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# Games don't need good graphics to succeed: they need Element X

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**H**ave you played *Vampire Survivors* yet? You should do; it's utterly brilliant. If you haven't, all you need to know is it's an indie smash-hit Steam sensation that's in Early Access, went completely viral, and – I'm estimating – has made approximately a million billion dollars, or thereabouts.

Here's the rub, though: the game looks, for want of a better phrase, like absolute garbage. It honestly looks like someone's first go at making a game as they follow along with an online tutorial. There are Mega Drive games that looked significantly better. I'm not being rude... I mean, I am, clearly, but I'm not trying to be obnoxious about it, is my point. I believe wholeheartedly that graphics don't matter, but *Vampire Survivors* was obviously made with 'programmer art' and launched into Early Access where it found immediate and overwhelming success despite that.

As an indie developer whose games have never really sold above the level of 'fine', obviously this annoys the absolute hell out of me, and yes, I'm petty and bitter about it. Who wouldn't be? I spent *ages* on my graphics, so where's my landslide of gold coins and near-universal adoration?

Common sense dictates that the best-looking games sell best. And yet here we are with this remarkable duality whereby clearly that's nonsense, and graphics don't matter in the slightest little bit. I think there's a really important lesson to be learned from *Vampire Survivors*, and it's this: when you launch a game you can have the best graphics, the fetchest sound, the sweetest gameplay, but there's also this weird 'Element X' that you need in order for it to be a massive success. Here's



**DAN MARSHALL**

Dan Marshall set up Size Five Games in 2008 before selling indie games online was really a thing. His most recent smash-hit indie game was *Lair of the Clockwork God*.



**#61**



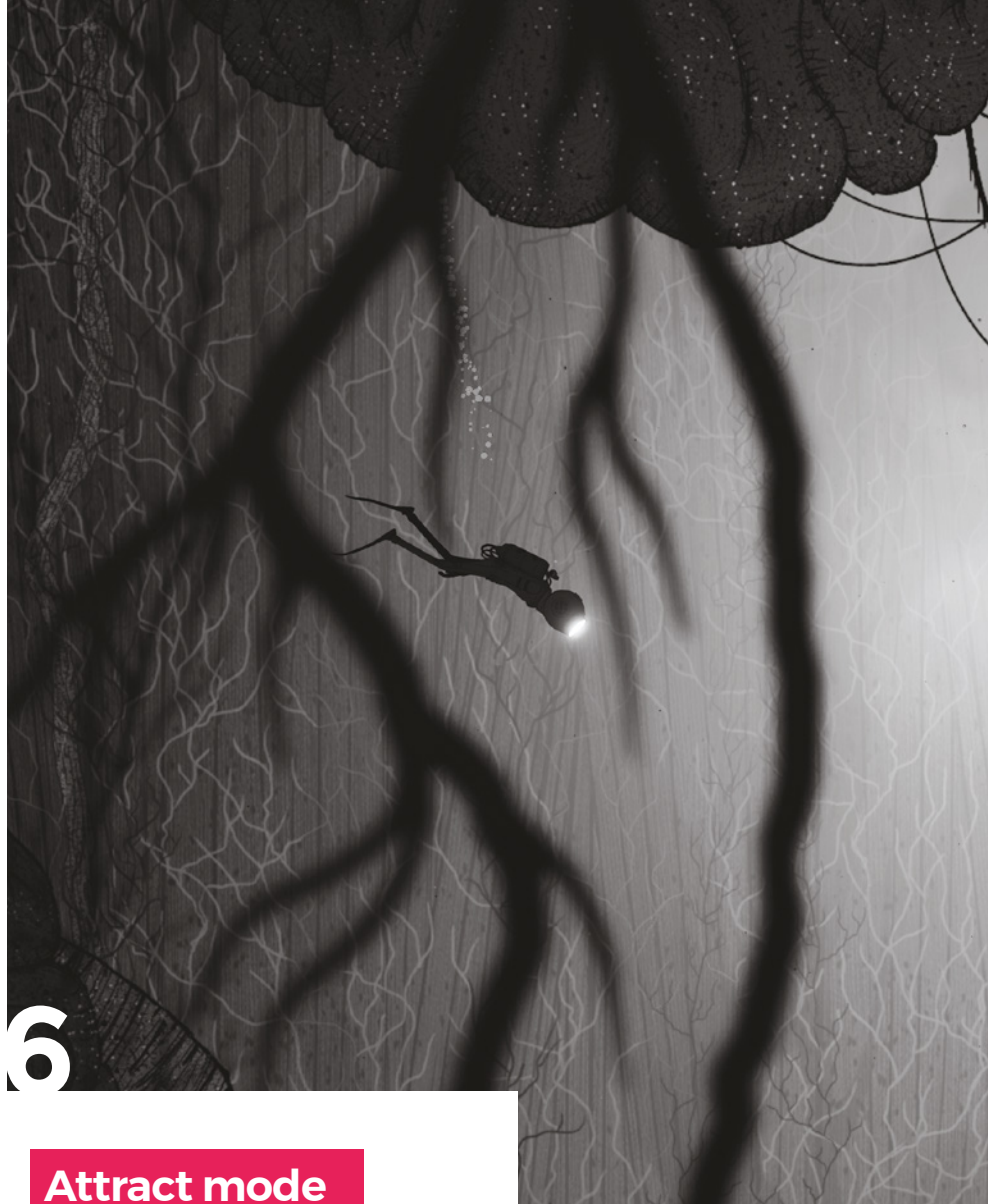
the thing, though: you can't choose whether you have it or not. Element X is nebulous, and impossible to define. It's the same reason your wry tweet about Microsoft's E3 showcase in 2017 only got three likes, but the exact same tweet by someone else went so crazy viral that Microsoft sent them a free car full of bullion or whatever.

What is Element X? Is it good old-fashioned blind luck? I don't believe in luck, so no, it's definitely not that. You make your own luck in this life. But I do think there are certain things out of your control when launching a game. Clearly *Vampire Survivors* is simply brilliant: it's such a good game that it doesn't *need* screenshots and a carefully worded Steam page to sell it – people are doing that for the devs by word of mouth alone. In 2022 it's a risky business tactic for indie devs, to be visually iffy but mechanically brilliant – there's loads of games like that and 99.9 percent of them die on their backside and are never heard of again.

So what happened? You need the stars to align. You need Element X: a £2 price point and an intriguing title. A weird stroke of luck where the game happens to be on the Steam front page at the exact second a bored YouTuber logs in, looking to stream something random. Someone who happens to be watching the stream and helps spread the word to their modest but active Twitter follower base. It's a snowball effect and it's impossible to define, and that's maddening.

Because maybe it didn't happen like that at all? Maybe it was an entirely different set of weirdy-beardy cosmic circumstances. Element X is, I feel, like doing a poo: you can sit there all day straining as hard as you like, you can squeeze and squeeze, but if it's not there, it's not there. God *damn* I hate you, Element X. 🍑

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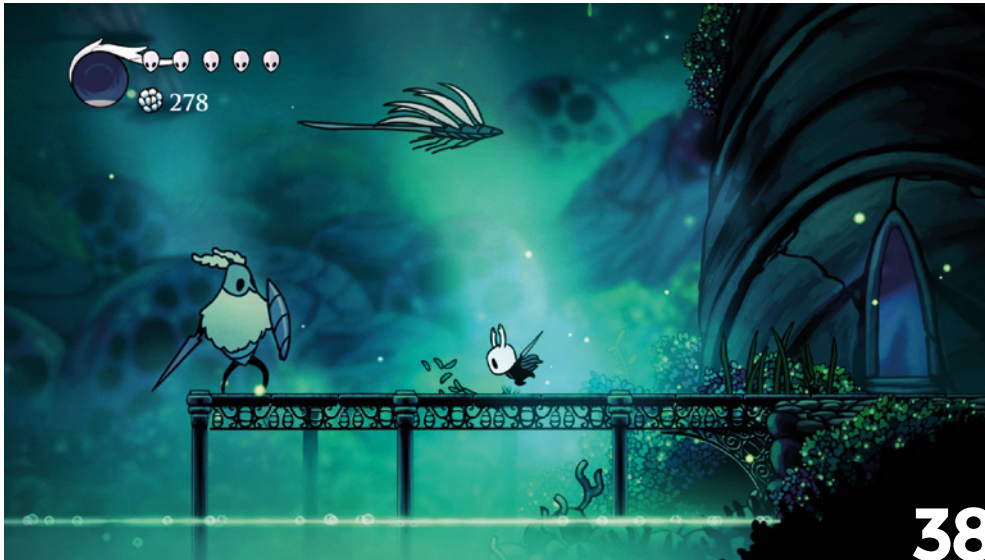
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## WELCOME

As most of the planet digs into the harsh world of *Elden Ring* (our review's on page 97), I've been thinking how well games can function as toys. Sure, challenge and goals can be important, but so too is the freedom to just enjoy playing with the mechanics that a game presents to you. It's the same aimless pleasure you get from, say, seeing how long you can evade the police in a *GTA* title, or forgetting about quests and seeing what's on the other side of a hill in *Elden Ring*.

Some games function so well as toys that they don't need much challenge at all. Take 2018's *Donut County*, for example. You control a hole in the ground which you can move beneath objects to make them drop into an abyss below. As you clear objects, the hole's diameter grows, allowing you to engulf and remove larger objects. It's technically a puzzler, but the puzzles are so easy to solve, you'll likely do so on your first attempt. Later stages offer new ideas and problems, but they function more as sight gags or fun additions than difficulty barriers to leap over. Far from a flaw, it's what makes *Donut County* such a wonderful diversion: the enjoyment comes not from bashing your head against a tough problem, but in the satisfaction of interacting with its quirky mechanics and equally odd story, which takes in raccoons, mobile apps, and an evil corporate kingpin.

To sum up: challenge is important in game design, except for when it isn't. Also: play *Donut County*. It's lovely.

Enjoy the new issue!

Ryan Lambie  
Editor

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# AS ABOVE SO BELOW

Holding our breath as we dive deep into Spiral Circus' dark underwater debut: **SILT**



**C**old. Confused. Trapped. Even felt individually, just one of these emotions would be enough to make the average person's spine tingle. How unfortunate, then, that not only does the diver at the heart of *Silt* begin the game experiencing a combination of all three, but they do so while they're submerged deep within the bowels of an inky ocean. If exploring this oppressive environment sounds like an ordeal, that's likely because it's meant to be. First-time development duo Spiral Circus wants to throw you into the bleak unknown. They've been kind enough to give you one important tool, however, which is crucial to successfully navigating the murk.



*Silt*'s luckless diver has the ability to send out his consciousness like a curling whip, which can then be used to connect and 'possess' any living creature swimming nearby. It's a mechanic we quickly get used to employing during our time playing the game's preview build: inhabiting a piranha fish, Blockhead shark, or other aquatic life form and using their abilities to solve environmental puzzles (like, say, nibbling through otherwise impenetrable ribbons of seaweed) soon becomes second nature. Suddenly, *Silt*'s hand-drawn world doesn't seem quite so bleak, as the deadly sea creatures trying to kill you also provide a means of escape. How was this fine line between sinking or swimming achieved? We spoke to Spiral Circus' Tom Mead and Dom Clarke to find out. →



*Silt* is Spiral Circus' debut title. Where did the idea for it first come from?

**Tom Mead:** I was going through a phase of drawing loads of my characters drowning. And I know that sounds really bleak, but it was at that time that I met Dom – and I was doing loads of watercolour paintings about the subject matter. We met in that moment, and just decided to form a project around that kind of theme.

**Dom Clarke:** Neither of us were working in the games industry. Tom was doing fine art and surviving off that, and I was working as a researcher in a university. I'd been a programmer that didn't have any art skills, but I really wanted to make a game. Tom had dipped his toe into the water of looking

at making games before and happened to be available. We sort of met at just the right time. I didn't really care what game we were going to make. I just wanted to make a game with an artist. There was something small about swimming and creepy landscapes, and then it just got bigger as we were trying to design it.

**TM:** I remember the first idea was a character in a Victorian setting being pushed off a pier. I'm a massive fan of illustrator Edward

Gorey, and he's very macabre with dark humour. We were going down that route initially. And I think the character would fall off the pier and chase bubbles around underwater. It was very simple until it just expanded more and became what it is now.

**DC:** The first time we sat together, we had a pint, [Tom] showed me a few pictures of drowning characters, and we basically just went "that's got legs, we'll be able to make a game about that".

Can you speak a bit more about the 'Stugan' Swedish accelerator program – what it is and how it helped get *Silt* off the ground?

**TM:** I think I was going through a stage where I was just googling all forms of

funding, because we were self-financing during the initial stages. Obviously, that would only last for a certain amount of time. I think we actually missed a deadline from a different set of funding, but because of that, Stugan was the perfect thing.

**DC:** We had a pitch video made up for this one thing, just missed the deadline for it, and just repackaged it for Stugan. We didn't receive any money from that, but what we got was just so infinitely valuable, like an

actual introduction into the games industry. Instead of, you know, just "Here's a few quid, go off and try and

figure something out". I think we gained a lot more by going there and doing that than we would have done with just money.

**TM:** We spent two months there making the best pitch we could. Then we ended up going to the LGF [London Games Festival], and it was the games finance market within that where we met our publisher Fireshine Games.

**DC:** It's kind of like speed dating, but for developers and people with money. They bring everybody in, and you have a big rack of tables, and you just do 15-minute hot seat pitches to various people. Fireshine liked what we were doing, so they stayed in touch with us after that.

**"We spent two months making the best pitch that we could"**



▲ Creeping in for a kiss with an underwater tree creature? We're sure this won't go badly.





Did you feel the need to research diving at all, or was it something you felt you already had a good grasp over?

**TM:** Very roughly. At least aesthetically, I researched old diving suits and things like that, but I must admit, I didn't in terms of motion or how it's going to be animated.

**DC:** We animated the diver like a swimmer. More like a sort of snorkelling that's close to the surface. It doesn't really animate like a hulking diving suit. The majority of the design of this game is visual first. So yeah, diving for us wasn't like, "Oh, this is a cool mechanic to actually use in game". It's the setting that's cool. Tom is already drawing it, and we have an immediate visual reference for what this could look like. It would start with something Tom draws, and then we would see if we can get that into Unity and moving around and looking nice. Then the mechanics, you know, kind of came after that.

In what ways do you think the hand-drawn aesthetic adds to the game's creepy atmosphere?

**TM:** I'm just an obsessive surrealist. So, I don't think I would ever design a character of my own with realism in mind. I definitely think I just drew something because I was

into that kind of aesthetic and luckily, we stuck with it. I've always drawn creepy things. That was the option from day one.

**DC:** Tom has already spent a lifetime building up a kind of world and a style, and these characters all look like they fit in the same world. And it really was us trying to make that come alive in a game. How do we make Tom's art come to life?

**TM:** If anything, I had to hold myself back a little bit from cross-hatching too much, because that's always been my main technique, or up until this project. That would have absolutely killed the project because it's such a slow, laborious technique. Instead, it was more a case of trying to replicate that with whatever technology we had.

Are you hoping to tap into most people's innate fear of the deep or drowning?

**DC:** That was sort of a stated aim, or at least a design goal.

**TM:** I used to draw my fears for the fine art world, and all of that was based around my fear of Beatrix Potter's ballet. I know, it sounds really weird, but it's very abstract. Fundamentally, that was my thing – I would draw what I was terrified of. And after about ten years of that, I moved on ➔

## UNDERWATER AMBIENCE

As a submerged, surrealist adventure all about atmosphere, *Spiral Circus* knew it had to pay just as much attention to *Silt's* audio as its visuals. Both aspects operate on a minimalist level, true, but the team quickly discovered that replicating the way sound naturally travels through water would be less awe-inducing and more annoying. "You get these very muffled sounds, and a lot of the high end is gone," Clarke explains. "If you actually try to mix a game like that, it's just muddy and horrible." Thank heavens, then, that the solution ended up being incredibly simple. "Weirdly, in our world, the sound is perfectly unaffected by the water. [We] went for the compromise to make it sound as underwater as possible but without the muddiness of what it would actually be like in real life."

## INTO THE UNKNOWN

Much like *Limbo* and a lot of other scantly lit puzzle-platformers, *Silt* aims to keep players constantly guessing by placing them in situations where almost nothing is explained at first. It's relayed that you're a deep-sea diver, one with the power to manipulate and control the wildlife around you, but what is it all in aid of? The storytelling is purposely abstract in this way, with Spiral Circus hoping to encourage players to form their own conclusions about what it all means. Having each chapter take place within a vastly different biome feeds into this idea, as you swim from forest to ruins to factory and so on.

▼ The diver's helmet lamp can be switched on and off, providing a smidge of light during particularly bleak areas.



to think about my other fear, which was thalassophobia – the fear of deep water. It all really stemmed from that.

**Would you say that working in an abstract – rather than straightforward – narrative space is more freeing or challenging?**

**TM:** I kind of lean towards subliminal messaging and making sure that, at some points in the game, you're dropped little tidbits of information. There's a slight threat to follow, but I think both of us have always leant towards more abstract forms of storytelling. We're both David Lynch fans and that's always been the route that we wanted to go down.

**DC:** Neither of us are writers, so we knew we weren't going to make some big textual thing. We didn't budget for that. But a big part of the work is trying to give people enough of a through line that they can see the same things again and again, or they can see patterns and just to trust that people are engaged enough to do that. You watch an *Elden Ring* playthrough right now, and those games do such a great job of sprinkling lore around the place and making players wonder what it means. Our game is obviously way, way smaller scale, but I think that's how you get away with being aggressively abstract.

**Do the game's monochromatic stylings pose challenges in terms of how to best guide players?**

**DC:** That's been a difficult thing to balance the whole time through development. Specifically, it's another disadvantage maybe of the 'art first' approach. [Our] first art rule is no colour. So you lose the ability to use colour to mean things that you're communicating to the player like health, damage, or poison. Therefore, you have to come up with ways to try to signify that it still reads how you want it to read.

And then the other side of it is Tom's direction – all of this has been trying to make it look as good as his paintings look. His paintings don't have great big, highlighted boxes and UI all over them – because that makes it look worse. We've had long discussions where Tom has been pulling for less UI and I've been saying





"Nobody knows what the hell to do". You have to make compromises to make the game playable. If Tom had his way, nothing would ever highlight. Nothing would ever be readable, but it would look nice.

**TM:** I think I'm just so stubborn, aesthetically. I would push with some of the aesthetic decisions and [Dom] might get frustrated for a few days, and then he'd come back with this amazing solution and just completely get it right.

**How do you feel about the inevitable comparisons to *Limbo* and *Inside*?**

**TM:** I think it's a massive compliment to even be compared to those games. If just aesthetically, I think we're both very flattered by that sort of comparison. But I don't think we're the same.

I think you go past the aesthetics and it's completely different.

**DC:** Even the aesthetics are different. Like Tom said, it's a huge compliment to even be in a discussion with that team. They're amazing, but I hope we've done enough to be our own thing. It wasn't like we started at *Limbo* and got to where we are by

changing things one at a time. We started with our thing we wanted to make, and I guess *Limbo* proved to us it's possible to make something like that and be good.

**Was finding enough unique creatures to tie into *Silt's* core soul-transferring mechanic a tough challenge?**

**TM:** Some of them were made up completely, and a lot of them were made based on things from the deep sea. There was definitely an amalgamation of the two.

There's only a few stylistic interpretations of things that are in real life, but I make sure that I twist it towards my own kind of style. I'm never going to be drawing an exact version of whatever's in real life. If anything, there were too many creatures to kind of pull from.

**DC:** A lot of the creatures would start with the design for the mechanic that they have before the art for the creature would come in.

Like, the first thing you come in contact with is the little piranha [Scissorfish]... we just needed a cutting ability. We try to do that with everything. We also try to have

**"We have always leant towards more abstract forms of storytelling"**

^ With its surrealist environments presented in only black, white, or grey, *Silt* often uses light to help cleverly guide players through.

all the creatures telegraph what they do just ambiently before you have to possess them and try them out.

**Are there any lessons you learned from working on *Silt* that you hope to take into future projects?**

**DC:** What I didn't realise when we designed a swimming game was that classic platforming staples can't be done anymore. We have to seal the full 360 degrees of every level, except for the areas we want people to come in and out of. I think maybe next time we're going to have our feet on the ground.

**TM:** I probably should say that I wouldn't cross-hatch or wouldn't do monochrome, but I can't see that happening. I think I absolutely will do that again and probably give poor Dom a heart attack. 🐼

***Silt* releases this spring on PC**

# Final Vendetta

Smash your way through the mean streets in this 16-bit throwback

## Info

**GENRE**  
Brawler

**FORMAT**  
Switch, PS4, PS5,  
XB S/X, PC

**DEVELOPER**  
Bitmap Bureau

**PUBLISHER**  
Numskull Games

**RELEASE**  
May 2022

**SOCIAL**  
@BitmapBureau

**H**aving already proved their love for all things arcade with the likes of *Xeno Crisis* and *Battle Axe*, Bitmap Bureau's Mike Tucker and Matt Cope are once again looking to the coin-op era with another modernised homage to a classic genre: the beat-'em-up. Take one look at *Final Vendetta* and it's easy to see the DNA of Capcom's seminal *Final Fight* in every frame. From the chunkiness of the character sprites to the thumping dance-inspired soundtrack, nods to *Final Fight* abound and are wholly intentional. According to the duo of 2D game development veterans, working on such a project has been a passion since childhood.

"I was a big fan of *Final Fight* and *Streets of Rage*," reveals Tucker. "And yeah, I've just always wanted to make a beat-'em-up and never got around to it."

But the design director's love for the genre also comes with a mission. "Back in the nineties there were probably about three or four beat-'em-ups on Neo Geo, or like, side-scrolling brawlers. Then *Street Fighter II* came along, of course, and everyone concentrated their efforts on versus fighting games." That's why, much like

how Bitmap previously developed its twin-stick shooter *Xeno Crisis* using the Sega Mega Drive as its lead platform, *Final Vendetta* has similarly been designed from the ground up to run specifically on Neo Geo – its cartridge release will arrive shortly after launching on modern consoles in May. The game was "born out of necessity", says Tucker. "We felt the Neo Geo needed [another] great beat-'em-up."

Much like the 16-bit game that inspired it, *Final Vendetta* focuses on three hard-hitting vigilantes – each boasting unique strengths and fighting styles – brawling through city streets. The gangster arse-kicking takes place in London, however, with playable heroes Duke Sancho, Miller T. Williams, and Claire Sparks trying to rescue the latter's sister who's been kidnapped by the big bad. That old chestnut. The setup is deliciously simple, then, in the effort to truly capture that nineties tone. "It's very much an homage, but we kind of poke fun at the genre as well," Tucker says. "There's so many tropes. But that's kind of what players expect, I think. They don't want any nonsense; they just want to get in there and enjoy."

Bitmap Bureau made the decision early on to stick with the pixelated aesthetic that celebrated brawlers like *Target: Renegade*, *Double Dragon*, and *Vigilante* are known for, as opposed to the more hand-drawn, vector style *Streets of Rage 4* and other contemporary throwbacks often go for. That said, the team quickly discovered that this process wasn't without its difficulties.

▼ *Final Vendetta* features a not-so subtle homage to *Street Fighter II*'s car punching bonus stage.



▲ Much like the classic arcade brawlers of old, *Final Vendetta* is entirely playable in co-op.



- < Unlike some other modern beat-'em-ups, *Final Vendetta* sticks to traditional, vibrant pixel art.
- > Claire's fireball manoeuvre is sure to come in handy when in a pinch. Miller's fighting style takes cues from wrestling.

"These kinds of games, they need a lot of art ready to get off the ground," says Tucker. The making of *Final Vendetta* always dictated an art-first approach, therefore, so the two tapped up the talents of Scottish-based sprite artist Jabir Grant. "He's someone who's prolific and skilful enough," Tucker says. "It took over two years to just get all the art done."

Watch *Final Vendetta* in motion, though, and it's clear that the studio's hard work and commitment is paying off. But then again, we wouldn't expect anything less given the attention to detail Bitmap Bureau displayed in *Xeno Crisis*. In fact, the studio's commitment was such that one of its earliest decisions was to rebuild *Final Fight* from scratch to see if a modern beat-'em-up made in the same style would still work. Tucker says: "We took a lot of that knowledge like the hitboxes, the speed, and the way the characters move. The speed at which the punch animations come out. That's all carried over into *Final Vendetta*." It was important for Bitmap that every kick and punch came with a familiar feeling of snappiness.

One of the chief benefits in creating a beat-'em-up for consoles (as opposed to arcades, where they originally lived) is encouraging players to press on without the fear of being sapped of coins. Bitmap Bureau acknowledges the inherent difficulty that came from this back in the day, but the studio's going out of its way to make reaching credits less arduous. "We've got difficulty settings," Cope chimes in. "Easy, Hard, and Ultra allow players to sort of flex that difficulty curve."

**"It's very much an homage, but we poke fun at the genre as well"**



In true retro fashion, *Final Vendetta*'s 'Ultra' difficulty is only unlockable for anyone brave enough to tackle 'Hard' – and the duo emphasise that playing in two-player co-op should also help take some pressure off.

*Final Vendetta* might chiefly be taking inspiration (and its name) from *Final Fight*, but this isn't preventing Cope and Tucker from implementing a handful of newer sensibilities, either. This is likely most evident when playing Claire. "She's more agile than the other two," Tucker says. "She's particularly good at juggling combos, so you can actually hit enemies while you're in the air, which seems to be a popular thing in modern beat-'em-ups."

It's this approach that perhaps best sums up what players can expect from Bitmap Bureau's latest nostalgic venture – a tribute to crunchy belt-scrolling brawlers seemingly plucked straight out of the Neo Geo era, but one coming from a place of love, and with a sense of attitude and brutish charm all of its own. 🐾

## DANCING IN THE STREET

No nineties beat-'em-up would be complete without an appropriately thumping dance soundtrack for its characters to fight to, and in this regard, Bitmap Bureau has the bases covered. That's largely thanks to the efforts of DJ and composer Featurecast, whose unique brand of hip hop, funk, and bass was seen as a perfect fit. "We had tracks in before we had art," chuckles Cope. Through him, the studio was able to tap up more of the UK dance music scene's talent, including Utah Saints and Krafty Kuts. "We were just very lucky that these really talented guys wanted to collaborate," Cope says. "Ten or 20 years later, these guys are as keen as we are, just from another angle."



# Skábma - Snowfall

Moving to the beat of this spiritual platformer inspired by an indigenous Northern culture

## Info

### GENRE

Action-adventure

### FORMAT

PC

### DEVELOPER

Red Stage  
Entertainment

### PUBLISHER

PID Games

### RELEASE

2022

### SOCIAL

@RedStageFI

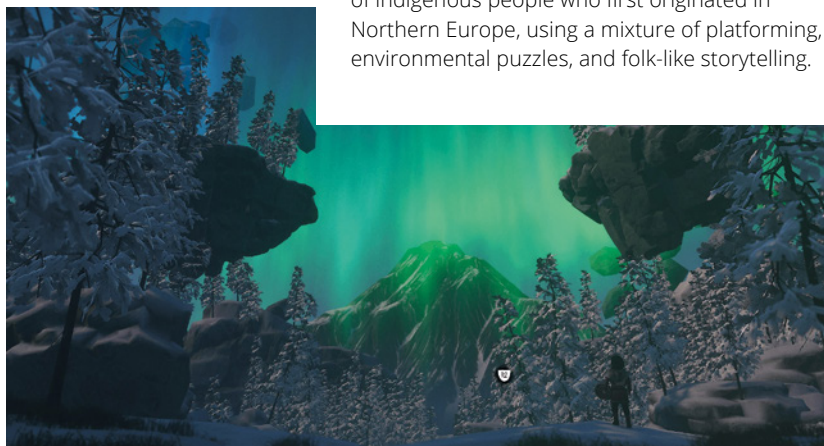
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Whenever the concept of mythology springs to mind, odds are most of us remain guilty of skipping straight to Norse or Greek. After all, the stories of Odin, Zeus, and the inter-familial disputes of both are something that video games (and wider pop culture) have been obsessed with for decades. Fortunately, though, Red Stage Entertainment is a small, six-person Finnish studio trying to change that, developing a 3D action-adventure based on a culture that many of us will likely have never heard of; that of the Sámi people. *Skábma - Snowfall* launches on PC later this year, hoping to shed light on this otherwise under-represented group of indigenous people who first originated in Northern Europe, using a mixture of platforming, environmental puzzles, and folk-like storytelling.

"To me it was something that hadn't been done before," explains Marjaana Auranen, the game's writer. Of Sámi descent herself, she felt it important that the team do justice to this community, even if most of their stories were passed down around the camp-fire rather than in books or text. "If we're talking about the lore, it's always second-hand knowledge if we go way back, because, of course, Sámi people didn't write themselves." This gave Red Stage a unique opportunity to make the game's narrative a combination of many tales as opposed to just one. "We chose quite early on that we wanted to mix multiple Sámi characters all around the same land," she continues, "and all these multiple different stories around the same land can be true in this one universe."

Players take on the role of Áilu, a young Sámi herder who at the beginning of *Skábma - Snowfall* is searching for a reindeer doe who's run away. Events soon spiral into the unexpectedly fantastical, however, once she finds an enchanted drum known as the Goavddis, which contains the ancient power of shamanic Sámi healers. Using a combination of her wits and this long-lost mythological instrument, it's up to her to fight back against the infection currently threatening the nature around her by seeking the aid of four unique animal spirits.

For Red Stage, making the Goavddis a centrepiece was an ideal way to teach players more about all things Sámi, while simultaneously





- ◀ Áilu's story isn't inspired by just one Sámi folk story, but several that were passed down through generations.
- ✔ Like most adventures inspired by myths and fairy tales, tragedy strikes at the start of Red Stage's debut title.

facilitating fun gameplay that made sense within the mysterious landscapes you visit. "When we started thinking about the mechanics of the game, we thought about the most powerful tool that shamans had, and it was the drum," says Auranen. "It was a natural choice to use that as a main mechanic, so you drum and it reveals the hidden parts of the spirit world."

Sámi culture's "spiritual" side will manifest itself in-game via the different powers and traversal abilities each spirit will bestow on you, working in tandem with the drum to aid Áilu on her journey. "It was a tool for healing in general, but also there were so many stories about what Noaidis [the Sámi word for shamans] did, like how they travelled in both the spirit worlds and how they use spiritual powers to travel in the environment in the human world," says Sahin Cengiz, director and designer on *Skábma - Snowfall*. Connection with nature is a big overall part of it, too, he says. "You're able to affect things in the environment. So you hopefully get the sense of the rhythm of nature."

Today, there are only around 100,000 or so people making up what's left of the Sámi community - a drop in the ocean compared to a lot of other ethnic groups around the world. This, combined with the uncertainty of whether or not the culture will ever be made the subject of a game again in future, inspired Red Stage to pack in as many indigenous elements as possible. This even includes yoiking: a style of singing and musical expression native to Sámi culture that was, until recently, previously forbidden in church due to ill-informed opinions about its

**"You drum and it reveals the hidden parts of the spirit world"**



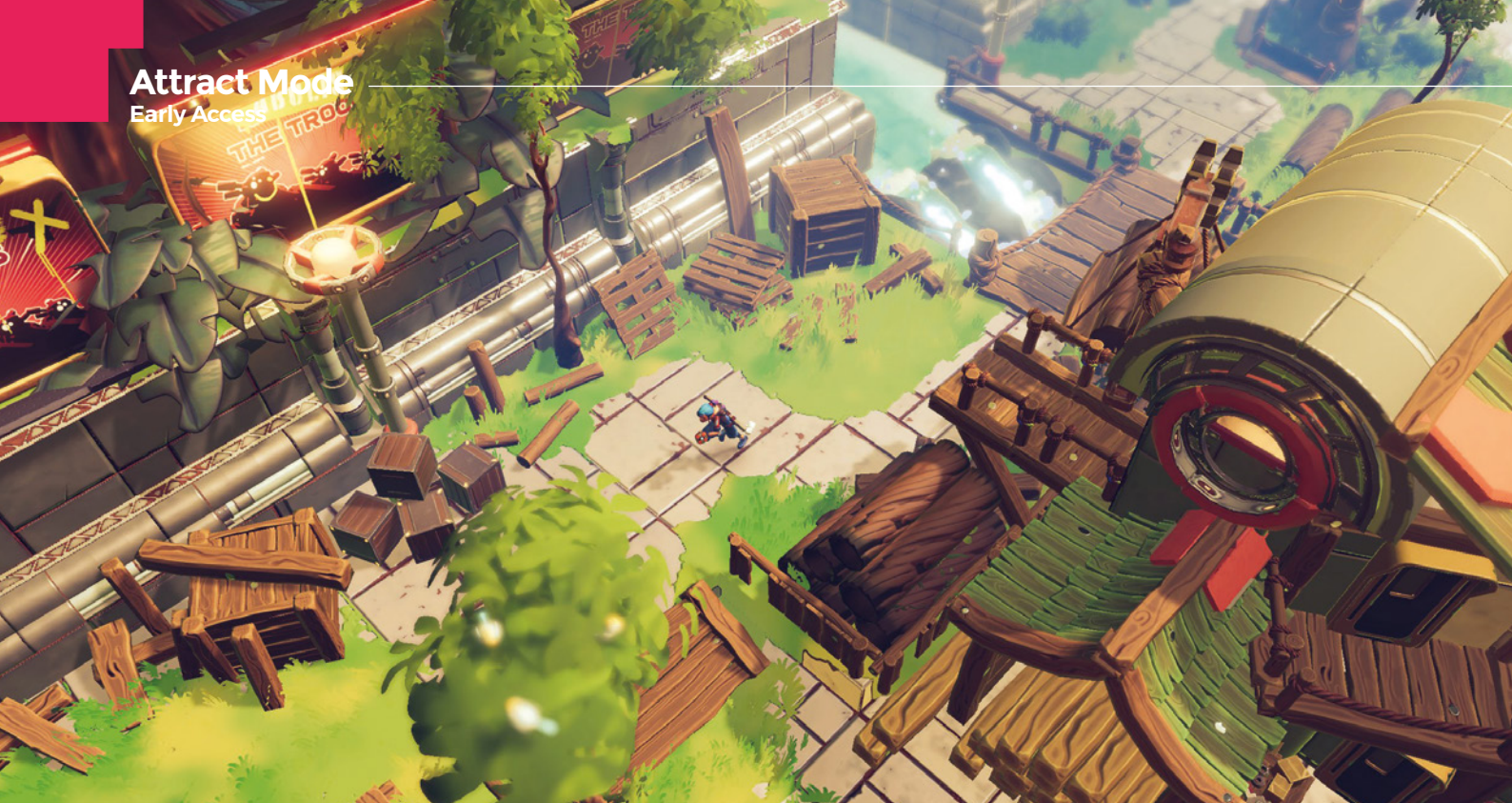
ties to devil worship. Yoiking is yet another way to convey the mysticism of Áilu's adventure, providing a deep sense of atmosphere for the ears as well as eyes.

Introducing a worldwide audience to a mostly unknown culture is no easy task, especially since investors tend to back projects based on familiar subjects like those aforementioned Greek and Norse myths. But the hope is that by focusing on a community never seen in games before, Red Stage will find an audience that appreciates *Skábma - Snowfall's* fresh perspective.

"I hope that people will learn more about indigenous cultures all around the world, not just Sámi," Auranen says, summing up. "But beyond that, they get more interested [in] other cultures. We tend to keep in the safe zones in our lives and learn about the same cultures all over again, but there are so many others in the world. I would love to see the younger Sámi start making games, be proud of the culture, and [have] them showing that culture to the world." 🗨

**CINEMATIC ORIGINS**

Red Stage Entertainment is in the process of crafting its first game, but the company has its roots in a more passive form of storytelling. "Actually, when we were studying, we started in the same school for film and television," says Marjaana Auranen, referencing her classmate and eventual co-developer Sahin Cengiz. "I don't remember all the facts, but we ended up making this Sámi game." Perhaps Cengiz has a better recollection? "We both really liked games," he says. "And the main thing we talked about was that games are a fantastic way of storytelling. So even though we just spent five years in a film school, it felt like the way we wanted to tell stories."



# It's dangerous to go alone

Zelda on an alien planet? Introducing the 3D action adventure, XEL...

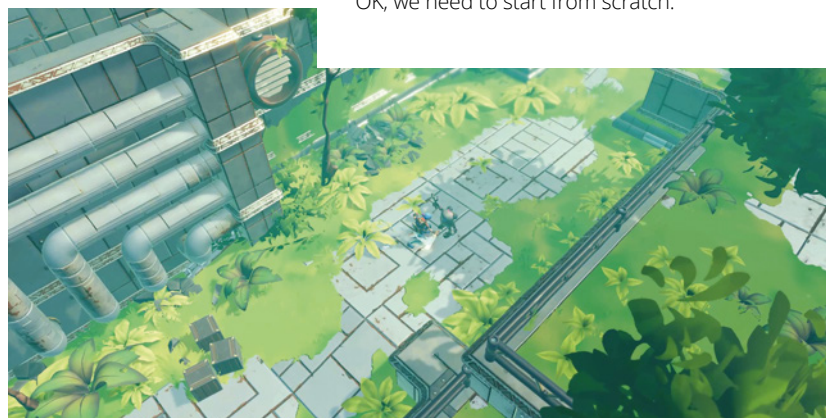
**Info**

- GENRE**  
Zelda-like
- FORMAT**  
PC, Switch
- DEVELOPER**  
Tiny Roar
- PUBLISHER**  
Assemble  
Entertainment
- RELEASE**  
Q2 2022
- SOCIAL**  
@tinyroargames

**G**erman developer Tiny Roar clearly isn't interested in making life easy for itself. When it first began work on its upcoming *Zelda*-like, *XEL* (pronounced 'k-sell') a couple of years ago, the studio spent five months working on a prototype – only to throw the whole thing away and start again from scratch. “We all love action games and we all love *Zelda*, but we'd never worked on a *Zelda*-like,” explains studio co-founder and game director Maurice Hagelstein. “So we needed to make all the mistakes we could when making a game like this, and then we applied those learnings and condensed it down to, ‘What's the core of *XEL*? How can we make it fun?... It felt like, ‘OK, we need to start from scratch.’”

As Hagelstein readily admits, throwing all that work away was a wrench, but it was a key part of the studio's learning process. Before *XEL*, Tiny Roar worked on much smaller titles such as *Bomb Bots Arena* (a modern take on *Bomberman*) and the mobile app, *Talking Tom Cake Jump*, making *XEL* a considerable step up in terms of scope and ambition. The project began about 18 months ago with a simple pitch: to make an action-adventure in the style of a traditional *Zelda* title, but with a sci-fi fantasy theme akin to the early *Phantasy Star* games. But rather than borrow the top-down view and more simplistic action of the earliest *Zelda* games, *XEL* takes place in a 3D overworld with expansive, puzzle-filled dungeons. Its fighting, meanwhile, will fuse elements of post-N64 era *Zelda* games with the satisfying weight and fluidity of Rocksteady's *Batman: Arkham* series. “We have stuff like dodging, shielding, even deflecting,” Hagelstein says. “Then we've made everything faster, where you can target multiple enemies at the same time, similar to an *Arkham* game. The enemies are built in a way that you can go crazy. If you encounter enemies, there are some you can quickly slash and collect their stuff.”

Tying it all together is a sci-fi plot where amnesiac protagonist Reid attempts to uncover the secrets of the titular planet. Who is she? How did she wind up on *XEL*? And more ominously,







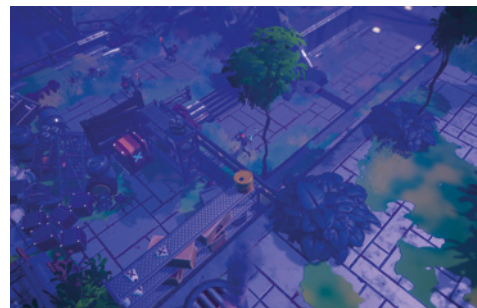
what's happened to the technologically advanced civilisation that once lived there?

Given the formidable task it's set itself, we had to ask Hagelstein: didn't he and his team consider making a simpler adventure – something more akin to the original *Zelda* from 1986? "Doing stuff in 2D is kind of expensive, because everything's hand-drawn," Hagelstein points out. "But with animation in 3D, you can share the rigs between characters, so certain characters can use the walk cycle of another. So in the long run, it's cheaper – and we're more experienced in 3D."

Going the 3D route, rather than opting for 2D sprites, also means *XEL* avoids being pigeonholed as a 'retro' experience, Hagelstein says. "There's always this tag when a game's sprite-based, where the typical gamer that plays *Fortnite* will say, 'Oh, this is an old game – this isn't for me'. We wanted to make something that feels [current], and not too old-school."

## HEAR ME ROAR

Like any indie studio worth its salt, Tiny Roar has found creative ways of making its budget go further: reusable assets are cunningly dressed with a custom shader that simulates rust and grass to make them look aged and organic. More ambitious ideas that were present in the game's



**"We all love *Zelda*,  
but we'd never worked  
on a *Zelda*-like"**

original pitch have been trimmed away, leaving a more focused, "condensed" take on the *Zelda* formula – a less sprawling game than some open-world adventures we've seen of late, and one that respects the player's time. Says Hagelstein: "I'm of an age where I have two kids. I love my video games, but I have to work. And when a game says, 'You need 300-plus hours to finish it', I'm like, 'Oh, I don't know...'. I'd rather have a short game where everything felt pretty amazing and memorable than have someone take three months to finish it, and the player only remembers the beginning and end of the story."

Nevertheless, Hagelstein tells us that making a game like *XEL* is a challenging proposition for an indie studio based in Germany. "Germany's ➔

^ Why is the world of *XEL* so empty? All will be revealed in the game, we're told. From what we can gather, it's all just a little bit dark.

## EARLY DAYS

Before *XEL* became the game that you can see gracing these pages, it originally looked and felt quite different. So what was that early prototype like? To explain, Hagelstein takes us right back to the project's beginnings. "The project started out with funding from the government, and Assemble helped us with the money, and some of the money was ours," he recalls. "We said, 'Hey, before we start this huge project, let's create a [prototype].'" So what we did was create this very dense 30-minute scenario with a few puzzles, no story, and a boss fight. The challenge was to run through this dungeon and solve the puzzles to get the boss key... We had one and a half years to do this. Half of it was us messing around, then the other half was us being focused enough to finish the game properly!"

## CANDID CAMERA

Just about every element in *XEL* has been studied and refined over the course of its development – not least its camera. In a third-person action game like this one, getting the positioning just right is key to helping the player do everything from fight enemies to navigating their way around the map. “In our prototype, the camera was super-close,” Hagelstein recalls. “When we talked to [publisher] Assemble, they said it was going to be hard to market as it was too close to *Link’s Awakening*. Then we moved it a little bit further away and made it feel more like an animated movie, but then we couldn’t orientate ourselves properly.” After a lot of experimentation without much success, Hagelstein tells us that a member of the *Tiny Roar* team was “messing around in Unity” and unexpectedly hit on what felt like the perfect camera distance and angle. “I was like, ‘Oh man, we spent a week on this trying to figure it out, and you just did it by accident!’ These are the magical moments that I cherish as a game dev.”



one of the main consumer countries of games, but we haven’t had a budget structure for the last 20 years,” he says. “It’s getting better, but we still need to prove ourselves... none of us have worked on a big action-adventure before, so a lot of stuff is self-taught. For example, we have one of the level designers from *Crysis* on our team, but he did shooters, right? It’s something different. So we have a lot of awesome people in the industry, but at some point, especially in Germany, people just either move countries, stop working in the industry, or stay at the same studio forever.”

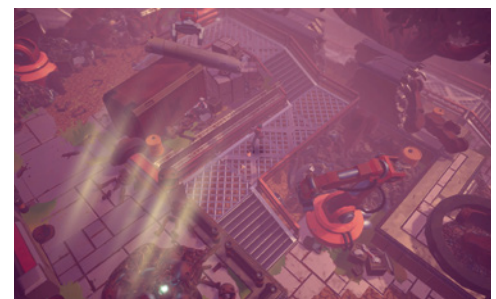
*Tiny Roar* did have one useful resource available to it, though: Mark Brown’s excellent *Game Maker’s Toolkit* channel on YouTube. By studying his videos, and through simply trying out

ideas and seeing what works, the 20-strong team has gradually built up its sci-fi fantasy world.

## DUNGEON MASTER

Brown’s videos came in particularly handy when designing *XEL*’s dungeons, Hagelstein says, adding that designing the puzzles that go into each one has provided a tricky balancing act. “It’s actually hard to design puzzles that aren’t overly complicated,” he says. “It’s rather easy to do complicated puzzles that aren’t readable, but we want an experience that everyone can play. So we’re not going to be the *Sekiro* of *Zelda* games or whatever.”

Again, *Tiny Roar* hasn’t exactly made life easy for itself when it comes to dungeon design. Rather than go for smaller, bite-sized challenges like those found in, say, *Breath of the Wild*, it’s instead opted for three or four much larger maps. “Yeah, it’s a pit we’ve made for ourselves,” Hagelstein agrees. “We wanted to have each dungeon be completely



◀ *Tiny Roar*’s working on *XEL*’s ports in-house; PC and Switch versions will come first, with other console editions following after.



different in terms of how you experience it. So the first one is like exploring an old ruin; the second one is smaller and has a horror element to it; the third one is basically a gauntlet that challenges you to use everything you've learned until now, so it feels more like an arena."

At the time of writing, *XEL*'s in the later stages of development, and work is still being done on those dungeons ahead of its planned release towards the middle of 2022. "We're in the stage now where we're stressing out," Hagelstein says, half-jokingly. "We're still polishing the dungeons – we're putting everything together and seeing what doesn't fit. That's where we're at. The fighting style change came pretty late, so we've put a lot of focus there. All the departments are still super-busy – it feels like the old Superman movies where everyone's running around the Daily Planet office."

What's clear from our chat with Hagelstein is the affection he and his team has for the *Zelda* series. He talks rapturously about his memories of Christmas 1998, when he first played *Ocarina of Time* on the N64; he argues that *Skyward Sword*'s opening is one of his favourite in the entire series, even if he was ultimately put off by the original Wii version's motion controls ("I died on the third Skulltula and just gave up").

*XEL* is a love letter to those experiences, then, and one Hagelstein is clearly excited to introduce to the world, even if it'll inevitably be compared to Nintendo's hit series. "We're always pretty honest about the budget or how big our team is,

**"We're not going to be the *Sekiro* of *Zelda* games or whatever"**



▲ Tiny Roar hopes that players will fall for Reid, the game's talkative, resourceful protagonist.

but people will still nitpick about everything. They don't care if your game is triple-A or whatever: they will judge you always by what they get. And we'll get compared to *Zelda*, which is going to be horrible for us and amazing at the same time. So if it succeeds, people will say, 'Ah, it's trying

to be like *Zelda*', and if we fail, they'll say it's completely [rubbish]."

Rather than serve as a competitor to the *Zelda* games, though, Hagelstein

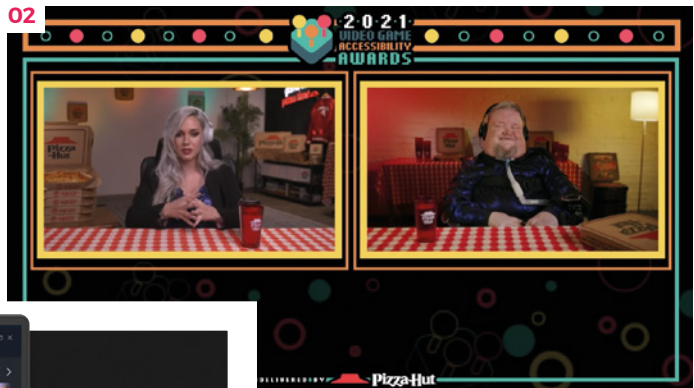
sees *XEL* as an appetising taster before Nintendo inevitably brings out *Breath of the Wild 2* – or whatever its official title ends up being – at some point in the future. "We have a lot of bits from *Zelda*," Hagelstein says, "but it should feel like this awesome snack if you're looking forward to *Breath of the Wild 2*, which is just going to consume your whole life when it comes out – and mine as well." 🍷

# That was the month that was



## 01. On Deck

Valve Software officially entered the portable PC gaming space with its first wave of Steam Deck units entering the hands of early adopters. Impressions were mostly positive, with people fawning over the ability to instantly have their existing Steam library to hand and finally being able to play such power-pushing titles as *Elden Ring*, *Horizon Zero Dawn*, and *Control* on the go. However, many have also noted some early teething issues like the less-than-ideal battery drain during long play sessions, and lack of curation in terms of Deck-compatible games on day one. Even so, we'd say it's full steam ahead.



## 02. Infinite Access

Hosted online by co-creators Steven Spohn and Alanah Pearce, the second annual Video Game Accessibility Awards saw various developers awarded for their willingness to go above and beyond with regards to making games playable for all. The judging panel was made up entirely of disabled players, who dished out gongs across nine different disciplines based on specific accessibility guidelines established by The AbleGamers Foundation. 343 Industries was the big winner of the night for its work on Xbox exclusive *Halo Infinite*, receiving awards in both the Clear Text and Training Grounds categories.



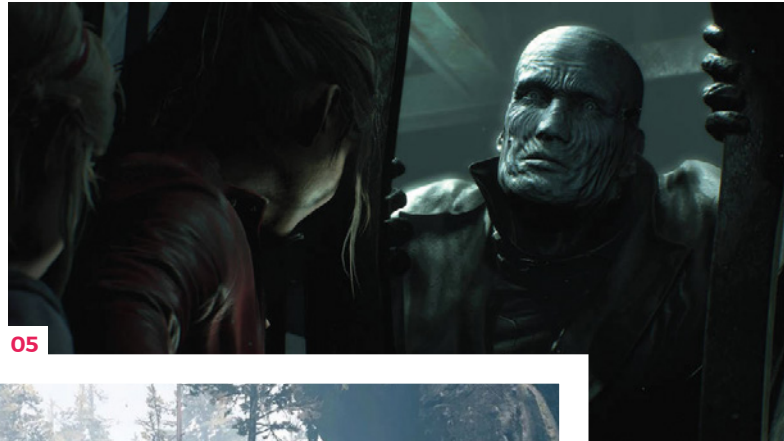
## 03. X-rated Energy

Microsoft has rolled out a new update for Xbox Series S and Series X consoles that allows them to download important system and game updates in Energy Saver mode. This means players no longer need rely on Standby mode, which is thought to consume roughly 20 times more power than the Energy Saver setting. The environmentally friendlier change was announced as part of an update on the Xbox ecosystem's wider sustainability efforts. It also includes moving from plastic to paperboard for gift cards and shifting to 100% renewable energy by 2025 for its Xbox Cloud Gaming data centres.



EA confirms during a dev livestream that its *Dead Space* remake is launching "early" 2023

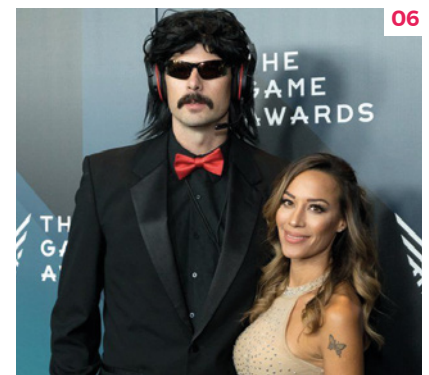
Rogue-lite shooter, *Returnal*, gets free update adding co-op



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## 04. Titan of telly

Deadline reports that a television adaptation of 2018's *God of War* reboot is in the early stages of development, indicating PlayStation's continued interest in putting its most famous characters on-screen. The *Uncharted* movie's box office success is sure to instil further confidence in this grand plan, but we'll know for certain whether or not things are totally on track when HBO's *The Last of Us* arrives next year. The Kratos-starring *God of War* show is set to be live-action, headed up by the creators of *The Expanse* as a collaborative effort between Amazon Studios and PlayStation Productions. Here's hoping it avoids getting the axe.

## 05. Re-animated

Gaming's longest-running survival horror series has been reinvigorated as of late thanks to Capcom's more recent, acclaimed entries, including last year's *Resident Evil Village*. If you thought the ghoulish creatures you fought looked scary before, though, prepare to cower in fear all over again, as it's been announced that all the franchise's last-gen titles are set to receive a slew of visual updates courtesy of a patch. 3D Audio, high frame rate support, and more are all set for *Resident Evil 7* and the remakes of 2 and 3. We can't wait to take a next-gen bite out of these.

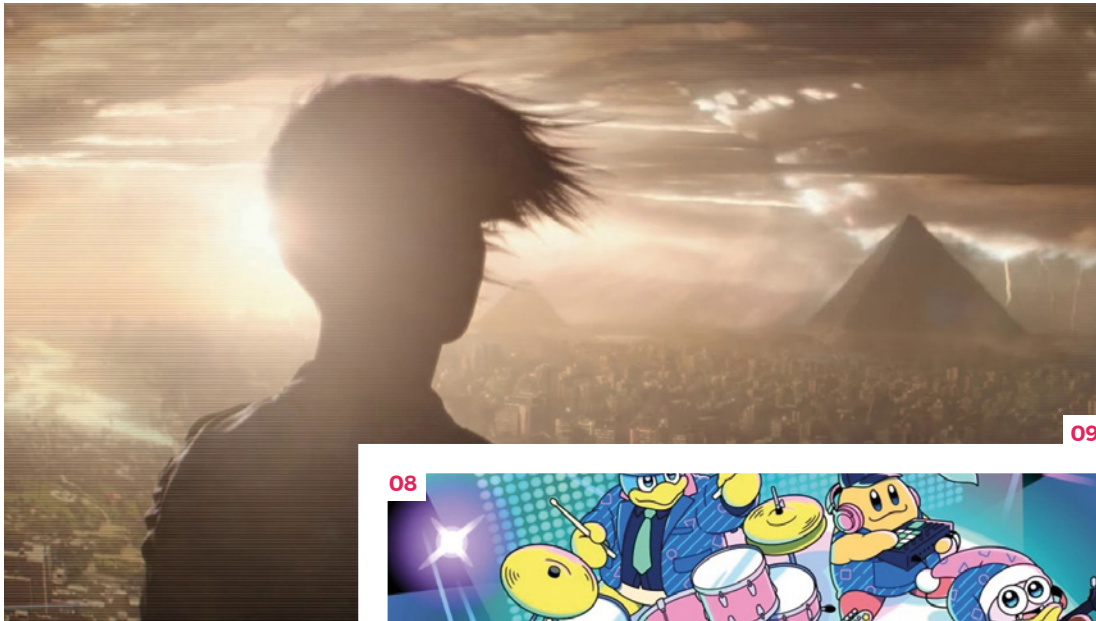
## 06. Doctor, Doctor

Dr DisRespect, real name Herschel "Guy" Beahm IV, was permanently banned from Twitch for undisclosed reasons back in June 2020. He had since launched legal action against the livestreaming giant over the unceremonious ousting, but the troubles now appear to have died down. "I have resolved my legal dispute with Twitch," he said in a Twitter post. "No party admits to any wrongdoing." That said, we still don't have any clue why Beahm was even banned in the first place, and likely never will as a result of both sides settling out of court. Maybe it was his lack of medical licence?

"Due to recent world events" Nintendo delays *Advance Wars 1+2: Re-Boot Camp* indefinitely



Dream come true: *Modder* makes the portable GameCube a reality



09



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## 07. Data Miner

As arguably the largest video game database available, MobyGames isn't just a useful resource for content creators and journos, but anyone with an interest in video game history. Now Atari seems to have recognised the site's value too, since it's just paid \$1.5 million to acquire it. The deal is thought to have been in the works since last November, being one of many "strategic investments" made by Atari CEO Wade Rosen. "It's important to Atari that MobyGames retains every bit of its integrity," he said, "and we're committed to supporting the site in ways that improve the experience for both contributors and users."

## 08. Music of the sphere

2022 is turning out to be a big year for everyone's favourite food-loving pink blob, what with *Kirby and the Forgotten Land* recently releasing on Switch and it being three decades since he first appeared in *Kirby's Dream Land* on Game Boy. Never one to ignore such an occasion, Nintendo intends to celebrate this impressive milestone by way of a one-time-only musical event. The Kirby 30th Anniversary Music Fest will be streamed from Tokyo Garden Theatre on 11 August. It will feature "a large big band-style ensemble of 35 musicians performing in a variety of genres", according to the event's website.

## 09. Imperfect Dark

The Initiative, Xbox's self-built first-party studio founded in 2018 with the specific goal of developing triple-A exclusives, is suffering from a mass exodus of talent. That's according to a report from VGC, whose sources claim that the waves of staff departures are due to "a lack of creative autonomy and slow development" on the *Perfect Dark* reboot it's working on. Several ex-Initiative employees – including senior writers, gameplay engineers, and animators – all spoke about their poor experience and heavily criticised the studio's structure, with 34 in total said to have left within the past year alone.

Ex-Nintendo of America head Reggie Fils-Aimé not a fan of the metaverse's "current definition"

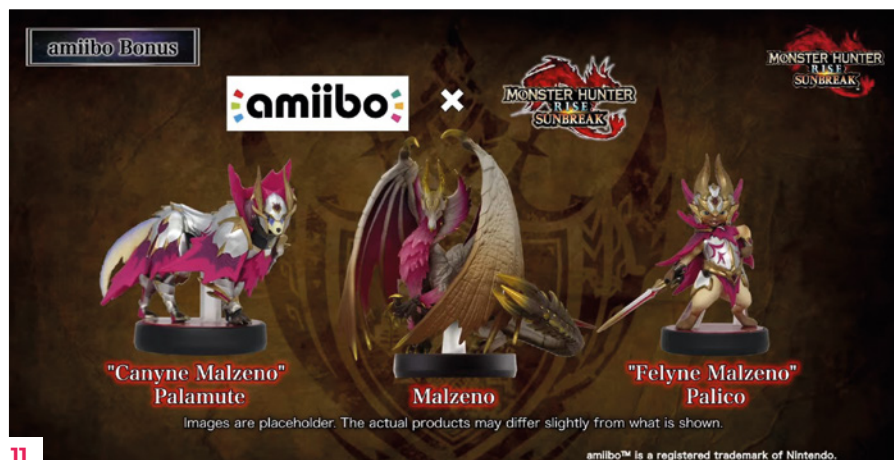
*Babylon's Fall* devs use survey to help create a "better game experience" after tragic launch



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## 10. Bullet Time

Any storied *Overwatch* fan will know that Blizzard time moves much slower than regular time, hence why it's been so long since we received an update on the sequel. That said, the veil on the popular online shooter finally looks to be lifting, as it's been revealed that *Overwatch 2* will receive a beta later this month in order to showcase its PvP offering. The game's new hero, Sojourn, will be available for players to take for a spin, alongside four new maps and the new Push game mode. In the meantime, we're still left wondering about the PvE side.

## 11. The hunt is on

Initially released on Nintendo Switch before receiving a PC port soon after, *Monster Hunter Rise* continues to be supported by way of new monsters and limited-time events to tackle. In fact, this June will see the game receive its biggest content drop yet. The *Sunbreak* expansion was the main focus of Capcom's recent digital showcase, which offered a closer look at the new 'Citadel' environment, alongside a never-before-seen monster class called 'lords'. The expansion's main monster is the Malzeno elder dragon, which also leads the next line-up of amiibo toys-to-life trinkets. Be still our crying wallets!

## 12. Unseen surprise

When the highly energetic (and likeable) Ikumi Nakamura parted ways from her role as creative director at Tango Gameworks in 2019, we had an inkling she'd be going on to great things. Well, turns out she had her eye even higher than that, having now formally revealed her new studio. As explained in a short introductory video on YouTube, Unseen aims to be a studio comprised of global talent which intends to "break boundaries". Details regarding the Tokyo studio's first title were absent, but Nakamura dug deep into the team's ethos: "We are borderless. We are artists. We work without being seen."

PC Building Simulator 2 announced, coming later this year



Tiny Tina's Wonderlands launches with full cross-play support, unlike Borderlands 3

# Attract Mode



## Turbo Overkill ↗

Few things go together as well as non-stop shooting and neon-drenched visuals. *Turbo Overkill* is the latest FPS throwback to prove this, letting you destroy enemies using a generous arsenal in a fantastically frenetic fashion. Backed up by a chugging heavy metal score, you'll be blasting your way across cyberpunk landscapes – trying to take down a rogue AI – in no time.

## LumbearJack ↘

The pun-tastic title alone would have been enough to make *LumbearJack* an anthropomorphic indie adventure to watch. That said, there's something very tactile about taking an axe, golf-club, or even chainsaw to the various man-made objects around you in the name of "recycling". Evil corporations beware... Countless slicing and dicing awaits!



## Salt and Sacrifice ↗

The sequel to Ska Studios' 2016 sleeper hit looks about as gloomy as returning players would expect, only now the scope of this *Souls*-inspired 2D RPG seemingly knows no bounds. It certainly touts a more varied colour palette than its predecessor, true, but an overhauled PvP offering (in which you can invade other players' journeys), new magical abilities, and more mages to slay looks set to raise the stakes substantially.



## Creature Lab ↗

Why is it that, in B-movies and campy creature features, the mad scientist character always has the most fun? *Creature Lab* is a horror-tinged laboratory simulator that aims to answer that question. It gives you all the tools needed to conduct crazy experiments, grow body parts, and mix dangerous mutagens so as to craft appropriately unnatural test subjects. Do a good enough job and the city above will be yours.

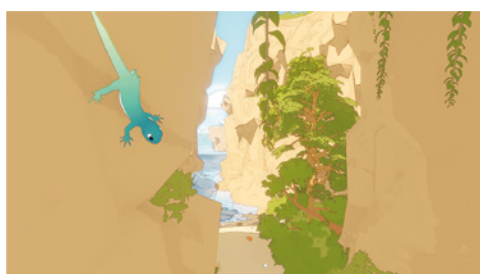




## Nintendo Switch Sports ↗

Nintendo surprised everyone with the recent(ish) reveal that Switch would soon be getting its very own spiritual successor to *Wii Sports*. 82.9 million units sold is nothing to be ignored, after all, hence why all eyes are on the upcoming *Nintendo Switch Sports* to see if it can mimic such sky-high success. Of course, working against it is the fact that this sequel isn't a pack-in with the console itself, but by doubling down on classic modes like tennis and bowling (each with their unique, zany twists) and new ones like football, going toe-to-toe with your nan in her living room could once again become reality for a new generation.

Customisation is most definitely one of the fresh additions Nintendo is hoping will keep you and the family better engaged this time around, as the relatively basic Mii avatars have been swapped for characters with a lot more, well, character. Couple this with the extra sport types, intuitive Joy-Con motion controls, and two updates already planned for this summer and autumn, and *Nintendo Switch Sports* should be an open goal.



## The Gecko Gods ↗

Ancient ruins exploration from the view of a tiny lizard is the oddly relaxed offering from solo developer Louis Waloschek. You'll be asked to scurry up cliffs, solve puzzles, and explore a deeply atmospheric island in the effort to save a fallen friend. Inhabiting cold-blooded creatures isn't new, yet there's a larger sense of the sublime found in this than, say, *Gex* for the 3DO.

## Two Point Campus ↗

Ahhh... how great it is to live in a world where the legacy of *Theme Hospital* continues. Admittedly, Two Point Studios' already nailed this ambition with 2018's self-titled throwback, so it's nice to see aspirations soar for an equally madcap sequel which swaps hospital wards for college dorms. *Two Point Campus* is primarily about building and managing a university, sure, but with such wild courses as Knight School, Cheese Ball, and salivatory Gastronomy already confirmed, this is a form of simulated academia best approached far from seriously. Who knew studying could be so fun? Time to create the campus of our dreams.



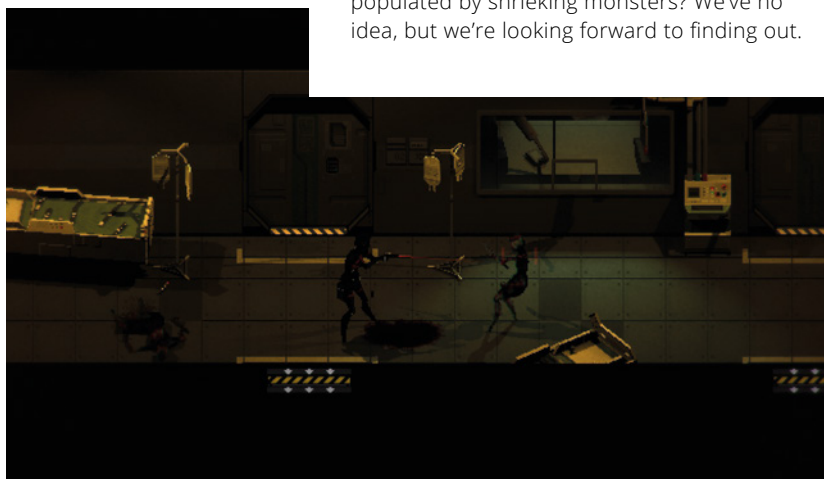


## Moonscars ↗

This game's distinctly Gothic sprites, fluid hand-drawn animation, and *Dark Souls*-inspired combat remind us of The Game Kitchen's similarly moody 2D action-platformer, *Blasphemous*. Cast in the role of a sword-wielding knight with flowing white locks, *Moonscars* pits you against a bleak landscape of monsters and shrieking denizens. In short, it looks like a *Metroidvania* with the emphasis firmly on the 'vania' part of the portmanteau. The debut title from Moldova's Black Mermaid Studio, *Moonscars* is due out this summer.

## SIGNALIS ↘

This upcoming survival horror opus appears to mix elements from all over the place: its cyberpunk setting recalls the classic *Ghost in the Shell* anime and manga, while the measured pace of its action reminds us of the original *Resident Evil*. Why is its cyborg heroine, Elster, trapped in an underground science facility populated by shrieking monsters? We've no idea, but we're looking forward to finding out.



## Monaco: What's Yours Is Mine ↗

Humble Games announced a bunch of new upcoming titles recently, and you'll find a selection of them dotted around these pages. The most familiar title of the lot is *Monaco 2* – a sequel to Pocketwatch Games' hit stealth-'em-up from 2013. Firm details remain skulking in the shadows for now, but designer Andy Schatz says the first game's top-down heist action will now come with more verticality – meaning you'll be able to break into buildings by rappelling down from rooftops or by digging up through floors. The trailer also hints that the riotously fun four-player co-op mode is making a return too, which is both logical and welcome.



## The Iron Oath ↗

There's a captivating idea behind this turn-based tactical RPG: its campaign spans decades, meaning your band of battle-hardened mercenaries will gradually grow old and die while the setting surrounding them – the realm of Caelum – will also evolve as rival factions rise and fall. *The Iron Oath* is a harsh game, then, given that survival hinges on everything from managing combat to finances to forging allegiances with local powermongers. If you think your leadership skills are up to the task, you can try out the demo now at [wfmag.cc/iron-oath](http://wfmag.cc/iron-oath).

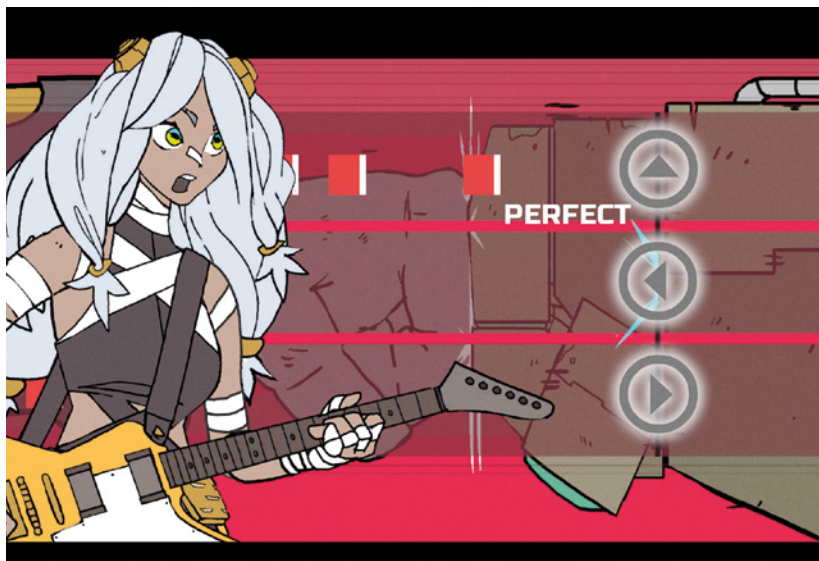


## Ghost Song ↗

You're a stranger trapped on a mysterious planet in another upcoming Metroidvania, this one by solo developer Matt White. Your ship's a wreck and your memory's spotty at best, so you've little choice but to traverse the psychedelic landscape in search of answers – and, hopefully, a means of escape. And, because this is an action game, the planet's positively stuffed with lifeforms that want to kill you, ranging from zombie-like bipedal monsters to what we can only describe as a cackling green goblin riding a floating mechanical skull. Count us in.

## Infinite Guitars ↗

Here's something a little bit different: a traditional, top-down RPG that replaces the usual turn-based battles with *Guitar Hero*-style minigames. The anime-inspired plot sees you pull together a band of guitar-wielding fighters in a war against giant, world-conquering robots, while the art style is hand-drawn and appropriately in your face.



## Stray Gods: The Roleplaying Musical ↗

*Dragon Age* writer David Gaider and his team at Summerfall Studios have been working on this musical opus for a while now, and it's recently had a title change: announced in 2019 as *Chorus: An Adventure Musical*, it's now called *Stray Gods: The Roleplaying Musical*. Still, everything else appears to be much the same: it's set in a modern world where Greek gods walk among ordinary mortals, and the plot involves solving a murder mystery by playing "interactive musical numbers". There's some sterling talent behind those numbers, too, including *Journey* composer Austin Wintory and voice actors Laura Bailey (*The Last of Us Part II*) and Mary Elizabeth McGlynn (*Silent Hill 2*). Given that pedigree, we're excited to see how this one pans out.

## Interface

The FPGA retro revolution



# THE FPGA RETRO REVOLUTION

FPGA-based project MiSTer makes it possible to play almost perfect simulations of old systems. David Crookes meets the people making it happen

WRITTEN BY  
DAVID CROOKES

▲ Robert Peip has been hard at work on a breakthrough PlayStation core that would allow games such as *Ridge Racer* to be played.

▼ The MiSTer in all its glory. It's a compact device that allows for accurate re-creations of retro systems.

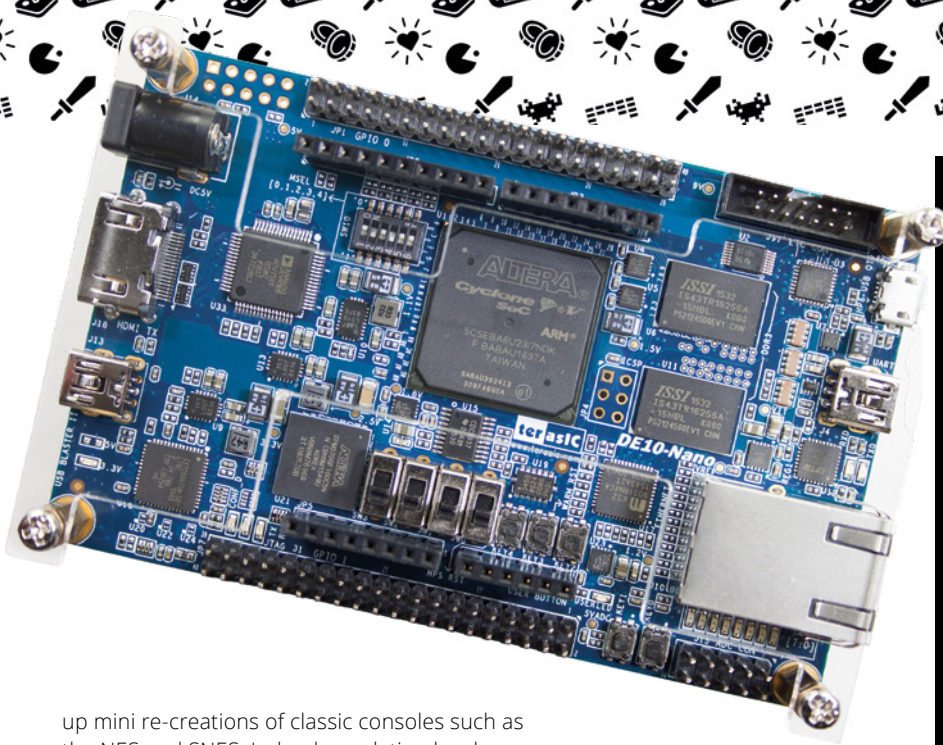
**W**hen José 'Jotege' Tejada arrives home from work, he doesn't kick off his shoes and head for the sofa for a well-earned rest. Instead, he sits at another desk and resumes working, this time on his latest passion: creating 'cores' for the hardware-based system called MiSTer. "I'm spending close to 40 hours a week on the project," he says. "On workdays, I'll put in maybe four hours, and at the weekends, I'll create cores for twelve hours a day. When I have holidays, I'm probably working on MiSTer for ten hours a day."

Does he moan? Quite the opposite: he loves every second of it. Tejada is one of a number of people spending their spare time helping the rest of us enjoy classic games from the 1980s and 1990s. A design engineer by trade, Tejada's efforts have helped to turn MiSTer into what might be the ultimate retro game system.

MiSTer's popular because it can simulate original hardware with such a high degree of accuracy. Pick a system from the 8-bit and 16-bit eras and, in all likelihood, MiSTer will run it so accurately, you'd barely know it wasn't the original machine. You could be playing a game on an Amstrad CPC 6128, Commodore 64, ZX Spectrum, or BBC Micro in the morning, dabbling with the SAM Coupé or PMD 85 at lunch, or firing up the retro consoles such as the Atari 2600, Game Boy, Neo Geo, and Mega Drive during the evening – and that's only skimming the surface.

This kind of thing isn't unique: install RetroPie on a Raspberry Pi 4, for example, and you have a solid emulation machine. You could also pick





## MAKE YOUR OWN

Fancy getting stuck into MiSTer? Then there are two routes. You can go online and buy a preassembled device from companies such as MiSTer Addons, Ultimate MiSTer, and Mister FPGA. These come with all the parts neatly encased and everything you need to run and play cores. Alternatively, there's the DIY route. Start by buying a Terasic DE10-Nano development board – the most essential component. Then consider an I/O board with VGA and audio ports (especially if you're going to be outputting to a CRT monitor), a powered USB hub, a fan, and a Wi-Fi dongle.

Demanding cores like the Neo Geo's will also need a 128MB SDRAM add-on. Prepare to pay about £300 for a decent setup, though the installation image, Mr Fusion ([wfmag.cc/MrFusion](http://wfmag.cc/MrFusion)), which you need to flash onto an 8GB microSD card, is free.

up mini re-creations of classic consoles such as the NES and SNES. Indeed, emulation has long been a staple of the retro game community because it allows access to history without the expense of buying original hardware. Those methods rely on software emulation, however, to make one computer system behave like another – MiSTer doesn't. Instead, it uses a field-programmable gate array (FPGA): an integrated circuit containing configurable logic blocks which allow developers to program the chip directly. Developers can then reconfigure the blocks so that the FPGA mimics the chips present in past consoles, computers, handhelds, and arcades.

When a developer produces a configuration that matches an old machine, it's called a core. And it's these cores that are being created by enthusiasts all over the world.

"In simple words, an FPGA is just a big array of logic elements, and you can decide how to connect them," explains Russian coder Alexey "Sorgelig" Melnikov, creator of the MiSTer project. "There's no CPU and no other devices. Instead, you have to create cores using elementary OR-AND logic and triggers, and this is basically how original chips were created."

### HEY MISTER

Since it first appeared in 2017, MiSTer has caught the imagination of scores of hardware

enthusiasts, primarily because it poses a challenge to talented engineers looking for precision. Few, if any, games will refuse to run on MiSTer, since the chip precisely mimics the original hardware. As Tejada points out, MiSTer "can potentially be as accurate as you need it to be".

Melnikov first started thinking about what would become MiSTer 2015. Back then, he'd begun looking at Minimig, an open-source re-implementation of an Amiga 500 which used an FPGA, before moving onto MIST – a successful attempt by

engineer Till Harbaum to emulate the Amiga and the Atari ST by replicating a 68000 CPU on the FPGA instead of having it as a separate chip. "It caught my attention," Melnikov says. "It was how I learned about FPGA programming and started to discover its possibilities."

Still, Melnikov soon became frustrated. "When I was developing and porting cores for MIST, it was always a struggle to get a picture on any of my monitors or televisions, which all used HDMI," he says. "I had to use some VGA converters, but none of them were universal, and they wouldn't accept every possible resolution. So, while drowning in cables and switches on my table, I →

**"WHEN I HAVE HOLIDAYS,  
I'M PROBABLY WORKING ON MISTER  
FOR TEN HOURS A DAY"**

✓ Of course, the Amiga is well-catered for, given the origins of the MiSTer. Game of Cabal, anyone?





began to think about ways to get HDMI directly from an FPGA board.”

It was this thinking that led to MiSTer. Unlike MIST, which used an FPGA-based development board that was not only expensive but difficult to find, Melnikov decided his open-source project should be based on a mass-produced board – one that anyone could pick up with ease. He figured it would not only make development more straightforward but cheaper, and he eventually settled on Terasic’s DE10-Nano which is built around the Intel SoC FPGA. This became MiSTer’s primary component.

“I had the idea of adapting an existing development board,” Melnikov says. “But I was in the final stage of adapting another Terasic board when the DE10-Nano came out. It was the exact size that I wanted, even though it was a hybrid chip with Arm and FPGA together, which was a completely new beast for me. It took me some time to get used to it, but I was able to introduce MiSTer in the middle of 2017.”

Melnikov took to GitHub in June that year ([wfmag.cc/MiSTerWiki](https://wfmag.cc/MiSTerWiki)), explaining MiSTer’s



➤ What’s in a name? MiSTer hails from a project called MIST created to emulate the Amiga and Atari ST, hence the Mi from Amiga and ST from... well, we’ll leave you to figure that one. Credit: Bill Bertram, CC BY-SA 2.5

▲ José Tejada specialises in creating cores that simulate original arcade boards – most of them containing unique hardware.

improvements over the MIST board – notably that the DE10-Nano board was being targeted at the education market, which meant it was being subsidised by a host of companies including ISSI, Silicon Labs, and Panasonic.

Available for around \$130, the board included an Arm Cortex-A9 dual-core CPU running at 800MHz and 1GB RAM. “Due to a larger FPGA, bigger systems can be created,” Melnikov wrote on GitHub in June 2017. “MiSTer scales original video resolution to a standard HDMI resolution (usually 1280×720p60), so you don’t need to look for some ancient monitor with VGA input supporting non-standard resolution and frame rates.”

It didn’t take long for curious gamers to latch onto the concept, but Melnikov says turning the project into a working system wasn’t easy.

### “YOU GET PEOPLE EXPRESSING GRATITUDE AND IT REALLY GIVES YOU A BOOST”

“The DE10-Nano is a hybrid with lots of internal devices, so I had a hard time trying to make it stable,” he says. “Even having Linux as a backend for input and storage, it doesn’t act as a normal computer requiring safe shutdown and safe reboot. MiSTer is ready for sudden reset or power off, and that was a challenge.”

### A THANKFUL TASK

Over the past five years, the MiSTer project has continued to grow, with new cores regularly being created and enhanced. There’s a flourishing Facebook group in which Melnikov and other developers are active, and there are several Patreon accounts set up by creators to support their work. Tejada, for instance, has close to 3000 supporters donating at least £2.50 each month. The sums can stack up, but still: it remains a labour of love. Nobody creates cores to get rich, and nobody can really underestimate how much work goes into them. What’s more, if there is any pressure, then it’s generally self-inflicted.

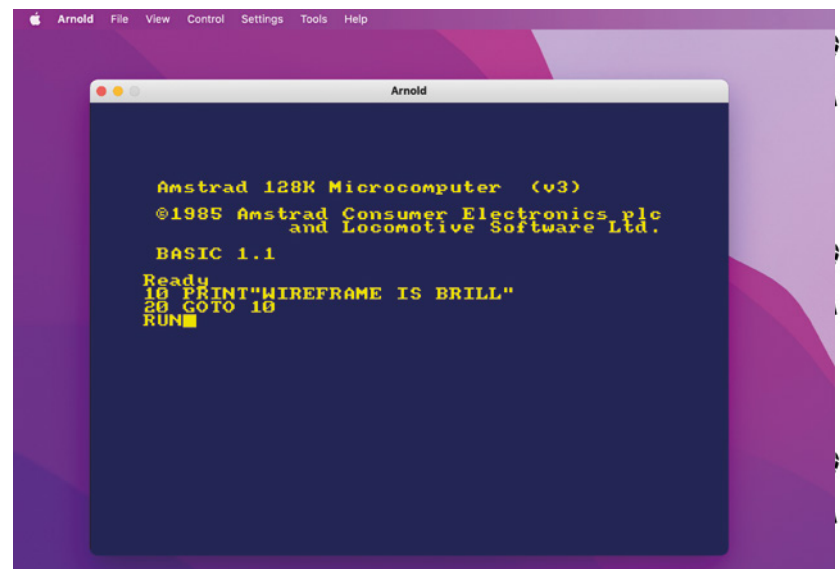
As Tejada says, the MiSTer community is a supportive one: people aren’t cracking the whip or making unreasonable demands. “One thing about open-source projects is that you have

customers who are nice to you,” Tejada laughs. “In other jobs, you can have a customer who’s demanding, and so it’s not a rewarding task. But here, you get people expressing gratitude for what you do, and it really gives you a boost. You end up reacting positively, and it motivates you to deliver. As for the money, it justifies it to a lot of people. I think my family would complain a lot if I was working on this without making any money.”

### CREATING CORES

Tejada’s a valued member of the MiSTer community, and even he struggles to quantify ➔

✓ *Pinball Dreams on the Amstrad CPC was released in 2019 and it pulls off a fair few technical tricks which some emulators struggle with. MiSTer will run it like it’s on the original hardware.*



### SOFTWARE VS HARDWARE EMULATION

Software emulators execute code sequentially. If you consider that a home computer has different chips such as the CPU, graphics chip, and sound chip, then the software emulator is simulating them all but darting from one to another, in a set order, as quickly as possible. As it does so, everything seems to be running in parallel from the perspective of the user, even though it’s not. This means the process is processor-intensive, so if you want a computer to emulate a retro machine at full cycle accuracy, it has to be dozens, if not 100, times faster than the original device otherwise it’ll jitter and stutter.

“It’s not practical even though it works,” says Tejada. “In a software emulator, you have to make a number of compromises and trade-offs because it’s part of a larger system. It’s part of a computer which has its own programs and clock speed and other stuff to deal with. This isn’t the case if you’re using an FPGA.”

FPGA allows processes to run in parallel because part of the chip can be dedicated to sound, another to graphics, and so on. It makes FPGA far better able to replicate what happens in an original machine without over-burdening a processor, and it also means developers can aspire to great accuracy without compromise.



### ANYONE FOR ANALOGUE?

Hardware maker Analogue uses the same Altera Cyclone V FPGA chip as MiSTer. It's used it to create a range of accurate console clones based on the SNES, Mega Drive, and Game Boy, among others. Unlike MiSTer, Analogue consoles make use of original cartridges rather than ROM files.

just how much work he's put into it. "I'm not sure exactly how many cores I've created," he admits, "but it's a lot!" Tejada's GitHub ([wfmag.cc/jotego](https://www.wfmag.cc/jotego)) shows 2323 contributions in the past year alone, with his work mostly focused on arcade cores. In fact, it was his passion for the Yamaha YM2151 sound chip, part of the *Ghosts 'n Goblins* arcade PCB board, that drew him into the MiSTer world in the first place.

As for the time it takes to make those cores, it can vary. According to Tejada, some cores can be created in a week to ten days, while others will take far longer. As another developer, Robert Peip, tells us: "It depends on the components, the complexity, the available documentation, and existing emulators. Getting every bit of information out of the original console would take many years, so FPGA cores profit greatly from the research done by homebrew and emulator developers."

As Tejada explains, making cores can be difficult, time-consuming work. "Some systems are hard and require a lot of time, and there are many semi-working cores out there which have been abandoned," he says. "I've revived some of them and, as more people come to the project and start to help, they have helped improve existing cores too. But basically, many cores aren't really finished. They are still in development and still being improved. There is always room for improvement."

Further complications can arise when a system has a number of variations. "Some systems, which people perceive as being a single machine, may have had many variations during its production run and that's led to small hardware differences," explains Tejada. "It can mean having to spend several months on them. For people like me, it's likely to take even longer than that. I usually go back and forth between

retro systems to provide constant updates, and if I concentrated on one system at a time, then maybe I wouldn't publish anything for months."

As if to underline the potential timescales, Peip's working on a PlayStation core: something many

believed wasn't possible on the MiSTer. Most of the cores to date have been for 8-bit and 16-bit machines as well as arcade systems like the Capcom CPS1 and CPS2 ("Most of my supporters enjoy the CPS cores the most, and I got a big boost in subscribers when I started doing them," Tejada says). Peip's POne project is going to take a year, he reckons. "The Atari Lynx was a job of two months," he adds, by way of comparison. "The biggest challenge of the PlayStation is the number of different parts and their complexity," Peip says. "I've already spent more time on the CD subsystem of the PlayStation than I spent on the whole WonderSwan core. But the good news is there's no showstopper on the road. While the work will still take quite some time, I don't see anything that could make the project impossible on MiSTer."

### PRESERVING THE PAST

Although emulation remains a grey area – partly due to its reliance on the use of ROMs – the core creators believe they're doing gaming an important service. As Peip says, there's a

preservation argument to be had: "With the rebuilding of old hardware, you have the chance to give new life to so much existing software and so many games. The reward

you get for the work you do is extremely high if you rebuild a system that can run hundreds or even thousands of titles."

Building cores isn't always about precisely replicating old systems, either. Gamers may, for example, want features that make playing titles on the MiSTer more pleasurable: Peip's Game Boy core included split-screen support, and he's also worked on fast-forward and save state functionality. They're the sorts of things that weren't available on the original systems but are often standard in software emulators. "I just like to work on cool features that go on top of the real hardware," Peip explains. "So I made save states for the NES core because it was requested frequently, the same for the split-screen cores for Game Boy and Game Boy Advance, where two players can play on two linked cores on one MiSTer. I included high-resolution rendering for the Game Boy Advance. These features are just a lot of fun to work on,

**"I USUALLY GO BACK AND FORTH BETWEEN RETRO SYSTEMS TO PROVIDE CONSTANT UPDATES"**

✓ Robert Peip impressed MiSTer users with his Game Boy Advance core. Now he's working hard on a PlayStation core – once thought near-impossible.



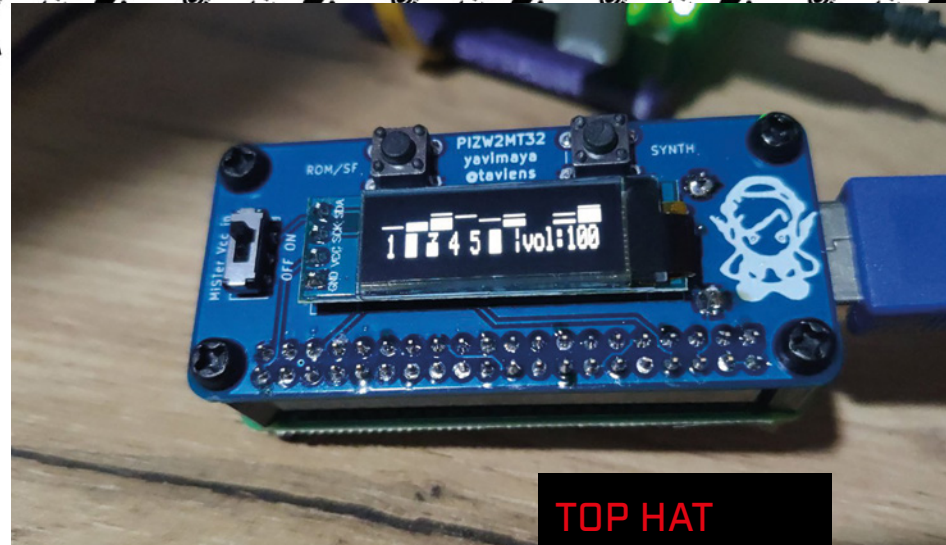


and it's extremely motivating to do something that hasn't been done before."

Tejada, meanwhile, isn't always enamoured by such things. "A constant challenge is deciding what features can be included because users basically want everything without thinking of the consequences," he says. "I have to implement and support many features I don't use and even don't like."

Yet all of the work being done is of long-lasting value, not just for games but the hardware itself. Developers are creating cores in HDL (hardware description language), effectively documenting the schematics of retro systems and preserving them for future generations. This is becoming increasingly important as machines age and fail, old media crumbles, and generations pass. Of course, software emulation is doing the same, and few MiSTer developers take sides as to which is the best approach. There's a general consensus that both can sit easily side by side, and will do long into the future.

"From a pure accuracy standpoint, a software emulator can be just as good as an FPGA core," says Peip. "The problem comes with the speed you want to achieve. To get a playable speed, a software emulator developer will often have to sacrifice accuracy at some point unless the



## TOP HAT

Many MiSTer cores support external MIDI hardware, and it's possible to convert Raspberry Pi Zero 2 W into an emulated Roland MT-32 sound module from 1987. The MT32-Pi HAT plugs into Raspberry Pi's GPIO port and uses a bare metal emulator called mt32-pi created by Dale Whinham. It can then be connected to a MiSTer to listen to a game's MIDI soundtrack.

hardware being emulated is very old. In FPGA, we can do as much in parallel as we like, so it's not an issue."

Tejada agrees. "The advantage of software emulation is being able to have a laptop or phone with lots of systems on it. Some of them may have inaccuracies but they can still be enjoyed," he says. "Yet from a preservation point of view, FPGAs can deliver on the promise of accuracy and that's important to me. It's why I enjoy creating cores. I just wish I had more time to play games on them..."

✓ Around 1600 official Game Boy Advance games have been tested and all of them have worked, although some video glitches remain.



# Let's co-operate over accessibility



**ANDREW J. DICKINSON**

Andrew is the editor-in-chief of [lock-on], a crowdfunded gaming journal published quarterly focusing on insightful critique and curated art. He is also author of the book *Dreamcast: Year One*. [lostincult.co.uk](http://lostincult.co.uk)

**Y**ou Died'. I've seen these two words fade into view more often than I care to admit. My dalliances with Soulsborne games past have ended mere hours into the experience; those words seared into my brain. Lured back again and again for each new entry with the promise of mesmerising locations, interesting mechanics, and fascinating lore, I've never been able to get to grips with what the game expects of me. The genre just hasn't clicked. Until *Elden Ring*.

FromSoftware's latest entry into the genre they created, and still rule over, is seen by many as its most accessible to date. The open world of the Lands Between provides a sort of training ground for the more linear 'legacy' dungeons to come, giving players a way to explore and grind their stats with little fear of being outmatched from the get-go (unless you catch the attention of the Tree Sentinel, and then you RUN). Two hours in, however, and I was experiencing that white heat once again, my knuckles also turning white as I mustered as much strength as I could to not throw my DualSense across the room.

It was at this point that I found salvation in the form of a good friend who knows these games inside out. He offered to be my teacher, guiding

me through the intricacies of combat, pointing me in the direction of things the game never references clearly itself (like your first encounter with Rennala the Witch), and helping me to find items and level up to a point that I could become useful in our sessions together. Finally, everything clicked and I was actually enjoying a Soulsborne game, drinking in the epic vistas and speaking to intriguing characters throughout the land. Should I have been playing co-operatively all along?!

Just like every game released by FromSoftware in this newly established genre, *Elden Ring* has drawn criticism and created arguments about accessibility. There are those who would love to be able to experience the rich worlds on offer, but for whatever reason are unable to get past the difficulty levels involved. Many die-hard fans of these games will utter the words 'git gud' to such complaints, citing the fact that Soulsborne games are, by their very nature, hard. Take away the difficulty and you're stripping the game of its reason for existence, in their eyes.

Like most gaming conversations, however, things aren't that black and white. We're seeing this debate about accessibility and inclusivity more and more frequently in video game fandom. There are people who suffer from disabilities which make certain games a challenge to invest in, for example, leaving them by the wayside through no fault of their own. Others struggle to put in the time it takes to master a game's systems due to their work or home life. Should these people be told to 'git gud' or shut up?

Not everyone has their own personal Sherpa through the Lands Between like I have, and although random co-op partners, magic builds, game guides, and YouTube videos can help some people, I do wonder if that is enough to allow a wider section of gamers to feel included in the conversation for experiences such as this. Would an optional reduction in difficulty really be that bad for those who need it, to allow them to play one of the highest rated games of all time? Perhaps instead of yelling 'git gud', we should be chanting 'get involved'? 🗨️



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**GAME**  
Final Vendetta

**DEVELOPER**  
Bitmap Bureau

**RELEASE**  
May 2022

**WEBSITE**  
[wfmag.cc/vendetta](http://wfmag.cc/vendetta)





## Final Vendetta

For *Final Vendetta* to feel like a true love letter to nineties beat-'em-ups, it was important for developer Bitmap Bureau to embrace the genre's pixel art stylings. The allure of using hand-drawn or a more cartoon-like aesthetic was always there, but the final product speaks for itself in terms of how closely characters and stages mimic the look of, say, *Final Fight* or *Streets of Rage*. Sprite artist Jabir Grant was key to accomplishing this lofty goal, fleshing out and conceptualising *Final Vendetta's* punkish attitude through his art over a period of two years. "He's up in Scotland," says design director Mike Tucker. "And yeah, he was finally someone who is prolific and skilful enough to make this art." From the side-scrolling locations characters fight through to the individual objects you smash for power-ups and health, the game always required an 'art first' approach.



# 20 dark indie adventures worth playing

There are no rainbows to be found in these 2D treats. Here's our top picks for the still burgeoning genre of Limbo-likes

WRITTEN BY  
**AARON POTTER**



## Limbo

Let's begin with the granddaddy of them all: Playdead's debut 2D platformer helped turn the dimly lit *Limbo* into its very own sub-genre. Itself heavily inspired by the cinematic nature of cult classic side-scrollers like 1991's *Another World*, *Limbo* oozes style and atmosphere at almost every turn. It casts you as a nameless boy who must navigate the many traps and dangerous obstacles of a black-and-white world – and a big reason why it works so well is thanks to an almost complete lack of context. Who are you? How did you get here? Does the game's title provide a hint as to the grey place you find yourself in? We're still puzzling over such questions over a decade later. In the meantime, take it from us: beware the oversized spiders!

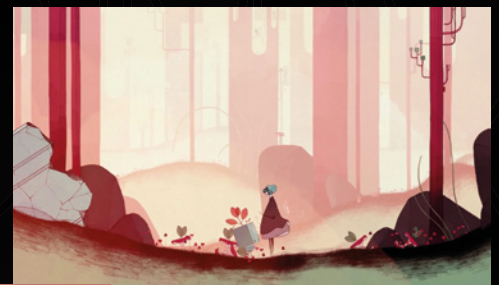


## The Swapper

A 2D puzzle-platformer in the truest sense, *The Swapper* came out in 2013 to little fanfare. Luckily though, developer Facepalm Games saw more success with the following year's console release, which allowed more people to enjoy this lonely adventure about an astronaut exploring an abandoned space station. It isn't long before you're transferring your consciousness from vessel to vessel using a handheld cloning tool, solving puzzles and obstacles by controlling multiple versions of your character. By the game's end, the narrative strikes a chord almost as bleak as its shadowy environments. *The Swapper* is a rare case of the destination being just as good as the journey, even if it does force you to make some tough choices along the way.

## Yomawari: Night Alone

The pitter-patter of your own footsteps is often the only sound accompanying you throughout much of *Yomawari: Night Alone*. And the disturbing part is, that's when you're lucky. Other times, you'll be avoiding the various ghosts and demonic spirits hunting you through this quaint little town late at night. But how else is a girl supposed to track down her missing dog and sister? Making this bite-sized Japanese survival horror all the scarier is a complete lack of combat, where your only chance of surviving the night is to hide and try to navigate the windy streets back to a safe space. The world has, however, been purposely designed to be disorientating, which can set your heart pounding in its darkest moments – like those instances where a stalking spirit sets its hollow eyes on you. Brr.



## GRIS

Is *GRIS* more colourful than what you'd typically expect to see from an atmospheric platformer? Yes, but that does nothing to detract from the deep sense of melancholy that plagues your player-character throughout. As a hopeful young woman lost in a painterly world, you'll visit the domains of various colours – each one representing a different mood or emotion – while a beautifully enchanting symphony of piano and strings accompanies you. Platforming puzzles are abstract, true, but through trial and error, you'll find solutions and gain the skills needed to further explore this evocative land of colossal towers and monoliths. *GRIS* is one of those ethereal indies that will mean different things to different players, but regardless, it's sure to stay with you long after credits roll. ➔



## Carrion

In a welcome bit of role reversal, *Carrion* is a blood-drenched 2D interpretation of what might happen if you were to play as the monster in John Carpenter's classic movie, *The Thing*. Controlling this amorphous, tentacled beast is appropriately unwieldy too, as you must slide, slip, and slither into every crevice imaginable while trying to escape an underground base. Fortunately, the location is stacked full of the meatsack scientists responsible for your creation, which means you can refuel by tearing them limb from limb as you attempt to grow as huge as you possibly can. With gore flying about all over the place, *Carrion's* premise is sure to satisfy slasher movie fans everywhere.

## Hollow Knight

Part *Soulslike* and part *Metroidvania*, *Hollow Knight* is one of those atmospheric indies that expertly uses its exceptional world design and beautiful visuals to create a true sense of place. Not just a series of winding environments to move back and forth through – an actual *place*. In this instance, it's the insect kingdom of Hallownest, full of challenging platforming sequences, tough boss battles, and some of the tightest melee combat we've ever seen in a 2D game. Thank you, Nail sword! There's a reason why players have been pining after DLC-turned-full-sequel, *Silksong*, ever since *Hollow Knight* was released back in 2017. Hallownest is a bleak but magical place to inhabit for the 30 or so hours you'll need to explore every nook and cranny. An instant modern classic.

## Unto The End

A few ill-placed sword swipes are all it takes for your Viking warrior to meet his untimely demise in 2 Ton Studios' Nordic-themed adventure. That said, such a deliberately punishing approach to combat is what makes *Unto The End* deceptively dark in mood, with the simple act of trying to get back home to your family always feeling oppressive and filled with struggles. Sure, you can parry any incoming attacks, but timing them correctly isn't always easy – especially when trying to judge the unique tells of yetis, giant snakes, and other mythical creatures. At its worst, the patience *Unto The End* demands can be frustrating. At its best, such nuanced enemy encounters are pulse-quickening, and a rarity in minimalist indie games like these.



## 7th Sector

Is it crazy or a spark of genius? Whichever side you fall on, *7th Sector's* premise is undoubtedly unique. You play an electrical charge that navigates the world by jumping between wires in an atmospheric, cyberpunk puzzle-platformer. You're never controlling the same shapeless current for too long, which keeps things fresh: you also inhabit various machines and instruments as you try to escape the game's totalitarian regime. *7th Sector* tells its political story using near-photorealistic visuals, and by throwing up all kinds of creative ideas over its three-hour runtime. It presents a society so dreary you'll want nothing more than to break free of it – just be prepared to solve some tricky puzzles on your path to freedom.



## Never Alone

You'd think having a companion by your side would make navigating a cold, perilous setting such as Alaska a breeze, right? Think again. Because while *Never Alone* lives up to its title by giving Inuit explorer Nuna a snow fox (controlled in co-op by player two) to aid her, wading through the eternal blizzard still presents a challenge. Whether you end up playing *Never Alone* with a chum – as was most likely intended – or solo, E-Line Media's game tells an effective story about the bonds of friendship and how they can offer some respite during the most difficult (and chilly) of times.

## Typoman

Before *Wordle* took over the world, Brainseed Factory's *Typoman* asked players to stretch their brains by solving word-based puzzles within the framework of a cinematic platformer. The kicker here is that letters and words make up almost everything in the world, including enemies. Shifting these around to spell out alternate words is key to solving each puzzle. *Typoman's* wordplay only adds to the sense of mystique, with the titular hero's inky appearance tying in perfectly with the hand-drawn hazards and backgrounds you pass by. The game is proof that words are indeed the best weapon during times of darkness.

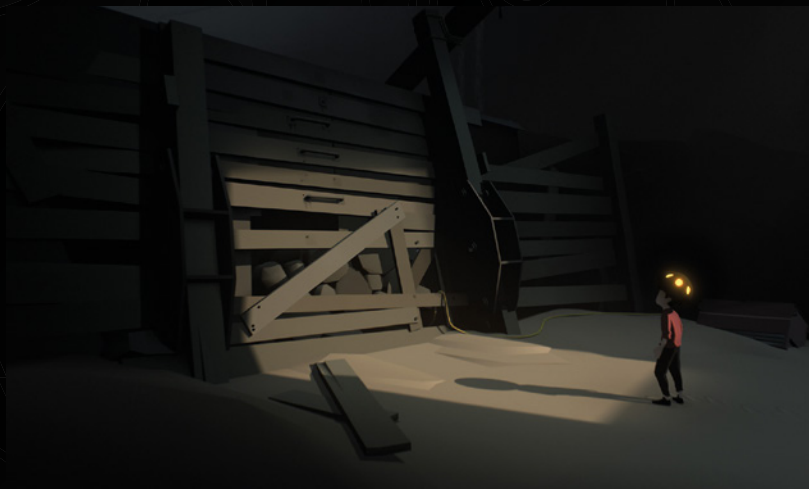
## A Rose in the Twilight

The second entry on this list from Nippon Ichi Software plays a lot more traditionally than *Yomawari: Night Alone*, lifting the game's horror-infused anime art style while asking you to explore a gloomy 2D castle. Rose's attempt to escape (with the aid of a stone giant) is constantly plagued by spike traps, iron maidens, and other blood-coated hazards. Using the pair's unique abilities to solve puzzles is essential, and offers a counterpoint to the bleak visuals and flashbacks that constantly bombard you. Getting both characters to the end of a stage is never as straightforward as it seems.



## Little Nightmares II

Should we have opted for the 2017 original for this list? Possibly. That said, *Little Nightmares II* is a great example of what a small team with big ambitions can achieve when they use their initial game as a solid foundation. The sequel, therefore, expands on the original's eerie universe, and answers a few lingering questions in the process. Solving puzzles as new character Mono is a real treat, as he and returning hero Six must traverse spooky schools, swamps, and flooded city streets in search of safety. There are horrific sights sprinkled throughout, creating an atmosphere so grungy that even Six's yellow raincoat struggles to cut through all the murk.



## Inside

It may be best known now for its "WTF?" ending, but we can't deny how evocative and excellently paced *Inside* is for the four or five hours leading up to it. As a spiritual successor to Playdead's genre-defining *Limbo*, the shift from flat visuals to a more pronounced 2.5D presentation works wonders in terms of creating an immersive dystopia. *Inside* also stands out thanks to its premise: you aren't trying to flee its hellish cityscape, but rather break further into it. This leads to a surprising sequence that looks and plays like nothing you've experienced up until that point. It's further proof that, when it comes to moody platformers, Playdead is still the studio to beat. ➔



### White Shadows

Monochrome world? Check. Dystopian setting? Yes. Overt references to Orwellian literature riffing on themes like xenophobia, segregation, and more? Well, that's something you don't see in an indie platformer every day. Anyone worried that *White Shadows* would be superficial in its discussion of such sensitive subject matter, though, can rest easy, because it's naturally woven throughout this highly politicised world. You play as a lowly creature hoping to avoid the gaze of your overlords in a city that cuts a clear line between the wolves and rats who are in charge, and the pigs and sheep forced to do all the work. Where do you fall in this hierarchy? You'll have to solve puzzles and scale rafts of twisted architecture to find out.

### Blasphemous

The moment you see blood trailing down the face of an emotionless, cast-iron mask, you know that *Blasphemous* isn't likely to elicit many chuckles. The perilous lands of Cvstodia are the perfect backdrop for a rather punishing action-platformer, though, chock-full of religious iconography that really underlines the seriousness of what's at stake as you repeatedly dispatch enemies in gruesome fashion. *Blasphemous* is sure to have you beating your head against a wall every now and then as it takes cues from – yes, you guessed it – *Dark Souls* for its bosses, but playing as the Penitent One still feels unique and sprightly thanks to its gorgeous pixelated visuals, all backed up by some punchy combat and a particularly black tone.



### Inmost

Relating the stories of three separate characters, *Inmost* is a narrative-driven platformer that pays tribute to older genre entries. How? By using a tantalising (and captivatingly moody) mix of 8-bit visuals and chunky character sprites, alongside a blue-green tinted filter akin to something you'd find on an original Game Boy screen. As you can probably tell, story plays a more important role here than most other dark indie adventures on this list; it takes place across different settings and timelines to always keep you guessing. This three-pronged tale will have you luring black sludge creatures into traps, solving environmental puzzles, and using each character's key item to further explore this hauntingly atmospheric pixel art world.

### Closure

There were few atmospheric platformers to speak of in *Limbo*'s wake, but one of the earliest of note came two years later in Eyebrow Interactive's *Closure*. It stands out thanks to its distinctive, light-altering mechanic, in which you can illuminate certain areas to bring objects in and out of reality. It's more puzzle than platformer, true, but *Closure* isn't short on eerie environments for you to guide your spider-like demon character through.

## Uncanny Valley

The devil's in the detail, and developer Cowardly Creations packed plenty of devilish detail into the lo-fi pixel art that graces its 2015 survival horror, *Uncanny Valley*. It creates an air of foreboding and dread with expert efficiency. Cast as Tom, a security guard saddled with working the night shift in a sprawling office complex, it isn't too long before the spooks start to arrive and have you running down passages, looking for a means of escape. *Uncanny Valley* takes fear one step further, meanwhile, with what's known as the consequence system. This means that outright deaths are rare; instead, you'll suffer injuries that affect your ability to run or defend yourself. It's a potentially divisive concept, but one that undoubtedly helps ratchet up the tension as the game goes on.

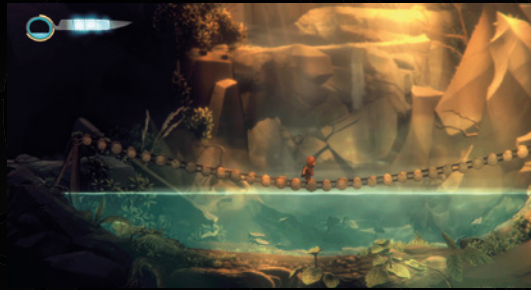
## Last Stitch Goodnight

Suffering a near-death experience is already bound to be pretty traumatising. Imagine your poor character's surprise, then, that soon after waking up from one ordeal, they discover they've been kidnapped by a mad doctor who wants to conduct wild experiments and forces them to roam a creepy mansion. Admittedly, the cartoony environments and character designs don't entirely gel with the dark tone developer Well Bred Rhino punts for, but on the upside, there are some interesting boss battles, lots of locations to roam, and puzzles that require a good bit of thought.

## Albert and Otto

Set in 1930s Germany, K Bros Games' *Albert & Otto* might not transport you to the cheeriest of time periods, but it remains a thoughtful side-scrolling adventure about a boy and his bunny in search of a girl with rabbit ears. Besides, where else are you able to make sheep float, set them alight, or use them as wolf bait in order to solve puzzles? Despite the historical setting, *Albert & Otto* doesn't go for stark realism; instead, you're thrust into a black-and-white rendering of one of history's darkest chapters as the titular duo lift, slide, and pull their way to their goal. 🐰

## Future dark indie delights



### The Darkest Tales

Cinematic 2D platforming meets "happily ever after" in this grim-dark fairytale adventure centred on a cutesy teddy's quest for vengeance.

### Planet of Lana

In a colourful sci-fi world plagued by cold machinery, a young girl and her friend must embark on an epic hand-drawn journey across the galaxy.



### Hollow Knight: Silksong

Team Cherry's long-awaited follow up to its 2017 magnum opus looks just as dark and challenging as before with added environments and abilities.

### Endling

Issue #41's cover game looks just as intriguingly paw-some as when we first previewed it. Expect the environmental theme to hit home hard.

### Have a Nice Death

This 2D action roguelike casts you as the titular reaper trying to collar your escaping employees. When you just can't get the staff, use the scythe.

# Toolbox

The art, theory, and production of video games

**46. Design Principles**

Howard looks back at Sega's underappreciated Dreamcast

**48. CityCraft**

Guide players through an MMO with flows and urban anchors

**50. Multiplayer level design**

Essential techniques for designing better online game maps

**54. Source Code**

Code an homage to the original The Legend of Zelda

**58. A guide to shaders**

What they are and how to use them in your own games

**64. Narrative design**

How to plan storytelling beats around game mechanics



^ The creators of *Going Medieval* provide a handy introduction to the complex world of shaders on page 58.



^ Struggling to fit storytelling beats into your game project? Antony outlines his process on page 64.



◀ Struggling to inject excitement in your multiplayer maps? Then check out our design guide on page 50.



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▶ Make a top-down *Zelda*-like, complete with enemies to slay in this month's Source Code. See page 54.

◀ You can use real-world architectural cues to help guide crowds of players around your MMO city. Find out how on page 48.

# The principles of game design

An underappreciated console, a final nail in Sega's console coffin, or a bit of both? Howard looks back at the Dreamcast



**AUTHOR**  
**HOWARD SCOTT WARSHAW**

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

**S**ega's Dreamcast was born just before the end of the last millennium, and shortly into the new millennium, it died. The console was perhaps the most hotly anticipated yet shortest-lived home video game system ever (only Gizmondo and Virtual Boy died quicker – do you even remember either of those?) and so, in honour of the sadly departed Dreamcast, I'm devoting this month's column to sweet remembrances of the ill-fated machine.

They say the candle that burns brightest burns shortest, and the Dreamcast entered the market with a splash big enough to extinguish its own flame. Of course, it didn't help that Sony pushed it right up against the side of the pool. The Dreamcast was released in Europe and the

US in 1999, and the initial signs were positive: it sold nearly a quarter of a million units in its first 24 hours in the US alone. I remember people waiting in lines to get the first truly next-gen system. It featured graphics optimised dedicated hardware with eye-popping visuals and, for the first time ever, an actual online capability. And it had a whopping 16 megabytes of RAM. Did you hear me? 16 megs! Oh my god! (the 2600 only had 128 bytes!)

The aptly named Dreamcast was more than a huge step forward: it was a giant leap, and all the game developers knew it. I mean, it had so many polys and such beautiful colours and online access! Back at Atari in the early eighties, the closest thing to online we ever saw was our work with the Psychic Institute. It was as if someone had taken all the things I wished the Atari 2600 had, found the video game console genie, and rubbed the lamp just right. None of us were surprised when its installed base reached well into the multimillions by early 2000, and then in early 2001...

It was discontinued. Wait, what? That's right. Although it was obvious to all of us this system would go through the roof, we never considered the possibility it would bust those rafters on the way down, not up. Despite a solid offering of games, the Dreamcast simply couldn't compete with the might of the PlayStation 2, which launched globally in 2000 and went on to sell around 155 million units.

At the time, though, the Dreamcast was the slickest, sexiest, and most coveted gaming platform I'd ever seen. Before it got crushed by

♥ The Dreamcast's mainstream success may have been short-lived, but indie developers are still making games for it: here's 2021's rail shooter, *Xenocider*.





the PS2 and Xbox, that is. Not so much crushed as pulverised into oblivion. Outside its dedicated following of fans, people hardly ever talk about the Dreamcast anymore. In fact, one of the only times I heard it come up was when people visited my office. They'd look over to the bottom of the bookshelves and ask, "What are those?"

I had three mothballed Dreamcast development stations in my last office. They just sat there gathering dust and passing interest. These systems paved the way for modern gaming, and now no one feels they're even worth the effort to discard.

In retrospect, I'd have to say the Dreamcast was the Alan Moss of next-gen systems.

## A ROLLING STONE

Who was Alan Moss? Alan Moss was a Vietnam veteran who was quiet and reserved and a talented martial artist. He was also a game programmer at Atari, one of several newcomers in late 1981 brought on to do games on the 5200. At one point he started working on a very new kind of game. It featured two gi-clad martial arts figures in a dojo. That was all. Two animated characters who could punch, kick, and block. This was the first time any of us ever heard this concept (and frankly most of us thought it was pretty lame). It was early 1982 and Alan Moss had just invented the fighting game. But the fact remains that when people talk about fighting games, they cite the glory and controversy of *Mortal Kombat* and *Street Fighter* (or maybe the

historical footnote of *Karate Champ*) yet no one ever brings up Alan Moss, the man who truly pioneered the genre.

In the final analysis, the word 'Dreamcast' doesn't evoke nostalgic visions of the groundbreaking system that first brought online capacity and high-end poly counts to video game consoles, but rather it's mostly remembered as the final nail in Sega's coffin, at least as a manufacturer of console hardware. That is, of course, when it's remembered at all. There are many gamers around today who started their

gaming life with a PS2 or an Xbox. The PS3 and Xbox 360 were the first next-gen consoles in their gaming careers. They may assume that at some point in the 'before time' there was a PSone, and somehow they missed the approximately 358 intervening Xbox releases, but it will likely never occur to them that this whole legacy of high-performance gaming platforms could be attributable to anything other than Sony and Microsoft (that upstart Nintendo does some innovative stuff, but after all, how long have *they* been around).

These young players may never know that the first huge step into modern gaming was actually taken by a company whose story ended just as many of theirs were beginning. And frankly, I judge this to be a shame of gargantuan proportions. And who am I to judge? Well, as the developer of *E.T.: The Extra-Terrestrial*, I do know a thing or two about hotly anticipated flops... 🙄

**"They say the candle that burns brightest burns shortest"**

▲ Compact and svelte, the Dreamcast was a major step up from its predecessor, the angular (and ill-starred) Saturn.

## DEVCAST

The Dreamcast wasn't only the first really sexy gaming system, it was also the first really sexy development system. Until the PlayStation, most dev systems were bulky, ugly boxes of breadboards and unsightly wiring that made you worry whether the connections would hold together. The first PlayStation at least had a modified version of the base unit that gave the illusion of superior design, construction, and reliability. The price tag certainly reflected that. But the Dreamcast was the first really cool console dev system. It was like driving an old beat-up jalopy for years and years because that's all you could afford, and then one day, you buy your first brand new car, and it looks and feels like a sports car. It's a most excellent feeling. From the PS2 on, development systems kept getting sleeker and sexier, but you never forget your first really hot one.

# Urban anchors and virtual flows

Simple design techniques to create and make the most of traffic flows in MMO cities



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**A** city without citizens isn't a city – it's an empty husk. The urban experience is more about people, crowds, strangers, and countless interactions than it is about admiring buildings and using infrastructure. It's why game cities also try to create the illusion of vibrant city lives. This is most easily achieved by populating a city with NPCs that move along predefined paths, automatically spawn in supposedly crowded squares, converge in places of interest, and generally act in a way that revolves around the experience of a single, carefully monitored player.

Using NPCs is, however, much simpler than trying to convince players to act as a believable civic crowd themselves. When gamers are involved in a make-believe world, new and different design challenges arise. What would once have been programmed now has to be recreated by people who are there to enjoy themselves rather than perform a specific task. Online worlds, MMOs, MMORPGs, and urban

scaled hubs need to entice players to behave and move in ways that will create the illusion of a vibrant city.

## THE ANCHORS

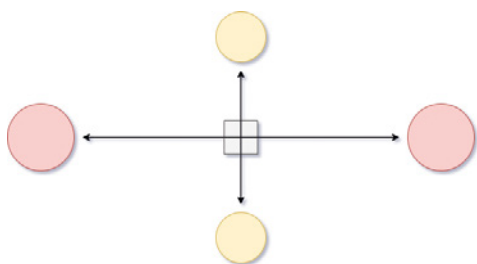
A handy concept we can steal from architecture – 20th-century shopping mall architecture, to be precise – is that of the anchor. This is a key attraction point, usually a well-known and large department store, that acts as a magnet both towards the mall itself and within it. What architects commonly did was place such anchors at opposite ends of a mall to create traffic flows between those two points. As both anchors were meant to strongly attract shoppers, designers correctly assumed that both would be visited by the average consumer, and thus a flow between them would be formed. Along this flow, visitors could be exposed to smaller retailers and even alternative activities such as coffee drinking, which in turn made the axis even more important. (You can find a brief but useful explanation of anchor stores at [wfmag.cc/anchor-store](http://wfmag.cc/anchor-store).)

This planning logic can be lifted and used to energise game cities inhabited by sentient players. Designing a couple of expanded anchors – cohesive poles of interest built around dominant features and functions – and connecting them with a legible path will effectively force players to travel from one pole to the other (Figure 1). Placing activities, secondary functions, and minor points of interest on this path will add



▲ **Figure 1:** Anchor 1 (yellow) and Anchor 2 (green) cover important and different game needs, and create a flow of players between them.





^ **Figure 2: The anchors forming the core civic axis are in red. Perpendicular to this axis, the secondary one connects the yellow anchors, and allows us to create a vibrant square (grey) at its intersection.**

variety, strengthen the axis, and entice audiences to try more of the options and activities on offer.

The first choice when creating such a setup would be to consider one's anchors; both the central edifice and its role, and the smaller buildings or less important but compatible functions surrounding it. You have to form two cohesive poles of compatible and strongly related activities. Each pole should be important on its own, but also supplement the in-game value of the other, ensuring that players will often need to travel from one to the next. It's important not to place the anchors too far apart, and we must also keep in mind that what drives players in games isn't what drives humans in their daily lives.

So instead of anchoring local flows between a museum and a cinema or a theme park and a train station, in MMOs we will have to, for instance, strengthen the connection of a quest-giving hub and an auction house. The centres of our anchor nodes will have to be strongly related to the gameplay's core and supported by useful elements in their vicinity. In an MMO, the first anchor pole could be built around an auction house for rare equipment, surrounded by shops and blacksmiths, whereas a second pole could be a ruler's castle where the main quest is advanced, surrounded by healers and side quest givers.

## COMPLICATING MATTERS

Once players have revisited these multiplayer spaces dozens if not hundreds of times, though, such spatial patterns will eventually either become too obvious, too dull, or both. To keep the player's interest, try adding complexity to the space as well as more traversal options. These will showcase the subtleties of the game world and design, and perhaps allow for the use of secondary mechanics. The problem is that in both virtual and real spaces we tend to seek the

simplest, shortest route between two points. Spectacle soon becomes banal, exploration gives way to efficiency and convenience, and unless there's a reward, we won't visit somewhere new or try out alternative paths.

The aforementioned anchors system may at least ensure a back and forth, but to remain interesting, virtual cities have to be dynamic. Periodic changes in daily cycles, seasonal festivals, shops closing or moving around for economic reasons, and significant changes during large in-world events can all stir things up, but shifting the urban geometry itself can also help. Try breaking up lines of sight, providing alternate and parallel routes between the anchors, and placing minor attractions just off the main axis. Those alternate routes should offer interesting, different options for players; if the main route supports the needs of the main quests, perhaps alternate paths could focus on side quests. A hunter's alley as a parallel to the core axis would work nicely.

Of course, there's also the option of creating even more anchored axes. A secondary axis connecting different anchor poles, perpendicular to the movement of the main one, will create another strong flow. A square or other similar node at such an axial intersection would be a place of maximum activity (**Figure 2**). Tertiary axes from each of the two main anchors and towards specialised and relatively remote smaller poles can further emphasise the centrality of the city's core, help with navigation within the city, and functionally interconnect all of the urban space. 🗺

**“This planning logic can be lifted and used to energise game cities”**

## FUNCTIONAL MAPPING

In a game world, people don't need to bring their groceries home. They need health potions instead, and designers have to map in-game functions to reality. Shops provide potions and crafting materials, hospitals heal, houses store important items, parks can restore sanity, and palaces should give out world-changing quests.

^ **Orgrimmar uses several anchors/poles based on in-game functions to create a relatively complex flow within it.**



# Multiplayer level design: the essential techniques

Last issue, we looked at creating single-player levels. This month, Stuart digs into the techniques that will keep players coming back to your multiplayer maps



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Stuart Maine has been a designer for 24 years across PC, console, and mobile. He helped set up Well Played Games and is working on an unannounced title.

**W**

hile the fundamentals behind creating multiplayer levels are the same as single-player maps, there are some additional key factors that you'll need to

consider. These tips build on the advice given in last issue's article on single-player level design (which you can download from [wfmag.cc/issues](http://wfmag.cc/issues) if you missed it), so I'd suggest reading that first.

## WHO'S PLAYING?

Just as when you create a single-player level, you should understand your goal for your new map. But with multiplayer levels, rather than your goal

revolving around introducing a new mechanic or plot point, you're looking to ensure the level delivers the style of gameplay you have in mind. Will this level revolve around long-range sniping or cramped tunnel battles? Will it feature death pits, or shadows for sneaking about? Or maybe it will feature a central gimmick, like the 'call in an air strike' button in *Half-Life's* Crossfire map.

As part of deciding the gameplay your level will focus on, you should consider the audience that will be playing it. We can broadly sort players into two groups here: 'hardcore' competitive, and fun-focused 'casual' players. Of course, it's great if you make a map that can cater to both types of player, but that takes a blend of careful planning, huge amounts of playtesting, and a little luck, so it's usually best to aim at one type or another with each map.

A competitive audience needs its maps to ensure that winning comes down to player skill and tactics, not luck, and will frown on fun or silly gimmicks that disrupt play. On the other hand, this focus on pure competition can be too intense for casual players just looking to mess about with their buddies. You can see the difference by comparing 1999's *Quake III Arena* and *Unreal Tournament*. *Quake's* levels were all abstract environments purely designed around sight-lines and movement, where *Unreal* also found space for fun but less 'pure' maps set on galleons and spaceships, or levels with low gravity.

♥ Being able to think and fight in multilevel 3D environments gives *Call of Duty* maps a high skill cap, supporting a hardcore, competitive audience.





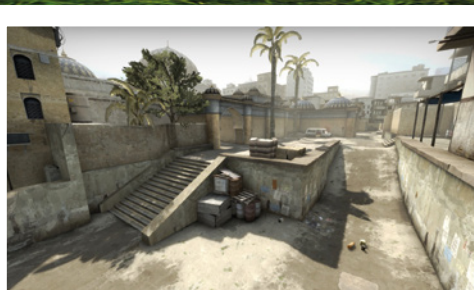
### ALSO CONSIDER...

Beyond aiming for casual or competitive play, you should take into account factors like the number of simultaneous players you're aiming for and the pace of the level's gameplay. The larger and more complex your level's layout, the more you require players to memorise routes and the more tense it becomes (because open environments make it easy to spot an opponent and head for them, while twisted locations force players to hunt each other).

A related point is how much cover your level features. This includes 'visual cover' (clutter that makes it hard to spot an opponent) and 'hard cover' (things that block shots and can be hidden behind). Areas with no cover will favour sniping, visual cover can make it easier to sneak up on opponents, and lots of hard cover increases the effectiveness of explosive weapons.

Be sure to take your game's central mechanics into account when designing levels, such as *Titanfall's* wall running or *Splitgate's* portals. Another example is that *Call of Duty's* multiplayer levels tend to feature 70 percent outdoor environments to 30 percent indoor, as this suits its focus on aerial killstreaks. More broadly, you'll want to have played the game a lot so you can take its movement and aiming idiosyncrasies

**“Will it feature death pits, or shadows for sneaking about?”**



into account with your map. For example, *Counter-Strike's* high weapon recoil encourages players to stop and fire, while the deadliness of *Call of Duty's* weapons often means stopping to shoot gets you killed.

### LEVEL STRUCTURE

The initial steps of creating a multiplayer map are much like a single-player one; you sketch out some distinct areas (which I'll be calling 'arenas') and work out how they connect to each other on paper, then move into blocking out the level directly in the editor. Rather than stringing your map together along a central path like a single-player level, though, how you lay out its arenas will dictate the tactics your players can employ and therefore how the map plays.

Fast, non-stop action levels may only have a single arena, with everyone visible pretty much all the time. A fantastic example of this is *Unreal Tournament's* Facing Worlds, with players trying to cross the deadly open ground between two

▲ The iconic Blood Gulch supports so many different play styles, it's gone on to appear under a variety of names in most *Halo* games.

◀ Dave Johnston's *Counter-Strike* map Dust and its sequel have been incredibly popular for over 20 years. You can read about its creation at [wfmag.cc/making-dust](http://wfmag.cc/making-dust).

## OPEN-WORLD LEVELS

Most of these techniques focus on relatively small, self-contained levels, with huge, open environments presenting their own requirements. Perhaps the biggest issue is ensuring players actually meet each other so they can fight, which can be tackled by deliberately creating hotspots that are visible for some distance. Players use these to orientate themselves, and if you cluster weapons or pick-ups near hotspots then players will naturally head towards them. Battle Royale games use their ever-closing wall to push players into the centre, but you could also gradually spawn bigger and bigger weapons towards the middle of the map.

# Toolbox

## Multiplayer level design: the essential techniques

### PLAYTESTING

Testing is extremely important for multiplayer levels, so watch different player counts and skill levels fighting it out. Ensure there are varied routes and approaches, that obvious exploits and 'camping spots' are caught, and that the gameplay is aligned with the casual or competitive audience you planned for. If you can get some code support, you can create heat maps from playtests, with the game marking their position every time a player dies. Load this data into a map and you can see where the main combat hotspots are as well as revealing unexpected death-traps or quiet areas.

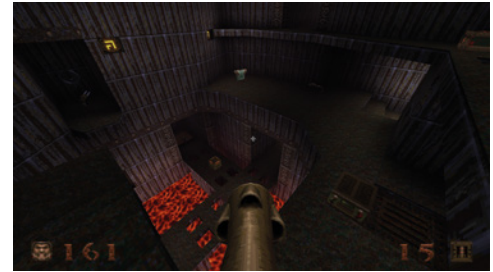
✓ Rather than spreading pick-ups all over, clustering them in key locations will draw players together and into combat, which will then attract more players.

sniper towers. However, this sort of map is too simple for long-term competitive play as that favours more complex maps which have room for players to learn a range of approaches and tactics. You can move your map in this direction by adding more arenas, each connected to the others in one or more ways (more on map traversal later).

As mentioned, adding more arenas will obviously allow your map to cater for larger player numbers, but also forces players to study the level's layout and learn the best routes to get about. You can help with navigation by making each arena visually distinct, so when players spawn, they immediately know where they are.

Also, forcing players to move around is key if you want to avoid them 'camping' from a safe location (which makes your map boring if everyone is doing it). To keep players moving, you can ensure there are multiple routes into each arena so that campers don't know where to look. Also, you can place ammo and other pick-ups in the sections connecting the arenas so that players have to keep shifting between fighting and rearming. High-level competitive play can revolve around players locking down a level's key weapons (by counting how long it takes the weapon to respawn and ensuring they're in place to grab it), so consider whether to enhance or tone this down by making it easy or risky for players to reach each weapon.

**“Multiplayer levels rely on a strong, looping flow”**



▲ An old classic, *Quake's* DM4 is a tight, fast-paced duelling map where audio cues can tell you exactly where your opponent is.

### FLOW IS CRITICAL

While dead ends are OK in single-player levels (though providing a *Dark Souls*-style shortcut back to the action is preferable), they're rare in multiplayer environments. This is because rather than a sequence of areas A to B to C, multiplayer levels rely on a strong, looping flow. Your goal is to ensure that as players move into an area, they have clear options for which direction to go next, without ever running into a dead-end and having to stop and turn around. There are exceptions

– such as placing a powerful weapon in a dead-end that may turn out to be a trap for anyone who risks going in to get it – but in general, you want players to know where they are and what their options are for moving forward. This also means multiplayer levels shouldn't be wildly complex, as getting lost in a sprawling environment again robs players of being able to plan their next move.

Consider how players will traverse your level beyond simply walking everywhere. Waiting for lifts to arrive or doors to open leaves players stalled for a few seconds, but can lead to surprises when an opponent is suddenly revealed. Ladders leave players vulnerable when climbing them, and repeatedly jumping to traverse big 'steps' can get annoying. As an example, *Quake III Arena* ensured players were



▲ With their arena-focused combat, the recent *DOOM* games blend single and multiplayer level design techniques to provide tactical options for their aggressive, constantly moving combat.





always moving by prioritising bounce pads and teleporters over ladders and doors, culminating in The Longest Yard map, which revolved around bounce pads versus rail guns.

## TEAMPLAY

Multiplayer gameplay can encompass free-for-all and team-based deathmatches, but also objective-centred modes like capture the flag. Levels for the latter can either be symmetrical – so you build half a level and then mirror it – or not, meaning each team's half is unique. Asymmetric levels are more interesting as players need to learn the best approaches when they're on team A and team B. Asymmetric maps, however, are much more difficult to balance, needing a lot of playtesting to ensure each team has a fair chance of winning, otherwise players will get upset when forced onto what they perceive to be the 'unfair' side. Study *Overwatch* and *Counter-Strike* levels for good and bad examples of asymmetric level design, with some maps suffering because it's too easy for one side to lock down a critical choke point, leading to the match stalling.

The *Call of Duty: Black Ops 4* level, Lockup, uses verticality to provide an asymmetric experience. One team begins on the roof, putting them in a position of power and forcing the other team to coordinate in order to get up there. Variety is provided by allowing the roof team to drop down and surprise their opponents, plus a variety of ways the roof players can be made vulnerable.

## REALISTIC MAPS

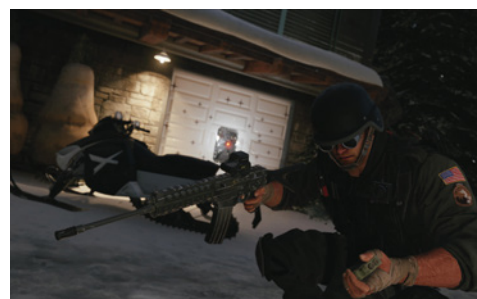
Lockup also demonstrates how you can replicate real locations in your level while still ensuring it

plays well. New mappers often try to build their home, school, or office as a level; it's a fun test, but these maps usually don't play well because they lack flow. When building a real-world level, remember to aim for authenticity, not reality. Study the key features of a location and then use them to influence a strong multiplayer layout, as opposed to crippling your gameplay by trying to slavishly copy a real place.

## CONCLUSION

The above might make it sound like you have to come up with a concrete plan for your level and then move through the steps to execute it, but you may find you get results by blocking out some interesting arenas and seeing what sort of gameplay emerges when you link them together in different ways. You can then go back and optimise the level towards the casual or competitive gameplay style that your new level leans towards, as if you planned it all along.

Creating a multiplayer level is pretty easy, but making a map that keeps players coming back again and again? That's the real challenge. 🎮



## CO-OP LEVELS

Though technically multiplayer, co-operative play leans towards single-player level design as much as the techniques covered here. Two things to look out for are that unless you want to teleport players back together when they enter a new area, you'll need to ensure they 'group up' each time. You can simply require all players stand in an area to proceed, or have several buttons that must be pressed together. Second, try to ensure your levels support multiple players engaging in battle using different tactics, so someone can be at the front while another snipes or flanks enemies.

▲ Choke points are key to team-based multiplayer levels, with attackers trying to push through while defenders hold them. A variety of approaches is a must.

◀ *Rainbow Six Siege's* maps must blend 'real' environments with providing tactical opportunities for each of the game's many Operators.



◀ Our homage to the classic *The Legend of Zelda*.

# Code your own top-down Zelda-like



AUTHOR  
MARK VANSTONE

Make your own tribute to the land of Hyrule

**W**ith 1986's *The Legend of Zelda*, Nintendo created an adventure with a level of freedom not seen in its earlier games. As plucky hero Link, players were able to head off in any direction they chose, slashing enemies with their sword and uncovering secrets dotted around the fantastical world of Hyrule. The original game's success speaks for itself, with an ongoing string of much-loved sequels and spin-offs, while the series, as a whole, has left a lasting impact on game design.

For our Pygame Zero remake, we're going to focus on the original NES version's top-down gameplay. We'll create a map made of blocks that will scroll around as Link explores, and we'll also add some enemies for him to dispatch with his trusty sword.

First, let's generate a *Zelda*-style map. The screen elements are made up of square blocks arranged in a grid. There are squares for trees, rocks, and other types of

terrain, including water. For this example, we'll stick to a small selection of block types, but you can add extra ones yourself. If you need to find graphics for these sorts of retro projects, [spriters-resource.com](http://spriters-resource.com) is worth checking out – the sprites used in our project were created by MisterMike. When designing a map system to represent an area much larger than the screen, we need to store it in a way that isn't just a huge image, so we break it down into blocks. In this case, we'll use blocks that are 50 pixels square, and have our visible map area comprising 16 blocks wide and 10 blocks high.

We could hold all our map data in a large two-dimensional list with each block being represented by a number, but that would mean that even for a fairly small map we'd end up with lines and lines of map data which would be boring to type in. A smarter way of storing this data is to represent the whole map in an image 50 times smaller than the actual map,

with each pixel representing one block. Our ground is represented by black pixels, our trees by green pixels, while rocks are yellow and boulders are red. Then we can read through the area of the minimap image currently shown on screen and translate that to our map blocks.

When we display our map blocks, we'll start drawing from 100 pixels down the screen to leave room for a minimap at the top. So all we need to do for our `drawMap()` function is run through an embedded loop of `x` and `y` values to translate the pixel colours (which we read using the `image.get_at()` function from the Pygame module) into our larger map blocks and blit them to the screen in the correct positions.

The part of the map we're displaying is controlled by the variables `mapx` and `mapy`. If we want to see a different part of the map then we just need to change those values and that area will be displayed on the next draw cycle. To make the map scroll rather than just switch, we have the



^ Link fights a variety of monsters on his quest to find Princess Zelda.



^ The western NES edition of *The Legend of Zelda* came in a gold cartridge.

variables `mapScrollx` and `mapScrolly`. If we set the `mapScrollx` to 16, we can count down with that variable each update cycle and increase the `mapx` value by one each time. This means that in 16 cycles, the viewing area of the map will have moved 16 blocks to the right. We can use the same process for negative scroll values and for the y axis, but in that case, only scrolling 10 blocks at a time.

## HERO TIME

Now we're ready to add our hero. Link will be represented by an Actor object which we start with in the first frame of animation and place him somewhere in the middle of the play area. We draw Link each frame in the `draw()` function, but we'll want to add some extra code in a function called `drawChars()`. To get Link to move around the map, we'll define some keys to move in four directions. We could limit Link so he can only move from one block to the next, but this can make the movement look rather jerky, so we're going to allow

## “We're going to focus on the original NES version's top-down gameplay”

Link to move a couple of pixels each time we detect that a key is held down. This means we need to work out which block he's moving towards, and if it's not a ground block (represented on our minimap by black pixels), we cancel the move. If Link does move, we need to cycle his animation frames using a frame counter, and then allocate an image based on that frame counter and the direction he's facing.

Now we have Link moving around the screen, we need to bring in the scrolling screen function when he reaches the edge. We do this by detecting when he gets to `x<0` or `x>800` or `y>600` or `y<100`. We can then set our `mapScrollx` or `mapScrolly` variables; this will trigger the scrolling mechanism which will take us to the next section of the map. While we're scrolling, however, we need to make sure other objects on the map also scroll so that they remain in the correct position relative to the map.

Once we have Link moving around from screen to screen, we'll want some enemies

for him to fight. We'll make some monsters as Actors and dot them around the map. We want them to move around a bit, so we can add some logic in the update cycle to move them towards Link if they're on the screen at the same time. We can test for block collision the same way we do for Link.

Next, we'll need to add Link's sword-fighting ability. We'll have the sword appear when the `SPACE` bar is pressed by making the sword as a separate Actor. There are four different images for the four directions, although the same effect could be done by changing the angle of the sword Actor. When this animation's running, we can test to see if there's a collision with any of the monsters, and if so, trigger a change of state so they're dispatched. We change the state of the monster from 10 to 9, which we then use to count down during the update while turning the Actor around, and when that state reaches zero, the enemy's no longer displayed.

The last part we'll cover is the minimap in the top left of the screen. This is an indicator of where Link is on the larger map, so all we need to do is translate his coordinates on the large map down to the size of the minimap and plot a square.

And that's it – we have the basics of a top-down *Zelda*-like! There are all kinds of elements you could add – potions and other useful items, more enemies, secret paths, and so on – but as always, we'll leave those for you to dream up. 🎮

## A mini Hyrule in Python

Here's Mark's code for a top-down *Zelda*-like. To get it working on your system, you'll first need to install Pygame Zero – full instructions can be found at [wfmag.cc/pgzero](http://wfmag.cc/pgzero).



```
import pgzrun
import math
from pygame import image, Color

link = Actor("link_1", center=(400,400))
link.frame = link.movex = link.movey = link.dir = link.testx =
link.testy = 0
sword = Actor("sword_1", center=(400,400))
sword.frame = sword.dir = 0
myDirs = [(0,1),(-1,0),(0,-1),(1,0)]
monstersXY = [(1325,375),(1025,-225),(300,-225),(1925,-
225),(1925,375)]
monsters = []
for m in monstersXY:
    monsters.append(Actor('monster_1', center=(m[0], m[1])))
    l = len(monsters)-1
    monsters[l].state = 10
    monsters[l].frame = monsters[l].movex = monsters[l].movey =
monsters[l].dir = monsters[l].testx = monsters[l].testy = 0

mymap = image.load('images/map.png')
mapx = 0
mapy = 10
mapScrollx = 0
mapScrolly = 0

def draw():
    screen.clear()
    screen.blit("logo", (612,10))
    screen.draw.text("W, A, S, D TO MOVE", center= (440, 30),
color=(0,255,0) , fontsize=30)
    screen.draw.text("SPACE TO USE SWORD", center= (440, 70),
color=(0,255,0) , fontsize=30)
    drawMap()
    drawChars()

def drawMap():
    xttest = math.floor(link.x/50 + (link.movex))
    yttest = math.floor((link.y-100)/50 + (link.movey))
    for x in range(16):
        for y in range(10):
            col = mymap.get_at((x+mapx,y+mapy))
            if col == (0,255,0): screen.
blit("tree", (x*50,(y*50)+100))
            if col == (0,0,0): screen.
blit("ground", (x*50,(y*50)+100))
            if col == (255,0,0): screen.
```

```
blit("boulder", (x*50,(y*50)+100))
            if col == (255,255,0): screen.
blit("rock", (x*50,(y*50)+100))
    maprect = Rect((10, 10), (266, 80))
    screen.draw.filled_rect(maprect, (100, 100, 100))
    mx = (mapx*50)+link.x
    my = (mapy*50)+link.y
    linkrect = Rect(((mx/12)+10, (my/12)), (4, 4))
    screen.draw.filled_rect(linkrect, (0, 255, 0))

def drawChars():
    link.image = "link_"+str(((link.dir*2)+1)+math.floor(link.
frame/10))
    if sword.frame > 0 and sword.dir == 2:
        sword.draw()
    link.draw()
    if sword.frame > 0 and sword.dir != 2:
        sword.draw()
    for m in monsters:
        if onScreen(m.x,m.y) and m.state > 0:
            if m.state < 10:
                m.angle += 10
                m.state -= 1
            if m.state == 10: m.image = "monster_"+str(((m.
dir*2)+1)+math.floor(m.frame/10))
            m.draw()

def update():
    global mapScrollx, mapScrolly, mapx, mapy
    checkInput()
    moveChars()
    if(mapScrollx > 0): mapScroll(1,0)
    if(mapScrollx < 0): mapScroll(-1,0)
    if(mapScrolly > 0): mapScroll(0,1)
    if(mapScrolly < 0): mapScroll(0,-1)
    if sword.frame > 0:
        if(sword.frame > 5):
            sword.x += myDirs[sword.dir][0]*2
            sword.y += myDirs[sword.dir][1]*2
        else:
            sword.x -= myDirs[sword.dir][0]*2
            sword.y -= myDirs[sword.dir][1]*2
            sword.frame -= 1
    for m in monsters:
        if m.collidepoint((sword.x, sword.y)):
            m.state = 9
```



```

def mapScroll(x,y):
    global mapScrollx, mapScrolly, mapx, mapy
    mapx += x
    mapScrollx -= x
    link.x -= x*50
    mapy += y
    mapScrolly -= y
    link.y -= y*50
    for m in monsters:
        m.x -= x*50
        m.y -= y*50

def checkInput():
    if keyboard.a: link.movex = -1
    if keyboard.d: link.movex = 1
    if keyboard.w: link.movey = -1
    if keyboard.s: link.movey = 1

def on_key_down(key):
    if key.name == "SPACE":
        sword.frame = 10
        sword.dir = link.dir
        sword.image = "sword_"+str(sword.dir)
        sword.x = link.x + (myDirs[sword.dir][0]*30)
        sword.y = link.y + (myDirs[sword.dir][1]*30)

def moveChars():
    global mapScrollx, mapScrolly, mapx, mapy
    getCharDir(link)
    if link.movex or link.movey:
        link.frame += 1
        if link.frame >= 20: link.frame = 0
        if link.movex == 1:
            link.testx = round((link.x-48)/50 + (link.movex))
        else:
            link.testx = round((link.x)/50 + (link.movex))
        if link.movey == 1:
            link.testy = round((link.y-148)/50 + (link.movey))
        else:
            link.testy = round((link.y-100)/50 + (link.movey))
        testmove = (link.testx+mapx, link.testy+mapy)
        if mymap.get_at(testmove) == Color('black'):
            link.x += link.movex*2
            link.y += link.movey*2
        link.movex = 0
        link.movey = 0
        if link.x > 800 and mapScrollx == 0:

```

```

        mapScrollx = 16
        if link.x < 0 and mapScrollx == 0:
            mapScrollx = -16
        if link.y > 600 and mapScrolly == 0:
            mapScrolly = 10
        if link.y < 100 and mapScrolly == 0:
            mapScrolly = -10
    for m in monsters:
        if onScreen(m.x,m.y) and m.state == 10:
            if (m.x > link.x+50):
                m.movex = -1
                m.testx = round((m.x)/50 + (m.movex))
            else:
                if (m.x < link.x-50):
                    m.movex = 1
                    m.testx = round((m.x-48)/50 + (m.movex))
            if (m.y > link.y+50):
                m.movey = -1
                m.testy = round((m.y-100)/50 + (m.movey))
            else:
                if (m.y < link.y-50):
                    m.movey = 1
                    m.testy = round((m.y-148)/50 + (m.movey))
        getCharDir(m)
        if m.movex or m.movey:
            m.frame += 1
            if m.frame >= 20: m.frame = 0
            testmove = (m.testx+mapx, m.testy+mapy)
            if mymap.get_at(testmove) == Color('black'):
                m.x += m.movex*2
                m.y += m.movey*2
            m.movex = 0
            m.movey = 0

def getCharDir(ch):
    for d in range(len(myDirs)):
        if myDirs[d] == (ch.movex, ch.movey):
            ch.dir = d

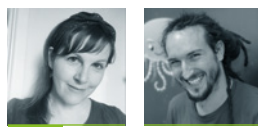
def onScreen(x,y):
    if(x>0 and x<800 and y>100 and y<800): return True
    return False

pgzrun.go()

```

# A guide to recognising your shaders

What are shaders, and how can you create them without learning to code? The team behind *Going Medieval* have the answers



**AUTHORS**  
**HELEN CARMICHAEL AND VLADIMIR ZIVKOVIC**

Helen Carmichael is a UK-based game developer, and the writer on *Going Medieval*. She's co-owner of Grey Alien Games. Vladimir Zivkovic is co-owner and developer at Foxy Voxel, the studio behind the colony sim, *Going Medieval*. He's based in Novi Sad, Serbia.

**G**oing Medieval is a voxel-based, colony-building sim set in an alternate medieval Europe. Despite our studio's previous development experience, we were novices in using shaders in a 3D game. Here, I'll explain how we got the effects we wanted using a shader editor and some of the tricks we picked up along the way. Before all that, though, let's look at exactly what a shader is...

### WHAT'S A SHADER, THEN?

The term 'shader' was coined by 3D animators at Pixar in the late 1980s, and eventually became more widely available in the computer

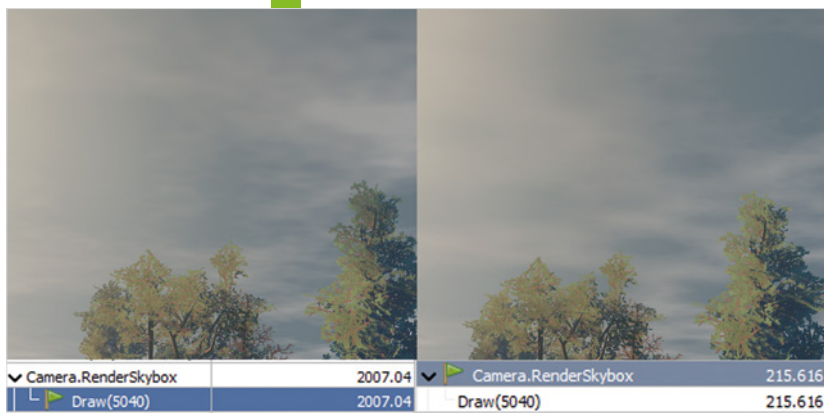
graphics cards of the early 2000s. Shaders are scripts that are typically coded for and run on a computer's graphics processing unit (GPU). The GPU continuously takes instructions from your shaders to determine the changing colour of each pixel on the screen.

There are two basic types of shaders. There's the pixel shader, in which the traits of a pixel are described (colour, Z-depth, and alpha value), and a vertex shader, responsible for defining the position and colour of a vertex – the point where two or more lines or rays come together.

Other types of shader you may encounter include compute shaders, which run on the graphics card outside the normal rendering pipeline, and are used for massively parallel GPGPU algorithms, or to accelerate parts of game rendering; and geometry shaders, which have the unique ability to create new geometry on the fly using the output of a vertex shader as input. Shader nodes are mathematical calculations that translate the values, colours, and vectors into parameters for the render engine to understand.

Shaders were historically coded in a special shader language, such as Cg or HLSL. The conventions for these languages are different from typical scripting for games, and use GPU logic rather than processor logic. As a result, writing shaders is arguably a neglected area of game development compared to some other specialisations.

▼ Left: using Amplify Shader Editor Voronoi node to generate clouds. Right: using a Photoshop noise texture. The difference in performance is considerable.





◀ The zoom out glow turned on (left) and turned off (right). Certain clothes on the settlers are almost invisible in the cloud shadows without this glow effect.

## STARTING FROM SCRATCH

Before I began developing *Going Medieval*, I had zero experience of using shaders. One of the key factors in deciding to make *Going Medieval* was to figure out our team's capabilities, and then ask 'Is it going to look good enough?'. We didn't want to hire a large art team, and high-end art wasn't one of our design pillars – our focus was on gameplay and systems. For the purposes of pinning down the design, I asked myself, 'How can we make a game where I can make all the art in, say, five weeks?' Let's make something low-poly; a project where the pipeline can be controlled by a small team of maybe two or three people.

Our experience of how shaders worked came from using programs like 3D Studio Max, Maya, and Blender. With these programs, you can model how materials interact with light (whether they're shiny or dull), and apply textures. Shaders determine how the appearance of a material varies with the angle of the light, among other things. The topic of shaders can be daunting for some people. I'm not a programmer, so I don't code my shaders – in fact, I know experienced coders who still prefer to use shader editors, because shaders require such a specific type of programming.

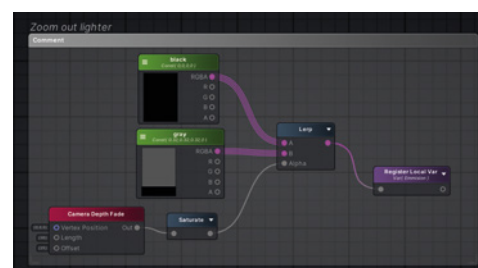
I looked at a couple of tutorials and understood the programming basics, but I decided this wasn't a good use of my time. Of course, if you're able to learn how to code shaders, then you could do far more than you can with a shader editor, but

for our purposes, the editor did a great deal and delivered what we needed for our project.

## WHY NOT USE UNITY SHADERS?

*Going Medieval* is made in Unity, which has its own shaders. We started out using these, and the first problem we had was that we needed a specific shader to use with voxel-based terrain. As we went along, we started searching for other shaders online – we needed a transparent one, and one that would pulsate and glow... after some hand-animating and scripting specific properties, we thought: is there an easier way to do this?

First, I experimented with Shader Graph, a tool in Unity that allows you to write shaders with minimal or no coding. It works pretty well, but the problem at the time was it only supported the Universal Render Pipeline (URP) and the High-Definition Render Pipeline (HDRP), and we had problems with those because they were in early →



◀ An example of the nodes used to achieve the glow effect.

## Toolbox

A guide to recognising your shaders



▲ Trees, grass, bushes, and cloth flutter in the wind together thanks to a global variable.

▼ A noise texture panning over the elements that vertices will be offset by. The panning speed is the speed of the wind.



phases of development. We therefore reverted to the Built-in Render Pipeline (BIRP), but this didn't work with Shader Graph. We also had a few concerns about how often this software would be updated and whether we would be blocked by it at some points (although it has actually been nicely updated and works well, as it turns out). At any rate, we decided to try the Amplify Shader Editor, and then the fun began.

The team that makes Amplify Shader Editor helped us a lot. They're responsive on Discord, and have a great system where if you select a bunch of nodes in Unity, copy them, and paste them in chat, it will reply with a link. Pasting that link in Unity will copy those nodes. It's user-friendly for support issues.

### GPU USE

Because I didn't know what I was doing to begin with, we made a lot of complex shaders that did some interesting stuff. But these turned out to be pretty overpowered, and debugging shaders isn't particularly straightforward. Some coders will go into the graphics card to debug it (in OpenGL), to find out what part of the graphics card is working hardest. I couldn't jump to that level.

A solution I used is a program called RenderDoc ([renderdoc.org](https://renderdoc.org)) which integrates with Unity and offers an assessment of how many nanoseconds a single item on screen takes to draw. This helped a lot, because, within the Amplify Shader Editor, there are a lot of nodes you can combine, and some nodes have a higher cost in GPU usage than others. Here's an example: Amplify Shader Editor can generate a Voronoi noise texture, which is great for clouds. It's mathematical, it's crisp, and it turns out to be really heavy on the GPU. Replacing it with a simple noise texture from Photoshop worked wonders for our game's performance. Of course, that's not to say there wouldn't be cases for using the Voronoi texture, but in an RTS where you don't see much of the clouds, it didn't really make sense.

Another area where I initially went overboard was in making a unique shader for every item in the game. This is expensive in terms of GPU use because the game has to jump from shader to shader as it draws items on screen. In fact, the ideal is to have as few shaders as possible, even though most GPUs are powerful and can



^ Notice how the pine branches have a slight downward tilt during winter because of the snow.

v A Fresnel effect (top) helps pick out settlers standing in shadows. Without the effect (bottom), the settlers are barely visible if they're not in direct sunlight.

do a lot. To find the sweet spot, a good approach is to carry out your debugging on a minimum specification PC (ours had an Nvidia 650, a graphics card that has been around since 2012).

### RETRO VISUAL GOALS

We wanted *Going Medieval* to be stylised and eye-catching. We also wanted it to be 'retro', and capture a late-1990s or early 2000s nostalgia for 3D games. Iron Gate Studio's *Valheim*, developed roughly around the time *Going Medieval* was, did what I was trying to do, but much better! It had that nice retro feel, but with all the bells and whistles seen in modern games.

In early 2000s 3D games, developers used a few interesting tricks, such as billboards – a type of visual asset that's always facing the camera. A lot of games would use this to save polygon count. In other cases, coders would use a PNG of a sphere, and it would always turn towards you. Sometimes you can tell that it's not really a sphere, but I used that type of technique in the game from time to time. It wasn't that we needed the polygon count to be lower, it was more of a nice solution to that problem which added to the retro feel.

### CONTRAST AND GLOW

One of our inspirations for *Going Medieval's* art style was *The Legend of Zelda: Breath of the Wild*. I love its combination of cel-shaded and realistic textures that make everything readable on screen, which is important when working

with non-realistic graphics. Thinking about hue and saturation is key – in earlier builds of *Going Medieval*, we had things that looked nice individually but didn't work on screen.

Together with our artist, I looked at the game in black and white in order to understand contrast. This is one area where custom shaders helped; we had an issue with picking out individual

settlers when zoomed out, but adding a subtle glow that increases as you zoom out solved this. Enemies also have a glow, but they

glow in red. It was important for them to be clearly readable.

### IT'S IN THE TREES

A lot of shader work went into the trees in *Going Medieval*. I wanted to have a wind effect on everything in the game, and there are shaders that already do that by making things wobble around. But I wanted to have more control over →

**“A good approach is to carry out your debugging on a minimum spec PC”**

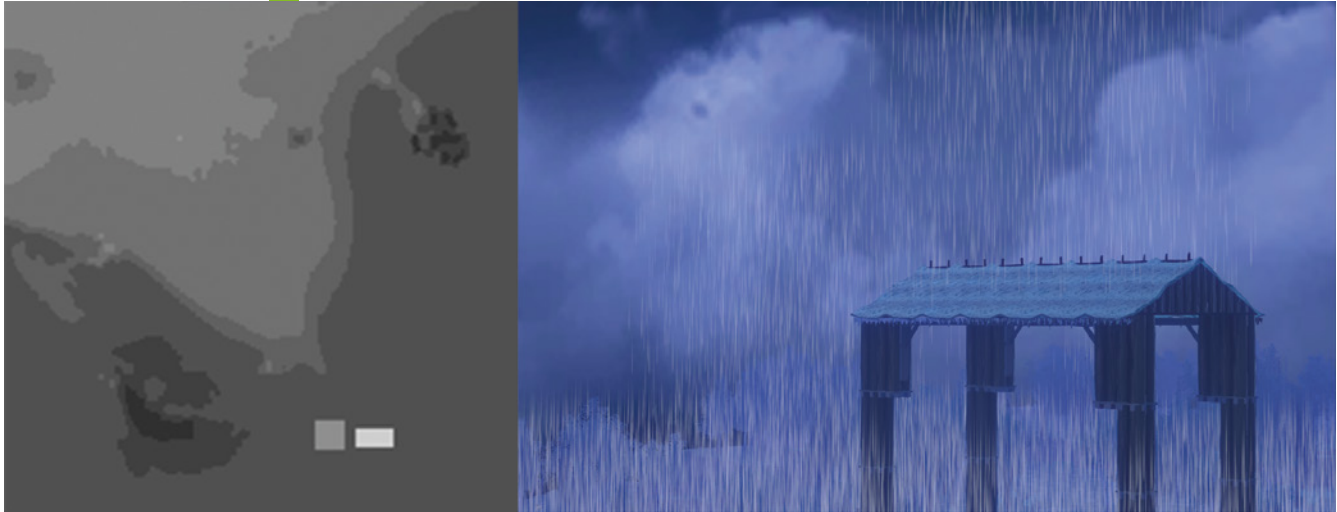
### FANTASTIC FRESNEL

We used the Fresnel effect a fair bit in *Going Medieval*. Fresnel relates to the angle of incidence, where light bouncing off a surface at a steep angle has a weak reflection relative to light hitting at a shallow angle, which reflects more strongly. This effect can result in the edges of an object glowing a bit more. The Amplify Shader Editor allowed us to control this relative to the time of day so that buildings 'shine' a different amount by the hour. This needed fine-tuning depending on the camera angle so that buildings didn't look 'plasticky' at a low camera angle. Games like *League of Legends* and *Valorant* also use Fresnel in their own ways; you can find out more about the former at [wfmag.cc/fresnel-league](http://wfmag.cc/fresnel-league) [PDF] and the latter at [wfmag.cc/fresnel-valorant](http://wfmag.cc/fresnel-valorant).



# Toolbox

A guide to recognising your shaders



^ Rain is offset by the heightmap. The brightest square on the heightmap on the left is the roofed structure in the image on the right.

^ The Fresnel effect isn't used on top surfaces to avoid a 'plastic' look (left). Right: with Fresnel. Note how structures with flat surfaces look strange with this top-lit effect.

it, so I created the effects in Amplify. It's a step-by-step process, and there are some good tutorials around. We wanted to do a couple of things to our trees using shaders:

1. React to the wind. This is done using a vertex shader that displaces the tree so that it appears to sway. The alternative is to actually animate your trees – but that is horrible because it's CPU-heavy. Vertex shaders, on the other hand, are cheap in terms of processing power, are widely used in games, and can work wonders on a lot of things, including flags, grass, and so on. We can tie
2. React to the season. Leaves emerge, grow, and eventually turn to autumn colours, finally fall, and we see branches laden with snow. These are also achieved within the shader, and tied to a global variable relating to seasons. We can do other things with that, including vary the colour of the terrain, and change the seasonal look of evergreen trees.

these to a global weather manager variable, and vary the wind speed universally, too. Game items then sway or flutter in the wind in concert.



*The Witcher 3: Wild Hunt* made clever use of vertex shaders to make its swaying trees, though I noticed that all of its trees sway in the same way whether or not they have leaves. Thinking about this helped me decide to vary the swaying of my own trees depending on leaf cover, whether they're weighed down with snow, and so on. It may seem odd to have this smorgasbord of inspiration, from *The Witcher* to *Breath of the Wild*, but each game had specific components that I learned from, which fed into the eventual feel of *Going Medieval*.

## SEASONS, WEATHER, AND DAYLIGHT

Unity's lighting system is pretty good. But here's what we did from a shader standpoint: in any script, you can make a global variable, and you can tell any shader to listen to that variable. So, we made a 24-hour clock, and all of the shaders



listened to that 24-hour variable, and we could associate anything to it. For instance, I noticed our settlers would become lost in the shadows in the hours close to darkness, around dawn and dusk. At those times, we made them glow a bit more.

Initially, I thought I'd make a particle system to make rain over the whole map – but then I realised making millions of rain particles in Unity was a bad idea. The next solution was to make the rain only fall in front of the camera. It looked fantastic – until you paused the game. Then all of the droplets moved with the camera, which looked ugly.

Finally, one of our programmers wrote a small geometry shader and a small compute shader, which draws just one droplet and copies it millions of times. This isn't drawn within the world: it's drawn 'over' everything. It also uses the height of the terrain and any roofs, and offsets the height of the precipitation by that amount. Helpfully, this means it doesn't rain or snow indoors. If you could see the topology of the rain, it would be quite strange, mapping the shape of the surfaces in the game, but all of this is hidden from the player!

This solution means that when you pause the game and travel through space, you also travel through the rain or snow, giving the impression that it's falling around you. It's not necessarily a problem that you can find a lot of information about online, since different teams have a variety of creative solutions. 🌧️

## FURTHER INFO

VFX artist Simon Trümpler's website is an interesting portal of tech art, VFX, and shader tricks. Many examples are in Unreal Engine, but most of the logic can be transferred over to Unity and Amplify Shader Editor: [wfmag.cc/game-tricks](http://wfmag.cc/game-tricks).

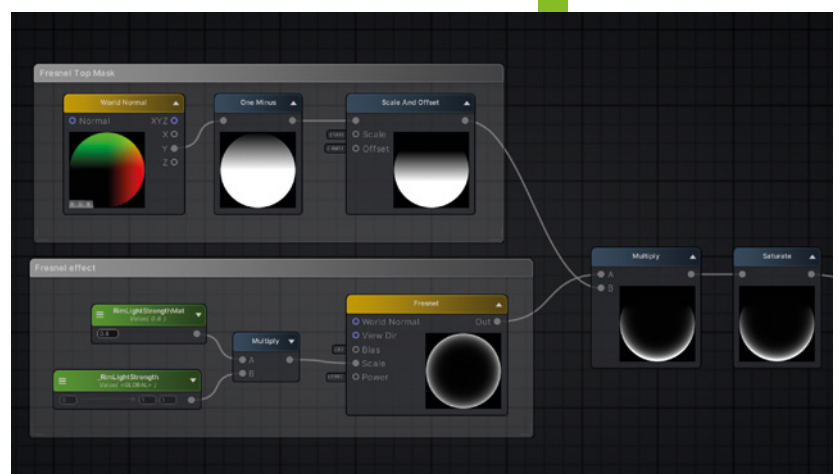
There's tons of useful information and a helpful bunch of people on the Amplify Discord: [wfmag.cc/amplify-discord](http://wfmag.cc/amplify-discord).

The Amplify Shader Editor wiki has some useful information regarding how to use the editor, including tutorials: [wfmag.cc/amplify-wiki](http://wfmag.cc/amplify-wiki).

You'll find a solution for rain particles not falling inside or under roofs in this YouTube video: [wfmag.cc/rain-roof](http://wfmag.cc/rain-roof).

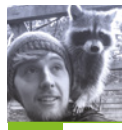
▲ Left: Fresnel effect added to make the production structures pop out in any lighting conditions. Right: Fresnel effect turned off: structures lose visual clarity when in the shade.

▼ An example of the Amplify Shader Editor nodes we use for our Fresnel effect.



# How to plan a story mission

Writing a narrative sequence for a game today is no mean feat. This month, Antony outlines his process for success on *Worlds Of The Future*



**AUTHOR**  
**ANTONY DE FAULT**

Antony is Wireframe's writing and narrative design columnist. He's also a freelance video game storyteller, and you can find his work on [default.games](#) or [@antony\\_de\\_fault](#) on Twitter.

**T**hese days, audiences have upped their expectation for game stories, and ever-more complex game worlds now have oodles of features beyond the classic combat and exploration. This means that game stories are increasingly having to find reasons for the player to be engaging with all these myriad activities in order to justify their existence. For example, a sci-fi game may have entirely different combat in spacefaring vehicles versus on foot, so now the writers need to find reasons to include a bit of both. Crafting, navigation, branching conversation, playing an instrument, municipal planning, cargo management, drug-taking, racing: all have featured prominently in modern action games. It's not a bad thing, but it is challenging.

Balancing these many competing features while also trying to tell a good, affecting story requires a thorough process. Without a process, if you simply start writing or designing, hours later you'll have something which has neglected the majority of the game's features and themes. You'll be off-brief. So how do we avoid this?

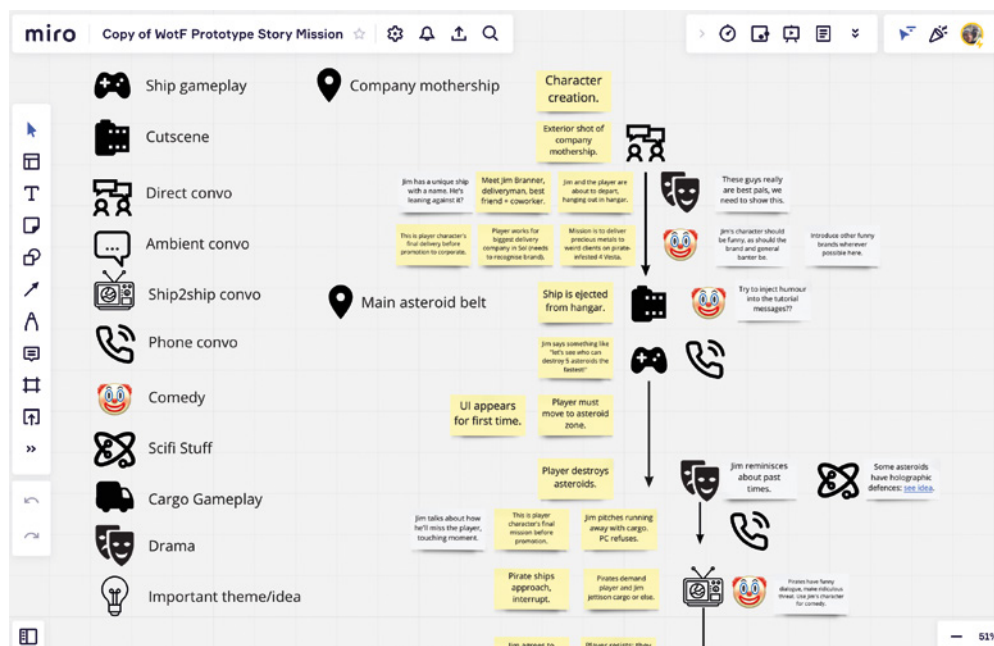
## STEP 1: DEFINE

Recently, I've been working on a game called *Worlds Of The Future*. It's a seamless open world simulating our solar system in which you run a delivery company and go on comedic adventures. To me, it's *Futurama* meets *No Man's Sky*. Myself and the game's director Marc Fabricius have worked together on creating a process for writing missions which allows us to stay on-brief and (we believe) at good quality, all while over video chat. The first thing we did was create a list in a shared Google Doc of all the different 'critical elements' of the game. This includes gameplay modes, such as 'shuttle combat' and 'delivery mechanics', and thematic or tonal elements such as 'comedy', 'drama', or 'the world is better than today'. These are defining qualities that should be consistently present throughout. Next, each mission needs some stated goals. Some of these might be recurring, some might be specific to that chapter of the game. An opening mission might have unique goals such as 'establish the tone of the game immediately' and 'tutorialise as much gameplay as possible', while also having some generic goals like 'meaningfully advance the plot' and 'demonstrate a complete narrative loop'.

✓ Space games are, of course, mostly empty. In *Worlds Of The Future*, we're experimenting with ways to put adventure right in your path.







Once we had our list of (in our case, 30) critical elements and goals, we put these aside and started on a 'beat sheet'. This is a scene, act, or entire story reduced to bullet points. Each 'beat' represents a forward movement of the story, such as 'R2-D2 runs away', then 'Luke and C-3PO track him', followed by 'all are ambushed by Raiders'. The scale of these beats is flexible, so when beat-ing an individual scene they may be minor moments, whereas, in a whole game's sheet, you'd describe major plot points.

### STEP 2: BEAT

In our first case, we dug out a rough story idea and loaded up an online whiteboard tool. This is very important. A tool like Miro is better than a word processor for this, as the ability to place and rearrange ideas is vital. We then started bullet-pointing the mission idea with virtual Post-it notes in as simple terms as we could, settling unconsciously into a vertical timeline arrangement. Each 'line' represented a major moment in the sequence. Immediately, some holes became apparent where an explanation of how the player gets from one beat to another was missing, so we plugged them. In a short time, we had a complete 'sheet' representing the mission.

A key principle in story planning is that you should be able to read the entire document from start to finish without getting bored; if that happens, add, remove, or rearrange until it stops happening. We gave it a few reads, made some adjustments, then moved onto the true task of making it meet the brief. As it was, we weren't

bored, but it wasn't yet fully representative of what the game was going to be.

### STEP 3: TAG AND REVISE

This is where our critical elements come in. We found an icon to represent each critical element, and created a legend of them next to our beat sheet. We then tagged up the entire mission with our icons, indicating where there was comedy, where there was combat, where the themes were coming through, and so on. Immediately, we could see that we'd forgotten to include cargo mechanics, so we changed a beat to require their use. The game's themes were hardly being communicated, so we found ways to alter lines and slip in extra context to lace the themes throughout. We went over it repeatedly until we were satisfied that as many critical elements were featured as plausible, and every goal was met.

Now, this shouldn't mean that every critical element is present in every mission. It's perfectly reasonable to consider an element and decide it's not appropriate for the context. The goals should absolutely be met, but the critical elements aren't intended to be prescriptive – you should simply be looking for opportunities to include them.

Often, these occur naturally when you choose to focus on them in this way, but you shouldn't force it. In the end, we included 26/30 of ours and came away with a plan we have confidence in. But the real result is a process. We know we can follow this process repeatedly, and it will produce a cohesive body of content for the game. Not bad for a list and a whiteboard. 🗺️

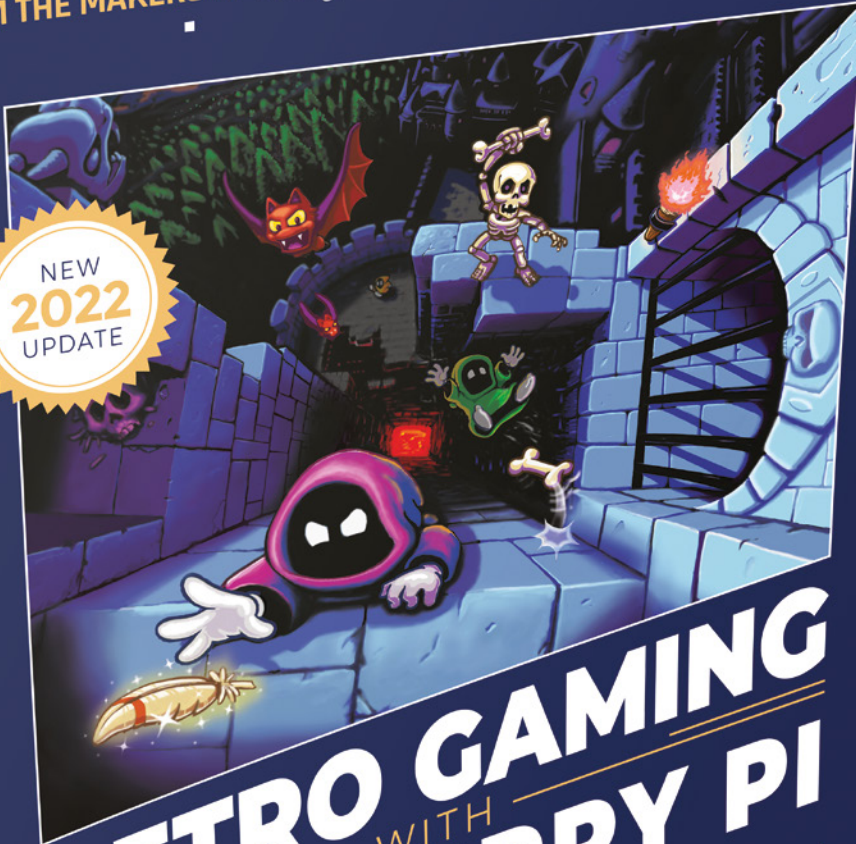
◀ This is about a quarter of the mission. You can see how we developed a loose logic for tagging, and indicating time and location.

## THE IDEA

Ideas are a dime a dozen, and ten minutes of uncritical brainstorming can usually produce a few usable ones, no matter who's involved. There are better ideation methods than that, from 'crazy eights' to synectics, but in the end, a new story idea is a bit like a lump of clay: ugly, wet, and rarely worth a second glance. The important work is shaping it into something that is both beautiful and functional.

FROM THE MAKERS OF *The MagPi* THE OFFICIAL RASPBERRY PI MAGAZINE

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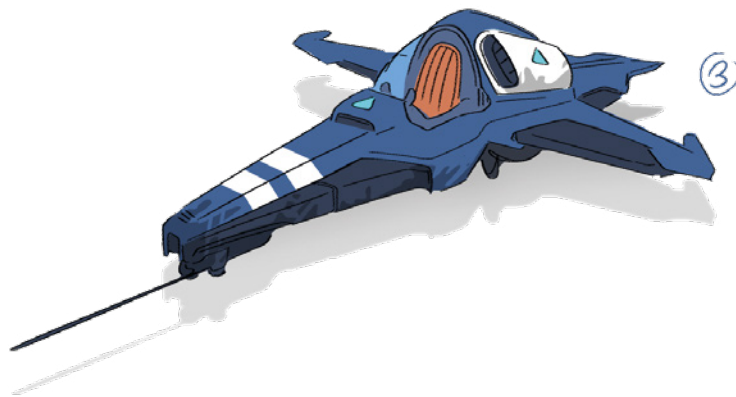
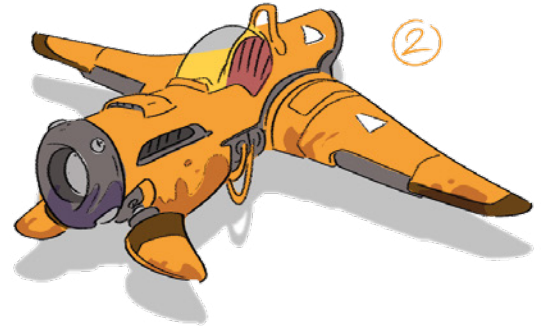
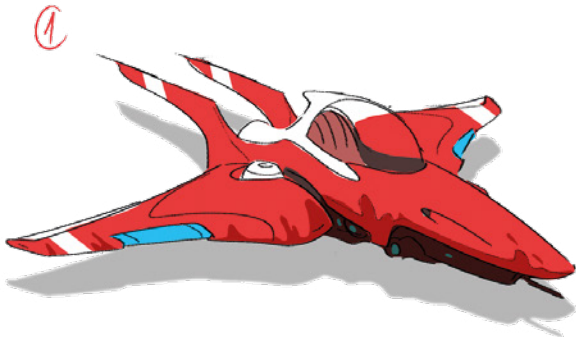
## XEL

READ  
MORE  
turn to  
page 16

As you'll have seen in our preview on page 16, *XEL* is an action-adventure firmly in the *Zelda* mould. But rather than taking place in a fantastical world like Hyrule, its story unfolds on a mysterious planet (the titular XEL) whose high-tech civilisation has long since vanished. For its visual style, the team at German studio, Tiny Roar, looked to the bold colours and shapes of modern anime, explains *XEL* art director Robert Koch. "We don't want to be dark and gritty; instead, we use vibrant colours and exaggerated shapes that make the world pop," he tells us. "Details, realistic textures, or realism weren't important to us; instead, we want to keep it stylised in every regard and focus on the important parts of the world."

That bold style can be seen in the designs dotted around each page: all of them, from lead character Reid to her spacecraft to smaller NPCs, have a unique silhouette that makes them immediately distinguishable from each other. "Each character should feel like a living person with emotions, preferences, and needs," says Koch. "It's extremely important that our characters can speak for themselves just by the visual look and animation style. Pushing their strengths but also showing their weaknesses or unique traits are key factors in creating believable characters."





GAME  
XEL

DEVELOPER  
Tiny Roar

RELEASE  
Q2 2022

WEBSITE  
[tinyroar.de](http://tinyroar.de)



# NFTs & VIDEO GAMES:

no flippin' thanks?

They're either the future of gaming or its death knell, depending on who you speak to. Here, several industry figures give their take on this divisive tech

WRITTEN BY  
DAN COOPER



◀ *Axie Infinity*, developed by Vietnam's Sky Mavis, purports to let its players earn an income from its crypto-based economy.

**F**or better or worse, 2021 was the year non-fungible tokens, or NFTs, entered the video gaming mainstream.

Multiple studios began to embrace blockchain technology, many of them assuring gamers that non-fungible tokens would revolutionise the medium. With gamers spending increasing amounts of their lives in online worlds, the opportunity to share 'ownership' of those spaces might, the thinking goes, seem appealing.

In reality, however, a sizeable subset of gamers – perhaps wearied by years of loot boxes and pay-to-win business models – have reacted with suspicion and even hostility to NFTs. While the response in the indie sector has been somewhat different, the triple-A gaming space has witnessed a furious revolt from players, in part because early implementations of the technology have more than a whiff of microtransactions 2.0 about them.

Atari has already combined its technology with loot boxes to promote its 50th anniversary. Ubisoft became the subject of much ire and ridicule following the news that its *Ghost Recon Breakpoint* NFT promotion appeared to have amassed only a few hundred dollars in resales. Although Ubisoft pointed out that its *Breakpoint* NFTs weren't designed to make the company money, it's clear that the promotion was intended to gauge interest in a wider NFT launch across some of the publisher's more profitable titles.

Defenders argue that blockchain gaming could potentially offer value to gamers – not least by allowing, in theory, ownership and resale rights over digital games – but so far, publishers have largely focused on cosmetic items and loot boxes. This has, in turn, bred a certain amount of distrust among players, many of whom reject the technology outright. "Gamers are always sceptical about new ways for publishers to monetise," says Stephanie Llamas of VoxPop, an industry analyst in the sector. "Monetisation has sometimes been perceived as almost predatory in the past, and gamers are notoriously wary of this."

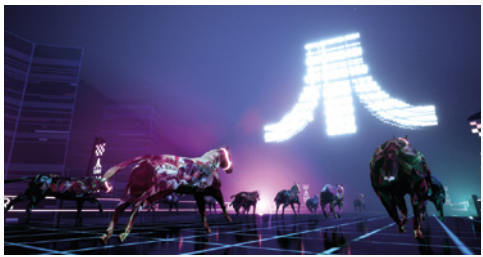
**TRUE DIGITAL OWNERSHIP?**

Cutting through the perceived negativity won't be easy, but several studios are making the attempt. Blowfish Studios' upcoming action RPG, *Phantom Galaxies*, promises to offer space battles in starfighters that transform into giant mechs. Players will own their generative avatars and ▶

**NFTS: WTF?**

For the uninitiated, NFTs (or non-fungible tokens) are items with unique digital signatures that exist on the blockchain. In short, that means that a digital item contained within an NFT, such as an avatar, an in-game cosmetic, or that fetching legendary-class Stetson you've been grinding for, are owned by you, rather than the game.

In theory, that item could then be placed on a digital marketplace to earn a profit, or it could be ported over to another game that supports NFTs – not that Tony Hauber's entirely sold on the likelihood of this latter claim coming to pass. "Will I be able to take an item which has any kind of property in one game, and take it to another game? Extremely, extremely unlikely. Throw that idea out: we're nowhere near that happening. What could happen then? You could take your avatar from one game to another game that uses the same engine – that's reasonable, that's within the realm of possibilities."



▶ Atari's recent NFT sale of racing skins raised over \$400,000 on the OpenSea digital marketplace.

## Interface

NFTs and video games: no flippin' thanks?

► You could learn to play Mozart's *Requiem in D minor* quicker than winning a cosmetic NFT in Ubisoft's *Ghost Recon*.



## A GREENER BLOCKCHAIN?

While the Ethereum 2.0 blockchain promises advances in energy consumption, one of the concerns regarding the emerging tech is its power consumption. Tony Hauber considers the environmental impact of deploying *Nifty Villages* on various blockchains: "I haven't decided which chain I'll deploy on. It likely won't be Ethereum. Polygon is an option, but so are some proof-of-stake chains like Polkadot, Tezos, or Cardano. I'm also considering running my own chain for just the game. Currently, though, prototypes will be built on Polygon. I also think chains need to abandon proof of work as the driver of consensus; it will never scale speed or energy consumption. I also think if more citizens took control of their energy consumption and started producing renewable energy, we'd solve this problem faster than regressing technology would."

upgradeable mechs as NFTs, meaning they retain control over them. As the game develops, this will allow players to add value to their in-game assets through playtime and upgrade systems. If they so choose, they'll be able to place their NFTs on a digital marketplace to sell, netting them cryptocurrency profit for the time they've spent playing the game.

Where publishers like Ubisoft and Atari have pounced on the speculative aspects of the NFT market, Blowfish is eyeing a longer-term vision. "I'm not here to make you money," asserts Ben Lee, the studio's co-founder and managing director.

"I'm here to make you a great game, to get you to play the game. If it challenges traditional asset ownership, if you're participating and you're making money out of that, then that's great. But what we're here for is to make games that are fun, that people will play no matter what kind of monetisation is there."

One challenge Blowfish has faced so far is Valve's decision to block all NFT-based games from Steam, which has meant that *Phantom Galaxies* will have to find its audience without the help of the gaming's largest digital storefront. "Steam [was] kind of saying we don't want your blockchain game on here," says Lee. "We had to go and build our own distribution, so you can get the game off our web page."

Despite the scepticism from some quarters, though, Tony Hauber – developer of the cheekily titled *Nifty Villages*, an upcoming resource and crafting-based NFT title – believes the technology itself isn't inherently problematic. "I always think of crypto and NFTs as a hammer," he says. "You can use a hammer to build something, or you can use it to bash in somebody's skull. Does that make the hammer evil? No, it just gives the wielder power to do evil or good things with it."

**"I always think of crypto and NFTs as a hammer"**

'Evil' might sound like a strong word, but reports of so-called 'play to earn' models, such as *Axie Infinity*, where grinding the game can accrue

real-world value to NFTs, are cause for concern. Research and consulting firm Naavik published a report in 2021 concluding that *Axie Infinity's* in-game economy (where players pay an upfront cost amounting to hundreds of dollars for NFT 'Axie' avatars, before adding value within the game to them), was 'unsustainable'.

If *Axie Infinity's* economy was entirely in-game, nerfed by developers to promote grind, or push players towards microtransactions, that would be one thing. Because *Axie's* economy has real-world implications, its high entry fee and unsustainable growth model have led many commentators to liken it to a pyramid scheme. According to Naavik, with its current trajectory, the game's economy will eventually crash, and with some communities





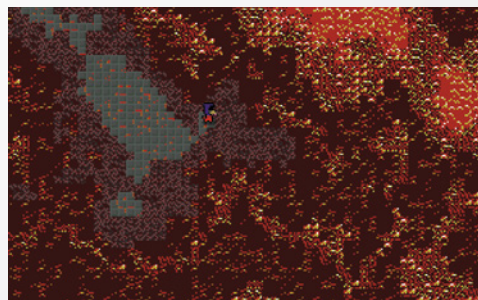
in the Philippines said to rely on the income they make from the game, that's a sobering thought.

It's easy to see why some publishers are willing to structure NFT economies in such a way. If gamers are willing to pay \$600 to access your product, that's a big profit upgrade on the \$70 price that triple-A games sell for. Lee concedes that while it's bound to happen, titles like *Phantom Galaxies* can have just as much sway in influencing the narrative surrounding NFT games. "The blockchain is an open system, anybody can create what they want," he says. "There are people taking advantage of the current market; it's a capitalist society and we can't do anything about that. All we can do is keep speaking [about] what we're trying to do, and build our community around that."

"I got sucked into the mania too," says Hauber of some of his original design choices for *Nifty Villages*. "I thought we'd have these finite numbers of plots as NFTs, they could blow up and become really valuable, but then I realised if the assets that I build become really valuable through player speculation, then I damage the game. If it costs hundreds of dollars to start playing, like in *Axie Infinity*, then I'm stopping people from playing the game because the speculation around it has bumped up the prices to the point where it's impossible for people to afford to play it."

*Axie Infinity's* use of NFTs has also given rise to scholarship programs, another phenomenon that has the potential to be economically exploitative.

Because of the prohibitive buy-in price to acquire *Axie* NFTs, certain companies offer to front this cash, before then taking up to 50 percent of the player's future profits. The system allows less affluent gamers to enter the play, but it's also an ultra-refined digital-capitalist model, straight out of the dystopian future of *Ready Player One*. In short, it polarises wealth. And while stories of gamers in the Philippines using play-to-earn as a means of combating poverty has made headlines, Llamas suggests that's just another example of the crypto market's penchant for self-promotion: "I believe the case study for the Philippines is a small sample that has been hyped up to make play-to-earn out to be the cash cow that it just isn't," she says. "Play-to-earn is not nearly as popular as many people think. Entry into NFTs takes a lot of research, and it's a consolidated market. Many gamers just want to turn on their PC, phone, or console and jump in." →



▲ The hostile aliens in *Phantom Galaxies* are a cast of vengeful priests seeking retribution on humankind for desecrating their planets.

◀ *Nifty Villages* will eventually feature all kinds of terrain, including lava.

### WEB3: THE MAGIC NUMBER?

Will Web3 democratise gaming? For analyst Stephanie Llamas, the more things look like changing, the more they'll stay the same: "The largest publishers hold the vast majority of revenue in the games space. There may be a way for smaller indies with niche audiences to capitalise on NFTs and Web3 in a seemingly more equitable way, but overall the consolidation of revenue will remain for a long time, regardless of Web3's promises."

▼ *Phantom Galaxies* has all the trappings of an epic action RPG, like these thumpingly big ships.



By contrast, Hauber is developing *Nifty Villages* in response to his awareness of the models used by games like *Axie Infinity*. "I don't want people to be playing the game to earn a minimum-wage living," he says. "I think that would be a horrific use of the tool that I've devised to be used for fun. I don't want my game to be about speculation. Speculation drives that aspect [of play-to-earn] where people believe in developing an asset purely because it has some speculative value."

Having previously designed games for Facebook's platform, Hauber understands the kind of game economics that encourage mini-maxing, grinding, and the temptation to circumvent such processes through microtransactions. Add real currency into the mix, and he's aware of the lengths gamers might go to in order to boost the value of their NFTs.

As such, he's being careful to design the game to ensure that the pure enjoyment of 'play', whether that be mining, crafting, or just exploring, is preserved: "I don't want people to spend their entire lives on this," he says, explaining how he intends to ensure that his game can't be turned into a crypto-farming tool. "You have a daily energy, and you spend that energy, and once that's gone, you're done mutating the state of the world for the day. That doesn't mean you have to stop playing, because everybody else is spending their energy to mutate the world, so you can walk around the world and see stuff."

**"Some are scams. Devs came in, took the money, and ran"**

It's a potential solution to a fundamental issue that all NFT-based games will have to face, no matter how enjoyable or sophisticated their systems may be. If players can use them to build monetary value, player exploitation of those systems is inevitable. "Everything you do, if you're giving players the opportunity to add value, then that can be exploited," says Hauber. "It's about designing your game so players would literally have to break the game to use it that way. I'd be devastated if that was the case."

It's a principle that Lee agrees with. Having played blockchain games since their emergence a year or two ago, he notes the uneven nature of those early titles. "Some crashed, some were scams," he remembers. "Devs came in, took the money, and ran. Playing these games enabled us to see what did and didn't work, including from an integrity point of view. Being a traditional games developer and just loving making games, the challenge was being able to bring traditional gaming and blockchain gaming together, and have people enjoy them."

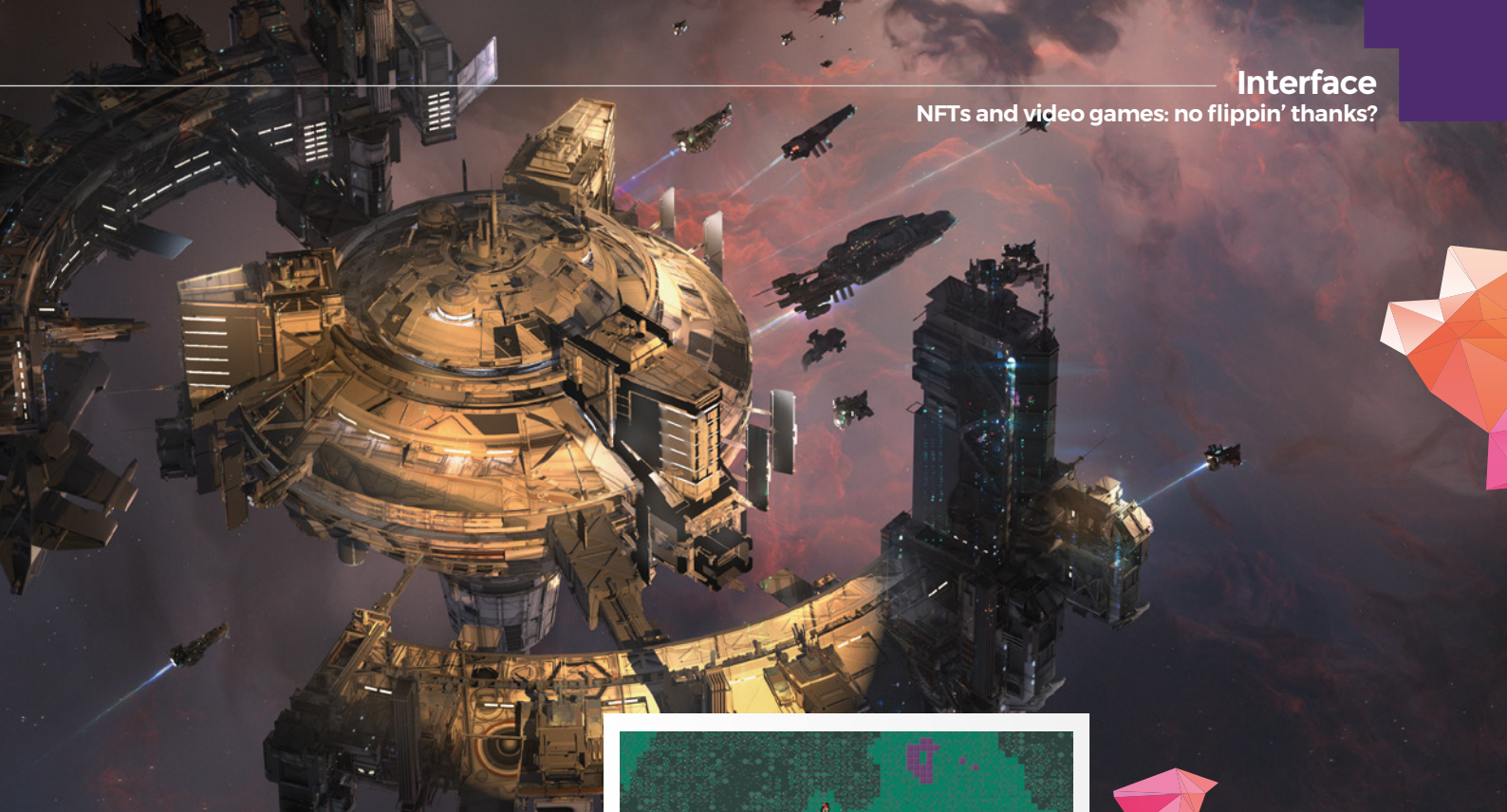
### RULING THE WORLD

Beyond allowing players to own their game assets, Lee also wants to give the player a modicum of control over the game world itself. "The key pillars to me? True digital ownership is one," he says. "I firmly believe in that, along with governance. I've always wanted to make a game where players can have player-driven governance, and we can do that with NFTs and crypto."

Earning governance tokens in *Phantom Galaxies* will gradually confer control of the game from developer to players, with the aim that eventually, *Phantom Galaxies* "will evolve into a community-owned, decentralised autonomous organisation".

Hauber wants *Nifty Villages* to chart a similar path, and plans to relinquish control over the game by promoting local economies, while also allowing players to figure out what to do when the game's finite resources run out. "I'm excited to build a game," he says, "where nobody has the control to shut off the value that players have earned from that system."

It's a fascinating experiment in social, economic, and gaming terms. While there are those who argue that decentralisation has a causal link to inequality, games like *Phantom*



▲ "One day all of this will be villages..." - a shot from an early build of *Nifty Villages*.

*Galaxies* and *Nifty Villages* are spaces to explore and challenge those notions. Both titles run the risk of forgoing certain revenue streams by surrendering control over the game world, but both developers say they're looking at ways to continue to turn a profit if that happens. "We're trying to figure out a way to monetise *Phantom Galaxies*," says Lee. "After all, it's still a commercial business. We want to keep the studio going and stay profitable to make bigger and better games, but in a way that we hope will be sustainable. There's no guarantees, but that's the goal."

Hauber isn't certain that profitability is guaranteed in *Nifty Villages*, either, but he's sanguine about the game's earning potential: "If the economy works," he says, "money will come back to me somehow. I don't need to be rich off this. The more my desires are about getting rich from *Nifty Villages*, the more value I'm destroying from the integrity of what the game could be."

NFTs form part of what's been dubbed Web3, a decentralised internet that will reputedly put power back in the hands of gamers. But, as we've seen from several major publishers, the tech could be used as another means to part us from our cash. Hauber isn't too worried about the profits-first approach that has characterised much of the first wave of NFT usage. "When fans come out and say, 'Ubisoft, we don't want you making NFTs', that doesn't deter me at all. I'm glad. If Web3 is really supposed to be like Web1 again, then it has to be for the little guys first. Scepticism is healthy for the development of technology that will help people, which is the goal."

Lee also thinks the only way to change players' minds about NFTs is by using the tech to create unique experiences. "We can complain about NFTs and the bad side of it, or we can try to be the title that proves everybody wrong, and achieves what people think you'll never do. I like to challenge these things from the inside out."

Addressing player concerns will be key to changing the perception surrounding NFTs, according to Llamas. "I don't necessarily believe games will completely back off NFTs," she argues, "but there needs to be real incentive for them to buy into NFTs. Do other people actually want to buy NFTs from players? What's their value outside the game? I think those are some of the questions Ubisoft has struggled to answer."

"In the meantime, before publishers like Ubisoft or Square Enix can be successful, there needs to be education, and I think Ubisoft in particular knows that."

Until that moment arrives, perhaps judging each project by its own merits and maintaining a healthy scepticism remains the wisest course of action. "I don't mind somebody looking over my shoulder to see if I'm doing something evil," jokes Hauber, "because I don't want to do something evil, and that will help me make sure I don't." 🗨

▲ We're not sure yet whether you'll be able to own everything in *Phantom Galaxies*, but being the proprietor of a hive of scum and villainy would be cool.

▼ *Phantom Galaxies* also aims to fulfil our dreams of owning a giant, transforming killer robot.



# PIXELMON: A CAUTIONARY NFT TALE

It was billed as “the largest and highest quality game the NFT space has ever seen”. Then the eggs hatched...

WRITTEN BY  
RYAN LAMBIE

✓ The dream sold to backers: a “virtual metaverse” where players could train, battle, and trade their voxel creatures.

One looked like a depressed monkey. Another like a bloated, horribly confused zombie. A third appeared to have melted entirely, leaving only a jumble of multi-coloured voxels scattered around a grassy backdrop. It was 26 February 2022, and for those who’d spent thousands of pounds of their own money on buying Pixelmon NFTs, it was a day they’re unlikely to forget in a hurry. A couple of weeks earlier, hundreds of eager investors bought what

amounted to a digital egg (or several eggs, if they’d purchased more than one) at auction for over £7000 each.

In theory, these investors had the inside track on what purported to be the next big thing in online gaming: an MMO that mixed the monster-catching and training of *Pokémon* with the voxel world and freedom of *Minecraft*. And because *Pixelmon* was blockchain-based, it meant that players would be able to ‘own’ their creatures as NFTs, meaning they could trade and sell them with other fans.

“Pixelmon are creatures that come in all shapes and sizes,” enthuses the game’s website. “They can be bought in-game and collected as NFTs to then be traded and sold. Generation 1 Pixelmon are playable genesis collectables that will only ever be available during our mint and cannot be caught in-game.”

Those Generation 1 creatures were sold in a Dutch auction on 7 February 2022 with a starting price of 3 Ethers each – the equivalent of around £7236 in real-world currency. In theory, investors could have waited for the price of these NFTs to fall, but the hype and excitement surrounding Pixelmon saw most of the 7750 tokens minted for the auction sell for close to their full starting price. Within ten minutes, the auction was over and all 7750 NFTs had sold for a combined total of around £53 million.





▲ The reality, at least for purchasers of Generation 1 Pixelmon NFTs.

From a gamer's standpoint, *Pixelmon* looked like a viable enough project, with a demo available on its tidily designed website and a release date pencilled in for the end of 2022. More cautious investors, however, might have wondered who the creators behind the venture were and what their previous development experience was. As is common in the NFT space, the game's founder was initially only known by an online handle, Syber; the development of *Pixelmon*, meanwhile, was (and is) purportedly being handled by Magic Media, a firm that has provided game assets to the likes of Ubisoft and BioWare, and whose services include everything from film cinematics to cybersecurity. There's no evidence, at least looking on its website and elsewhere online, that Magic Media has ever shipped a full game.

Still, alarm bells only really began to ring on that fateful day in late February, when the 7750 *Pixelmon* eggs hatched and purchasers began to see the dismal abominations hidden within. As those purchasers began sharing images of their sad creatures on Twitter, Syber took to *Pixelmon*'s Discord channel. "I'm not going to sugar-coat it – we made a horrible mistake," the founder wrote. "We felt pressured to push [the] reveal, and the reality is we weren't ready to push the artwork. This does not represent the brand, and we will fix this as we have let many people down with this reveal."

As images of depressed monkeys and confused zombies went viral on social media, work began to get around that several of the *Pixelmon* designs that came out of those eggs were a

mixture of asset packs available from Unity's marketplace and 3D models created by artists hired on the freelance marketplace, Upwork.

By early March, it was revealed that the founder of *Pixelmon* was a 20-year-old New Zealander named Martin van Blerk, whose previous ventures included a card game called *Psycho Chickens*, which raised about £38,000 on Kickstarter. On Discord, van Blerk insisted that *Pixelmon* wasn't intended to be a cash-grab, though the news that he'd allegedly taken some of the proceeds from the Generation 1 auction and spent them on other NFTs didn't exactly help his cause.

Neither van Blerk, Magic Media, nor anyone from the *Pixelmon* Discord channel responded to our request for comment at the time of going to press, so we've been unable to verify how the hatching has affected *Pixelmon*'s development. To be clear, there's every possibility that a real, functioning online game will eventually emerge, and that the value of those NFTs will bounce

back. Back on Discord, van Blerk has said he's going to "pledge \$2,000,000 in order to completely revamp and redesign our NFTs at a higher quality".

For now, the egg debacle serves as a cautionary reminder of how risky these kinds of investments can be. The current value of a *Pixelmon* NFT at the time of writing? According to the NFT trading website OpenSea, the equivalent of around £425 – a fraction of their cost just a few weeks before. 🗨



## THE OTHER PIXELMON

If *Pixelmon* sounds like a familiar name, that's probably because it's been kicking around for almost a decade as an unofficial *Minecraft* mod. First released in 2013, *Pixelmon* is a fan-made project that brings Pokémon creatures and mechanics to Mojang's evergreen sandbox. Forced to shut down when The Pokémon Company caught wind of the mod in 2017, it later re-emerged as *Pixelmon Generations* – a remarkably detailed project that replicates just about every entry in the Pokédex in voxel form. Thankfully, The Pokémon Company hasn't decided to scramble its winged lawyers again – at least, not yet...

◀ Some *Pixelmon* designs soon went viral on Twitter; this zombie-type creature is now widely known as Kevin.

# Happy Indie-versary to Switch!

With Nintendo's hybrid console recently turning five, the indie devs who were there from day one recall their excitement and experience in the lead-up to launch

WRITTEN BY AARON POTTER



◀ Developer Shin'en Multimedia treated *Fast RMX* as an expanded version of its predecessor, including all its courses and DLC.

**T**he 3 March 2017 will go down in history as the day Nintendo was forced to risk it all. Battered from Wii U's wobbling sales, the House of Mario's only remaining option was to go back to the drawing board, rethink its place in the market, and return with something so magical that it would forever silence its nay-sayers. Five years since that risk was taken, we can safely say that the Switch has done exactly that. Not only has it helped cement the Japanese publisher's relevance at a time when other consoles prioritised souped-up SSDs and power-pushing graphics processors, but it has since gone on to sell more than 103 million units worldwide. Switching up the strategy has paid off, it turns out.

A lot of promises were made in the Switch's reveal trailer released five months prior, and much to the surprise of us all, most of them were largely fulfilled. *The Legend of Zelda*? On the go? What is this magic? We're still left pondering these

questions half a decade on... But it wasn't just first-party exclusives that provided a launchpad for Nintendo Switch to become what it is today.

### CUT IT OUT

"Learning about the Nintendo Switch and its features was a real thrill because it was all top-secret at the time," reflects SFB Games' Adam Vian, who'd later direct the hit launch title, *Snipperclips*. Nintendo recognised early on that in order to convince players of its new console's unique hybrid capabilities, it would need to team up with a raft of creative talent. Said talent would help take some of the pressure off in-house Nintendo studios while it was still winding down Wii U and 3DS development, filling out the Switch's launch line-up with exciting releases that weren't just first-party triple-A titles.

"We had a single contact at Nintendo who we'd met at a games event in London," Adam continues. "When Tom [Vian] and I had finished the prototype demo of *Friendshapes* [the game that would eventually become *Snipperclips*], we tried our luck and sent Nintendo the demo."

The brothers were never sure whether their boldness would pay off. Soon after, however, they discovered that "Nintendo really liked the prototype and said they were interested in working with us. It was quite a surprise".

Asking two players to work together by cutting and trimming one another into different shapes to solve countless puzzles, it's hard to believe that *Snipperclips* wasn't always designed with the Switch in mind. After all, it's the type of launch title that ties perfectly into Nintendo's family-friendly ▶

**"Learning about the Switch and its features was a real thrill because it was all top-secret at the time"**



▲ There are a total of 15 anti-grav vehicles to try out across 36 futuristic tracks in *Fast RMX*.

“I remember being excited by the idea of the detachable Joy-Con controllers”

image, and also showcases the fun that can be had by detaching the console's distinctive dual Joy-Con. “I remember being excited by the idea of the detachable Joy-Con controllers, because they were a way to get people easily playing local co-op right out of the box,” Adam says. “I could see why *Snipperclips* would be at home on the console.”

Tom, one of the game's chief programmers concurs: “At the time, Nintendo knew what we didn't: that the Nintendo Switch was going to have this really unique focus on local multiplayer. I think when we sent them our prototype that was about co-operative local multiplayer at its core, they saw the potential for showing off that aspect of the Nintendo Switch.”

With a bit of tweaking to the gameplay to suit two-player co-op using Joy-Con, SFB Games quickly got to work reformatting its game into what would go on to become *Snipperclips*. It was always intended to be a wholesome experience, true, but with first-hand support from Nintendo, Tom, Adam, and the rest of the team pushed themselves to make its launch title as charming and as polished as possible. It wasn't lost on them that Nintendo's own titles are of a very high standard. “They really helped us all throughout development to reach for that level of quality and appeal to all ages,” says Tom.

SWITCH 'N' SLITHER

Equally as wholesome, though opting for a more nineties-style approach to puzzle-platforming,



^ Beating stages in *Snake Pass* requires all kinds of climbing, coiling, and slithering - and there's plenty of collectables to keep you occupied.

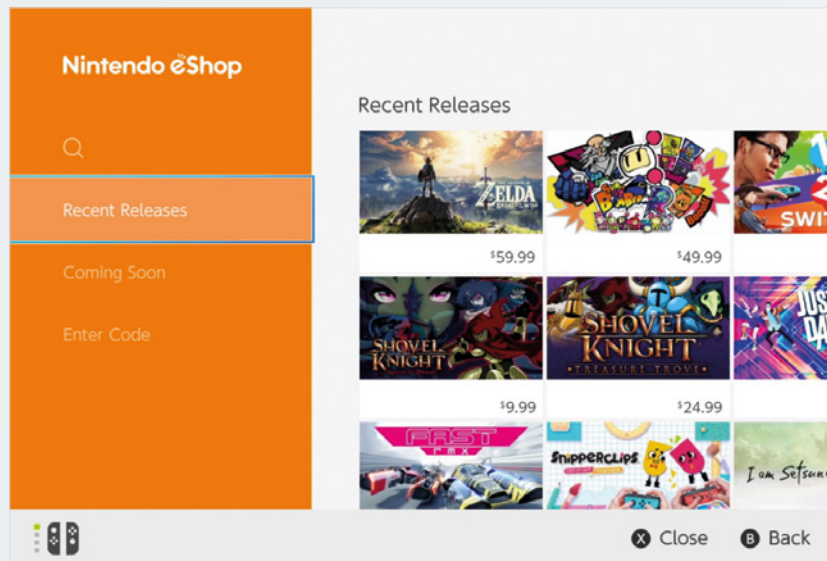
was another launch game: *Snake Pass* from Sumo Digital. The Sheffield-based studio had already established a relationship with Nintendo with its work on various third-party and licensed titles, but the release of the Switch presented another opportunity. “If I recall correctly, we had to release a little earlier than anticipated to line up with the Switch launch window,” says designer Sebastiaan Liese.

*Snake Pass* wasn't in a Nintendo exclusive, yet Sumo Digital saw speeding up its timeline as a way to capitalise on its hype. The playful puzzler - in which players must guide an ever-growing snake through various windy scenarios - was one of a few digital titles downloadable from the Nintendo eShop in the console's first month. Couple this with the cutesy character design of Noodle himself, the charming way he must navigate and swerve around levels, alongside legendary *Banjo-Kazooie* and *Donkey Kong 64* composer David Wise on music duties, why would you want to play *Snake Pass* anywhere else?

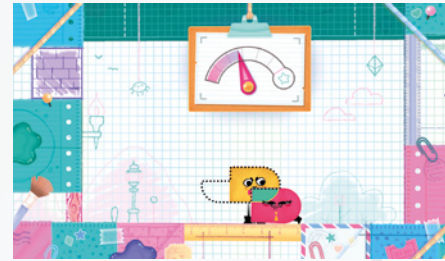
“I've personally been a fan of David Wise's work since I played these ‘wholesome classic platformers’ as a kid,” Liese notes about trying to capture that old-school Nintendo tone during *Snake Pass*' development. “It had always been a dream of mine to create a game good enough to be scored by him.”

*Snake Pass* may not have made use of the Switch's Joy-Con as *Snipperclips* and others did, but its tone and look still emphasised the new platform's universal appeal. *Snake Pass* was another early Switch indie title born from humble beginnings, starting off as an in-house game jam at Sumo Digital, until eventually being given centre stage on Nintendo's exciting new platform. Even Liese himself openly admits that this wave of hype was core to making this relatively small-scale snake puzzle game the success it ended up being. “Being in the genre that traditionally resonates well with the Nintendo audience, as well as being one of the first Switch releases,

^ Link's epic open-world adventure may have been Switch's defining launch title, but the eShop had a handful of indie treats from the off.







- ▲ Cutting and snipping your companion into the correct shape requires you to rotate your character in awkward and odd ways.
- ◀ You'd struggle to find an early Nintendo Switch exclusive that makes better use of Joy-Con in co-op.

most certainly added a lot of hype and publicity for our game," he sums up.

### NEED FOR SPEED

While most players were likely absorbed by *Breath of the Wild*, anyone who wanted a break from scaling mountains and battling Bokoblins could find alternatives on the Switch's eShop. They'd be treated by the likes of *I Am Setsuna*, the throwback Square Enix RPG, and the modest but fun *Super Bomberman R*, among other bite-sized titles. It would be just over a month, however, until Nintendo's premier racing juggernaut would speed its way onto the hybrid console in the form of *Mario Kart 8 Deluxe*. Fortunately for driving fans, then, another arcade racer was there at launch to offer Switch owners fast-paced thrills.

Styled in the same vein as *Powerdrome*, *WipEout*, and *F-Zero*, *Fast RMX* is Shin'en Multimedia's third entry in the *Fast* series. Beginning life as a WiiWare title with 2011's *Fast Racing League* before following it up four years later with *Fast Racing Neo* on Wii U, it only seemed right for Shin'en to help launch the Switch. It turned out to be a blazingly fast and slick anti-gravity racer that pushed the console to its limits right away, presenting a stylish driving experience capable of running at 60 fps – either in docked (or more impressively) handheld mode.

"When we visited Nintendo in 2016, we realised quickly that a successor to *Fast Racing Neo* would be a perfect launch game for the Switch," recalls Shin'en CEO Manfred Linzner. *Fast RMX* development began soon after that meeting, where the team prioritised getting the game on the eShop on day one despite having an internal

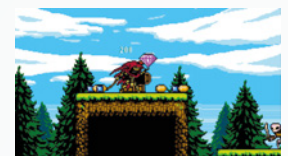
mandate against crunch. Features such as HD Rumble, motion controls, and single Joy-Con play were added part-way through development as additional knowledge on the new devkit came in, with support for up to four players to play locally.

"*Fast RMX* was designed as a technical showcase," Linzner continues. "Nintendo said it would be great if the game could be released on the launch date of the Switch, which was twelve months ahead. We knew we could do that, and so we agreed to make it possible. We had to plan carefully, but everything worked out nicely in the end, and the game had the quality we aimed for." According to Linzner, all this effort was worth it, too, as even five years on "it still sells nicely on the eShop".

### STILL ON TOP?

Though nobody could have predicted the platform's worldwide popularity (likely not even Nintendo), something else that's become quite apparent the more time has passed is just how much its hybrid nature has made Switch an indie developer's playground. And while new tech innovations such as Microsoft's xCloud on mobile – and most recently Valve's Steam Deck – may challenge Nintendo's dominance in the portable (and indie) space, they'll have a hard job undoing half a decade's worth of goodwill.

Adam Vian likely sums it up best: "I think one reason the Nintendo Switch has become a good home for indie games is because it's a really great console, and popular with all ages," he says. "The mix of portable gaming and playing at home on your TV is genius; why wouldn't you want your game on there?" 🎮



### FOR SHOVELRY!

Another notable indie launch game on Nintendo Switch was *Specter of Torment*, the second DLC expansion to Yacht Club Games' wildly successful *Shovel Knight*. Of course, with the original *Shovel Knight* campaign (later named *Shovel of Hope*) being a timed Nintendo console exclusive on both Wii U and 3DS back in 2014, it made sense for this 8-bit-style action-platformer to do similar with its *Specter Knight*-starring expansion. *Specter of Torment* could be purchased separately on the eShop at release, or as part of a bundle containing all three campaigns released up until that point. Either way, it presented a prequel side story that played beautifully on Switch.

## GETTING INTO GAMES



# How I became a... senior character artist

**Nele Steenput** from nDreams talks indie meetups, self-confidence, and VR challenges

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

It wasn't so much a particular game, more the people and the projects. I worked in the VFX industry initially and didn't realise a career in games was a thing until I met a bunch of lovely indie game devs. I was really drawn to their passion, creativity, and the diversity of the projects they worked on – it really spoke to me. Narrative games, though, are my favourite. I love working on them as a character artist.

### How did you break into the industry?

[At first] I worked in the VFX industry but was more drawn to games, so I did everything I could to find out how I too could get a job in games. A portfolio tailored to working in VFX [film/TV/animation] is different than one for game development, after all. It wasn't as obvious then as it is nowadays – we didn't have career talks or mentorships, or even YouTube videos explaining the workflow from

start to finish. Instead, I got books, magazines, and scoured forums on what was required from me to be able to get that job in games.

I went to a lot of events, small indie dev meetups to try and get to know other game devs while working on my portfolio in my spare time. Eventually it paid off. I got recommended by a friend to someone else and got that first job at a small indie studio making a lovely game with a few other very talented people!

### What was the first game you worked on professionally?

*The Bradwell Conspiracy*, and I am definitely still proud of it. The team was incredible; even though I was one of the least experienced people on the team, they were all so welcoming and helpful. I learned a lot, not just about character art, but narrative design, game design, art directing... because it was such a small team; we got to discuss things cross-discipline and follow everything up-close.

### What's the chief responsibility of a character artist, and how do you achieve it?

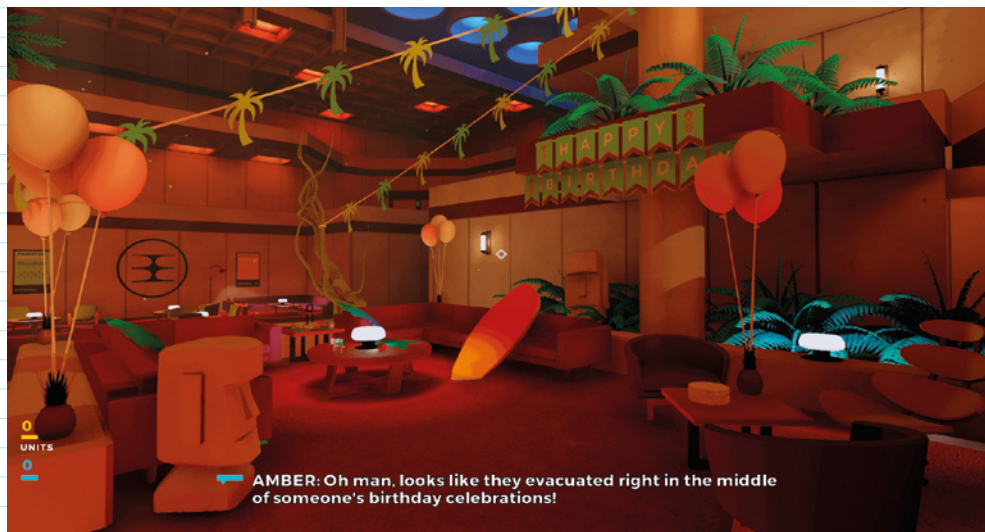
Even after I got that first job in games, I didn't stop learning in my spare time to become a better character artist. The journey doesn't stop at finding that first job. A character artist has so much to learn – that takes years of continuous development. You'd often find me working on personal projects, studying anatomy, art styles, cloth, or even technical skills, such as better ways to do retopology or UV unwrapping. Getting to know game engines and rendering your work in them is a big plus, too, to show that you understand the workflow of a character artist.



**“Getting feedback on your artwork is essential to growing as an artist”**



➤ It's not just human characters that needed to be designed from the ground up for *Spaceteam VR*, but quirky aliens, too.



AMBER: Oh man, looks like they evacuated right in the middle of someone's birthday celebrations!

### Does working in VR bring an added challenge that traditional games don't?

Players perceive characters in VR slightly differently than they would in more traditional games. This can range from feeling more connected to the NPCs, to being scared of a slightly too tall enemy character standing right in front of you, to seeing your friends waving at you and acting silly while 'embodying' a purple alien creature in multiplayer VR.

Technical challenges are relating to the unique nature of game design in VR compared to flat-screen games, as well as VR games needing to run at consistent high frame rates. Handheld headsets such as the [Oculus] Quest run on a mobile processor, which means the technical budget is even lower than for PC or PSVR games.

### What's a mistake you once made, but ultimately learned from?

When I was just starting out, I made the mistake of not sharing my artwork anywhere online or with friends. I didn't know any other character artists, so I had no one really to learn from. Getting feedback on your artwork is essential to growing as an artist - I was more creating artwork within my own bubble and not [feeling] proud of what I'd make. I always felt protective about my work because I never felt like it was good enough. I should have accepted that I was trying to learn just as much as anybody else and that everyone starts where I was. I should have reached out to other artists more, posted more on social media or on forums, and kept at it.

### What's one piece of advice you would offer to your younger self?

Focus more on one style to start with. [Start with] smaller projects, and focus on finishing those.

Doing large projects right from the start can be so overwhelming and make you give up halfway through, whereas finishing smaller projects will give you a boost in self-confidence and [you can see] where things went wrong and how you can improve. It also means you have an extra piece of artwork to add to your portfolio.

Slowly expand scope once you have more confidence in your skills, and aim at getting faster. An example of a smaller project can be making a portrait instead of a full-body character. Character artists have a huge pipeline to get used to, which includes different separate skills, and going through the whole process can take a while.

### Would you say it's easier than ever to work in games, or more challenging?

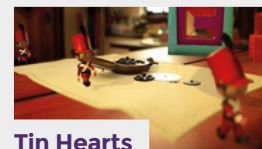
I think it's easier than ever. There's so much accurate information out there right now for free, or to fit within a student budget, and also mentorships. Also, being able to learn from professionals is a big plus. It has become more challenging in the sense that, especially for character artists, there are so many new techniques to get used to, more software to learn, and the bar for the quality of characters has risen significantly as well.

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

Inform yourself as much as you can, go to events, local game dev meetups, try things at home in your spare time. Attend talks, get to know people within the industry and make friends. As a character artist, go to life drawing, practise your anatomy skills, and practice often in small chunks of time rather than once in a while for a big chunk of time. 🎨

◀ *The Bradwell Conspiracy* offered Nele an opportunity to learn across disciplines such as narrative and game design, due to working with a small team.

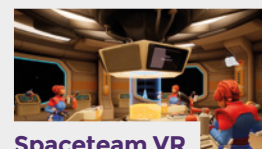
## Career highlights



### Tin Hearts

TBA

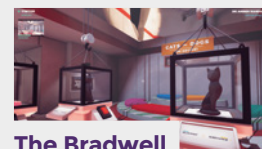
Tinker-sized puzzle adventure *Tin Hearts* is yet to be released but required its own unique development approach thanks to the challenge of getting scale right in VR. This is a toy-filled world, after all.



### Spaceteam VR

2020

Cooperative Innovations' space-based party game, in which players must work together to keep their ship running, solidified Nele's preference for working in virtual reality. Needing to follow complex instructions causes chaos!



### The Bradwell Conspiracy

2019

Nele's first professional gig as a character artist was on narrative-driven adventure game *The Bradwell Conspiracy*. In it, players must piece together the mystery surrounding an explosion at Stonehenge Museum.



# GETTING CONNECTED

EXPLORING NIGERIA'S GROWING  
VIDEO GAME SCENE

WRITTEN BY  
**BOLAJI AKINWANDE**

## With its industry generating over \$180 million in 2018, we take a closer look at Nigeria's growing game community

In terms of wider popularity, Nigeria's game scene truly got going in the early 2000s, when 'hybrid gaming centres' began to appear in a variety of urban locations. These centres could be found in, say, a barber's salon, and with one or two gaming consoles available, they soon became a place for eager young teens and adults to pay as little as ten naira (roughly the equivalent of 2p) to play all kinds of games, ranging from sports titles to arcade brawlers.

It was during this period that Olabode Otolorin, a culture and music journalist, had his first brush with video games. "In primary school, I'd heard stories from my siblings and yearned to one day try out the games they talked about," he tells us. "Eventually, in secondary school, I became enamoured with *Mortal Kombat*."

For Otolorin, these centres were an affordable means of getting access to video games – something his parents were never too keen on him playing. "I never owned a console," he tells us. "I had strict parents who were averse to the concept of kids owning consoles, so the only option I and my siblings had was to visit game centres, and

**"In secondary school, I became enamoured with *Mortal Kombat*"**

that was where the fun was. You always wanted to play more. I don't think I've ever gone to a game centre to play just one game – one game led to two, three games. You'd lose one and just want to make sure you defeated your opponent."

In this environment, gaming became a true spectator sport, with crowds sometimes betting on who'd be the victor. "You'd have people groaning from defeat, betting against one another, and the owner of the centre counting money," says Otolorin. "Playing games at the centre gets very addictive – it was like gambling at this place. Before I got good at playing games, I was defeated several times, but it taught me the essentials of defending and possession, which made me get really good. In return, I defeated the newbies who were coming to the centre and didn't know how to play."

### FLASH FORWARD

In present-day Nigeria, game centres have moved with the times, with better decor and more modern PCs and consoles. With the upgrade of these game centres, however – especially those in urban parts of cities – came a rise in the prices they charged. The Game ➔



▲ Local outlets like IEX Games offer a range of games, consoles, and accessories to Nigerian players.



▲ A somewhat informal gaming centre located in rural Nigeria.

## DISCONNECTED

Pointing out one of the most common problems an online gamer faces in Nigeria, 20-year old Hayatullah tells us: "I remember there was a time when I was playing a battle royale competition in *Call of Duty: Mobile* and I got disconnected because my network provider went haywire, so I lost the competition. It's really hard trying to enjoy playing games online [in Nigeria]. The unstable connectivity issue is a hindrance; my friends abroad are usually discouraged from playing with me because I tend to get disconnected pretty often".



▲ Indie developer Adesayo Adesokan made two games during the pandemic in 2020: *Dodge: The Escape* and *Cup It*.

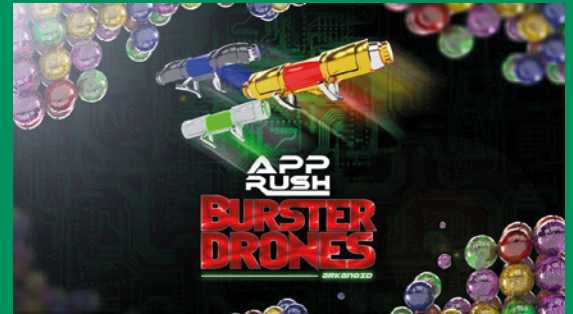
Box, located in a suburban part of Lagos, for example, charges a fee of two thousand naira – the equivalent of about £3.69 – to access its gaming facility for an hour. That's expensive, given Nigeria's crippled economy. As of November 2021, the monthly minimum wage for a working-class Nigerian was estimated at £53.05; most avid gamers in the country consist of young people between the age of 18–29, and 64 percent of that age group are unemployed. Inevitably, this makes somewhere like The Game Box far too expensive for the average young gamer in Nigeria. Game centres may have updated their equipment with newer computers and consoles, but that's come at a cost.

### GOING MOBILE

While gaming centres sparked the genesis of video game culture in the country, they didn't stay in the spotlight for long; attention soon shifted to mobile gaming, which in turn made way for online multiplayer gaming. The peak for mobile gaming was during the late 2000s, a time when a survey conducted by ITU (the International Telecommunication Union) confirmed that Africa was becoming the world's fastest-growing mobile phone market.

This new development made playing online games on mobile phones a popular trend. It also gave homegrown developers the opportunity to introduce their work to the country's gaming

▼ Mobile gaming's big in Nigeria, but the latest consoles and games are readily available, too.



▲ Edu Shola's mobile game, *App Rush*, was released in 2016. It aimed to educate the public about the dangers of accidentally downloading viruses.

audience. Admittedly, many of those games borrow from existing titles, albeit with a local flavour. In 2019, for instance, Magic Carpet Studios – one of Nigeria's few game studios – released *Naija Rush*, an endless runner that borrows elements from similar, popular titles like *Danger Dash* and *Subway Surfers*. Other similar games draw influence from the experience of living in the city of Lagos: *Chike – Sky Raider*, by indie developer Edu Shola, is set in the city, as is BisonPlay's *Okada Ride* (“Okada” translates to “motorcycle taxi” in English).

A developer of these “locally flavoured games”, Shola recalls how the sub-genre began. “It all started in 2014,” he says. “At this time, I was only skilled in animation and graphic design, but I decided to make a game. Without prior knowledge of game programming, I was able to make my very first game, *App Rush*, using GameMaker Studio. Watching tons of tutorials online allowed me to bring my game to life using drag and drop [functions] and minimal code”. Since then, Shola has continued with GameMaker Studio and has created more games under his own name.

Another local indie developer, 21-year-old Adesayo Adesokan, also leaned on the DIY movement to make a name for himself as a game designer, having made the popular mobile titles *Dodge: The Escape* and *Cup It*. “In 2020, during the pandemic, I realised I wanted to start making games, but I didn't put out my first game until around August [2021],” he says. “I wanted my first game to be calm and nice – I think this was because I'm still a rookie. But after a month of coding I was able to put it out there.”

### CHALLENGES

Gamers, local developers, and the rest of the Nigerian game industry all collectively face a common challenge, however: the country's unstable and somewhat slow internet



▲ Based in Lagos, Nigeria, The Game Box is one of the country's more modern game centres.

connection. Nigeria operates on a fourth-generation mobile network (4G) and is likely to upgrade to 5G in the coming months, but gamers still find it difficult to connect with the rest of the world. The exorbitant cost of even connecting to the internet, due to the fluctuating economy and shortage of power, are also a road-block that affects the country's gamers.

Nigerian indie developers can also find it difficult to get financing for their games, though admittedly, the country's wider tech industry has witnessed a boom in recent years. In 2020, Stripe, an Irish-American financial service offering online payment processing for internet businesses, acquired Lagos-based startup firm Paystack (a platform for making payments both online and offline) for the sum of \$200 million. This marked one of the biggest acquisitions by a foreign company to occur in Nigeria.

In light of this, the game industry could be the next sector to benefit from foreign investment – for his part, Shola wants to see more people working in other aspects of game development.

“We need committed and passionate evangelists who will be active and serve as a point of contact for our region's game industry,” he says. “People that will maintain and create a seamless flow of contact within the local industry and from abroad. I believe with this set of evangelists, indies and small studios will get the help they need for their games to reach their full potential. They're so important because they're

**“During the pandemic, I realised I wanted to start making games”**

the ones that will build critical mass for games being worked on by indies and studios.”

Shola believes that a greater online presence would also help the country's games reach a wider audience, too: at present, there are comparatively few Nigerian influencers or technology websites banging the drum for locally produced games. “There currently aren't

adequate tech blogs or websites to assure game developers that there's a ready audience of gamers in the country,” he says. “My games and

others [have been written about] on tech blogs. I followed up to see how the games [sold] after they were published and it wasn't impressive. I want [people] to give games made here a chance, which is likely to happen with the publicising of games. It all goes back to the evangelist.”

While games made in Nigeria aren't selling as well as their bigger counterparts elsewhere in the world, our country's game scene has still come a long way over the past 20 years.

As more and more of the restraints that have previously held it back are gradually being thrown off, it's possible that Nigeria will one day become a truly advanced hub for game development of all kinds. 🌐



▲ Inside The Game Box: the PCs are modern and plentiful, but all this up-to-date hardware comes at a hefty hourly cost to the visitor.

## GOING VIRAL

Indie developer Edu Shola launched his first title in 2016 amid a thriving market for mobile games in Nigeria.

“My games are mostly inspired by what I watch, experience, or see,” Shola tells us. “Most of my games are a reflection of my imagination or my favourite movies. One of my games, *Stickman Fight – Magic Brawl*, was inspired by the popular [online brawler] *Stick Fight: The Game*.

“My first game, *App Rush*, [was designed] to educate the general public on how certain viruses can be contracted online while downloading applications. Mobile phone users are prone to contracting viruses on the internet through shady app download.”

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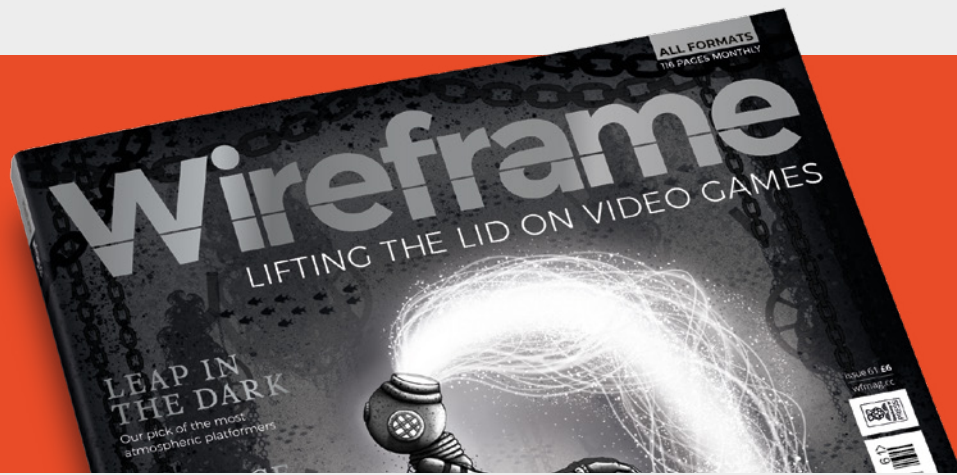
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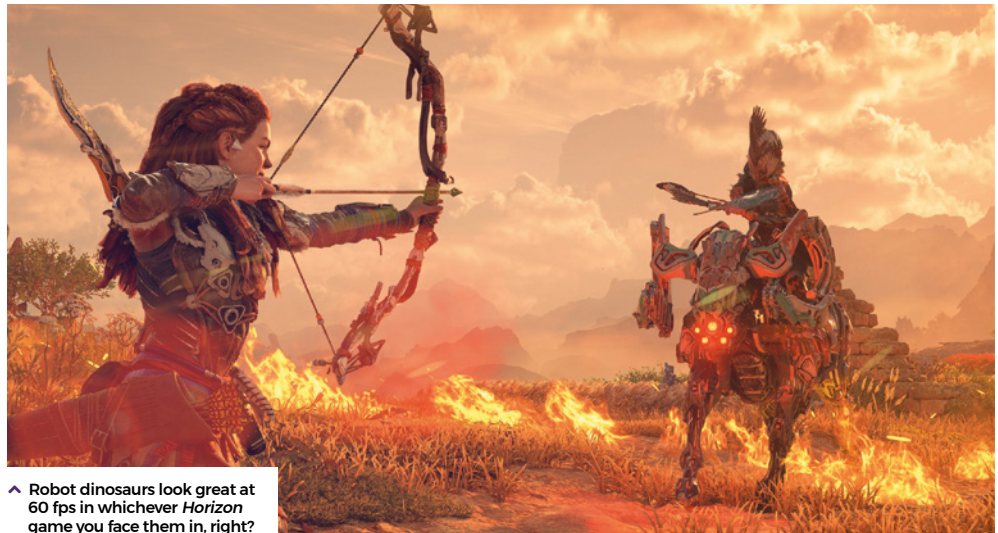
# Old is the new new



**STEVE MCNEIL**

If the title is right, Steve must be feeling very new.

**“If you have a pile of shame even a fraction as tall as mine, there are many savings to be had this year”**



^ Robot dinosaurs look great at 60 fps in whichever *Horizon* game you face them in, right?

**A**s everybody reading this is no doubt aware, the long-awaited sequel to *Horizon Zero Dawn* finally arrived recently. Despite its critical acclaim, *Forbidden West* sadly seems to have suffered the same fate as its predecessor, in being rapidly overlooked.

For me, though, this isn't a result of the release of *Elden Ring*. As someone who cannot stand *Souls* games, I would rather remove my fingernails with shards of glass than spend six hours learning (or, in my case, failing to learn) how to dodge a horrible monster. No, the reason I've overlooked the new *Horizon* title is because I have finally stopped blowing day-one prices on games I won't get around to playing, and instead gone back to the first instalment.

While I'm not quite sure how recommending you *don't* buy new video games fits in with Wireframe's remit, in these times of rapidly rising fuel and energy prices, I'd encourage many of you to consider doing the same. If you have a pile of shame even a fraction as tall as mine, there are many savings to be had this year.

If you were thinking of buying *Lego Star Wars: The Skywalker Saga* when it comes out, don't! You've got an old version of most of it that you never finished knocking around somewhere on one platform or another, and it's not like

those games ever pushed the limits of your graphics card.

Can't wait for *Gotham Knights*? No need! There's at least one of the previous *Batman* games you never got around to that's probably on sale right now for under a tenner, and by the time you've finished it, the new one'll be half price! (Pro tip: *Arkham Origins* is actually alright!)

Tempted to pre-order *Two Point Campus*? You've never even looked at most of the DLC for *Two Point Hospital*, which is bound to be on sale for a steal when the new game drops. By the time you've finished all that, they'll be giving away *Two Point Campus* free with every £200 of petrol, each time you put a quarter-tank in your Fiat 500.

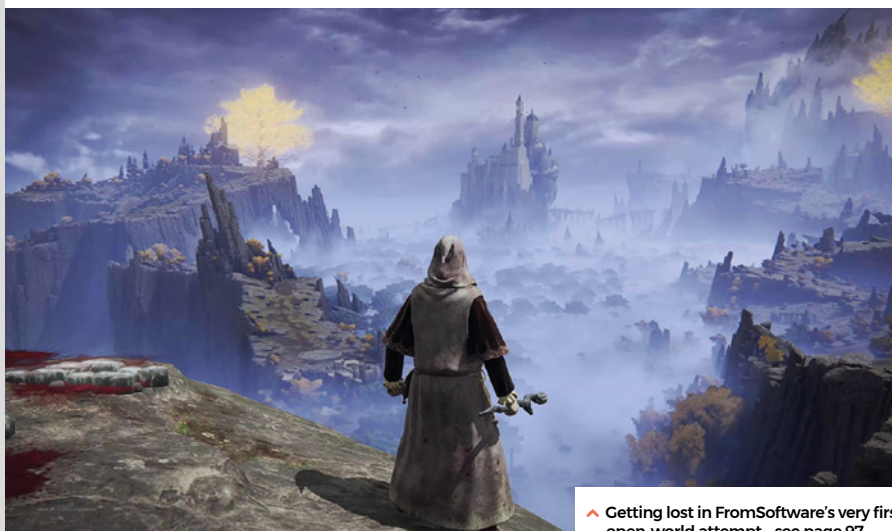
Furthermore, if you're anything like me, revisiting the older titles before purchasing the newer ones is a doubly clever strategy, as I know full well I'll never complete the original game before I get distracted by life stuff, or a big robot dinosaur proves too difficult and I lose interest. And, in the meantime, *Horizon Zero Dawn* looks great on my PS5 with its yummy HDR and 60 fps deliciousness. I don't know what I'm missing, and what I have looks great.

All I ask is that you send me 80% of any savings you make by not purchasing the new titles. That way, we're both making money. 🤖

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▲ Page 104: We flick through the pages of Bitmap Books' new bible for the beat-'em-up genre.



Review

# Sifu

Getting repeatedly beaten up soon gets old

## Info

**GENRE**  
Kung fu action

**FORMAT**  
PS5 (tested) / PS4  
/ PC

**DEVELOPER**  
Sloclap

**PUBLISHER**  
Sloclap

**PRICE**  
£32.99

**RELEASE**  
Out now

**SOCIAL**  
@SifuGame

REVIEWED BY  
Alan Wen

# W

hen it comes to difficult games, the second boss is often the true test. In *Sifu*, that boss is Sean, a martial artist who comes at you aggressively with fast attacks from his polearm. When I finally landed the killing blow after many agonising attempts, it wasn't followed by a celebratory punch of the air, but despair that I'd have to do it again, only better. That's because by the end of my fight, my young kung fu master had transformed into a bearded old man, destined to snuff it for good on his next defeat.

Let's back up a bit, though. *Sifu* (literally 'teacher, or 'master') takes place in an interpretation of China that magpies from the iconography of cultures and cinema from across the Asian continent that has reached to western audiences, with an eye on the kineticism of Hong Kong kung fu flicks. Incidentally, its revenge plot is more *Kill Bill* – a classic example of Hollywood Orientalism. You play a martial arts student who witnesses their master's brutal murder at the hands of a former student and four of his cronies. A mystical pendant in your possession, however, means you survive the massacre before spending the next eight years training your skills in order to exact revenge on all five.

This isn't a typical beat-'em-up where you're living the power fantasy of effortlessly taking

down goons, though. Instead, Parisian studio Sloclap knuckles down on creating a brutal kung fu lesson, based on the ruthlessly efficient Pak Mei style, accentuated by its sound design, which while not simulating the realistic sound of a metal pipe against a cracked skull, nonetheless leaves a wincing impact. Whether you're facing adept martial artists or low-level thugs, everyone is capable of hitting you hard, and they can be deadly in groups.

You also have just one life to get through it all. By that, I mean the protagonist's lifetime. The pendant's power allows you to get back up again after defeat, but at the cost of you ageing by a year. If you fall again, the counter will go up one, so you age two years, then by three, and four, and so on. On the upside, as each decade passes and you're visibly greyer, your attacks become slightly stronger, but your max health is also reduced. By the time you're in your seventies, the next death is permanent.

If you're already an old-timer before you've reached *Sifu*'s third level, then, your chances of reaching the end are nigh-on impossible. You'll find statues that let you unlock perks and upgrades, and even reset your death counter, but there's no getting back the lost years (some perks and skills are also gated once you're past a certain age). It's soon apparent that you'll need to return to earlier levels, mastering them until you



can clear them with as few deaths as possible. But the bosses toss aside the rules, so you're not really playing a fighting game against a fair opponent but one whose relentless attack patterns cut through any combo strings you've worked so hard to unlock (a sore point when you have to spend so much on the same move multiple times before you've learned them permanently). At least regular bouts against minibosses or certain other enemies can reduce that death counter, but when you're banging your head against an already impenetrable boss, it's made worse when each successive failure literally shaves more years off your life until a decade flies by in one fell swoop.

**“My young kung fu master had transformed into a bearded old man”**

Yes, through dogged practice, you can eventually recognise attack patterns and attune your muscle memory to parry and counter (though both are susceptible to mashing inputs rather than precise timings) in order to break your opponents' structure, which like Sekiro's posture gauge is more important than whittling down their health. Yet some of *Sifu's* mechanics are poorly explained, such as avoiding attacks, which can be easily confused with a different dodge input, but if the training montage tutorial went over your head at the beginning, you never get to see it again.



- ▲ With a dynamic camera flying in, takedowns are as showy as the combat gets. You're also fortunately invincible to any oncoming attacks during this.
- ◀ Knock down enemies and you can land a couple of free hits, though you'll also bemusingly help them back up to their feet after two hits.

In repeating levels, other annoying quirks also rear their heads – the messy camera that fails to keep track of you and your most immediate threats, a unique combat system that also reminds you why fighting games with complex command inputs stick to a 2D plane, and those annoying random enemies who come back from a takedown with full health and berserk status.

Even shortcuts grate due to their inconsistency, such as how the Museum's elevator will take you straight to the boss, whereas another

makes you wade through the second half of the level, where you're forced to go through the same fights again and again, since this is neither a roguelike with variation nor a Soulslike where you can beeline for the boss door.

Naturally, the hardcore nature means *Sifu* won't be for everyone, though I suspect many masochistically inclined players will gladly submit to its tutelage. The intent is that you'll come out on top feeling like an enlightened kung fu master yourself – a sifu, in other words. By the time vengeance was finally mine, though, all that remained was a big F U. 🗿

**HIGHLIGHT**

If anything compels you to keep playing *Sifu*, it's the striking painterly style that complements each level, as you move from squalid drug den to bamboo forest, from towering modernist corporate office to caverns deep in its foundations. A combination of traditional, modern, and surreal aesthetics also make a great fit for the score from composer Howie Lee, though it's a nightclub brawl where the electronic musician lets the beats rip.

**VERDICT**

**Unforgiving kung fu action awaits those able to suffer its wilfully ruthless master.**

**59%**

## HIGHLIGHT

Those playing on PS5 can enjoy impressive DualSense haptic feedback. Subtle gestures like sliding through tall grass or pulling back on Aloy's bow all sport varying degrees of tactility, yet surprisingly it's when busting open one of the lost world's many doorways where you'll feel the greatest level of tension on the R2 trigger.

Review

# Horizon Forbidden West

Bigger isn't always better (unless robot dinosaurs are involved)

## Info

### GENRE

Open-world, action-adventure

### FORMAT

PS5 (tested) / PS4

### DEVELOPER

Guerrilla Games

### PUBLISHER

Sony Interactive Entertainment

### PRICE

£69.99

### RELEASE

Out now

### SOCIAL

@Guerrilla

### REVIEWED BY

Aaron Potter

## VERDICT

An ambitious and beautiful open-world adventure that's enjoyable, but nowhere near as groundbreaking as the original.

74%

It's extremely unusual for the first entry in a new franchise to nail its character, environmental, and mechanical design as confidently as *Horizon Zero Dawn* did back in 2017. After finally being let off

the *Killzone* leash, developer Guerrilla Games somehow managed to achieve a surprising level of greatness and authorship in Aloy's debut adventure, creating a sweeping world that was fun to explore, alongside a genuinely unique approach to third-person combat that felt simultaneously thrilling yet strategic. It's not too surprising, therefore, to learn that the same trick couldn't be replicated in the sequel. After all, this post-post-apocalyptic version of America sets you on (mostly) familiar ground now, slightly dampening the sheen on this otherwise admirable follow-up.

Picking up a couple of months after the previous game, *Horizon Forbidden West* sees outcast-turned-saviour Aloy on a new mission – one where she must travel to the titular location in order to fight a never-before-seen threat and prevent the Earth's future destruction. There are new robot beasts to take down, additional tribe politics to get involved in, and a handful of new ranged-based weapons to experiment with. Guerrilla has clearly recognised that nothing about the framework it established the first time was broken per se, so instead, its answer is to just add more. This is... fine, but it feels a tad uninspired at times.

From literal errands that have you gathering natural materials to the much more enticing

Relic Ruins you can explore for resources of greater value, there's simply a lot to see and do in *Horizon Forbidden West*. It works well in encouraging you to dig deeper into this luscious environment, sure, though it isn't anywhere near as enticing as it was in the original game since a lot of the world's circumstances have already been fully revealed. This also bleeds into the wider issue of narrative corners, which *Forbidden West* is constantly bumping up against and trying to break out of.

Guerrilla has still managed to marginally improve how the sequel plays in other areas. Side missions, for instance, are more cinematic and intriguing, with enough twisting turns in the micro-narratives to make you think they're part of the main plot. Then there's the new traversal methods. It'd be a shame to spoil them here since so many are best experienced as a surprise in the game itself, but rest assured, scaling heights eventually becomes less of a chore. It's just unfortunate you have to put up with the highly telegraphed and restricted wall-climbing until roughly two-thirds of the way through.

While there's much more familiar than here is fresh to be found here, the return of *Horizon's* wildly dynamic ranged combat alone would be enough to make *Forbidden West* worth a look for both established fans and newcomers. Endlessly pelting robot dinosaurs in creative ways is this franchise's core hook. Here's hoping that this same excitement can be matched by the open-world aspects surrounding it for Aloy's inevitable third go around. 🐾



Review

## HIGHLIGHT

Newly evolved species of rideable Pokémon open up how you traverse and explore the Hisui region, such as the galloping Wyrdeer or the Basculegion that makes it possible to travel on water. A particular favourite is Sneasler, who can climb just about anything while carrying you in a basket on its back.

# Pokémon Legends: Arceus

Come for the open(ish) world, stay for the Pokémon

**F**or decades, tall grass was where you went to catch Pokémon as they randomly appeared. That random factor isn't in *Pokémon Legends: Arceus* as Pokémon are all visible in the wild, but still, the tall grass has an important use: sneak up behind one of those unsuspecting critters and throw a Poké Ball, and more often than not, you'll catch them just like that. Stealth is often added to a game to show how it's 'modernised' its mechanics, but it genuinely works wonders here.

Returning to the series' core 'gotta catch 'em all' concept undoubtedly stems from the enormously popular *Pokémon GO* as well as the *Let's Go* remakes of *Pokémon Yellow*, though *Arceus* goes even further back to a time before things like gyms, trainers, or tournaments. In the Hisui region (known as the Sinnoh region in the *Diamond* and *Pearl* games), people are only just learning about Pokémon, so your main task is to complete the first-ever Pokédex.

How you go about doing this is fairly open, with a checklist akin to the research in *New Pokémon Snap*. You need only ten research points to

'complete' a Pokémon entry, which you can do by either catching monsters without engaging in battle, or by battling and observing different monster behaviours, such as the kinds of attacks they use.

Battles retain the traditional turn-based system, though this neatly integrates new real-time mechanics, like your character being able to dodge roll from hostile Pokémon attacks (please leave your *Dark Souls* comparisons at the door). Battles also unfold in the main game world rather than whisk you away to a battle arena, as is still the way of most modern JRPGs.

Ironically, where *Arceus* falls down is in its big selling point of transforming the series from traditional JRPG to an open-world adventure akin to *Breath of the Wild* (incidentally, staff from *Xenoblade Chronicles'* Monolith Soft are among the credits). Hisui isn't a seamless sandbox like Hyrule, though, but rather split into five zones, which sadly feel empty save for the genre's usual roster of rudimentary side quests.

More egregious are the technical shortcomings like low-quality textures or masses of pop-up in the environments, something you'd expect from games two generations ago. It's a world that would fall flat if not for the Pokémon themselves, so thank goodness that *Arceus* is first and foremost a game about catching monsters. Ultimately, *Pokémon Legends: Arceus* is a welcome departure from the mainline series, and with another iteration – this series' equivalent of *Metroid Prime*, say – it could one day reach the greatness it's capable of. 🗨️

## Info

**GENRE**  
Action/turn-based RPG

**FORMAT**  
Switch

**DEVELOPER**  
Game Freak

**PUBLISHER**  
Nintendo

**PRICE**  
£49.99

**RELEASE**  
Out now

**SOCIAL**  
@Pokemon

**REVIEWED BY**  
Alan Wen

## VERDICT

The most refreshing *Pokémon* game in decades, even if it flounders as an open-world game.

78%



Rated  
Review

## HIGHLIGHT

The moment you submerge your craft for the first time is a revelation: there's a whole other world down here. Piloting your vessel through narrow caves is a highlight, as you gingerly adjust the throttle and carefully rise and descend, while a sonar screen helpfully highlights any sunken goodies.

Review

# FAR: Changing Tides

Sail away with me to another world

## Info

### GENRE

Adventure

### FORMAT

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

### DEVELOPER

Okomotive

### PUBLISHER

Frontier Developments

### PRICE

£14.99

### RELEASE

Out now

### SOCIAL

@FARtheGame

### REVIEWED BY

Lewis Packwood

## VERDICT

A sedate voyage into the unknown that will stay with you long after you've reached your goal.

# 81%

**F**or long stretches of *FAR: Changing Tides*, there's little to do except sit back and enjoy the view. Impossible cliffs sweep past as you drift from left to right. Rusted, half-submerged

wrecks loom out of the waves. Mysterious machinery of unknown purpose teeters at precarious angles. Left to think, your mind starts to wander. Who lived here? What happened?

This world has been devastated by floods, destroyed by a cataclysm of biblical proportions. No one is left, just you and your strange ship. Occasionally there are signs of life. A moose appears with its calf, watches you for a spell, then gallops away. A seagull journeys with you momentarily. A whale even makes a memorable cameo, gracefully drifting past, unconcerned. I absent-mindedly adjust the sails to catch the wind, with one eye on the ruined world slowly sliding past.

One of the kids peeks in to watch me playing, declaring that the game looks boring. Although they admit the boy looks cute.

Not boring, I counter. Sedate. Thoughtful. And I'm not even sure that is a boy: the tiny character you control could easily be a girl. We know nothing about them. All we know is that they're on a journey, and we have to keep them going.

It feels good to be moving. After two years in Covid stasis, stuck, uncertain, I'd forgotten the joy of travelling. The destination is unimportant; it just feels good to be going somewhere.

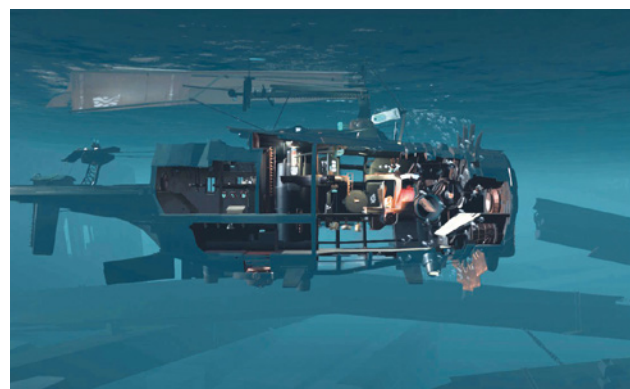
Impediments to your progress regularly appear. A locked gate, or fallen debris. A little light

puzzling will see you on your way, as you grapple with unfamiliar mechanisms to shift whatever blocks your path. Sometimes you'll have to lower your sail and switch to engine power if the wind fails. Narrow canyons might batter your mast.

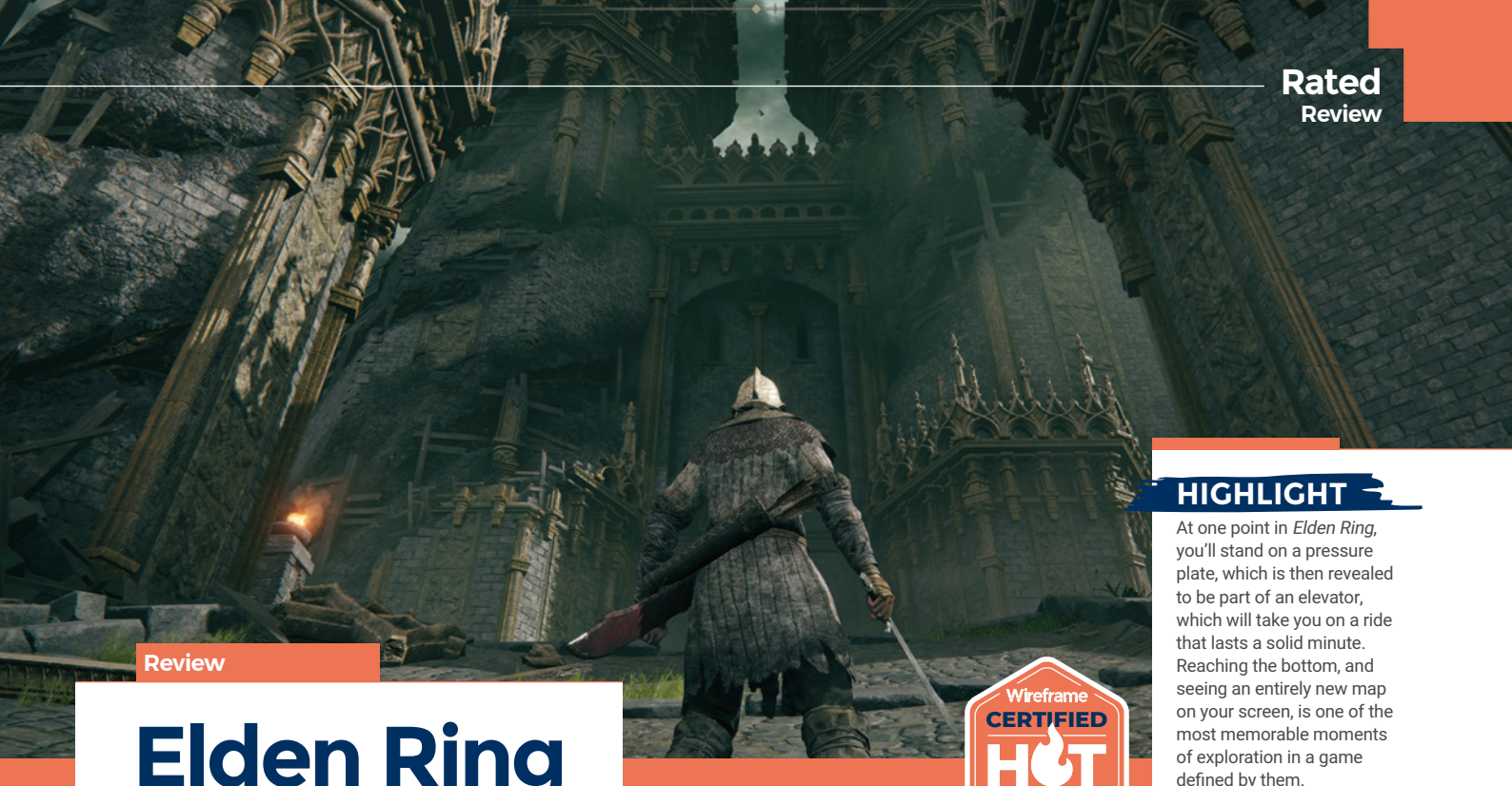
Overheating boilers might give up the ghost in a shower of sparks. Stop, repair the damage, and continue on your way. Keep going. Keep moving.

The first hour feels familiar, a re-run of *FAR: Lone Sails* on water rather than sand. Then comes the glorious moment when you realise your craft can submerge beneath the waves, and a whole new game opens up below the waterline. There are two worlds to explore here, one above, one below, and quickly it becomes apparent that *Changing Tides* is a vastly bigger proposition. Once it really gets going, surprises come at a delightful pace, with exciting ship modifications and unexpected twists. The final moments will raise a smile.

Nothing is really explained. Mysteries are left hanging. We don't know what our avatar is running from or where they are running to. The only thing that matters is the journey. 🗿







Review

# Elden Ring



## HIGHLIGHT

At one point in *Elden Ring*, you'll stand on a pressure plate, which is then revealed to be part of an elevator, which will take you on a ride that lasts a solid minute. Reaching the bottom, and seeing an entirely new map on your screen, is one of the most memorable moments of exploration in a game defined by them.

An open world opus that deserves to conquer the world

**P**laying *Elden Ring* feels a bit like attempting to solve a Where's Wally? puzzle. Except, in this case, you're inside the Where's Wally? puzzle and have no idea how far it stretches beyond the imitators in red-and-white shirts in your immediate vicinity. I have spent 65 hours inside FromSoftware's action RPG and I still have a hard time understanding, let alone communicating, the contours of its seemingly endless open world. It is big. It is also, gobsmackingly, as intricately designed as anything the *Dark Souls* developer has made before. At some point, I may finish this game. It's hard to imagine that there is a point where it ever ends, but I have heard that it does. Wally is out there somewhere.

As in *Dark Souls*, *Elden Ring* casts you as a lowly character attempting to fight gods and screen-filling monsters in satisfying but challenging combat. Those fights will almost certainly seem too difficult at first. In past FromSoftware games (save for the brutal *Sekiro: Shadows Die Twice*), you could leave a tough boss and grind until you levelled up, pacing through the same areas, killing the same enemies over and over. In the weeks that I've spent with *Elden Ring*, I've never needed to grind, because there is a seemingly inexhaustible supply of new and interesting places to explore, where you will find Runes, the currency and XP of this world, organically. Even in places that I think I know well, I am still discovering secrets. Those secrets feel worthwhile because the level and environmental

designers at FromSoftware are the best in the business. From the start, you're free to explore, and I'm not remotely tired of exploring.

Much of what you find as you explore are monsters that want to kill you, most with interesting designs. There's a wizard with a mask that resembles the Burger King mascot. There are giant hands that scramble towards you menacingly. There are oversized lobsters and crabs that look just like their real-world counterparts, but big and mean. Combating this menagerie is a joy as always, as *Elden Ring* retains the excellent combat that helped make *Dark Souls* influential, with new and interesting wrinkles. I'm particularly fond of the Flask of Wondrous Physick, which allows you to mix your own unique potion with new attributes that you find through exploration.

*Elden Ring's* story is difficult to follow on a first playthrough, tucked away in

item descriptions, cryptic bits of character dialogue, and the occasional proper noun-filled cutscene. This isn't a detriment. Instead, the game narrative's opacity feels of a piece with its open-ended presentation of its world and systems. *Elden Ring* never directly tells you where to go next, so you will discover its world and story in pieces.

*Elden Ring* is deep and wide, a game of massive scale, with equal amounts of intelligence and mystery. This is the rare open world that never feels like a checklist of things to do. Instead, it manages to feel like a world of possibility, waiting to be explored. Whether you find Wally or not. 🐭

**“An inexhaustible supply of interesting places to explore”**

## Info

**GENRE**  
Open-world RPG

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

**DEVELOPER**  
FromSoftware

**PUBLISHER**  
Bandai Namco

**PRICE**  
£49.99

**RELEASE**  
Out now

**REVIEWED BY**  
Andrew King

## VERDICT

*Elden Ring* is a towering achievement. It feels vast without losing the depth the previous games were known for.

**95%**

Rated  
Review



Review

# Strange Horticulture

## Sowing the seeds of love

### Info

**GENRE**  
Old-timey botanist simulator

**FORMAT**  
PC

**DEVELOPER**  
Bad Viking

**PUBLISHER**  
Iceberg Interactive

**PRICE**  
£12.99

**RELEASE**  
Out now

**REVIEWED BY**  
Alexander Chatzioannou

**S**trange Horticulture occupies an unusual position within a burgeoning niche (approaches to it are so varied it would be misleading to use the term 'genre'): games revolving around the minutiae of highly specialised professions. Bad Viking's latest is as obsessed with the nitty-gritty of its serene craft – the seeds, leaves, and petals of the plants you identify, catalogue, and systematically arrange for your quaint little shop – as the latest instalment of *Car Mechanic Simulator* is with tyre sizes and gearbox ratios. At the same time, the fantastical circumstances that embroil you in the rather more pressing business of saving its idyllic corner of the world (or damning it, if you're so inclined) recall the more exotic careers of interplanetary archaeology in *Heaven's Vault* and dystopian psychiatry in *Mind Scanners*.

The titular establishment, located in the small town of Undermere, whose picturesque environs look intriguingly similar to the Lake

District, serves both locals and visitors from neighbouring communities. Rich and poor alike have long sought your uncle's expert advice on decorative, ceremonial, and other more peculiar uses of his merchandise. But even though the old coot recently kicked the bucket and bequeathed the shop to your clueless protagonist, the customers won't stop showing up. Here, greeted by the gentle purring of your coal-black kitty, Hellebore, a frail man convinced of the imminence of his own death will ask for the rare Caballia flower to decorate his grave like the huntsmen of old, and a desperate mother will inquire about the milky goo that seeps from the Bishop's Parasol mushroom in the hopes it might cure her ailing boy.

For your novice botanist, such urgent appeals necessitate perusing a dusty tome to discover your plants' hidden properties, as well as foraging in nearby countryside to enrich your stock. Combining clues to gain a better understanding of the trade is the central activity in *Strange Horticulture*, whether that's gleaming from cryptic visions the location of a particularly potent fungus or cross-referencing a patron's vague description with a compendium entry to see if they match that unlabelled vine spreading across your middle shelf. It's an unhurried life of simple pleasures and gentle revelations, vividly conveyed through images, sounds, and responsiveness that magically combine to produce an almost haptic quality. The folding and unfolding of an ancient map, poring over drawings with your

► For all its placid mood, there's a macabre streak in *Strange Horticulture* – its nature not depicted as cuddly and cute but red of tooth and claw.





magnifying glass, instinctively reaching to pet Hellebore every time he stretches lazily, woken by a noisy customer or the rumbling of thunder outside. These are not just means to progress but activities gratifying in themselves, and they envelop you in the game's mellow mood, at least for a short while.

Part of *Strange Horticulture's* immersive appeal lies in the way it captures small-town dynamics. Through chit-chat, gossip, and the shifting demands of your regular clientele, the outlines of stories emerge – some mundane, others with far-reaching implications. A member of the nature-worshipping sisterhood that roams the adjacent woods shows up to announce their matron is dead; an officer tasked with investigating her murder will be dropping by frequently. The hermit that represents a mysterious cult seeking to summon a creature they call the Woken Dendrew requires your assistance; so does a hunter bent on sabotaging their plans.

During these pivotal moments, your role changes from someone who simply facilitates scripted outcomes to someone who actively decides them. You may ignore certain requests or even deliver plants and elixirs (once you've learned how to brew them) that produce different effects to the ones desired – though your patrons are bound to notice. Such interventions come with repercussions, and if there's one major criticism of *Strange Horticulture*, it's how scarce

these nervous dilemmas are, compared to how often you feel corralled in a predetermined trajectory, leaving little room for agency. In the latter occasions, the game is unwavering in its demands; the universe grinds to a halt until you figure out where to dig for a specific bulb or identify a particular herb, an unwelcome impasse borrowed from the redundant point-and-click playbook. Fortunately, instances of genuine frustration are few and far between. Most puzzles will challenge you to think outside the box but rarely, if ever, become esoteric or absurd.

Ultimately, *Strange Horticulture* lingers in the memory not as a series of clever puzzles or a collection of interweaving subplots but as a glimpse of another kind of life and the stream of moment-to-moment sensations that evoke it:

the tingle of anticipation as the bell rings and the first customer of the day walks in; the contented organising of your newly labelled pots before you close for the night; Hellebore's reassuring yawn, untroubled by the looming apocalypse around him. In trying times of a global pandemic, environmental catastrophe, and widespread precarity, *Strange Horticulture* does more than provide an alternative to gaming's usual power fantasies. The peaceful routines of your little shop and the friendly faces of your neighbours (when they're not trying to bring about Armageddon, that is) feel almost like a refuge. 🍄

**“It's an unhurried life of simple pleasures”**

▲ New plants and new compendium entries arrive daily from various sources, but the latter do not necessarily match the former.

## HIGHLIGHT

The magnifying glass is an endlessly fascinating trinket. Aside from its obvious usefulness in comparing partial drawings from the compendium to the actual plants, it's an utter joy to use on anything, from the elaborate carvings on your desk to the scribbled notes delivered daily by the postal worker.

## VERDICT

A wonderfully tranquil experience that would benefit by allowing the player just a little more freedom.

**76%**

Why not try...

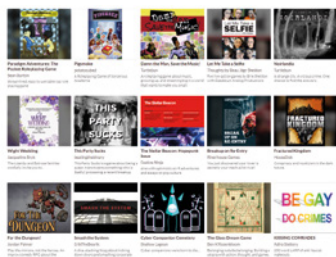
# Itch.io roundup

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

## TTRPGs for Trans Rights in Texas

Various / \$5 / [wfmag.cc/urban-texas](http://wfmag.cc/urban-texas)

Kicking things off with a slight pitch shift from the desktop to the tabletop is this huge bundle of TTRPG books. Almost three grand's worth for the minimum price of a fiver, as it happens. Itch.io hosts a wealth of RPG materials



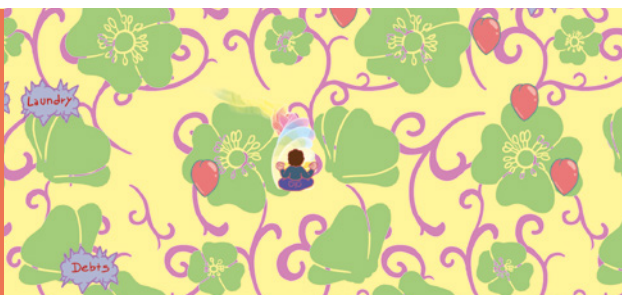
alongside its digital offerings, and diving in is a fantastic way to become exposed to bundles of staggeringly creative art, writing, and game design for inspiration in your own projects. All proceeds go to help vulnerable trans people in Texas in the wake of some troubling policy reveals, and you should still have some time to get involved by the time this hits print!



## mil rosas

H.M. Huizar / Name your own / [wfmag.cc/mil-rosas](http://wfmag.cc/mil-rosas)

A game inside a game that sees you exploring the lands of a classic RPG on your handheld, while awaiting chemotherapy. As you play, you'll look up to see snatches of dialogue from family members as they take turns visiting your bedside. Potentially upsetting themes, obviously, but otherwise an incredibly heartfelt and evocative project, originally in Spanish with a full English translation.



## Here Comes a Thought

Mer Grazzini / Name your own / [wfmag.cc/here-comes](http://wfmag.cc/here-comes)

Right, so... meditative themes are lovely, but I really just want to bring up how impossibly satisfying and finely tuned the mouse locomotion feels here. You play as a lotus-legged fellow trying to squeeze a few minutes of instant Zen into a busy schedule. So you float around a mind palace decorated with fetching, colour-shifting floral wallpaper, trying to avoid intrusive thought-bubbles while collecting hearts. Also, the soundtrack is one of Solid Snake's wordier monologues about genes and all that, set to a lo-fi beat, which is wonderful.

## Squirrel's Soliloquy

ladyorthetiger / Free / [wfmag.cc/sol-squirrel](http://wfmag.cc/sol-squirrel)

"Inspired by Shakespeare's *Hamlet* and Marie Kondo's *The Life-Changing Magic of Tidying Up*," this oddly profound little gem of interactive fiction puts you in the role of a squirrel struggling to scribe a stirring soliloquy extolling the virtues of minimalism upon their fellow acorn-hoarders. To this end, you'll substitute horrible, depressing *Hamlet* monologues for much nicer and relatable musings about whether keeping several times your bodyweight in acorns stuffed under your mattress really sparks an adequate amount of joy. To yeet, or not to yeet? 🐿️

The bonus game this month is a playable tribute to Red Hot Chili Peppers' *Californication*, complete with dragonfly riding sequence ([wfmag.cc/RHCP](http://wfmag.cc/RHCP)).

# ▶ STREAM OF CONSCIOUSNESS

This month, Bex from Trista Bytes talks fundraising milestones, JRPG origins, and her vast console history

**What's your favourite game of all time? And what is it specifically about that game that chimes with you so much?**

The game I have the most love for is probably *Phantasy Star III* on Mega Drive. I spent months playing it. The series made me fall in love with JRPGs. I wanted to explore every storyline element, complete every side quest, and I adored the characters. I still feel waves of nostalgia hearing the soundtrack.

The game I spent most time in, however, is definitely *Quake III Arena*. My goodness, I'm glad I've no way to know how many hundreds of hours I spent in that game. It was my favourite for LAN parties and my way to relax. I would be lost in it for hours each evening in what can only be described as the most violent way to meditate ever designed!

The game I've enjoyed playing the most recently is *Tomb Raider* [1996]. The low-poly look is iconic, and the 3D platform-puzzling in the game is still absolutely top notch. Nothing beats finding a new secret or finding a way to use corner jump glitch exploits to throw yourself out of the game's designated play area!

**Can you remember the game that first got you into gaming? Do you have a favourite memory of playing it?**

The existence of gaming got me into gaming. As soon as I discovered you could make the little squares on the screen move, I was hooked. It was magic and I wanted in! I grew up in a block of flats, and between all the kids there, I got to play a huge variety of games from Spectrum and C64, through Amiga, Atari, and then the NES and Master System came along with all those colours, and I *had* to have one. I've been gaming ever since.



**Has there ever been a time when you felt the need to take a break from games?**

Not a break, but I have self-banned myself from certain games. I distinctly remember the first time I ever saw an MMORPG. I took one look and I told myself firmly I would never do anything else if I made a login. I firmly believe getting my degree and holding down a job was the right call – but I do wonder about the other me that's a *World of Warcraft* streamer with a level 500000000 fire mage in another timeline...

**For you, what's the appeal of regularly streaming to a mass audience?**

I was late to Twitch and only really looked into it as so many friends kept telling me I needed to start streaming. I couldn't comprehend why watching me talking incessantly about comics, movies, and nostalgia whilst messing about in games would be entertaining for anyone. Then I joined and realised all the things that make me feel like I'm annoying in real life are actually benefits to streaming! When you add on how incredibly supportive the Twitch community is of fundraising and the fact my channel is averaging £10,000 for charity each year, I could never see myself doing anything else now. All my passion, endless tangents, and over-excited talking at a million miles per hour seems to make people laugh. And there's no better job than that. 🗨️

Catch Bex on Twitch at [wfmag.cc/tbytes](https://www.twitch.tv/wfmagcc/tbytes) or on YouTube at [wfmag.cc/bytesyt](https://www.youtube.com/wfmagcc/bytesyt).

**“All the things that make me feel like I'm annoying in real life are actually benefits to streaming!”**

# The Wireframe **HOTLIST**

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



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

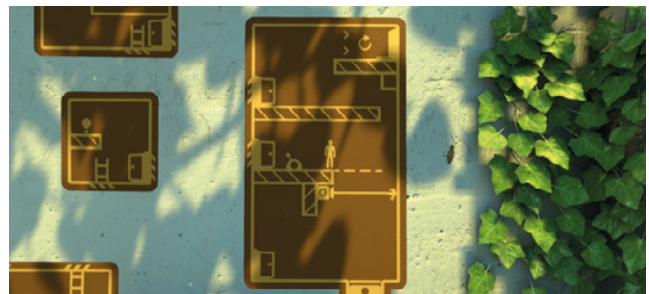
- 🎮 **Elden Ring** / Bandai Namco / **95%** (Issue 61)
- Assassin's Creed Odyssey** / Ubisoft / **93%** (Issue 1)
- Yakuza: Like a Dragon** / Ryu Ga Gotoku Studio / **90%** (Issue 45)
- Amnesia: Rebirth** / Frictional Games / **87%** (Issue 46)
- Death's Door** / Acid Nerve / **87%** (Issue 55)
- The 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 3**  
/ Creative Assembly/Feral Interactive / **87%** (Issue 60)
- Heaven's Vault** / inkle / **89%** (Issue 12)
- 🎮 **The Pedestrian** / Skookum Arts / **84%** (Issue 35)
- 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)
- It Takes Two** / Hazelight Studios / **81%** (Issue 51)



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)

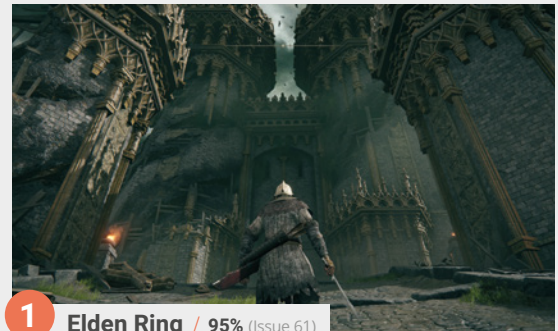
**Witcheye** / *Moon Kid* / **86%** (Issue 30)

**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 AARON POTTER

## Bookworm brawl

The beat-'em-up genre is one that's been having a bit of a comeback of late. *Streets of Rage 4* recently reinvigorated the classic series with a fresh, hand-drawn art style alongside all-new characters, of course, and even *Battletoads* got a second shot at side-scrolling stardom by way of a reboot for PC and Xbox. Heck, one of our most anticipated May releases, Bitmap Bureau's *Final Vendetta* (see page 12), is a modernised love letter to the days when Capcom's *Final Fight* dominated in arcades.

That's why having Bitmap Books' latest coffee table publication drop through my door this month couldn't have happened at a better time. *Go Straight: The Ultimate Guide to Side-Scrolling Beat-'em-ups* by Dave Cook aims to catalogue pretty much every single genre entry since its inception in the early 1980s, presenting games in all their glory via a full colour spread while offering editorial insight into what makes them notable. It does so by cataloguing the genre's evolution throughout the better

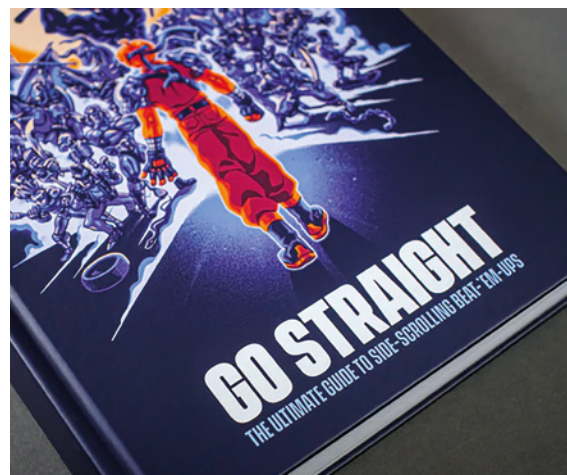
part of three decades. Calling it a "book" might be pushing it, though, because it resembles more of a tome, coming in at 456 pages. And yet, it's only when feeling such heaviness in my hands and casually thumbing through its pages that I was reminded of the ubiquity this style of game once held in the market.

As with most other efforts by Bitmap, it doesn't take long for you to notice just how much of a labour of love *Go Straight* actually is.

The high-quality lithographic print does well to exhibit every beat-'em-up instalment in its very best light, with entire pages dedicated to classic moments found in the genre's most notable releases; there's even edge-to-edge spreads dedicated to lifting characters and enemies directly out of their backgrounds in order to truly showcase the phenomenal sprite work. I doubt you'd be disappointed if you were picking this one up purely for the artwork alone. However, it just so happens

that Cook (and a few other contributors) have also gone to great lengths researching, say, the advancements made between Sega's *Golden Axe* and Capcom's surprisingly excellent (and rather beautiful-looking) *Aliens vs. Predator* for arcades – despite launching only five years apart. There really are cool nuggets of information to be found on every page.

It's the sense of discovery that I quickly came to appreciate with *Go Straight*. Being a child of the 1990s myself, I grew up playing the likes of *Streets of Rage* and *Altered Beast* on my mum's hand-me-down Mega Drive, sure, but it meant I mostly missed out on the peak of beat-'em-up fever. I didn't know of *Ninja Baseball Bat Man*'s existence before now, for instance, but it looks awesome, and I expect to go through great pains trying to seek it out. Yet now I must. That said, if you're someone interested in the genre's later exploits, and more specifically its shift to 3D, Dave Cook also has you covered.







As an example, never did I expect to see – especially in a luxury book like this – such reverence and attention paid to Midway’s woefully underrated *Mortal Kombat: Shaolin Monks*, an astonishing spin-off that me and my brother spent endless hours completing to try and unlock Scorpion and Sub-Zero. We’re still waiting on a sequel. You hear me, Ed Boon? This isn’t the only early noughties title paid its due during the genre’s awkward, transitional period, either. Odds are if there was a game on Xbox or PS2 you punched your way through, it’s here. Even licensed games like Rockstar’s *The Warriors* aren’t off the table.

As far as introductions to the beat-’em-up genre go, you could do a lot worse than *Go Straight*. It’s very much a bible’s worth of great artwork and detail that spans the era’s early beginnings all the way up to some of the side-scrolling indie gems, such as *Wulverblade* and *Way of the Passive Fist*, still releasing today. If anything, the book is proof positive that, while their popularity may ebb and flow in the mainstream, beat-’em-ups are a style of game that will always have a certain classic appeal worth celebrating.

Available now, you can order a copy from [wfmag.cc/go-straight](http://wfmag.cc/go-straight).



A previously Japanese-exclusive entry into the *Kunio-kun* series, *River City Girls Zero* just recently came to Nintendo Switch. As such, it’s never been easier for you and a friend to break off a couple of Joy-Con and indulge in some classic co-op beat-’em-up combat as heroes Kunio and Riki. Does it still mostly look and feel like an SNES game from 1994? Yes, admittedly, but new touches like an animated intro, revitalised key art in menus, and bespoke closing motion-comic cutscenes at least help to make it feel like the definitive version – and something special for those who have waited so long for a Western release.

I doubt many would argue that WayForward Technologies has done an excellent job so far as the relatively new custodian of the *River City* series. The localised port of this forgotten prequel is just the latest evidence of that. It’s rather quaint by today’s standards and can be a little punishing (as so many beat-’em-ups were back in the day), but as a way to tide players over before the imminent release of *River City Girls 2*, it certainly packs a punch. *Zero*’s wow factor can be especially felt during the Mode 7-style battle sequences that take place with you on the back of a motorbike. They do well to break up the pace of the game’s standard side-scrolling fare, serving to highlight the boundaries original developer Technos Japan was attempting to push at the time. *River City Girls Zero* is an excellent restoration effort and a cool look into this rejuvenated franchise’s past.

# Backwards compatible

WRITTEN BY CRAIG GRANNELL

## Child's Play

Having a kid changes everything. That might strike you as obvious, not least if you have children of your own. But what I wasn't prepared for is how much my daughter would impact on how I approach gaming and make me rethink retro.

Given that she's grown up surrounded by technology, my kid is comfortable with it to a terrifying degree. She could navigate an iPod touch before her second birthday. A few years ago, she figured out how to capture a screenshot in an iPad game and clone a crop of it into the game's landscape. However, for the longest time, she showed no interest in classic games. Compared to safe, stress-free, touchscreen-based iPad fare, they appeared intimidating.

Intriguing retro-fuelled hardware turned out to be the key. Back in Wireframe #43, I wrote about how we bonded games-wise over an Arcade1Up *Gauntlet* cab, which flipped on its head notions I had about



1980s pay-to-play. Now the coins you feed into these games are virtual, they're transformed into stress-free "infinity lives" (as my daughter calls them): co-op fare to play at leisure.

The review kit I got over subsequent months further shifted how I approach retro. For years, it had involved an awful lot of faffing (searching for 'perfect' solutions), little playing, and getting stuck in a rut through returning to the same favourites over and over. But then we had an AtGames Legends Ultimate machine take up half the living room for two weeks, with dozens of built-in games. The child instantly warmed to *Bubble Bobble* (she has good taste) and *Rod Land*.

A short while after that cab went 'home', an Evercade VS rocked up, and – to my surprise – my daughter kept hinting interest, having previously decided gamepads were "impossible". After an hour tussling with one, she cracked it. And the 'curated' nature of Evercade VS carts bypassed my usual dithering, meaning we tucked into whatever two-player co-op fare was available: *Tumblepop*; Atari 7800

*Dark Chambers*; deranged Gaelco shooter *Alligator Hunt*.

I resolved to stop endlessly tinkering with my Raspberry Pi 400, which had been a work-in-progress for far too many months. RetroPie and its command line demands was duly binned and Batocera installed. Everything just worked. Moreover, I now had another treasure trove to explore with the youngling, where we could dig into yet more classic fare. It was a reminder about the pointlessness of busywork for the sake of it, and the simple fact these old games are supposed to be about having fun.

Most recently, my daughter noticed the Replicades and Quarter Arcades in my office and has since been busy mastering *Centipede*. It made me further value the joy of immediacy, focus, and not hiding such things out of reach. Although the Replicade also presented its own reality check: after my daughter remarked how great it is to play arcade games on "a little cabinet", it's perhaps not a great sign that I started pondering ways to squeeze one of those Legends Ultimates back into the house.

## Game and splotch

I'm not a tinkerer. Unlike certain Ryan Lambies, who can on a whim add new controls to an ancient handheld, or turn an egg whisk into an emulation powerhouse, I'm loathe to dismantle whatever I might not be able to put back together again. As evidence of this, I bought a screen upgrade for my Picade over a year ago and it's still in the box, because I can't deal with the horror of taking the cabinet to bits.

However, I recently trawled through my retro drawer of joy and fished out my boxed *Parachute* Game & Watch. On smiling at fond memories – it was once my mum's, and I still have my handwritten high-score chart from when I was a nipper – I spotted the screen was, well, spotty. Or, more accurately, splotchy.

Given that the machine has sentimental value and remains an objectively fantastic twitch game – Dear Nintendo: please release a version for smartphones – I resolved to fix it, while mulling over the finite nature of existence. Long story short: a helpful person on Facebook's



Nintendo Game & Watch Trading Community group told me the splotches are nothing more than old condensation between the polariser and graphics film – a common problem.

He added that the fix is relatively simple: open the unit, separate the polariser and graphics film, wash both

in warm soapy water, thoroughly dry everything, and reinstall. It sounds like something even I won't be able to mess up, despite having anti-DIY fingers. Although if I do, you'll find out, due to the ear-splitting screams of anguish emanating from somewhere near Aldershot.

## Make it again: Stunt Car Racer

This section could instead have been called 'Break it Again' this month, as a reference to the cars in *Stunt Car Racer*, which tended to get smashed up. Inevitable, really, when you combine powerful vehicles running on a volatile cocktail of chemicals, tracks based around rollercoasters, and precisely no guard-rails.

In this 1989 release's alternate reality, this was considered progress as Formula 1 racing was swept aside due to being too boring for modern spectators. Instead, Geoff Crammond imagined and realised a type of racing that was brutal, brilliant, and decidedly different from zooming around an asphalt circuit.

I returned to it again recently, having heard it's a pack-in game for the A500 Mini. The filled vectors have dated, but nonetheless give *Stunt Car Racer* a distinct look. But it's the feel of the game that most appeals: simplified but perfect, weighty physics; that sickening crunch of clashing cars; using nitro to blaze past an opponent and steal a win, and realising with a sense of impending doom you've misjudged a jump and are attempting to hang in the air in a manner that cars don't.

It's ironic that a game whose lore was about Formula 1 making way for stunt-car racing itself made way for F1 as Crammond spent a decade immersing himself in simulators for 16-bit computers



and PCs. Sadly, *Stunt Car Racer Pro*, in development during the early 2000s, never materialised. Perhaps the original rocking up on the A500 Mini will jolt someone's memory and somehow lead to the sequel the game deserves.

## Now playing

Man's best friend is up, up, and away

# Man's best friend is up, up, and away

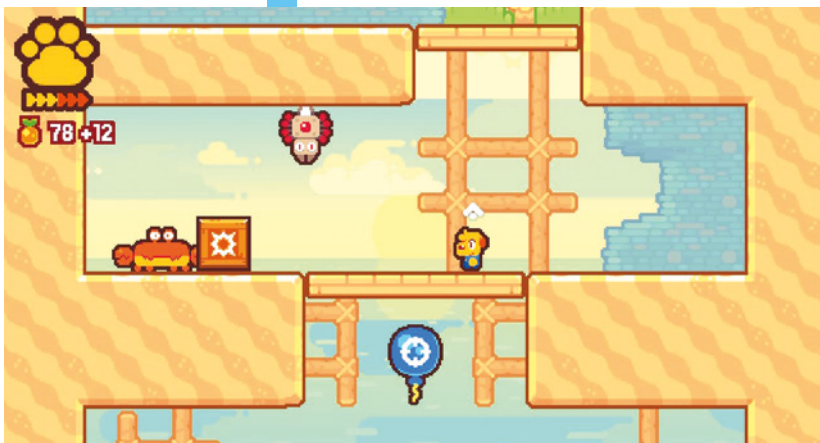
Aaron gets into the swing of things in pixel-art platformer, *Grapple Dog*

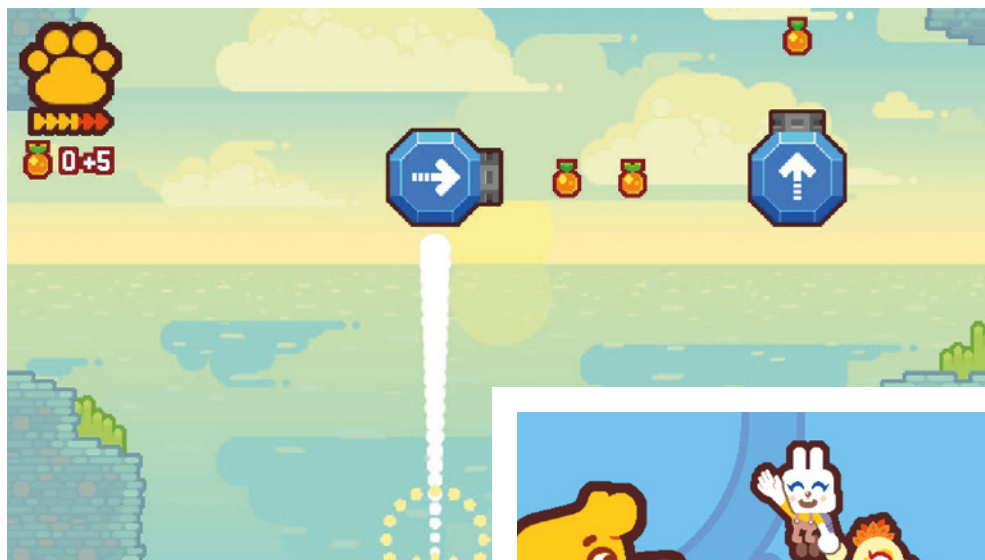
**T**here aren't enough indie games these days that pull direct inspiration from the Game Boy Advance era of consoles. There, I said it. You get plenty of 8- and 16-bit throwbacks, sure, but I've always felt that Nintendo's souped-up handheld always boasted its own unique type of pixelated aesthetic – despite mostly working within the same 32-bit confines as contemporary hardware found elsewhere. This chibified, unapologetically colourful look is one that's been perfectly captured in *Grapple Dog*, a high-flying 2D platforming adventure with plenty of charm and creative ideas that's kept me engaged for many a minuscule play session. It's the first title

released as part of Super Rare Games' new digital publishing arm, and the team has certainly come out swinging (literally).

On the surface, the core conceit behind *Grapple Dog* is painfully straightforward. You play as a little dog named Pablo who, wait for it, must wield the power of a grappling-hook to get around in the hope of saving the world. It's the very embodiment of a little game with big ideas, then, but it's precisely this inherent simplicity – coupled with the wise decision to never leap beyond its own ambition – that makes whirling around levels with speed and grace such a delight. It's not hard to imagine an alternate version of solo developer Joseph Gribbin's game, where it throws so many more mechanics and challenges at you in the hopes of trying to be seen as grander than it actually is. However, as it stands, *Grapple Dog* is pretty much perfect.

Events start out innocently enough, with you as Pablo stumbling into some ancient ruins and encountering what seems to be an innocent AI head in need of rescuing. It's ultimately revealed soon after, unfortunately, that said AI has plans on dominating the six worlds that make up this anthropomorphic universe, and by utilising the grapple to free you both you've unwittingly put everyone in danger. Thus begins a relatively modest hero's journey, where the future of the world depends on how well you can swing, blast, and bounce your way through countless platforming challenges.





What the jump is to Mario, swinging is to Pablo in *Grapple Dog*. There's seemingly no problem you can't solve by simply firing its hook up into the air, attaching it to a compatible surface, and reaching the next area. Thankfully, though, in addition to just powering onwards, Gribbin has been clever enough to populate his game with several optional locations you can discover and a swathe of purple coins for you to collect. Of course, a certain amount of them are needed in order to progress and visit future worlds (each sporting a different theme), but for the most part, I was more than happy to venture off the main path and take some pretty ambitious swings to try and hunt them all down.

Speaking of swings, *Grapple Dog* lives up to its title in terms of pure feel. It's important to nail the momentum of swinging to and fro with a mechanic like this, and much of the time, if I fail a jump, it's because I've not pulled far back enough on the left analogue stick, as opposed to the game making its obstacles too hard. *Grapple Dog* isn't afraid to ask a lot of you in its later stages, though. Whereas in the early hours, reaching hidden coins or collecting every fruit simply requires you to make a landing or time jumps perfectly, by worlds five and six, you're having to do similar but with well placed enemies or spiralling spikes flying at you.

Fortunately, with regards to difficulty, it all comes down to that niggling feeling at the back of your mind. *Grapple Dog* constantly had me thinking along the lines of "Well, sure I could leave



that coin in its hard-to-reach place, but could I live with finishing the level with only four discovered instead of five?". More often than not, I'm my own worst enemy, and am prone to spending endless attempts trying to time a swing perfectly in a situation, when the truth is that such mentality has no influence on whether I'll be able to advance to the next stage or not. In this way, *Grapple Dog* can be catnip for completionists, for better and worse.

In between stages, you're encouraged to explore your ship and chat to fellow animal buddies who provide additional story context. Problem is, however, there's not much else to do, and *Grapple Dog's* story, while definitely appreciated, isn't one to push any boundaries. It's much

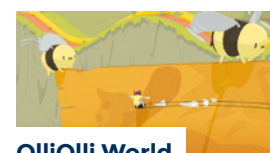
more enticing to revisit beaten levels to complete time trials, attempt the handful of bonus stages sprinkled in throughout, or bask in each world's

surprisingly cinematic boss sequences centred on a mechanised monolith. And wouldn't you know... your trusty grapple-hook is always the ideal tool in which to take them down, too.

By the time I'm done with Pablo's big adventure, *Grapple Dog* has shown just how much mechanical greatness can be accomplished with a surprisingly minimal concept, executed near-perfectly. All you need is one great hook explored to its absolute fullest. This is a bite-sized love letter to Game Boy Advance platformers which certainly got its hook in me. 🐾

**"Grapple Dog can be catnip for completionists, for better and worse"**

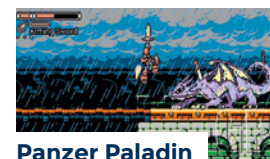
## Wireframe Recommends



### OlliOlli World

PC, SWITCH, XBO, XB S/X, PS4, PS5

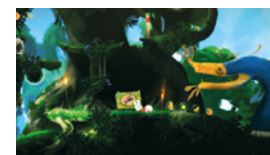
You could do far worse than this colourful skater's paradise for when you just want to roll with it. Locations range from absurd to extravagant as you creatively chase scores.



### Panzer Paladin

PC, SWITCH

The look and feel of NES side-scrollers is perfectly aped in this weighty action-platformer where you jump into a mech capable of wielding several weapons. Be wary of tough bosses!

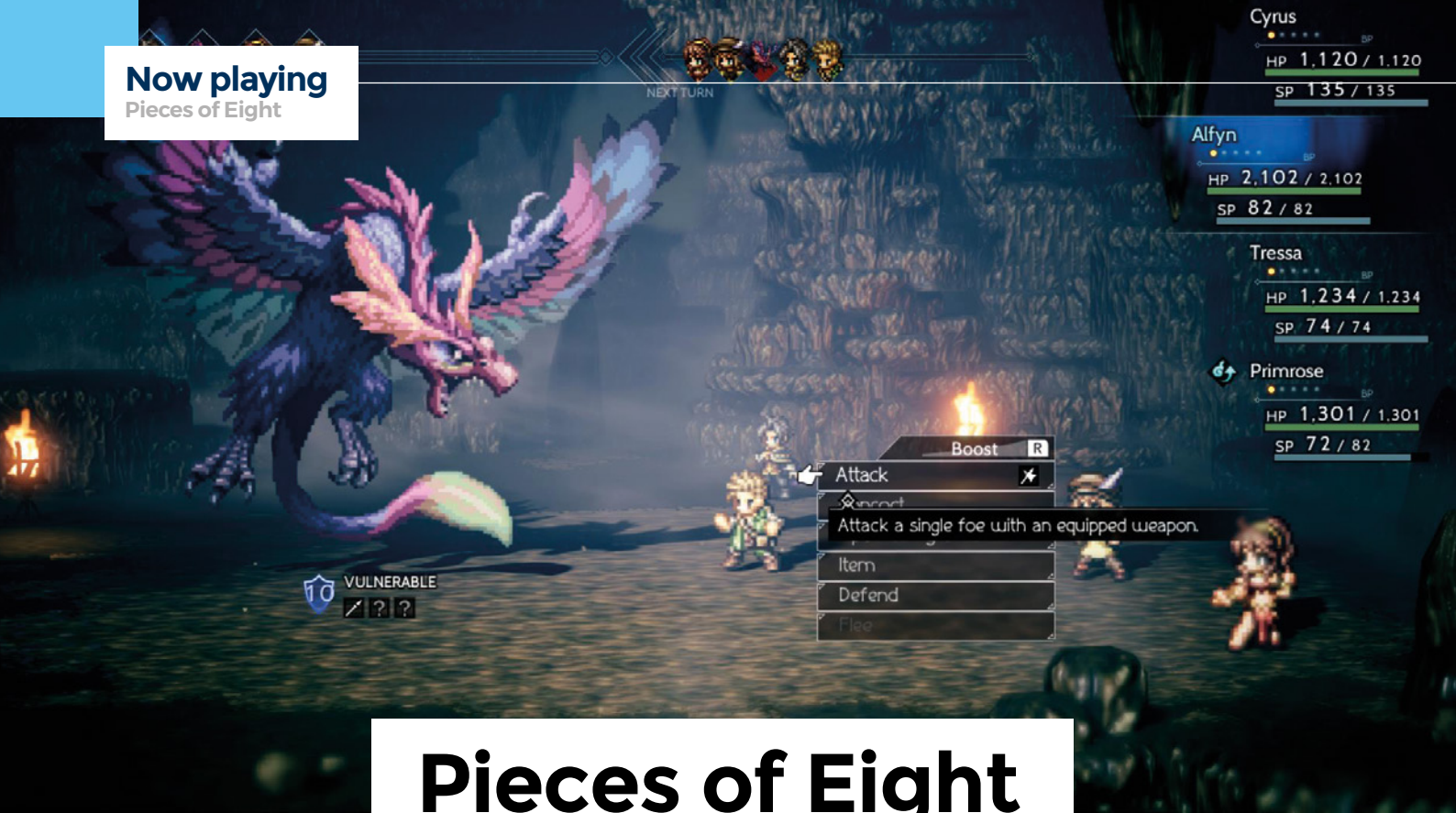


### Yoku's Island Express

PC, SWITCH, XBO, PS4

Who knew being a dung beetle delivering post was so glamorous? This cutesy puzzle-platformer puts a pinball spin on the Metroidvania format, blending challenge and exploration amidst an island paradise.

Now playing  
Pieces of Eight



# Pieces of Eight

Jon Bailes enjoys a stop-start journey in Octopath Traveler

I started *Octopath Traveler* on Christmas Day, an ideal time for a turn-based JRPG. Christmases, sick days, and empty Sundays – that’s when they shine the most. Ever since I first chipped through *Phantasy Star* with a friend one school holiday, enjoying a JRPG has been about having the wind-down time to dozily soak in a fantasy land, meander around dungeons, and battle beasts with no concern for timing or position. Match their weaknesses to your strengths and watch numbers spill like blood from their wounds.

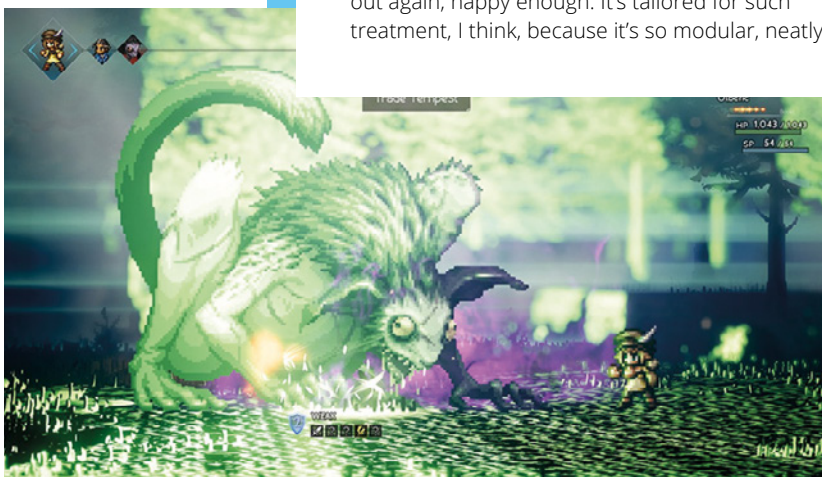
I played *Octopath* steadily for three days, then stopped when there were other things to do. Occasionally I slide back into its groove, then slip out again, happy enough. It’s tailored for such treatment, I think, because it’s so modular, neatly

sliced into eight stories, each layered in snack-sized chapters. But also, it’s easy to stop-start because the stories barely matter. I’m glad they exist to structure my travels, but the events haven’t grabbed me yet, and since I’m barely keeping track, I doubt they will.

Did the stories ever really matter, though? I doubt they did in *Phantasy Star*, and even if they do grab me – like in *Final Fantasy VII* – they aren’t the primary pull. *Octopath* feels honest in this respect, admitting that story is merely the excuse for adventure, the camaraderie of assembling a bunch of misfits to take on whatever needs taking on. You select a character, play out the opening act of their drama, practice their combat style, then you’re on the road, free, armed with a vague objective that prompts you to explore.

And when it comes to assembling your squad of eight, *Octopath* excises the narrative contortions of having characters meet before getting embroiled in each other’s business. Arrive in a town where a fellow traveller lives and you’ll find them looking for help with their problems. When you’re ready, you step in like a medieval A-Team to lend some muscle and nous. You can even skip the intro bit of their tale if you want (I did with a few), cutting straight to the chase.

Equally important is that *Octopath* looks amazing. It’s easy to forget, perhaps, but mostly thanks to Square and Enix, JRPGs used to be the most visually cutting-edge of genres. This is where retro revivals like *I Am Setsuna* and the





3D remake of *Trials of Mana* get it wrong, I think. JRPGs should never look like B-tier productions, leaving you with the sense that there are no great wonders to discover. In contrast, *Octopath* is guileful, advancing from a lavish pixel art heritage while deploying 3D to add modern flourishes of focus, depth, and light. For me, a veteran of 16-bit *Final Fantasy* games, it's a dream come true, as if flat paintings have been transformed into little model villages to poke around in. I'm sure it's been said before, but *Octopath* is quietly sumptuous in its technique, and a wizard of nostalgia.

I did think it might have misjudged the latter at first, however. That's chiefly down to my choice of main character, H'aanit the forest huntress. The dialogue in her first chapter felt like the wrong kind of clumsy localisation throwback, comprised of mangled olde English. Not so much Shakespeare as Fakespeare. "Leten my arrow flyen true," H'aanit exclaims as she attacks, and that's one of the milder offences. Some sentences are so clogged with thous, haths, comens, and beginneths it takes a moment to unpick the intent from the tangle. What a relief then to discover this is merely a regional dialect, and once you're out of earshot of H'aanit's home village, the script regains its senses. Besides, H'aanit turns out to be a strong main character – a powerful all-rounder who can call on her pet leopard and a menagerie of other beasts to attack in her stead.

That's valuable because the main strategy in *Octopath's* combat is covering all your bases.

**"Occasionally, I slide back into its groove, then slip out again"**

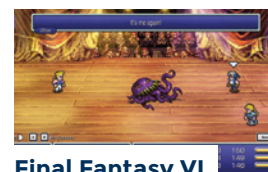
It isn't complex or deep, but it has a good balance to it. Out in the field, it lulls you into a soothing rhythm, as you hit new enemies with varied assaults until their guard-breaking vulnerabilities are exposed, then target those as efficiently as possible. Sometimes it makes sense to prioritise bigger dangers to stall their attacks. Sometimes that takes too long and you're better off silencing smaller irritants first. It's just involving enough because it's slick and dynamic, hitting the right spots to create a sense of satisfaction. The almost disco-like battle theme, the flash-crack as you

break an enemy's guard, the detailed creature designs – it all helps.

Still, as I get deep into the second round of story chapters, the reality grind starts to bite. Maybe I'm not the hardy role-player I once was, but I'd say *Octopath* demands a little too much effort to keep up with its level requirements. And there's that old bugbear of new enemies that look suspiciously like the ones you've fought before, albeit a little tougher. If my plan was to get through the whole game before *Triangle Strategy* came out, in reality that was nowhere near happening.

In fact, I'm not certain I'll ever finish *Octopath Traveler*. Perhaps the pull of the story needs to be stronger, after all? Or perhaps it doesn't matter. Not every journey needs a tidy end. Maybe the gang merely has to wait for my next lazy Sunday or Christmas break, accompany me on a few more nostalgic quests, then fade away again. In a game about being a traveller, no one could begrudge me a few rest stops. 🍷

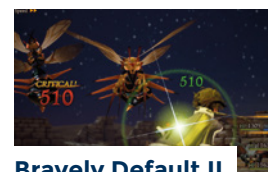
## Wireframe Recommends



### Final Fantasy VI (Pixel Remaster)

PC

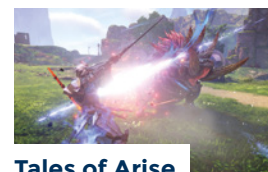
Surely the biggest inspiration behind *Octopath*, and still the title that best demonstrates the JRPG at the peak of its 16-bit powers. Now given a reasonably acceptable makeover.



### Bravely Default II

SWITCH, PC

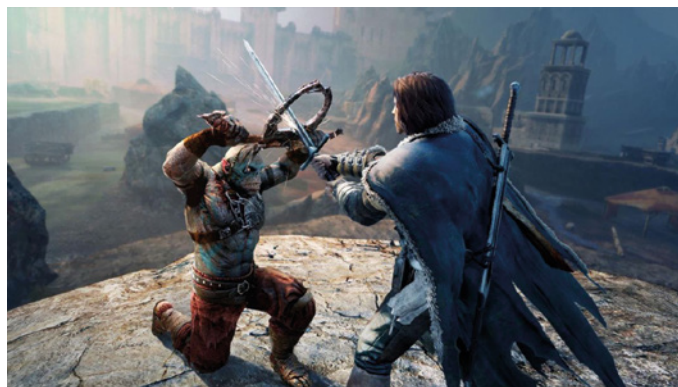
Square Enix's other retro-styled RPG series that's actually quite good. Not as visually striking as *Octopath*, but more tactically demanding, with some particularly devious boss encounters.



### Tales of Arise

PC, PS4, PS5, XBO, XB S/X

A reminder that the JRPG continues to evolve, and that not all of them are made by Square Enix. Bandai Namco's *Tales* series has more than done its bit to keep the torch burning.



# Middle-earth: Shadow of Mordor

Things just got personal: how the Nemesis system made us rethink our relationship with NPCs

MONOLITH PRODUCTIONS / 2014 / PS3, PS4, XB 360, XBO, PC

█ If ever there was a “killer feature” from the early PS4/ Xbox One generation of consoles primed to change the way we think about open-world games forever, you’d struggle to find one with more promise than *Shadow of Mordor*’s Nemesis system. We say promise because, for the most part, it turned out to be a rather ingenious gameplay mechanic that went mostly untapped outside of Monolith’s Middle-earth-based 2014 game that introduced it. Other than its direct sequel, that is. Limited application aside, however, it says a lot that the act of being defeated by an enemy NPC (a foul-mouthed orc, no less), only to have them then rise up through the ranks and persistently taunt you until you can claim vengeance, still feels special nearly eight years on.

Prior to this point, games made it extremely easy to just endlessly slay foes and not consider the consequences of your callous actions should you fail. Rockstar’s blockbuster crime-’em-up, *Grand Theft Auto V*, for instance – only released the year before – never once forced you to think about how many innocent bystanders you just shot up with your rifle or ran over with your car. *Shadow of Mordor* was the open-world game that finally gave such aggressive exploits meaning, threatening you with the potential of unending heckling and an even larger combat hurdle should you end up at the wrong end of a particular adversary’s blade.

It would have been enough to have the orc who defeated you claim a higher promotion within Sauron’s army, true,

but *Shadow of Mordor* solidifies this deep rivalry even more so by having their attributes grow stronger. Because of this, it’s easy to remember their name, however procedurally generated sounding it just so happens to be. Dushrat of the Welts, Ushgol the Bloody, and Krakhorn Blood-Hand are just some examples of the creature titles Monolith’s game might spit out at you during a playthrough, setting player-character Talion out for a quest for revenge – no longer just for the death of his family, but the three times he’s tasted loss at the hands of the same NPC, too.

At its core, the Nemesis system is very chessboard-like in its setup. Behind every arrow shot, sword slash, and dagger stab you perform is an entire enemy hierarchy waiting to

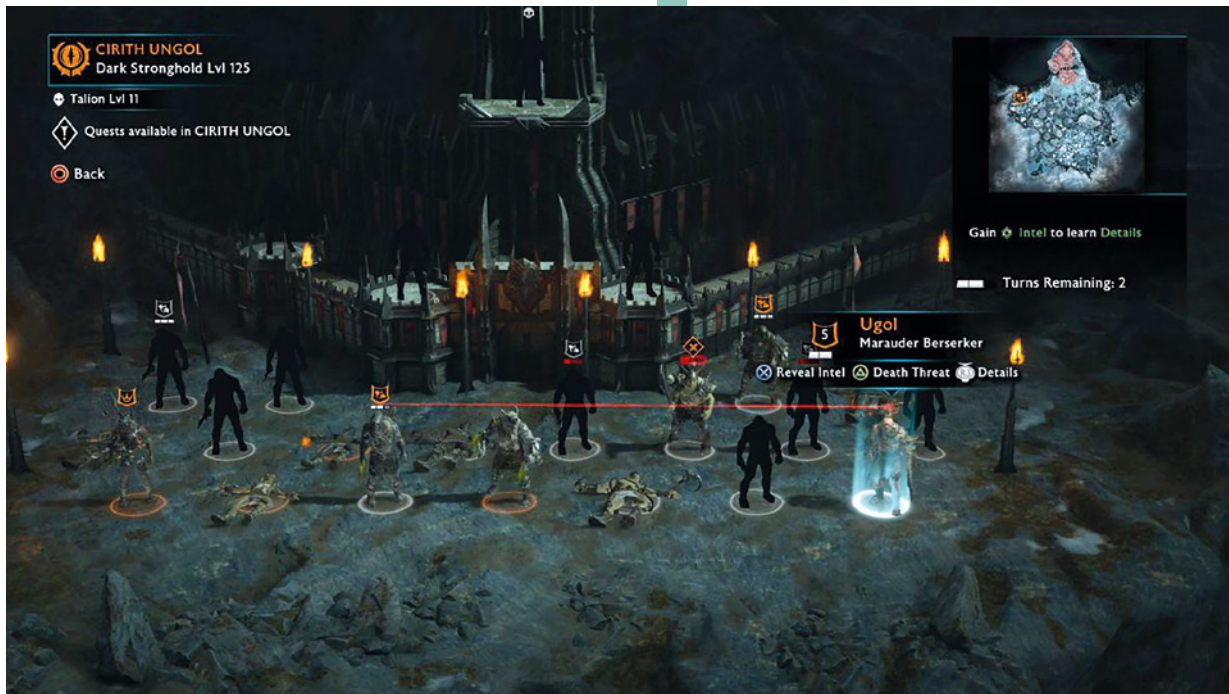
be affected. Every literal pawn in Sauron’s army you kill will be replaced by another (and another) as you progress through the game’s two relatively large maps. Eventually you – as Talion – come to understand that it’s impossible to rid Mordor of every orc.

Instead, from that point, it’s more about ensuring that any Uruk and goblin underlings you come across stay in their lane, for fear of seeing them achieve lieutenant, or possibly even captain status, and therefore granting them boosted stats like burn resistance, stealth invulnerability, and so on. Randomised perks like these make each tougher to take down.

Enemies had been ranked in tiers in open-world games depending on their level of challenge before *Shadow of Mordor*, of course, but Monolith was able to make it more personal than ever before here. Say the way you died last time

**“The camera is likely to swoop in WWE-style to ignite your anger”**

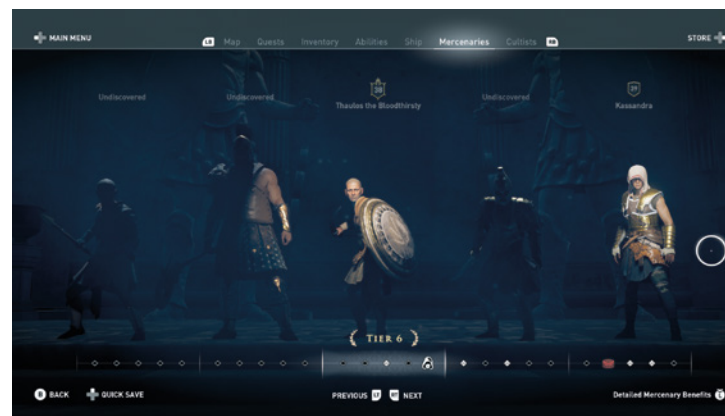




was by taking an arrow to the head, odds are the next time you meet the orc that killed you he'll directly reference it. And not only that, but the camera is likely to swoop in WWE-style to ignite your anger further. With any luck, though, you would have gained more skills and combat abilities than before, freeing you up to claim payback. Just make sure you take note of your rival's new-found strengths and weaknesses.

The Nemesis system was such a great technical solution for letting players create their own bespoke stories within a wide, authored experience that it really is a wonder we didn't see it crop up elsewhere. Even *Batman: Arkham Knight*, another WB Interactive-published game, would have been a great candidate in which to build on the foundation first established by *Shadow of Mordor* only a year earlier. Especially since most of the Dark Knight's villains in that game come complete with their own entourage of faceless (though appropriately themed) thugs.

Alas, it was in 2017's *Middle-earth: Shadow of War* where players saw an expanded version. It introduced the concept of followers, where Talion could now brainwash defeated Uruk captains and have them join his own army. Suddenly, the personalised relationships you forged with opponents no longer felt like a second thought, and were instead pretty much essential if you wanted to stand any chance of conquering the sequel's various fortresses. The revamped Nemesis system fed into these large-scale battles and ensured all your efforts leading up to that point had been worthwhile. Much like the orc warriors it regularly promotes, Monolith's imaginative mechanic had now also finally levelled up. 🗨



## Hot pursuit

The closest thing to the Nemesis system we've seen since the *Middle-earth* games is arguably the bounty system from *Assassin's Creed Odyssey*. You'd be going about your day experiencing the luscious beauty of Ancient Greece, when out of nowhere you could be targeted by a passer-by mercenary wanting to claim the bounty on your back. It was a good addition that, in theory, made sense for this storied series. In reality, though, mercenaries would always come at you at the most inopportune times, like when you were trying to assassinate an important target or stealthily dispatch soldiers from a camp. *Odyssey's* version also lacked the level of personality and charm seen in *Shadow of Mordor's* orcs, so it's easy to see why it was drastically overhauled to be less aggressive in the next *Assassin's Creed* entry.

# Next Issue

ON SALE 5 MAY

IT'S HUMANITY VERSUS  
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UPCOMING NARRATIVE  
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# THE LAST WORKER

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