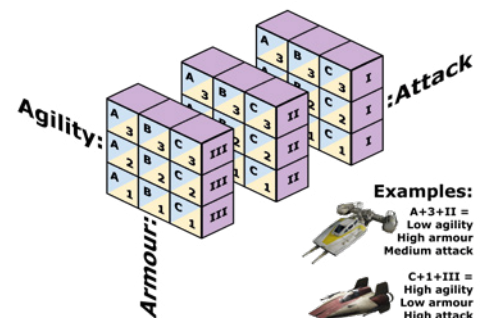
Before we move on to the next use for a matrix, I want to detour into the related area of 'form follows function'. This means that each choice on a matrix axis has a visual identifier, such as the 'health' axis of a character being reflected in how much armour you can see on them. If you do this for both axes on a matrix, then no matter

which combination you pick, players will be able to understand the 'gameplay role' of whatever they're looking at.

Let's map *Halo's* Flood faction onto a three-axis cube as an example. Even though they're space aliens and so could look like anything, the Flood's designers ensured their form follows their function: A) We can see from their size how tough each will be to kill, B) Whether they're carrying a gun tells us if they're going to attack from range or in melee, and C) Flood with ballooning gasbags let us see if they're going to explode on death or not.

TESTING PLAYERS

A second use of matrices is to list all the potential challenges in your game on one axis (for a racing game this might be chicanes, jumps, and ice patches, for example). Then on the second axis, list all the player skills you might test during gameplay. These could be physical skills like precision jumping or dodging shots, or they could be mental ones, such as making the right decision



▲ Matrices with three axes look like cubes, providing many potential combinations but forcing you to call out choices that are hidden behind others.



◀ Games like *Hades* stretch your skills in new directions by combining freshly introduced elements with ones you're used to, forcing you to learn and adapt.

under pressure or remembering the moves in an attack combo. You can now look at your matrix and see which of your challenges can be used to test each player skill. For instance, you might want to test the player's ability to deal with hordes of enemies, so would look down your options and flag the 'small+fast enemy' as ideal for that.

You may find that none of the challenges you've planned directly test a skill, meaning either that skill isn't important to your game after all or that you need to add something that does test it. Or you might see that a player skill is being tested by lots of your challenges, suggesting that particular skill is key to your gameplay. In this case, you might want to add more depth to the skill (as it'll be coming up a lot) or rework some challenges so that they test different skills instead.

USING YOUR CONTENT

Another common use for matrices is to ensure you're actually using all this content you've made in varied gameplay scenarios. In this case, you list each piece of your content (i.e. the stuff you created from the first use of matrices we discussed above) on your axes. You can now look for interesting combinations of elements and flag where you've used that pairing in your game. Perhaps you realise you don't yet have a scenario that pairs the invisible+exploding enemy with the flying+sniping enemy, giving you the idea of creating a tense battle where the player has to fight at range while also checking for approaching threats.

As well as highlighting fun gameplay combinations you may have missed, this can also fulfil the mundane but important role of letting you spot where an element you've

created doesn't appear in your game very often, suggesting you may not be getting maximum value from the time you spent making it.

CONCLUSION

Matrices allow you to stop and think about whether you're better off 'hard coding' an element of your game in isolation or spending extra time creating a system that allows you to make lots of elements like it. If you really are only going to have one of that 'thing' in your game, then sure, create it with bespoke code as that's probably going to be quick to implement. But while the extra work needed to create a system that can produce multiple versions of that element might take longer in the short term, you don't need to make many of them for the extra work to pay off.

Matrices are about 'making the thing right' by creating systems to help produce content, and 'making the right thing' by asking where this new content fits into your game. ^W

	AA tower	Fire tower	Mortar tower	MG Tower
Grunt horde	☹️ + 🎯	☹️ + 🔥	☹️ + 🚬	☹️ + 🗑️
Cloaked sniper	👁️ + 🎯	👁️ + 🔥	👁️ + 🚬	👁️ + 🗑️
Heavy tank	🛡️ + 🎯	🛡️ + 🔥	🛡️ + 🚬	🛡️ + 🗑️
Demo troops	👤 + 🎯	👤 + 🔥	👤 + 🚬	👤 + 🗑️
Support medic	👤 + 🎯	👤 + 🔥	👤 + 🚬	👤 + 🗑️

AUDIENCE EXPECTATIONS

A final use for a matrix that's a little different is creating one whose two axes are gameplay styles that your game can be rated on. For example, you might have 'coordination versus tactics' on the X axis and 'luck versus skill' on the Y axis.

You can consider where games aimed at a similar audience to yours sit on X and Y, then get playtesters to rate where they think your game sits in that space. If this doesn't line up with what you were expecting, you can either adjust your gameplay or pivot towards a different audience.

◀ Listing each game element allows you to spot over- and under-used combinations, and can highlight potentially fun scenarios you might not have thought about.

How to write a playtest survey

Surveys can help you understand and measure players' thoughts, resulting in better video games. Here's how to get started



AUTHOR
STEVE BROMLEY

Steve Bromley is a user researcher who has worked in games for over a decade. He's enthusiastic about making better playtesting accessible to game teams of all sizes. Get some free tools to help run your playtest at playtestkit.com

Throughout development, there are plenty of occasions where we might wonder, 'What do players understand or think about my game?'. Surveys are one part of your toolkit to explore these topics. A survey is a list of questions that you ask people after they play your game, whether it's an early build, a demo, or at the end of development, and they can be a powerful tool to inform game design decisions. Here, we'll look at how to use surveys, some traps to avoid, and how to write useful questions to help make games better.

DATA IMPROVES DESIGN DECISIONS

Game development is an iterative process. From the first prototype, we are assessing 'Is this fun?', 'Do players understand?', 'Should I develop this idea further?', and using that information to

decide what to do next. Should we drop this mechanic? Should we do more of this? Is there any emergent behaviour from players we want to encourage?

That iteration starts with a game designer's experience and expertise. But it's supported by player behaviour. Seeing what players really do, or really think about your game, is rich information that we can use to inspire design decisions. Whether it's reflecting on the quality of a vertical slice, comparing levels, or working out when retention drops, surveys can particularly help when you want to measure something. Typical questions that can be answered with a survey include: 'What rating do players give this puzzle?'; 'What emotional response does this get?'; and, 'When does this game get dull?'

Surveys are only one of the methods available to help inform design decisions. They're most appropriate when you want to measure things, like a player's opinions or perceptions of difficulty. They work particularly well when combined with other playtest methods, such as observing players' natural behaviour to identify usability issues, or interviewing them to understand 'why' we see a certain behaviour.

A typical study design for a playtest involves:

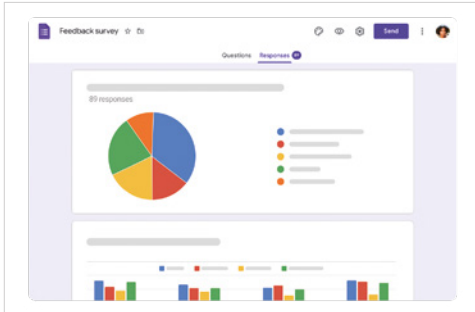
- Watching players play through a section of your game
- Asking them questions immediately after to interpret the behaviour we saw
- Asking them to complete a survey, to get ratings we can use to benchmark later

✓ Surveys can be made digitally, or distributed on paper for in-person playtests.

Overall how would you rate the game you played today? (circle one)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Why?



^ Google Forms is ideal for most surveys, and handily, it's free to use.

There are other times, however, when you may only have capacity to run a survey – such as getting feedback from playtesters remotely – which is fine, as long as you know what type of information you can or can't reliably get from a survey.

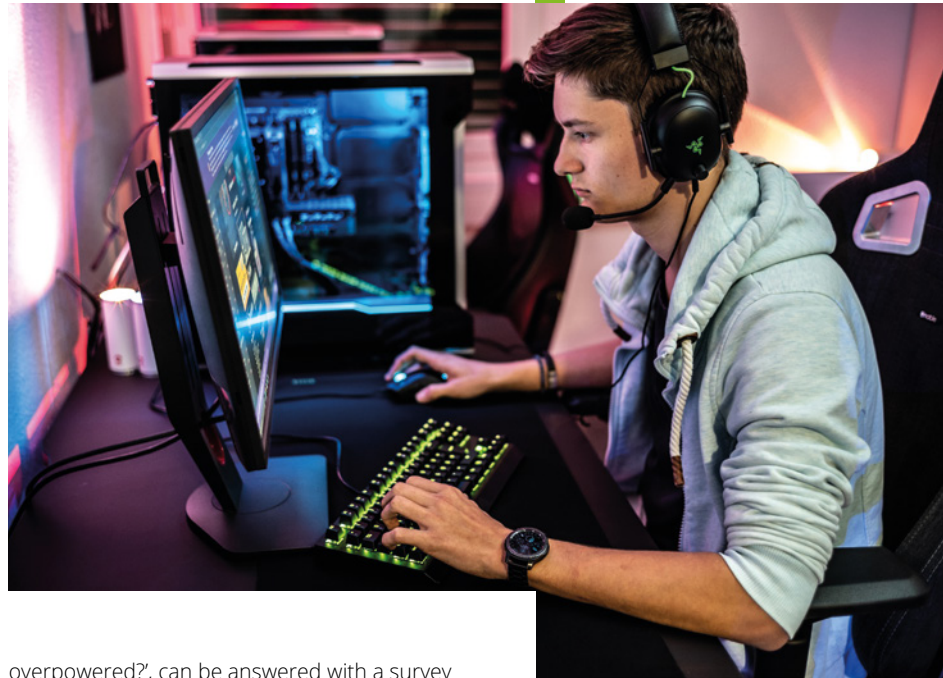
WHAT DO YOU WANT TO LEARN?

Jumping straight into writing your questions will likely result in a vague, unfocused survey. We want our surveys to be direct, punchy, and relevant to our game development priorities, so we'll start by confirming what we need to know. Spending time on this massively increases the chance you'll generate useful answers.

First, consider what your team needs to know. This can be informed by what they're currently working on, the elements of the game they're most uncertain about, or risks they've identified, and should be linked to the team's current priorities. Some example research objectives could include:

- How do players decide which games to buy?
- Are any of our characters overpowered?
- Do players believe this puzzle is of the appropriate difficulty?
- Why do players keep getting lost in the tutorial?
- Why do we see increased churn on day ten?

Not all of these are suitable for a survey. Before continuing, think about whether you can answer a particular research question with a survey. Some, like, 'Do players think this attack is



overpowered?', can be answered with a survey because it's a measurement question. Others, such as, 'What bits of the game do players not understand?' requires closer observation of player behaviour, and would be better answered by another method.

It's essential that you decide the research objectives before you confirm the method (whether it's a survey, a usability test, an interview, etc.). Leading with the method first will lead to unreliable or unhelpful conclusions. If you've gathered some research objectives that can be answered by a survey, it's time to write some questions.

WRITE GOOD QUESTIONS

For each of our research objectives, we want to ask one or more questions to reveal the answer. A good question meets the following criteria:

- The player understands what is being asked
- The player knows the answer
- The player is able to give their answer

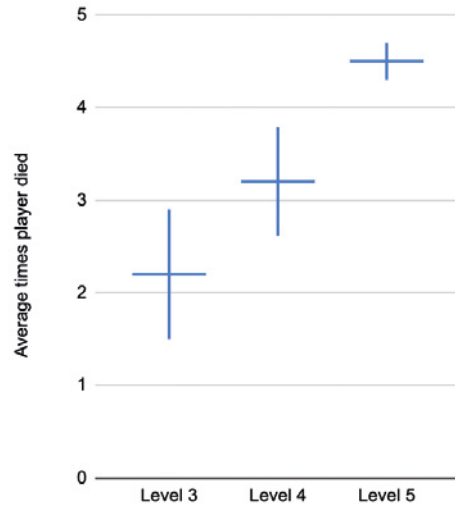
To understand what's being asked requires you to use the same words as the player. Be careful with acronyms, or industry terms (like MOBA) that might not be familiar to the player. You can also get caught out when referring to characters or enemy types by name if the player doesn't know which you mean. Showing a picture can help with this. ➔

^ Ask players to complete a survey after every level, or at the end of the playtest, before they forget their opinions!

► Graphing the numerical data will reveal whether the differences are statistically significant.

GET THE RIGHT PLAYERS

Finding the right playtesters is important for getting realistic data we can make safe decisions from, and avoiding balancing the game for an unrealistic audience. Think about what other games your players will be playing, what communities exist for that game, and use that to advertise your playtest. Effort put into sourcing and creating a mailing list of people to take part in your playtests will pay off multiple times throughout development.



The player also needs to know the answer. This is easiest when asking about things they've done or thought about recently. Asking, 'How easy or hard was that level?' makes sense immediately after playing a level, but becomes harder to accurately answer the longer play goes on for, and the more they forget. Be careful asking about future behaviour ('Will you buy this game?'), because even with the best intentions, people are terrible at anticipating their future behaviour, and the data you get back will be junk.

Lastly, a player has to be able to give their answer. This requires us to decide how to allow people to respond. Open text fields (where players can type anything) are unrestrictive, so allow players to give a complete answer. But they also take longer to analyse, because they generate a lot of raw text data. They're best when we couldn't possibly anticipate what answers players will give in advance. For example, 'What was the best thing about the game so far?'

Selecting one or more options from a list of checkboxes or radio buttons is easier for the participant, but this requires you to comprehensively know everything that the player might want to respond. It's best when there are a closed, defined list of options. For example, 'Which was your preferred character?'

A third common question type is scales – asking players to rate something. This can be quality ratings (rate this from 0–10, or very good to very bad), or ratings about their impressions of things like difficulty (rate this puzzle from very hard to very easy). Scale questions are

particularly useful when you intend to compare the results – for example, comparing how a game's quality changes throughout development, or comparing the difficulty of different levels.

To decide on a question's text, start with your research objective. Then decide what question you'd need to ask a player to answer that objective. The research objective 'Is this puzzle too hard?' could be answered with a question 'How easy or hard was this puzzle?'. Then decide the appropriate question format, whether it's a scale, multiple choice, or open text field to answer. In this case, I'd recommend a scale that covers 'much too hard', 'too hard', 'just right', 'too easy', and 'much too easy'.

Question types can then be combined – so asking players to rate a level on a 0–10 scale, asking them to rate the difficulty of it on a scale going from 'very hard' to 'very easy', and then providing an open text box to let them explain why. For collecting the data, there are lots of expensive survey tools available, with various advanced features to allow branching logic or more extreme question types. Most of the time, these extra features introduce the risk of technical errors, or confusing users. Google Forms is free, and works fine for most typical playtest surveys.

UNDERSTANDING WHAT YOU'VE LEARNED

You'll get different types of data back from your survey. Some will be numerical data ('What score did you give this level?'). Other questions will have text responses ('Why did you give that score?'). We'll treat each of these differently.

Numerical data is the simplest to interpret. It's typical to represent the spread of the data – start by taking the average, and then look at the

variation in responses. Did most people respond similarly, or are there big differences in the responses? Graphing your data, and comparing

the confidence intervals, will allow you to visualise the range (Google 'Quantitative Research for new games user researchers' for a template and more information on how to do this).

You can then think about what all this means. Either by comparing the responses to different questions ('Did players think this level was harder than the previous one?'), or by looking at a single

“Scale questions are useful when you intend to compare the results”

question's response, and interpreting what it's telling you ('Did players rate this level easy or hard?'). From this numerical data, we can both take measurements for the things we ask, and draw comparisons between different parts of a game.

Text data needs a different process to interpret. For each question, we need to theme the responses. One way to do this is to pull all the nuggets out of the answers you receive and write them onto Post-it notes, then group those notes to reveal the themes. For example, splitting a long text answer into its components – 'I didn't like this level because it was hard to see which way to go, the boss was too hard, and the special move was overpowered' – means multiple points can be split and combined with other people's responses to create themes.

By doing this for each question, and combining scores with the themes generated by free-text answers, you can start to understand not just what score players gave, but why they gave that score – a good steer for game design decisions. Having gathered some results, you then need to spend some time thinking about what they mean. Which of the results were most surprising? Did anything rate particularly well, or particularly poorly? Working with the rest of the game team to identify which conclusions are interesting, and what action the team should take, will help make the process of running a survey worthwhile. Reviewing your research objectives will help achieve this.

AVOIDING TRAPS

The most common mistake I see teams make is asking the wrong people. For convenience, teams recruit people close to hand – either friends and family, other game devs, or their super-fans. This then generates unreliable conclusions – the standards and opinions of the people surveyed won't match those that your real players would say, which can easily cause you to make your game too difficult for most players.

One way to overcome this is to explore incentives – what can we offer (money, in-game rewards, another developer's game) that will convince more 'typical' people to take part in the survey? Other traps for surveys include:


- Writing double-barrelled questions that ask multiple things in a single question ('Did you think this level was too long and too dull?').

How would a player who thought it was just too dull, but not too long, answer?

- Asking leading questions ('Would you agree this puzzle was too easy?'). This will push people towards saying it was too easy.
- Not allowing players to say 'I don't have an opinion' or 'I don't know' by forcing answers to every question.

GETTING STARTED

Surveys are hard to get right – much harder than many other games user research methods. When speaking to players in live playtests, it's obvious when they haven't understood a question, and there are many opportunities to notice when you're talking about different things or haven't been understood. This is harder to notice with a survey, and so we have to continually be mindful that players might not have understood what we meant. Piloting the survey (sitting with the first participant and asking them what each question means) is one way to reveal where misunderstandings might arise, and allow you to reword the question before it goes to more people. Survey writing takes practice and continual iteration to master.

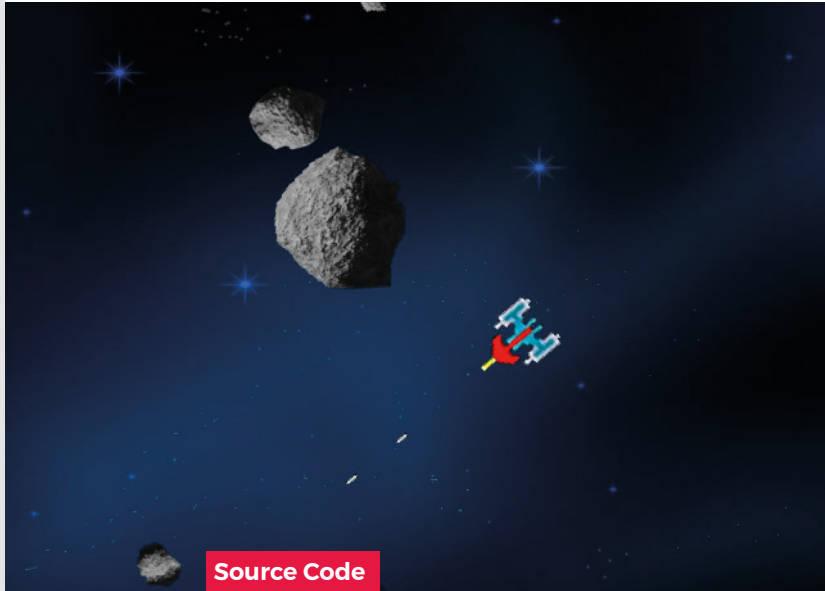
To learn more about games user research methods, join the community at gamesuserresearch.com, and sign up for free monthly playtest lessons or deep-dive into research methods with training courses. 



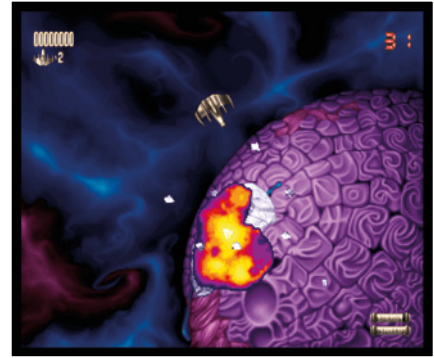
▲ Theme the text responses to reveal which are most common.

▼ Getting the right players is vital for testing; if you're making a VR game, then you'll need to find players who enjoy helmet-y experiences.





Source Code



- ▲ *Super Stardust* was originally released for Amiga and Amiga CD32.
- ◀ Our Pygame Zero rock-breaking *Super Stardust* homage.

Code an homage to Super Stardust



AUTHOR
MARK VANSTONE

Vent your hatred of rocks in our Pygame Zero salute to the 16-bit hit

The original rock-blasting arcade shooter was, of course, *Asteroids*, released by Atari in 1979. But since then, many clones; one notable example was *Super Stardust*, developed by Finnish developer Bloodhouse and released by Team17 for the Amiga platform in 1994 (for more on that studio's history, see page 28). The game featured considerably better graphics and sound than *Asteroids*, and got great reviews. One of the differences between the two is that *Asteroids* uses vector graphics to draw the screen objects whereas *Stardust* uses sprites.

If you have a look back at Wireframe issue four (wfmag.cc/4), you'll find a Source Code article describing how to make a spaceship move using thrust, *Asteroids* style. Rather than go over old ground, this example will cover how to code the asteroids that are broken into pieces by the ship's lasers. We'll use animated sprites for the asteroids, much the same as in the *Super Stardust* version of the game. We'll need three sizes of asteroids – the ones here are 128 × 128, 64 × 64, and 32 × 32 pixels. The twelve animation frames of each size of asteroids have been

produced using Blender 3D, which you can download for free from blender.org.

We set up four asteroids as Actors, make them into a list, and place them in a square around the centre of the screen. We can set them at different angles so that when we move them in the `update()` function, they'll go in different directions. We also add a status flag that will tell us if we need to draw the asteroid or not. If we set a different start frame for the animation of each asteroid, then they won't look too much like they're all turning together. When we update each asteroid, we use a bit of trigonometry to move each one in the direction they're pointing. We also check to see if they've gone off the screen and, if so, make them appear on the opposite side of the screen. Each `update()` call, we increment the frame being displayed by the asteroid Actor to make it look like it's rotating as it moves.

Now we have our moving, spinning asteroids, we need a ship to shoot them. We'll plop the ship in the middle of the screen and use the arrow keys to rotate it. If you want to add thrust to get the ship to move around the screen, have a look back at the issue four Source Code article

mentioned above. We'll use the `SPACE` bar to fire a laser Actor which we'll put in a list. If we assign the opposite rotation of the ship to the bullet, then we can move it in the direction it was fired until it hits an asteroid or goes off the screen. In this sample, there's a cleaning mechanism in the bullet update which filters out all the bullets that are no longer required, dropping them from the list.

To make asteroids break up, we detect when a bullet hits an asteroid actor, and when that happens, it's removed from the list to be drawn by setting its status to 1. Then we create two more smaller asteroids and set their angle to be at right angles to where the bullet came from. This makes them fly off in opposite directions, then in turn, if they're shot, we do the same but create the smallest size of asteroid. If the small asteroids are shot, they have their status set to 1 and no more asteroids are created. When all the asteroids have a status of 1, the level's been cleared. You might want to add some collision detection between the ship and the asteroids, perhaps a scoring system, and moving the ship around the screen, but we'll leave those for you to add. ☺



Gettin' Ziggy Wit It

Here's Mark's code for a *Super Stardust*-style shooter in Python. To get it running on your system, you'll first need to install Pygame Zero. You can find full instructions at wfmag.cc/pgzero.

```
# Pygame Stardust
import pgzrun
import math

ship = Actor('ship', center=(400, 300))
count = gameover = 0
asteroids = []
bullets = []
for a in range(0, 4):
    asteroids.append(Actor('ast1_'+str((a+1)*3), center=(100+(a*200), 100+(a*2)*400)))
    asteroids[a].angle = (80*a) + 20
    asteroids[a].status = 0

def draw():
    screen.blit("background", (0, 0))
    for b in range(0, len(bullets)):
        bullets[b].draw()
    drawAsteroids()
    if gameover != 1 or (gameover == 1 and count%2 == 0): ship.draw()
    if gameover == 1 : screen.draw.text("YOU CLEARED ALL THE
    ASTEROIDS", center = (400, 300), owidth=0.5, ocolor=(255,255,0),
    color=(255,0,0) , fontsize=50)

def update():
    global count
    count += 1
    if gameover == 0:
        if keyboard.left : ship.angle += 2
        if keyboard.right : ship.angle -= 2
        updateBullets()
        updateAsteroids()

def on_key_down(key):
    if gameover == 0:
        if key.name == "SPACE": makeBullet()

def drawAsteroids():
    for a in range(0, len(asteroids)):
        if asteroids[a].status == 0: asteroids[a].draw()

def updateAsteroids():
    global gameover
    asteroidsLeft = False
    for a in range(0, len(asteroids)):
        if asteroids[a].status == 0 : asteroidsLeft = True
        i = int(asteroids[a].image[5:])
        if count%5 == 0: i += 1
        if i > 12: i = 1
        imagebase = asteroids[a].image[0:5]
        angle = asteroids[a].angle
        asteroids[a].x += math.sin(math.radians(angle))
        asteroids[a].y += math.cos(math.radians(angle))
        if asteroids[a].x > 850 : asteroids[a].x -= 850
        if asteroids[a].x < -50 : asteroids[a].x += 850
        if asteroids[a].y > 650 : asteroids[a].y -= 650
        if asteroids[a].y < -50 : asteroids[a].y += 650
        asteroids[a].image = imagebase + str(i)
        asteroids[a].angle = angle
        if asteroidsLeft == False : gameover = 1

def updateBullets():
    global bullets
    bulletsTemp = []
    tb = 0
    for b in range(0, len(bullets)):
        if isOnScreen(bullets[b]) and not hitAsteroid(bullets[b]) :
            bulletsTemp.append(Actor('bullet'))
            bulletsTemp[tb].x = bullets[b].x + 5 * math.sin(math.
            radians(bullets[b].angle))
            bulletsTemp[tb].y = bullets[b].y + 5 * math.cos(math.
            radians(bullets[b].angle))
            bulletsTemp[tb].angle = bullets[b].angle
            tb += 1
    bullets = bulletsTemp

def hitAsteroid(b):
    for a in range(0, len(asteroids)):
        if asteroids[a].collidepoint(b.pos) and asteroids[a].status ==
        0:
            breakAsteroid(a,b.angle)
            return True
    return False

def breakAsteroid(a,angle):
    acount = len(asteroids)
    anum = int(asteroids[a].image[3])
    if anum < 3:
        anum += 1
        asteroids.append(Actor('ast'+str(anum)+'_1',
        center=(asteroids[a].pos)))
        asteroids[acount].angle = (angle + 90) % 360
        asteroids[acount].status = 0
        acount += 1
        asteroids.append(Actor('ast'+str(anum)+'_6',
        center=(asteroids[a].pos)))
        asteroids[acount].angle = (angle - 90) % 360
        asteroids[acount].status = 0
        asteroids[a].status = 1

def makeBullet():
    a = len(bullets)
    bullets.append(Actor('bullet', center=(400,300)))
    bullets[a].angle = (ship.angle + 180) % 360

def isOnScreen(b):
    if b.x > 0 and b.x < 800 and b.y > 0 and b.y < 600 :
        return True
    else :
        return False

pgzrun.go()
```

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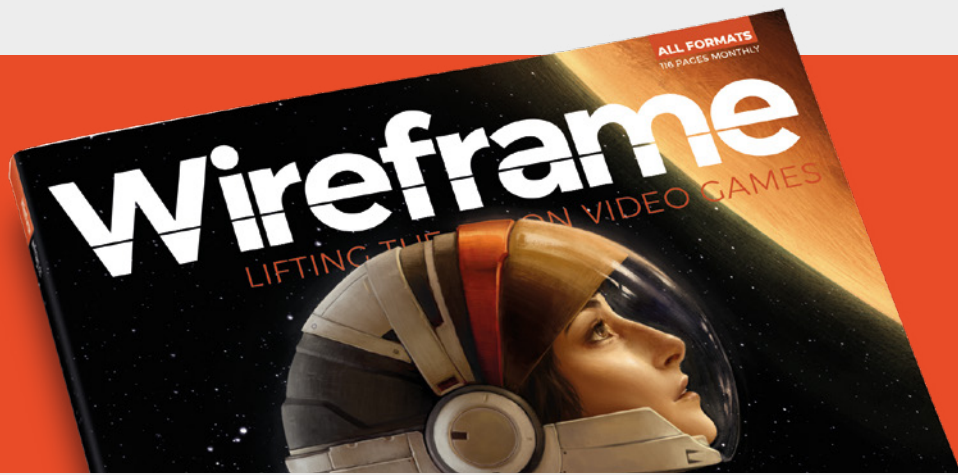
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GAME

Lost in Play

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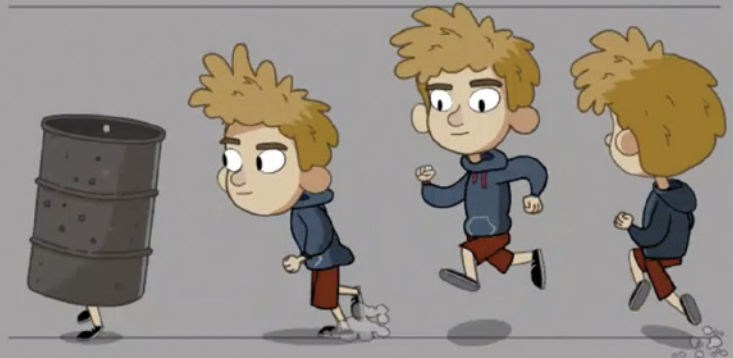
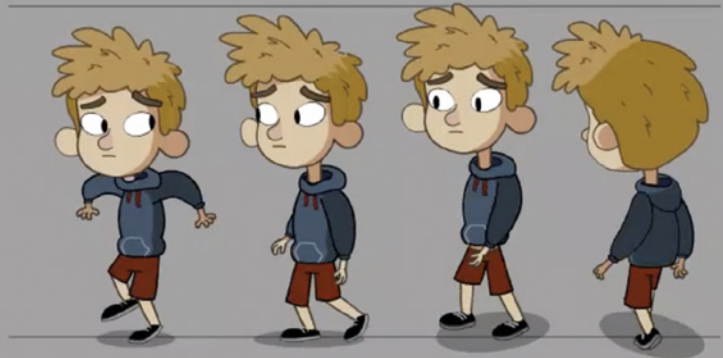
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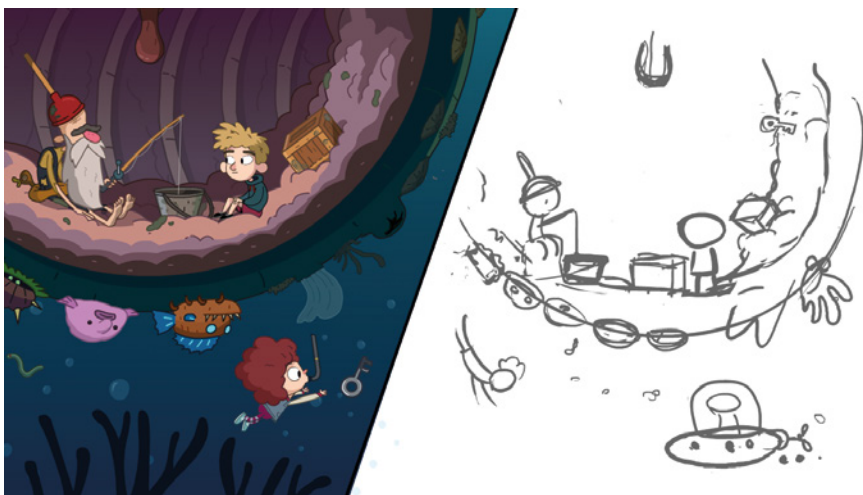
RELEASE

2022

WEBSITE

happyjuice.games





Lost in Play

READ MORE
turn to
page 14

Happy Juice Games' ultimate goal with *Lost in Play* was to create what looks and feels like a playable cartoon. The team having over a decade's worth of experience animating TV shows in their home country of Israel certainly helped, inspiring them to achieve an aesthetic that sits somewhere between classic Studio Ghibli movies and more modern animations from the Cartoon Network era like *Gravity Falls*, *Hilda*, and *Over the Garden Wall*. This cutesy art style trickles from main brother and sister characters Toto and Gal themselves, all the way down to the many whimsical yet surrealist locations they adventure through. Experience the interactive animated art style for yourself by downloading the *Lost in Play* demo at wfmag.cc/lost-play.



THE HISTORY OF SSI'S
**BUCK
ROGERS
RPGs**

SSI published some of the first official Dungeons & Dragons CRPGs. But the company also made a pair of fondly remembered sci-fi titles

WRITTEN BY **DAMIANO GERLI**



▲ The RAM spy ship is probably among the highest points of the narrative of *Countdown to Doomsday*.

First appearing in 1929, Buck Rogers is one of the oldest original sci-fi heroes. Despite the character's long history, some may find it difficult to pinpoint what makes him so special. The original comic book strip saw him debut as a miner who gets into an accident, transforming him into a heroic pilot who wakes up 500 years in the future. Eventually, he meets Wilma Deering and the two have all kinds of futuristic adventures. The strip's popularity was short-lived, but was later revamped into a moderately successful TV series in the seventies, capitalising on the ongoing *Star Wars* hype. The franchise then remained dormant until the late eighties, until Lorraine Dille Williams, president of TSR (the original publisher of *Dungeons & Dragons*), arrived. Along with her brother Flint, both were determined to make the blonde hero popular again.

TSR's first attempt to resurrect the licence was through a 1998 board game and a tabletop RPG two years later: *Buck Rogers in the 25th Century*. Around that same time, developer Strategic Simulations (SSI) convinced TSR to let them use the *D&D* licence despite there being bigger, more experienced companies like EA interested. "TSR saw computer games as simple extra income," producer Victor Penman recalls. "They wouldn't risk their core business on them. We succeeded at convincing TSR by promising to make *D&D* our core business". Consequently, SSI was extra-careful in maintaining a good

relationship with the Williams siblings. When the two asked for a series of Buck Rogers video games, therefore, SSI had little choice but to agree. "[The main] reason SSI agreed to do Buck Rogers is they didn't want a competitor getting into a cosy relationship with TSR," says Penman.

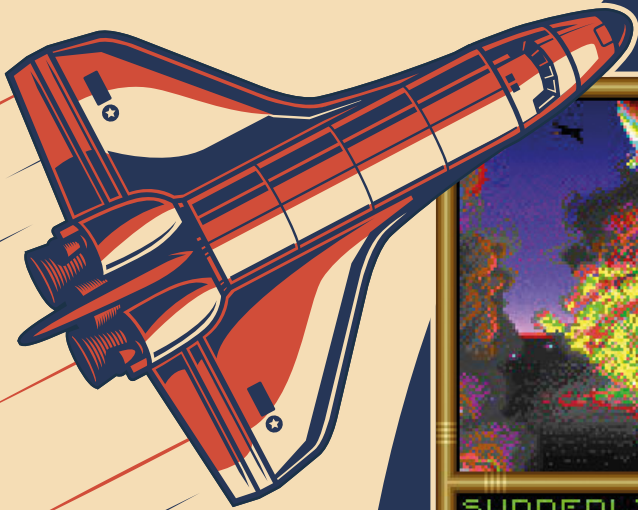
BOLD BEGINNINGS

In the first game, 1990's *Countdown to Doomsday* (for PC, Commodore 64, and Amiga) players join the good forces of NEO and are called in to prevent the destruction of Earth by superpower RAM. They visit various places in the universe gathering support and information in order to find out where RAM is planning to build their weapon. As with SSI's other RPGs built using the Gold Box engine, it plays in a first-person perspective. Buck Rogers and Wilma Deering both appear, albeit in a limited presence since the story is designed around player choice. When it came time to develop the first game for the Buck Rogers licence, upper management had no doubt that SSI should do so, though many programmers didn't seem to be interested. "The team that worked on the Gold Box *D&D* games was mostly made up of RPG aficionados like I was," reveals producer Ken Humphries. "While we were interested in sci-fi, none of us were particularly invested in the Buck Rogers franchise." ➔

"WHILE WE WERE INTO SCI-FI, NONE OF US WERE INVESTED IN BUCK ROGERS"

Interface

The history of SSI's Buck Rogers RPGs



➤ RAM attacking Earth is what kicks off the story of *Countdown to Doomsday*, forcing NEO into action.



```
SUDDENLY, SHIPS SCREAM IN LOW FROM  
THE NORTH. PANDEMONIUM REIGNS AS THE  
FIGHTERS DROP THEIR DEADLY CARGO!  
SHIPS AND CONTROL TOWERS COLLAPSE IN  
BALLS OF CRIMSON FLAME! PEOPLE PANIC  
AND SCATTER.
```

PRESS BUTTON OR ENTER TO CONTINUE

**“WE HAD TO
RESORT TO
OUTSIDE HELP
TO BEEF UP
THE WRITING”**

The project was initially helmed by Graeme Bayless, who was among one of those quite sceptical of SSI taking on the licence. “I remember asking upper management if they thought it was a good idea to adapt the Gold Box engine, originally built for fantasy-themed RPGs, to a sci-fi game and all they told me was: ‘Buck is wonderful, Buck is good’. No matter the question, that was always their answer.” According to Humphries, most Gold Box games typically took eight to ten months to finish, while *Countdown to Doomsday* took six.

The sped-up timeline was seen as a positive, but it didn't help the main writing team's already busy schedule, as they were working on other games. This led SSI to bring a different perspective to the narrative. In-game encounters are partially told through on-screen text, while the story's in a physical logbook that the player has to keep within reach and consult

when the game says to. “Along with it being an anti-piracy measure, to put all that text on screen would have chewed up the memory,” Humphries reveals. “*Countdown to Doomsday* was also being developed for Commodore 64, so we had to keep the writing sparse for that reason.

“While I wouldn't say the game was done in a hurry, we had a really short timeframe. We were also missing one of our core designers, so in the end we had to resort to outside help to beef up the writing on *Countdown to Doomsday*.”

Humphries recalls the final QA session being particularly gruesome.

“I would spend up to 18 hours in the office, sometimes sleeping under my desk. It was important that we met the deadline.”

Instead of using its proven team of writers, SSI employed freelancers. “There was an open call for writers to work on what would be later revealed to be *Countdown to Doomsday*.”

This is where writers Rhonda Van and Ken Eklund came aboard the project.

REWRITE THE STARS

Coming straight out of college, Van was the first female writer to ever work at SSI. “Everything was new and exciting,” she says. “I felt the company was definitely trying to bring something new to the Buck Rogers franchise.” Her work included taking charge of a touching part of the narrative set on Venus, where the player encounters an entire village of Venusians slaughtered by RAM agents, and has to save a

SSI & DUNGEONS AND DRAGONS

Strategic Simulations, Inc. was originally founded in 1979 by Joel Billings as a way to develop and publish his in-house-developed war games, as he could not find a publisher that would allow him to do so. While originally dedicated to strategic war games, titles like 1985's *Phantasie* would see the company expanding to fantasy RPGs as well. It would be the *Dungeons & Dragons* licence, acquired from TSR in 1987, that would change the future of the company, leading to bestsellers like *Pool of Radiance* and *Champions of Krynn*. After losing the exclusive rights to the licence to Interplay in 1994, the company ended up basically folding in on itself, being acquired by Mindscape first, later by the Learning Company, and then finally by Ubisoft.



▲ The Genesis/Mega Drive version of *Countdown to Doomsday* switches perspective to a third-person, isometric view, unlike the original's first-person.

baby by reuniting him with his parents. "I had a great time writing for *Countdown*. I remember bringing cut-out pictures of bugs and frogs to the artists to talk about ideas for monsters. I spent nights looking at old Gold Box games to get a sense of the kind of storytelling that was possible, and what hadn't been explored yet. Maybe as a female writer I brought a fresh perspective?"

Each writer was assigned to a different part of the project. While SSI had the overall story planned, the company left each writer to decide what characters and what narrative beats to feature on their respective parts. David Shelley, another producer on the project, designed the core of the narrative, including the part where players board a mysteriously abandoned vessel only to find the entire crew killed and strange creatures running rampant. "I definitely took inspiration from both *The Twilight Zone* and *Alien*, going for an atmosphere that was both horror and sci-fi. I fought with my producer, Victor Penman, because he wanted a character killed but I wanted to maintain player agency. It was tough, but I'm quite proud of how it turned out."

Despite a bit of narrative freedom, TSR's Lorraine and Flint Williams always kept a close eye. Van recalls them being "overprotective of their characters", while Shelley remembers various clashes: "TSR definitely was less involved in the design of the overall story compared to other SSI *D&D* games, [but] they were very attentive on how we would feature Buck and Wilma." Indeed, this would soon become a problem, as no one wanted to touch the characters. "Each time you wanted to feature a part of the story with either Buck or Wilma, you needed to check in with both SSI and TSR in order to get approval on that specific part of the story," says Eklund. "It was more trouble than it was worth."

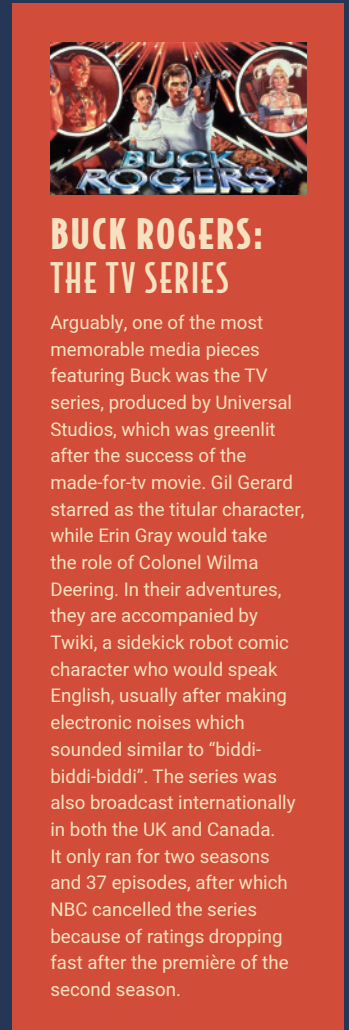
Shelley, too, remembers quite a lot of friction with TSR: "In general we got negative direction, as opposed to positive. They were quite vocal in telling us what they didn't like, but made no effort to suggest alternatives." Lorraine and Flint were particularly adamant on keeping *Countdown* as far removed from the ill-fated TV series as possible. "No references of any kind, not even robots in a sci-fi game," says producer Humphries. "I think we were able to feature a few [of them], mostly by describing them as being kind of human..."

PRIZED BUCK

TSR's mandate was that Buck and Wilma were to be heroes. Shelley took this to mean that the two should outshine the player's characters: a bad formula for player agency. "So, beyond inviting scrutiny, using them would have been difficult from a story sense," he says. In the end, most writers decided they wouldn't engage deeply with any of the characters and instead focused on the player's story.

"As a character to interact with, I found Buck Rogers to be problematic," Eklund continues. "Except for the fact that he's a hero, there's really not much else going on with him. Actually, his heroic nature means that he can't ever be in true danger in the story, so there's not really much at stake for the player, either."

Also, TSR had a strict set of rules for what could happen to its beloved characters, along with a series of prerequisites that also caused a couple of problems. Eklund remembers designing a prison scene featuring Buck Rogers. "At the eleventh hour, TSR told us the scene could not be greenlit, because Buck didn't have his signature gun with him. But of course he hadn't since he was in prison," he points out. ▶



BUCK ROGERS: THE TV SERIES

Arguably, one of the most memorable media pieces featuring Buck was the TV series, produced by Universal Studios, which was greenlit after the success of the made-for-TV movie. Gil Gerard starred as the titular character, while Erin Gray would take the role of Colonel Wilma Deering. In their adventures, they are accompanied by Twiki, a sidekick robot comic character who would speak English, usually after making electronic noises which sounded similar to "biddi-biddi-biddi". The series was also broadcast internationally in both the UK and Canada. It only ran for two seasons and 37 episodes, after which NBC cancelled the series because of ratings dropping fast after the premiere of the second season.

◀ The living dead ship is one of the most memorable designs in *Matrix Cubed* for sure.

Interface

The history of SSI's Buck Rogers RPGs



Space combat barely factors into the overall story of the *Buck Rogers* games, but it is definitely the big highlight of the modified Gold Box engine.

"THE SEGA TEAM WORKED BASICALLY ISOLATED FROM US"

Losangelorg is among the new cities that can be visited in the second *Buck Rogers* game.

"Since I already didn't like that part of the story at all, I suggested the guys at SSI [should] delete it altogether, but it was kept in as they'd already worked too long to develop it. In the end, Buck appeared, signature gun in tow, to free the team out of jail. He just appears out of nowhere and it is never explained how he managed to get on board the pirate ship!"

These constraints even bled into other departments, with TSR being particularly difficult about how the game (and accompanying marketing materials) should look. No one was more aware of this than concept artist Laura Bowen.

"Flint [Williams] sat with me frequently throughout the design phase, as I was the portrait artist for the characters," she says. "I made Wilma Deering quite strongly featured and capable-looking, and he commented that she just looked like a tough bitch."

In the end, Flint asked for Bowen to be replaced with another artist, and the use of Buck and Wilma was kept to a minimum to maintain a schedule and avoid conflicts.

SSI was never keen on classifying *Countdown to Doomsday* as a Gold Box game, but it still



used the same engine, even going so far as to use an all-new feature not seen in its other RPGs: dogfighting in space. Similarly to the turn-based combat taking place on the ground, in space it's possible to fight pirate and RAM ships for credits, weapons, and XP. While the space combat was solid, it doesn't really factor in the story as ground combat did – dogfighting didn't even appear in the sequel. Why?

Developers recall SSI higher-ups not seeming all that interested in featuring space combat in the story at all, hence the lack of an internal push.

PORTS OF CALL

Countdown to Doomsday was also notable in that it was the first SSI RPG to debut on a 16-bit console, the Sega Mega Drive, out of a publishing deal with EA. This version retains all the game's basic elements but with a few key differences: the logbook is done away with, certain RPG features are streamlined, and a full-on soundtrack was added (since the original computer version was basically silent). Shelley again acted as producer.

"The Sega team worked basically isolated from us," he says. "Michael McNally, the programmer, was able to run with the design, and added features without consulting anyone. I recall coming onto the project to rework some of the encounters, to use the special effects and other new features. Overall, I'd say there was never much company focus on its interface or implementation."

Tony Van, project leader on the Sega version of *Countdown to Doomsday*, remembers things differently. "I came on board the project pretty late, but we were working side by side with Rhonda, Laura, Victor, and all the others; it was pretty much an SSI venture. We were using EA's dev systems and tools and I would show them our progress so they could check that we were on track." He remembers the first change that EA asked for was a new isometric view, which was more common on console RPGs and opened up the experience. "I believe the new engine was also created by McNally, who was the lead engineer. Also, the artists and writers had to make a number of tweaks to their original scripts due to this change. We also beefed up some of the submissions quite a bit and added an entirely new main mission in the asteroid." The Sega version released in 1991 to mostly good reviews.

In terms of sales, *Countdown to Doomsday* seemed to do OK. "While it was nowhere near our bestseller, it definitely made back the money we spent on it," says Humphries. "Still, I don't think SSI would have done a sequel if they hadn't already signed a two-game deal with TSR." Work on the sequel, *Matrix Cubed*, started in 1991, with Rhonda Van and her future husband Tony Van at the helm. None of the console version's extra features made it into the sequel since, as Shelley puts it, "SSI's company culture was very much computer-oriented".

Matrix's story picks up right where *Countdown* left off. After preventing the destruction of Earth by RAM, the team discovers a new menace threatening humanity: a Terran terrorist organisation called PURGE. Led by fearsome warrior Sid Refuge, its objective is to – who'd have guessed – purge the solar system of all non-human beings. In a twist, though, it's later revealed that Sid himself is half cyborg. Buck Rogers and Wilma Deering again have reduced roles, even compared to the previous game, only appearing a couple of times to instruct the player on what to do.

Compared to the classic "save the world" narrative of *Countdown*, the plot of *Matrix* has more of a cyberpunk feel, even going as far as making several references to human/cyborg relationships. Still, in 1992, a year that saw the release of genre classics like *Ultima VII* and *Ultima Underworld*, *Matrix Cubed* definitely feels like an RPG from a previous generation. Rhonda Van mentions how the sequel seemed to be of lesser interest for SSI: "As opposed to *Countdown*, there were less meetings and focus on how it was supposed to be designed."

Though initially planned for PC and Amiga, a version of *Matrix Cubed* on the latter ended up being scrapped, contributing to lower overall sales. Developers mention this was because the Amiga version was plagued by a critical bug that would crash the computer outright, likely due to problems with the compiler, which had already affected the Amiga version of *Champions of Krynn*. Despite weeks of work in rewriting all the code directly in assembly, the bug seemed impossible to identify and fix. In the end, SSI decided to cancel the Amiga version altogether, also citing the small size of the Commodore home computer market by 1992.

Matrix Cubed seems to have been mostly forgotten by those at SSI, which confirms

the project leader's feelings about how the company wasn't really paying as much attention. "[It] was definitely the stepchild in terms of resource allocation," Shelley recalls. The second *Buck Rogers* title didn't do as well as the first in terms of sales, and TSR moved on from its attempts at resurrecting the licence. Problems with the brand even continue almost 30 years later, as recent attempts at making a Buck Rogers movie have been hit with several lawsuits.

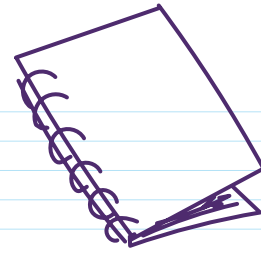
Despite the difficulties in getting its team interested in working with the Buck Rogers licence and TSR being protective of the hero, SSI's work is remembered fondly by nineties RPG fans – especially *Countdown to Doomsday*. Despite the short development time, many consider it to be one of the most memorable sci-fi RPGs of the time. The writers and artists involved also view it as an important stepping stone in their careers. In between paving the way for SSI to hire its first female writer, spawning at least one marriage, and providing a launchpad for the team to progress elsewhere in the industry, it's hard to deny how impactful the *Buck Rogers* games were on their developers. Both games also demonstrated SSI's willingness to embark on routes that had never really been explored together in games too often before: horror, politics, racial issues, and small emotional moments.

Against all odds, the line, "Buck is wonderful, Buck is good" eventually rang true. 🗨

PROJECT M: THE END OF SSI AS WE KNEW IT

Project M was a 1993 project by SSI, intended to be a new beginning for the company. It was said to be a full-on isometric RPG with a completely new engine, as Gold Box was starting to show its age. David Shelley and Rhonda Van were in charge of the project which, in the end, after many production delays, came to nothing, not even a demo. After its cancellation, almost 30 people from R&D were laid off. Several people mention Project M as the real beginning of the end for SSI, a black hole of time and resources which were spent on nothing, a blow which the company never recovered from.





GETTING INTO GAMES

How I became a... Lead Programmer



Rebellion's **Rich May** discusses his programming journey and top breaking-in tips

Can you remember the game that first made you want to get into games?

It was in the early 1990s when I first got a glimpse via the various magazines I was reading at the time. Screen captures of sprite pages from games like *Alien Breed 2*, *Cannon Fodder*, and *Lemmings* were fascinating, and I'd spend hours trying to replicate them in Deluxe Paint on my trusty Amiga 1200.

How did you break into this industry?

I'd finished a computer science degree and was wondering what to do with myself. My friends were applying to big IT consultancy firms, which I didn't particularly fancy. After trawling the websites of various games companies, I discovered Codemasters had a graduate scheme for programmers. Figuring I had nothing to lose, I applied, had an interview and, to my amazement, got the job as a graduate programmer for their prototyping division.

Unfortunately, that only lasted three months before financial difficulties meant I was made

redundant – quite the baptism of fire! Fortunately, in those few months, I'd learned a huge amount from some very talented and patient devs – it gave me the confidence to keep at it. I knocked together a demo and applied to some other companies, including Rebellion. I'm convinced my existing experience, such as it was, helped me get the Rebellion job, and two decades later, I'm still here.

What was your first professional game and are you still proud of it to this day?

Rebellion hired me to work on some Game Boy Advance (GBA) titles they had been contracted to develop. The first of those was a game called *Snood*, based on the cult PC shareware *Bust-A-Move* clone. I was handed a GBA devkit and asked to get something working as quickly as possible. Despite having almost no idea what I was doing, I managed to wrestle something into existence by modifying the code samples included in the Nintendo SDKs. Between myself, another programmer with even less experience than me (!), and a pair of artists, we managed to cobble a game together in about three months. It's not the greatest game in the world, but it works, and I'm proud we managed to make something playable in the time we had.

Did you always want to program, specifically?

Not at all, no. Growing up, I wanted to be an artist – coding seemed too much like hard work! I'd dabbled in Basic during the 8-bit era, but I lived around the corner from a friend who was already an amazing programmer, and he did the coding for our game projects whilst my brother and I did the artwork. I didn't start programming until university.

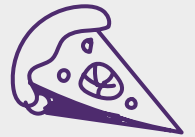


▲ Before leading the programming team, Rich honed his coding craft on cult classic PS2-era console games like *Judge Dredd: Dredd vs. Death*.



“Making games can be a stressful occupation, and people don't always see eye to eye”





Career highlights



Battlezone VR

2016

One of very few launch titles for PlayStation's big VR push, *Battlezone VR* reimagined the 1980s arcade classic by placing you in the tank more authentically than ever before.



Star Wars Battlefront: Renegade Squadron

2007

This handheld exclusive spin-off from *Battlefront II* was Rich's first gig as lead programmer. It was praised for being a fully featured instalment on PSP despite being developed in just a year.



Rogue Trooper

2006

Following his work in the GBA world, Rich was a coder on this third-person shooter based on the *2000 AD* comic series. He quickly grew fond of his blue buddies.

As far as the appeal goes, it varies. There's the creative, architectural side where you have to take the ideas of your designers and artists and make them a reality, and then there's the investigative, detective work of debugging and bug-fixing. Both are satisfying in their own way.

What's the chief responsibility of a lead programmer, and how do you achieve it?

There's nowhere near as much programming as the name suggests! Rather, my job is to collate all the needs of the varied departments – art, design, audio, etc. working on the game and figure out how to meet them. I work with the members of my team to take those requirements, turn them into defined tasks, and ensure they can be implemented in a timely fashion.

Soft skills and communication are hugely important too, both for working with other disciplines but also for ensuring the well-being of the team. Making games can be a stressful occupation, and people don't always see eye to eye, so it's important to ensure people are happy and working to the best of their ability.

What's a mistake you made in your particular field but ultimately learned from?

Don't try to know everything. Or perhaps more accurately, don't pretend to know everything. As a lead, there's always pressure to be able to answer any technical query, but it's impossible to know about all the various fields. If someone asks you a question you can't answer, it's better to admit you don't know and find out who does.

What's one piece of advice you'd give to your younger self, given the chance to go back?

Programming isn't anywhere near as hard as it looks. Don't be put off! I regret not putting in

more effort as a kid. Those 8-bit machines were so accessible, and I've always felt I missed out on a lot of low-level knowledge by not digging into it back then.

Is it's easier now to work in games, or more challenging than it used to be?

A bit of both. It's easier than ever to start making games thanks to freely available game engines like Unity, Unreal, and GameMaker. There are so many resources out there nowadays, too – guides, how-tos, and even complete projects to pick apart and play with. That said, games are getting increasingly complex. Triple-A titles set the bar so high that it's hard to keep up, and games are becoming so vast in scope that development is only getting harder to manage. Even modest titles have substantial teams of developers behind them. The days of one person creating a full game in their bedroom are pretty much over.

If somebody's thinking about a career in games, what's something they can do now to help their future chances?

It depends on the field they want to go into, but playing about with one of the aforementioned game engines would be my first piece of advice. The second would be don't try to make your dream game, at least not at first. Mess about with the sample, break things, change the art or the sounds or the way the input works. Pick an existing game mechanic from a game you enjoy and try to replicate it. Once you've got a feel for how things work, then you can try to make something of your own. 🎮



Interactive / Morbid Metal

Felix Schade discusses his future-set shape-shifting actioner, which gives players their own one-person mech army

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Right up there with fish and chips, spaghetti and meatballs, and jam on toast, few things go together quite as well as anime-infused action and giant hulking mechs. It's a wonder, then, that we don't see this enticing combination present in games more often – let alone from creatives based in the West. Felix Schade, however, is one such solo developer tapping into this promising genre mixture, hoping to let players wreak havoc amongst hordes of enemies using a wide range of stylish, melee-based attacks in the upcoming *Morbid Metal*.

Casting players as a shape-shifting mech capable of changing forms to better suit specific combat situations, gameplay footage released thus far demonstrates *Morbid Metal's*

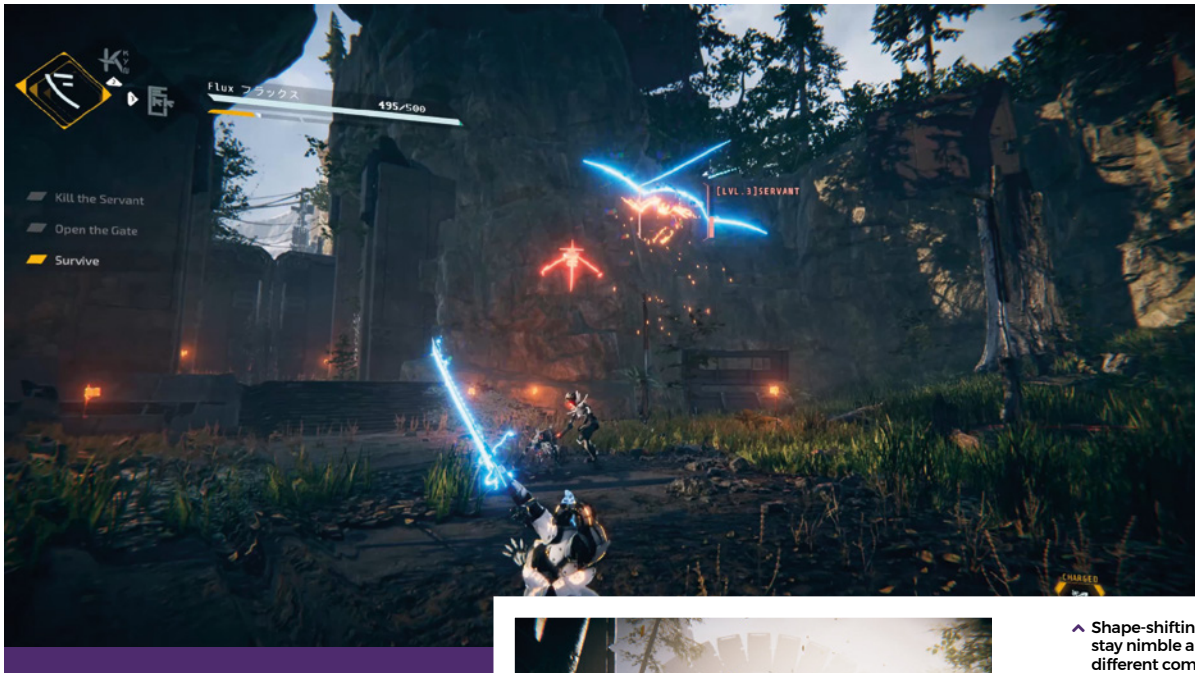
incredibly fast-paced encounters. With such a high emphasis on flair, style, and combos, you'd think that this had always been the case; not so, apparently. "At first, the combat system was way slower, relying mostly on what you could call 'spells' that could be combined," Schade explains. "Over the three years [of development], trying to find a core gameplay loop I was confident could have potential in the market, the combat has evolved more towards hack-and-slash, amping up the action incrementally." He settled on hack-and-slash because the genre "offers a huge power fantasy, letting players feel immensely strong while whirling around enemies and annihilating them with awesome moves".

With action placed firmly at the forefront of the game's design, Schade doesn't hide the fact that story in *Morbid Metal* takes a back seat. That said, from overgrown ruins of humankind to desolate dry wastelands, there will be plenty of diverse biomes for the unnamed mech protagonist to fight through. Discovering how the Earth reached this point is a mystery that players will have to piece together themselves. With towering, arena-sized robots (often able to manoeuvre as quickly as you) constantly catching you in their sights, though, it's not hard to imagine what went wrong.

Working mostly alone and independently on a game of this scale hasn't come without its challenges. Luckily, Schade had enough foresight to recognise the weight of this ambition, and so embedded some core design philosophies deep into the structure of *Morbid Metal* to make the experience more manageable to develop.

Several different screen effects like screen blur and distortion portray the stylish and bombastic capabilities of the mechs.





For example: bringing in certain roguelike aspects in addition to the hack-and-slash method of approach to action. “Essentially, levels are handcrafted in order to maintain a good level of visual and gameplay quality,” he reveals, “but broken up into several subsectors that are procedurally stitched together and toggled on and off to keep things fresh each time you play.”

Pulling off combos and rapid attacks as one type of mech would be thrilling enough, but Schade didn’t want to limit himself there. Instead, players will be able to shape-shift between different mechs on the fly in the midst of battle, providing the means to create some seriously unique action set pieces.

“The shape-shifting mechanics let players rapidly switch characters with a press of a button, allowing for a unique twist

on the classic hack-and-slash gameplay,” says Schade. “This lets [players] very fluidly perform extremely powerful multicharacter combos.”

Every mech comes with its own designated special skill players can deploy, adding in another layer of complexity to combat. You see, as well as high-octane action and cool visuals, *Morbid Metal* is all about offering up options – with the game’s core shape-shifting mechanic ensuring there’s no one right way to approach an enemy encounter.

“Each playable character is supposed to feel very different from one another,” says Schade. “All of them fulfil a different role in the player’s roster,

“The combat has evolved more towards hack-and-slash”

with distinct active and passive abilities, attack combos, and a devastating special skill. The special skill system is inspired by the classic hack-and-slash scoring, and relies on combos and killing enemies.” Schade hopes that by tying these two systems together, it will directly impact gameplay, and reward those who play well by generating a satisfying loop of stylish manoeuvres on screen.

While the key concept and themes behind it have been set in place, *Morbid Metal* is still in its very early stages. Schade himself has his hand in almost all development disciplines, from art style to combat design to how traversal will work, but he’s been wise enough to reach out for the odd helping hand. “I certainly have my strengths and weaknesses,” he chuckles. “Therefore, I decided to outsource a few key aspects to build the highest quality product I can.”

Just like any well-oiled machine, he’s aware that how smoothly *Morbid Metal* looks and feels to play will make or break its success. The style is there in spades, so now the chase is on to polish up the substance as much as possible. 🎮

- ▲ Shape-shifting is necessary to stay nimble and keep on top of different combat encounters, whether enemies are on the ground or in the air.
- ◀ Players will be able to store up to four different mech styles to shape-shift between at once, each with their own special combat skill.

FAST YET PRECISE

Morbid Metal might be significantly faster-paced than what Schade initially had in mind, but its roguelike nature encourages players to act with precision as well as speed. Giving the player the appropriate tools in which to balance these aspects, therefore, was important. Due to the fact that the player has to start over upon death, dying and taking damage has a greater weight compared to games with a traditional checkpoint system, he says. “This inevitably also influences how players approach combat encounters and their actions during the fights. Of course, *Morbid Metal* still encourages offensive manoeuvres. All according to the motto: offense is the best defence.”

Interactive /

Bit Orchard: Animal Valley

Tennessee-based developer 2Boone Games explains how he burned the midnight oil to create his tiny farming sim

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How much complexity does a farming sim really need? Does it need fancy graphics and sound? In-depth growing and harvesting mechanics? NPCs that rattle off reams of

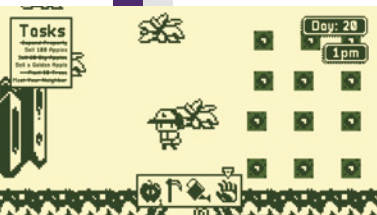
dialogue at you? *Bit Orchard: Animal Valley* answers those questions with a resounding 'no'; it's a *Harvest Moon*-a-like that harks back to the Game Boy era, with pared-back controls and systems to match. Starting off with a tiny patch of land, you grow apple trees, harvest the fruit, and acquire the cash you need to buy tools and – eventually – larger plots of land. *Bit Orchard* offers a wilfully simple riff on the genre, but one that still provides enough variety to keep things interesting: a task list in the corner of the screen constantly updates with new stuff to do, while the later stages of the game throws in things like fishing and affable townsfolk to chat to.

Bit Orchard is a self-described passion project for its lone developer, 2Boone Games (not his real name). It began a couple of years ago when the Tennessee-based graphic designer and web

developer started working on a very different project – a platformer with a sci-fi theme. When 2Boone looked around for someone to try out his work in progress, however, he quickly discovered a problem. “My wife was the only person I had to test it,” he tells us, “and she wasn't very good at platformers.”

With this in mind, 2Boone then set about designing a game based on his wife's interests – namely, life sims like *Stardew Valley* and *Animal Crossing*, and her enduring affection for the Game Boy. “Keeping things small and contained was at the core of *Bit Orchard*,” 2Boone explains. “I tried to think of what this game would have been like on the Game Boy... I wanted *Bit Orchard* to be a peaceful, relaxing time without too much to stress about. You can move at your own pace, you don't have to feed the rabbit to keep it alive, and there's not much to punish you for trying new things.”

With his genre and concept in mind, 2Boone began working on *Bit Orchard* in his spare time, often late into the night. “I have a fairly



- ^ The tasks list provides a handy reminder of what you need to do next.
- > Maximising space by planting your trees closely together is key to a plentiful harvest of 1-bit apples.





obsessive personality,” he tells us, “so it was fairly easy to fit in 20 or more hours a week into a passion project.” His experience as a graphic designer certainly helped as he crafted his characters, items, and backgrounds from blocky pixels, though mimicking the low-resolution, monochrome visuals of a Game Boy title didn’t come without the occasional challenge. “I kept running into roadblocks trying to figure out how to draw different furniture and farm decorations using just a few pixels,” 2Boone says. “Some things were easy, but others took hours to work out the exact pixel configuration to represent an item. I found myself frequently bringing my wife in to see if she could guess what the item was.”

Not that *Bit Orchard* is entirely without colour: occasional splashes of red appear when you’ve harvested an apple, for example, and it’s touches like these that help spur the player on as they gradually build their mini farming empire. “I think the main thing I tried to do is make everything feel satisfying when you do it,” says 2Boone. “When you cut the weeds, there’s a little sound and a particle animation; when you harvest apples, you get a big rewarding red explosion, and so on. I also wanted *Bit Orchard* to feel relaxing and slow-paced, so it was a lot of starting the game from scratch and playtesting for an hour or two and making notes if it got too boring or if something felt too expensive.”

“You don’t have to feed the rabbit to keep it alive”

Like the little character’s farm in the game itself, *Bit Orchard* has grown over time: sales were initially steady when it launched on Steam, but the interest of publisher RedDeer games helped boost its profile – and prompted 2Boone to start thinking about expansions. “When I

originally released it on Steam, it was a much smaller game than it is right now,” he says. “There wasn’t a town with NPCs, and you couldn’t fish. It

was only when I started talking with RedDeer games about bringing my game to the Switch and Xbox that I decided to add some of the features I’d always wanted. But even with these additions, I am keeping my original constraints in mind and keeping everything simple.”

Indeed, the positive reactions have encouraged 2Boone to put his next project on hold and concentrate on providing more updates for *Bit Orchard* instead. His latest addition? Chickens. “I have a list of really exciting features I’m going to add in the near future. I’ve got a kind of road map, and the first thing on the list is adding chickens. I’ve always wanted chickens in *Bit Orchard* and even designed and animated them long ago. That’s what I’m currently working on, and it’s so satisfying seeing them running around and laying eggs on my farm.”

^ *Bit Orchard* was built in Unity, while 2Boone used Photoshop to generate his blocky sprites.

PUSHING PIXELS

While 2Boone looked to the likes of *Stardew Valley* and *Animal Crossing* when looking for references for *Bit Orchard*’s visuals, he found that a bigger influence came from YouTube’s Brandon James Greer. Greer’s channel contains a wealth of tutorials and tips for drawing and animating sprites, as well as useful analyses of how designers once drew pixel art for systems like the NES and Sega Game Gear. “The way he broke down retro graphics changed the way I approached making pixel art,” says Boone. You can find Greer’s channel at wfmag.cc/BJGpixel.



Developer Profile

◀ *Stubbs the Zombie* was Aspyr's first foray into publishing an original game. This meant that a macOS version could launch just a month after Xbox.



▲ Senior director Michael Blair has worked his way up the ranks of Aspyr, initially starting in sales in 2006.

Answering the industry's port of call

With over 25 years of experience under its belt bridging the gap between platforms, Aspyr delves into the secret of a successful video game port

In the world of video game development, the job of porting a game from one platform to the other is often perceived as a thankless task. In reality, this meticulous, challenging, highly technical process is incredibly important. Not just because it ensures that a wider audience can play whatever title has been deemed worthy enough to be ported to another system, but also because it means that game stands a much better chance of being preserved as the years, decades, and console generations go on. Relatively few studios were founded to specialise in porting games, but Texas-based outfit Aspyr is a rare example: it has grown to become one of the most notable companies of its type over the past quarter of a century.

Aspyr was established in 1996 by business partners Michael Rogers and

Ted Staloch. The two were big video game fans, but noticed there was a distinct lack of titles available to play on their favourite machine, the Apple Mac. And with the PC gaming scene constantly booming with landmark games like *Quake*, *Diablo*, and *Half-Life* all changing the way people think about the medium forever, why should players on Windows get to have all the fun? "Aspyr was founded to bring the world's biggest games to macOS," explains Michael Blair, the studio's senior director of business development, looking back. "Since then, we've continued that work, but have also shifted to bringing old and new experiences to gamers regardless of platform."

This ethos of preserving a game's core experience rather than toying around with it is something that has come to define the idea of a port. Unlike



◀ Aspyr remains proud of its Texas roots, having been based there since 1996.

remasters and remakes where the explicit intention is to fundamentally change something about a beloved title (in the hopes of improving it in some way), Aspyr instead wisely tapped into a unique gap in the market, where a specific audience of players was being underserved. It's no wonder, then, that other prominent studios immediately saw value in the work Rogers and Staloch were offering. You'd think any budding upstart would have begun relatively small, yet some of Aspyr's first ports for macOS included working on such recognisable franchises as *Tomb Raider*, *Madden NFL*, and *Deus Ex*.

“Making games accessible to Mac owners was the goal”

POWERHOUSE

Even if Aspyr proper wasn't directly responsible for porting, offloading certain responsibilities to partner studios like Westlake Interactive, it still played a key role as publisher. “When Aspyr was founded, making games

accessible to Mac owners was the long-term goal,” Blair explains, referring to the company's unassuming but ambitious origins. “Can any of us really say what our next two, three, or four goals are before the first goal is reached?”

Not necessarily knowing what steps to take next still didn't stop Aspyr from capitalising on the high demand for its services, though. It's estimated that by 2004, it owned 60% of the Mac entertainment market. Aspyr's quick swerve to becoming a publisher – in addition to reliable porting house – had paid off. “We were committed to our craft,” says Blair, “and as time went on, we were able to modify that goal here and there to get us where we are today.”

Publishing other developers' games on macOS was going so swimmingly that it was no surprise that Aspyr wanted to try its hand at doing the same for an original, never-before-released title. It seemed almost inevitable. Well, the ➔



▲ One of the earliest macOS ports handled by Aspyr was 1997's vehicular combat game *Carmageddon*, originally released for MS-DOS.



Aspyr's history with BioWare's *Knights of the Old Republic* goes right back to the beginning, with a 2004 port for macOS.

opportunity eventually came in the form of 2005's *Stubbs the Zombie in Rebel Without a Pulse*, after partnering with Alex Seropian from Wideload Games. Infamously made using the same engine as Bungie's *Halo* (as explicitly mentioned on the box), this story of a zombie roaming around a retro-futuristic city in search of brains reviewed fairly

well – it has since become a cult classic. The Xbox version sold well, but Aspyr heading up publisher duties meant that there was less of a wait – just a month's difference – for Mac and Windows players to get in on the fun, too.

ASPIRE TO ADAPT

Aspyr's reputation for port work may have evolved and grown throughout the years, but one of the reasons it has managed to stay so revered is its mastery of the process. Bringing a beloved game to a new platform always poses its unique challenges, but Blair is quick to mention that the tenets behind

what makes for a successful port are the same now as they were 25 years ago; it's just the technology that has changed.

"Fortunately, at Aspyr, our processes have remained largely the same," he says, "with the ultimate goal of delivering

memorable gaming experiences for all gamers."

Being in the game for so long has forced Aspyr

"New technologies have made what we do a bit easier"

to greatly expand its skillset and stay adaptable. So much so that it no longer ports purely to macOS. In fact, quite the opposite. As new consoles and platforms have popped up in the two decades since its establishment, the studio has had a hand in everything from PlayStation 2, the original Xbox, Game Boy Advance, Nintendo DS, and others – even Linux players have been well catered for with ports like *Borderlands: The Handsome Collection*, *Sid Meier's Civilization VI*, and most recently *Observer* making their way over. Whereas a lot of studios might look at such a platform and see limited viability, Aspyr thinks otherwise.





◀ As well as translating triple-A titles, Aspyr has also made waves in the indie world, publishing 2017's *Observer* from Bloober Team.

"What's awesome about our journey is that there's a trail and résumé of consistent quality titles, both original titles and ports, that speak of what we're capable of doing," Blair mentions. But just how hard is it to stay on top of advancements in hardware? "Sure, some challenges have arrived with modern technology such as new aspect ratios – remember 4:3? – and all the UI/UX changes that must be made to bring these titles to modern displays. At the same time, new technologies have made what we do a bit easier. That, coupled with the extremely talented team here at Aspyr, means we're able to overcome any challenges thrown our way."

A LONG TIME AGO

Aspyr is perhaps most notable these days for reintroducing games that sit within one of cinema's most memorable sci-fi universes, albeit in a non-canonical way. You see, following Disney's acquisition of the *Star Wars* IP in 2015, the House of Mouse made the not-so-popular decision to relegate anything that wasn't the theatrical movies and 2008 *Clone Wars* TV series to 'Legend' status. Wiping the slate clean to make way for new creative ideas and storylines

made total sense, but it did leave many veteran *Star Wars* fans wondering about the status of classic titles.

Fortunately, one of the earliest relationships Aspyr formed was with that of the now-defunct LucasArts, first collaborating on the macOS version of 2002's RTS game *Star Wars: Galactic Battlegrounds* before setting its sights on other titles set in George Lucas's galaxy far, far away. From *Knights of the Old Republic*, *LEGO Star Wars*, and even *The Force Unleashed*, Aspyr soon became the custodian of sorts of *Star Wars* games on PC. This has continued right through to today, where on Nintendo Switch specifically, Aspyr keeps the memory of pre-Disney era *Star Wars* games alive through its exceptional port work. ▶



BACK TO THE SOURCE

A port's technical challenges can be somewhat lessened by, where available, maintaining a good dialogue with the developer behind the game being ported. This is something that's not always possible, though, since Aspyr's work ranges from contemporary titles intended to launch concurrent with the lead platform's version, to reviving titles from long ago, presumed to be lost. Hence Blair suggests that speaking to the original team is "important but not critical". More essential is meeting an audience's baked-in expectations. "Our goal is to make the port feel like it was always intended for the platform, and we lean heavily on fulfilling consumer expectations to ensure that is true," he reveals. "That all said, we are extremely limited in what we can do towards that goal without source code, so source is step one for many porting conversations."

◀ Aspyr's 140+ employees get to play as hard as they work during the company's annual summit event.

DEFINITELY DIVINE

While Aspyr's main driving philosophy is to maintain the essence of the original game, the studio has had a handful of opportunities throughout the years to restore cut content, rendering its port as the definitive version. A good example of this is 2015's *Fahrenheit: Indigo Prophecy Remastered*, which restores intimate "adult" scenes previously cut from the North American release. The recently released Nintendo Switch version of *Star Wars: Knights of the Old Republic II*, meanwhile, is set to receive DLC almost 18 years after it originally launched. This again is a restoration of cut content developer Obsidian couldn't quite squeeze in, including never-before-seen dialogue, missions, and story paths.

▼ Co-founder Michael Rogers came up with the studio's name after wanting something meaning "to aspire and be great".

"We've been lifelong *Star Wars* fans, so that's where it all starts," recounts Blair of the special partnership, which survived the shutdown of LucasArts in 2013, right through to its rebirth as Lucasfilm Games in 2021. "Aspyr and Lucasfilm Games share a long history, successfully bringing many of *Star Wars*' most beloved games to new platforms and audiences, and we're both committed to delivering high-quality experiences to the community, which makes it easier."

While working on such a storied sci-fi franchise is thrilling, the team has never lost sight of how much responsibility also comes with it. "Aspyr takes tremendous pride in the trust it has been given for the brand," says Blair.

Some players might look at the exciting new era of *Star Wars* games we're currently in, and wonder why the likes of *Republic Commando, Episode I: Racer*, and the *Jedi Knight* series warrant revisiting. The truth is that, whether considered canon or not, Aspyr is proud of the work it did to help LucasArts bring these classic titles to as many players as possible, seeing the value of



▲ Aspyr has worked on no less than six different *Tomb Raider* ports to macOS throughout the years, starting with *II*.

keeping such fan-favourite characters as Kyle Katarn, Starkiller, and Darth Revan alive. Plus, with Disney seemingly taking influence from this supposed 'Legends' era for its new TV shows, comics, and books more and more every day, why not make the games these ideas originated from more widely available?

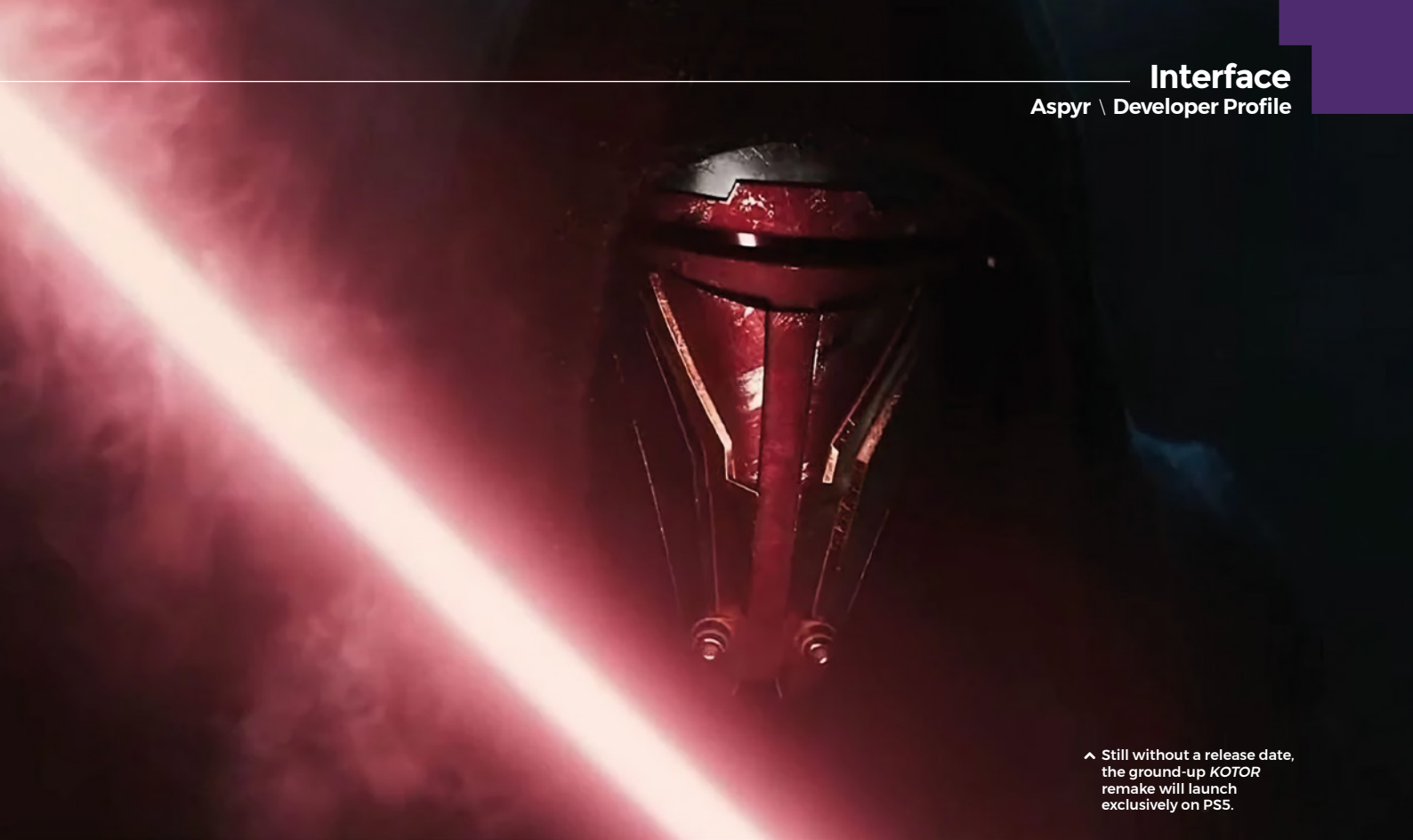
But what is it about these classic *Star Wars* games that makes them worth revisiting, according to Blair? "The characters and stories," he says, without hesitation. "Each of the games we've worked on has a diverse cast of some of the most well-developed characters in games, which leads to memorable stories that gamers can attach themselves to. Because of this, the characters and stories are timeless."

As such, Aspyr believes it'd be wrong to deny new audiences the opportunity of enjoying them. "Countless memories have been made across these games, and we hope that by bringing them to a new generation of gamers, more memories will be forged."

A NEW CHALLENGE

Aspyr's vast experience working on *Star Wars* ports meant it was exciting (though not especially surprising) to learn that it had its sights on something more ambitious for its next project: a full triple-A remake – not a port – of *Star*





^ Still without a release date, the ground-up *KOTOR* remake will launch exclusively on PS5.

Wars: Knights of the Old Republic. Details as to how extensive a remake this will be compared to BioWare's much-beloved 2003 original remain scarce. However, the brief teaser trailer which depicts Darth Revan fiercely shooting up his red lightsaber boldly states that it will be "a legend remade for PS5", at least to begin with.

For the first time in its history, Aspyr is developing what is, for all intents and purposes, an entirely new game in-house, using an existing framework to provide a fresh perspective on one of the most celebrated sci-fi RPGs of all time. This doesn't necessarily mean that Aspyr's moves in the port world are over, but just as when the studio first dipped its toe into publishing, the time has now come for it to fully stretch its development chops. "As with any craft, you learn from your experiences," says Blair, referring to what makes Aspyr ideal to work on the *KOTOR* remake. "In our case, we have a robust history of bringing loved and successful games to all platforms. So, our work in the past has shaped us into who we are and what Aspyr can do. On

"We've been lifelong Star Wars fans, so that's where it all starts"

top of this, everyone here loves *Star Wars* passionately. So, we know that love is being poured into any project from a galaxy far, far away."

Regardless of how its first fully-fledged remake turns out, the experience Aspyr gains on the project is no doubt emblematic of a studio that is now capable of taking almost any direction it wants. From its humble beginnings, trying to ensure that macOS players get to enjoy triple-A games being released

elsewhere, to its successful foray into publishing, choosing to rebuild a beloved title its already ported countless times – first to Mac, then iOS, then Nintendo Switch – seems like a sensible next step.

Should Aspyr's *KOTOR* remake be well received, it's not impossible to envision a future where the studio develops more games from the ground up in-house, alongside its still flourishing porting side. "We're committed to creating games that will be loved across the globe," says Blair of where Aspyr might go next. "This includes both revitalising fan favourites and creating new titles, and we're excited about what the future holds!" 🗨



^ Co-founders Michael Rogers (top) and Ted Staloch (bottom) are lifelong gamers, launching 190+ titles since starting Aspyr.

Retro gaming: the next (previous) generation



STEVE MCNEIL

Steve is just trying to save the world, honestly.

“For around £100, you could relive childhood memories on entirely original hardware”

➤ Forget the recently botched *GTA III* remaster – the original PS2 version still evokes plenty of early open-world charm.

Regular readers of this column may remember that last month I was pondering the proliferation of game subscription services and the rising cost of it all. With the PlayStation and

Nintendo offerings, in particular, retro gaming plays a significant part, with NES, SNES, N64, Sega Mega Drive, and Sony PSone & PS2* all represented. However, emulation issues and ill-considered errors with aspect ratios, refresh rates, and the like are frequent, making for an often less-than-satisfying experience.

Someone near me recently announced on Facebook they wanted to get rid of their 20-something-inch Sony CRT TV and, on a whim, I leapt on it. A few years ago, I went down the hole of scan converters and other gizmos that allow you to patch your old consoles through modern TVs which, as any hardcore retro gamer will tell you, just isn't the same. Input lag, upscaling messiness, and many other things mean that, in truth, if you want to play old games the way they were meant to be played, you need the original kit. I've spent many happy hours recently crawling around on the floor, reacquainting myself with RF

leads and SCART sockets, and I'm here to tell you that you can too!

Obviously you'll need room for a bulky TV, but there are plenty of 14" CRTs going for less than £50 on eBay if you don't want something *massive*. In most cases, they'll be collection-only because they weigh a *tonne*, but thankfully they let you sort by distance from your home so you can find something nearby. As a bonus, many of these TVs have working VHS decks built in, so you can take a trip down memory lane with the rewind button at some point too.

If you can find a space to plop a telly, a quick search shows I could get a PlayStation 2, Nintendo 64, Sega Mega Drive, or original Xbox delivered to me, with the essential cables and a controller, for around £40 each. Many of them will throw in any games they've got lying around too, but even if they don't, iconic titles like *Grand Theft Auto III*, *Mario Kart 64*, *GoldenEye 007*, and *Halo* are all yours for around a tenner.

Which means, dear reader, for around £100, you could relive childhood memories on entirely original hardware. Blow the dust from the cartridge (or disc), feel the static electricity from the TV screen tickle your hair, and kick back and look at these games the way you remember them, with the unmistakable feel of the original controller against your fingertips.

Of course, the people you live with might not be as keen on this as you are but, if you meet any resistance, point out that without your intervention, these things would no doubt end up going into landfill. You're not cluttering the house; you're saving the planet, and they should be proud, actually. You can thank me later. 🙄

* The PS2 is over 20 years old now, and undeniably retro. Sorry, fellow old people.



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Reviews, retro games, and lots more besides

- 90. The Quarry** PC, PS5, PS4, XBO, XB X/S
- 92. Kao the Kangaroo** PC, PS5, PS4, XBO, XB X/S, Switch
- 94. Mario Strikers: Battle League Football** Switch
- 95. Final Vendetta** PC, PS5, PS4, XBO, XB X/S, Switch
- 96. Sniper Elite 5** PC, PS5, PS4, XBO, XB X/S
- 98. Eternal Threads** PC
- 99. Itch.io roundup** PC



Does Kao the Kangaroo have us jumping for joy? Find out on page 92.

OUR SCORES

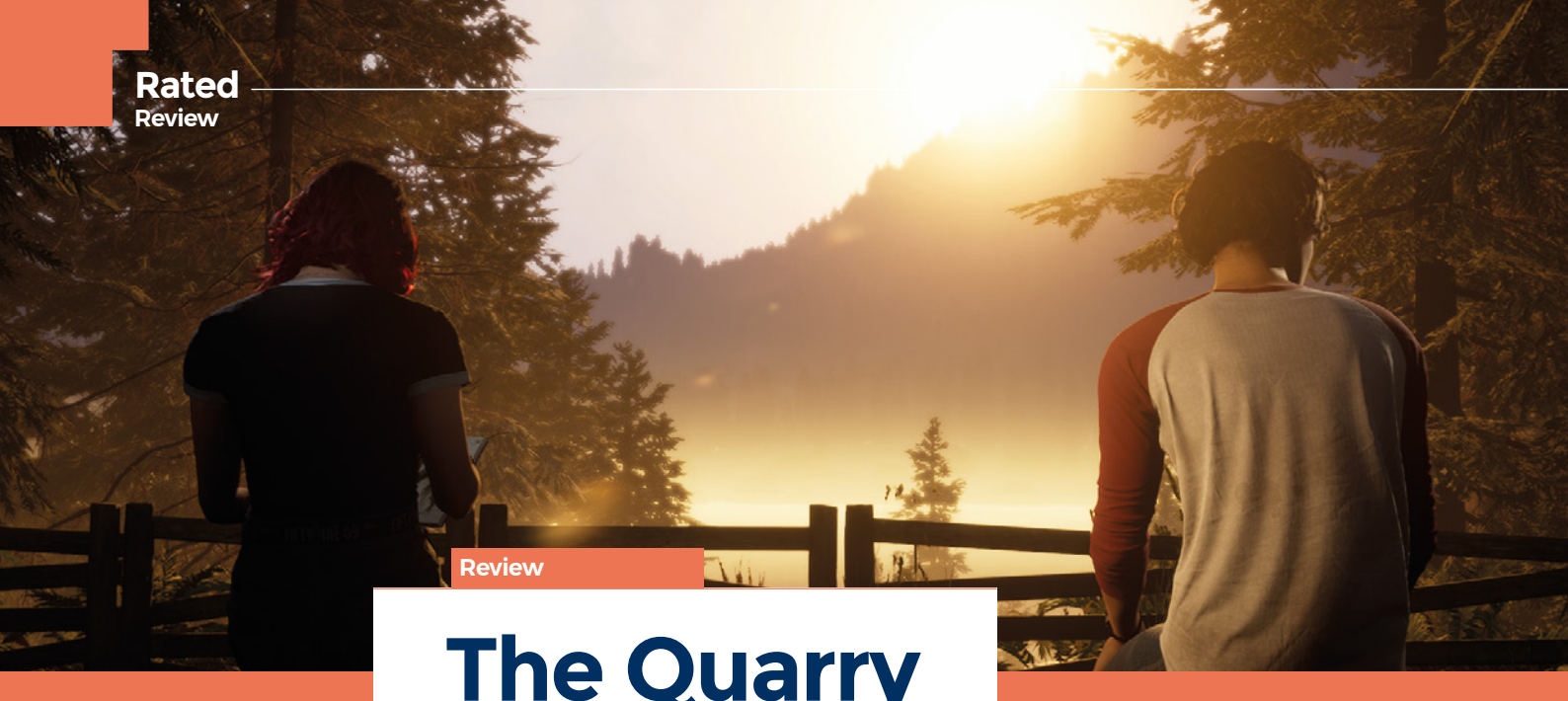
- 1-9**
Trash. Unplayable. A broken mess.
- 10-19**
A truly bad game, though not necessarily utterly broken.
- 20-29**
Still awful, but at a push could be fun for two minutes.
- 30-39**
Might have a redeeming feature, but otherwise very poor.
- 40-49**
Adds in more redeeming features, but still not worth 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?

PLUS

- 100. Stream of Consciousness**
Video game banter with British streamer RaptaraRage
- 102. The HOTLIST**
Our rundown of the absolute best PC games available to play today
- 104. Backwards compatible**
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Enjoying some 1980s vibes with Stories Untold and Mad Max



Elden Ring on Game Boy? It really is a thing - see Backwards Compatible on page 104.



Review

The Quarry

The brat pack

Info

GENRE

Interactive
horror movie

FORMAT

PC (tested) / PS4 /
PS5 / XBO / XB S/X

DEVELOPER

Supermassive
Games

PRICE

£54.99

RELEASE

Out now

REVIEWED BY

Alexander Chatzioannou

The things we do for love. Or for a mutually agreed summer fling turned one-way obsession. Or for deep-seated insecurities manifesting as possessive behaviour with potentially dire consequences. Well, the psychology of it may be open to interpretation, but the facts that pertain to the single catastrophic act responsible for your next 10–12 hours of mayhem in *The Quarry* are as follows: summer camp is over and the kids have all gone home. Our ensemble of late-teen counsellors is packing to follow suit when Jacob, seeking to rewrite the expiry date of his doomed romance with Emma, sabotages their only means of transportation (read: escape) when nobody's looking. Seems like the gang is spending the night. All this prompts a hastily departing Chris Hackett, owner of the decades-old institution, to demand they lock themselves inside the lodge and not

stray out before he returns. His family has ruled over the surrounding woods for generations, so he should know. A stern warning from an absentee guardian isn't going to carry much clout with a bunch of rowdy, horny teens though, is it? A kitchen will be raided for supplies, an office broken into for the hell of it, and a packet of fireworks unearthed to mark the occasion, even while the relatively prim Kaitlyn and introverted Ryan half-heartedly voice their concerns. So what if there are security cameras positioned along the tracks from one section of the camp to another? There are no bears in this neck of the woods so whatever stirs in the foliage is another animal, one that surely poses no threat.

There are two fundamental reasons why *The Quarry* is Supermassive's best game since *Until Dawn*, and the first one should have been obvious in the elevator pitch. The studio's familiar template for QTE-driven interactive horror doesn't rely so much on scares (it can never hope to match *Alien: Isolation* or *P.T.*) as on building a connection to its cast of potential fatalities. It's a set of sensibilities that perfectly matches the movie sub-genre the studio has – finally! – fallen back on: the teen slasher. The emotional outbursts, irrational decisions, and everyday drama that gradually outline those personalities are just as captivating as the crescendos of spectacular violence. Danger thus functions as pretext, the chance to see how the group's volatile social dynamics will play out when faced with a life-or-death situation. Even something as basic as the number of (initially) playable characters serves as a clear indicator of the game's priorities: seven is a wonderfully asymmetric figure, portending turbulence for the, otherwise neatly compartmentalised, emotional pairings of the group.



> Animated clips in the style of vintage public information films help familiarise players with the game's rules.



◀ The gang is swapping stories and playing games by the campfire, unaware that strangers are watching.

Quality of the dialogue is key in such an approach. Thankfully, this is an area where *The Quarry* shines, establishing characters that are instantly recognisable as tropes before proceeding to playfully subvert those expectations. Dylan comes off as a wise-cracking jerk but, deep down, is just a geek aspiring to be a quantum physicist; Kaitlyn's façade of maturity dissolves as she sneakily engages in social engineering through a time-honoured truth-or-dare session; Ryan, meanwhile, acts the mysterious loner but quickly succumbs to peer pressure. Their naturally flowing banter fleshes out those exasperating brats while the *Buffy*-esque one-liners belie a familiar tangle of adolescent frustrations that make it almost impossible to dislike them even at their most petty, cowardly, or malicious.

The second reason why Supermassive succeeds where it kept failing relates to a more tangible metric: budget. Among the studio's recent missteps, shared flaws include repetitive environments (such as the seemingly endless passageways in *Man of Medan*) and a dearth of playable characters (*House of Ashes* featured only five) that, inevitably, always limit the potential for interpersonal drama. *The Quarry* reinstates *Until Dawn's* variety of locations and expanded cast and, moreover, boasts strong performances from a host of established names, including horror legends Grace Zabriskie, Ted Raimi, and David Arquette.

The care and detail that has gone into the game's monstrous antagonist is similarly impossible to imagine without the extra resources. The half-human hybrid stalking the woods surpasses even major-movie renditions of that theme, ranking up there with genre classics like 1981's *The Howling*. While the overflow of teenage wit keeps the tone relatively light

for the first few chapters, once the creature unfurls its towering height, exaggerated further by a lanky, eerily disjointed frame, *The Quarry* reverts to full-horror mode on the strength of its awe-inspiring presence. Which makes it rather unfortunate that Supermassive's otherwise commendable attempts to tweak the formula should upset the delicate balance between branching narrative and meaningful interactivity. Presumably to compensate for the (admittedly frustrating) unfair deaths of its previous games, QTEs in *The Quarry* are almost impossible to fail, significantly deflating the stakes during its climactic moments of active engagement.

Catastrophe is more likely to occur as a result of a wrong decision than a missed prompt but, even then, the newly introduced rewind option allows you to replay the sequence, all but ensuring a happy resolution.

If those two poorly implemented features rob the experience of *Until Dawn's* more visceral thrills, at the same time they suggest that Supermassive is still experimenting, looking for ways to improve the formula. Despite playing it a tad too safe, *The Quarry* remains its most exhilarating title since 2015 and, more importantly, suggests we can anticipate its future releases with more than – ahem – a little hope. 🎮



“Supermassive’s best game since *Until Dawn*”

HIGHLIGHT

Excellent writing and cast chemistry make *The Quarry* the funniest game in ages, with laugh-out-loud zingers and brutal put-downs delivered at a breakneck pace early on. It sobers up for the final hours of carnage, but concludes on a high note with an end-credits sequence where two quarrelling podcasters hilariously debate the veracity of evidence you've discovered along the way.

VERDICT

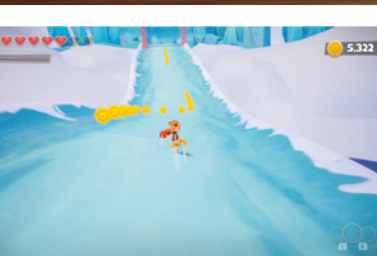
Despite a couple of missteps, *The Quarry* signals a triumphant return to form for Supermassive.

80%

Rated
Review

HIGHLIGHT

Just because *Kao the Kangaroo* is technically a reboot doesn't mean it can't pay affection to the original PC games. One of the costumes you unlock early on, for instance, is a skin that mimics how the eponymous hero looked in the first game. Only 500 coins for the privilege!



Review

Kao the Kangaroo

Punch-drunk on nineties nostalgia

Info

GENRE

3D platformer

FORMAT

Switch (tested) / PS5
/ PS4 / XB X/S /
XBO / PC

DEVELOPER

Tate Multimedia

PUBLISHER

Tate Multimedia

PRICE

£24.99

RELEASE

Out now

REVIEWED BY
Aaron Potter

VERDICT

Too slavish to the genre it apes to truly stand out, *Kao's* return still has us somewhat hopping for joy.

68%

If you were to take the rail-grinding from *Ratchet & Clank*, *Donkey Kong's* collectable letters, the chase sequences from *Crash Bandicoot*, and then blend them all together, you'd have something that looks uncannily like this *Kao The Kangaroo* reboot. It doesn't do much to hide its old-school 3D action-platformer influences, that's for sure, but it's hard to complain too much in an age when this genre is becoming increasingly rare (outside of remakes and remasters). For better and worse, this is an unabashed throwback to a time when games were simpler – where all that's required to save the day is a plucky attitude and superpowered pair of boxing gloves.

None of this is to say that *Kao The Kangaroo* doesn't at least have a few ideas of its own. From using his ears as a way to climb underneath platforms to the tactile way Kao satisfyingly bops enemies on the head, it's never hard to find the fun in this colourful world populated by anthropomorphic critters. Of course, the gloves are Kao's chief defining trait, tying into both combat and puzzles somewhat creatively thanks to their ability to switch between the elements. Fire, Frost, and Wind all have their unique uses as you progress, but it is a shame that the latter is introduced far too late to be enjoyed or iterated on fully.

The four main hub areas you visit are similarly littered with collectables as the individual levels themselves. And while tracking down every gem,

and initial in Kao's name offers a slight distraction from the golden path route, only some have a practical use. Coins can purchase alternative costumes, and runes are necessary to open up new stages. Gems and scrolls, however, serve no real purpose other than to satiate the desire of completionists. It's in small instances like these that *Kao The Kangaroo* chooses to give into the genre's superficial retro trappings rather than improve on them.

Certain technical shortcomings are also expected in an action-platformer of this budget. But aside from getting caught in between boxes a couple of times and classic 3D camera issues this style of game is known for, *Kao the Kangaroo's* edges aren't as rough as other recent platforming revivals have

taught us to expect. What tiny annoyances are here are more than made up for by a constant stream of inventive levels, a fair level of challenge, and some charming boss fights that almost always have you using your glove powers in a cool way.

Kao The Kangaroo is at its best when layering its (admittedly not very original) ideas on top of one another as part of a wholesome family adventure, with stages that ask you to pull off a swing then a slide then a grind and so on. It does this in a manner that still gives you room to explore and discover secrets, though a bit more creativity and a higher level of polish would have been nice. It's far from knockout, but packs a nostalgic punch. 🐨

“A throwback to a time when games were simpler”

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SCAN®

Rated
Review

HIGHLIGHT

Luigi's Mansion 3 showed that a Nintendo game could look as good as a big-budget CG movie, and Next Level's animation chops also shine in *Strikers'* close-ups during your players' Hyper Strikes, their victory poses after scoring, or the conceding teams' dejected expressions. True, they get old eventually, but you can also skip them (except for the Hyper Strikes).



Optional gears have cosmetic as well as stat changes, giving you a bump in one area at the expense of another. At least there's no loot boxes.

Info

GENRE
Action/sports
FORMAT
Nintendo Switch
DEVELOPER
Next Level Games
PUBLISHER
Nintendo
PRICE
£49.99
RELEASE
Out now
SOCIAL
@NintendoUK

REVIEWED BY
Alan Wen

VERDICT

Chaotic yet bare-bones, it's hard to see *Mario Strikers* lasting a season.

58%



Review

Mario Strikers: Battle League Football

Three Goombas on a shirt...

Football may mean different sports, depending on which side of the pond you fall (pro tip: it's the Americans who are wrong) but *Mario Strikers: Battle League Football* could be seen as a combination of both. Just look at how your players can be kitted out and bulked up like an NFL quarterback, and while the setup is that of an old-fashioned five-a-side kickabout, most rules like handball, offside, or physical fouls go straight out the window.

For someone with little interest in football, *Mario Strikers* is the perfect arcade knockabout. It feels like a cross between *Smash Bros.* in its liberal allowance of tackling players, and *Mario Kart* with its power-ups; these cause more chaos as you chuck green or red shells, banana skins, or bombs across the pitch to help even the odds, with more power-ups available to the losing side.

All this zaniness can mean the action's tricky to follow, though: you can lose sight of the ball and then realise it's far from your controlled character, while on either auto or manual settings, you don't always switch to the player you want. It's even harder to parse who's who when pairing up with a second player online.

Still, there's some satisfying skill required in the footie mechanics, which involves timing your

button presses to give every touch an extra boost, such as dodging a tackle at the last second to get a burst of speed, or making a one-touch pass move along quicker. It's especially important when trying to score against the Boom Boom goalkeepers, as you don't want to shoot straight on but hold the stick up or down to curve the ball around respective sides of the goal. Once you've mastered that, it's not hard to finish a match in the double digits.

It's just a shame that there's not a whole lot of game here. Beyond the quick matches against the computer, other players local or online, there are different cups. These see you compete against teams of different themes, such as those that favour strength or others that focus on technique. These are short at just three

matches each, or a fourth if you lose one game. The actual league part of the game is exclusively online (and as it's still off-season at the time of writing, I can't comment on it) and has the feel of an MMO guild of like-minded players contributing to the team's overall league score and pairing up with whoever's around at the time. If you're someone who prefers to keep track of your own personal achievements, then this will do nothing for you. After *Mario Tennis Aces* and *Mario Golf: Super Rush* proved lacklustre in terms of content, this is rather a hat-trick of disappointment. 🙄

“Like a cross between *Smash Bros.* and *Mario Kart*”



Review

Final Vendetta

Off to the chippy to batter some bad guys

If we're in the second golden age of the arcade beat-'em-up, then *Final Vendetta* is defiantly retro in design compared to more recent modern revivals; it's a bright and bruising beat-'em-up designed for the Neo Geo, although its inspirations may be a bit too derivative. Certainly, *Final Fight* comes to mind with the way some enemies hang out in the background before joining the fray, while playable character Claire Sparks' moveset is straight up Blaze Fielding's from *Streets of Rage*.

Nonetheless, what makes Bitmap Bureau's brawler feel fresh is its British setting, with some notable environmental iconography – red phone boxes, tube stations – and voice lines to match. For a game where you're just bashing your way through linear stages with a boss at the end, there's also surprising depth to combat. Even if you don't use the block button, pressing it together with another input, or while pushing the stick forward or while running, all produce a different move, each with their own unique and beautiful animations. There's also a twist to special attacks, which either costs a bit of your life meter – like *Streets of Rage 2* – or you can wait until you've charged up your super meter at the bottom.

As fun and effortless as it is to be able to pick up and play this just like your favourite nineties beat-'em-ups, *Final Vendetta* also includes the strict old-school hardcore system of limited credits, which even on easy mode means you're unlikely to get through it on your first playthrough. That's arguably fair, given this is essentially a 30-minute arcade game – Bitmap Bureau clearly wants you to learn the enemy attack patterns and

improve a bit more on each run, so you don't blitz through its six stages in one evening.

Still, the design can feel overly stingy at times. While it's got a fun combo system not too dissimilar to *Streets of Rage 4* (which is also more lenient since getting jabbed won't break the combo) it won't count for much if you lose even a single life; doing so automatically results in you getting the lowest grade. There's little incentive in racking up a high score as you're not given rewards such as extra lives when reaching a certain score (there are secret lives in each stage, albeit deviously placed), while the leaderboard is also limited to offline. Another old-school design ethos it suffers from is in how enemies knocked off-screen can't be attacked until they re-enter the picture, forcing you to wait for them.

If you can look past these issues, you'll have a blast with *Final Vendetta*, especially with a mate in co-op or even versus (mind, it's quite limited when there's only a roster of three to choose from). It's just a bit too old-fashioned compared to other modern games that have given the genre new life. 🎮



HIGHLIGHT

If Yuzo Koshiro's soundtrack was a defining part of *Streets of Rage* then British producers Featurecast and Utah Saints deserve just as much praise for cranking out some serious bangers for *Final Vendetta*, which has a bit of everything from the UK dance scene, including house, techno, jungle, garage, and even a bit of gabba.

Info

GENRE

Arcade scrolling beat-'em-up

FORMAT

Switch (tested) / Neo Geo / PC / PS5 / PS4 / XBO

DEVELOPER

Bitmap Bureau

PUBLISHER

Numskull Games

PRICE

£34.99

RELEASE

Out now, Neo Geo TBC

SOCIAL

@BitmapBureau
@NumskullGames

REVIEWED BY

Alan Wen

VERDICT

A lean, mean beat-'em-up that's unapologetically old-school, albeit not always in a good way.

74%



Review

Sniper Elite 5

Ain't that a kick – or bullet – in the head

Info

GENRE

Tactical shooter

FORMAT

PC (tested) / PS4 /
PS5 / XB S/X /
XBO

DEVELOPER

Rebellion

PUBLISHER

Rebellion

PRICE

£44.99

RELEASE

Out now

SOCIAL

@SniperElite

REVIEWED BY

Lewis Packwood

W

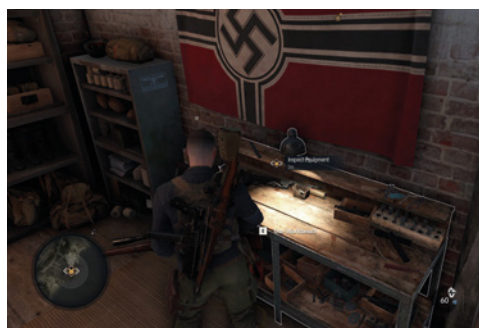
hy is shooting people from a long way away so enjoyable? It's a question I've been asking myself while playing *Sniper Elite 5*. I'm not normally one for violent games, yet I'm hooked on popping Nazis' brains out from half a kilometre away. I suppose it's that feeling of power, of holding another person's life in your hands: a bit like that guy in nineties sketch show *The Kids in the Hall* who's always pretending to crush people's heads with his thumb and forefinger. *Sniper Elite* heightens that sense of empowerment with its iconic X-ray kill cam, as the camera cuts to show your victim's brain exiting through their earhole in gruesome slow motion. "I'm crushing your head!" I yelp with glee – followed immediately by a pang of guilt.

The X-ray kill cam's even gorier here, with bullets ricocheting off bones and

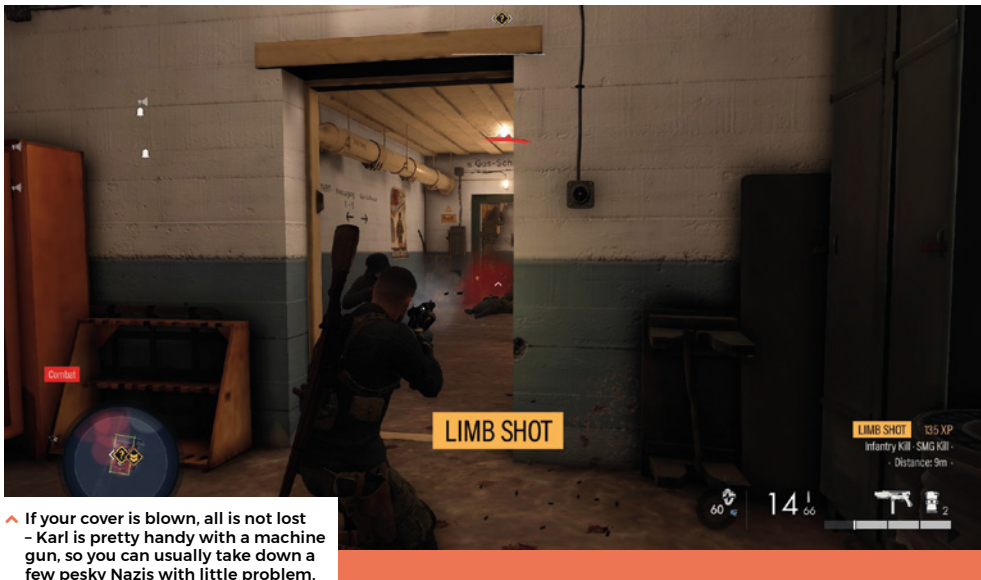
puncturing organs. I found it a bit much, to be honest, but thankfully there are options to tone down the gore, reduce the frequency of kill cam cuts, or even turn them off completely. Other than more gruesome kills, the gameplay changes in this sequel are minor, mostly amounting to adding zip wires and a few more options for weapon customisation.

This time around, the setting is the 1944 invasion of France, beginning with those Normandy beach defences cinema seems obsessed with. It's a solid opening, and there's a particularly lovely re-creation of a French seaside village, but the level design really hits its stride on mission three, set in a fictional version of the island of Mont-Saint-Michel. Not only does it look stunning, but the level also introduces a pleasing amount of verticality as you sneak your way to the roof of the towering abbey at its centre. It's a sniper's paradise, with turrets to take pot-shots from, walls to scale, and zip lines to make a quick getaway, along with myriad hidden shortcuts and twisting alleyways to explore. In short, it's a beautiful piece of design.

Later missions don't quite reach those highs, but there are still plenty of memorable moments, from the brutalist seafront towers of Guernsey to cavernous V2 bases and exciting shoot-outs in the ruined streets of Saint-Nazaire. The levels encourage exploration, and there's almost always a sneaky back route to get to where you're going, plus conversations to eavesdrop



► Workbenches hidden away on the levels let you customise your weapons, and completing certain objectives unlocks new guns.



▲ If your cover is blown, all is not lost - Karl is pretty handy with a machine gun, so you can usually take down a few pesky Nazis with little problem.

HIGHLIGHT

Playing as the enemy sniper Jäger can sometimes result in tense, *Enemy at the Gates*-style stand-offs as you sneakily track each other around the map, trying to get the drop on your foe. But it can just as easily result in farce, as you comically blunder into each other, firing wildly. Often, you'll spawn into a game where the alarms are already blaring and the hapless player is taken out by German troops before you even have a chance to find them. The unexpected pick-and-mix gameplay is a big part of the appeal - you never know what you're going to find.

on to gain information about things like hidden weapon caches.

In addition to each level's main objective, there are optional ones that you can pursue to increase your score. These almost always involve blowing something up, which I suppose makes sense for a sneaky saboteur behind enemy lines, but it does get a little repetitive. Slightly more interest comes from the assassination targets, where the aim is to gain little pieces of intel to work out where your high-status mark is hiding. In addition to shooting them in the head, there is usually a bespoke, alternative way to eliminate them, like slipping poison into their meal or dropping a V2 rocket on their bonce. These are fun diversions, and clearly a nod to the 'opportunities' in the *Hitman* games - but inviting such comparisons does *Sniper Elite 5* few favours. Whereas IO Interactive's games offer murder playgrounds with myriad ways to approach each target, here the opportunities are much more limited.

Rebellion's game does have the edge over *Hitman* in its gun-play, though. Screwing up a kill in *Hitman* and being seen is generally disastrous, leaving you little alternative but to peg it and hide in a box for a bit. Choosing to stand and fight with Agent 47's weedy pistol is nothing short of suicidal. But when the stealth wheels come off in *Sniper Elite 5*, Karl Fairburne is a bit more capable in a straight gunfight - being spotted won't immediately have you reaching for the 'load game' button to start over again.

Ah, Karl. The most generic of gruff, manly heroes, like Duke Nukem with a side parting and

a humour bypass. Every action-film cliché is ticked off along this hero's journey, from the 'You're a maverick, Karl!' conversation with superiors to the comically evil bad guy - in this case, a general in charge of a fictional superweapon programme. It's all pretty forgettable nonsense, frankly, but the huge and beautifully laid-out levels go quite a long way towards making up for the narrative shortcomings.

Lovely level design aside, *Sniper Elite 5* is essentially more of the same - except, that is, for the invasions, which add an enormous amount of appeal to the whole package. At any point in

the single-player campaign, another player can invade your game as the enemy sniper Jäger, at which point it evolves into a tense bout of cat and mouse as you try

to find and eliminate the invading player before they can do the same to you. Getting that 'Axis invasion' message rapidly quickens your heart rate, as suddenly you know there's a German soldier out there who doesn't obey the rules, who won't stick to set patrol patterns, and who won't stop until they've tracked you down.

Invasions aren't a new idea, of course - we've seen them before in games like *Deathloop* and *Dark Souls* - and as in those games, they do a brilliant job of mixing up the gameplay here, forcing players to think on their feet as they adapt to an unpredictable threat. There are other multiplayer modes, too, like co-op survival, co-op campaign, and 16-player team matches, all with cross-play, but the invasions are the real highlight, mixing up what could otherwise have become a tired re-run of past glories. 🗽

"Ah, Karl. The most generic of gruff, manly heroes"



▲ The gruesome X-ray kill cams now trigger for melee attacks as well as sniper rifle shots.

VERDICT

Ingenious level design and a clever invasion mechanic elevate an otherwise business-as-usual sequel.

79%

HIGHLIGHT

Eternal Threads' neatly engineered timeline display is an empowering feature that lays bare the machinery behind a branching game narrative. Once you've uncovered decision scenes, you can flick events on and off like switches, then witness the life-changing results as different nodes and paths light up thanks to your intervention.

Review

Eternal Threads

A timely intervention

Info

GENRE
Story-driven puzzle

FORMAT
PC

DEVELOPER
Cosmonaut Studios

PUBLISHER
Secret Mode

PRICE
£24.99

RELEASE
Out now

SOCIAL
@Cosmonaut_Info

REVIEWED BY
Jon Bailes

VERDICT

An original, smart time-manipulation puzzle marred by structural and narrative clumsiness.

65%

W

hen your job is to fix time, you never know where you'll end up. *Eternal Threads* takes place in a world where reckless temporal travel has played havoc with

history, and you're sent back to course correct, making small but crucial adjustments to tidy up the mess. In this case, that leads you to, of all places, a student house in Lancashire, shortly after its six inhabitants died in a fire. Your aim is to alter key decisions in the week leading up to the fateful event, so they escape unscathed instead.

The resulting task is something like *Return of the Obra Dinn* meets *Hollyoaks*. Wandering the fire-damaged abode, you can pull up a computerised timeline, select events from it, then watch them replay as holographic vignettes. In some scenes, you can also intervene to change what happened – deciding a character chose not to text his ex-girlfriend after all, for example – and the knock-on effects open up access to alternative possibilities.

Through this one clever device, you become the proverbial fly on the wall, noting the relationship issues, money worries, and repressed traumas that come to light in-between pub trips and cups of tea. Bringing the housemates to a point where they aren't alone, drunk, and unconscious when the fire starts is a complex process of digging into and rearranging their lives. Like a Rubik's cube, solving one of the six sides is easy enough, but you'll then have to undo that work to open up alternate paths that aid the others.

As intriguing as this human puzzle is, however, it's equally overwhelming. Eschewing *Obra Dinn's* guiding hand approach, *Eternal Threads* plops nearly 200 potential events in your lap at once, and it's hard to know where to start. Even by the

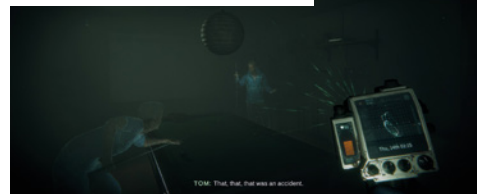
middle of the game, when it's largely clear what problems need solving, you'll still have dozens of clips to sit through, and with few clear progress markers, you just hope the final result will make the prior six or seven hours seem worthwhile.

A lot rests, therefore, on the grip of the narrative, and unfortunately it frequently stumbles into something resembling low-grade soap opera. Characters are at least sketched in sufficient detail to ensure you'd rather they didn't choke to death next Wednesday, and even some awkward dialogue seems appropriate among individuals who don't always have much in common.

But it's also a sign of laboured scripting and vocal performers struggling to conjure emotional range – not to mention an oversimplification of themes – as deep psychological scars are reduced to logical puzzles.

And yet, *Eternal Threads* is hard to abandon for long, until your meddling produces that 100% survival rate. That's mainly because there's nothing else quite like it, and its combo of sci-fi and everyday life is enduringly fascinating. Although the investigation can drag, there's an equally strong pull. Even if you could return to the past, you wouldn't erase it from your timeline. 🕒

Some events are sealed off behind locked doors, so you'll need to search the house for keys.



Why not try...

Itch.io roundup

Picking out some of the platform's standout titles | REVIEWED BY Nic Reuben



Warehouse Paperclips

Luka Rizzi / Free in browser / wfmag.cc/paperclips

This first-person factory sim lies somewhere between *Factorio*, *Universal Paperclips*, and a nightmare. To play it is to follow a path from intrigue to mild obsession to inescapable, robotic compulsion. Really, it's a harmless, cheery clicker game in 3D space that takes you from manually filling buckets with wire and pouring them through chutes, to setting up conveyor belts and automated machinery. It's fairly short, if you count playtime via the achievements on the bottom of the screen. But can you tear yourself away from the seductive allure of numbers shooting upwards as your forge burns with the fire of simulated progress?

Phobolis

Amon Twentysix / \$1.00 / wfmag.cc/phobolis

Currently in Alpha, *Phobolis* is a surreal, twistedly gorgeous shooter. In contrast to recent trends, the action here is more tuned to measured, clean exchanges of violence than arsenal acrobatics – there's no grappling hook or boost dodge – but the rattling pistol shots and whip-fast meat cleaver melee still grant a wickedly satisfying rhythm. Maze-like map design feels subterranean despite the open sky above, and enemies have a *Quake*-like touch of the eldritch-techno about them. But *Phobolis'* real draw is its art design, all pulsating CRT monitors and scattered cherry blossoms, thick shadows and Giger-esque biomechanical backdrops.

Mangotronics Employment Collection

Various / \$6.99 / wfmag.cc/mango

There's so much about games that make them uniquely positioned to explore our relationship to work: the repetition, synthetic reward systems, and willing submission to restricted agency. Plus I love curated compilations, so this is an easy recommendation. Six games from six devs, each exploring different facets of the "9 to 5 job, the application and recruiting process, and the dread of career change".



The Last Sanctuary

SjoerdHekking / Free in Browser / wfmag.cc/sanctuary

As a space janitor in a station above a post-apocalyptic Earth, you're tasked with the custodianship of the few remaining humans on the planet. As time passes, you'll have to make practical, ethical decisions on various crises faced by the sanctuary. Barren prose and ambient music seep into one another, with tense and melancholic results. Choices directly affect various percentages of critical life support systems, bringing the janitor role-play to life. 🗿

The bonus game this month is *Morbis: The Game*, which I'd considered giving a full entry, were it not deeply unfair to all the other games on the list, and honestly, in the magazine. Score: one morbillion percent. (wfmag.cc/morbin-time).

▶ STREAM OF CONSCIOUSNESS

Streamer Dave “RaptaRage” Smith on his favourite Final Fantasy and the power of community

What would you say is your favourite game of all time and why?

This is always a tricky one as I've been playing games for well over 20 years! I actually have two that I think really stand out – the first one is *Final Fantasy IX*, which I know is controversial as everyone loves *VII*, but I loved its aesthetic and its story. The second one has to be *The Witcher 3: Wild Hunt*. I cannot express how much I enjoyed every aspect of that game; it was such a brilliant experience when I did my first run and I recommend it to everyone all the time. The way you could go off the beaten track and find new and interesting things to do wherever you went is something that I really fell for.

Can you remember the game that first got you into gaming?

Yes! I remember it was at Christmas and I got my very first console: a Sega Mega Drive. The first game I ever played on that platform was called *Streets of Rage 2*, and that kickstarted a passion that has been with me ever since. Even before then, though, I remember watching my parents play point-and-click adventure games like *Broken Sword*.

Has there ever been a time where you felt like you needed to take a break from gaming/streaming?

I've never felt a need to take a break from gaming, as it is such a huge and important part of my life that I will always make time for it. I have had to take breaks from streaming in the past, though, as I [also] have a full-time job. When I first began content creation, I was effectively working two jobs and burning the candle at both ends. It got to the point that I was so tired that I had to take a break and re-evaluate how I should balance my work life and streaming life. I eventually managed to find a happy medium, and I continue to regularly



take breaks for my mental health, which I recommend to anyone in content creation.

For you, what's the appeal of streaming? What do you get out of it?

I initially started streaming as a hobby and was also encouraged to start by others already in the streaming world. A tiny part of me thought maybe it would be something more one day... I didn't really think at the start what I would gain from it, but it's been truly amazing! Apart from meeting and becoming close friends with people all over the world, I have also picked up valuable skills, like networking, professional email writing, and social media management skills, to name just a few! Above all else, it comes down to the community you build. It will always be what has me coming back again and again because, over the years, I have shared some of the best times of my life with my community, and that is what I get out of it the most. 🗨️

Watch RaptaRage stream live regularly on Twitch at [wfmag.cc/raptarage](https://www.twitch.tv/raptarage)

“I continue to regularly take breaks for my mental health, which I recommend to anyone in content creation”



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by **iiyama**

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The Wireframe **HOTLIST**

The best PC games, according to Wireframe, catering for whatever your mood might be



The games for... **BIG ADVENTURES**

Elden Ring / Bandai Namco / **95%** (Issue 61)

Assassin's Creed Odyssey / Ubisoft / **93%** (Issue 1)

Yakuza: Like a Dragon / Ryu Ga Gotoku Studio / **90%** (Issue 45)

Amnesia: Rebirth / Frictional Games / **87%** (Issue 46)

Death's Door / Acid Nerve / **87%** (Issue 55)

The Last Campfire / Hello Games / **86%** (Issue 47)

Resident Evil 2 / Capcom / **86%** (Issue 7)

Journey to the Savage Planet / Typhoon Studios / **84%** (Issue 33)

The Outer Worlds / Obsidian Entertainment / **84%** (Issue 28)

Eastward / Pixpil / **84%** (Issue 57)

The games for... **REPEATED PLAY**

Hades / Supergiant Games / **94%** (Issue 44)

They Are Billions / Numantian Games / **88%** (Issue 20)

Sekiro: Shadows Die Twice / FromSoftware / **87%** (Issue 11)

Streets of Rage 4 / Dotemu/Lizardcube/Guard Crush / **86%** (Issue 40)

Trials of Fire / Whatboy Games / **84%** (Issue 50)

Katamari Damacy REROLL / Monkeycraft / **84%** (Issue 4)

Spelunky 2 / Mossmouth / **83%** (Issue 44)

Hitman 2 / IO Interactive / **82%** (Issue 3)

Alba: A Wildlife Adventure / ustwo Games / **82%** (Issue 46)

Slay the Spire / Mega Crit Games / **81%** (Issue 45)

The games for... **SOLID STORY TIMES**

Disco Elysium / ZA/UM / **94%** (Issue 28)

Life is Strange: True Colors / Deck Nine / **89%** (Issue 57)

Mutazione / Die Gute Fabrik / **86%** (Issue 26)

Whispers of a Machine

/ Clifftop Games/Faravid Interactive / **85%** (Issue 14)

The Forgotten City / Modern Storyteller / **85%** (Issue 55)

Mythic Ocean / Paralune / **84%** (Issue 36)

Sunless Skies / Failbetter Games / **83%** (Issue 7)

Arise: A Simple Story / Piccolo Studio / **82%** (Issue 31)

Assemble with Care / ustwo Games / **81%** (Issue 27)

The Walking Dead: The Final Season

/ Telltale Games/Skybound Games / **81%** (Issue 11)



The games for... **FIRING UP BRAIN CELLS**

Telling Lies / Sam Barlow / **92%** (Issue 24)

Kentucky Route Zero / Cardboard Computer / **90%** (Issue 33)

Slipways / Beetlewing / **90%** (Issue 53)

Total War: WARHAMMER III

/ Creative Assembly/Feral Interactive / **87%** (Issue 60)

Heaven's Vault / inkle / **89%** (Issue 12)

The Pedestrian / Skookum Arts / **84%** (Issue 35)

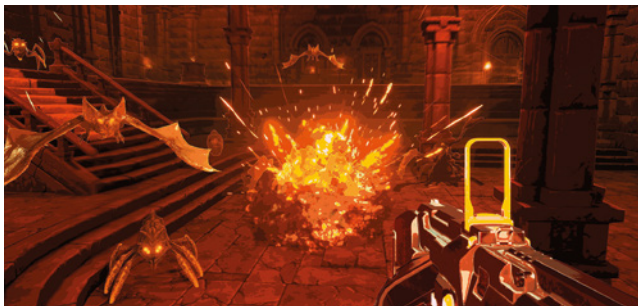
Dorfromantik / Toukana Interactive / **85%** (Issue 63)

The Legend of Bum-Bo / Edmund McMillen / **83%** (Issue 31)

A Monster's Expedition / Draknek & Friends / **82%** (Issue 47)

Total War: THREE KINGDOMS

/ Creative Assembly/Feral Interactive / **82%** (Issue 16)



The games for... **HIGH-INTENSITY PLAY**

Tetris Effect / *Monstars Inc./Resonair* / **90%** (Issue 4)

Sayonara Wild Hearts / *Simogo* / **89%** (Issue 25)

Chivalry 2 / *Torn Banner Studios* / **88%** (Issue 54)

Hot Wheels Unleashed / *Milestone* / **86%** (Issue 56)

Star Wars: Squadrons / *EA* / **86%** (Issue 45)

OlliOlli World / *Roll7* / **84%** (Issue 60)

Devil May Cry 5 / *Capcom* / **84%** (Issue 10)

Black Bird / *Onion Games* / **84%** (Issue 3)

BPM: Bullets Per Minute / *Awe Interactive* / **83%** (Issue 45)

Resident Evil Village / *Capcom* / **82%** (Issue 52)



The games for... **CURING THE INDIE ITCH**

If Found... / *DREAMFEEL* / **92%** (Issue 44)

Can Androids Pray
/ *Natalie Clayton/Priscilla Snow/Xavier Nelson Jr.* / **90%** (Issue 21)

Tales From Off-Peak City Vol. 1 / *Cosmo D* / **89%** (Issue 39)

Baba Is You / *Hempuli Oy* / **88%** (Issue 10)

TOEM / *Something We Made* / **87%** (Issue 57)

Afterparty / *Night School Studio* / **86%** (Issue 33)

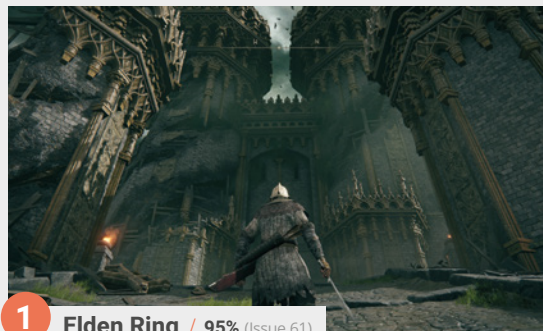
Witcheye / *Moon Kid* / **86%** (Issue 30)

Hypnospace Outlaw
/ *Tendershoot/Michael Lasch/ThatWhichIs Media* / **86%** (Issue 11)

Haunted PS1 Demo Disc / *The Haunted* / **85%** (Issue 39)

Chicory: A Colorful Tale / *Greg Lobanov* / **83%** (Issue 54)

PC Top 10



1 Elden Ring / **95%** (Issue 61)

A game of massive scale, packed with intelligence and mystery. A towering achievement.

2 Disco Elysium / **94%** (Issue 28)

Smarter and deeper than anything else; truly an RPG in a class completely of its own.

3 Hades / **94%** (Issue 44)

Proving 'roguelike' isn't a dirty word, learning-and-dying is a joy from start to finish.

4 Assassin's Creed Odyssey
/ **93%** (Issue 1)

The point where Ubisoft realised over-the-top adventures were the right direction.

5 Telling Lies / **92%** (Issue 24)

This FMV mystery asks more of the player than most, with rewards to match.

6 If Found / **92%** (Issue 44)

A compelling and beautifully illustrated narrative, as moving as it is memorable.

7 Yakuza: Like a Dragon / **90%** (Issue 45)

A bold, brash, and joyous rebirth for the long-running gangster series.

8 Tetris Effect / **90%** (Issue 4)

The question is 'how do you better *Tetris*?' The answer is: like this. This is how.

9 Kentucky Route Zero / **90%** (Issue 33)

Abstract style meets concrete commitments in this fantastic magical realist adventure.

10 Can Androids Pray / **90%** (Issue 21)

A healthy dose of existential anxiety in a minimalist, bite-sized package.

Backwards compatible

WRITTEN BY RYAN LAMBIE

Advance Screen

Maybe it's just me and my big, clumsy hands, but I can't seem to take a Game Boy Advance to bits without shoulder buttons and other bits of assorted plastic shooting all over the place. This often leads to several agonising minutes of crawling under my desk, tutting and swearing, trying to find a tiny on/off switch or button membrane. Still, when it comes to modifications like RetroSix's new CleanScreen, the inevitable hunting and swearing is absolutely worth it. This is a new iteration on the backlit IPS panel RetroSix introduced a couple of years ago, and offers a number of improvements over the previous version.

First, the screen itself is pixel-for-pixel the same size as the GBA's existing panel, and it's also more colour-accurate than the previous RetroSix screens or other mods on the market. You may have

noticed with other replacement screens that the colours were a bit more saturated or gaudy; with the new CleanScreen IPS, greens and yellows look more subtle and less sickly. The revised CleanScreen's driver board also offers a proper on-screen display, activated by holding down Select and the two shoulder buttons. Wait for a couple of seconds, and a small menu will pop up, from which you can adjust the brightness, the positioning of the display, and turn the pixel grid on and off (this simulates the horizontal bars you got on the original GBA screen, but results in a slightly darker image).

You can also choose from four colour modes: a standard, colour-accurate mode; a more saturated option closer to other IPS panel mods; monochrome; and a yellow-and-grey mode that simulates the original Game Boy. Fitting the CleanScreen's a



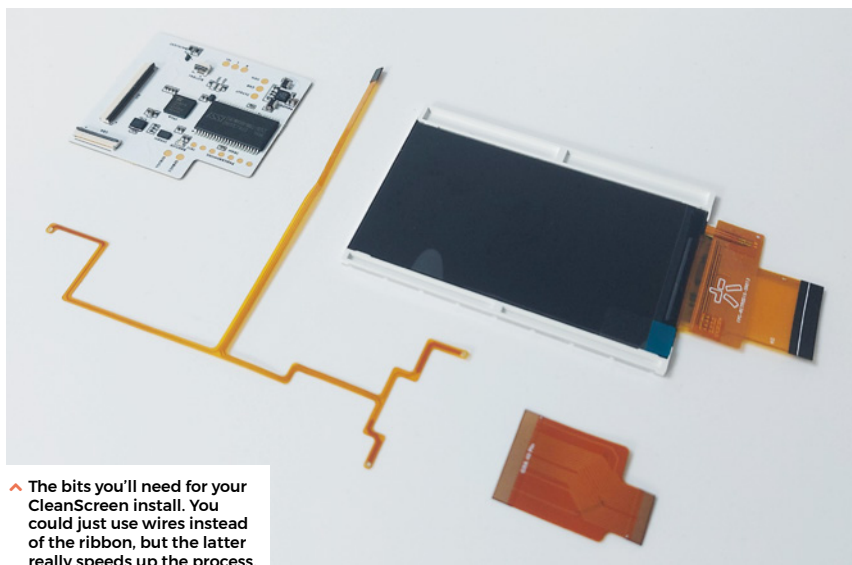
▲ The finished build. All told, it only takes a few minutes – even accounting for the time spent rescuing stray buttons from the carpet.

relatively simple job, particularly since this new panel fits an existing GBA shell without any cuts or trims, so if you want to keep your console original but want a new, backlit screen, the CleanScreen is essentially a drop-in replacement.

Getting the on-screen display working will require you to fire up a soldering iron, but if you use RetroSix's ribbon connector, you won't need to worry about wires – the connector affixes to three points on the GBA's main board with a tiny blob of solder on each, then the longest part of the ribbon connects to the driver board.

The rest of the mod is as simple as other GBA screen mods – the main thing is to ensure you have the correct 32- or 40-pin ribbon connector for your console's model. With the IPS panel mounted inside the shell (if you're using one of RetroSix's modern replacements, as I am, you may want to buy a bracket to stop the screen moving around), it's just a case of screwing everything back together.

Backlit screens have been available for the GBA for some time now, but in terms of quality and ease of installation, the new CleanScreen will take some beating. If you have a tired Game Boy Advance lying around, this mod will give it a vibrant new lease of life.



▲ The bits you'll need for your CleanScreen install. You could just use wires instead of the ribbon, but the latter really speeds up the process.

Fifty Shades of Gley

When *Advanced Busterhawk Gley Lancer* emerged for the Sega Mega Drive in 1992, the response was the print equivalent of a collective shrug. The console had already been bombarded with shoot-'em-ups by that point, and outlets like Famitsu in Japan and Mean Machines Sega in the UK gave it middling scores and compared it unfavourably to earlier shooters for the system like *Thunder Force IV* or *Hellfire*. *Gley Lancer's* fame has steadily grown in the years since its Japan-only release though, and it's now something of a collector's item. In 2019, Japanese firm Columbus Circle reissued the game on cartridge with new cover art; only released in the far east, it soon sold out and now goes for a fair price on eBay.

If you're a shoot-'em-up addict and missed out on both of those earlier editions (like I did), there's good news: Columbus Circle is reprinting the game again, this time to coincide with its 30th anniversary. The cover art and cartridge label are once again different, while the new edition will also come with a soundtrack on CD. Like the previous



reissue, it'll only be available in limited quantities in Japan, but outlets like the UK's Genki (genkivideogames.com) are currently taking pre-orders, with prices for an imported copy clocking in around the £57.99 mark.

So is *Gley Lancer* a forgotten Mega Drive classic, worth the hundreds of pounds collectors are willing to pay for it, or is it closer to the forgettable affair those reviews depicted 30 years ago? The truth, I'd argue, is somewhere in the middle: it's by no means the dull 'avoid-'em-up' that Mean Machines Sega described (they gave it a paltry 48 percent), but neither is it the Mega Drive's most essential shooter. For my money, *Musha Aleste* and *Slap Fight MD* remain the finest of the console's eye-wateringly rare and expensive blasters.



Olden Ring

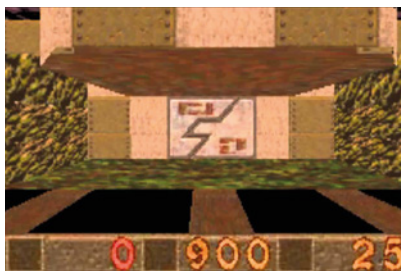
Reaching back even further into Nintendo handheld history, Reddit user Shin has spent the past few months feverishly working on a Game Boy demake of FromSoftware's 2022 hit, *Elden Ring*. What does this mean in practice? A top-down RPG with tiny, cute pixel graphics and an appropriately immense difficulty level. You can play *Elden Ring GB* on original hardware via a flashcart, or if you're more into modern convenience, you can also freely play it through your browser on itch.io:

wfmag.cc/elden-gb.



Quake Boy Advance

Now that you've finished crawling about under your desk for lost shoulder buttons and fitted your trusty Game Boy Advance with a fancy new screen, you'll need a top-tier game to play on it. How about *Quake*? Wait, what do you mean the GBA's too feeble to run id Software's



pioneering polygonal FPS? What you might not have realised is that thanks to the efforts of god-tier programmer Randy Linden back in 2002, there was indeed a working version of *Quake* for the humble GBA. Despite Linden writing an entire new engine from scratch, the port was never completed or released – until now. Preservation site Forest of Illusion managed to track down the ROM Linden worked on all those years ago, and has uploaded it to the net for posterity. There's also Linden's more polished build called *Cyboid*, which avoids using any copyrighted assets or level designs from id's original game. You can find out more about both at wfmag.cc/quake-gba.

Backwards compatible

WRITTEN BY AARON POTTER

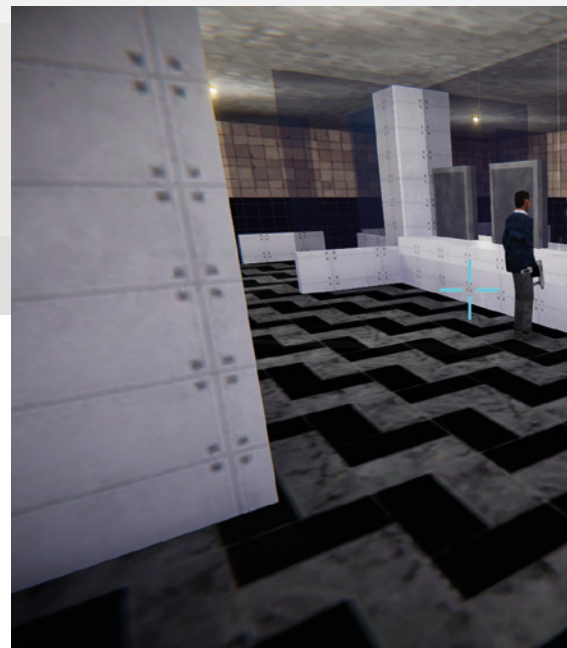
Shaken and blurred

There's a strong chance that by the time you're reading this, the long-rumoured *GoldenEye 007* remake (originally intended for release on Xbox 360) has already been revived and is out on modern consoles. As it stands, its achievement list for Xbox Series S/X has leaked, indicating that a launch is imminent, yet the game was somehow still a no-show at Xbox and Bethesda's big "not-E3" summer showcase. Not to worry, though, because for players wanting to fill that oddly specific hole in their heart left by Rare's seminal 1997 first-person shooter, something similarly polygonal yet sophisticated has stirred on the scene.

Agent 64: Spies Never Die is an upcoming indie title that takes more than a few cues from the classic Nintendo 64 shooter, right down to how photographs of faces wrap

around the heads of enemies to create some semblance of cinematic realism, and the way your handgun – that is most definitely not a silenced PP7, you hear? – bobs and weaves at the bottom of the screen with every camera turn. Developer Replicant D6 is clearly a huge fan of Rare's revered *James Bond* adaptation, as evidenced by the short demo available on Steam. It may only offer one mission, sure, but the level of nostalgic detail present instantly makes a good impression.

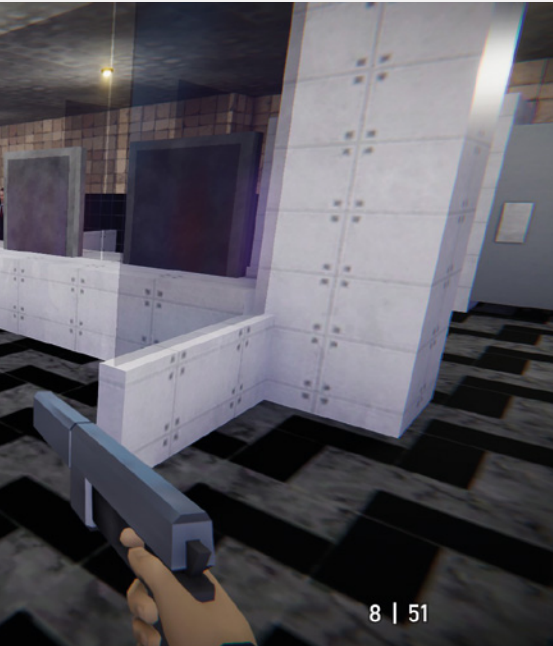
Taking on the guise of John Walker, an ex-special forces agent code-named 64, I'm swiftly dropped into familiar territory. My mission is clear: descend a tower that has been taken over by armed assailants, saving as many hostages as possible, and escape; there might even be time spare to disarm the odd explosive or two. It doesn't



take long for those *GoldenEye 007* vibes to kick in. Shooting various goons feels appropriately retro – not least due to Walker's uncanny ability to fire from the hip with pinpoint accuracy. There are various explosive barrels strewn about, allowing me to instantly char multiple bandits with one shot, and there's even a moment where I must guide a scientist to a door so they can open it for me using a key card. Dr. Doak would be proud.

I knew I was in safe and knowledgeable hands with *Agent 64: Spies Never Die* once I was dropped into a toilet cubicle. Only now there's not just one enemy around for me to take out silently, but legions of assassins, all primed to prevent me from





escaping. It's in moments like this where Replicant D6 pays homage to the classic Rare shooter with a cheeky wink and a nod, while still finding room to keep you on your guard. By the time the brief mission is over, and all objectives are complete, I'm left almost expecting Walker to complete a cordless jump from a dam. But maybe that's a mission for another day...

Unlike a lot of fan-fueled projects looking to recapture the magic of a classic console release, *Agent 64* feels like a finished product – albeit a relatively superficial and breezy one – that may actually see an official release. This is an upcoming homage that makes no bones about its inspirations, even going so far as to offer a slew of display options, such as CRT scan lines and lens distortion, to help capture some nineties magic. Replicant D6 also intends to include its own level builder upon full release, potentially making retirement even further out of reach for John Walker. Regardless of whether Xbox's own *GoldenEye 007* throwback turns out to be real, this is a more than affectionate indie take I'm prepared to (live and) let live. For more, see wfmag.cc/agent-64.



Touched! By Smooth Sounds

When Nintendo first released *WarioWare: Do It Yourself* on the DS, I doubt the game's subtitle was intended to act as a callout for DJs and artists to stretch their digital instrumental chops. However, that hasn't stopped animator and musician Louie Zong from giving it a go – achieving some surprisingly catchy results. *Garlic Jam* is a concept album of sorts, composed entirely using SFX and chiptune assets featured in 2009's zany minigame collection. Most tracks only span the better part of a minute, true, but almost all of them still manage to communicate a musical idea or theme within that short time.

Monkey Metal touts an ongoing beat that thumps harder than it has any right to alongside a descending melodic scale that really makes your head bob. *Love is Wow*, meanwhile, is wonderfully whimsical, opting to use *WarioWare*'s higher-pitched tones to bookend (and lend extra texture to) the dirtier beats that fill out the middle section. Each one of *Garlic Jam*'s ten tracks finds some way

to work creatively within the confines of the sounds Nintendo's game offers. Is this the birth of a new musical genre Wario has gifted us a decade after he originally intended? Probably not, but as Zong himself puts it, "*WarioWare: DIY* – infinitely cheaper than [using] an OP-1." See here for further info: wfmag.cc/garlic-jam.





Astounding stories

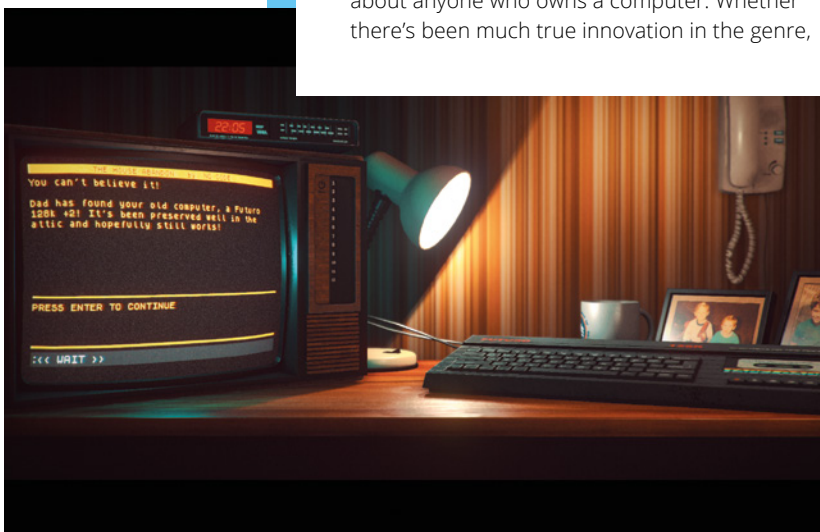
With mild spoilers, Ryan delves into the haunting horror anthology, *Stories Untold*

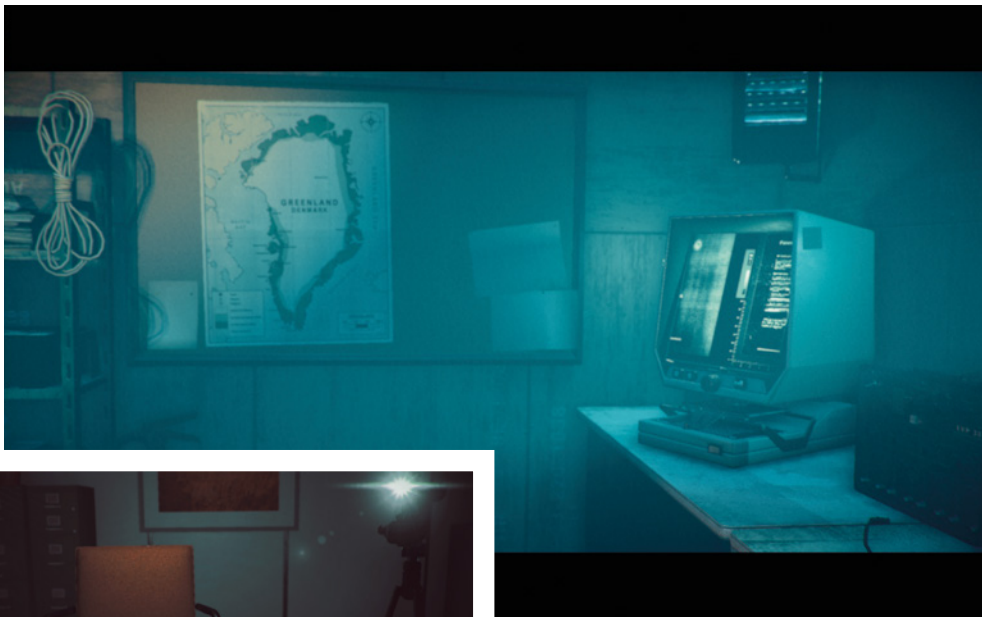
Of all the classic game genres most resistant to change, the text adventure must rank somewhere high on the list. Popularised in the 1970s by the likes of *Oregon Trail* and *Zork* and persisting in the 1980s thanks to games like *The Hobbit* and *Heavy On The Magick*, the text adventure still persists online as interactive fiction – engines such as Twine and ink make writing them accessible to just about anyone who owns a computer. Whether there's been much true innovation in the genre,

however, is rather debatable – or so I thought until I played indie developer No Code's horror thriller anthology, *Stories Untold*.

Its first instalment, *The House Abandon*, was released for free in 2016. In it, you're seated in front of a boxy CRT monitor and an 8-bit computer clearly modelled after the ZX Spectrum. After much chirruping and beeping (sounds that'll immediately sound familiar to Spectrum owners), a text adventure boots up on the screen: *The House Abandon*. Much like any other game of its type, you interact with the game via a text parser; you tap in commands ("Open glove box", for example) and wait for the results. The twist here is that, as the story unfolds on the 8-bit computer, ominous things begin to happen in the 'real' world outside it. Lights turn on and off; the alarm radio on top of the television buzzes at a heart-jolting volume.

The three subsequent episodes that make up *Stories Untold* gradually expand on the format. In one, you're twiddling the dials on analogue lab equipment to experiment on an unknown object locked in a safe, occasionally twizzling around in your office chair to consult the instructions on an old computer located just over your shoulder. In another, you're holed up in a remote station in Greenland, tuning into radio frequencies and typing in arcane bits of code based on the





words you receive from crackly broadcasts. Every episode riffs on the same idea of events occurring in an embedded game, impacting the wider game's reality in unpredictable and often pulse-quickening ways.

As director, artist, and writer, No Code's Jon McKellan is one of the major driving forces behind *Stories Untold*, and he's a dab hand at making games out of tinkering with arcane interfaces. His more recent game, *Observation*, was one I wrote about back in issue 55, and it sees you cast in the role of a space station's computer, hopping from camera to camera and from system to system, trying to preserve the life of the fragile human roaming about on board. Before that, he was responsible for the retro UI interfaces in Creative Assembly's survival horror game *Alien: Isolation*, and came up with some of its hacking minigames.

In many respects, I've come at *Stories Untold* the wrong way around. I'd played *The House Abandon* back when it went semi-viral in 2016, but didn't think about getting the full anthology until I played *Observation* a few months ago. Now, finally, I've played all four episodes back-to-back, and it's a brilliantly spine-tingling experience.

What's striking is how, in every episode, McKellan constantly finds new ways to present staples of interactive fiction, text adventures, and

survival horror in a way that feels fresh. We're immersed in the tactile quality of old mechanical keyboards, switches, and dials, only for that retro cosiness to be ripped away and replaced by something uncanny and disturbing.

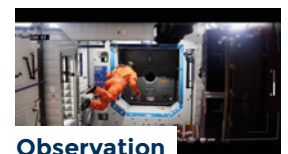
We may subconsciously know that by typing commands into a parser or following the instructions on a piece of microfilm, we're simply following a preordained path set by the game designer behind it all; even compared to most adventures, *Stories Untold's* episodes are rigidly linear. What keeps us playing, though, is the anticipation that builds through pacing and obsessive dedication to replicating the minutiae of eighties tech. Like any good short story, each episode thrives on tiny details, which gradually build and build to an unsettling denouement.

With each instalment lasting around 20 minutes or so – though episode three, *The Station Process*, may take you a bit longer if your Morse code is a bit rusty – *Stories Untold* is best enjoyed in one or two sittings.

In interactive terms, it feels rather like the continuation of a short storytelling tradition perfected by the likes of Edgar Allan Poe, M.R. James, and Stephen King (the latter is one of McKellan's stated influences on the series), and which stretches right back to the fireside tales of humanity's early history.

Instead of sitting around a fire, though, *Stories Untold* has us huddled up against the glow of a CRT monitor. Thanks to McKellan's ingenious storytelling, it turns out to be an incredibly uncomfortable place to sit. 🗨

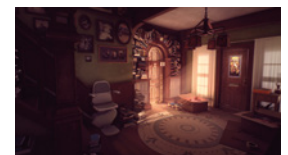
Wireframe Recommends



Observation

PC, PS4, XBO

No Code's 2019 sci-fi thriller is an enthralling amalgam of 2D puzzles and claustrophobic, Kubrickian storytelling. It's a confident, logical expansion of ideas first floated in *Stories Untold*.



What Remains of Edith Finch

PC, PS4, XBO, SWITCH, IOS

A first-person adventure whose episodic tales gradually build to create a poignant, unforgettable whole. A dark and truly emotional experience.



Your Future Self

PC, MAC, LINUX

Another shaky CRT monitor, another adventure about getting to grips with an arcane, eighties-looking interface. It's not perfect, but *Your Future Self* is still an absorbing two-hour time loop mystery – and at the time of writing, it's just £1.99 on Steam.



This world belongs to the mad

Aaron sets eyes on the fury road, hoping people “witness him” in 2015’s *Mad Max* adaptation

“What in the world possessed us?” That’s the question I imagine developers at Avalanche Studios have asked themselves countless times in the seven years since

its *Mad Max* game launched on the exact same day as *Metal Gear Solid V: The Phantom Pain*. Talk about setting yourself up to fail... Because for as much confidence as a studio might have that its passion project will be good enough to cut through the noise and connect with players, the fate of 2015’s *Mad Max* was sealed well before the eponymous anti-hero could even get his key in the Magnum Opus’ ignition.

Revisiting the wasteland today, it’s apparent that, while nowhere near as in-depth or nuanced as Hideo Kojima’s stealth series send-off, Max’s jaunt still has its merits – not least because it does a lot with very little. Said approach feels surprisingly refreshing now, at a time when modern open-world adventures seem to regularly suffer from too much clutter.

As a faithful interpretation of director George Miller’s beloved quadrilogy, *Mad Max* presents a dust-bowl version of America where water is a scant resource, cannibals roam, and civilised life is almost as rare as oil. The map, therefore, isn’t densely populated with meaningless activities. There are things to do, but nearly all put you in positions that further highlight the kind of acts necessary to exist in such a cruel reality.

Only the bravest – or most malicious – can survive here, and Max himself sits somewhere in between. You feel this whenever he hazes his trusty companion Chumbucket for not repairing your vehicle fast enough, his general callousness towards NPCs (even those trying to help), and the vicious kill animations you can activate whenever Max’s Fury meter is full. Much like the movies it’s based on, *Mad Max* isn’t particularly a story-driven experience, yet it absolutely nails the character of Max as a ruthless wanderer willing to do anything to restore his car to its former glory.





Speaking of which, this wouldn't be a *Mad Max* game without some tight vehicular combat, and in that department, Avalanche delivered. Cars are something to be worshipped in this universe, and nothing communicates this idea more than having you gather scrap and explore new regions to build up your death machine after your previous one was stolen. The game's opening mission starts off simply having you select the car's body. Before long, though, you're improving its effectiveness in battle by upgrading the engine, swapping in spiked tyres, and improving the chassis. The studio was quick to recognise that while watching Max slowly improve with new abilities was essential, the same treatment had to be given to the Magnum Opus.

A good thing, too, as car combat grows more essential in *Mad Max* as the narrative progresses. Whereas initially it's almost impossible to catch up with a convoy and ram buggies and trucks off the road due to your starting vehicles' limitations, taking their resources eventually becomes second nature as you have Chumbucket regularly launch fire spears from the roof to attack at range, and persistently slam bonnet against boot to watch enemy vehicles take off in a ball of flame. Having so many options available when behind the wheel is an effective way of letting you create unique in-game action set pieces, not too dissimilar to the ones seen in *Mad Max: Fury Road*, released that same year.

Admittedly, the hand-to-hand combat hasn't aged quite as well. Whereas *Mad Max* feels in its

element with its protagonist behind the wheel, getting up close and personal with enraged warboys comes over as a tad rote – it often devolves into standard button-mashing fare. Not surprising considering the game takes some not-so subtle inspiration from the *Batman: Arkham* school of melee, as you're encouraged to fend off groups of enemies and build up as high an unbroken combo as possible when filling up your rage meter. Max never dances across the screen

in order to land a punch as the Dark Knight does (thank god) and some semblance of groundedness is maintained. The only real novelty to brawls is knowing

when to best finish a foe off using a gunshot, as ammo is a rare luxury.

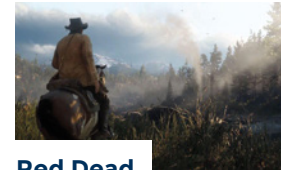
Mad Max is at its best when you're rewiring your engine across the sand dunes in pursuit of the next vehicle upgrade. Are there side missions, collectables, and areas of interest to distract you from this inherent purity? Yes, but it's far from as egregious as other open-world games from the era. Avalanche Studios instead stays true to the sparseness of this setting.

More so than almost any other video game environment, it's hard to make the desert wasteland constantly interesting, but *Mad Max* manages it thanks to engaging car combat, a thickly bleak atmosphere, and by (mostly) focusing on character rather than story.

It took the original *Mad Max* movie years to be recognised as the cult masterpiece it is. I'm hoping that the same might one day happen to Avalanche's affectionate adaptation. ^W

“This wouldn't be *Mad Max* without some tight vehicular combat”

Wireframe Recommends



Red Dead Redemption 2

PC, PS4, XBO

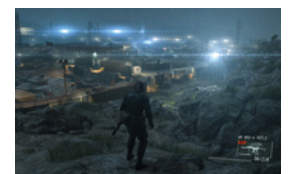
Rockstar's second story about a criminal-turned-honest outlaw is a beautiful expedition amidst the American frontier's final years. The luscious landscapes you ride through always feel alive.



Forza Horizon 5

PC, XBO, XB S/X

Watching the world whizz by your window has never been more thrilling than in Playground's open-world rendition of Mexico. It's certainly one of the most impressive locations you can visit by car in games.



Metal Gear Solid V: Ground Zeroes

PC, PS3, PS4, XB 360, XBO

While Venom Snake's main mission certainly has its moments, *Ground Zeroes* is something of a masterclass in bite-sized stealth action. Sneaking through Camp Omega lets you get intimate with just one location.



Star Wars

Cutting-edge hardware, 3D action, and digitised sound combined to make a coin-op classic

ATARI / 1983 / ARCADE

In today's video game climate of hyperreal visuals and crystal-clear sound, it might be hard to imagine a time when Atari's *Star Wars* coin-op was at the technological cutting edge. But back in 1983 – and for many years after, for that matter – *Star Wars* offered the ultimate in high-tech wish fulfilment. It put players in the seat of an X-wing, sending them on a first-person re-creation of *A New Hope's* iconic Death Star trench run. As TIE fighters whizzed in and out of the screen, digitised voices exclaimed, "Red Five standing by" or "Use the Force, Luke". Then, from the inky blackness, the Death Star moved into view; your craft plunged down onto the moon-sized space station's surface, ready to make the final assault on its exhaust port.

While Atari also released a stand-up version, it was the sit-down *Star Wars* cabinet that provided the full George Lucas experience. It was here, with speakers booming in your ears and the vector display filling your view, that the fantasy of piloting an X-wing truly came to life. Sure, *Star Wars* was technically a rail shooter, but the simple act of pulling back on the yoke and sending laser blasts in the general direction of enemy fighters was enough to make you feel as though you were a true Red Squadron space pilot.

Designed by Mike Hally, *Star Wars* was an ambitious project for Atari, and a product of an arcade division at the height of its creative powers. Its development took two years, whereas most Atari coin-op cycles took one; its processing demands

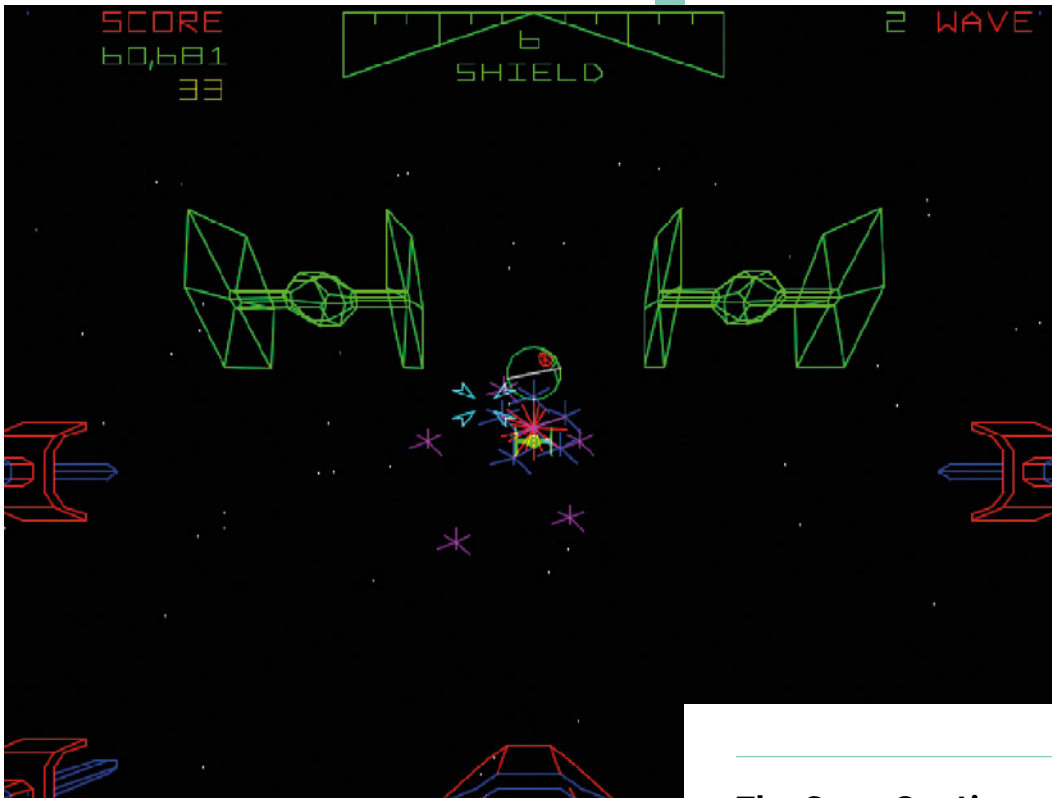
meant that new components had to be used in order to keep up. A dedicated sound chip had to be employed for all that digitised speech.

Then there was the licensing side of the equation to consider. By the early eighties, *Star Wars* was already a multimedia phenomenon, and Lucasfilm was jealously protective over all aspects of its property. When the *Star Wars* coin-op was at its testing stage, Hally recalls nervously loading up one of the hulking cabinets in the back of a lorry to take it to George Lucas's Skywalker Ranch in Marin County. "I remember that, throughout the entire project, the people at Lucasfilm were worried about every little detail, just like they were with their movies," Hally said in a February 2022 edition of *The Ted Dabney Experience* podcast. "That was one of the first times I had to load up a cabinet of that size and drive it up to Lucas' ranch for them to go through it with a fine-tooth comb. It was myself and technician

"The people at Lucasfilm were worried about every little detail"

Rob Rowe. I can't remember if George Lucas was at that meeting, but he had a whole entourage of people that played the game, went through all the levels, asked a zillion questions."

Fortunately, Lucasfilm's inquisitors were happy with the resulting game – as were the first players who got their hands on the coin-op when it was placed in an amusement arcade for testing nearer to release. Hally recalls getting a call from the arcade the day after the cabinet was dropped off, and learning that an unbroken line of players had been queueing to get their hands on it.



Star Wars was a major hit for Atari in 1983 – one of its last major arcade successes before the well-documented North American video game crash knocked the wider firm on its heels later that year. But in the final analysis, what was its true killer feature? Its sit-down cabinet looked and felt stunning, but this was hardly unique (racing games like *Turbo* and *Pole Position* did a similar thing a year or two earlier). Its controls felt perfectly judged, but they were taken from a version of the *Battlezone* arcade machine made for the US military. *Star Wars* wasn't the first game to feature 3D action in space, or use digitised speech to generate its atmosphere (though it was, according to Guinness World Records, the first to use samples from a movie).

No, *Star Wars*' brilliance lay in the way it used all of these things to create a sense of occasion. Other games had fulfilled power fantasies like driving tanks or racing cars, but none had succeeded in recreating a pivotal moment in cinema to quite such a thrilling degree before. You only have to compare Atari's *Star Wars* to the other licensed games that came before it (such as the company's own *Raiders Of The Lost Ark* or *TRON*) to see the difference: solid though those games were, they didn't attempt to faithfully recreate the sights, sounds, or emotions of the movies they were based on. As Hally himself put it in that podcast: "Between the visuals, the surround of the cockpit, your hands on the controller, it all just made sense."

The result was a classic, and the first truly great *Star Wars* video game. 🎮

The Saga Continues

The success of the *Star Wars* coin-op led to the release of 1985's *The Empire Strikes Back* – a conversion kit that turned the original cabinet into a sequel which took in dogfights through asteroid fields and skirmishes on the surface of the ice planet, Hoth. Given the success of these games, you might think that Atari would round off the trilogy with a 3D vector version of *Return of the Jedi*. Instead, the third, 1987 entry was a playable but surprisingly forgettable isometric shooter that recreated scenes from the film with regular sprites. The cinematic quality of the previous games was gone, and as *Your Sinclair* magazine rather waggishly pointed out, the Endor stage gave players the "sight of a band of Ewoks doing something that will make them go blind, or at least that's what it looks like". How times change.



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