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116 PAGES MONTHLY

# Wireframe

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The designer who created a Konami classic – and vanished

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# THE LAST WORKER

HUMANS VS MACHINES IN A BLACKLY COMIC FIRST-PERSON SATIRE

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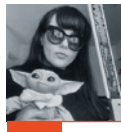
# LEGO Star Wars: The Skywalker Saga finds the light side of fandom

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In one of the many goofy cutscenes in *LEGO Star Wars: The Skywalker Saga*, a grizzled Luke Skywalker sidles up to the makeshift bar on his Ahch-To hideaway, a befuddled Rey in tow. A quartet of Thala-sirens – portly, walrus-like things with a cluster of udders – are hooked up to a milking machine. The Porg bartender draws a pint of their green milk and slides it over to Luke, who downs it with lusty enthusiasm. I remember when Luke’s green milk habit in *The Last Jedi* would cause a portion of the *Star Wars* fandom to have a conniption fit. You won’t hear them complaining now.

*LEGO Star Wars* is so loving in its treatment of the franchise that it sucks the air right out of the cynical and the unimpressed. *The Skywalker Saga* is the sixth title of its kind from TT Games, and the first to encompass all three Skywalker trilogies (*The Mandalorian*, *Solo*, and *Rogue One* all feature as DLC). And time and again, it takes moments that have triggered hours of circular arguments between enraged *Star Wars* devotees and transforms them into a bit of offhand slapstick. It’s all covered: Obi-Wan Kenobi and General Grievous’ confrontation (“Hello, there!” segues into a dance-off), Stormtroopers and their terrible aim, and the many, many body-doubles of Padmé Amidala.

It’s exactly what *Star Wars* needs, especially at a time when the franchise’s every move is treated as the symptom of some unseen internal crisis. For whatever brief unity there was when *The Mandalorian* emerged, it seemed to fall apart when *The Book of Boba Fett* premiered to a mixed critical reaction. The fans took up arms against each other again without hesitation. That’s always been the problem with *Star Wars*: these films have formed a foundational part of several generations’ worth of childhoods, so there’s always been a tendency for the fandom to act too defensively,



**CLARISSÉ LOUGHREY**

Clarisse Loughrey is the chief film critic for *The Independent* and co-host of the *Fade to Black* podcast.

or to treat every stumble or deviation from the norm as something of a personal attack.

But the real pleasure of being a *Star Wars* fan doesn’t lie in the arguments over whether Rey was too capable for her own good, but in the possibility of a world so rich that it’s possible to develop a fixation on a character who’s only on screen for 30 seconds. And *The Skywalker Saga*, with its 380 character models, caters to that obsession beautifully: finally, you can play as Klaud, Yaddle, or Willow Hood (the guy on Bespin running around with an ice cream maker).

There needs to be that space for pure joy in *Star Wars*, where fan service doesn’t have to feel as forced and portentous as Palpatine’s unlikely return in *The Rise of Skywalker*. That’s really where the true potential of cross-medium storytelling lies – in the opportunity to add depth to an existing world, as opposed to hacking bits off like it’s a juicy chunk of bantha rump.

Respawn found success with *Jedi: Fallen Order*, which delivered original characters and storylines set in a post-Order 66 world, but I’ve always been more intrigued by the potential of games like *Star Wars Battlefront II* or *Marvel’s Avengers*. Both had shaky launches and, arguably, never really found their feet, but the way they encouraged a sort of liberated, cross-pollinating approach to their respective franchises – play however you like, with whichever character you like – always reflected my favourite parts of any fandom. I’m talking about the cosplayers, the droid builders, the artists, and fan fiction writers, the people who took something they love and stamped their identity and creativity on it. *The Skywalker Saga* builds on that idea, with a semi-open-world structure that encourages you to explore and test out different character combinations. And, really, how can watching Kylo Ren fanboy all over Darth Vader not bring a smile to your face? 🤖

#62



# Contents



50



6

## Attract mode

### 06. The Last Worker

It's a post-human future in this first-person adventure-satire

### 12. SCATHE

Scottish developer Damage State takes us to bullet hell

### 16. Eternal Threads

Travel through time and save lives in a unique narrative-puzzler

### 18. Soundfall

A rhythm-based dungeon crawler? Sounds good to us

### 20. News

Another wry glance at the month's video game happenings

### 24. Incoming

Frogs, football, fighting, and lashings of hot coffee

## Interface

### 28. Castlevania

Tracking down its erstwhile creator, Hitoshi Akamatsu

### 38. Konami classics

Our pick of the 20 best games from its golden age

### 70. Recreating the 1980s

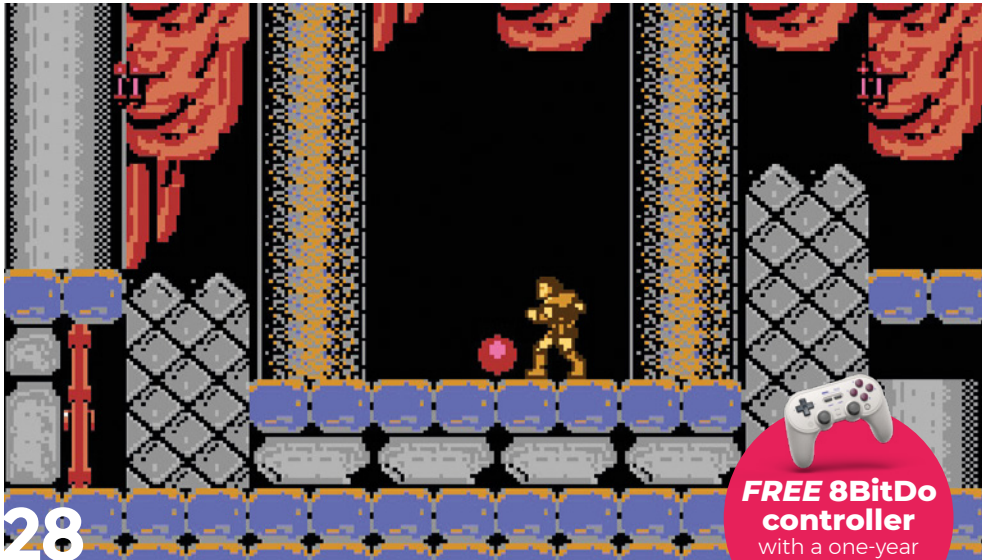
The studios making less clichéd games set in the neon decade

### 84. SNK's fighters

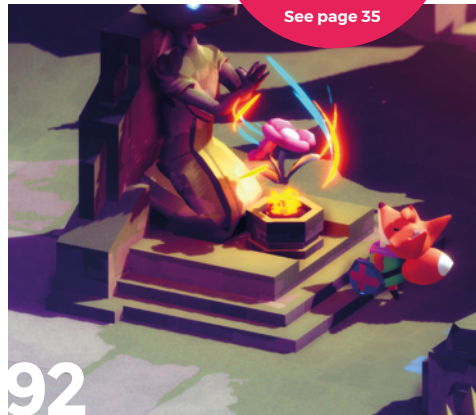
Memories from the creative minds behind Art of Fighting and more

### 90. Steve McNeil

Celebrating the return of in-person gaming events



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See page 35



## Toolbox

- 46. CityCraft**  
The design secrets of Mirror's Edge Catalyst's City of Glass
- 50. Game Boy guide**  
Make an infinite runner for original Nintendo hardware
- 58. Finding the balance**  
Get your game's challenge pitched just right with our guide
- 66. Source Code**  
Make your own Guitar Hero-style rhythm action game

## Rated

- 92. Tunic**  
So cunning, you could pin a tail on it and call it a fox
- 97. Orbital Bullet**  
This roguelike has us going round in circles
- 100. Itch.io roundup**  
Our latest monthly pick of the platform's finest experiences
- 104. Backwards compatible**  
Fancy GBA buttons and The House Of The Dead: Remake

## WELCOME

There's a vein of nostalgia running through this month's issue, whether it's the golden age of Konami (see page 38) or our chat to the studios who've set their games in the 1980s (page 70). Video games and nostalgia have long been natural partners, perhaps because most of us discovered the medium at a young age – several generations have now grown up with the sights and sounds of the Atari 2600, NES, Mega Drive, or later consoles ringing in their ears.

But just as doctors in the 17th century thought of nostalgia as a sickness, there's a slight danger of looking back at past eras of gaming through an overly romantic lens. Sure, there were some incredible games made in, say, the 1980s. Take it from someone (just about) old enough to have lived through that decade of games, though: it wasn't all great. For every Gothic masterpiece like 1987's *Castlevania*, there were dozens of terrible NES games – clunky things like *Chubby Cherub*, or the legendarily frustrating *Deadly Towers*.

If you had a ZX Spectrum, games were cheap but took ages to load from cassettes (unless you were one of those posh people with a disk drive). If you had a console, the games looked better but cost so much money you could probably only afford a handful per year. In other words, if you weren't around for an earlier generation of gaming, don't worry: you didn't really miss out on much. People older than you played all the bilge so that you don't have to. Just cut to the chase and check out *Castlevania*.

Enjoy the new issue!

Ryan Lambie  
Editor



# INSIDE JOB

Combining a handcrafted 3D art style and satirical story to poke fun at the consumerist future? It must be **The Last Worker**

**E**vidence of the singularity, or the point in time when technology advances far enough to negate the need for humans, seemingly surrounds us more each day. It's there whenever you Google a question on your smartphone or scan something using a supermarket's self-service checkout. Even then it's still a struggle to imagine our fridge ever gaining enough intelligence to, say, want to put in a nine-to-five shift at the local Tesco Direct. *The Last Worker*, however, lets players inhabit a hypothetical vision of the future where society has already travelled far beyond this point. The robots are no longer taking over – they've already won. And now it's your job as the titular worker to ensure things run smoothly.

At first glance, the incredibly colourful, cel-shaded warehouse that is the Jüngle Fulfilment Centre doesn't seem like a bad place to work. In fact, we meet protagonist Kurt at the start of the story during a period of his life where he's happy to merely "keep calm and carry on". Unlucky for him (but fortunate for us), though, he won't remain a cog in this machine for much longer, when the opportunity to fight back against his corporate overlord soon presents itself.

*The Last Worker* is a first-person narrative adventure game that aims to explore all these heavy themes while keeping the tone light and frothy – always with its tongue firmly in cheek. We spoke to writer-director Jörg Tittel and lead designer Ryan Bousfield to find out how. →





**How did you land on the theme of automation for *The Last Worker*?**

**Jörg Tittel:** I was living near Melbourne, and there was a little Tesco Direct or something. I walked in and overnight there were four of the five employees that I knew by name, [until suddenly] there was only [a couple] left. One of them was behind the counter, and the other employee was standing by these machines that were taking up half of this front area and waiting for them to break down so they could press the reset button on the windows. I was like: 'That's messed up'. It happened so fast; there was no warning,

and the whole counter was gone overnight. It's almost as if they felt, 'If we don't do it overnight, people will rebel'. So we just have to do it instantly. It was this automation pop-up. Then, when you looked around, it was everywhere. All of the Tescos did it that same week, and then Sainsbury's or whatever it was.

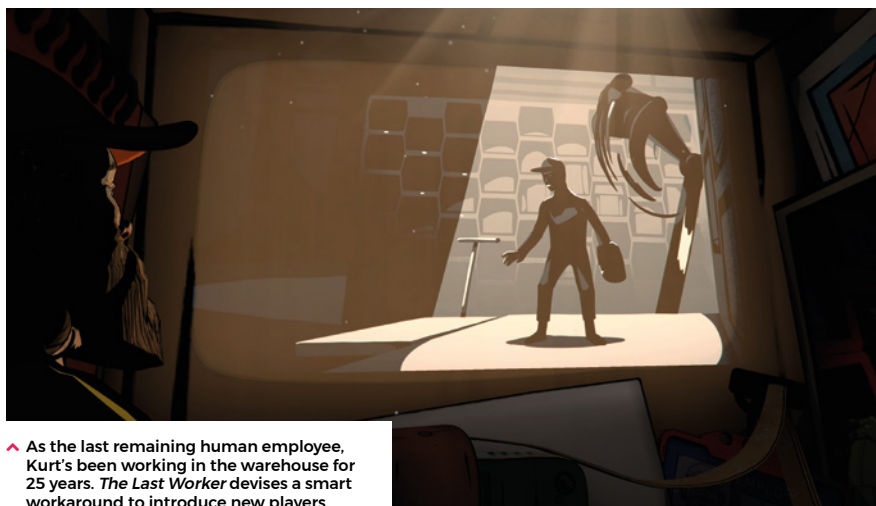
I thought about it more and realised that pretty much all of our thoughts are getting automated as well. It's not just our physical lives. All the social media stuff has been going on for so long and now we're being reduced to binary constructs of likes and dislikes, friends and unfriends, and other

nonsense. There's nothing new about that, but the thing that feels new to me is that there are a bunch of [pointless] jobs that need replacing, and it seems like they're being replaced by jobs that are ultimately just servicing the robots. And so that's wrong, too. I wanted to make something about that dilemma, that bizarre crossroads that we're finding ourselves in right now.

**The game is a collaborative effort between Oiffy and Wolf & Wood Interactive. Where did this relationship stem from?**

**JT:** It all started at Gamescom 2019. I was walking around with my friend from Coatsink and we were talking about potentially doing this project together. But then they said you should talk to Ryan [Bousfield] because he's awesome and I think you guys would really get along. I told Ryan the idea behind the concept I'd been developing for a couple of years. It turns out it's a hard game [to make] today. To create something that is multifaceted and combines core gameplay mechanics with hard genre elements, but all blended together in a really non-obvious way.

**Ryan Bousfield:** [Jörg] popped up and it was unlike anything as far as a concept. We saw some of the concept drawings that [comic artist] Mick McMahon had done, and it was weird, freaky, and quirky. Just an unusual, interesting, and unique



▲ As the last remaining human employee, Kurt's been working in the warehouse for 25 years. *The Last Worker* devises a smart workaround to introduce new players.





◀ Just because everyday tasks are dreary for Kurt doesn't mean they will be for you. Various environmental puzzles flesh out the warehouse setting.

▼ A mirror attached to the top left of Kurt's pod helps you see his reactions to the action in real-time. No doubt this will have a striking effect in VR.



environment. Something that kind of tips into sci-fi but not too much, and tips into politics. But it's not ramming it down your throat. We're going to do it in a funny and personal way.

**Tell us a bit about the main character, Kurt. Is he just a routine jobber, or is there something special about him?**

**JT:** It's quite rare to find an unsilent protagonist in the VR space. Here you are inside the body and inside the mind of a big, bearded man, and he's quite vocal. If you spent 25 years alone at work, or working from home – as he cheekily likes to call it, even though he's been stuck in his warehouse for a while – you start talking to yourself, which he does occasionally.

What's special about him is that he was particularly dedicated to this [pointless] job that he's had for so long. He believes that doing a good job is something to be proud

of, and he's clung onto it because everyone else has made at least one mistake that got them fired. He's never made that mistake. It's an interesting situation to be put in as a player because you're being sort of teleported into the body of someone who has always been perfect at it, but you have to start with onboarding whether you like it or not. We figured out a narrative

workaround, which I hope will amuse you. But yeah, he's been part of his job and he's never made mistakes. And then, of course, something happens that disrupts his routine after these 25 years, and his world is turned upside down.

**How did you go about making the Jüngle Fulfilment Centre feel like a real place? Is it based in an alternate universe or a version of our own future?**

**JT:** It's a bit of both. Bizarrely, our reality has caught up with us during the making of the game. We thought we were being completely out there, and then suddenly, a lot of the concepts and nonsense that we were coming up with for the game turned out to be real. Corporations we may or may not be satirising have started actually

normalising a lot of the behaviours that we were presenting as a sort of 'imagine if this crazy stuff happened' reality. For me, it

started with Mick McMahon, who is an incredible comic book artist, a co-creator of Judge Dredd and lots of other amazing worlds and characters.

Hopefully, [players] will agree this is a very visually compelling and beautiful world with lots of places and corners that aren't repetitive. There's a huge sense of visual variety. We approached the warehouse ▶

**“We're being reduced to binary constructs of likes and dislikes”**

## ALL-STAR CAST OF COLLEAGUES

*The Last Worker* features a who's who of Hollywood A-listers heading up its voice cast. Ólafur Darri Ólafsson of *Fantastic Beasts* and *The Tourist* fame lends his voice – and bushy-bearded appearance – to lead character Kurt, while *The Shape of Water's* David Hewlett takes on the role of the Fulfilment Centre's eccentric CEO, Josef Jüngle. Then you have Jason Isaacs playing Kurt's constant robot buddy Skew, with you throughout much of the adventure. Tittel describes Skew as “a piece of broken AI,” even though Kurt values its companionship. “They have a really interesting relationship, which will get more complex as the story progresses.”



▲ Kurt himself sports a haggard look much of the time, almost carrying the full 25 years' worth of work on his face.



▲ Kurt has access to various tools and items intended to make his job easier. Why move an object around with your hands when the perfect device already exists?

a bit like a city rather than as a fulfilment centre. So to us, it was always, 'Let's look at the map of Manhattan and think about what makes a city visually interesting'. How do you create a distinctive corner, plaza, or a river that runs through it? We took all those ideas and abstracted them into this fulfilment centre concept.

**RB:** It goes hand in hand with the art style in general because you're taking Mick's concepts and his heavy line work. It has that comic feel, but without directly being a comic book. As you embody the character, even if you're looking at sausage fingers, we still want the detail to be there. The team has worked painstakingly, putting every line in where you would expect one and where we think there'd be a bit of dirt or a dent. We can hand-draw that in on every model, every floor, and so on. I think that helps bring a bit of life to the warehouse, because then you know that somebody's been in and touched all these areas.

**JT:** We wanted to make a game that was about humans being replaced, [so that] in every aspect of the game you feel there's been a human that touched it and thought about it, and deeply felt something while making it. And so everything just feels that bit chunkier.

**RB:** It's the same with the sounds as well. No door just opens... it's all pistons, and

older things that you would use. Why even use them in this world where you can actually float above the ground? We just classify it as old technology in that world. That's how we rationalise it, I guess.

**JT:** It's a dystopia we'd like to live in... I mean, we'd rather live in. Maybe that's the better way of putting it, because it just feels a little bit more tangible.

**A lot of the tasks in *The Last Worker* are intentionally monotonous – shifting boxes around, pushing carts, etc. Was it tricky to translate these types of actions into fun gameplay?**

**RB:** I don't think it has been so far because we gamify everything. The package dispatch part of the game does get interjected with the narrative thread running through, and then it takes you into stealth sections. We've got a balance where we're constantly jumping between those two. The narrative loops you through all that gameplay. And then there's the additional rules as you progress, the levels get gradually larger, and you've still got to hit your quota.

**JT:** There's another aspect, which is the disruptive side of the story. There's a group of activists that will want to recruit you as the only inside man in a corporation that, while you've been stuck in there for 25 years, has been doing some serious damage to the outside world. That will keep the gameplay fresh. The repetition is something that you'll feel but not have to do for too long as a player. The disruptive aspects and the new skills that you gradually have to learn in order to do something that may even go against

## MICK MCMAHON'S MAGIC

Despite taking place within a consumerist-driven dystopia, it was still important for *The Last Worker's* future to be somewhat aspirational, too. The hand-painted 3D art of legendary comic book artist Mick McMahon (most famous for his work in the world of *2000 AD*, Judge Dredd being chief amongst them) was crucial, drenching the Jüngle Fulfilment Centre with plenty of vibrant colour emphasised by thick black lines. "The first time we showed it to Mick we were obviously a little bit apprehensive," says Bousfield. "But it gave us a bit of a boost to see him happy with it. He was pleasantly surprised, I think."



your own purpose being in the place to begin with, are going to keep it fresh and exciting.

**What are the benefits of playing in VR, that those on PC or console might otherwise miss out on?**

**JT:** I personally love the game on [Nintendo] Switch because it feels really good and beautiful to have this chunky, handcrafted reality in the palm of your hands. It just feels like the perfect frame for it. But yes, it's amazing in VR. And it feels great to be someone who's not the typical idea of a heroic character.

**RB:** We've not even mentioned the mirror yet! For a good portion of the game there's a mirror just on the top left of your pod. And as the lines are being delivered by the main character, you can look up and it's all delivered back at you as you're going through the levels. When he calls a product 'rubbish' or whatever, you can see the reflection of that happening.

**JT:** It feels like a bit of an in-joke – one where you're in on it with yourself. The lines may be scripted but by embodying someone else, you feel like you're deeply embodying the whole story in ways that we haven't seen in a VR or any other game yet. [With] the mirror, we're really using that to full effect.

**“There's a lot of love and passion going into this game”**

**Is striking a good balance between comedy and a heartfelt story tough, especially when presented in first-person?**

**JT:** For me, this was a perfect way to combine the theatricality of what I do in the film and theatre world, actually, but through gameplay and narrative, and experience and interactivity. It's a natural evolution, and VR gives us even more strength to do this kind of stuff. It invites you to be more first-person than in most other mediums.

**RB:** I think that's definitely our advantage. When we set up our first game, *A Chair in a Room*, the player's essentially acting it out, and we can't stop the player from laying down on the floor and looking on the underside of a table, or just doing anything crazy. You don't have those restraints. You can't just push the camera at something. So we've led with that as far as the design

of this, whether you're looking at a screen or in a headset. We're putting all these little cues in the world to push the player through and lead them towards something rather than drag them to it.

**JT:** We have lofty goals – we're ambitious with this game, and hopefully, we're pulling it off. I mean, that's for players to judge down the road, but I can assure you that there's a lot of love and passion going into every corner of this game.

**What feeling do you want players to come away with from *The Last Worker*?**

**JT:** I want people to be spurred into action. And not in a way that's, say, '[Screw] the system', but to get emotionally and physically engaged with the world around them. I hope that by doing that in our game, being physically and emotionally involved in the story, they'll feel inspired and empowered to do the same in their world, because I think we're all made to turn into more and more passive beings and to consumers of content. We're all being automated into using these terms. We're consuming brands, but I think we can be more than that. So, hopefully, by bringing in these personal stories and telling them in a big way, it will inspire more people to do the same. Because I think games can be more than just games. 🌐

***The Last Worker* is released on PC, VR, and consoles later in 2022**





# What fresh hell is this?

Scottish developer Damage State introduces its hectic FPS, SCATHE

## Info

**GENRE**  
Demon murder sim

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

**DEVELOPER**  
Damage State

**PUBLISHER**  
Kwalee

**RELEASE**  
2022

**SOCIAL**  
@ScatheFPS

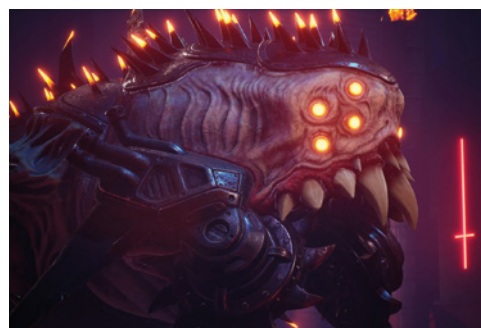
Just as Housemarque's *Returnal* fused the third-person roguelike with the danmaku shoot-'em-up genre to award-winning effect, so Scottish studio Damage State's upcoming *SCATHE*

aims to take players to its own particular plane of bullet hell. Trapped in an infernal labyrinth, you're confronted by an army of grotesque and deadly enemies – many of them capable of firing complex waves of fiery projectiles.

Look at *SCATHE* in still images, and you'll likely think of recent entries in the *DOOM* series, but programmer and Damage State co-founder Chris Dawson argues that his game's mix of non-linear level design, drop-in, drop-out co-op, and its

enemies' aggressive attack patterns make it a markedly different kind of shooter. "Once people play *SCATHE*, they realise the stark differences," Dawson tells us. "We've taken a blend of FPS games and twisted them to make something we wanted... Dodging streams of bullets and having to consider your route of attack with the intensity of everything was greatly appealing."

Given how slick and polished *SCATHE* looks, it's doubly impressive that it's the product of such a tiny studio. The team comprises just three people: Dawson on the aforementioned programming duties, art director and co-founder Tim Hay, and character artist Manu Lopez. With several years of games industry experience already behind them, the trio got together in 2019 with the express intention of creating something uniquely their own. "Although we worked in the same vicinity and on similar games – everything from mobile to triple-A – it was only a few years before starting up that we met one another," Dawson explains. "We were fed up with games companies falling into similar patterns of failure and maybe lasting only a few years – then we'd be forced to relocate. We wanted to create a studio with a modern approach and one that learns from everything we have experienced – both good and bad!"



^ All weapons have a secondary function, like the Hell Hammer's rocket launcher, which is designed to reduce the amount of time players spend switching between guns.



◀ *SCATHE's* hellish maze is broken up into small, discrete areas with multiple exits, making encounters short and snappy while offering varied paths through the game.

After one of Damage State's artists came up with an early sketch of a demonic entity called a Splitter, Dawson then came up with the idea of making a shooter set in hell – and at this point, *SCATHE* was born. And from those very early stages, it was planned as an action-focused shooter without the added trimmings and bloat you commonly see in modern games of its type – you won't find crafting or levelling, and the pace won't grind to a halt because of a fiddly environmental puzzle. Even the controls are designed to be streamlined.

Says Dawson: "Everything in *SCATHE* – like buttons – can be triggered by shooting, removing the need for 'Press E to interact' prompts, which is commonly the case. For example, there are moving platforms and pillars that you can trigger, perfect jumps to make, secret doors, and rotating bridges, amongst others. It's a great balance between discovery and action. We tried out more advanced puzzles and multi-trigger buttons early on in development, but they just didn't fit the game at all."

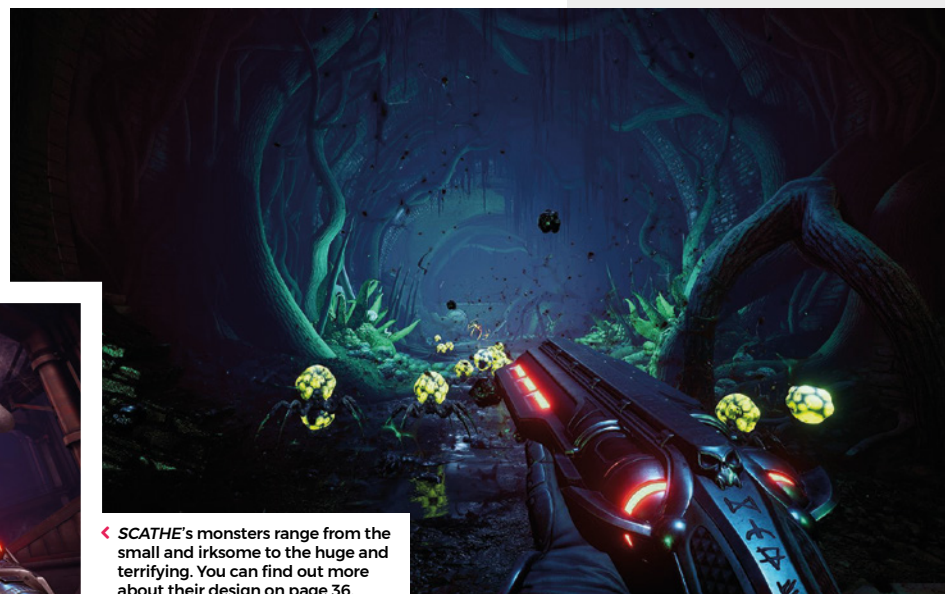
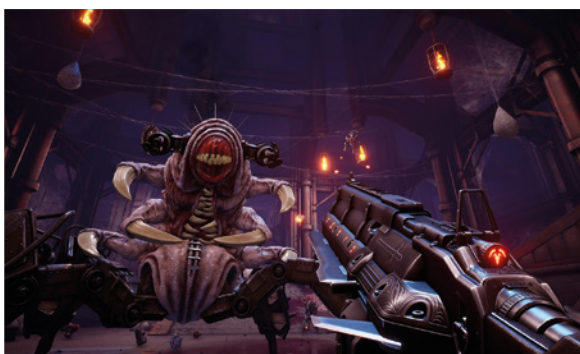
### "We've taken a blend of FPS games and twisted them"

Another design choice that sets *SCATHE* apart is its array of exotic weapons. Where most shooters start you out with a feeble pistol of some sort, *SCATHE* immediately gives you the Hell Hammer: a gigantic bit of ordnance capable

of firing shotgun-like blasts, while pressing the secondary fire button will set off its rocket launcher. *SCATHE's* other weapons are equally big and brash, and all designed to make you feel like a powerful denizen of the underworld – something that makes balancing the game's challenge, well... challenging, Dawson admits. "There are so many factors in *SCATHE* to think ➔

### RED IN THE FACE

Shoot enough demons, and you'll eventually notice that your view has become so splattered with blood that it's difficult to see where you're going. Thankfully, there's a solution: *SCATHE's* dedicated 'wipe your face' button. "The face wipe was something I added when trying out new ideas," Dawson explains. "We're always coming up with weird and wonderful things, trying to push the standard expectancies and see what feels good. Coming from working on triple-A titles, you just don't get the chance to try out things or twist formulas as it's deemed risky to the audience. The reception to it has been far more positive than we ever expected as it exists as an extra challenge for the player to overcome."



◀ *SCATHE's* monsters range from the small and irksome to the huge and terrifying. You can find out more about their design on page 36.



^ *SCATHE's* been made with a real knowledge of the traditional bullet hell shooter. In a March devlog, Dawson name-drops the Treasure 2D classic, *Ikaruga*.

v "The game's focused on action and intense gameplay," says Dawson, "but there are runes to collect and secrets to uncover."

about, from obvious ones like movement speed to more obscure things like lighting levels for clarity. You want to create a fast and intense experience so the player feels like a powerful, unstoppable boss, but you can't let them smash through the game without challenge. Even things like jumping are a challenge, as you need to jump bullets coming towards you or get out of a sticky situation, but you can't jump over certain parts of the map, like barriers and rocks. If you change one, you break another."

Rather than make *SCATHE* more difficult by having its enemies absorb dozens of bullets ("That's a really poor way of doing it," Dawson

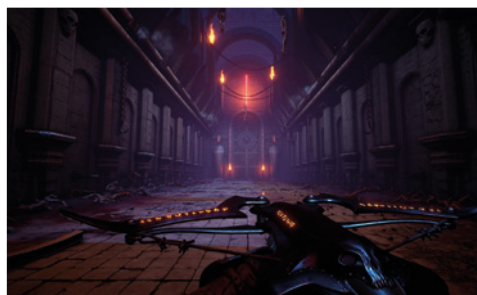
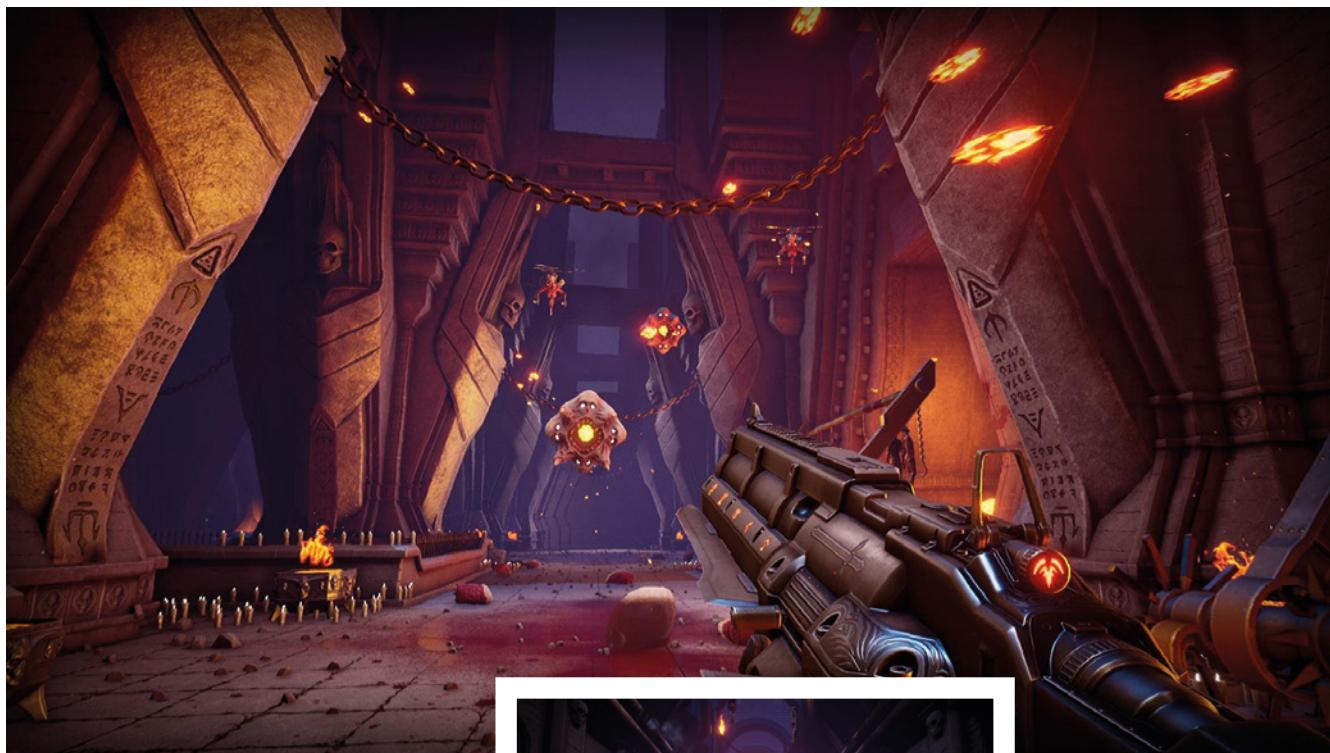
notes), the game will instead focus on how much damage the player can take before they finally keel over, how many demons spawn in a particular area, and how fast their bullets are. "Making sure the game sits as challenging but not unfair is the focus," we're told.

Besides, if the journey through hell becomes a bit too hard-going, the player can rope in up to three friends to help them. There are no plans to add any competitive modes at present, and neither is there friendly fire – the latter was tried out earlier in development, but had a detrimental effect on the gameplay. As it now stands, "the drop-in, drop-out multiplayer works quite neatly," says Dawson. "When a player creates a game or loads their last location, they can choose whether to play alone, allow friends – a private game – or allow anyone. Players who want to join will either join a friend or hit 'quickplay'. Regardless of where the host player is, the player drops in right next to them and joins the play. If they want to leave, they just quit and can come back in whenever they like."

## DEMON SEED

As you can see in the art gallery on page 36, Damage State has put a lot of creative energy into conjuring up as many hideous demons as it could for *SCATHE*. But while you might think that setting a game in hell would give an artist free licence to come up with all kinds of grotesque critters, it's a location that also poses a problem:





▲ Enemies' rapid firing rate makes *SCATHE*'s combat quite different from most other modern shooters: you'll spend more time dodging, weaving, and trying to eliminate them from a distance.

so many other games have sunk to the same infernal depths, it's quite hard to dream up monsters that players won't have seen a dozen times before. "It can be really difficult to create something fresh," says Dawson. "Without a doubt, clichéd enemies like zombies are always present in these types of games in various forms, but they're heavily used for good reason. We use this fact to force ourselves to be more novel, and *SCATHE* features some unique demons – 'Fleshies' spring to mind; they're bouncing, erratic balls of flesh and metal. They can be a nightmare due to their unpredictability... another one is the 'Prism', a floating, triangular demon that spawns lasers from its multiple eyes, burning the player and even other demons. I won't go through all the others, but there's a nice mix of fresh takes on what's expected and novel ideas that make up the enemies of *SCATHE*."

**"Making sure the game sits as challenging but not unfair is the focus"**

At a time when action games are becoming ever-more weighed down with features and busywork, it's refreshing to see *SCATHE* looming on the horizon: an FPS that mixes the complex level designs and freedom of movement of

a modern shooter with the bullet-dodging adrenaline surge of an arcade title by the likes of *CAVE* or *Treasure*. *SCATHE* is, if anything, a reaction to the type of FPSs Dawson and his team have played – and, by the sounds of things,

tutted at – in recent years. "We were bored of linear games," says Dawson. "The FPS market is dominated by linear paths, and with *SCATHE*, we wanted to create choice. Thus the idea of 'escape the maze' was born. Having lots of zones connected by various doors, so you could pick your path and discover everything at your own pace, appealed to us. It also ticked another box that the game saved between zones, thus allowing for five-to-ten-minute bites of play – or you can play for a solid five hours straight." 🗨

**A MAZE OF DEATH**

The goal in *SCATHE* is simple to grasp – enter a zone, kill every evil being you see, then find one of several exits – but it's the multiple routes that keep the game interesting, Dawson says. "Every zone connects to another and makes up the larger maze. It means players are free to pick their path and create their own journey. In addition to this, each zone is handcrafted as we wanted to avoid procedural generation and make something that players can learn and even jot down their best route."



# Eternal Threads

Exploring the boundaries of cause and effect in Cosmonaut Studios' tightly-knit time travel story

## Info

### GENRE

Puzzle, narrative, first-person adventure

### FORMAT

PC / Switch

### DEVELOPER

Cosmonaut Studios

### PUBLISHER

Secret Mode

### RELEASE

2022

### SOCIAL

@Cosmonaut\_Info

A shared house in the north of England mysteriously burns down, killing the six students trapped inside. As 43, a time-hopping operative sent from the future, it's your job to prevent the tragedy from happening. It's a task matched in its ambition by the one *Eternal Threads* developer Cosmonaut set for itself: to somehow tie this butterfly effect-style story together in a way that made sense.

"Our initial efforts became a much more supernatural experience," says creative director Paul Johnson. "Then, we had a crazy idea... What if the entire story was open from the start? What if the player was free to go to any point in time and change any decision they wished, as many times as they liked? This is when the idea of the house fire with the deaths of all the

housemates was conceived and the story was reworked and refined, so now the decisions have a direct impact on their survival."

This set Johnson and the team on a path to create hundreds of different paths and outcomes for the player to explore – including one perfect ending, which will see all housemates survive and go on to enjoy their best future lives.

The sci-fi shenanigans might be set within the confines of a single building, but six people's routines constantly intertwining still results in 190-plus character decisions for you to navigate (and potentially change) on both a small and grand scale. They set the stage for an eight to ten-hour first-person adventure where you must play the watcher, jumping back and forth over a week's timeline to find out how the fire started, taking note of dialogue and actions while saving as many characters as possible in the process. It's a lot to wrap your head around, no doubt, hence why having an in-game time-map to hand made a lot of sense.

"The original whiteboards on which we charted the story looked like some strange mixture of ancient cave-paintings, alchemical scribbles, and the calculations of an insane astrophysicist," jokes narrative director Dave Bottomley. "It was overwhelming to look at and absolutely the complete opposite of 'easy to follow'."

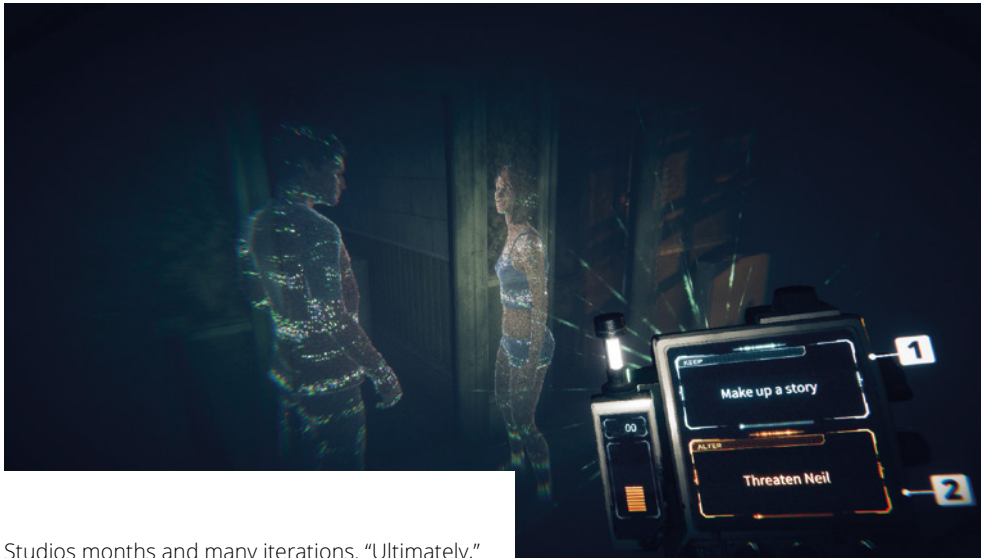
Boiling all that down into a form that players could get their heads around took Cosmonaut

▲ The story of *Eternal Threads* begins at the end, with you playing witness to the tragic fire.

▶ Certain sections of the building that remain locked off to you at first can be opened up by discovering clues and items.







Studios months and many iterations. “Ultimately,” says Bottomley, “we settled on a basic timeline diagram, with the scenes currently active being lit up and connected to the central line, while all the alternatives were greyed out and disconnected. This hopefully [gives] the player a central focus, while also showing all the possible alternatives that were available for them to connect and explore through the changing of decisions.”

The stakes are set almost immediately after you’re sent back to 2015. Soon after laying down the relay devices necessary to let you view the past ghost forms of all six housemates, you’re warped to the end of the seven-day timeline and forced to stand in the building as flames rise and firefighters struggle to control the blaze.

From here, you’re given free rein to explore the timeline, wandering from floor to floor in search of clues and hints crucial for helping the

housemates escape the building in time. In doing so, you come to learn more about the group’s relationships and how they impact one another.

So what are the benefits of popping around the timeline out of order, as opposed to simply watching events play out linearly? “Everyone wonders ‘what if?’. What if I’d said that, or done that, or taken that job, or gone on that date,” says Bottomley. “We wanted players to scratch that universal itch, by allowing them to freely investigate these alternatives and explore the multiple timelines and outcomes. Change a decision, pop along the timeline and observe the results, then change it back again afterwards if you want.”

This also enables players to hone in and understand one character at a time, rather than

seeing their individual stories constantly fade in and out. “You can even start at the end of the timeline, discover exactly how everyone died, and then work your way backwards trying to change those circumstances. We wanted to give players the freedom to explore and play the game however they wanted, without fear of game-ending consequences.”

Only by influencing the timeline so events play out in the correct order can players hope to use the butterfly effect to their advantage, getting to know this setting – and all six characters – intimately in the process. Northern England

might not be the most obvious place to set a game where such lofty themes and ideas are placed front and centre, but by contrasting

grandiose sci-fi against the mundanity of everyday 21st-century life, Cosmonaut Studios is looking to keep the human element at the heart of it all.

*Eternal Threads* is the Cosmonaut team’s debut title, but if it proves to be successful, Johnson is confident that its time-hopping formula is one that could work in all kinds of other tragedy-laden scenarios and settings. “We have so many ideas for sequels,” he says, looking to the future. “43 is one of many operatives tasked with fixing corruption in the timestream. There are so many stories we could explore, and even though this story’s goal was to save the lives of six everyday housemates, another damaged thread of time, needing repair, could offer something completely different. The possibilities are almost endless.”

◀ All six housemates have their own routines, which you can influence using the Visualiser tool to change the timeline.

✓ Changing a character’s decision-making will sometimes see their room shift and change in appearance.



## CASUAL CAUSALITY

43’s main device of choice is what’s known as the Visualiser. Through this, they’re able to select and switch between the different decisions characters make, altering the timeline to potentially open up other scenarios that may have otherwise gone unnoticed. Moving the odd object around or unlocking doors might only have a minor impact on events, so in some instances it can pay to change things as they happen in real time. The tool also acts as a map, indicating where in the house to go next to watch the event you’ve selected.



# Music to our ears

Turning everything up to 11 as we blast to the beat in rhythm-driven dungeon crawler, Soundfall

## Info

### GENRE

Rhythm, loot-shooter, dungeon crawler

### FORMAT

PC / Switch / PS4 / PS5 / XBO / XB S/X

### DEVELOPER

Drastic Games

### PUBLISHER

Noodlecake

### RELEASE

2022

### SOCIAL

@SoundfallGame

The debut title from Drastic Games is a head-bopping isometric shooter unafraid to move to its own groove, largely because it forces players into the exact same position. *Soundfall* casts you as Melody Harper, an audiophile-turned-weapons expert whisked off to a far-off land, the player has ample opportunity to keep an army of enemies at bay using creative gunfire in the endless pursuit for loot. So far, so expected. But there's more to this synth-infused dungeon crawler than first meets the eye. Because in the rhythm-driven domains of Symphonia, your ears prove an equally important tool, as you must shoot, move, and dodge to the beat either alone or in four-player co-op.

Creative director Nick Cooper makes no bones about the road to keeping *Soundfall* on track being long – it's been five-and-half years since development began after being fully funded

on Fig – but the game's unique combination of twin-stick and music-based action is one that the team, made up of Epic Games alumni, have had faith in right from the very start. "We were influenced by games like *Audioshield*, *Ikaruga*, *Geometry Wars*, and *Assault Android Cactus* – high-energy rhythm and bullet hell games with slick graphics and a cool premise," he says. And as far as premises go, blasting in time to the tune proved a tempting one. "The first breakthrough on music mechanics was getting some capsule-shaped proto enemies bouncing to the beat."

Select indie releases like *BPM: Bullets Per Minute* and *Crypt of the NecroDancer* have toyed with this shooting-meets-music fusion before, true, but *Soundfall* ups the ante by making almost everything procedural by design. Everything from the items you can pick up, enemies you destroy, to even the dungeons themselves are entirely randomised with each new run, letting Drastic Games maximise the impact of the content a small studio such as itself can produce while retaining a grand scale. How do you tie music into a gameplay foundation this unpredictable, though? That's where the help of an audio analysis algorithm comes in.

"Everything in the game needs to be animated and scripted so that it syncs up to the beat," says Cooper. "For example, our animations always need to have their impactful moments land at multiples of 0.5 seconds, which we then scale to

^ *Soundfall's* action can get pretty chaotic during full four-player sessions, but it always looks entrancing thanks to its luminous art style.

> There are ten lands that make up the music world of Symphonia in total, all inspired by a different genre or instrument family.



the BPM and sync to the beat." This still doesn't do much to address having to account for input windows, however, which can be make or break in a twin-stick shooter where timing is crucial.

Online play brings yet another huge amount of complexity to this. "Players need to feel like their actions and the environment are moving on-beat even with network latency, which we do with a lot of networking prediction, as well as simulating some things on the client that most games would normally make server-authoritative."

Drastic Games is intent on not making things easy for itself. It's a fact only further emphasised by featuring a total of five playable characters, each with their own uniquely music-themed instrument that must be fired or swung to the beat accordingly. The aforementioned Melody, for instance, is primarily an up-close melee fighter, wielding a microphone-

sword capable of unleashing a three-hit combo or spinning attack. Lydia Stroll, as the game's resident cello

prodigy, is far more range-based thanks to her cello-bow, while house DJ Ky Hyun dishes out wave-based death using his turntable-scythe. Guitarist Jaxon and rock drummer Brite are similarly equipped to deal knockback damage.

Whatever weapon you're wielding or whichever character you happen to be playing as, eradicating the evil race of Discordians should remain possible thanks to the inclusion of an ever-pulsating beat meter located at the bottom of the screen. This small addition not only ensures that fighting to the beat is always fair and fun, but also works to help you better navigate the symphonic world Drastic Games has created – regardless of the musical genre playing

**“Everything needs to be animated and scripted so it syncs up to the beat”**

at the time. As you'd probably expect, with music so essential to the game's core, the process of compiling its soundtrack was a major – and also collaborative – effort. "Our one full-time audio engineer-composer, Jens Kiilstofte, did a lot of tracks for the game, including the main theme, map themes, and one of our boss themes, among others," Cooper says. "In addition, *Soundfall* has original songs from 17 different artists. Half of our music is licensed through Epidemic Sound. For the other half, we approached a lot of artists individually." Choosing who to work with was a case of finding the perfect fit of what music style would fit within each of Symphonia's ten dynamically different locations.

Looking back now, on the cusp of *Soundfall's* launch, Cooper and company are hopeful that its melting pot of musical ideas will jive with its

intended audience of arcade action fans and music lovers. And if it does become a hit, Drastic Games is prepared for the

occasional encore. "Originally, we wanted something we could make in less than a year, but as we saw more potential, we expanded on our original goals," he says. "It's something we've continuously worked on and tried to improve. And we'll probably continue to iterate with updates post-launch." 🎵

**INFINITE PLAYLIST**

Those who pick up the PC version of *Soundfall* can look forward to blasting along to their own customised playlists of tracks. Once imported, the chosen song will generate a new "undiscovered" region, creating levels using Drastic Games' self-built audio analysis algorithm. "Attributes such as tempo, loudness, complexity, and danceability are fed into a machine learning algorithm to categorise it into a genre and family," Cooper reveals. "These are then used to determine the environment type of the song; the types, variations, and combinations of enemies that appear; the types of loot that the players will find; and the physical layout of the level."



▲ The beat meter at the bottom of the screen will help you keep in time. It'll also offer feedback depending on how well you unleash your actions.

# That was the month that was



## 01. Sora us coming

During a digital event celebrating the 20th anniversary of the series, Square Enix went ahead and officially announced *Kingdom Hearts 4*. This was surprising seeing as series director, Tetsuya Nomura, last year made it seem like the next entry would be years away. The fourth mainline instalment in Sora and gang's Disney-driven adventure is real, though, and set to look prettier than ever thanks to the jump to Unreal Engine 5. The first trailer introduced a new location called the Quadratum, which Square Enix described as an "expansive city set in a gorgeous, realistic world unlike anything ever seen before in the *Kingdom Hearts* series".



## 02. Toss a coin

Hot on the heels of *Cyberpunk 2077*'s PS5 and Xbox Series X debut, developer CD Projekt Red revealed that it'll be handling the development of *The Witcher 3* on next-gen consoles internally from here on out. Saber Interactive, the studio responsible for bringing the open-world fantasy epic to Nintendo Switch in 2019, had previously been on porting duties. That's no longer the case, however, with *The Witcher 3*'s new-gen version now delayed indefinitely out of its originally planned Q2 2022 launch window. CD Projekt Red took to Twitter to say, "We'll update you as soon as we can," but no new release date was given.



## 03. Let's (not) get physical

It used to be the video game industry's go-to trade event of the summer, full of exciting reveals, announcements, and trailers promoting the biggest upcoming games. Following several years of uncertainty and questions about relevance (factors only exacerbated by the pandemic), however, the ESA has finally decided to call it quits on this year's E3. News came by way of an email sent to journalists, going so far as to even nix the idea of temporarily switching to an online-only presentation in lieu of the traditional in-person gathering held at the LA Convention Center. Geoff Keighley's job just got easier...



Three people arrested for *Club Penguin* copyright infringement

*Dead Space* dev alters Plasma Cutter and Pulse Rifle SFX following fan feedback



05



04



06



## 04. Space Piracy

Hello Games' unfathomably vast space exploration game continues to be the gift that keeps on giving, with *No Man's Sky* getting yet another free patch. As well as giving player-characters a cool cape to wear, the *Outlaws* update mainly turns its eye to the skies by making some slight but significant gameplay tweaks to how ships handle. You can now create squadrons, for instance, recruiting AI crewmates that offer aid in battle. This is in addition to shields for enemy ships, planetary raids, and the ability for dogfights to move down from space and into a planet's atmosphere. The sky is the limit no longer.

## 05. Skate no more

It's all change over at Activision currently, and that includes decisions that were already in place before Microsoft announced its acquisition of the publisher earlier this year. One such move recently became a reality, as developer Vicarious Visions took to Twitter to confirm that it has officially been absorbed into Blizzard Entertainment. "Our development team will remain in Albany, NY and [is] fully dedicated to Blizzard games," the post read. "We invite you to follow us." This somewhat puts a dampener on the possibilities of a new *Crash Bandicoot* or *Tony Hawk's Pro Skater* game. The future for this veteran developer is *Diablo*.

## 06. Floods of tiers

Following months of speculation and an all-but-confirmed leaked report from Bloomberg back in December last year, PlayStation has finally confirmed that its two subscription services, PlayStation Plus and PlayStation Now, will merge later this June. The "all-new" PlayStation Plus will be available in three different tiers – Essential, Extra, and Premium – each coming with different perks. PSone, PS2, and PSP games will be made playable natively on PS4 and PS5 for those on the highest tier, but PS3 games remain streaming only. Will we ever get to play the *Resistance* series lag-free ever again?

*Halo Infinite's* player count falls below *Halo: The Master Chief Collection* for the first time

Sega says cloud gaming and NFTs are a "natural extension" for its future games



07



08



09

## 07. BAFTA behemoth

7 April saw many of 2021's best games paid their due as part of the annual BAFTA game awards. PlayStation 5 exclusive *Returnal* was the bigger winner of the night, hoovering up accolades in no less than four categories: Audio Achievement, Music, Best Performer in a Leading Role (for Jane Perry as Selene), and Best Game. Relaxing puzzle game *Unpacking* also made some unexpected waves, beating out the likes of *Guardians of the Galaxy* and *Psychonauts 2* for Best Narrative as well as *It Takes Two* and *Metroid Dread* for the player-nominated Game of the Year. Surprisingly, *Deathloop* died... well, a death.

## 08. Remotely does it

Having just released *Destiny 2*'s biggest expansion yet in *The Witch Queen* and it being well received amongst fans, the higher-ups over at Bungie also look to have been satisfied with the developer's current work ethic. "Bungie is going digital-first," it announced in a statement. "Most current and future roles will be fully remote eligible in these states with more coming soon!". Seven states, including Washington, California, and Texas, are now approved for remote work with Bungie, no doubt in the attempt to maintain and attract a high level of creative talent.

## 09. Put a ring on it

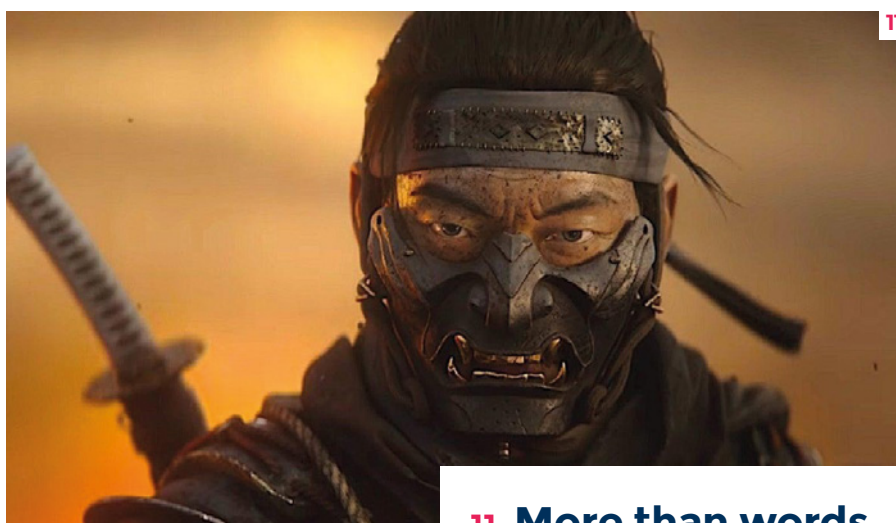
It says a lot that Sega and Paramount Pictures were so committed to following up its smash 2020 box office hit so quickly; a sequel was turned around in just two years – during a global pandemic. Well, the educated gamble looks to have paid off, with *Sonic the Hedgehog 2* breaking the record for most successful opening weekend enjoyed by a video game movie ever. This time the blue blur was joined by Tails as both faced off against Jim Carrey's Robotnik and Knuckles (voiced by Idris Elba), taking \$71 million in the US on its opening weekend. That'll buy a lot of gold rings.

*The Skywalker Saga* enjoys the UK's biggest physical LEGO game launch

New *Subnautica* game in "early development" at *Unknown Worlds*



10



11

## 11. More than words

### 10. Turf war

Nintendo's internal development capability is about to get bigger – literally. The Japanese giant has bought the plot of land situated next to its existing HQ, where it intends to build a new twelve-floor centre aimed to house even more studios by 2027. The roughly 10,000 metre-squared area had previously been owned by Kyoto for use as a material and disaster prevention centre, but looking ahead, Nintendo believes the space “will carry an important role on reinforcing its R&D”. More first-party space not so subtly translates to more first-party game output. In the words of Mario: “Whoo-hoo!”

In between the upcoming *The Last of Us* and *God of War* TV shows and the recent *Uncharted* movie starring Tom Holland, it'd be easy to forget that PlayStation actually has yet another Hollywood game-to-screen adaptation in the oven. *Ghost of Tsushima*, with its sweeping vistas and endless homages to the work of Akira Kurosawa, seems ripe for the cinematic treatment. And things look to be pressing ahead now, as Deadline reports that the movie has found its screenwriter in Takashi Doscher. On directorial duties is Chad Stahelski of *John Wick* fame, though we can't imagine samurai Jin Sakai will be swapping swords for pistols anytime soon.

**Correction:** in our issue 61 article, The FPGA retro revolution (page 28), we mistakenly stated that birdybro was the maker of the GBA core. The core's actual maker is Robert Peip.



12

### 12. Metal Gear Easy

Everyone surely remembers the bit in *Metal Gear Solid 3* where Snake climbs up a seemingly endless ladder. A ghostly version of Cynthia Harrell's title track and the cling-clanging of steps are the only sounds accompanying you. It's evocative stuff... or at least it used to be. YouTuber Apel has found a way to skip the arduous climb altogether, finally giving speedrunners a way to shave down their personal best by almost two minutes. The exploit involves making Snake T-pose at the bottom of the ladder, watching him float briefly before shooting all the way up. What a thrill!



Konami's *eFootball* officially enters version 1.0, bringing in new upgrades and modes

Job posts suggest Bandai Namco's teaming with Nintendo on mystery remaster

# Preview



## Coffee Talk Episode 2: Hibiscus & Butterfly ↗

Coffee brewing once again meets heart-to-heart conversation in Toge Productions' long-awaited sequel to its hit 2020 visual novel. Set in an alternate version of Seattle populated by humans, orcs, elves, and the like, there's seemingly no personal issue that can't be resolved using a splash of lo-fi latte art and the simple willingness to listen. Bliss!



## Time on Frog Island ↗

Washed up and marooned on an island where anthropomorphic amphibians run rampant, *Time on Frog Island* promises to be a sweet and charming puzzle adventure where you can explore, fish, and farm at your own pace. Sure, you'll need to worry about fixing your boat by aiding and trading with local residents eventually, but something tells us you'll have a tough time not getting sidetracked by the cute characters and relaxed island lifestyle.

## Capcom Fighting Collection ↘

Capcom's celebrating *Street Fighter's* 35th anniversary in style. There's a sixth entry on the way, but before that we're getting the *Capcom Fighting Collection*. No less than ten pixel-art fighters make up this compilation, stretching beyond *Street Fighter* with series like *Darkstalkers*, *Vampire Savior*, and *Cyberbots* all making an appearance. With button customisation and adjustable CPU difficulty, it's a love letter to a bygone era of arcade fighting.



## Lucy Dreaming ↗

As we saw back in issue 50, solo developer Tom Hardwidge's latest pixelated throwback follows in the footsteps of *The Secret of Monkey Island* and other classic point-and-click adventures from the nineties with wit and cheeky style. The difference with *Lucy Dreaming*, however, is that you'll walk between the reality and the dream world in an effort to untangle its central mystery: why is Lucy suffering from such vivid nightmares? It'll take a curious mind to find out.



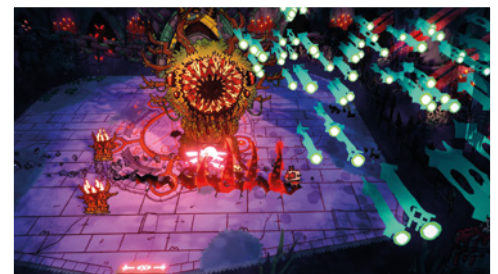




## Mario Strikers: Battle League ↗

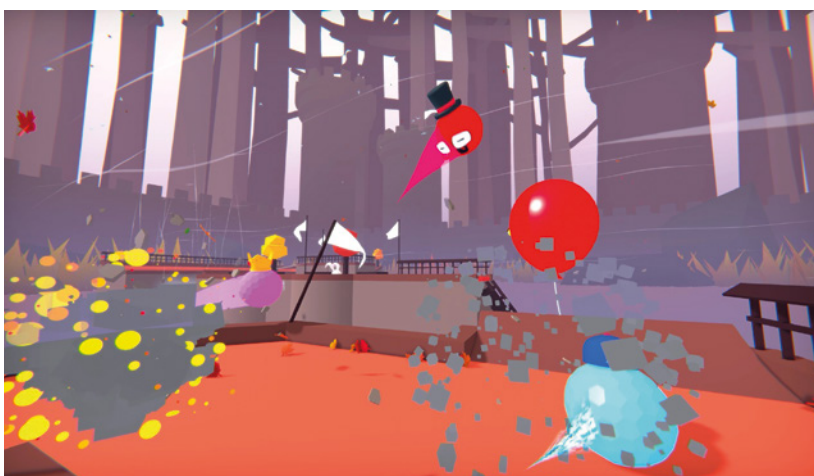
Everyone loves a good kickabout – even Mario. And luckily, *Mario Strikers: Battle League Football* (to give it its full European title) arrives just in time to capitalise on the excitement surrounding the 2022 World Cup, in this third outing for one of Nintendo’s most underserved sports franchises. The last time we saw Bowser, Peach, and other Mushroom Kingdom mainstays try their hand at footie was back on Wii, but the wait for more *Mario Strikers* looks to have been worth it as *Battle League Football* looks familiar enough while being unafraid to make some tweaks to the five-on-five format.

Sure, you’ll still be dribbling, tackling, and sliding in the effort to score as many goals as possible, but now you can influence each team’s stats further using *Battle League*’s new gear system. Equipping different helmets and boots will drastically affect your strength, speed, and accuracy, potentially giving you a big-enough edge over your opponent to unleash your captain’s unique Hyper Strike shot. It’s been a while since we’ve seen arcade-style football given the triple-A treatment on this scale, so it should be an open goal for *Mario Strikers: Battle League Football* come 10 June.



## Cult of the Lamb ↗

If *Animal Crossing* and *DOOM* ever got along well enough to have a baby, the resulting child would probably look a lot like *Cult of the Lamb*. This is a deceptively cutesy action roguelike where you play as the ultimate fleecy deity, smashing your way from dungeon to dungeon in a bid to build up your flock and destroy the non-believers. Rooms being procedurally generated ensures that everyone’s playthrough will be slightly different, as you work your way through five regions, each riffing on a different satanic theme. We wouldn’t expect anything less from publisher Devolver Digital.

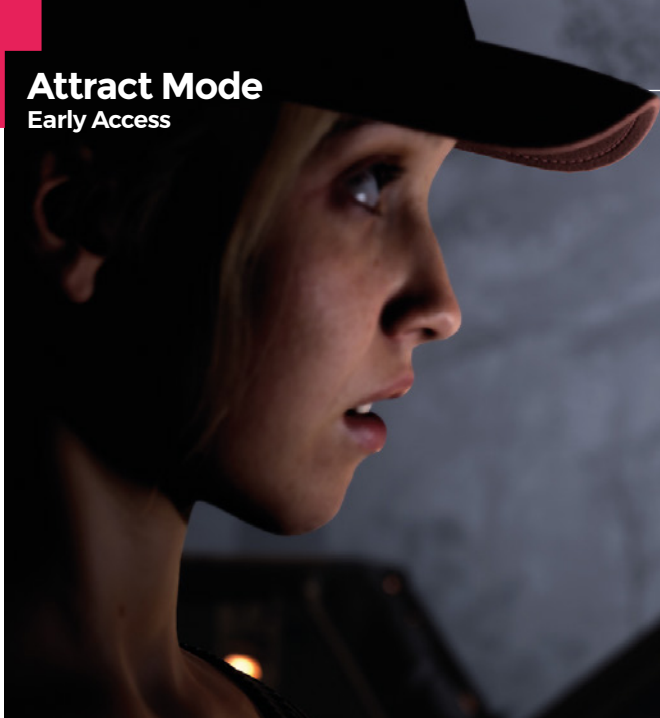


## Golf Gang ↖

Part racing game, part party game, *Golf Gang* lets up to eight players compete in a range of crazy courses, customising their ball and trying to navigate balloons, hoops, and other obstacles while trying to sink a putt in as few strokes as possible. This isn’t always easy when your friends are constantly hurtling past, though. It’s pure multiplayer madness distilled into a colourful sports-ish game.

## Attract Mode

Early Access



## A Little to the Left ↗

Anyone who's struggled to keep their book collection exactly straight or put up a shelf without the use of a spirit level will know the frustration of seeing household items at a slant. Well, the oddly satisfying act of setting things level is the core mechanic in the aptly titled *A Little to the Left*, the latest title from publisher Secret Mode. From picture frames hung at a wonky angle to pencils that need organising according to size, it's a relaxing collection of 75 cosy puzzles.

## Cloud Jumper ↗

Games have long enabled us to soar through the skies in superhero fashion, but we can't say we've ever done so by boat. That's exactly what's on offer, though, in the Studio Ghibli-inspired *Cloud Jumper*. A seamless blend of 2D pixels and 3D models, the classic and modern eras collide in this chilled-out exploration game where you must upgrade your ship, map uncharted islands, and discover hidden locations. From what we've seen so far, it's sure to provide quite a view.

## The Quarry ↗

Supermassive Games came out of the gate swinging in 2015 for its PS4 debut, with horror adventure *Until Dawn* paying tribute to B-movie slashers with its clichéd characters and a schlocky plot. Ever since then, though, the Guildford-based developer has struggled to reach similar heights, implementing a somewhat scattershot approach with its ongoing *Dark Pictures Anthology* of bite-sized horror titles. Here's hoping, then, that *The Quarry* – as its first interactive drama published by 2K – will be a return to form. Centred on nine camp counsellors forced to survive the night while being hunted by zombified locals, the ensemble cast is a who's who of horror Hollywood A-listers, including David Arquette, Lance Henriksen, and Lin Shaye.





## Deliver Us Mars ↑

Having already trapped us in an isolated and eerie lunar base in 2018's sci-fi adventure, *Deliver Us The Moon*, developer KeokeN Interactive is about to whisk us off to the red planet in the sequel. *Deliver Us Mars* looks to be an equally atmospheric jaunt into the unknown, taking place several years after *Deliver Us The Moon* and focusing on a new astronaut's mission. You journey from Earth to Mars after hearing a distress call, hoping to recover the colony ships previously thought to have gone missing. We're bracing ourselves for another few hours of agonising suspense.

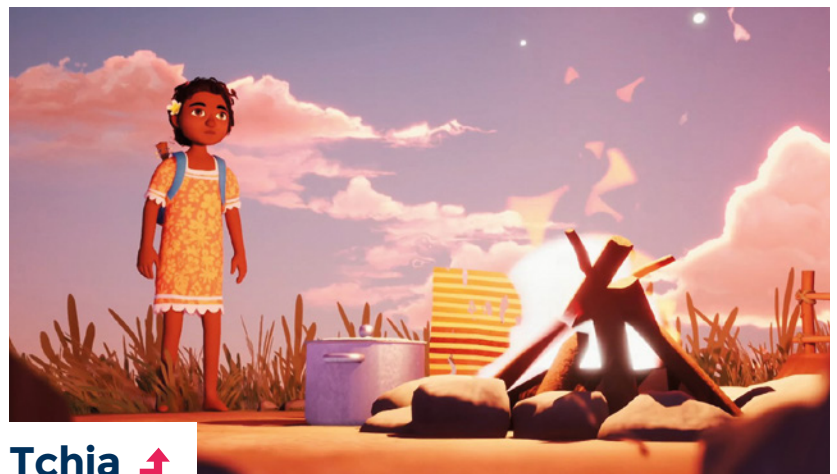
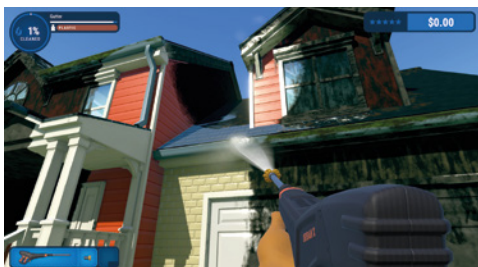


## Shadows of Doubt ↑

Where most noir-driven detective mysteries lay out clues thoughtfully and meticulously as they lead players to a logical conclusion, the exact opposite is true of *Shadows of Doubt*. It's a detective game, alright, only it's one where the hints, world, and plot strands are procedurally generated, meaning the murder suspect you're looking for could be any one of the innocent-looking NPCs that passes you by. Your only hope of solving the crime – which will be different from player to player – is to explore the sci-fi city to its fullest, lockpicking, tailing, and sneaking your way to the correct outcome. There's no strategy guide to help you here.

## PowerWash Simulator ↓

Keeping things clean in real life can be a nightmare, but that doesn't mean the same needs to be true in the virtual space. *PowerWash Simulator* makes a game out of blasting stuff with a hose, with players – either on their own or with a friend – washing trucks, doors, garden paths, and other grimy surfaces. It's been in Early Access since last May, but looks set for a full launch soon, so get ready to clean up the neighbourhood.



## Tchia ↑

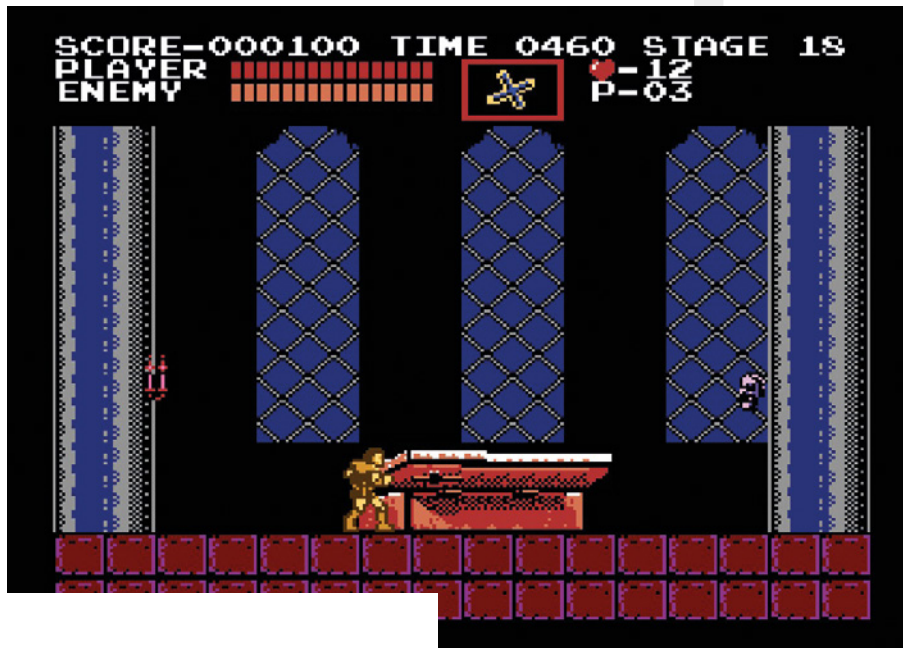
There are spectacular vistas wherever you look in this open-world adventure set on a tropical archipelago. You explore the islands as the titular Tchia, using her ability to adopt animal forms – and play music on her magical ukulele – to solve puzzles and uncover various secrets located around the place. Whether you choose to explore the world from above as a bird or burrow into the ground as a dog, this is a physics-driven sandbox inspired by New Caledonia, an equally picturesque archipelago located in the Pacific Ocean. *Tchia's* due to set sail this summer, and it's a game we'll be taking a closer look at in a later edition.

# Tracking down the obscure mind behind Castlevania

Castlevania director  
*Hitoshi Akamatsu* changed  
gaming, and then vanished  
without a trace

WRITTEN BY **JACK YARWOOD**

ADDITIONAL TRANSLATION BY **LIZ BUSHOUSE**



◀ Dracula's head flying away at the end of the original *Castlevania* was purportedly meant as a tease for a possible sequel.

In 1987, Konami released *Castlevania* (known in Japan as *Akamajō Dracula*) for the Famicom Disk System. The side-scrolling adventure about monster hunter Simon Belmont and his quest to kill Dracula became one of the company's most beloved games, inspiring countless sequels, spin-offs, and even a Netflix TV show. But strangely, to this day, fans know very little about the man who created it: Hitoshi Akamatsu.

Akamatsu didn't give many interviews during his career in the games industry. There are barely any photographs of him, and his list of credited projects is frustratingly incomplete. This has given rise to a number of rumours about his time at Konami, though barely anything has actually

been confirmed. We therefore set out to clear up some of the mysteries and misconceptions surrounding the developer, speaking to those who worked alongside Akamatsu at Konami to uncover more about him. Not only did talking to his former colleagues reveal a more accurate picture of his time at Konami, but it also gave us a better understanding of the circumstances that surrounded his eventual departure from the company.

## OSAKA TO KOBE

Masahiro Inoue is a former producer who worked at Konami on arcade games like *Gyruss*, *Crime Fighters*, and *Teenage Mutant Ninja Turtles*. He first met Akamatsu in 1983 at Konami's original headquarters in Osaka, where they were both working on arcade games, and was able to provide us with a little more information about the mysterious developer. According to Inoue, for instance, before Akamatsu worked on *Castlevania*, he worked on a game called *Finalizer - Super Transformation*, a vertical shooter released in Japanese arcades in December 1985. This makes *Finalizer* the earliest title we know of that Akamatsu worked on at Konami.

The game puts players in control of a transforming jet as it battles across a scrolling land-mass meant to represent the United States. You could play alone or with a friend, with the goal being to rack up as many points as possible. ➔

## VAMPIRE KILLER

A month after *Castlevania* was released, Konami published an MSX2 version of the game that would eventually be known overseas as *Vampire Killer*. Akamatsu had little to do with this project, with Konami designating teams based on their experience with specific platforms, as opposed to who originally came up with the idea. As a result, there are some notable changes from the original. *Vampire Killer* is far less linear than its NES counterpart, for example, requiring players to grab a skeleton key before heading to each stage exit. There are also merchants who'll sell weapons and upgrades in exchange for hearts. Interestingly, because it was localised before the NES version, *Vampire Killer* was the first *Castlevania* title released in Europe.



### DRAGON SCROLL

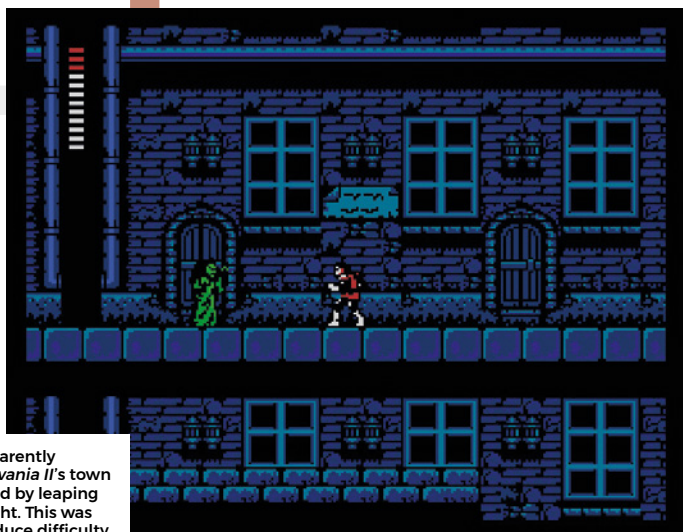
*Dragon Scroll* has often been compared to *The Legend of Zelda*, and it's easy to see why. There's an open world to explore, dungeons to beat, and special items that help you solve puzzles. You play a hero named Feram, tasked by the god Narume with collecting a set of magic books and returning a fearsome dragon to sleep. The game suffers from a lot of the same issues as *Simon's Quest*, with the puzzles being cryptic and hard to solve, but it's an interesting curiosity as it launched only a year and a half after the original *The Legend of Zelda*.

Akamatsu worked as a programmer on the title but went uncredited, as was common for the time. The majority of early Konami games never featured comprehensive credits, with creators occasionally hiding their initials or surnames on high score screens or in secret messages. This makes deciphering who did what a total mystery unless you go directly to the source. But finding other employees from this period can be just as difficult, given how many have since left the industry.

Nevertheless, what we now know for sure is that following the development of *Finalizer*, Akamatsu moved from the arcade department to work primarily on NES games. His first release for the console is unknown. What is known, however, is that in 1986 he began work on what would be his most well-known title, *Castlevania*, taking on the role of director.

Akamatsu was directly involved with *Castlevania II*'s design, as can be gleaned from conversations with his former co-workers at Konami as well as tweets by Sonna Yuumi – a sub-planner who Akamatsu later mentored at another studio he worked for, Vingt-et-un Systems. Between 2015 and 2019, Yuumi tweeted about his conversations with Akamatsu, regarding *Castlevania II*'s design, which were then translated into English by shmuplations.

According to these tweets, Akamatsu, like many others at Konami, was a big movie buff, and wanted people to feel like they were playing through a classic horror film. This explains the



➤ Akamatsu apparently wanted *Castlevania II*'s town to be populated by leaping zombies at night. This was changed to reduce difficulty.



▲ The hints in *Castlevania II* often led to players getting stuck from trying to replicate what lying townsfolk had told them.

rogues' gallery of movie villains that appear from the Mummy to Medusa to Dracula himself. Akamatsu also loved Steven Spielberg's 1981 movie *Raiders of the Lost Ark*, which explains why the protagonist Simon opted for a whip over a more traditional weapon like a sword.

Booting up *Castlevania* today, one of the things that's striking is its difficulty compared to other NES games. It's very easy to get hit while jumping from one platform to another and fall immediately to your doom, or struggle with some of the game's more challenging bosses, like Death or Dracula. When Yuumi questioned Akamatsu about this, the older developer simply highlighted the inclusion of subweapons, which make the game substantially easier in some cases, and joked about his creation being less punishing than *Super Mario Bros.* where players can die in one hit.

*Castlevania* is now regarded as a classic, and commonly appears in 'greatest games of all time' lists. Of course, this success wasn't all down to Akamatsu but others on the team as well, including composers Satoe Terashima, Kinuyo Yamashita, and Hidenori Maezawa, as well as several uncredited artists and programmers. In the eyes of Konami, a sequel to the game was a no-brainer, but before work got underway, there was another project that required Akamatsu's attention.

### THE GOONIES II AND OTHER NES GAMES

In 1986, Konami released a Japan-only adaptation of *The Goonies* for the Nintendo Famicom. This was a loose adaptation of the 1985 Richard Donner film about a group of kids on a quest to find the treasure of the pirate, One-Eyed Willy. It's not known whether Akamatsu worked on this original game, but when it came time to direct



▲ In case the cinematic influences weren't obvious enough, *Castlevania III* made it explicit by incorporating a film reel on its title screen.

the sequel, Konami approached the *Castlevania* director to take the lead on the project.

*The Goonies II* is one of the few games Akamatsu gave an interview for, with the article appearing in the short-lived Konami-published magazine, *Monthly Nanda*. In that article, he's not only pictured, but was also asked where he got his ideas from. Luckily for us, a Twitter user named Kutsurogi scanned and uploaded the article, with another user, Arc Hound, providing a translation on his Tumblr blog.

Speaking to the interviewer, Akamatsu said: "Game ideas can be gotten from anywhere. Not just movies, music, or sports, but also from the littlest things in everyday life, such as trying to slip out of school in order to play. That's sufficient enough for one game."

In the case of *The Goonies II*, the plot was a direct sequel to the events of the first film, with the Fratelli gang escaping from prison and kidnapping Mikey's friends, along with a mermaid named Annie. The game's a side-scrolling platformer, with players fending off enemies with slingshots and yo-yos to rescue the other Goonies. There are also some first-person sections where Mikey can talk to NPCs to unlock hints as well as new items.

*The Goonies II* released for the Famicom in March 1987; a North American version was released later that year, while Europeans had to wait until December 1988. Regardless, the game received positive reviews from publications like

**"Akamatsu was directly involved with *Castlevania's* design"**

CVG and Famitsu, and has become something of a curiosity today among collectors, given Donner never directed a true sequel to the film. According to our sources, development on *Castlevania II: Simon's Quest* started almost immediately after work on *The Goonies II* finished, with Akamatsu once again taking on a role as director. *Castlevania II* wouldn't be a straightforward sequel, however.

For the second game, Akamatsu decided to change the formula from a haunted house action-adventure to a role-playing game filled with towns, swamps, and various dungeons to explore. This was partly inspired by the growing popularity of RPGs at the time, including Konami's own *Knightmare II: The Maze of Galious*.

You play as Simon, with the goal being to collect five parts of Dracula's corpse and vanquish the demon vampire for good. To achieve this, you need to talk to the townsfolk for information, grind hearts for better equipment, and navigate the open world to tackle its dungeons.

Over the last two decades, *Simon's Quest* has become somewhat of a black sheep in the series due to its differences from the other NES games →

## HITOSHI AKAMATSU KNOWN SOFTOGRAPHY

- 1985 **Finalizer - Super Transformation**
- 1986 **Castlevania**
- 1987 **The Goonies II**
- 1987 **Castlevania II: Simon's Quest**
- 1987 **Dragon Scroll: Yomigaerishi Maryuu**
- 1988 **Jarinko Chie**
- 1989 **Castlevania III: Dracula's Curse**
- 1990 **Snake's Revenge**
- 1990 **Surprise Attack**
- 1992 **Astérix**
- 1993 **Slam Dunk**
- 1997 **Tsuridō: Umitsurihen**
- 1997 **Jimmy Houston's Bass Tournament U.S.A 97**

### A FAMILIAR FACE

Sonna Yuumi previously tweeted a fun easter egg that can be found in *Tsuridō: Umitsurihen*: the character you control in the game is apparently based on the likeness of its camera-shy director, Hitoshi Akamatsu. The marketing team, however, didn't get this memo, and instead used another model for the game's box art.



> *Astérix* the arcade game is a beat-'em-up following the two Gaulish warriors as they take on the Roman Empire.

as well as the difficulty of its puzzles. Koji Igarashi, director of 1997's *Castlevania: Symphony of the Night*, has stated the game didn't leave a good impression on Japanese players, due to its lying NPCs and long loading times. Meanwhile, in the English version, some riddles were mistranslated, making them hard to solve without a guide. Regardless, *Castlevania II* is still a fascinating evolution of the original game, and even inspired Igarashi's later work on *Symphony of the Night*.

As for what Akamatsu did after *Castlevania II*, a clue was left for us in the Famicom-exclusive *Dragon Scroll: Yomigaerishi Maryuu*. A debug password contained the name of its development staff, with Akamatsu being the first listed. It's therefore believed that after working on *Castlevania II*, he went to work on another *Dragon*



▲ Like other Konami games of the period, *Goonies II* also had some strange localisation quirks.

*Scroll* game that same year. We showed it to various former Konami employees, who believed this to be the case. They also confirmed that Akamatsu worked on other NES games in senior roles, including an adaptation of the slice-of-life comic *Jarinko Chie* in 1988, and the non-canon *Metal Gear* sequel *Snake's Revenge* in 1990.

In 1989, Akamatsu worked on his last *Castlevania* game as director, *Castlevania III: Dracula's Curse*. This was a prequel focusing on the adventures of Trevor Belmont, Simon's ancestor, and his own battles against Dracula's evil forces. Akamatsu went back to the classic platforming of the original *Castlevania*, but tried to combine the non-linear approach of *Simon's Quest*. This time, players could take multiple paths through the Transylvanian countryside and even pick an additional player to use alongside Trevor. The reaction to *Castlevania III* was arguably more positive than for its predecessor, with reviewers for magazines like Famitsu and Total! enjoying the return to the classic formula. Sadly, Akamatsu never got to work on any of its sequels.

In 1990, after finishing work on *Snake's Revenge*, he switched to Konami's arcade division to work on new projects, and in the years following, the development of *Castlevania* games bounced between different teams for different platforms, before finding its way to Konami's Tokyo development centre. This is where *Castlevania: The New Generation* and *Super Castlevania IV* were developed, and explains why so few people who





▲ Text adventure *Jarinko Chie* is one of several titles Akamatsu worked on after *Castlevania*.

worked on those later *Castlevania* games met Akamatsu in person.

## THE ARCADE YEARS

It's at this point that history gets a little muddy. There's a rumour that after *Castlevania III* failed to outperform Konami's *Teenage Mutant Ninja Turtles*, the company sent Akamatsu to work in one of Konami's game centres as punishment. But this has never been proven and comes second-hand from Yuumi, who didn't work at Konami and admitted he was only speculating.

According to the former Konami employees we spoke to, what actually happened was that *Teenage Mutant Ninja Turtles* was a huge success, especially in the North American market, so Konami was encouraged to work on more licensed games. Akamatsu, seeing this success, was disappointed that his games never sold as well, because the teams working on the best-selling games would often receive huge bonuses for their work. In 1990, therefore, Akamatsu moved to Konami's arcade division, where he assisted with several games. This included the arcade platformer *Surprise Attack*, where he did some programming and design work, and 1992's *Astérix*, a licensed game based on the French comic, where he was credited as 'Narunopapa', as confirmed by its co-director Masaaki Kukino.

Kukino was able to shed some light on Akamatsu's departure, as he was actually meant to co-direct another title with Akamatsu after *Astérix* – a basketball game called *Slam Dunk* that released in Japanese arcades in 1993. According to Kukino, however, Akamatsu abruptly left the project during development and joined another department, becoming a clerk at a Konami game centre, and all of his work had to be redone. It's not known whether this move was voluntary or not, with some suggesting it could have been for user research. It's clear from our conversations

with former staff, though, that he had difficulties when he rejoined Konami's arcade division. As Kukino told us: "I respected him when [we] worked on the same team, because of what he and the *Castlevania* team accomplished and because he'd been in the business two years longer than me. But as development progressed, I realised he wasn't fit to be a team leader because he couldn't decide on anything. He's credited as the director on the [*Astérix*] game that he and I teamed up for, but in reality, I'm the one who really made all the decisions and directed the game."

Akamatsu disappeared for a few years after he made the move to working in one of Konami's game centres, but after leaving the company he found himself directing games again. In 1997, he was the director on *Tsuridō: Umitsurihen* (loosely translated to *The Way of Fishing: Sea Fishing Edition*) at Vingt-et-un Systems. This was a studio specialising in fishing sims that publisher OZ Club had partnered with to make an enhanced port of an earlier System Soft PC game for PlayStation. Akamatsu worked at Vingt-et-un Systems for the next few years, helping out on the company's vast library

of fishing games. He eventually left the games industry for good in the early 2000s, according to Inoue.

It's still not known what he makes of *Castlevania*'s success or his creation becoming an acclaimed Netflix series. But hopefully, he understands the significance of what he started. And, who knows – maybe one day he'll come out of hiding to share his side of the tale. 🗨



◀ Named *Run & Gun* in western arcades, *Slam Dunk* was peculiar in that it showed the player a perspective from the baseline as opposed to the sidelines. It worked surprisingly well.

## JARINKO CHIE

Much like the comics, *Jarinko Chie* follows the "most unfortunate girl in Japan", Chie Takemoto, as she helps run her family restaurant and interacts with her neighbours. The game's played from both a third- and first-person perspective, with players having to select from a list of verbs and actions to progress the story. Interestingly, there's been two feature films of *Jarinko Chie*, with the 1981 version being directed by non-other than Studio Ghibli director, Isao Takahata.

# Video gaming's warm embrace



## KIM JUSTICE

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

Over the past few weeks, I've been thinking a lot about the effectiveness of gaming as a means of coping with a personal tragedy, mainly because it's something that I've been actively participating in. It stands to reason, of course, that grief leads us towards familiar comforts and passions, but it intrigues me to see the form it takes – in this instance, the areas of gaming I threw myself into, as well as the ones I avoided.

Me and my fiancé Sophia were both avid gamers, although we enjoyed different genres – I'm more arcade-y, and she was more into sims and city building. Those arcade-style sports or platform games have certainly been getting attention – and often not even the best ones. That dusty copy of *World Cup Italia '90* has

certainly seen some more use, not to mention the unmistakable joys of *Super League* on the Mega Drive. Part of that is down to work, but there's a nostalgia for childhood, too – to play something that I haven't played in nearly 30 years, even if I know it's not very good, as a way of reliving simpler times. I've played a few games like that recently, and for once, making a snarky yet informative ten-minute video hasn't been the end goal.

And then there's the sort of games that Sophia enjoyed. She'd happily egg me on through typical action titles on stream, but games like the original *The Settlers* were her passion – where building is a key goal, with a fair bit of rivalry and competition thrown in. Where in the end you sit atop a constructed utopia, and not a pile of dead grunts. Such games aren't usually favourites – and yet I've thrown myself into them. I could think of reasons why – a sort of channelling or vicarious living, a means of constructing a tribute – but really, it's a way of remembering the good times, if it's anything at all. A fond aide-mémoire.

I haven't really gone for those sorts of games that are more story-driven or based on personal experiences closer to my own situation. I consider them too raw – such games may yet prove tricky to deal with. That said, going to games like these is obviously valid, because everyone has different ways of coping with grief; all we can do is try to do the best we can with what we've got. With those thoughts in mind, I hope that sharing my experiences will help anyone who finds themselves in a similar situation. Certainly, putting them down also helps me through my own process. If there's a hole, we fill it up and take those memories on our journey. We never forget, but we do carry on. 🐾



▲ In *The Settlers*, you build as opposed to destroy. Watching these little people going about their virtual lives can have the same effect on the grieving process.

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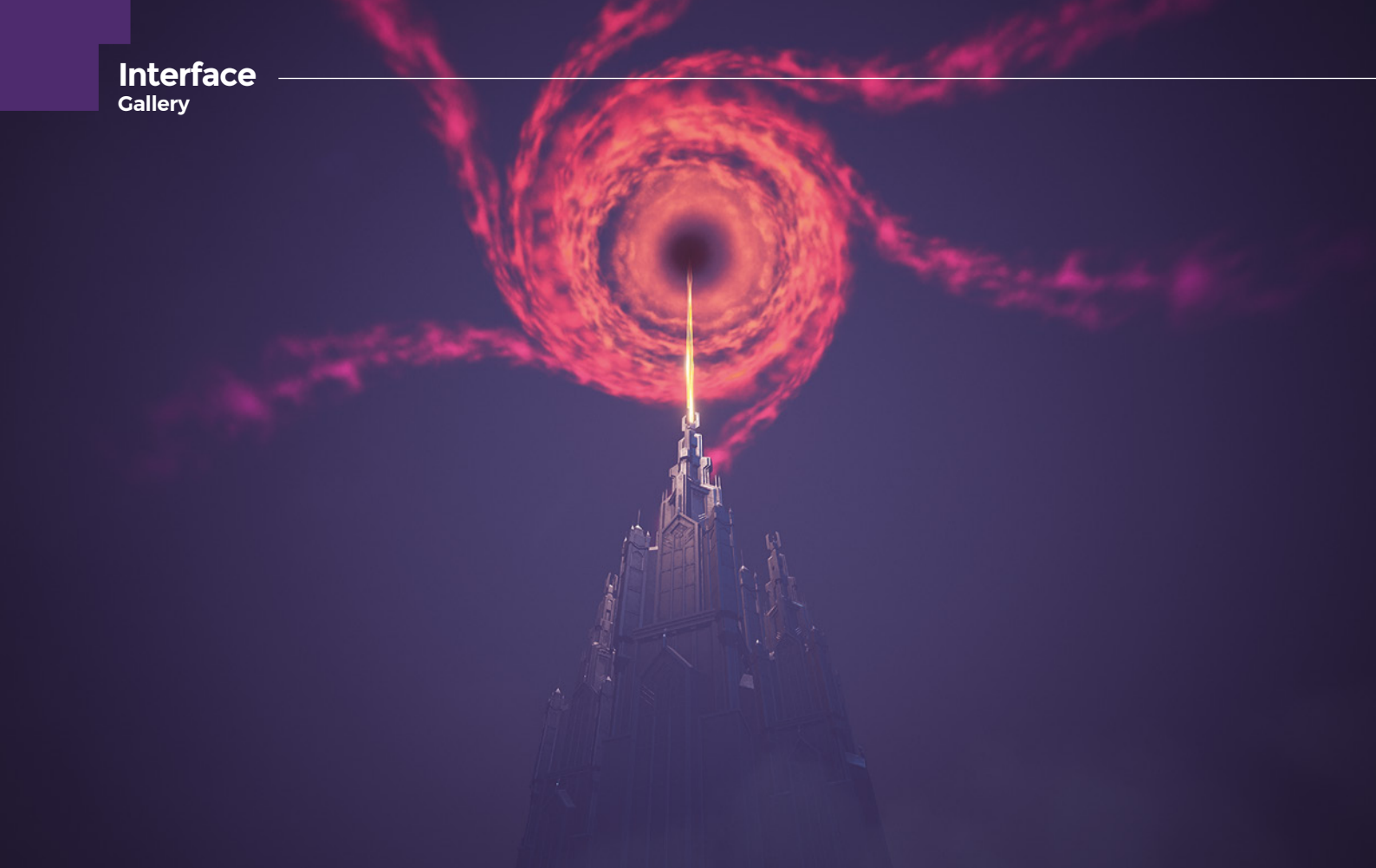
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GAME  
SCATHE

DEVELOPER  
Damage State

RELEASE  
2022

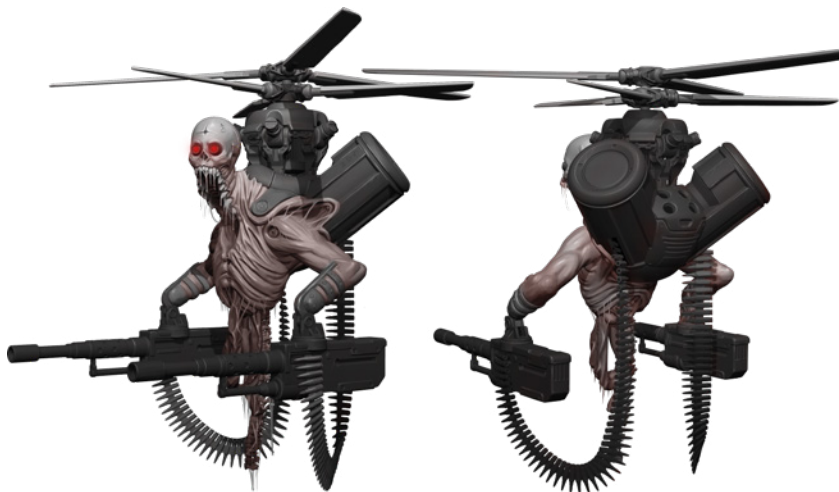
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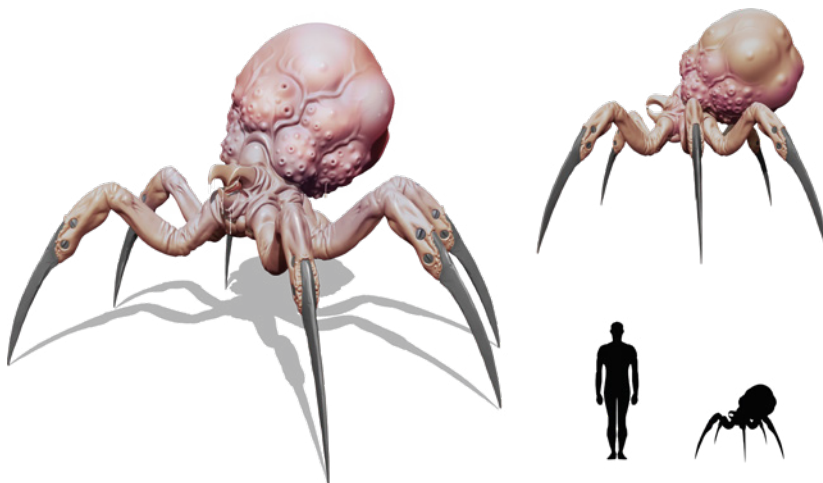
› "With a team of only three, the same artist responsible for the concept will also handle the creation of the environment art. This means that highly detailed and developed concepts aren't required, so quick sketches, created in Sketchbook Pro, are more than enough to outline ideas and move us to the finished game art. An example of this is the Exit Tower."



^ "When it comes to the concepting of weapons, they need to imply power and impact at a glance, even before they're fired. To achieve this, we used large and imposing silhouettes, focusing on a first-person perspective. Although every gun is relatable, we stay clear of anything too realistic, keeping to the fantastical world in which *SCATHE* is based."



^ "Reapers were the very first demon to make it into *SCATHE*. The airborne creatures haven't changed much to this day: they're still darting and flinching while unloading their dual cannons. Headshots are critical in dealing with these nasties quickly."



^ "In this concept, the Scuttlers are shown in an early form. Note the flesh-coloured sack which became a green, exploding bio-sac in the end. Quick to kill, but deadly to ignore."

## SCATHE

READ  
MORE  
turn to  
page 12

If you like your first-person shooters draped in fire, gore, and ornate metalwork, look no further than *SCATHE*. Developed by Damage State, it offers a bullet-soaked journey through hell, with the central aim being to blast every demonic entity that crosses your path. Here, programmer and studio co-founder Chris Dawson explains how he and his collaborators, art director and co-founder Tim Hay and character artist Manu Lopez, designed *SCATHE*'s nightmare landscape of monsters.



^ "An unfortunate Razorback has become a Sludge. When the nightmare parasite attaches to the skull, it's not long before it infects and gains control, spawning an entanglement of poisonous vines."

# KONAMI

## 1980s Classics

The Japanese firm's 20 greatest games of the eighties – plus five honourable mentions...

**T**he 1980s saw Konami's creative powers reach new heights. It was a decade that saw the Japanese company forge a reputation for making some of the best games of the era: as we saw on page 28, *Castlevania* helped launch an action-horror franchise that lasted for almost 30 years. Some of Konami's arcade games helped define entire genres. Meanwhile, Hideo Kojima spent the eighties making some truly innovative computer games that laid the groundwork for his later, more celebrated work.

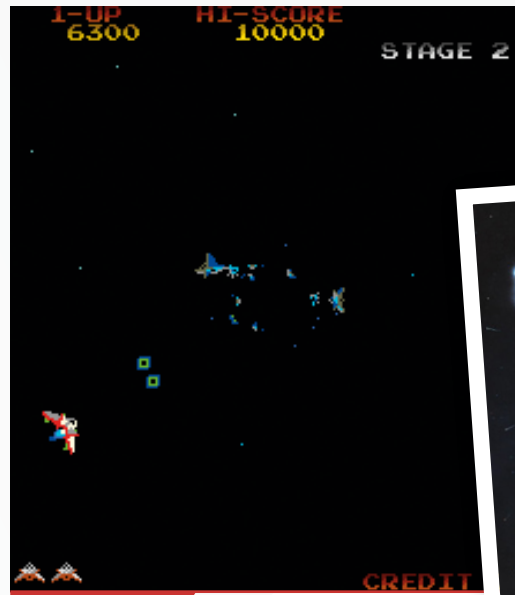
Later years saw Konami rely increasingly on sequels and licensed games, and reports of some deeply unpleasant working practices at the company made for grim reading. But before all that, Konami easily ranked as one of Japan's greatest developers. Here's our pick of some of its finest games from that golden age, listed by the year and platform on which they were first released.

WRITTEN BY  
**RYAN LAMBIE**

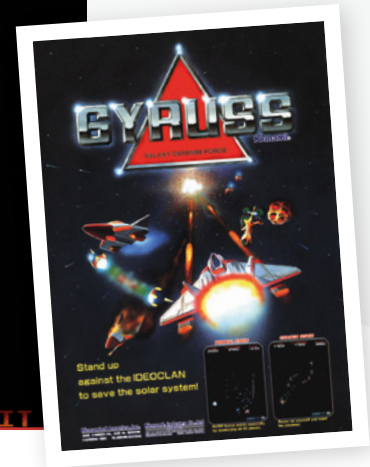


**Frogger** Arcade / 1981

In the years before *Frogger*, Konami plodded along making fairly unremarkable coin-ops that looked and played much like anything else you'd find in arcades of the era. But here, the company scored its first true international hit: a breezy little action game about guiding frogs across busy roads and hazard-laden watercourses. Taito had *Space Invaders*; Namco had *Pac-Man*; *Frogger* was perhaps Konami's biggest hitter in the arcade era's golden age.



**Gyruss** Arcade / 1983



What happens if you fuse the pseudo-3D shooting of *Tempest* with the aggressive attack formations of *Galaga*? The answer's *Gyruss* – a shooter that sees swarms of aliens hurtling at you from the middle of the screen as you anxiously circle its edges. *Gyruss* is also noteworthy for being an early hit from Yoshiki Okamoto, who later produced *Street Fighter II* at Capcom. So who knows: had Okamoto not left Konami (reportedly due to disputes over pay), that company might have made the biggest one-on-one fighter of all time instead...



**Scramble** Arcade / 1981

Shooting games rapidly became faster and more complex as the 1980s wore on, and *Scramble* provided the prototype for much of what Konami would produce later in the decade. Taking place in an unending tunnel of narrow rock formations, it has you shooting down enemies with your laser and blowing up fuel with your missiles – the latter providing much of the tension, since you're constantly running out of fuel and it's only by blowing up the tanks that you're able to replenish your reserves. Interestingly, the concept of a ship that needs regular refuelling was rarely taken up by most shooting games that came afterwards – Konami's hastily made *Scramble* sequel, *Super Cobra*, aside.



**Track & Field** Arcade / 1983

You didn't have to know anything about sport to enjoy this classic coin-op – you just needed the ability to press two buttons with incredible speed. Therein lay *Track & Field's* appeal, though: whether it was the 100-metre dash or throwing a javelin, just about anyone could appreciate its collection of hectic minigames. For years afterwards, arcades were filled with the sound of frantic button mashing; we may never know how many joysticks and keyboards were pounded into oblivion when the game was ported to home computers a year or so later. ➔



### Gradius

Arcade / 1985

Quite simply, the side-scrolling shooter that defined a genre. Everything's here: the boss battles, the deep and rewarding weapons system, the varied levels, the catchy music. Originally envisioned as a sequel to *Scramble*, *Gradius* soon emerged as something far more ambitious and boundary-pushing: a shoot-'em-up so striking and cleverly designed that rival companies would soon pilfer bits from it for years afterwards. Fun fact: Miki Higashino, the composer of the triumphant soundtrack, was a 17-year-old student at the time of *Gradius*' release.



### Green Beret

Arcade / 1985

Today, *Green Beret* looks like a compendium of 1980s action movie clichés: there's the lone soldier wading into battle against an army of faceless enemies. There are huge guns and rocket launchers. And then there's the Cold War-era plot, about rescuing hostages from what looks suspiciously like a Soviet military base (the game even had the punning title *Rush'n Attack* in some territories). But *Green Beret* is also a timeless action-platformer: it's unforgivingly tough, true, but with its tight controls and varied stages, it also rewards repeated play.

### Shao-Lin's Road

Arcade / 1985

Compared to much of Konami's other eighties output, *Shao-Lin's Road* tends to get overlooked. Maybe it's because the home ports of the era were so iffy. Fire up the arcade original, though, and you'll find a refreshingly different kind of brawler-platformer hybrid. Stages are small and over in just a few seconds, as you pummel enemies with carefully timed kicks (hence the game's alternate name, *Kicker*). It's a simple game, but the assortment of novel power-ups (including a fireball you can fire out from your feet) and gently rising challenge make this one surprisingly addictive.

### Yie Ar Kung-Fu

Arcade / 1985

Two years before Capcom's Takashi Nishiyama pioneered the six-button combat system with the original *Street Fighter*, *Yie Ar Kung-Fu* took a valiant stab at the one-on-one beat-'em-up. It might seem simplistic today, but Konami's fighter is still recognisably the distant cousin of things like *Street Fighter II*, *Mortal Kombat*, and *The King of Fighters*. There's the roster of eleven varied opponents, each with their own weapons and combat style; a health meter; even what could be regarded as a Mirror Match, where protagonist Oolong fights Blues – essentially a palette-swapped version of himself.

### Castlevania

NES / 1986

This one hardly needs an introduction, because of course you've read our superb feature about *Castlevania* and its creator on page 28. What's surprising about *Castlevania*, though, is just how well it's aged; it remains a taut action-platformer that rewards persistence – whether it's the precise attack patterns of enemies or the location of items hidden behind crumbling walls, or the best weapons to use against each boss, *Castlevania* always gives you reasons to keep improving. The 1986 original lacked the more open-ended exploration of later entries, and yes, some of those enemy attack patterns can feel a little cheap (those disembodied heads that knock you backwards, often over a ledge and straight to your death aren't exactly a high point), but still: *Castlevania* remains an out-and-out classic.





**Jackal** Arcade / 1986

A companion piece of sorts to the previous year's *Green Beret*, *Jackal* is an early entry in that rarefied genre, the drive-and-gun. Taking the helm of an armoured jeep, you trundle into battle, shooting (or running over, if you're feeling harsh) enemy soldiers, picking up prisoners of war, and dropping them off at evacuation points. The weapon upgrade system's an interesting one: by default, you have a standard shot and grenades; by rescuing hostages, you can gradually improve your ordnance until you're firing deadly missiles all over the place. One of Konami's lesser-known arcade classics.



**Metal Gear** MSX2 / 1987

Bosses at Konami were less than impressed when they gave young designer Hideo Kojima the task of designing a military action game (along the lines of *Green Beret*, perhaps), only to be presented with *Metal Gear*, which is about avoiding conflict rather than engaging in it. Like it or not, Kojima had invented the first true stealth game. Although generally regarded today as a dry run for Kojima's better-known PSone entry, *Metal Gear Solid*, the MSX2 original is a great game in its own right: a tense top-down avoid-'em-up that contains plenty of the quirks and preoccupations that would one day make Kojima famous.

**Bio Miracle Bokutte Upa** Famicom Disk System / 1988

You're some sort of genetically enhanced super baby capable of inflating pigs with your rattle. You can then hit the luckless porkers again to burst them, or clamber aboard and use them as makeshift balloons to carry you over deadly pits. Konami lurched wildly from the deadly serious to the incredibly odd in its eighties and nineties offerings, and *Bio Miracle Bokutte Upa* is undoubtedly one of its weirdest games. It's also a thoroughly disarming, fun platformer, with some imaginative level design and the kind of perfectly judged controls you'd expect from the developer. Regrettably, *Bio Miracle* was only released in Japan, first for the Famicom Disk System and later on cartridge, which also means it's one of the more obscure titles to emerge from Konami's doors in the 1980s.

**Contra** NES / 1988

The arcade game was decent enough, but it was the NES version that really left its mark. An aggressively fast action-platformer, *Contra* liberally douses the screen in bullets and nimble enemies. Then, just to change things up, switches perspective from side-scrolling 2D into-the-screen pseudo 3D for some of its more claustrophobic encounters. Was this originally intended as a sequel to the similar-feeling *Green Beret*? Whether it was or not, *Contra* undoubtedly takes samples of its DNA and creates a bigger, angrier beast: the collectible weapons are more varied and devastating, while that earlier game's soldiers are replaced here by an array of humanoids, droids, and toothsome horrors from the depths of space. One of Konami's greatest ever titles – and, of course, the game that popularised the Konami Code (see page 112). ➔





### Gradius II

Arcade / 1988

This shooter sequel contains one of the most striking opening levels in any 1980s game: you navigate your craft between blazing suns, avoiding the roaring fire dragons that slither from their surfaces. Survive that, and you're thrust into an H.R. Giger-esque biomechanical landscape. Get past that level's boss (a giant, mechanical eye), and you're dodging and weaving between chunks of space crystals. *Gradius II* was a stunning achievement from a technical standpoint. Even today, though, its urgent soundtrack raises the hackles, while its stage design and difficulty balance arguably makes it the pinnacle of the series.



### Konami Wai Wai World

Famicom Disk System / 1988

Years before *The Avengers*, Konami decided to create its own team-up special. *Konami Wai Wai World* gathers together a wealth of characters from the company's catalogue for their own action-adventure. This isn't the best game of its type Konami ever put out, but there's a certain novelty to seeing the likes of Simon Belmont III, Goemon, and King Kong all appear on one cartridge. Each character touts unique skills, unlocked as you rescue them at the end of a stage. This was another Japan-exclusive title – perhaps due to the rights issues that would've emerged from having all those licensed characters in one place.



### Parodius

MSX / 1988

Later entries were better-known and more enjoyable to play, but *Parodius* on the MSX still deserves a mention for spawning an oddball series that thrived well into the nineties – at least in Japan. A parody of Konami's hit shooter, *Gradius*, *Parodius* replaces spaceships and deadly aliens with an array of fish, penguins, and characters from Japanese folklore. If you're looking for the definitive version, try tracking down the *Parodius Portable* connection for the PSP – it contains an updated port that eliminates the original's juddery 8-bit scrolling.

### Snatcher

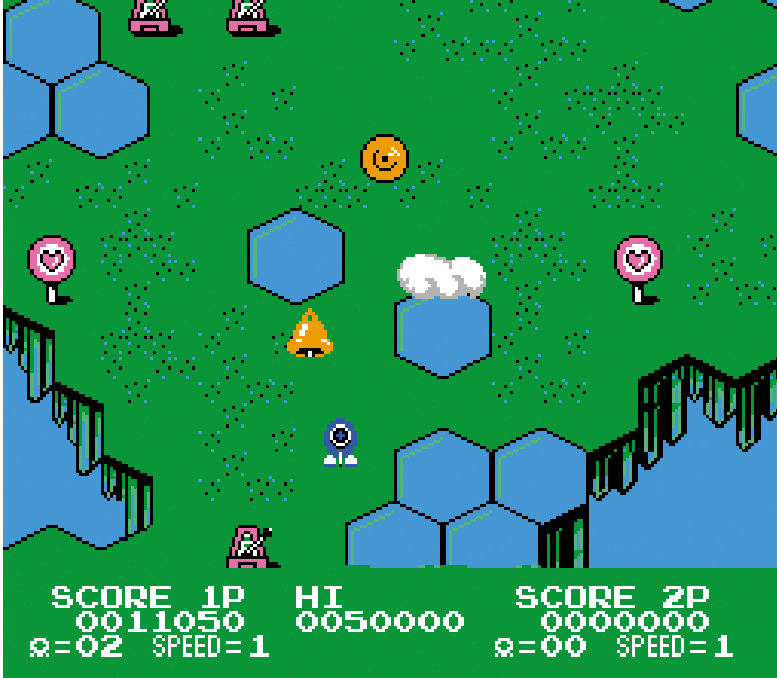
PC-8801 / 1988

One year after Hideo Kojima baffled his superiors with *Metal Gear*, *Snatcher* saw him embark on this narrative adventure. Kojima's film-nerd credentials abound in its cyberpunk mystery: *Blade Runner* and *The Terminator* are two particularly obvious touchstones, with the plot seeing protagonist Gillian Seed hunting down the titular Snatchers – Replicant-like robots disguised as humans. First released for the PC-8801 computer, *Snatcher* was later updated and ported to other systems. Atmospheric, deliberately paced, and often violent, it's the most mature game Konami released in the eighties.

### Castlevania III: Dracula's Curse

NES / 1989

The NES's hardware was six years old by the end of the eighties, but despite those constraints, *Castlevania* marked the point where the series really began to feel like a modern action-adventure. The game map is bigger and more open; there are multiple characters to take control of, and the game as a whole now feels closer to later, celebrated entries like *Super Castlevania IV* and *Castlevania: Symphony of the Night*. Konami's last series entry for the NES, and a new high for *Castlevania* after the likeable yet flawed *Simon's Quest*.



**TwinBee 3: Poko Poko Daimo** NES / 1989

The first *TwinBee* was a charming if somewhat bare bones top-down shooter, while the sequel, named *Stinger* in the west, added horizontal scrolling levels and even a three-player mode. But it was *TwinBee 3* where the series truly found its stride, with vastly improved graphics, smoother action, and more outlandish boss fights (one of them involves gunning down what appears to be a ghostly jazz band). Its lack of a western release makes it one of the more obscure entries in the *TwinBee* series, but this second sequel nevertheless paved the way for better-known titles like *Detana!! TwinBee* and *Pop'n TwinBee*.

**Bubbling under**

**Time Pilot** Arcade / 1982

Designer Yoshiki Okamoto was ordered to make a driving game, but made this pioneering multi-directional shooter instead. Okamoto then moved to Capcom where he helped develop the likes of *Final Fight* and *Street Fighter II*.

**Roc'n Rope** Arcade / 1983

An arcade platformer designed by Tokuro Fujiwara that pioneered the grappling gun concept. Fujiwara then moved to Capcom and made the far-superior *Bionic Commando*. And *Ghosts 'n Goblins*. And *Strider*. And *Sweet Home*. You can probably see a pattern forming here.



**Salamander** Arcade / 1986

Also released in an earlier, slightly revised form as *Life Force*, *Salamander* is a *Gradius* spin-off with a revised weapon system and less outright punishing difficulty. It's another top-notch shooter from Konami, and received excellent (Japan-only) ports for the NES and PC Engine.

**Castlevania II: Simon's Quest** NES / 1987

Director Hitoshi Akamatsu boldly pushed *Castlevania* into more open, RPG-like territory with his sequel. The results are somewhat mixed – obtuse NPC dialogue rendered even more unintelligible thanks to some iffy localisation, for one thing – but this still marked the point where the series moved beyond straight action-platforming.

**Combat School** Arcade / 1987

Konami followed up *Track & Field* with *Hyper Sports* in 1984, which was essentially more of the same button-smashing minigames. But then came *Combat School* – button-smashing minigames, but with angry drill sergeants and uncomfortable army boots. It was great.



**Teenage Mutant Ninja Turtles** Arcade / 1989

Konami snapped up the rights to Eastman and Laird's comic-book series (or, at any rate, the less violent cartoon series it was based on) at just the right time, because Turtle-mania was sweeping the world by the time this brawler emerged in arcades. Importantly, though, the game behind it is a cracking one: an effervescent slab of action that makes full use of the quartet of Turtle heroes and their various weapons, while villains such as Rocksteady, Bebop, and rank-and-file Foot Soldiers make for satisfying enemies to bash into oblivion. The experience certainly felt closer to the frivolous fun of the cartoon than the first NES game to carry the *Ninja Turtles* name – a platformer with a brutal difficulty level that still makes us shudder to this day. ☹️

# Toolbox

The art, theory, and production of video games

**46. CityCraft**

Exploring Mirror's Edge Catalyst's City of Glass

**50. Drop Bear**

Make an infinite runner for the original Game Boy

**56. Narrative Design**

Using storytelling to communicate your design ideas

**58. A matter of balance**

A guide to getting attacks and powers pitched just right

**64. Design principles**

Exploring the lasting impact of the 45-year-old Atari 2600

**66. Source Code**

Create your own Guitar Hero-style rhythm action game



^ Program an infinite runner that works on original Game Boy hardware in part one of our guide. See page 50.



^ Uncover the design secrets behind the City of Glass on page 46.

58



▲ Are your guns too powerful? Is your game's difficulty putting newcomers off? Find out more about balancing game design on page 58.



64

▲ As the Atari 2600 reaches its 45th anniversary, Howard considers its lasting impact on gaming. See page 64.

◀ Make a rhythm action game worthy of a rock god with this month's Source Code on page 66.



66

# Designing the City of Glass

A detailed look back at the making of  
*Mirror's Edge Catalyst's* urban heart



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**F**ollowing the original *Mirror's Edge* must have been a tricky task for DICE. The 2009 game was a brilliantly innovative first-person parkour-'em-up, and its developers didn't want to simply deliver more of the same for its 2016 sequel, *Mirror's Edge Catalyst*. Instead, it made the brave choice of transplanting what was originally a linear experience with rigid boundaries to an urban open world. It was set in the City of Glass: a near-future dystopia inspired by such places as Shanghai, Singapore, and Tokyo.

Erik Odeldahl, design director on *Mirror's Edge Catalyst* throughout its roughly five-year development cycle, agreed to share some of the

decisions that guided the creation of its setting. Interestingly, Odeldahl left DICE after *Catalyst's* release to co-found Fast Travel Games, a VR game dev studio. Thankfully, despite enjoying wearing many hats and doing everything from level design, scriptwriting, and coding, to planning and budgeting, he still fondly remembers working on *Catalyst* and the city within it.

## INITIAL CONSIDERATIONS

When development on a *Mirror's Edge* sequel started in 2012, "the team leads had the mandate to shake things up and try something different," Odeldahl tells us. "Personally, I wanted us to go into a direction that reinforced one of the things I always liked best about the first game – exploration. I wanted to focus more on the cool parts where you have to combine all the moves in your arsenal to get to a specific area. I also really wanted us to build a game with the philosophy of 'If you can see it, you can get there'. We didn't quite reach that far, but got pretty close."

The decision was therefore made to transform the gameplay from the linear, self-contained levels of *Mirror's Edge* to fit *Catalyst's* new open world. "If you look at each section of the city," Odeldahl points out, "it still consists of 'typical' linear paths that allow you to dash madly forward, but the main thing is that there are lots of them, and that they very often intersect with each other. There are also a lot of areas that have no major purpose for the main narrative, but are built wholly for exploration."

✓ The city's architecture predominantly features white surfaces, which make the oranges, yellows, and blues pop out and guide the player.





The team wasn't exclusively influenced by the first game; for his part, Odeldahl "referenced the *Metroid Prime* games a lot, but also, less obviously, the *Darksiders* and *Burnout* series."

As for the look and feel of the city, the team didn't stray much from the ideas developed in the first *Mirror's Edge*. They "wanted the city and its citizens to shine, and be superficially beautiful, but at the same time be a starkly sterile place". According to Odeldahl, "there's not a single space in it that doesn't try to sell something to you, be it consumer goods or an image of a 'better life'. You can see this everywhere you look. Everything is sleek and straight."

There's no room for anything but what the city commands, and this "is contrasted by the movement of the Runners, and specifically their physical freedom. They can go where no others can, and can do what average citizens cannot." On the other hand, while citizens move freely along wide avenues, those same avenues are almost impossible for Runners to cross.

"We experimented a lot with how close or how far away you should be to the streets for instance", he adds, "but in the end, we realised that [it was more fun] to allow the player to zoom around on the rooftops above the streets. With the exception of the old Underground Omnistat Tunnels, the lowest part of the game you're ever at is the first street in the first mission. And of course, the game ends at the highest point: on top of The Shard."

Architecturally, *Catalyst* retains the style that defined the original game: gleaming edifices of steel and glass, impossibly clean urban vistas, and the striking contrasts of white and bold



primary colours all remain intact. According to Odeldahl, the team never even discussed any alternative styles.

"It was clear from the beginning that we had to start with the sharp contrasts of the first game," he says, "and bring them forward towards something that reinforced the more developed backstory and world of our sequel."

## URBAN PLANNING

Handily, one of the team's concept artists, Nick Leavy, had a background in architecture. "He played a major part in designing the look and layout of each city district," Odeldahl says. "Even though the player sees the city from above for most of the game, we actually started by building out the network of roads and larger avenues, as well as making paths for high-speed monorails."

When building the city, the team also wanted the players to be able to see its history. So, Odeldahl says, you "start out in Downtown, the oldest part of the city, and gradually move outward from it, seeing the splendour of the Anchor, clearly built recently, then the construction areas where a new district is being erected, and then the underground, which consists of structures built before the Conglomerate took over." →

**"It was clear that we had to start with the first game's sharp contrasts"**

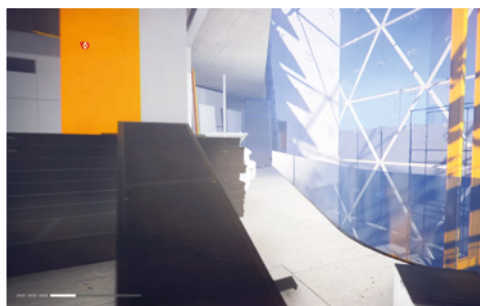
- ▲ For a stunning interactive map of the City of Glass, visit [wfmag.cc/cityglass](http://wfmag.cc/cityglass).
- ◀ Character design, uniforms, and fashion choices tie in and further enrich the city's aesthetics.

## CASCADIA

Like any decent imaginary city, the City of Glass doesn't exist in a vacuum. It's part of a wider world, and an important centre in the corporate-run nation of Cascadia. Specifically, the city's located by the sea to the south of Cascadia Prime. It's one of Cascadia's two major hubs and its third biggest urban centre. It serves as both a symbol of Conglomerate power and achievement, as well as a node of the geopolitical struggle between Cascadia and the opposing OmniState.



- ^ The city's futuristic style is further emphasised by the shape of its vehicles.
- > Construction materials are commonly used to create bridges, paths, and diegetic connections between areas.



"Eventually, you reach Sky City, the pinnacle of the Conglomerate's Architectural plans in Glass, and an inspiration to the whole of Cascadia. Overall, we wanted Glass to feel like a city that's trying to erase its past. My guess is that if [protagonist] Faith hadn't shaken things up so much by the end of the game, the in-world city planners would have started to tear down Downtown, and rebuild it from the ground up in the same style you see in the rest of Glass."

Narrative requirements aside, the city needed to combine open-world sensibilities, with discrete levels and predetermined mission routes. To encourage players to discover new shortcuts and optimise their traversal of the city, the game allowed for the creation of personalised, shareable time trials. According to Odeldahl, the latter deeply influenced the structure of its spaces. "Most of the level designers had these social challenges in mind when they created the open-world parts of the game," he says. "We continuously made time trials and placed geotags during development, and challenged each other to beat each others' times. I know some of the trickier secret pickups placed in the city ended up in locations where someone had previously placed a really hard-to-get-to geotag."

As for the more linear missions, Odeldahl says that these "were always intended to be a break from the more free-flowing stuff on the rooftops, and allowed us to build some intricate stuff that might be more fun to just play once".

Treating a whole city as an open-world obstacle course was another interesting challenge, as was allowing for flowing, continuous movement across the urban fabric without using the street level. Somehow, though, *Catalyst's* long, cohesive city blocks and the city's many skybridges all felt convincing and logical.

"Combining fun gameplay and making believable spaces is hard," Odeldahl admits, "but it's one of those things we never strayed from. The skybridges were one of the earlier things we locked down in the design to be able to connect larger areas with each other, while still maintaining a believable physical separation between them – usually a wide street or a body of water."

"Within the districts, we always started [designing] with silhouettes, and peaks and valleys. What's the first thing the player sees when they enter a new space? Having defined such matters, the level design team took over and made those ideas playable in a deeply iterative process that required a lot of back and forth, and which eventually also led to scrapping and rebuilding large parts of the city several times until they got them right."

Landmarks were also used to help guide the player. "The Shard in Sky City, the under-construction skyscraper in Anchor, the edifice where Kruger has his apartment in The View" all





◀ Coloured lines subtly indicate to the player which areas are safe to slide down.

provide points of reference as they make their way from one part of the city to another. As for the Runner's Vision system, it's almost always available to the player. The design choice to shut it off when the player enters a 'puzzle space' was made as the challenge there would be "to find out how to use your moveset to get from point A to point B".

"Both our game and the first *Mirror's Edge* are the most fun when you play through an area the second or third time," Odeldahl says. "If you don't know what obstacles will come up in front of you, it becomes really hard to navigate and shave time off your runs. In that sense it's very much like a racing game."

Creating a game world with clear boundaries and a well-balanced scale helped the overall experience – in fact, Odeldahl recalls, *Catalyst's* city was originally much bigger than the one that made it into the finished game. "As with more or less every game I've ever worked on, the design of the game world was initially larger than what we ended up shipping with," Odeldahl says. "In the case of *Mirror's Edge Catalyst*, this wasn't necessarily a budget or scope decision, but more in line with how big we felt the city needed to be in order to support the gameplay we wanted.

"Early on, we had designs for even more gadgets and tools, and to split up the city in a more *Metroid-y* pattern, but we ended up cutting away a lot of fat there. The only tools or gadgets that remained in the game from those

early designs are the ones that change how Faith moves."

Several buildings and other areas were also trimmed out of the City of Glass during development, Odeldahl says. "We had plans for one more District based around several really tall skyscrapers. I think we called this one 'Financial' in our planning docs. It would involve a lot of climbing, and very early on we realised we wouldn't be able to make that fun. You'd spend too much time just looking into building façades, for instance. There were also early plans for a section that connected Construction and

Downtown, consisting of three- or four-storey buildings and aqueducts, similar to certain parts of the first game. I can't remember the exact

reason this was cut from the game, but it likely had to do with budget and story changes."

While some larger elements were dropped for various reasons, smaller touches were also added to help create a sense of a living city. The hackable billboards, for example, were devised to "allow the player to deface the Conglomerate propaganda with something they'd designed themselves, and to give players bragging rights via light-hearted social interactions".

By concentrating on bold shapes, striking contrasts of monochrome, and splashes of colour, Odeldahl and his team created a city that is captivating and immediately recognisable – even if it's merely glimpsed by players running along its rooftops at breakneck speed. 🗨

**“Early on, we had designs for even more gadgets and tools”**

## EVOLVING HISTORY

Politics change the flow of history, and cities are never static. The City of Glass thus had to show this type of dynamism, but without affecting the pace of the game itself. One of the key solutions *Catalyst's* developers employed was presenting it as being under constant renovation and construction. Scaffolding, unfinished building sections, and construction materials both supported the story and provided even more traversal options and parkour paths for players.

# Write your own Game Boy game in C

Learn the basics of making a game on original handheld hardware with the Game Boy Development Kit



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Download the code from GitHub: [wfmag.cc/wfmag62](https://wfmag.cc/wfmag62)

**H**ow can you make your own game for a handheld console that came out in the 1980s? It's actually quite easy, thanks to a few factors.

Because the Game Boy is so old, it's simple to program. And, thanks to the open-source community, its tools are better now than they've ever been. If you have a desktop computer, you can write code and run it on a Game Boy.

One of the simplest ways to get started is with the Game Boy Development Kit, or GBDK. We can use this to write C code and compile it into a Game Boy program, also known as a ROM. There are a few versions of software around, but we're using the modern version on GitHub: [wfmag.cc/gbdk2020](https://wfmag.cc/gbdk2020).

There's quite a bit of code required for this project – too much to print here in full, but you can download the files you'll need from our GitHub at [wfmag.cc/wfmag62](https://wfmag.cc/wfmag62). We'll be going over all the code you need step by step, so don't worry if you don't understand it all at first. If you're a

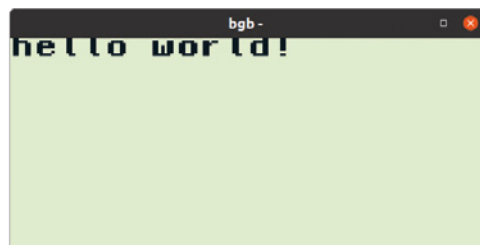
C/C++ wiz, you'll probably find this easier than previous projects, but the Game Boy still has some quirks you may be unfamiliar with. If you want to jump ahead, I can recommend this primer from freeCodeCamp: [wfmag.cc/c-begin](https://wfmag.cc/c-begin).

Our first step is to configure our tools to allow us to write some code, compile it, and deploy it. First, you'll need a Game Boy or another compatible console such as the Game Boy Advance or DS. You'll also need a flash cart to copy ROMs onto, such as an EZ Flash: [wfmag.cc/ezflash](https://wfmag.cc/ezflash). If you don't have access to a Game Boy, you can just run your code on an emulator. I'm using BGBB ([wfmag.cc/BGBB](https://wfmag.cc/BGBB)), which has excellent tools for visualising what our code's doing as it runs.

Once you have these tools, you'll need to install GBDK. Follow the instructions on GitHub for your preferred operating system to get it running. Follow the README to get started ([wfmag.cc/GBDK](https://wfmag.cc/GBDK)). Download the latest release and unzip it to the directory of your choice. Once you've got that set up, we need to write some code. Open your editor of choice (my favourite is VS code: [wfmag.cc/vscode](https://wfmag.cc/vscode)) and create a file called `main.c`. Add the following text to this file:

```
#include <gb/gb.h>
#include <stdio.h>

void main()
{
    printf("hello world!");
}
```



## INCLUDES

You've probably twigged that our 'main' function is the code that our program executes at run time. Those lines above that which start with a '#' are includes. These tell the compiler to add some code in place of these lines when compiled. We're using this to import the GBDK code we'll need to make our code talk to the Game Boy hardware directly.

> **Figure 1:** This is what your Hello World should look like. Notice how a Game Boy-compatible font has automatically loaded.



▲ **Figure 2:** The player's health, money, and equipped items are drawn to the window layer.

Now run the following commands in a terminal from the directory you saved this file in:

```

"{path where you installed the GBDK}/bin/lcc"
-c -o ./main.o ./main.c
"{path where you installed the GBDK}/bin/lcc"
-o ./main.gb ./main.o
  
```

If you open that folder you should see a new file in there called `main.gb`. Open this in your Game Boy emulator and you should see the output in

### Figure 1.

Congratulations! You've written and deployed your first Game Boy program.

Feel free to move this onto a flash cart and run it on your own hardware.

## HELLO WORLD

Now our tools work, let's look at the Game Boy's specs in more detail so we can understand how it works before we make a real game:

- A 160×144 pixel four-colour LCD screen (256×256 addressable, can draw off-screen)
- A four-way direction pad and four buttons (start, select, A, B) for a total of eight inputs
- An 8-bit Sharp LR35902 CPU
- 8kB of working RAM
- 8kB of graphics memory
- At least 32kB of ROM memory from the game carts themselves

These are the basics we need for this project. You may notice that the Game Boy can 'draw' to 256×256 pixels with four different colours, which would mean we'd need at least 16kB of memory to control the colours. The Game Boy only has half of that for graphics memory. How is this possible? Because the console doesn't control every pixel

individually – it uses tiles to save on memory. These are split into two kinds – background tiles, and sprite tiles which are used for foreground objects like the player character and enemies. Sprites can be 8×8 or 8×16 pixels wide.

The Game Boy can draw a maximum of 40 sprites on screen at any one time with a limit of ten per line. We'll avoid this limitation by making sure to draw fewer than this number. The console can also draw onto two layers: the background layer and what's called a window layer. This is used for UI elements such as the player HUD or health bars. If you go back and play some of your favourite Game Boy titles, like *The Legend of Zelda: Link's Awakening* (Figure 2), you can see where the layer's been placed.

The Game Boy lets us scroll the background and move sprites freely, so we don't need to worry about clearing any previously used pixels. It even handles wrapping for us – if a background or sprite moves too far in one direction, it will appear on the other side of the screen.

Now you understand a bit more about how the Game Boy works, let's get started with our own game: a simple infinite runner called *Drop Bear*. A bear's

falling from the sky, dropping coins; how many can he collect before the time runs out?

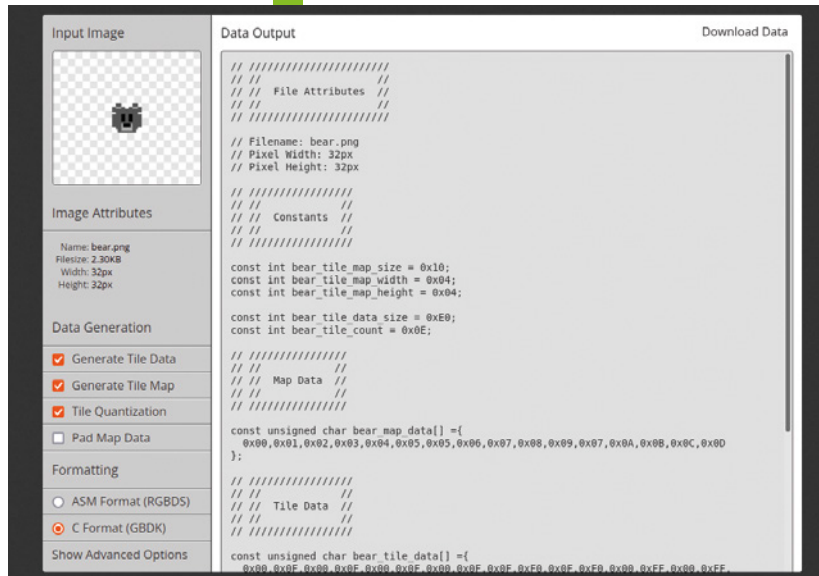
First, we'll need to create some sprites using a browser-based tool called the Game Boy Tile Data Generator ([wfmag.cc/gbtdg](http://wfmag.cc/gbtdg)). Open the folder the project has downloaded to, then open the `index.html` file in your browser, and you should see something like Figure 3. ➔



## ON THE TILES

Why so much memory per tile? Each 8×8 pixel tile is encoded into 16 bytes that contain which colour each pixel of the tile can be. That's 64 pixels that could be one of four different colours the Game Boy screen could draw – that's 128 bits. Divide that by 8 bits per byte and you get 16 bytes.

◀ **Figure 3:** This is how the Tile Data Generator looks in a browser without any data uploaded.



^ **Figure 4:** This is how the Tile Data Generator looks with a sprite loaded. Note how text has generated to the right of the loaded image.

If you look at the bottom left, you'll see two options under 'formatting' – it's important we use 'C format GBDK' for all our assets as that means the output will work with GBDK. I've already created all the assets our game needs, but let's walk through how to do this yourself so that you can make your own or edit them later. All you need to do is click under 'Input Image' on the top left and select an image from your local hard drive to load it into the editor. When we do this with a pixel art image of a bear's face I've prepared for the project, we get the output in **Figure 4**.

See the text on the right under 'Data Output'? That's the raw binary data the Game Boy needs to draw this image alongside a few constants, like how many tiles wide and high the sprite needs to be – as the PNG I've used is 32x32 pixels, we'll need

**“The Drop Bear logo is in one segment of memory and the font's in another”**

four 8x8 tiles to represent the image on a Game Boy. You can see the height and width constants are the number 4. I'll include the relevant data in-line when we need it, as we go along. Feel free to import your own assets, though, as that's half the fun of making your own game.

First, let's create the title screen. For this, we'll need a logo asset and some on-screen text. Let's start with the easiest bit, printing the text. We can do this by modifying our 'Hello World' program – find the code you need in the file **tile-screen-code.c** on our GitHub: [wfmag.cc/wfmag62](https://wfmag.cc/wfmag62).

If you compile and run this program the same way as before, you should see the output in **Figure 5**.

## LET'S MAKE A SPLASH!

There's our splash screen! That was a lot of code, though, so what did we just do? Well, everything outside the main function is just asset data for the logo, generated the same way as we've described before, but with one crucial difference – we've offset everything in the tilemap by the value 0x80. This is a bit of a hack, as the Game Boy has limited memory. We're already using a third of it for the font we need to print text with, so we push the logo data into a different part of the video memory so we don't override the font that's automatically loaded with the first **print** statement. You can view graphics RAM in BGB to see it for yourself by right-clicking then using the Other > Vram viewer menu option (**Figure 6**).

The first page is taken up by the Nintendo logo – this is a form of primitive DRM as the Game Boy won't boot if this logo isn't the first thing loaded into memory. We'll override it soon, though, as once you're past the logo screen, it's no longer needed. The *Drop Bear* logo is in one segment of memory and the font's in another, while tiles currently rendering are highlighted in green. We're only using a few characters of our font, but all of our logo files. Note that the composed logo reuses some of these tiles to save memory as we covered earlier.

Interestingly, the Game Boy's video memory layout starts at address 0x8000 and ends at 0x97FF. Addresses 0x8000 to 0x8FFF were designated for sprite data, as you can see with

the first two blocks in the bgb vram viewer screenshot (**Figure 6**). Background memory runs from 0x8800 to 0x97FF. “Hold on, those

addresses overlap!” I hear you cry, and you're correct. The middle page of graphics memory from 0x8800 to 0x8FFF can be used by either sprite or background tile data, but not both. This is why we needed to move the logo tilemap into a different part of memory, so we could load our logo into tile memory without overriding the font that lives in the highest part.

We add 0x80 to each tilemap value because the Game Boy treats the first numbered background tile (0x00) as living at address 0x9000, not 0x8000. Adding 0x80 pushes the tile indices into the correct portion of VRAM where we've loaded our logo. This is because 0x80 is 128 in decimal, which is exactly how many tiles

## HOLY MACRO

A macro is a fancy word for something the compiler replaces at compile time. You can create your own macros to replace any text with any other bit of code. For instance, you could replace 'printf("hello")' with a macro by adding a line like '#define HELLO printf("hello")' to the top of your code file, then by using 'HELLO' in place of the formal function call.

each third of the video memory can hold – 128 tiles \* 3 blocks \* 16 bits per tile = 384 available tiles to use.

Inside the main function, we invoke a few macros to clear the screen. We then call `printf` with a blank string to tell GBDK to load the default font into memory without drawing anything on screen. We move the background layer a little, then load the tile logo into memory by setting the tile data and tile layout map. We call another macro to force the background layer to render and show our logo. We then call another function to move the print cursor and print the words ‘Press Start’ onto the bottom of the screen.

Let’s move on to input. Most games have multiple ‘states’. Here, we’ll keep it simple by only using three – the game splash screen, the game play screen, and a game over screen. We can get the Game Boy to wait for our input with another command. Add the following lines to the end of your main function:

```
waitpadup();
waitpad(J_START);
cls();
```

These functions wait for all buttons to be released, just in case the user has any depressed. When the Start button is pressed, the screen is cleared. Try it yourself in the BGB emulator: press the **RETURN** key, and the screen should clear. We can flesh out the gameplay by adding a background that loads when we move to the second stage. As our game involves a dropping bear, a simple trick is to load a background we can then scroll vertically to generate the feeling of movement. You can make a striped tile via the tools mentioned above, but for now, copy



▲ Figure 5: Our title screen.

the code from the file `background-tile-code.c` on our GitHub and paste it above your main function. Then add the following lines to the end of your main function:

```
// Load tileset into background memory
set_bkg_data(128, BACKGROUND_TILE_SET_COUNT,
background_tile_set);

// Load tile map into memory.
set_bkg_tiles(0, 0, BACKGROUND_TILE_MAP_WIDTH,
BACKGROUND_TILE_MAP_HEIGHT, background_tile_
map);
```

We’re loading this new tilemap to the background layer as we did with the logo – you’ll see each tilemap entry is adjusted by  $0 \times 80$ , so we don’t interact with the loaded font as before. Compile your program again and load it into BGB. You should now see **Figure 7** (overleaf).

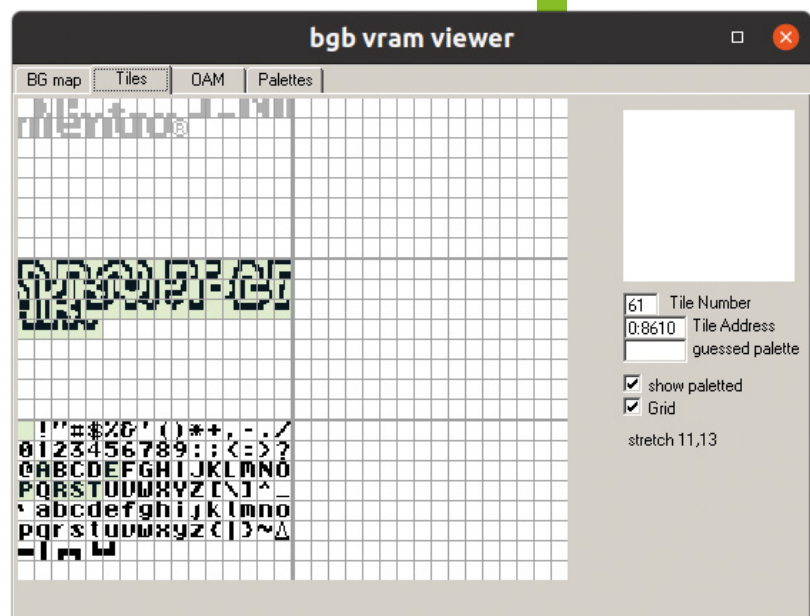
Now, at the end of your main program, add the following code to the end of your main function:

```
// scroll the background forever
while(1)
{
    scroll_bkg(0, 3);
    // Wait until VBLANK to keep time
    wait_vbl_done();
}
```

## ABOUT VBLANK

VBLANK is the time taken from the end of drawing the last line on the screen to the start of drawing the next. By waiting until the VBLANK period, we know we’re not looping faster than the screen’s drawing. We can use this to make sure each loop executes no faster than a single frame, which takes roughly 16 milliseconds (1 second / 60 fps = 0.01666).

▼ Figure 6: You can see the sprites that make up each letter in this view. This is the same font we used for our Hello World program.



### SHORTHAND

You might have noticed we used a new type here called 'UINT16'. This is a 'typedef': a way C programs can use their own shorthand to refer to existing types. The GBDK defines these for us so we have a way to define unsigned integers by size instead of using byte for UINT8 etc.

If you compile and run your game again, then press Start, you'll see the background scrolls. We've used an **infinite** loop that scrolls the background up three pixels and then waits for a vertical blank. This ensures the code only runs once a frame. The Game Boy has a frame rate of ~60 fps, which means we're moving the background at roughly ~180 pixels a second.

### FALLING DOWN

Next, let's add a little code to allow the main game to run for a while, then stop. We can then add some code that resets us back to the main splash screen, creating a basic game loop. We know that each refresh of our loop happens roughly 60 times a second, so if we want to create a quick ten-second cycle, we can start a counter at 600, decrement it each loop, and exit when it finishes. Add the following code to the above main function:

```
UINT16 game_time = 0;
```

This lets us store a value of 16 bits, more than enough for number 600. Next, add this at the very top of your main function:

```
start:
```

This is a label for a **goto** statement which we'll use in a minute. Next, update the **loop** statement like so:

```
// set game timer
    game_time = 600;
    while(game_time)
    {
        // scroll the background
        scroll_bkg(0, 3);

        //decrement the game timer
        game_time--;

        // Wait until VBLANK to avoid
        corrupting memory and keep time
        wait_vbl_done();
    }

    //jump back to the start of the
program
    goto start;
```

Recompile and run the game again. The screen should fall for ten seconds then you should come back to the start screen.

Next up, let's add a player character with sprites. I've prepared the bear sprite data mentioned earlier, which you can find in the file **player-character-code.c**. Just copy this code and paste it outside of the main function (as you have previously) for now.

First, we need to define some variables to control the position of our player character. Add this code before your main function like so:

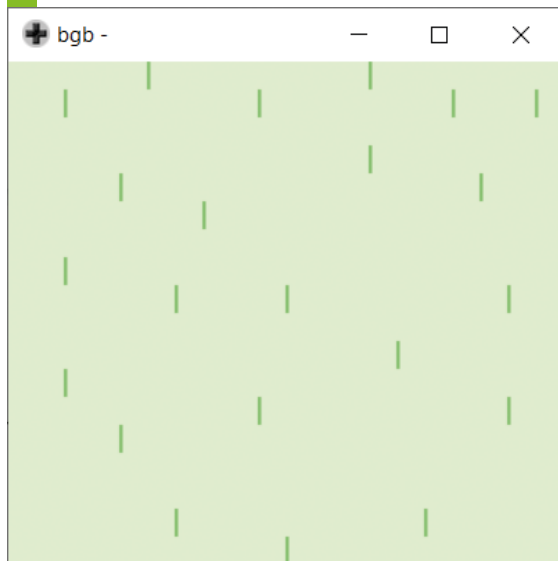
```
UINT8 player_x = 72;
UINT8 player_y = 32;
```

Now we can load the player character into memory with a similar set of commands as before. Add these lines to the bottom of your main function just before the **while** loop:

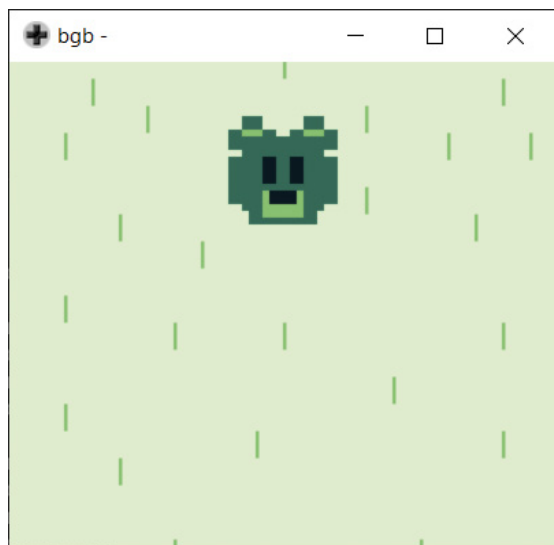
```
// Load the 'sprites' tiles into sprite
memory
set_sprite_data(0, BEAR_TILE_SET_COUNT, bear_
tile_set);

// Set the first movable sprite (0) to be the
first tile in the sprite memory (0)
for (UINT8 i = 0; i < BEAR_TILE_MAP_SIZE; i++)
{
    set_sprite_tile(i, bear_tile_map[i]);
}

SHOW_SPRITES;
```



> Figure 7: Notice how the tiles repeat over and over – this is how we can make a little bit of data useful over a large screen area.

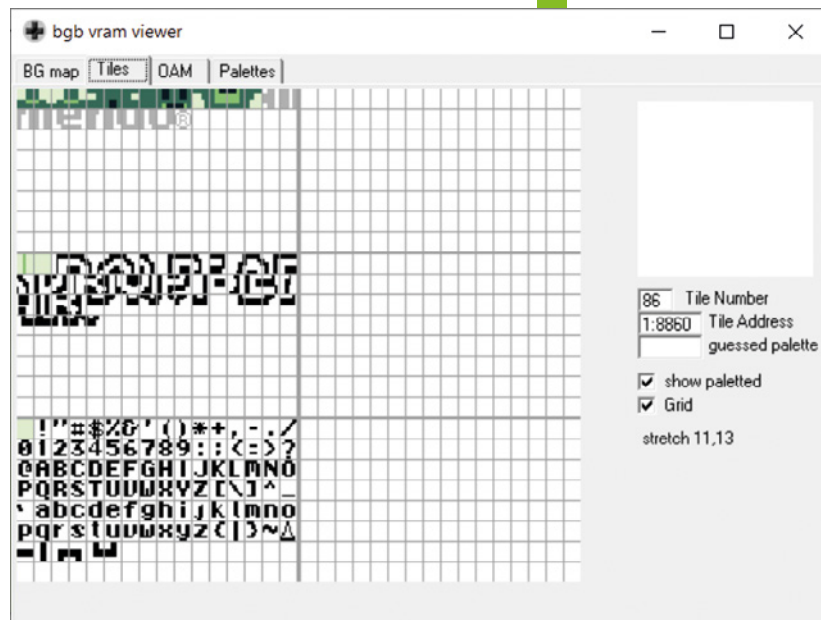


▲ Figure 8: Here's our bear sprite drawing over the background.

You may have noticed a difference in the name of the command from before – this is because we're setting sprite data, not background data. As we need more than one 8×8 tile to draw an image, we also need to set multiple sprite tiles at a time, hence the loop. We then invoke a macro to make sprites visible. Positioning the sprites is a little trickier – add a new block inside your `for` loop before the `wait_vbl_done()` call like this:

```
// move player
for (UINT8 y = 0; y < BEAR_TILE_MAP_WIDTH;
y++)
{
    UINT8 yOffset = y * 8;

    for (UINT8 x = 0; x < BEAR_TILE_MAP_
HEIGHT; x++)
    {
        UINT8 xOffset = x * 8;
        move_sprite(tileCounter++, player_x
+ xOffset, player_y + yOffset);
    }
}
// update input
// LEFT
if (joypad() & J_LEFT)
{
    player_x -= 2;
}
// RIGHT
if (joypad() & J_RIGHT)
{
    player_x += 2;
}
```



▲ Figure 9: Here you can see the bear sprite in VRAM. Note how some tiles are repeated to save memory.

Here, we write some loops to go over every tile of our sprite and move them around based on the current player x and player y values we configure. We then wait for player input to see if the sprite's x position should move. If you're wondering about what '8' and '2' mean, the '8' is the size of a tile in pixels and the '2' how many pixels we want to move per update.

## BEAR NECESSITIES

If you recompile your game and load it in an emulator, you should see **Figure 8** if you press Start on the splash screen, and if you press the left and right keys/buttons, the bear will move around the screen.

If you load up the VRAM debugger view again, you'll see that our bear sprite has overwritten some of the Nintendo logo in that memory area (**Figure 9**).

If you're wondering why some tiles are highlighted in this view, it's just BGB's way of telling you what's currently being drawn on screen. The other tiles represent that state of VRAM for things not currently being drawn. This can be handy for figuring out why things you load in aren't being drawn – usually because their positions haven't been correctly set.

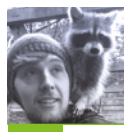
And that's it for now. In the second part of the guide, we'll add objectives, a timer, and end game states. See you next issue. ☺

## GOTO JAIL

GOTO is a simple C command that lets you move execution to any other part of the code defined by a label. It's fallen out of favour in modern times as it's considered risky, but it still has uses now and then as you can see in our code – as long as you keep an eye on exactly where your labels are!

# Telling stories and communicating vision

This month, Antony dives into inspiring teams and promoting cohesion – through story time



**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.

**W**hen starting a new project, particularly one where there are several people involved across a variety of disciplines, one of the hardest challenges is

communicating a coherent vision. A lack of shared understanding creates misunderstandings and wasted work, such as the level designer who spends days making a dungeon as an early prototype level, only to be told that the game isn't going to feature interiors at all. In games, bridging as we do the worlds of art and computer engineering, the solution we fall back on is a technical one: documentation. We create game design documents which explain how systems will work, with specifications of the major characters and themes. We make internal wiki databases

listing environments and items and their key facts and we diagram them on digital whiteboards.

And unsurprisingly, engagement is often an uphill battle. It may all be thoroughly explained, technically, but audio designers will tend not to get *excited* about fictional factoids. Your 3D artists won't read the combat mechanics brief, either. Almost never will these documents move and inspire these collaborators in their own field. Giving someone a complete understanding of a vision, to the point where they can 'see' it in their minds and become excited about augmenting it, requires a more *primal* form of stimulation.

## TALE OLD AS TIME

Luckily, there's a leadership technique, a visualisation tool as old as civilisation itself. It excels at uniting people in a shared understanding. Your team is already trained to devote their attention entirely to this technique when it's in use; often, they don't want it to end. In fact, it communicates a vision so clearly that creators of all stripes, for all humanity, have used it as a principal source of inspiration. I am, of course, talking about storytelling.

From the novelist with an axe to grind, to the tribal leader passing on knowledge through myth, to the orator in the marketplace drawing crowds and coins with the latest exploits of Heracles, the human brain has a terrible addiction to stories. Embedding information or opinion or just about *anything* in a story has got to be the most effective way of getting someone to deeply engage with it that we've ever invented.



› As the *Laocoön and His Sons* is inspired by the ancient storytelling of Virgil and Sophocles, so is *Assassin's Creed* by Bartol's *Alamut* (1938).





▲ The team got hugely into my little storytelling exercise via Discord.

So how do we leverage this? Well, you could start by telling your team a story in the world of your game. Not *the* story, the one the game will actually tell. Another story, where the stakes are lower and everyone feels confident enough to chime in, one that's private and just for the team.

So, recently I've been working pre-production on a space western game about a bounty hunter, containing a mixture of interactive narrative, deduction mechanics, and deck-building. For months we'd been discussing the mechanics, the feeling, history, lore, and so on. But we didn't know what the drama was or who the protagonist would be, and team members lacked a mental image of what the final experience would be.

There comes a point where this kind of planning and analysis fails; I had to just dive in, write a short story, and let everyone react to what emerged. To that end, I re-read everything we'd already established, then put it all to one side and began scribbling a prequel to our game with only a loose idea for a twist I wanted to pull off. Out poured some of my favourite writing I've done.

I told the story in three parts over three weeks, through a dedicated channel on our team chat tool. This bit of theatrics was quite important, as it turned the story into a shared experience. Across three continents, the team would asynchronously read and discuss each part when I posted it. The team became heavily invested in the story, and it filled a void: suddenly we had a shared understanding of the tone, feeling, details, world, characters, and style of what we were making. It was creatively *exciting*. Between each part, I absorbed everyone's thoughts on the story thus far, on which bits they didn't understand, what

they wanted to see more of, what they felt was missing. These I worked into the next part. When our sound designer was fascinated by a faction called the Dreamers, I wrote a newspaper snippet discussing them into part two, and leaned toward them when revealing one character's motivations. When I cocked up and used credit chips for currency, the game director pointed out that he'd designed a barter economy, so I corrected my story to enshrine this world detail.

Even before I'd finished, the magic started to occur. The audio team didn't need to ask, 'What should the gun sound like?'; they knew. They'd heard it in their heads, in the story. The artist didn't need a specification for a saloon environment; they'd seen one in their heads, in the story. The composer scored one of the fight scenes at the weekend, and the project picked up pace. By accident, I'd provided everyone with a bedrock for their own work to spring from.

## SPARKS FLY

This also had the effect of democratising the story. While keeping personal, authorial control over the experience and avoiding writing-by-committee, I had involved everyone and enthusiastically integrated their preferences. After all, my teammates are *exactly* the target audience, but less cynically, game-making is a team event where co-creation and cohesion are paramount. The end result is something better than I could have come up with in solitude, and something which the others feel belongs to them too, which they are excited to build the game on.

This is firmly in my toolbox now, and I expect to tell my teams stories at least once per project from now on. So, if you find yourself needing to explain your nascent game's concepts, with a desire to get everyone revved up and on the same page, tell a story for their ears only. 🗨️



## FIREWATCH

The idea of writing something *only* for the team came to me from the very first tape in *Firewatch's* developer commentary mode. It revealed that the game's famous intro sequence was never initially intended to be seen by the player. Writer Sean Vanaman was concerned that the team would "perceive the game's protagonist as a blank slate", and realised that he was writing "character profiles that were really bad", so instead, he just told a story. Only later did they realise that the players could benefit from it too.

◀ *Firewatch*: sometimes, when writing only for yourself and your team, you might stumble across something accidentally genius...

# Balancing your game: why, when, and how

Balancing games can be a challenge, particularly because the goal isn't to achieve perfect balance in the first place...



**AUTHOR**  
**STUART MAINE**

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.

**A**lthough it might seem logical that we'd want to ensure each element in our game is perfectly balanced, that can lead to flat, uninteresting experiences where it doesn't matter which option you choose. Instead, our goal is to make each of the elements in our game balanced enough to be a viable option but to leave each with pros and cons that allow for varied approaches. For example, players could control Ken or Ryu in *Street Fighter* but they were basically identical, so the choice was purely cosmetic. *Street Fighter II*'s varied characters, meanwhile, each had strengths and weaknesses, making them less balanced but much more interesting.

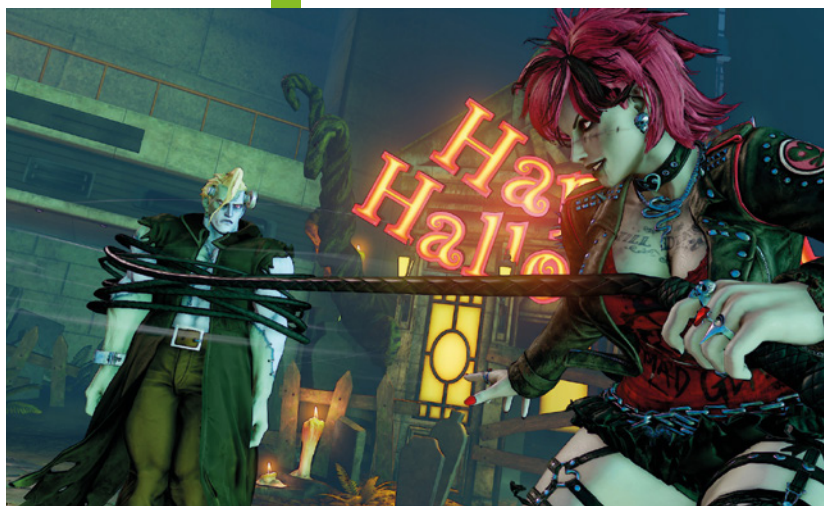
## INITIAL NUMBERS

Throughout this article I'll be referring to 'elements', by which I mean each 'thing' in your game that has numbers attached, such as characters (health, speed, jump height), weapons (damage, reload time), treasure chests (gold inside, difficulty to pick the lock), and so on. Each element contributes to your game's balance, with changes to one causing anything that interacts with it to become more or less effective.

Games are driven by numbers, but it can be difficult to know where to start your scale from. Should your weapons be dealing 4, 400, or 4000 damage? It doesn't generally matter whether you go small or big as long as you stick to that throughout, but there are pros and cons to each end. Bigger numbers leave room for granular balancing (+1 to 4 is a 25% increase, whereas it's just a 0.25% gain to 400), but can be intimidating for players if you're going to expose the values to them during play. Unless part of your game's appeal is studying big numbers and calculating which is better, a +1 gain is a more intuitive and 'readable' increase when the original number is 4 as opposed to 4000.

Riot ensures its new *League of Legends* characters are vaguely balanced by creating them like an RPG. It spends a pool of points on the character's various stats, then assigns them benefits that cost points and disadvantages which earn points back. This doesn't produce fully balanced characters, but it's good enough as a starting point, because while you might be tempted to try and balance your game as

✓ Fighting games strive to ensure each of their characters is balanced enough to be a viable contender while also countering the strengths of other fighters.





you input these initial numbers, you'll find you continually need to revisit earlier numbers as later decisions ripple out. My suggestion? Focus on making your game interesting and exciting first, then dig into whether particular elements are overpowered or underpowered later.

### SPOTTING PROBLEMS

Once you have enough elements interacting, you'll be able to spot balance problems through testing your game. Here are three approaches:

- 1. Run playtests with people who are new to the game.** You should ask them which elements they think are too powerful or not powerful enough as this gives a player's perspective (more on this later). But you should also watch which elements they're favouring or ignoring, as that might indicate something is overpowered or underpowered, or just difficult for new players to understand.
- 2. Build analytics into your game.** This involves writing data to a file whenever something you want to track happens during play: What killed that enemy? What caused that player death? What's giving players their resources and what are they spending them on? Almost all mobile games are tracking analytics across thousands of players, but they can still work on a smaller scale. One pitfall to note is that if you change something big in your game it can invalidate your previous data, forcing you to flush it and start again.

- 3. Automated testing.** You can create programs that effectively run thousands of playtests overnight. These don't use graphics from the game, but instead produce a spreadsheet of the results. For example, the last card game I worked on would pit cards against each other every night and produce a spreadsheet. Converting that into a graph let us see which cards were inflicting too much damage or dying too quickly for their points cost. This is a brute force approach that can't spot unusual quirks like a character having medic or thief powers, but it can still provide useful data.

Ensure you're looking for balance issues from multiple angles, because simply studying one set of numbers might not be enough to reveal the problem. For example, at one point, the *Overwatch* character Mercy was so overpowered that every team was guaranteed to use her, but that wouldn't show up if you were just looking at her win/loss ratio because she was always on both the winning and losing teams.

Or in *Slay the Spire*, the team noted that the Madness card was in too many winning decks, but investigation revealed that the card wasn't too powerful – it was simply being added to decks by an event right before the final boss.

### PERCEPTION VS FACTS

Something else to consider is how much you should even worry about balance problems, because addressing them takes up time you →

^ By mixing aspects of RPGs into choosing which weapons to use, *Borderlands* makes comparing multiple complex numbers part of its appeal.

### OPPORTUNITY COST

An important balance factor you can play with is the 'opportunity cost' of each element. This means it's fine for something to be overpowered if the player has to sacrifice several other choices to use it. That could mean an ammo-hungry weapon (sacrifice the shots you could have made with other weapons using that ammo) or a high-cost unit (sacrifice the other units you could have spent those resources on). You can even use 'time' in balancing, such as powerful elements tying up manufacturing while they're built, or hordes requiring multiple turns to deploy them all.

# Toolbox

Balancing your game: why, when, and how

## WARGAMING

As an example of how your game's rules affect balance, consider a game where you deploy a powerful unit versus several of my weak units. If I can only activate one of my units at a time, then you have the advantage: destroying mine each time for no loss. But if I can activate all my units together, then I have the advantage, only losing one unit as I destroy yours. We covered lessons from wargaming in *Wireframe 47* ([wfmag.cc/47](http://wfmag.cc/47)), so check that out for ideas on how force multiplication and overkill can be used in balancing games.

▼ A late game event caused a *Slay the Spire* card to appear an 'auto-include', highlighting the importance of considering balance from multiple angles before acting.

could be spending elsewhere. There are two factors here: how big an impact the problem has, and how many other elements will become unbalanced if you adjust this one.

If you consider it logically, an overpowered element is only a problem if it prevents your players using other elements (as you effectively wasted your time creating those elements, and players might get bored sticking to the best choice). But rather than endlessly tweaking numbers you could instead have, the game forces players to use different elements (must use stealth, must snipe, must use acid), reducing how often they can use the overpowered element. You can also control how long it takes players to get the element and how much 'ammo' it has, letting players enjoy being overpowered in moderation. Finally, you can make the

overpowered element difficult for new players to use, restricting it to veterans who've explored the alternatives first.

The other aspect to consider is player perception, because you'll often find that it's less important how balanced something is compared to how balanced players perceive it to be. For example, players complained that one of *Wolfenstein: Enemy Territory's* submachine guns was more powerful than the other, but they inflicted identical damage and the only difference was that one gun had a cooler sound effect

**“You can make the overpowered element difficult to use”**



▲ Only studying one set of numbers may not have revealed that *Overwatch's* Mercy was too powerful. If possible, compare multiple sets of data.

when fired. But simply telling players they're wrong and that something is definitely balanced seldom works. Even if you absolutely know something is correct, if your players perceive it to be unbalanced then you should look for ways to act on it (not necessarily changing numbers but perhaps making it feel more or less powerful).

See Valve's *Artifact* for what happens when developers simply ignore player feedback in relation to perceived problems...

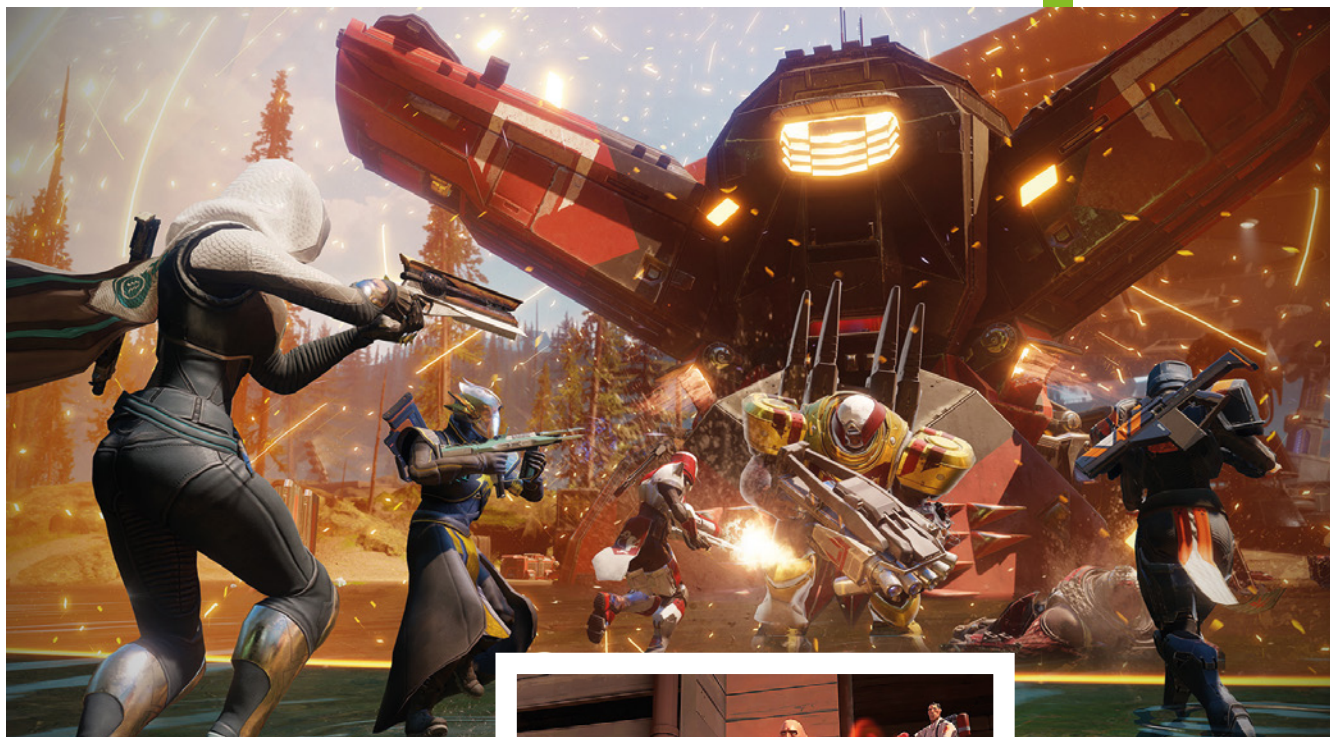
## LIVING GAMES

While you might patch a finished game to address balance problems, 'live' service games introduce a new factor – the long-term metagame. Metagaming is the choices players make outside core gameplay (such as which character to pick or cards to include in their deck), and metagames inevitably evolve towards choosing the most powerful options because doing so helps players win more games. The longer you want your game to live through updates, the more important it is that your metagame continually shifts in order to avoid stagnation. How you balance your game can have a major impact here:



▲ *Artifact's* long, complicated matches meant a 'hardcore' competitive player base, so player perception of luck being too heavily involved was a problem.

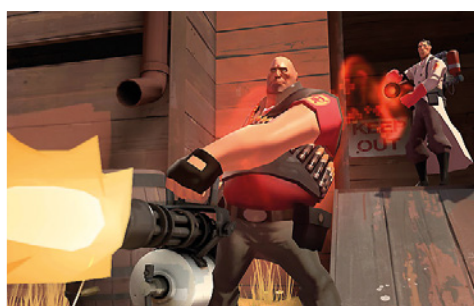




**1. Tone down overpowered elements.** If your players have worked out that an element is too effective for its cost then you can simply lower the stats of that element to bring it into line. Suddenly having their favourite choice downgraded like this can upset players, but on the other hand, it provides a constantly cycling metagame rather than a gradually escalating one, which can benefit games that you want to keep alive for a long time.

**2. Boost underpowered elements.** The opposite approach is to increase the stats of underpowered elements to make them viable. This approach keeps your metagame cycling without anything being downgraded but inevitably leads to power creep as your numbers only ever go up. How long you can sustain this growth before the gameplay breaks determines if this is a problem.

**3. Cycle elements out over time.** The approach taken by real-world card games like *Magic: The Gathering* is to only outright ban elements that turn out to have egregious balance issues, and otherwise just cycle out older elements as new ones are introduced. As this takes a while, it forces players to come up with new strategies to balance the current



meta themselves, meaning your game can suffer stagnation if they fail to do this.

## HARD AND SOFT COUNTERS

Rather than balancing through tweaking numbers, you can affect player choices by implementing hard or soft 'counters'. Hard counters completely shut down a particular strategy, while soft counters just give an advantage against a strategy. An example hard counter is *Command & Conquer: Red Alert's* flame tank, which burns any number of infantry and so shuts down an opponent relying on troop-rush tactics. Soft counters are seen in fighting games, where fast, agile characters prevent slow but powerful characters from dominating (with other characters, in turn, countering the fast ones). Some esports even allow each side to ban one choice before a match, forcing everyone to master a range of options in case their preferred choice is lost. ➔

▲ Live, serviced games like *Destiny* need to keep on top of balance to ensure players always want the latest set of weapons and armour.

◀ Along with their strengths, the characters in *Team Fortress 2* were designed with clear weaknesses, ensuring none of them are the default 'best' choice.

## FOCUS ON FUN

While you might provide methods for players to balance their own experience, you need to ensure that the balanced way to play the game is also the fun thing that players want to do. Basketball is an interesting example as it evolved its rules to counteract key players dominating the game, but this led to the pace of matches slowing, so further rules were added to speed things back up. The point is that throughout this, the NBA remained focused on ensuring basketball was exciting to watch – it's no good having a perfectly balanced game that's boring.



▲ There's a difference between balance and what players perceive as fair. Watch Sid Meier's 2010 GDC keynote for insights into 'balancing in the player's favour'.

## UNBALANCED BALANCE

Though players complain about balance, they complain less if something is unbalanced in their favour. *Warhammer Combat Cards* is an interesting case because while you're playing against decks made by other players, they're controlled by an AI. This asynchronous gameplay means we don't need players to have a 50/50 win/loss ratio (as they're not directly matched against each other) and in fact our average player wins 70 percent of their games. We still get players complaining that the game is unbalanced and they always lose, however, perhaps demonstrating that people remember their losses more than the wins.

## BALANCING MULTIPLAYER GAMES

So far, we've talked about balancing individual elements in your game against each other, but what about balancing between players in a multiplayer game? Everything we've covered in terms of dealing with overpowered or underpowered elements still applies, as does metagaming (with players either flocking to overpowered elements or coming up with counters to it), but now you also have to manage that some players are simply going to be better at your game than others. Obviously that's not inherently bad, but games with no systems to help losing players catch up tend towards a competitive audience, whereas including some balancing to help stragglers can attract a casual player base.

1v1 games generally include MMR (Match-Making Ranking), which is an algorithm that tries to ensure players are paired with opponents of a similar skill level to ensure a 50/50 win/loss ratio. Good MMR systems are a topic all of their own, so you'll need to research them online, but one thing they all have in common is they need data to work. They collect this by tracking your wins and losses across your time playing the game, meaning they don't work if your game simply allows a bunch of people to get together and play. There are techniques that can help balance players during a single game, though.

**“Making it difficult to work out who's winning can be effective”**

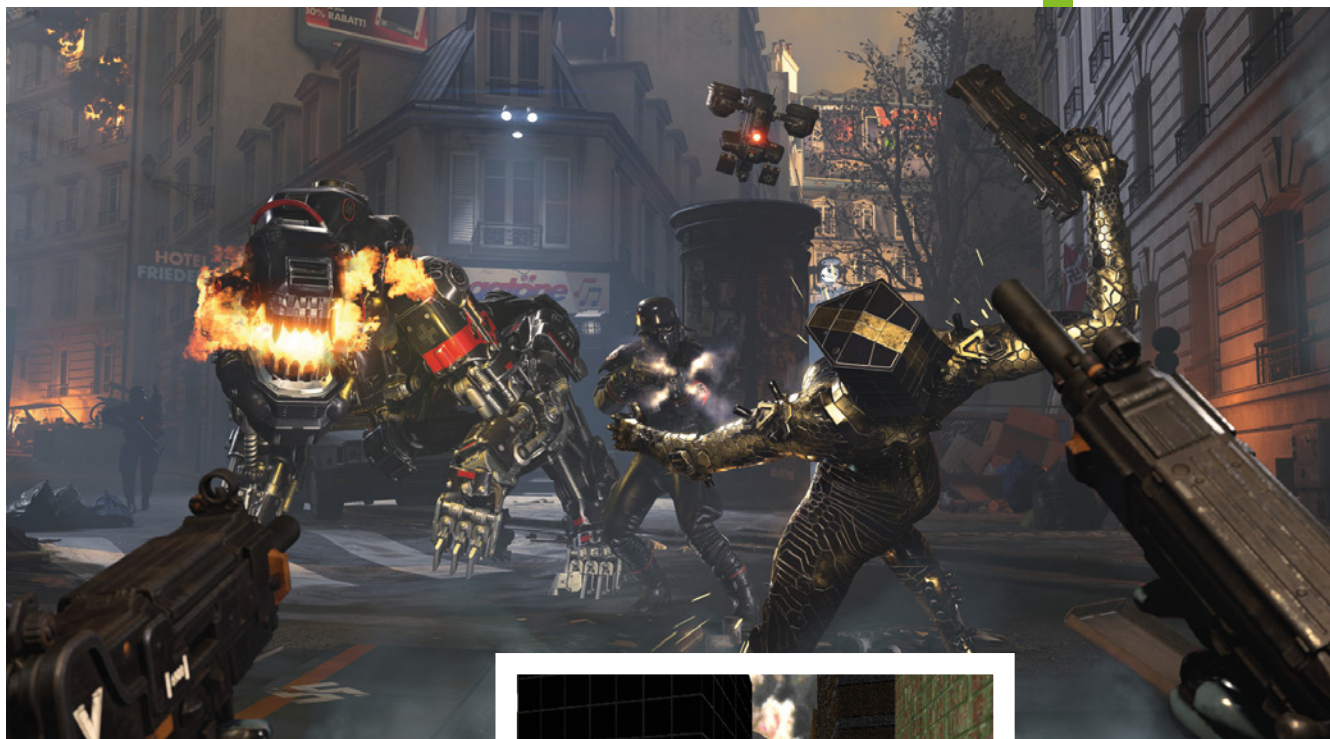
You can introduce elements of chance, meaning everyone has an equal likelihood of getting the lucky break that helps them win. Naturally, this moves the game towards a casual audience until, at the extreme end, you get entirely chance-driven games like roulette or *Mario Party*.

If it's applicable, you can let players team up to take on the leader together, and even win as an alliance. We covered kingmaking in *Wireframe 38* ([wfmag.cc/38](http://wfmag.cc/38)), so check that out for more on this kind of balancing.

If your game doesn't allow players to team up, then making it difficult to work out who's winning can be effective because it avoids having people who are far behind simply giving up. *Pokémon UNITE* tells you who's winning but not by how much, meaning it's worth pushing on in case you're only just behind.

A related idea is giving your game multiple win conditions, which complicates what players need to think about but allows you to balance each approach against each other so that if one player is dominating in a certain aspect, another player can still snatch a win. *Counter-Strike's* bomb defusal victory condition is a good example because it allows players to get involved, even if they're poorly armed or not very good at shooting.

Finally, we have the classic balancing method of including catch-up mechanics that help players who are lagging stay in contention, with the



iconic example being *Mario Kart* giving better pick-ups to players at the back. The downside to this approach is that it may not sit well with competitive players, because no matter how skilful you are, the game won't let you get far ahead. You could make catch-up optional, but you could also take the opposite approach of allowing the most skilled players to handicap themselves in order to keep things competitive. You can take this a step further by giving more rewards to players who deliberately disadvantage themselves, introducing a gambling aspect of greater risk for greater reward.

### NO SHORTCUTS

Players are inevitably going to choose their favourite characters, weapons, or vehicles from your game for a range of reasons, such as aesthetics or ease of use. That's great, but there's also a psychological factor called 'medium maximisation' involved here, and that's the reason we try to ensure each element is vaguely balanced. Medium maximisation is the tendency for players to forget about having fun in the pursuit of winning. It means they'll find and use overpowered elements that allow them to win, even if doing so makes the game boring or repetitive (ironically leading players to stop



▲ While players will obviously want to use the most powerful element in a game, encouraging or forcing them to use varied options keeps gameplay fresh.

playing the game because it's no fun). Therefore it's in our interest as developers to ensure there's no single 'best' option in our game, forcing players to use a range of elements and, in doing so, keep having fun.

Hopefully you can see why balancing your game's elements against each other and balancing different player skill levels is important, though as mentioned at the beginning, the goal is to provide a range of interesting choices and counters over a perfectly balanced but bland experience. There are no easy shortcuts here – it simply boils down to studying your game as much as possible. But on the plus side, if someone's complaining about balance issues, then you know they're engaged by your game! 🗣️

▲ *Wolfenstein: Youngblood* allows each co-op player to set their own difficulty level without affecting their teammate, meaning players can balance the game themselves.

## COMMUNICATE CHANGES

If you're balancing a living game, then communicate what you're doing (and more importantly, why you're doing it) to your players. They don't generally have the game's long-term health in mind and so can get upset when forced to adapt their tactics, but even if you can't force players to like balance changes, you can at least ensure they know why they're happening. As an extreme example, Riot put out a changelog of how they were downgrading an overpowered character but failed to actually make the change. That character's pick – and win – rate went down anyway!

# The principles of game design

As the Atari 2600 nears its 45th anniversary, Howard ponders its impact and lasting legacy



**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)

**A** reporter asked me recently: "Why do you think the Atari 2600 is so fondly remembered by people today?" Which, in turn, brought to mind a recent incident. While chitchatting with a salesperson, it came out that I'd published a book. "Oh? What's it called?" they asked.

"*Once Upon Atari.*"

"Tari? What's a tari?" So apparently, the console isn't universally remembered, let alone fondly. My god! It never occurred to me that someone wouldn't recognise the name Atari.

Every once in a while a brand gets so big they become the product identifier. Coke is one. Kleenex is another. There was a time when Atari was that, too. It's no mystery how that comes to be: a product completely takes over a market and becomes iconic (hopefully through quality rather than advertising).

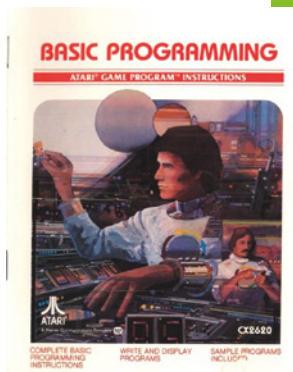
By 1979, Atari was the identifier for video games. "Let's go play Atari". Did you get *Pitfall!* for your Atari? I'm part of a generation that never saw a video game until adulthood. The next generation watched Atari take over the world. Now, everyone knows all about video games, but there are adults who drink Coke, use Kleenex and have never heard of Atari. In only two generations it went from world domination to forgotten lore. A mighty fall, and a quick one. But Atari was all about working fast. And although there certainly are adults who don't know the brand, many still do. I do my part to preserve the legend through my writing and

speaking engagements (the prose and cons of video game history).

But here's the thing: Atari's remembered by gamers because retro gaming is a big deal now – largely because video games have lasted long enough that 'retro' and 'current' are no longer the same thing. When I was making these games there wasn't any history. There was no such thing as an oldie. Every game was a newie. Now there *is* a history, and whenever there's a history, people tend to look for origins. Where did these things come from? And that takes people to the 2600.

Sure, there were games before the 2600, but the 2600 was the first system that really put games out in the world. The 2600 sold in the millions! It was the first time any gaming system was that widely distributed, and it became the cornerstone of home gaming. Coin-ops both pre-dated and post-dated the 2600. The products were better and more elaborate than the 2600. But while arcade gaming kept turning over and turning over and turning over, the 2600 became a mainstay in homes for many years. It was really the mark of home gaming, and home computing. In fact, I believe the 2600 did more to put computers in homes than any other PC or tech product. Because when people need an excuse to buy something useful, making it fun is always the best inducement.

Putting computers in homes, however, wasn't the greatest change that video games brought about. Here's the biggest one: video games turned television from a passive medium to



▲ **BASIC Programming** helped 2600 owners learn how to code...

▼ ...although actually writing programs required users to get to grips with these chunky controllers.







an active one. Thanks to video games, you're no longer the zombie on the couch passively staring at the box: now you're the zombie with a controller actively yelling at the box. Change TV and you change the world!


Think about it: what does it mean to change the passive to the active? It gives people a sense of having an impact on their world. It gives people the sense that they can change their world, beyond just changing channels. There are lots of things that have stood for a long time as immutable, impervious to change. This may have contributed to creating a world-view for many of, "I'm ineffectual. Things can't be changed. You can't fight City Hall."

These days I hear a lot of discussion about Millennials and Gen Zers, specifically about how the world should adapt to them rather than the other way round. Boomers and Gen Xers often bristle at this perceived sense of entitlement. Well, here's another thing about Millennials and Gen Zers: they're the first generations to grow up with predominantly interactive media as opposed to passive media. Prior generations complain these 'kids' have their own view of how things ought to be and just want everything their way, and it may be true in many cases. But it's also true that Millennials and Gen Zers have grown up with customisable interfaces, affording them the ability to mould their environment as they prefer it to be. That isn't necessarily a bad thing, especially

**“What does it mean to change the passive to the active?”**

when tempered with reason and a bit of cooperative nature. But I think it's important for prior generations to acknowledge that growing up with a sense of being able to change things is very different from growing up with a pervasive sense of not being able to change things. It's a very different experience, and it leads to a very different world-view. Video games did this!

And they're still doing it. Gamification of tasks and open architectures increasingly let us create the world (or key pieces of it) as we want. And there at the head of this parade of social reform is the old reliable Atari 2600, leading the way. Of course, this is all just my humble opinion. Despite all my degrees, I never took a sociology

course, so I don't want to get too far afield. What's so great about the Atari VCS? It was the first! For an entire generation, Atari was the gateway to a lifetime's gaming. The following generation, born after the 2600 was gone, still maintains an awareness of the industry's roots by playing those early games on emulators and retro systems. The search for origins grows deeper with each passing decade. Do you remember the first time you got to play a game? Of course you do, because you never forget your first time. 

◀ Ads in magazines and on television helped turn the Atari 2600 into the Coca-Cola of its day.

**FIRST AND LAST**

Where was your first video game experience? In a noisy arcade with greasy pizza fingers on the controls? In your pyjamas on Christmas morning, lying on the floor? At a friend's house, because they were the first in your friend group to own a game system? Mine was in the lobby of a movie theatre. It was a brand-new Atari Asteroids cabinet. I didn't even know the enemy saucers were called Sluggo. What do you think your last game will be like?



▲ *Guitar Hero*, while hugely popular on the PS2, also had versions on numerous other consoles and computers.



AUTHOR  
MARK VANSTONE

# Make a Guitar Hero-style rhythm action game

Channel your inner rock god with our plucky homage

In 2005, a new game let players live out their rock star fantasies. Having already made specialised game controllers for Konami, American firm RedOctane enlisted the help of Harmonix to help them create *Guitar Hero*: a game where the aim was to play along with a music track by hitting the right buttons on a guitar-shaped controller. The game was an instant hit, spawning over 20 sequels and spin-offs over the course of around five years.

The guitar controller featured five coloured buttons representing different notes, a strumming bar that had to be hit in time with the notes being played, and a whammy bar to change the pitch of the notes. The buttons corresponded with a scrolling display of coloured circles that moved down the screen as the music played. If the player 'strummed' the guitar at the correct time while holding down the correct coloured button, they scored points and kept the (virtual) audience entertained.

For our Pygame Zero version, we don't have access to a custom-designed controller, so we'll have to use a standard computer keyboard. We can set up the

letters **Z**, **X**, **C**, **V**, and **B** as the five buttons. Then we'll use the **SPACE** bar to strum the notes as they arrive at the bottom of the fretboard. We can make a list of Actors for the coloured circles which we'll then move down the screen every time `update()` is called. We have five strings numbered 0 to 4 to attach our coloured circles to, and these need to be organised so they hit the bottom target points exactly when the note plays.

We don't want the coloured circles to get out of sync with the music, so the timing of the movement is key. We must make sure that the speed is consistent, regardless of the speed of computer or other things going on which may make the frame rate change. To do this, we need to work out the time between each frame, known as the delta time, and then move the coloured circles based on that value. If you're using your own music for the backing track, you may need to play around with these values, but the way this sample is set up, the tuples in the `counterPoints` list are the string number and then the number of seconds at which the note should be played from the beginning of the song. This setup

means the player can get ready to play the note as it comes down the fretboard, press the appropriate button just before it gets to the bottom target, and if they press the **SPACE** bar as the coloured circle goes over the target, we fire off a 'shine' animation to indicate they've scored points. We can give them a little leeway so that they don't have to be too precise with the **SPACE** bar press.

To make the music sample easy to play along with, I've edited a shortened version of one of my own fairly slow songs where the player plays the bassline. There are a couple of tricky bits in it, but you should be able to hit all the notes without too many attempts. You can use any MP3 or WAV file for this, just drop it in the music directory and change the line that reads `music.play_once('themoment')`. Then all you need to do is change the timings in the `counterPoints` list.

There are other things that you could add, like having error notes play if the wrong buttons are held down. There's also that whammy bar on the original controller that may require a bit of lateral thinking to replicate on a keyboard, but we'll leave that challenge to you. 🎸

Download  
the code  
from GitHub:  
[wfmag.cc/  
wfmag62](https://wfmag.cc/wfmag62)

## Python Hero

Here's Mark's code for a *Guitar Hero*-like rhythm action game. To get it running on your system, you'll first need to install Pygame Zero. Full instructions can be found at [wfmag.cc/pgzero](https://wfmag.cc/pgzero).

```
# Guitar Hero
import pgzrun
import time

curTime = time.time()
deltaTime = 0
startTime = 0
score = 0
bps = 100.5
firstTime = True
counters = []
shine = [0,0,0,0,0]
counterPoints = [(2,9.3),(0,11.5),(3,13.8),(1,16.2),(2,18.5),(0,20.7),
                 (2,23),(0,25),(3,27.6),(1,29.8),(2,32.1),(0,34.5),
                 (4,36.6),(1,38.9),(3,41),(1,43.5),(2,44.6),(3,45.7),(0
                 ,48),
                 (4,50.3),(1,52.5),(1,53.5),(2,53.9),(3,54.5),
                 (4,54.8),(2,57.1),(4,59.4),(2,61.7),(4,64.1),(2,66.6),
                 (0,69.8)
                ]
for c in counterPoints:
    counters.append(Actor('counter'+str(c[0]), center=(300+(c[0]*50),
(c[1]-9.9)*-50)))
    counters[len(counters)-1].state = 1

def draw():
    screen.blit("background", (0, 0))
    drawCounters()
    screen.blit("fade", (0, 0))
    for s in range(0,5):
        if shine[s] > 0:
            screen.blit("shine", (230+(s*50), 450))
            shine[s] -= 1
    screen.draw.text("SCORE:"+str(score), center= (400,575), owidth=0.5,
ocolor=(255,255,255), color=(0,0,255), fontsize=40)
    if curTime - startTime > 70:
        screen.draw.text("WELL DONE! YOU ARE A", center= (400,280),
owidth=0.5, ocolor=(255,255,255), color=(255,0,0), fontsize=40)
        screen.draw.text("PYGAME ZERO HERO", center= (400,320),
owidth=0.5, ocolor=(255,255,255), color=(255,0,0), fontsize=40)

def update():
    global deltaTime, curTime, firstTime, startTime
    if firstTime:
        music.play_once('themoment')
        startTime = time.time()
        firstTime = False
    deltaTime = time.time()-curTime
    curTime = time.time()
    updateCounters()
```

```
def on_key_down(key):
    if key.name == "SPACE":
        for c in counters:
            if c.y > 490 and c.y < 525:
                if c.x == 300 and keyboard.z: noteCorrect(0)
                if c.x == 350 and keyboard.x: noteCorrect(1)
                if c.x == 400 and keyboard.c: noteCorrect(2)
                if c.x == 450 and keyboard.v: noteCorrect(3)
                if c.x == 500 and keyboard.b: noteCorrect(4)

def drawCounters():
    for c in counters:
        if c.y < 520 and c.y > -20:
            c.draw()

def updateCounters():
    for c in counters:
        c.y += (bps/2)*deltaTime

def noteCorrect(column):
    global score
    shine[column] = 10
    score += 10

pgzrun.go()
```

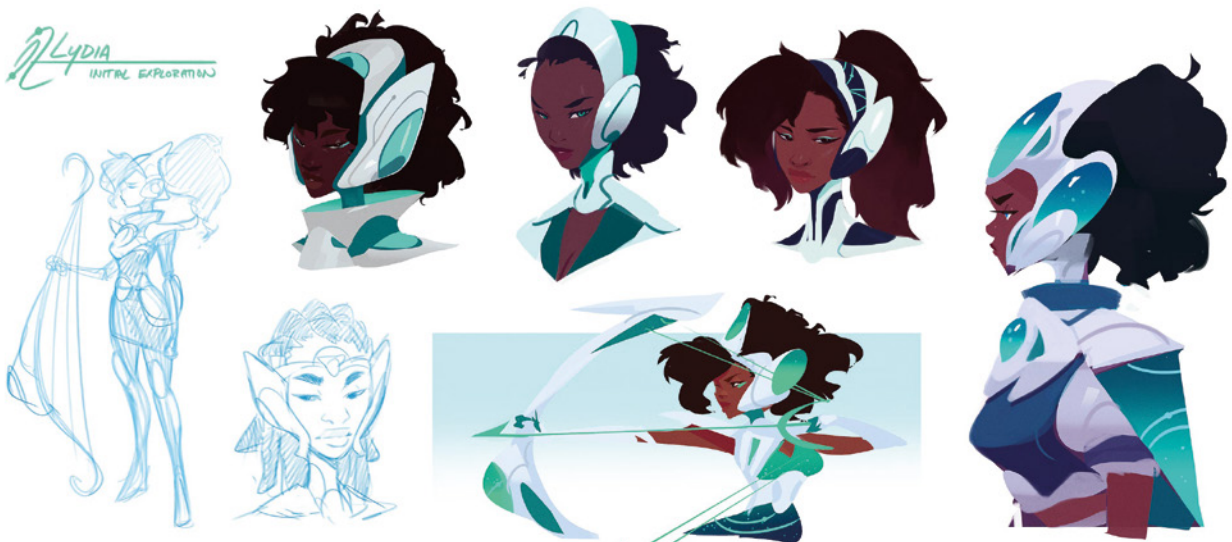


▲ Our rocking Pygame Zero homage to *Guitar Hero*.

JAXON EXPLORATION



LYDIA  
INITIAL EXPLORATION



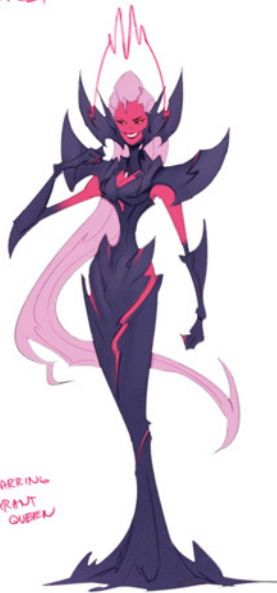
Soundfall

In keeping with the variety of its soundtrack, *Soundfall* opts for a vibrant colour palette that also reflects the bombastic stylings of its top-down action. True, coating everything in neon has been a popular proven strategy for twin-stick shooters before, yet here it's a visual flourish used to heighten the natural characteristics of Symphonia's ten distinct areas, as opposed to a crutch. "[They] were designed with a genre of music and a family of instruments in mind," says creative director Nick Cooper. "For example, we have a metal-and-drumming-centric volcano level, and a techno-and-computers-centric cityscape level." Such creativity also translates to the five playable *Soundfall* characters you can see here, which also sport luminous weapons and attire based on their instrument of choice.

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turn to  
page 18



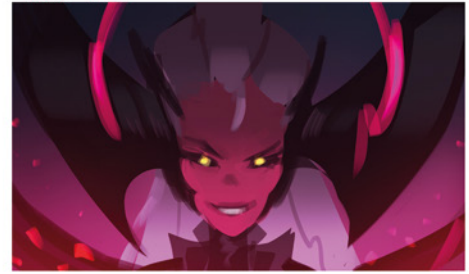
ANTAGONIST | PRE VIS  
SEQUENCE



STARRING  
TYRANT  
QUEEN



COLOR THUMBS



SEQUENCE BEATS

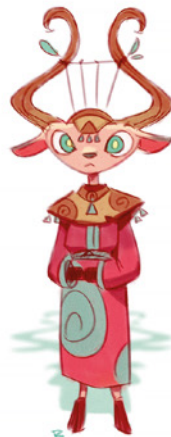


BRASS  
DENIZEN  
EXPLORATION



GAME  
Soundfall  
DEVELOPER  
Drastic Games  
RELEASE  
2022  
WEBSITE  
soundfallgame.com

String  
Denizens INITIAL EXPLORATION



# BEYOND SYNTHWAVE

WE TALK TO THE DEVELOPERS WHO'VE LOOKED BEYOND  
THE OBVIOUS CLICHÉS FOR THEIR 1980S-SET GAMES

WRITTEN BY  
DAN COOPER

► The peep show in the background reflects the seedier side of New York, an era now lost to time.

▼ Never has a ZX Spectrum loading screen seemed more terrifying than in *Stories Untold*.

**G**arish neon lighting. Muscle-bound action stars wielding guns. These are just some of the clichés commonly associated with the 1980s – a decade synonymous with excess. Stock-markets surged. Shoulder-padded suits were cool for reasons long since lost to time. Bigger was better, and that ethos extended into every aspect of culture: economies, fashion, movies, music, and video games all coalesced into a dizzying spiral of materialism.

The 1980s is widely regarded as an era stuffed full of splashy, shallow thrills, so it's little surprise that so many high-profile games set in that decade tend to highlight its shallowness.

Such games as 2002's *Grand Theft Auto: Vice City* and, at the other end of the budget spectrum, 2012's *Hotline Miami*, were both big hits, serving up depictions of the era that were respectively about amassing personal power and wealth, and simple, bloody vengeance. Those stories were callbacks to the era's cinema, such as 1983's *Scarface* or later entries in the *Death Wish* series. But while the self-interest that drove those stories no doubt reflected the prevailing mood of individualism that typified the eighties, they left little room for nuance. Rather than explore the 1980s in depth, they instead revelled in glossy, violent nostalgia.

## ALL SURFACE?

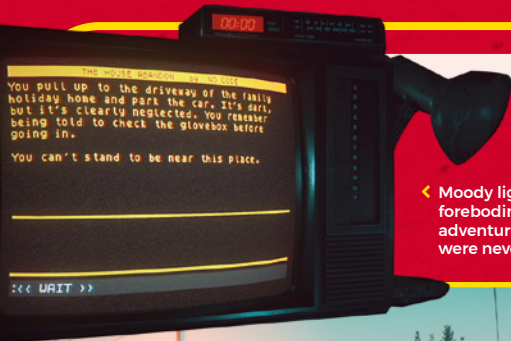
In the years since, however, developers have attempted to present alternative takes on the decade. These titles chart less obvious paths in their quest to discover what else the 1980s has to offer beyond shallow satire. For Jos Bouman, the creative director of last year's *Lake*, the aim of making a game that would allow players to relax made the 1980s a logical setting. "We established that we wanted to tell a story set in a world without mobile phones or the internet," explains Bouman, part of the Dutch development team, Gamious. "Because of our age, it seemed logical to create a game whose setting we knew. A couple of people in the development team grew up in the eighties, and it's a very interesting time – a watershed ▶





# Interface

## Beyond synthwave



◀ Moody lighting and foreboding sounds... text adventures in the 1980s were never this sinister.



▶ Imagine *Lake* as a sort of zen *GTA* and you're halfway there.

▶ Some of the residents of *Lake* would like to get to know you better than others...

▼ In *Lake*, Meredith gives up the trappings of big city success to find a more peaceful existence.



decade where we'd taken one step into the digital world while the other foot was still in the non-digital world."

*Lake* is therefore the polar opposite of the 1980s depicted in *Vice City*: here, there are no guns, car chases, or neon signs. Instead, it depicts a charmingly humdrum, analogue world that's far less hectic than our own. Instead of social media, there are answer machines. In place of Netflix, there's a video store. Its story sees successful, 40-something programmer Meredith Weiss leaving her work in the city behind for a two-week holiday in her quiet, picturesque childhood town in Oregon.

There's something comforting about trundling along in Meredith's postal van, stopping to place parcels and letters in the hands of the local residents whom she gets to know as the plot unfolds. Where our contemporary existence is filled with increasingly inhuman transactions – contactless card payments, scrolling through emails, stilted conversations with robotic voice assistants – Meredith's role as the local postal worker places her squarely in the lives of the local residents, and much of the game is about friendship and face-to-face conversation.

"*Lake* enables you to go back to a time where people really took more time to interact with each other meaningfully," says Bouman. "We didn't really set out with a mission to do this, but as the game developed, the difference between the way things were and the way they are now became clearer and clearer."







◀ *GTA: Vice City* is a legendary title, but does little to scratch beneath the veneer of eighties cool.

▲ *Lake* harks back to a time when physical human interactions formed the foundation of relationships, including how you received your mail.

The old-fashioned notion of getting involved in the lives of strangers was an idea that Polish developer Pixel Crow wanted to explore in its own game. Released in 2017, *Beat Cop* is a detective adventure that sees you take on the role of 1980s New York cop Jack Kelly

as he regularly patrols a single street, getting to know the residents and their daily struggles. As he does so, he slowly earns their trust – which comes in handy when he’s framed for murder and has to use his skills to find out who really committed the crime.

Much like the postal service, law enforcement in 2022 is radically different from the 1980s. Remote surveillance, shrinking budgets, and targeted profiling has meant that policing has become increasingly faceless, with officers walking regular beats becoming an increasingly rare sight on modern streets. Pixel Crow wanted to tap into the gameplay potential of an old-school beat cop, whom players warm to through his interactions with others. “Even if our protagonist is just a dozen or so pixels on the screen, we want the player to get to know him, empathise with him, understand his motivations, and be able to guide him within this little simulation,” says designer, programmer, and studio co-founder Maciej Miąsik.

Again, there’s a contrast here to the gaudier, flashier violence of *GTA: Vice City*. *Beat Cop* finds

humanity in what Miąsik describes as “boring, routine tasks” – handing out parking tickets, questioning witnesses, and arresting petty criminals. Like Weappy Studio’s 2016 adventure, *This Is the Police* and, to a lesser extent, Team Bondi’s 1940s-set thriller *L.A. Noire*, *Beat Cop* uses routine and repetition as a means of exploring and understanding the game’s world.

“Jack Kelly has more down-to-earth problems, most of which he has to solve by running down the street and almost losing his hat,” Miąsik says. “In his world, there’s no place for stunts or spectacular shootouts, and there are a lot of boring, routine tasks that become a real challenge in the game, just like in real life.”

### FIGURE IT OUT

Although celebrated for its stylish adoption of eighties trappings, its plethora of map icons, waypoints and on-screen instructions mean few

would accuse *GTA: Vice City* of leaving the player to figure out things for themselves. A game set in the 1980s it may be, but

a game rooted in the design sensibilities of the 1980s? Not so much. One studio that’s explored the gameplay potential in blending an eighties setting with the decade’s unforgiving philosophy towards game design is No Code, the Scottish studio behind 2017’s critically lauded series, *Stories Untold*. In each of *Stories Untold*’s quartet of adventure puzzlers, the player ▶

**“Lake goes back to a time when people interacted more with each other”**



▲ *Beat Cop* adopts the classic iconography of 1980s NYPD, seen in everything from *Police Academy* to *Hill Street Blues*.

▼ White suits? White sofas? Pink neon text? *Hotline Miami* draws heavily from the eighties synthwave aesthetic.



## TESTED TO DEATH

Jon McKellan believes that, although eighties computer games may be outdated, their unforgiving nature still has much to teach us. “If you want that experience of wanting to figure stuff out for yourself, I don’t really feel there’s much out there at the moment that lets you do that. Most games have help pushed on you as part of the user experience; they feel focus-tested to death to make sure there’s no friction for the player. That’s great, but you’re also stripping away a big part of player agency and player discovery, and I feel that’s important. I’m not trying to be the old man yelling at clouds, but an important part of the gaming experience feels like it’s largely been lost.”



## LOST IN THE EIGHTIES

With their focus on spectacle and high-concept ideas, movies from the 1980s have an enduring appeal, and still influence game designers today. So what movies most influenced the creative minds behind *Lake and Beat Cop*? “Nothing could beat *Ghostbusters* for the ten-year-old kid I was when it came out,” says *Lake*’s Jos Bouman. “And although the special effects don’t really hold up – which is a treat on its own – the fast-paced story, the comedy, and the performances are still solid gold.”

Predictably, *Beat Cop* developer Maciej Miąsik’s favourite eighties films have a law enforcement theme – he still fondly remembers “the *Police Academy* series, *Beverly Hills Cop*, and various police and detective films we watched from pirate copies on VHS cassettes, or TV series which were sometimes shown on national television. Often, they were shown with a considerable delay, so we watched a lot of this in the nineties instead.”

▲ Just another day on the job for Officer Jack Kelly. *Beat Cop* packs a surprising amount of visual information into its sprite-based scenes.

This is Kelly, what do you want, Holloway?



finds themselves seated at a period-accurate computer, and is simply left to figure out where to go from there. It’s No Code’s contemporary take on that most retro of genres, the text adventure, albeit with an ingenious and terrifying twist: as you interact with the parser on the computer screen, eerie things begin to happen in the game world around you.

As a veteran of 8-bit text adventures himself, Jon McKellan, creative director at No Code, understands the satisfaction that comes from the genre’s lack of hand-holding – which is something that formed the nucleus for *Stories Untold*.

“We loved this idea of being sat in front of a bunch of old equipment and being asked to use it, yet not really knowing how to [do that],” recalls McKellan. “And so the player has to prod their way around. With the exception of maybe *Elden Ring* and the *Souls* games, modern gaming doesn’t really let you do that anymore. Back then, games didn’t hold your hand so much, you really sometimes didn’t understand how to even play and you’d spend hours and hours trying to learn what the game actually wanted you to do. In modern gaming there’s only really the FromSoftware games that I can think of that buck that trend and say ‘you learn’, which is cool.”

The first encounter in *Stories Untold*’s anthology of nightmarish tales seats the player in front of a ‘Futuro 128K +2’ – a nod to the ZX Spectrum. For any eighties Spectrum user who persevered through an hour of programming in BASIC, only to be met by the dreaded ‘syntax error’ message, a DIY approach to problem-solving, along with a generous dollop of resilience, was simply part of the fun.

McKellan once worked on 2014’s *Alien: Isolation*, so he understood the appeal of the grungy, lo-fi technological aesthetic seen in the film it’s closely based on, 1979’s *Alien*, as well as its potential as a gameplay mechanic.



▲ The interfaces you engage with become more complex as *Stories Untold*... unfolds.



▲ *Yakuza 0* basks in the bustle of bubble-economy 1980s Japan, with playable arcade machines from Sega's glory days waiting to be tracked down.

▼ With its day-glo colours and straight-to-VHS trappings, *Far Cry 3: Blood Dragon* offered a playful checklist of 1980s clichés.

"Part of the puzzle should be trying to figure out if there is a puzzle, and what that puzzle is," he says. "That's a big part of what it was like to use games and computers back then. You didn't have the internet, you didn't have an easy way to figure out problems, you had to feel it out, and that's something we wanted to get players back into doing."

And while nostalgia will always be a powerful tool for creators to harness, especially in video games, *Stories Untold* also proves that a lingering affection for the 1980s and its chunky tech is something that can be used to unsettle players. "A big part of our game's concept was to weaponise nostalgia," says McKellan, "to take these things that some of us have grown up with, like Spectrum computers, and use that to lull the player, so the things you remember and have good associations with become a bit subversive and creepier."


### THE EIGHTIES REBORN

The success of *Stories Untold*, *Beat Cop*, and *Lake* prove there's an appetite for games set in the 1980s that go for more than shallow aesthetic appeal; as Bouman says of *Lake*, he and his team wanted to make an eighties set-game "that felt sincere".

There's also the argument that the 1980s has a texture and richness that video games have yet to fully explore – a sentiment echoed

by Mięsik, who argues that more developers should try to "show the world as it is, not as we would like it to be". He also believes that depictions of the decade give developers the "freedom to address topics that are currently problematic".

McKellan, meanwhile, agrees that while "pink neon grids and palm trees" are a likeable, immediately recognisable aesthetic, there's far more power in presenting the 1980s as the decade actually was for the people who lived through it. "A lot of games present this neon, synthwave version of the eighties," he laughs, "which is not the decade I remember. It wasn't neon; it was pretty grim and grey, and football shorts were really small. I grew up in a north-east Glasgow council estate, and it wasn't neon. I wanted to make a game that touched on that."

Ultimately, if video games are going to be recognised as an art form equal to its older cousins, cinema and literature, then the medium's period pieces need to be similarly sophisticated, whether they're harnessing a bygone era for sincerity, subversion, or social and political commentary. In the two decades since *GTA: Vice City* skated the surface of the 1980s, however, *Lake*, *Stories Untold*, and *Beat Cop* prove that video game representations of the decade are becoming increasingly sophisticated, complex, and real. 

**"It wasn't neon;  
it was pretty grim  
and grey"**



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## Interactive / Pompom

Willem Rosenthal tells us all about his zany love letter to the SNES era of action platformers

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▼ "My goal was to bring something new to every level, so I always began with a new concept, enemy, or gimmick," Rosenthal says of *Pompom's* stage design.

If the screenshots dotted around these pages make you think of the Super Nintendo era – a time that brought us such 16-bit gems as *Super Mario World* and *A Link to the Past* – that's because Massachusetts-based developer Willem Rosenthal has consciously modelled *Pompom* on that system and its games. "My goal was to have it fit perfectly as an early SNES game," Rosenthal says of his 2D platformer. "I took a lot of visual inspiration from the SNES games from 1990 to 1993, with *Super Mario World* by far being the biggest visual inspiration. I wanted it to feel like a game made by the same art director."

Rosenthal's affection for the SNES era goes beyond its visuals, too. Long before complex 3D worlds and detailed character models forced studios to expand both their design staff and their budgets, making games was much closer to that of a modern indie developer. "That era is special to me because, back then, games were still made by small teams and driven entirely by individual ideas and creativity rather than established game design philosophies," says Rosenthal. "To me, the idea of a modern design rule set, like the concept of the 'game loop', only serves to create samey games. In my eyes, those sorts of concepts were thought up really to create serotonin feedback loops to keep players playing for longer, not to actually create fun or unique experiences."

Rosenthal takes a somewhat traditional approach to game design, then, but that doesn't mean he doesn't use distinctly modern tools for his work. "*Pompom's* made in Unity; a lot of folks are surprised by that, I think because of the retro-2D design," he says. "It's definitely true that in some ways you have to fight against Unity's 3D nature to get a retro-styled game, but it's honestly been a great engine to work in. All the sprite work is done in Photoshop, just drawing pixel by pixel. I think there's probably better tools out there, but due to my background in illustration, Photoshop is just what I'm most comfortable using!"





◀ Fans of *Super Mario World* will likely recognise these insistent nods to that game's Ghost House stages.

*Pompom* began life four years ago as a game jam project called *Walkie Tori*. Tasked with taking an existing game genre and then “removing a major mechanic” associated with it, Rosenthal came up with an action-platformer where the player has no direct control over the central character: instead, they have to drop objects like blocks and springs in the hapless critter’s path so that they don’t fall into deadly pits. It’s a concept that recalls such nineties titles as *Lemmings* or *Mario & Wario*, but Rosenthal points out a marked difference in his own game. “To me, those are really puzzle games with some action elements, whereas my goal was to make a game with as much action as a typical Mario adventure that just happened to not allow you to control the character.”

**“The concept of the ‘game loop’ only serves to create samey games”**

After Rosenthal finished *Walkie Tori*, he then moved on to making another retro-inspired title, *Go Go Kudamono* (see box). When that game’s sheer scale began to take its toll, Rosenthal decided to start a smaller project as a palette cleanser – which is where *Pompom*, about a hamster traversing a series of increasingly dangerous levels, came in. “When Covid began, I’d already been working on *Go Go Kudamono* for two or three years, so I decided to take a break to develop *Walkie Tori* into a full game,” Rosenthal explains. “All of my experience from art and coding on *Go Go Kudamono* carried over, but the idea was to make something that was sort of the opposite of *Go Go Kudamono*. *Pompom* is an intentionally lo-fi experience that

still retains the complexity and size of a full-sized game, yet fits within the strict limitations of something that could exist on the SNES.”

Not that *Pompom* is lacking in ambition itself: there are some 60 stages in total, and Rosenthal has evidently put a lot of time and effort into those sumptuous SNES-like stages. “Every level has something unique; some levels have entirely unique art, enemies, and mechanics that are never seen again in the game. This sort of variety is really fun to create, but also demands constant creative energy and is time-consuming to produce. Most games recycle their content again and again, so always staying fresh and creating new ideas for every level was definitely a challenge.”

Available on Steam now, *Pompom*’s already garnering positive reviews from players; and behind the scenes, Rosenthal is working away at ports to other systems. “I’m working on the Switch version now,” he tells us. “After that, who knows? Where else it goes will depend on how the game performs on Switch.”



**LIME WIRE**

If you’re looking for a further showcase for Rosenthal and his prowess as a pixel artist, check out the stunning trailer for *Go Go Kudamono* ([wfmag.cc/kudamono](http://wfmag.cc/kudamono)). About a regal lime (yes, the actual fruit) on a quest to save his kingdom from insect military rule, it’s a Technicolor brawler-RPG hybrid with some captivating animation and character designs. “I was shooting for a very high-fidelity action-adventure,” Rosenthal explains. “It was a very ambitious and complex project with many mechanics and detailed animations and visuals.”

*Go Go Kudamono* was put on hold while Rosenthal worked on *Pompom*, but fear not: the game’s still set to emerge, just not for a while. Says Rosenthal: “I hope to get back to it once *Pompom*’s Switch version is complete. It’s a massive game, so I think there’s still at least one year of development left for it. I really wanted to create an experience that has the depth of a *Final Fantasy* game but with action-arcade combat, so obviously that’s a lot for a one-man team. All I can say now is that it’s come along really well, and I think the final product is going to really excite people.”

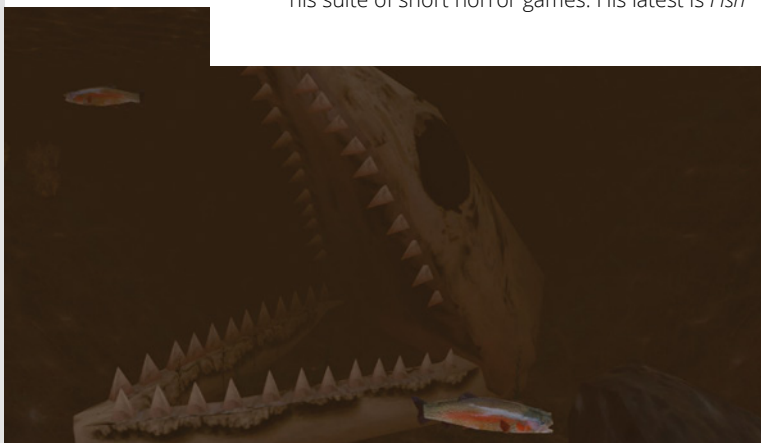


## Interactive / Fish Cymophis

One developer's mission to make the underwater world even more terrifying in a fishy brand of retro horror

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▼ The lo-fi look of *Fish Cymophis* gave Richards free reign to get creative with the creature designs.



Hardware limitations have long forced developers to come up with creative workarounds, with the horror genre being a particularly fertile ground in the days of PlayStation and

Nintendo 64. Titles like *Shadow Man*, *Nightmare Creatures*, and the original *Resident Evil* used their host platforms to haunting effect, with technical restrictions such as poor draw distances, long load times, and low-resolution textures all adding to their scares. It's exactly this vibe that solo developer Jonny Richards has tapped into for his suite of short horror games. His latest is *Fish*

*Cymophis*, a sinister fishing simulator where you explore a lake full of deadly wildlife.

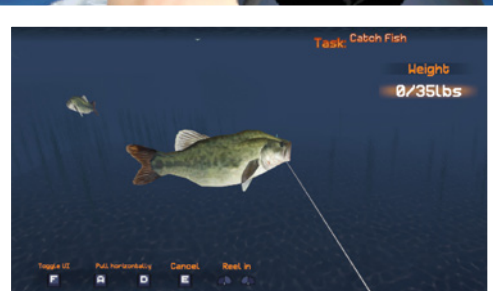
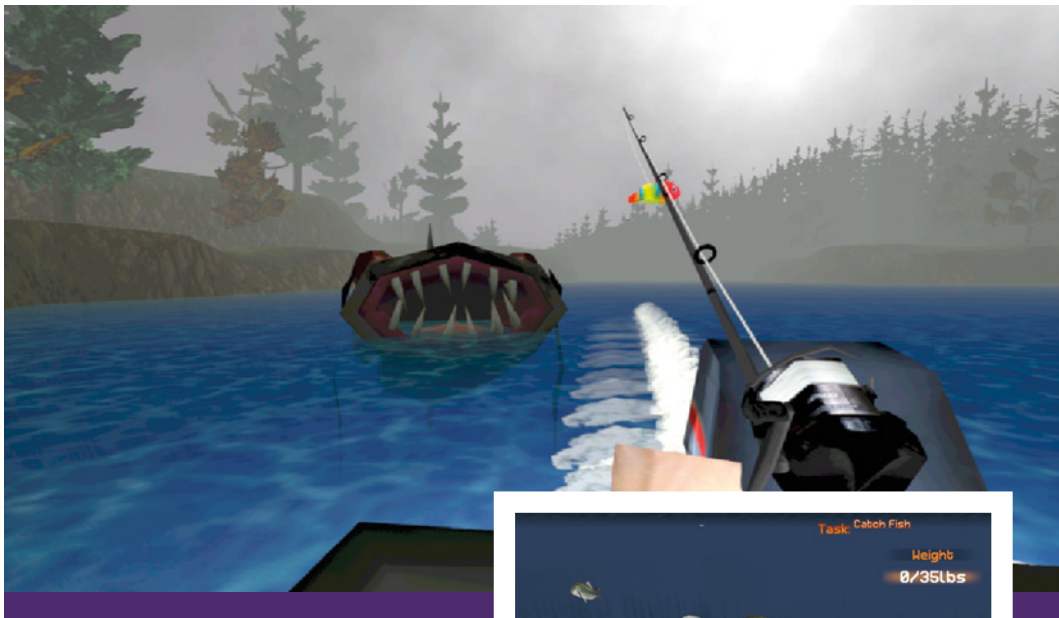
"I really liked the concept of a horror game that takes the guise of a different genre and uses their mechanics in clever ways," Richards says of *Fish Cymophis'* unique genre fusion.

Beginning life as a simple game jam project designed to follow the theme 'fear of submerged objects', *Fish Cymophis* was originally inspired by a broader selection of hunting games before Richards opted to concentrate purely on fishing. This allowed him to keep the game's scope manageable, with the story focusing on the horrors that lurk in the depths of Cradle Lake.

The environment's broken up into four distinct areas, each one comprising different creatures that the player will have to confront and catch. "Each level's environment is mostly underwater," says Richards, "which the player can't see from their boat. But by casting their lure into the water, the player's able to explore each level's creepy environment through the fishing lure's point of view as they fish."

True to its horror theme, the act of fishing is fraught with tension, too. "While fishing, the player's also vulnerable, as they can't move or drive away from danger," Richards explains. "This can create tense gameplay and allow for





◀ “The game’s primarily a horror, and each level will have a shift in gameplay to ramp up that part of the experience. But fishing is still at the game’s core,” says Richards.

some unique ways to scare the player with what they see or catch in the water, and what might attack them on the surface.”

## BIG FISH, SMALL POND

Where most fishing games are at least somewhat relaxing, *Fish Cymophis* will instead use its angling mechanics to build suspense. Equipped with just a rod and a small but manoeuvrable motorboat, you’ll need to work out how best to use the game’s wide selection of lures before you even think about navigating the dangers of the lake.

*Fish Cymophis* won’t see your character drown (swimming isn’t even a mechanic here), but water’s depth still plays into the fright factor.

“As you drive the boat, there’s an in-game tool that displays the depth of the water you’re floating over,” Richards says. “I’ve found it can give a really immersive feeling of being over deep waters when you see it reaching its max value of 32-plus feet. It may be unsettling for people who have a fear of water.”

Like those low-poly nineties games mentioned earlier, *Fish Cymophis* also uses its retro look to scary effect: uncovering Cradle Lake’s mysteries will mean journeying through darkness and thick digital fog. Richards says the final game will include plenty of graphics settings to let players mimic the look of older consoles to their desired degree, but however it’s tweaked, *Fish Cymophis* will always retain the look of an angular, underwater haunted house.

**“It may be unsettling for people who have a fear of water”**

▲ In between the routine frights, players will be able to use different types of lure to attract specific fish.

But what is it about the low-poly aesthetic that’s so scary? Often, according to Richards, it’s to do with what players can’t see. “It can leave more to the player’s imagination,” he says, “which usually ends up being scarier than anything the developer could make.” The retro look also

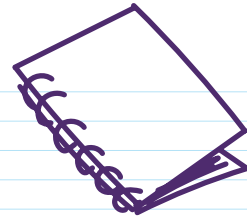
allows for more outlandish creature designs, he adds. “I believe the style also allows for exploring crazier ideas or monster designs which would be more

difficult to explore in a more realistic style without breaking player immersion – especially for lower budget games.”

Richards has been hard at work on *Fish Cymophis* for six months now, honing the horror skills he first gained working on his earlier work released on itch.io: the Christmas-themed *TORNUTU*, and the playground chiller, *Slide in the woods*. With *Fish Cymophis*, he hopes to scare a wider audience by bringing the game to Steam. And while its unique pairing of survival horror and fishing simulation might seem like an odd one at first, Richards insists that the end result will be as terrifying as it is unusual. “I want people to be surprised by how much a fishing game was able to scare them,” he says. 🐟

## GETTING THE PSONE LOOK

Making a game look retro is common practice these days, but making *Fish Cymophis* look authentically PSone-like posed a few challenges. “One important element is putting all the details into the texture rather than the model, which are kept as low poly as possible,” says Richards. “The textures are then also kept at a low resolution and made using photos, painted by hand, or a little of both. Using post-processing can [also] get you really far: making the screen a slightly lower resolution, lowering its colour depth, and adding dithering. Otherwise just keep the lighting simple and turn off shadow casting. For [the] PSone-look specifically, there are some other fun effects such as vertex jitter or wobble, UV warping – textures distorting when you get close – and vertex lighting.”



## GETTING INTO GAMES

# How I became a... QA analyst

Pieces Interactive's **Helena Hansen** tells us about the important art of Quality Assurance



**“Nobody’s perfect, and the journey to game dev isn’t, either”**

### What was the game that first made you want to get into gaming?

I've had an interest in games for as long as I can remember. While I grew up, my interest in games was mostly of a simpler design like *Disney's Dinosaur* on the PC. When I played *Tomb Raider III* for the first time when I was seven, it definitely woke up an interest in me that I didn't have before. I found myself sympathising with the main character and getting lost for hours in the incredible level design. This definitely sparked an interest in how games are made!

### How did you break into this industry?

It was a mixture of networking and education. I got a Master's degree in Medialogy at Aalborg University in Denmark, which provided me with the toolset to research, implement, and evaluate games. In my spare time, I started looking into

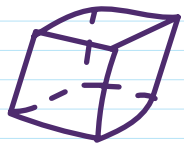
how animations, characters, and 3D assets are made, and delved deeper into the material and pipeline for game development. I knew someone who worked at Pieces Interactive who referred me to their open Quality Assurance position once I graduated, which is the job I still have today. Networking definitely played a big part!

### What was the first game you worked on professionally and are you still proud of it?

The game I'm working on now is the first I've worked on professionally. But at university I got some great opportunities to work on games and implementations that I'm still proud of. I was working with a group that created a virtual reality experience for indigenous people in Namibia, where they could experience some of their own cultural heritage, as they don't have access to the same resources we do. I think you should always take pride in your work, learn from it, and carry that knowledge on to the next. It's always great to look back and think, 'I really did that'.

### Did you always want to work in QA specifically? What's the appeal if so?

What got me interested in QA was my interest in what separates a good game experience from a poor one, and what the building blocks and thought processes are that go into it. I like to think of every game ever released as being free research, in a way. There's so much to learn. For example, what steps did a development team take to improve the sequel from its predecessor, and what makes some games stand out as masterpieces? I've always been interested in working as a QA and shaping the game into the best it can be.



› Helena might be new to the industry, but she's already gained experience working across VR, mobile, and consoles.



▲ Away from her QA job, Helena spends her free time designing 3D characters using programs such as ZBrush.

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

It's about getting an overview of the state of the game, its levels and mechanics, providing input into how a mechanic or feature can be improved, and helping ensure that the game is working at its best. It's a lot of communication with the team about what mechanics and features are working as intended, and if they don't, figuring out why. There's also a lot of playtesting, planning, and documentation. Analysing the different potential issues and patterns of when a bug occurs, and documenting and communicating it all is a big part of it. Efficient communication is key.

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

When I was younger I would sometimes see working in games as something unachievable, so I would work really hard for a long time, burn myself out, and want to give up. I would be so hard on myself when I felt like I didn't learn fast enough, and it would just fill me with such bad energy. I know now that learning and getting good at anything is not a sprint, but a marathon, and we have to take care of ourselves along the way too. Learning never stops, [especially] in an industry like game development [which] is constantly growing. There's always something we don't know or could know more about. It's OK to not learn and know everything at once.

### What's one piece of advice you'd offer to your younger self, given the chance?

I think it can be boiled down to keep working hard, keep being curious, and continue to learn. It all started with me being curious about how

games are made. Don't be afraid to try new things, step out of your comfort zone, and always ask for feedback and advice. Feedback is such an important part of learning and evolving, so never be afraid to reach out to someone and ask. It doesn't necessarily have to be someone within that field you're studying or role you're striving for. You'd be surprised how someone from a different field or role can grant you a whole new perspective on things!

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

We work in an ever-evolving industry, so we find new solutions and tools to help us overcome challenges. A great example of this is the pandemic, where lots of people were put in the situation of having to work from home, which can be challenging in different ways for everybody. But now we have so many tools and resources which have made it possible for us to work on games from our own homes. I think it's become easier, but the challenges we face change with time, and we overcome them the best we can.

### What's something people can do now to help their future chances of working in games?

Dare to be curious! Learn as much as you can and network with people who can help you on your journey. With all the various social media and resources online, networking is easier than ever. Be kind, and acknowledge you'll make mistakes along the way. Nobody's perfect, and the journey to game development isn't either. Great things start with curiosity and willingness to learn, and the right people will notice that and will want to help you along the way. 🗨️



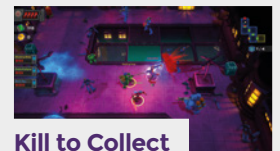
## Studio highlights



### Titan Quest: Atlantis

2019

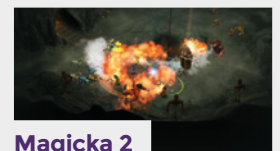
This third expansion to the venerable ARPG whisks players off to the mythical underwater king, introducing another skill tier, an all-new sixth act to the story, and a wave-based challenge mode.



### Kill to Collect

2016

This co-operative action roguelike leans into its cyberpunk stylings with industrial environments steeped in neon. Up to four players can work their way through endless legions of cybernetic enemies.



### Magicka 2

2015

Pieces Interactive led on this sequel to Arrowhead Game Studios' 2011 cult classic. The result was an even more irreverent and colourful top-down adventure where wizards use wild spell combinations.

## Interface

Developer Profile / SNK's fighting history



### Developer Profile

# SNK's fighting history

Veteran staff at SNK recall the company's 1990s fighting game heyday – and the path leading to this year's *The King Of Fighters XV*



▲ *Samurai Shodown* (also known as *Samurai Spirits*) added weapons to the one-on-one fighter mix.

Japanese firm SNK has taken on many guises – and several variations on its name – since its founding in 1979. But while SNK's video game output has spanned genres from sports titles to puzzles to military shooters like *Metal Slug* (see box on page 86), the company's arguably best known for its array of competitive fighting games. From 1991's *Fatal Fury: King of Fighters* onwards, SNK blazed a trail with some of the tightest, most vibrant fighters ever made.

For these, we partly have Takashi Nishiyama to thank – one of the key figures working at SNK in the early nineties, and a developer who'd helped transform the fighting genre in the previous decade. At Irem, Nishiyama created the groundbreaking brawler,

*Kung-Fu Master*, in 1984; moving over to Capcom, he revolutionised one-on-one combat with the original *Street Fighter* – the game that first introduced the idea of a six-button layout for punches, kicks, and combos.

Having been hunted by SNK shortly after *Street Fighter's* release in 1987, Nishiyama soon had another revolutionary idea: cartridge-based arcade hardware. "Until [the early nineties], arcade operators would have to purchase a machine for each game," Nishiyama explained in a rare 2011 interview with 1up.com. "By creating a hardware system with cheap software, we were able to sell a lot of games even in pirate-heavy markets, and I think that was one of the main factors that led to SNK's success."



◀ Series debut *The King Of Fighters '94* served as a crossover between multiple SNK properties, with characters from its earlier titles making an appearance.



The result was the Neo Geo: a system that brought cutting-edge gaming hardware to both arcade owners and – if they could afford it – gamers at home. The first wave of games developed for the Neo Geo had military and sports themes (*NAM-1975*, *Baseball Stars Professional*, *Top Player's Golf*), but Nishiyama still had unfinished business in the fighting genre, and soon brought his expertise to bear on SNK's first one-on-one brawler for the Neo Geo, *Fatal Fury: King of Fighters*.

That game not only introduced a number of familiar characters that would continue to pop up in both *Fatal Fury* sequels and elsewhere – Terry Bogard and villain Geese Howard, to name but two – but also SNK's approach to the fighting genre. There were the bold character designs and fluid animation; the taut combat, which required precise timing to master; and its two-lane battle arena, which allowed opponents to move between the foreground and the background to evade attacks.

### “Working at SNK in the nineties was so surreal”

#### ROUND ONE

From there, SNK's roster of fighting games ballooned as the broader company's success grew through the early nineties. As head of development, Nishiyama personally oversaw the likes of *The King of Fighters* and *Samurai Shodown*, while Hiroshi Matsumoto created *Art of Fighting*, released in 1992 – all games that received multiple sequels as the decade wore on.

“Working at SNK in the nineties was so surreal,” recalls Naoto Abe, an artist and character designer who worked on such games as *Metal Slug*, *The King Of Fighters XIV*, and 2019's *Samurai Shodown*. “The Neo Geo first went on sale in 1990, and SNK was blessed

with multiple hit fighting games. You could feel the company growing in your bones. More were added to the development line, and each dev team really fed into and received a ton of positive stimulation.”

Yasuyuki Oda, producer of such series as *The King of Fighters*, *Fatal Fury*, and *Art* ➔

of *Fighting*, joined SNK in 1993 at the age of 20, and remembers the excitement and camaraderie at the time, with teams sectioned off and working on their own separate projects. "If you had talent and drive, you could take on really crucial work," Oda says. "The developers back then were all young – I'm pretty sure the oldest was in their early thirties.

There was always this pressure to make something better than the other teams, but it never came down to rivalry. We got along really well."

Nobuyuki Kuroki – who joined SNK around the same time as Oda and most recently served as project supervisor on *The King Of Fighters XV* – recalls that teams commonly comprised around 10–15 people. The pace of work was fast, and, he remembers, the hours were sometimes brutally long. "When I joined, SNK was deep in development of *Fatal Fury Special*," Kuroki tells us, "so it was literally the busiest time for us ever. Us newbies were debugging 24 hours a day on alternating shifts. It was a gruelling process, but as *Fatal Fury Special* was a really fun game, and I got along well with my co-workers, I actually enjoyed myself quite a bit. Also, I joined SNK because I was a big fan of *Art of Fighting*, so you can imagine how excited I was to hear that they were developing *Art Of Fighting 2* right next to my office."

## RIVAL SCHOOLS

SNK's clear rival in the fighting genre stakes was, of course, Capcom. And while *Street Fighter 2* and its updates were the clear winner in terms of global attention, SNK continued to carve out its own niche



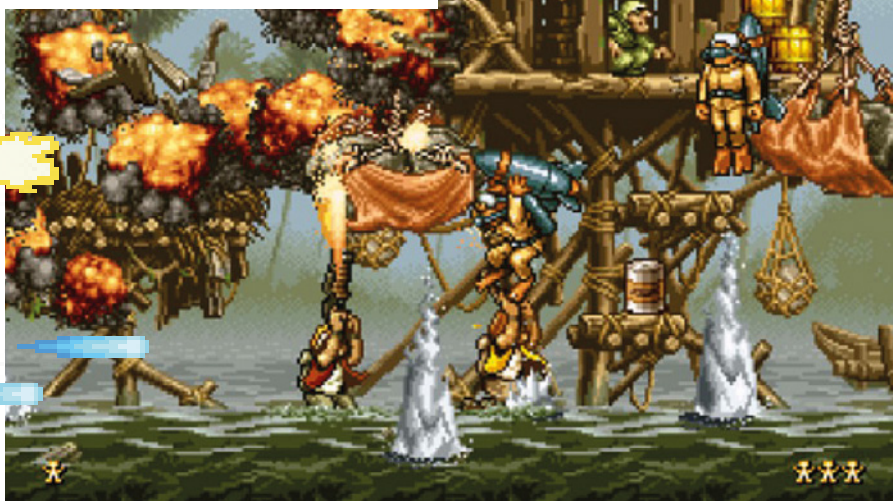
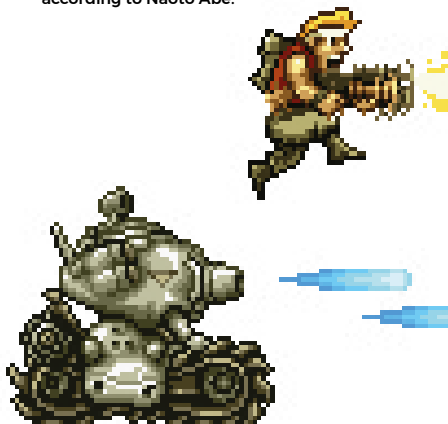
## Making Metal Slug

One of SNK's most memorable games outside the fighting genre was arguably *Metal Slug*: a febrile run-and-gun with some of the best sprite design of its era. "There were about six artists working on the very first *Metal Slug*," recalls its chief producer, Naoto Abe, "and it took about a year and a half to draw out all the sprites. I think it's amazing they were able to achieve so much with such a small team."

Although Abe notes that the team "had fun" making *Metal Slug*, it wasn't without its challenges – one of them being a location test that sent the entire game back to the drawing board. "The game's original protog was a tank, and after we finished it, we sent it out to various locations to get tested by the public," says Abe. "Apparently, it wasn't received well. The concept we had at the time was for a tank to move and feel like a living person. So, all the ways it crouched and took damage looked nothing like how a mechanical vehicle would. But it turns out nothing beats a human character when it comes to connecting with them, so they changed it."

The tank still remained as an occasional vehicle to clamber into, though, and *Metal Slug* soon became one of SNK's most enduring properties, with numerous sequels and an upcoming strategy spin-off, *Metal Slug Tactics*, due in 2022. "In the end, that decision gave birth to Marco, Tarma, and other characters," Abe says. "I think it was the right choice. Also, by changing the protog to a human, it also meant the weapons system could be expanded upon with the iconic Heavy Machine Gun and Rocket Launcher."

› Six artists spent 18 months drawing *Metal Slug*'s stunning sprites, according to Naoto Abe.





◀ Although widely regarded as a difficult series for newcomers, producer Yasuyuki Oda argues that *King Of Fighters XV* “has found a good balance, and new players have joined because of it.”



## Neo Geo Pocket

SNK's handheld wasn't a huge commercial success on its release in 1999, but it's developed a cult following since – so much so that both the system and its games are quite expensive to collect today. Thankfully, the *Neo Geo Pocket Color Selection* brings several of the console's best titles – including several miniature fighting games, naturally – to modern Steam and Switch. For the collection's producer, Adam Laatz, it's a means of preserving SNK's legacy, with not only accurate ports of the games, but also re-creations of their cover art. “With the market value for many retro games going up, it was important that we could preserve more of SNK's game history and offer better accessibility to a wider audience,” Laatz tells us. “Our project director Lionel Ackah and design team at the Osaka HQ did a great job obtaining and scanning all the Japanese and overseas versions of the game boxes and cartridges, and coordinating with our developer Code Mystics.”

with fighting games that concentrated on varied combat techniques, timing of special moves, and neat additional flourishes like dedicated taunt buttons.

Like Nishiyama, Yasuyuki Oda is another developer who's worked for both Capcom and SNK. So we had to ask: does he think there's a fundamental difference in how the two studios designed their fighting games?

“SNK was heavily concerned with fighting game balance and difficulty against CPU opponents due to their focus on arcades,” Oda says. “I feel like SNK focused more on CPU fights than Capcom because they had cabinets not

just in large arcades, but also smaller shops that could only had a limited amount of space.”

By the middle of the 1990s, Midway had turned heads with its *Mortal Kombat* series, which used digitised graphics for its characters, while Sega had seen huge success with *Virtual Fighter*:

**“Us newbies were debugging 24 hours a day on alternating shifts”**

a 1994 coin-op that successfully fused traditional 2D combat with 3D character models. Behind the scenes, SNK was also trying to move with the times, and exploring the possibility of using 3D models and motion capture in the early development of 1996's *Art of Fighting 3: The Path of the Warrior*. “Back then, SNK internally was still researching 3D technology,” says Nobuyuki Kuroki. “There were huge expectations because the thought was if you used motion capture, then you can make a really amazing game. Two of our staff members went to America for about a month to record some motion capture for the game.”

Ultimately, this approach proved to be a creative dead end, though the motion capture data was still used indirectly to help the team understand “how the ▶



▲ As you'd expect, there were several mini fighters made for the Neo Geo Pocket. SNK's Adam Laatz singles out *SNK vs. Capcom: The Match of the Millennium* as one of the best.



➤ SNK experimented with motion capture and 3D models for *Art of Fighting 3*, but ultimately stuck to the traditional hand-drawn sprites.



## The one that got away

Released at a time when interest in arcade fighters was declining, and SNK itself was on the wane, 1999's *Garou: Mark of the Wolves* was the last entry in the *Fatal Fury* series. A sequel was under way in the 2000s, but SNK's financial woes meant it never saw completion. "*Garou: Mark of the Wolves* was the last title I worked on at SNK," says Yasuyuki Oda. "They were working on a sequel right as I left the company. The team had grown so much and everyone was a pro in their field, so it was really sad to hear that the sequel was cancelled. We were able to bring back Rock Howard through *KOF*, but I hope someday we can see a proper sequel."

body looks during specific moves" as they drew the game's 2D sprites.

## DECLINE

Inevitably, the nineties hunger for competitive fighting games wouldn't last forever, and SNK's fortunes began to take a downward turn as the new millennium beckoned. Ventures like the Neo Geo CD or the Neo Geo Pocket handheld (see box, overleaf) failed to gain much traction, and SNK filed for bankruptcy in 2001. Franchises like *The King Of Fighters* continued to see updates through the 2000s, but these were developed by companies like BrezzaSoft and Playmore, founded by former executives at SNK.

In ownership terms, the next 15 years were a turbulent time for SNK; briefly owned by pachinko manufacturer Aruze, the brand was acquired by Playmore in 2003. The resulting company, SNK Playmore, made another attempt to return to the console market in 2012 with the Neo Geo X, a poorly received handheld console that ceased production

just one year after launch. But while SNK has had its share of ups and downs in recent years, it's weathered the storm where other companies of its vintage have withered and died. Now partly owned by, of all people, Saudi prince Mohammed bin Salman, SNK's still putting out games and even the odd bit of hardware: the NeoGeo Mini nostalgia device emerged in 2018, while this year saw the release of *The King of Fighters XV*.

## CHANGING TIMES

Today, SNK's developers are still evolving and experimenting with each game they make. *King of Fighters XII* and *XIII* used 3D models as a basis for their hand-drawn sprites, before the series finally made the leap to full polygonal 3D models with *King of Fighters XIV*. Although the move to 3D assets saved on development costs – hand-drawing every frame of those enormous fighters takes time, after all – the transition wasn't without its challenges. "The way of animating 2D patterns and 3D keyframes is completely





different, so recreating it is incredibly difficult," says franchise stalwart and *King Of Fighters XV* creative director, Eisuke Ogura. "On the other hand, characters like Ramon benefited greatly from the move to 3D as his movement is rich and fluid. Another advantage is being able to use the dynamic camera."

*King Of Fighters XV* also brings with it another technical change: a shift from a proprietary engine to Unreal Engine 4. "With the introduction of UE4," Ogura explains, "we were able to add depth of field and better shaders, which really give the overall presentation a real kick. We even use it to brush up the models to make them look more lively."

"I can't even imagine not using Unreal Engine 4 at this point," concurs project supervisor Nobuyuki Kuroki. "It's come in really handy."

Another challenge both Ogura and Kuroki point to, on *King of Fighters XV's* development, was the style of those 3D visuals. "Even though we're using UE4 and a lot of things have become easier, one thing that took a ton of time was hammering down an art style that we liked," Ogura tells us.

**"The company, staff, and how the games are made have all greatly changed"**

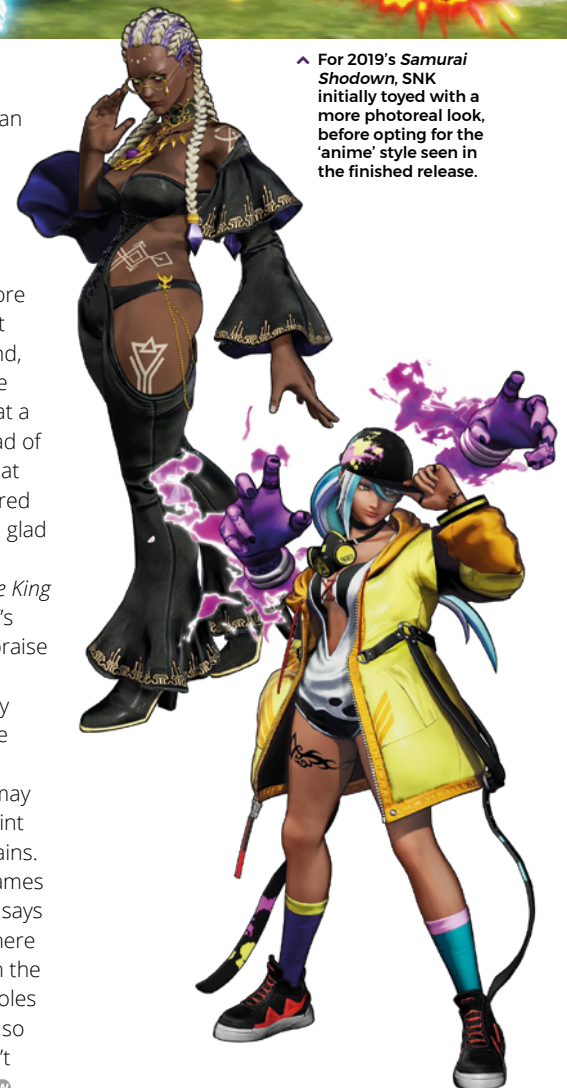
"We had a hard time deciding on an art style we were satisfied with," Kuroki agrees. "The same thing happened with [2019's] *Samurai Shodown*. It started off as being photorealistic, and then we tried other styles, eventually making it more 'anime'-looking. It was tough to get it looking like *King of Fighters*. In the end, we went with an art style that can be

appreciated at a glance, instead of something that was an acquired taste, and I'm glad we did."

Indeed, *The King Of Fighters XV's*

visuals were widely singled out for praise when it launched in February 2022, and the game as a whole is generally regarded as a worthy addition to the long-running series.

As for SNK today – well, the firm may be very different, but more than a hint of that same creative spirit still remains. "The company, staff, and how the games are made have all greatly changed," says Naoto Abe. "But, including myself, there are still people in the company from the Neo Geo days. They're all in major roles in the company making games, and so you could say the spirit of SNK hasn't changed. It's still being passed on." 🗨



^ For 2019's *Samurai Shodown*, SNK initially toyed with a more photoreal look, before opting for the 'anime' style seen in the finished release.

# An eventful week



**STEVE MCNEIL**

Steve likes going to things, and looking at things. He's a things guy.

▼ WASHD successfully plugged the ECX Rezzed-shaped hole in our hearts, even if nobody could agree how to pronounce it.

**W**hatever your thoughts on the current 'why bother wearing masks when we can just spread disease everywhere' approach being taken to Covid here in the UK, it's inarguably the case that there's a lot more things to do, if you feel happy to take the leap.

As I write this, I've just got back from the lovely OLL '22 Video Games Convention in Norwich, where we finally got to do our show, *WiFi Wars*, in front of a live audience for the first time in over two years. We've loved doing it online, but there's no substitute for a room full of people angrily screaming at *Pong*. As if that wasn't reward enough, I also had the opportunity to try some of comedian Stuart Ashen's mead – not a euphemism, though it couldn't possibly have tasted any worse if it was.

OLL had a distinctly retro vibe, whereas over in London at the same time was the distinctly more indie WASHD event making its debut at London's Tobacco Dock. Whilst this was its first

year, I gather it's been created/curated by many of the clever brains behind that venue's previous inhabitant, EGX Rezzed. I didn't manage to make it along as I was over in Norwich, but fellow Wireframe-r Aaron Potter confirmed there was fun aplenty.

Earlier in the week, the BAFTA Games Awards returned from two years of online shows to Queen Elizabeth Hall on London's South Bank. I was fortunate enough to get to work on the script for the show again, although my ability to get a Will Smith joke into the final draft was sadly vetoed.

My own personal grievances aside – it was a *really* good joke\* – what is no doubt the case is that people, on the whole, are being sensible and cautious. Attendance appeared to be down at these events compared to what it would have been before the lurgy times, people were choosing to stay away if they had symptoms, and those who were there seemed to be taking the opportunity to hang out in adjacent outdoor spaces whenever the chance arose. Thankfully, on this occasion the weather made this a treat rather than a nightmare, but a different forecast could have put a literal dampener on the vibe, and I wonder how things would have fared on a wetter week in terms of people leaving sooner.

One place that rarely needs to worry about the weather is California, which makes it all the stranger that, in contrast to everything I've just said, the decision has been made to not only cancel E3 online, but in person too. Perhaps it's the nature of the modern media landscape that makes it less appealing. We love getting our hands on retro tech or speaking with the small creative teams behind indie titles but, for the triple-A stuff, we can all 'gen up' online at our leisure. We don't need a gazillion-dollar festival for game trailers. Whereas, if I want to smell cosplayers, I've got to go to the source. 🗨

\* Following a video where a car breaks down: "Looks like the Oscars isn't the only awards ceremony with battery issues." Come on!



# Backend Contents

Reviews, retro games, and lots more besides

- 92. Tunic** PC, XB S/X, XBO
- 94. Abermore** PC
- 95. Janitor Bleeds** PC, XBO, XB S/X
- 96. NORCO** PC
- 97. Orbital Bullet** PC
- 98. LEGO Star Wars: The Skywalker Saga**  
PC, PS4, PS5, Switch, XB S/X, XBO
- 99. Sol Cresta** PC, PS4, Switch
- 100. Itch.io roundup** PC



▲ Page 92: Issue 5's cover game has been a long time coming, but was *Tunic* worth the wait?

## OUR SCORES

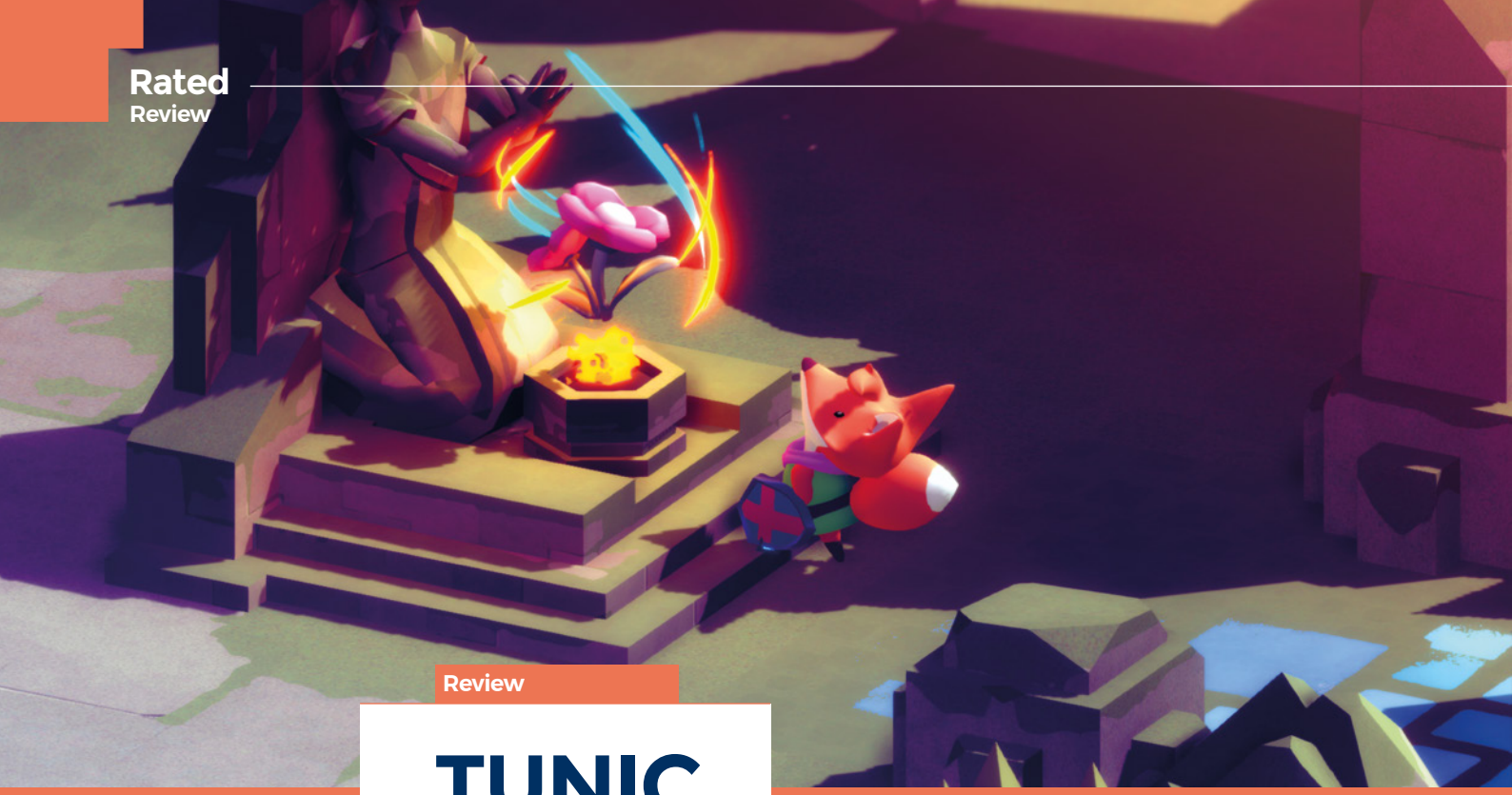
- 1-9**  
Trash. Unplayable; a broken mess.
- 10-19**  
A truly bad game, though not necessarily utterly broken.
- 20-29**  
Still awful, but at a push could be fun for two minutes.
- 30-39**  
Might have a redeeming feature, but otherwise very poor.
- 40-49**  
Adds in more redeeming features, but still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

## PLUS

- 101. Stream of Consciousness**  
Online gaming and fitness fanatic Tazziii dishes the details
- 102. The HOTLIST**  
Our pick of all the top PC games you can play right now
- 104. Backwards compatible**  
Modified hardware and modernised cult classics
- 108. Now playing**  
Ryan's attempt to save an ancient civilisation over and over again.



▲ Page 104: Ryan gives his Game Boy Advance a much-needed facelift, courtesy of RetroSix.



Review

# TUNIC

Manual transmission

Info

**GENRE**  
Zelda-like, action-adventure

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

**DEVELOPER**  
Andrew Shouldice

**PUBLISHER**  
Finji

**PRICE**  
£24.99

**RELEASE**  
Out now

**SOCIAL**  
@tunicgame

REVIEWED BY  
Alan Wen

**F**rom the moment you wake up on the beach of a mysterious island, *TUNIC* looks and feels like a dream, or perhaps more like déjà vu. The low-poly aesthetic, soft pastel colours, and serene music hints at a cosy time, though the comfort is also down to familiarity as the adorable little fox cub you're controlling evidently reminds you of someone else who sports a similarly iconic green tunic. Sure, the perspective may be isometric rather than top-down 2D, but you could be fooled that you're playing a lost bootlegged *Zelda* game, all the more so given this is not on a Nintendo platform (yet).

Those references are deliberate from solo developer Andrew Shouldice, although its similarities to the 2019 remake of *Link's Awakening* are arguably a coincidence. But this

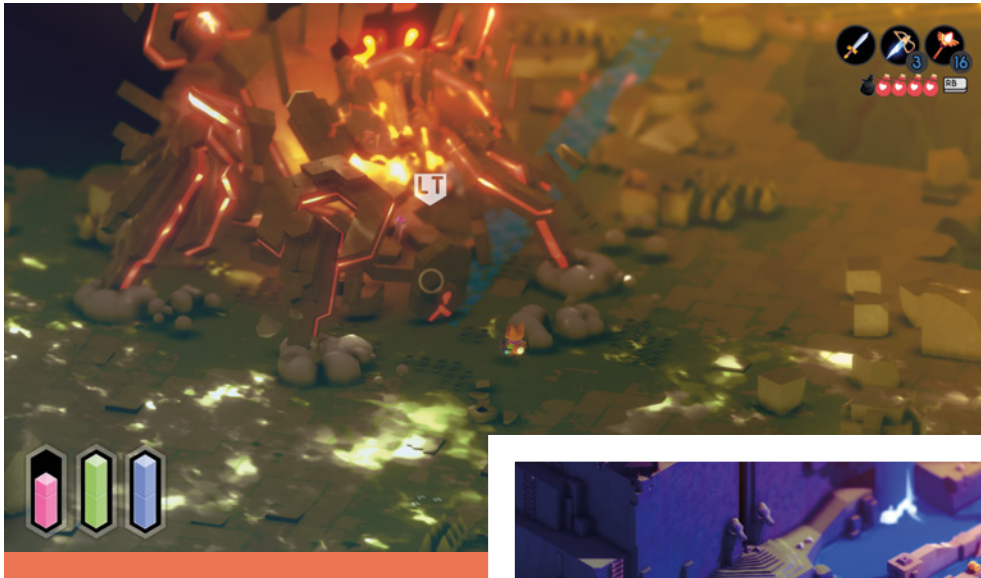
is also more than a cosplay, as the game reveals layers of depth under that soft, tilt-shift lens: something more hardcore that tests both your mind and mettle. I say reveal, except that would be a generous description of how *TUNIC* explains its world and its mechanics to you. In short, it's intentionally – some might say wilfully – cryptic, even using a glyph-like language for most of its text, though if you're lucky, you might come across the one translated word to give you a vague idea of what these trinkets you've amassed in your inventory do, or where you're meant to be going.

If you've ever played a classic *Zelda* game, you'll at least have an idea of what to expect. There are treasure chests to open, tools you can map to face buttons of your choice, and McGuffins to collect from challenging dungeons. However, there are also plenty of other items that might bring back hoarder syndrome, especially as you're given little inkling of what they do, which also intertwines with a whole upgrade system that the game is very hands-off about, making the normally esoteric FromSoftware seem comprehensible by comparison.

Yet figuring out *TUNIC* is as much a part of the game as playing it. Part of that comes from page fragments of the game's instruction manual, delightfully inspired by the ones for NES-era *Zelda* games, from illustrations of game mechanics and bosses to maps. These fragments don't come in page order either, with many you definitely can't find until later on, setting up a new mystery or



> Fictional languages can be a fine line between mysterious and obtuse. Fortunately, this page opts to make the basics clear in plain English.



- < Who doesn't love an underdog (or underfox?) story. Still, this fight seems a bit one-sided.
- > Telescopes let you zoom out to get the lay of the land a bit better, although you don't get to change the view.



teasing something else to anticipate (that each page is double-sided also means one side might only have filled in the gap for another half, only for the next side to allude to half of something else). It becomes more than just a reference guide, but its own clever, non-linear narrative.

While there's some fun in poking around the clues and meanings in the manual, navigating *TUNIC*'s world isn't always as effective. That's partly due to its isometric perspective, which sometimes means the fixed angle might obscure your view, or that it's not clear if certain platforms are the same accessible height. Although your cub appears as a silhouette when venturing behind walls, traversal can still be a bit of a nuisance, particularly because shortcuts are often hidden from view.

These may be intentional, much like the fake walls of *Souls* games, while NES-era *Zelda* had its share of secret rooms too, but there's an


inconsistency here, especially on the occasions when the camera does whip around to show you a different angle. Just trying to figure out the solution to opening the mysterious sealed doors in the game is enough of a challenge as it is.

Speaking of which, combat also leans more on the *Souls* side, from stamina management to clunkier movement, which might make *TUNIC* the most wholesome-looking Soulslike ever. It's more generous in some ways too, such as how you only drop a fraction of your currency and running doesn't take up stamina (on the flip side, you receive more damage when you're

knackered and the gauge is flashing an alarming red hue). Still, as a *Zelda*-like, the methodical clunkiness feels a bit ill-suited compared to a breezier arcade speed like *A Link to the Past* or last year's *Death's Door*. It can still feel satisfying in one-on-one encounters, such as learning the patterns of a gargantuan boss as you chip away at their health bar, but it becomes more of an

issue when tackling mobs and struggling with the targeting system (I found my shield wouldn't always block an incoming attack unless I was explicitly targeting

the enemy performing the action). Some enemies also scamper away just out of reach of your slashes, and while tools like a magic rod or hookshot can close the distance, you're restricted by a limited MP gauge, which you won't always have a means to recover.

Despite these quirks, it's hard to fault an incredible achievement that could have easily just coasted on nostalgia. *TUNIC* builds on those familiar foundations but adds a modern intertextual quality that rewards interrogation. It's the missing link that PC and Xbox players have been looking for. 

**“Figuring out *TUNIC* is as much a part of the game as playing it”**

**HIGHLIGHT**

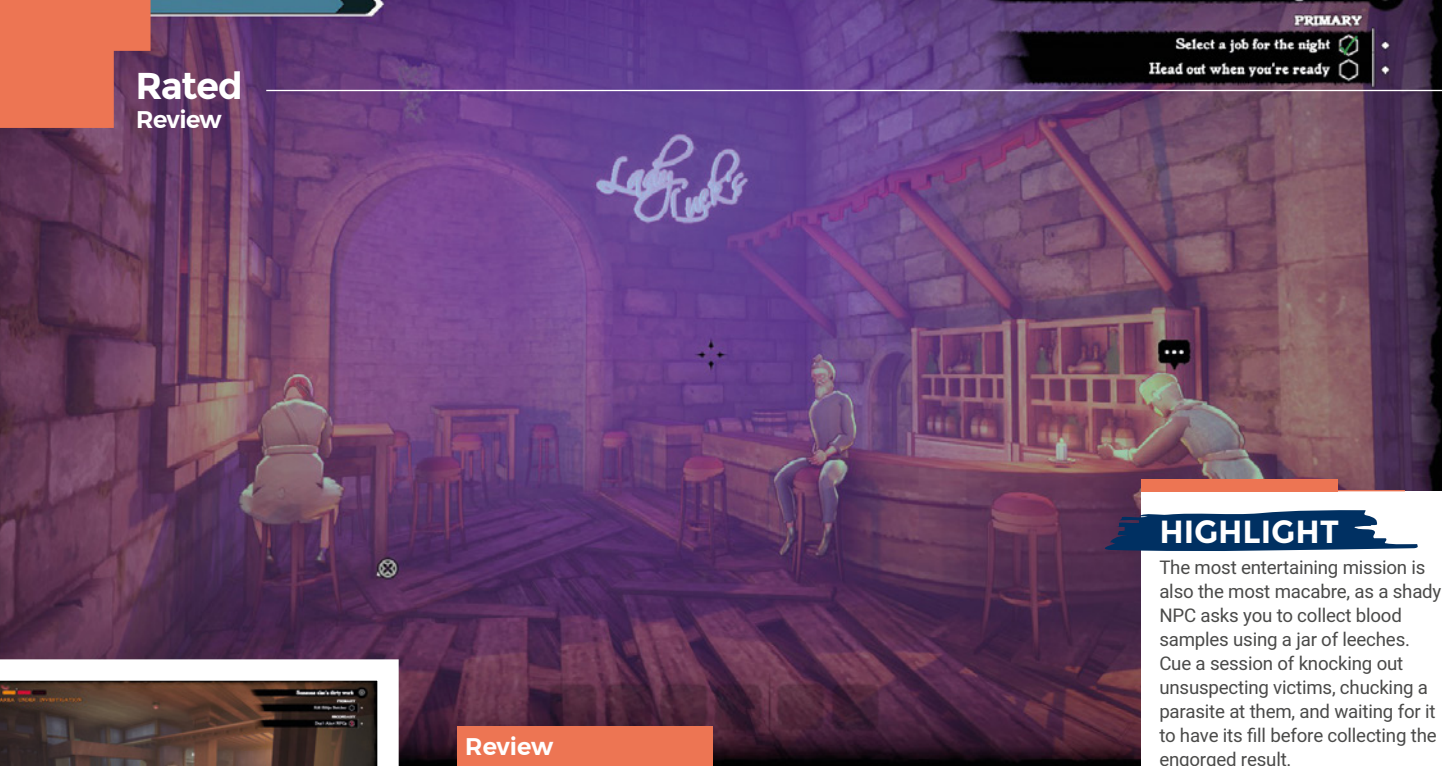
Accessibility options include an invincible 'No Fail' mode as well as the ability to turn off the stamina gauge. Whether this was a call from Shouldice or publisher Finji (who also published *Chicory*, another *Zelda*-like with a generous suite of accessibility options), it's likely more players will come in expecting a chilled vibe from *TUNIC*, rather than frequently hearing the cub's distressing death yelp.

**VERDICT**

**A charming and deceptively clever (if often obtuse) *Zelda*-like that's more than just a little tribute.**

**80%**

## Rated Review



### HIGHLIGHT

The most entertaining mission is also the most macabre, as a shady NPC asks you to collect blood samples using a jar of leeches. Cue a session of knocking out unsuspecting victims, chucking a parasite at them, and waiting for it to have its fill before collecting the engorged result.

Review

# Abermore

All your vases are belong to us

## Info

### GENRE

First-person stealth

### FORMAT

PC (tested)

### DEVELOPER

Four Circle Interactive

### PUBLISHER

Fireshine Games,  
Sold-out Software

### PRICE

£13.99

### RELEASE

Out now

### SOCIAL

@FourCircleInt

### REVIEWED BY

Jon Bailes

## VERDICT

A well-conceived plan that doesn't quite come together.

# 50%


It's a brave move for an indie studio to create a first-person immersive sim, with all the complex systems that entails. Especially, as in the case of *Abermore*, when its industrial-fantasy fiction seems intent on inviting comparisons with *Dishonored*. Four Circle Interactive (previously responsible for the slick *10 Second Ninja X*) perhaps deserves plaudits for giving it a shot, then, even if the result is a rather bumpy ride.

Your aim in *Abermore* is to sneak into the homes of the city's elite over 18 nights, completing favours and swiping trinkets to prepare for the daring rescue of your captured mentor. Before each mission, you chat with NPCs and visit dealers around town to learn of opportunities, gather side quests, and ready your supplies, then head off into the darkness to complete, hopefully, some perfect crimes. The greater your success, the easier you should find the finale.

The premise is compelling and provides much room for mischief once you get into the swing of things. While skulking around sprawling mansions, you might lure servants and residents into knock-out traps, or deploy enchanted tarot cards to, say, grant yourself a short spell of invisibility, or even turn a victim to stone. Staying in the shadows is paramount, of course, so you wind through vents and peer into keyholes, in your goal to pocket glowing trinkets. You'll also have a shopping list of requests to try and fulfil, such as collecting circuit boards from security

cameras, which force you to keep your eyes peeled and carefully manage inventory space.

Yet unfortunately, different objectives are the only real source of variety in *Abermore*. Map layouts are procedurally generated, but it barely matters and the décor and interactive components repeat, until it feels like you're robbing the same house over and over. Nor do you need to alter your tactics and equipment – a decent stock of tranquilliser darts and lockpicks should see you through most situations, providing you take care to stash bodies and unplug alarm systems along the way. The latter, in fact, is often the difference between swift failure and consequence-free bungling, thanks to some wonky AI. Should someone see you, they make a run for the nearest alarm switch, unleashing security systems that force you to abort and escape. If you've already disabled that switch, however, they stand frozen next to it, and nothing happens at all.

Other issues come from minor bugs (some larger problems have now been patched out) and a messy interface that makes your efforts unnecessarily awkward or confusing. Inventory management is fiddly, while tutorials and explanatory text miss out important steps – like how lockpicks actually function – or fail to log quests in useful detail. Combine all that with a plain visual style and wooden animation and it's enough to ensure that while *Abermore* can be enjoyable, it feels more like a promising prototype than a polished gem. 

HIGHLIGHT

While playing *Janitor*, your field of view is locked on the cabinet, meaning you can't turn around when you hear a sudden thud from behind or see a reflection moving on its screen. These moments, with your back exposed to the shifting darkness, are easily the tensest in the game.

▲ The arcade's parking lot is packed with cars. Oddly, there's no sign of their drivers.

Review

# Janitor Bleeds

Stranger pixels

**T**wo years after joined-at-the-hip anthologies *Haunted PS1 Demo Disc* and *Dread X Collection* coalesced into a rallying cry for horror developers, the popularity of their nostalgia-fuelled nightmares shows no signs of abating. An irresistible combination of moody, low-poly visuals and out-there concepts that would be summarily dismissed by any sensible higher-end studio, some of the ideas presented in nascent form therein have inspired longer, standalone versions by their creators. Such is the case of *Janitor Bleeds* (first appearing in the 2021 instalment of the former compilation), a game that, despite its title, features little gore but oozes atmosphere.

The titular caretaker isn't a person but the hottest new acquisition of a backwoods arcade, as revealed by a series of increasingly obsessive notes strewn around the abandoned venue we break into after a car accident leaves us stranded in the middle of nowhere. The exact location is indeterminate – think the outskirts of Everytown, USA – but the time we can surmise after discovering a fully functional cabinet locked away in a disused storage closet like some dirty secret. Judging by the primitive pixels on the blurry CRT screen, we're sometime in the early 1980s. The game itself is a fairly innocuous affair, tasking you with cleaning up a simple maze to unlock its next level. But after a short first session culminates in an encounter with an amorphous, vaguely threatening entity, the power goes out, something stirs on the other side of the blacked-

out neon cathedral, and an already odd situation takes a turn for the sinister.

Exploring the labyrinthine venue in first-person and effecting changes in that gloomy environment via our progress in the coin-op forms the crux of the *Janitor Bleeds* experience.

Barricades will be removed and doors unlocked as long as we keep feeding the hungry cabinet with quarters (found littering the establishment's grimy carpet or hidden among plastic ferns) and solving its rudimentary puzzles. It's a basic but effective premise elevated by appropriately glitchy visuals, signifying reality spilling over from one screen to another – not least the entity now prowling the darkened halls – and by the chilling leitmotif that somehow channels the chiptune “bloops” from a forgotten NES title and the theme of a lost John Carpenter movie simultaneously.

There's a nagging familiarity, the impression that we've seen these crude polygons and heard these ominous synths a few times too many that *Janitor Bleeds* only just manages to keep at bay on the strength of its excellent presentation.

What it doesn't avoid, though, is a certain tedium during the late game when it runs out of ideas and sends you round in circles, as if to stretch playing time to a respectable length, a flaw nowhere more apparent than an unnecessarily drawn-out sequence of false endings that turn a surprise mechanical twist into something of a chore. Not quite botching the landing, then, but proof that making a fascinating demo is one thing; sustaining its promise in a full-fledged game is quite another. 🗨

Info

**GENRE**  
First-/Third-person horror

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

**DEVELOPER**  
Korpus

**PUBLISHER**  
Bonus Stage Publishing

**PRICE**  
£10.99

**RELEASE**  
Out now

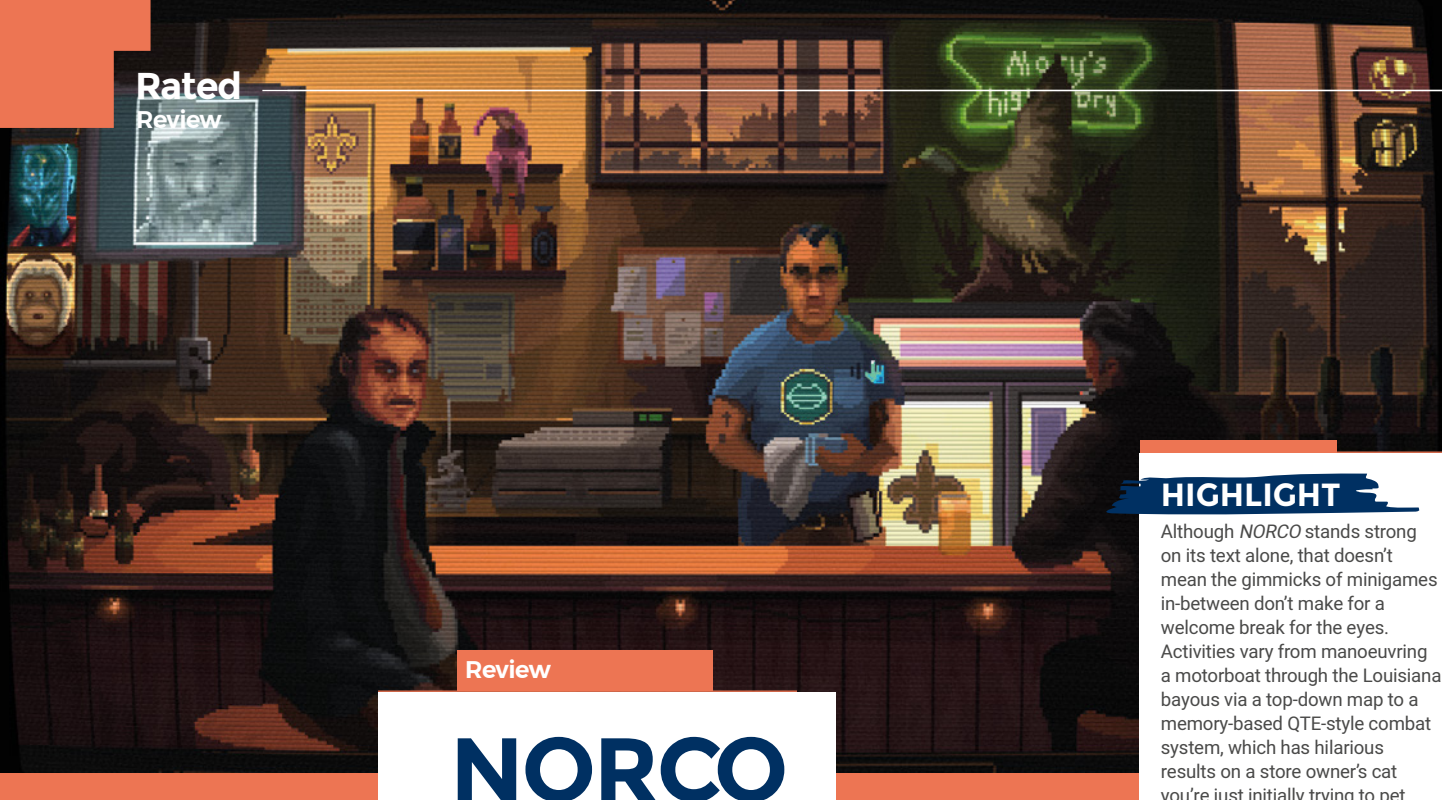
**REVIEWED BY**  
Alexander Chatziioannou

VERDICT

An atmospheric, if derivative and occasionally rambling, entry to the lo-fi horror canon.

57%

Rated  
Review



Review

# NORCO

Louisiana Route Zero

## HIGHLIGHT

Although *NORCO* stands strong on its text alone, that doesn't mean the gimmicks of minigames in-between don't make for a welcome break for the eyes. Activities vary from manoeuvring a motorboat through the Louisiana bayous via a top-down map to a memory-based QTE-style combat system, which has hilarious results on a store owner's cat you're just initially trying to pet.

▲ The gorgeous haunting pixel art perfectly captures both Norco and its multifaceted people.

## Info

### GENRE

Point-and-click adventure

### FORMAT

PC (tested)

### DEVELOPER

Geography of Robots

### PUBLISHER

Raw Fury

### PRICE

£11.39

### RELEASE

Out now

### SOCIAL

@roboticgeo

### REVIEWED BY

Alan Wen

## VERDICT

A sublime point-and-click adventure with this year's finest writing.

# 80%

**A**fter five years on the road, your rebellious runaway protagonist Kay returns to her oppressively bleak home following her mother's death from cancer. It might sound like the start of a noughties contemplative tragicomedy and all the feelings of returning to small-town life, but that couldn't be further from describing *NORCO*. It's not even a town – the real place it's based on in Louisiana has the depressing classification of a 'census-designated place', only this is set in a distant sci-fi future where memories are backed up on headsets while climate collapse and military juntas rage on in the background. It's still a story about a family reunion, albeit that being the goal, as you're trying to find your brother who went missing just before your arrival, which, in turn, has you investigating what your mother had been up to before her untimely demise.

It's a journey that takes you through Norco's run-down community and marshes in still life, its inhabitants rendered both abstract and unusual by the striking pixel art. But what really brings the place and people to life is the text, from the dreamlike poetry of the prose delivered in second-person to the distinct cadences of its characters with deeper dimensions than your average NPC, from fugitive androids to boozy detectives to a cult of young men dressed like store employees, embodying both online radicalisation and shopping mall capitalism.

It's all captured deftly by Geography of Robots' writer and designer Yuts who also grew up in Norco, riding on the lineage of Southern Gothic style, though this game's sense of magical realism also interweaves with cyberpunk, socio-political commentary, and a lengthy discussion about diarrhoea.

Which is to say that *NORCO* is far from the dour, serious narrative you might assume, shifting in tone as well as style. One particularly notable shift is when the game no longer has you merely speculating on what happened to

Catherine, Kay's mother, but instead puts you into her shoes a few weeks earlier. That change in perspective similarly comes with a change in mechanics

as she makes use of her smartphone for her investigations, from an AR app belonging to a weird cult to using the voice recorder to record dialogue to use as evidence.

There's little in the way of obtuse old-school point-and-click adventure puzzles – indeed some characters are perhaps too eager to provide hints – even though the moment-to-moment does feel more involved than, say, *Kentucky Route Zero*, as it playfully shifts with the form, including moments when you find yourself in an unlikely party-based RPG battle. I'm not entirely convinced its third act entirely works – certainly not if you were hoping for a tidy or upbeat conclusion. The journey in *NORCO* is fleeting, as if a dream, but what a journey it is, delivered with a sharp, distinct voice confronting the nightmares of our bleak future. 🗣️

## “Also interweaves a lengthy discussion about diarrhoea”





Rated Review

Review

# Orbital Bullet

## What goes around comes around


**O**rbital Bullet has you running in circles, but that's just fine. As a squat cyberpunk mercenary, you hunt killer robots around cylindrical towers, like skirting a giant oak tree, letting fly with bullets that follow the curve. Each stage of your oil-soaked, rogue-lite rampage is divided into bite-sized floors with a simple aim – destroy all machines. Fittingly, it's all very neatly executed. Squint a little, in fact, and you could almost be playing a Housemarque game. Sure, *Orbital Bullet* doesn't wield quite the same grade of bombast as *Nex Machina*, but the metallic shine of its chunky dystopia and the industrial bass in its soundtrack evoke that amped feel.

Control, too, is comparably slick. A double jump and dodge roll will stop you from getting boxed in, while guns are rapid and punchy. At times, the curved view causes visibility issues, like when you can't see enemies firing from over 90 degrees away, but mostly the rotating landscape is visually intuitive, and even when layouts are complicated with a second inner ring, hopping between them never breaks your flow.

It's a good job, because you need to stay on your toes against an array of homicidal machines whose attacks have a habit of combining to flesh-searing effect. Once you recognise their individual threats, the combat puzzle is about finding space, using platforms to gain height, and picking your shots, until the next biome introduces new antagonists that force you to adapt. Of course, there's more than one way to de-chrome a droid, and the weapons and skills you select along the way will affect your play style, especially when it

comes to range – choose from shotguns, sniper rifles, and everything in between.

*Orbital Bullet's* rogue-lite credentials are similarly well-considered, ticking all the expected 'metagame' boxes based on an initially bewildering array of upgrade currencies. Along with mid-run skill points and credits for shopping, you'll gather three further types to spend back at your home hub, unlocking new abilities for each character class, various starting boons, and more weapons (with the aid of blueprints you find in the field). Once it clicks into place, it makes for a balanced challenge. Potentially repetitive early stages melt in minutes and you inch into untamed territory with each attempt.

There's no denying, however, that we've seen all these systems before. There are lumps of *Dead Cells* and other rogue-lites in *Orbital Bullet*, and although developer SmokeStab has clearly picked the parts with care, they're still second-hand. The question, then, is whether it's enough to reuse them proficiently, while nailing the action fundamentals. If your answer's yes, then *Orbital Bullet* is well worth a spin. 

### HIGHLIGHT

Part way through the campaign you should unlock the Eternity Tower, an extra game mode that represents the *Orbital Bullet* experience at its most distilled. Trimming out the minor exploration element of the main game, you blast your way to the top of 50 floors or simply survive in Endless Mode as long as you can.

### Info

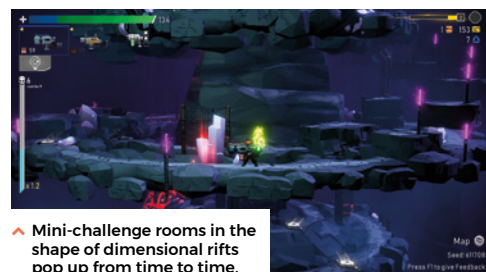
- GENRE**  
Rogue-lite platform shooter
- FORMAT**  
PC (tested)
- DEVELOPER**  
SmokeStab
- PUBLISHER**  
Assemble Entertainment
- PRICE**  
£24.99
- RELEASE**  
Out now
- SOCIAL**  
[@SmokeStab](#)

REVIEWED BY  
Jon Bailes

### VERDICT

A polished action rogue-lite that delivers where it counts.

# 74%



Mini-challenge rooms in the shape of dimensional rifts pop up from time to time.

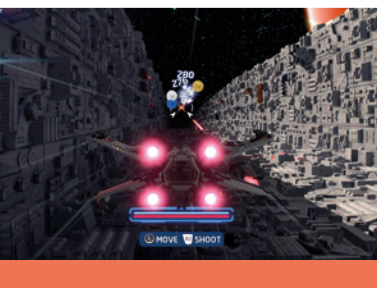

**HIGHLIGHT**

The voice cast features a good mixture of talent from both the movies and TV shows, with the likes of Anthony Daniels (episodes I-VII) and James Arnold Taylor (*The Clone Wars*) returning as C-3PO and Obi-Wan Kenobi, respectively. Liam Neeson as Qui-Gon Jinn is absent, but Harrison Ford's voice double is uncanny.

**Review**

# LEGO Star Wars: The Skywalker Saga

Bringing piece back to the galaxy


**Info**
**GENRE**

Action-adventure

**FORMAT**

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

**DEVELOPER**

Traveller's Tales,  
 TT Games

**PUBLISHER**

Warner Bros.  
 Interactive

**PRICE**

£49.99

**RELEASE**

Out now

**REVIEWED BY**  
 Aaron Potter

**VERDICT**

It's not just the LEGO bricks themselves that shine brighter than ever. The Force is strong in almost every aspect.

# 86%

**D**id you know that Tantive IV, Princess Leia's personal starship that Vader boards during *A New Hope's* opening scene, has a coffee machine in it?

In fact, it has several. And I should know because I've blasted most into bricks in my relentless search of studs – as I have several items in *LEGO Star Wars: The Skywalker Saga*. In some ways, it's a shame that TT Games has gone to great lengths to replicate the look and feel of such iconic locations, only for me to come along and destroy everything on sight. But then that's the mindset LEGO games have conditioned us into, and it remains a tactile joy even 17 years after the first series entry.

Much of the familiarity stops there, however, as the scope for this definitive, brick-ified translation of cinema's most famous sci-fi universe has been exponentially widened. No longer are you limited to exploring familiar scenes on a level-by-level basis, only to be spat back out into one generalised hub; now there are nine movies' worth of planets, ships, and environments to blast and build through. *The Skywalker Saga* is easily the most ambitious LEGO title ever, maintaining the basic franchise hallmarks while substantially iterating elsewhere to become the true leap forward this series desperately needed.

It starts by having you select the first episode in your favourite trilogy. Initially, you might think it disappointing that you can't immediately jump into, say, *The Last Jedi* or *The Rise of Skywalker* – both of which make their LEGO game debut

here – but it's done in the effort to maintain some semblance of cinematic coherence. Because while you've likely crossed lightsabers with Darth Maul or fought off Rathtars as Rey in *LEGO Star Wars* games before, you haven't done it quite like this. Each scenario has been reimagined from the ground up, placing you behind the shoulder of your favourite heroes to better immerse you within a toyetic galaxy far, far away, where freedom is encouraged.

Playing as non-Jedi heroes essentially transforms the game into a third-person shooter, with optional barriers that can be broken down and rebuilt for cover. Clashes between Jedi and Sith, meanwhile, no longer descend into button mashing thanks to the addition of combos, blocking, and dodging offering just enough depth to be considered thoughtful without fear of falling into overcomplexity. There are ten different classes in total that each of the 300+ unlockable characters fall into, all with their own RPG-like skill tree and enhanced abilities that offer more excuses to explore.

The return of online co-op would have been appreciated, true, but re-experiencing the Battle of Hoth, Invasion of Theed, and Ben Swolo's pecks in plastic brick form are still as enjoyable either alone or via local split-screen. All this is to say that *The Skywalker Saga* celebrates *Star Wars* to a degree that few other games given the licence ever have. Regardless of your preferred era, this is the funniest, boldest, and most detailed a LEGO game has been. A must-play for any fan. 🗿

Review

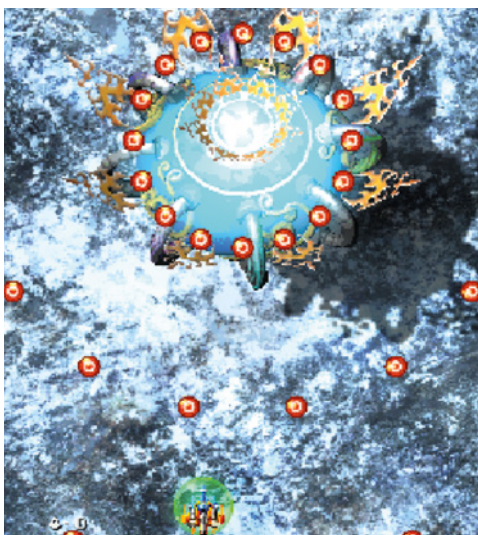
# Sol Cresta

Fun in the sun

Let's start with the most glaring issue first: *Sol Cresta* looks positively hideous. Fiddle with graphics settings all you like, it'll essentially look the same: 2D elements like your score and bullets descend into a smeary mess, while 3D objects like enemy ships and tumbling asteroids shimmer beneath some kind of faux CRT effect.

Thankfully, there's more to *Sol Cresta* than its iffy looks. Reviving a 1980s series few are likely to have heard of outside Japan, PlatinumGames has crafted a thrilling vertical shooter here. Harking back to an era before the humble shoot-'em-up was consumed by barrages of complex bullet patterns and tiny hitboxes, *Sol Cresta's* challenge lies in the speed of its enemies and the manifold possibilities of its weapons system.

Running at full power, you control three ships that can be undocked and repositioned in different configurations, with each formation boasting its own attack. Taking down enemies or collecting coins and medals fills up a gauge, which at full charge allows you to unleash a stronger attack unique to each configuration: this writer's favourite is a gigantic crimson laser that cuts through just about anything in your path. But then you may find the yellow attack – a stubby, pointy laser that trades range for power – handy for close encounters, while the blue attack's homing missiles mean you can keep



## HIGHLIGHT

*Sol Cresta* sounds far better than it looks, thanks to a typically driving soundtrack by veteran composer, Yuzo Koshiro. His energetic beats and triumphant melodies are the perfect accompaniment to the silky-smooth action.

Switching formations feels tricky at first, but soon becomes second nature.

pummeling an area boss even as you're fleeing from the lasers it's spitting out in your direction.

It's the perfectly judged balance between simple thrills and complexity that reminds you that *Sol Cresta's* co-director is Hideki Kamiya, the mind behind such games as *Bayonetta* and *The Wonderful 101*. As well as the charged attacks listed above, there are also attacks you can use by collecting the relevant power-ups, before triggering them by moving your ships into the correct formation – these range from three-way lasers to a gigantic Phoenix capable of clearing the screen in a burst of flame. Couple this with certain enemies that are killed more efficiently by shooting them with the correct coloured weapon, and power-ups that improve your shield and speed, and you have a retro shooter with a surprising, borderline intimidating level of depth.

*Sol Cresta* is also refreshingly accessible, though: the weapons system may seem overwhelming to newcomers and some of the area bosses put up a real fight, but your ships can take a lot of damage before they blow up. Those looking for a less punishing experience can lower the difficulty level too, which makes mastering all those formation attacks less pivotal to survival. After just a few minutes in *Sol Cresta's* company, the ugliness of its presentation is soon swept away by a surge of lasers and adrenaline. By fusing the immediacy of 1980s shooters with the flexibility of a modern brawler, Kamiya has created one of the most absorbing new 2D shooters we've played in years. 🎮

## Info

**GENRE**  
Shoot-'em-up

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

**DEVELOPER**  
PlatinumGames

**PUBLISHER**  
PlatinumGames

**PRICE**  
£30.99

**RELEASE**  
Out now

**SOCIAL**  
@platinumgames

REVIEWED BY  
Ryan Lambie

## VERDICT

A traditional 2D shooter with truly modern levels of depth in its scoring and weapons system.

83%

Why not try...

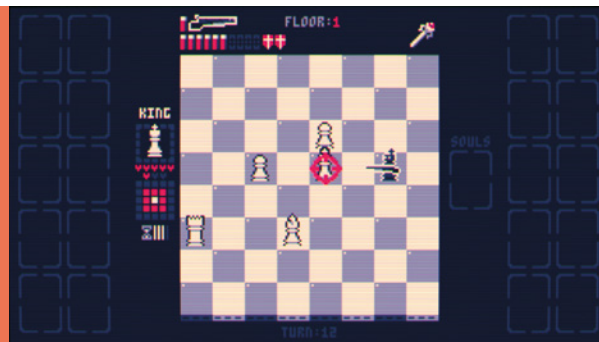
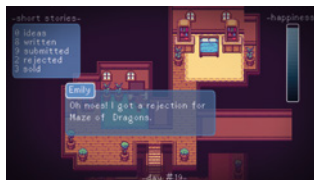
# Itch.io roundup

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

## Bad Writer

Riddle Fox Games / \$3.99 / [wfmag.cc/bad-writer](http://wfmag.cc/bad-writer)

A sweet little rumination on motivation, creativity, and support, packaged as a stamina-management sim. You play as the recently laid-off Emily, who decides to grow daffodils from dirt and pursue her dreams as an author of short stories. To write, you'll need inspiration, which can quickly lead to distraction if, for example, you accidentally down three pots of coffee and clean the whole house instead of doing research. The goal: just succeed in a notoriously fickle industry without getting demotivated by near-constant rejections! Truly the *Dark Souls* of LitSims.



## Shotgun King: The Final Checkmate

PUNKCAKE Délicieux / Free / [wfmag.cc/shotgun-king](http://wfmag.cc/shotgun-king)

It's chess, with a shotgun! Sort of. This Ludum Dare 50 entry is best described as a chess-themed roguelike that obeys some classic movement rules, but still takes liberties with upgrades, shields, ammo collection, and the like. They're all fine additions. This is too satisfying and cleverly designed to write off as a parody. Finally, the lazy devs of the highly overrated chess have given us a sequel.



## RiPiT HOOK

△ / \$1 / [wfmag.cc/ripit](http://wfmag.cc/ripit)

Described by the devs/curators as a "100% experimental physical custom pop-art asset, using a ready-made restored original pinball machine", it's no surprise this somewhat playable, audio-visual experiment in game curation is a pain to even navigate through. However, neither this, nor the fact the developer uses a pretentious triangle symbol as a pseudonym, is enough to stop me recommending you part with a dollar to poke around in here, if you've got any interest in melted vaporwave visuals or bizarre passion projects, or Disney's *Captain Hook*.

## Ghost in the Washing Machine

foxdogstudios / Free / [wfmag.cc/washing](http://wfmag.cc/washing)

A frankly captivating ode to working class heroism, cleverly disguised as a disorientating, mundane but moreish occupation sim presented like a Chris Morris anti-sketch. Rapidly press keys to repair washing machines, level up, and move on to bigger and better things, all of which are also washing machines. Manages to evoke both the drudgery of experiencing literally anything as an English person, and also, strangely enough, *Silent Hill 2*. 🐞

This month's bonus game is *Anatidaephobia: Out of Milk* ([wfmag.cc/out-of-milk](http://wfmag.cc/out-of-milk)). I have no words, but I'm a better man for having played it.

# ▶ STREAM OF CONSCIOUSNESS

Streamer, podcaster, and fitness enthusiast  
**Tanya “Tazziii” Ellen** talks her gaming past

### What’s your favourite game of all time?

Picking a favourite game is so difficult! There’s so many great games out there and so many I’ve played. How do I choose one favourite? And what makes a game a favourite? Fondest childhood memories, most fun with friends, most compelling story, time spent playing, a game I go back to? For the sake of satisfying others with an answer, I can just say *The Legend of Zelda: The Wind Waker* as it’s definitely a game I have a special relationship with.

### And what is it specifically about that game that chimes with you so much?

The GameCube was my first console. As a younger sibling, consoles were always shared, often being player two or getting little time to play myself. *The Wind Waker* was a game I had a lot of fun completing – and I actually did complete it.

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

I grew up playing games so there isn’t a single game that got me into gaming that I remember, just a blur of early memories and accounts from my family. I played a lot of children’s PC games like this one game, *Adiboo*. I remember playing games like *Sonic 2* on Sega Mega Drive and *Mario* on SNES. One time I tried to play *Resident Evil* on PSone, which was mixed up with my games. I was way too young and now I am NOT a fan of horror games. I learned my lesson.

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

Yup, in my early 20s I felt I just didn’t have the time. It’s actually one of the reasons I wanted to stream. I wanted time playing games to be more than just playing games.



### For you, what’s the appeal of regularly streaming to a mass audience?

So many reasons make me want to stream! I’ve always enjoyed being on camera. Just like gaming, it’s always been a part of my life. You should have seen the video calls, streams, and videos me and my best friend used to do in our teens. One time we left the camera running while we waited for pizza to arrive. It was so funny, though, and really cringe. When I started, I wanted people to talk to about the [single-player] games I played and find people to play multiplayer games with. It was also a great way for me to not feel guilty for spending too much time playing video games on my own. 🗣️

To watch Tazziii stream on Twitch, go to [wfmag.cc/twitchtazziii](https://wfmag.cc/twitchtazziii) or find her on YouTube at [wfmag.cc/YTtazziii](https://wfmag.cc/YTtazziii).

“I’ve always enjoyed being on camera. Just like gaming, it’s always been part of my life”

# The Wireframe **HOTLIST**

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



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

- Elden Ring** / Bandai Namco / **95%** (Issue 61)
- Assassin's Creed Odyssey** / Ubisoft / **93%** (Issue 1)
- Yakuza: Like a Dragon** / Ryu Ga Gotoku Studio / **90%** (Issue 45)
- Amnesia: Rebirth** / Frictional Games / **87%** (Issue 46)
- Death's Door** / Acid Nerve / **87%** (Issue 55)
- The Last Campfire** / Hello Games / **86%** (Issue 47)
- Resident Evil 2** / Capcom / **86%** (Issue 7)
- Journey to the Savage Planet** / Typhoon Studios / **84%** (Issue 33)
- The Outer Worlds** / Obsidian Entertainment / **84%** (Issue 28)
- Eastward** / Pixpil / **84%** (Issue 57)

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

- Hades** / Supergiant Games / **94%** (Issue 44)
- They Are Billions** / Numantian Games / **88%** (Issue 20)
- Sekiro: Shadows Die Twice** / FromSoftware / **87%** (Issue 11)
- Streets of Rage 4** / DotEmu/Lizardcube/Guard Crush / **86%** (Issue 40)
- Trials of Fire** / Whatboy Games / **84%** (Issue 50)
- Katamari Damacy REROLL** / Monkeycraft / **84%** (Issue 4)
- Spelunky 2** / Mossmouth / **83%** (Issue 44)
- Hitman 2** / IO Interactive / **82%** (Issue 3)
- Alba: A Wildlife Adventure** / ustwo Games / **82%** (Issue 46)
- Slay the Spire** / Mega Crit Games / **81%** (Issue 45)

## The games for... **SOLID STORY TIMES**

- Disco Elysium** / ZA/UM / **94%** (Issue 28)
- Life is Strange: True Colors** / Deck Nine / **89%** (Issue 57)
- Mutazione** / Die Gute Fabrik / **86%** (Issue 26)
- Whispers of a Machine**  
/ Clifftop Games/Faravid Interactive / **85%** (Issue 14)
- The Forgotten City** / Modern Storyteller / **85%** (Issue 55)
- Mythic Ocean** / Paralune / **84%** (Issue 36)
- Sunless Skies** / Failbetter Games / **83%** (Issue 7)
- Arise: A Simple Story** / Piccolo Studio / **82%** (Issue 31)
- Assemble with Care** / ustwo Games / **81%** (Issue 27)
- The Walking Dead: The Final Season**  
/ Telltale Games/Skybound Games / **81%** (Issue 11)



## The games for... **FIRING UP BRAIN CELLS**

- Telling Lies** / Sam Barlow / **92%** (Issue 24)
- Kentucky Route Zero** / Cardboard Computer / **90%** (Issue 33)
- Slipways** / Beetlewing / **90%** (Issue 53)
- Total War: Warhammer III**  
/ Creative Assembly/Feral Interactive / **87%** (Issue 60)
- Heaven's Vault** / inkle / **89%** (Issue 12)
- The Pedestrian** / Skookum Arts / **84%** (Issue 35)
- 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)

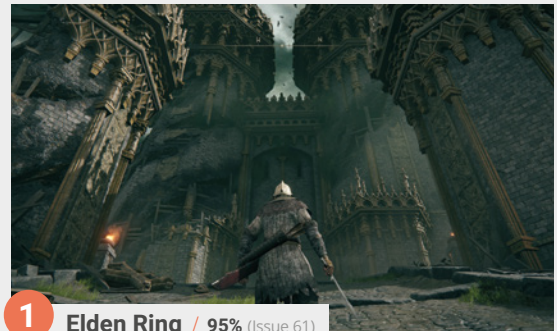
**Witcheye** / *Moon Kid* / **86%** (Issue 30)

**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 RYAN LAMBIE

## A clear winner

Not everyone has the time, patience, or inclination to pick up a soldering iron and start tinkering around with an old console. Still, there are an increasing number of options available to people who want to modify their old hardware without having to worry about things like flux or capacitors (or indeed flux capacitors). One of the simplest yet most effective mods you can do to an ageing system is simply replace its shell and buttons; for the past few months, for example, I've had a tired-looking Game Boy Advance sitting in a drawer. Its shell is scratched and dull, its buttons discoloured from years of use. But by rehousing its innards in a shiny new exterior, it'll immediately look like a new piece of hardware again – and all I need are a couple of screwdrivers, some

patience – oh, and some heat. I'll get back to the heat in a minute.

Handily, those lovely folks at RetroSix ([retrosix.co.uk](http://retrosix.co.uk)) sent us a couple of its latest products to sample. First, there's its new-fangled Crystal Clear GBA shell, available in shades of blue, red, black, or clear (I opted for the natty blue one). Then there's its Elite Brass buttons – a replacement set of A, B, and direction buttons made out of solid metal. The latter aren't cheap at £18, but they look smart and, as I'd later discover, add a pleasing extra touch of weight to the handheld once installed.

Again, switching shells isn't a difficult task. All you'll need are a Y0 tri-wing screwdriver and a PH00 cross-wing screwdriver to disassemble everything. There are only one or two areas that might catch out the unwary.

✓ The GBA, now in its spotless new home. The brass buttons add a touch of glamour, and feel quite nice under the thumbs, too.



▲ My existing Game Boy Advance: scuffed, tired, and with some curious yellowing around the speaker.

First, you'll have to take care when removing the GBA's motherboard and screen from the old shell. After removing the two cross-head screws holding the motherboard in place, you'll need to carefully disconnect the screen's ribbon cable, which is held in place by two plastic bales. With the motherboard out of the way, you'll then need to gently prize the screen from the shell – it's held in place with adhesive, so it'll need a bit of coaxing before it lifts away from the plastic. Once freed, the screen guard (a kind of rubber gasket) surrounding the screen should still be sticky enough to be affixed to the new shell. If it isn't, you can buy new screen guards from places like RetroSix.

Next there's the Game Boy Advance's glass lens; you could simply buy a new one since they're relatively affordable (RetroSix sells them for £3.98). But if you want to reuse an existing one, they can be quite difficult to remove from the GBA's shell since they're bonded in place with some fairly heavy-duty adhesive. If you try to







prize the lens off with a knife, as I've seen some people suggest online, you'll likely find that the glass will simply shatter.

This is where heat comes in handy; I used a hot air rework station dialled to a fairly low setting, but a hairdryer would likely work just as well.

After gently heating up the edges of the lens and the shell for a few minutes, and teasing at the corner with a small flat-bladed screwdriver, I was able to gradually soften the glue and ease the glass away from the shell without damaging it. You'll need to keep the air gun (or hairdryer) moving to avoid applying too much heat, but you should find that the lens will come away cleanly without any harm. Again, I found there was enough adhesive still on the lens to affix it to my shiny new GBA shell.

Reassembly isn't particularly tricky, though you may find that the shoulder buttons have a tendency to flip themselves

out of the shell as you clip the two halves back together. Patience and a steady hand are all that's needed here.

A couple of minutes and a handful of screws later, and my Game Boy Advance is successfully rehoused. And – as you can see from the images dotted around these words – the results are pretty impressive. The clear blue shell evokes that early 2000s period where see-through iMacs were all the rage, while the brass buttons add an eye-catching bit of bling.



## Just Kidding

About five years ago, Sega fan Ian Wall, better known online as ian8bit, put out a physical release of *Alex Kidd in Miracle World 2* – his unofficial sequel to the Master System platformer. Made in limited quantities, copies soon became scarce, predictably leading to some ridiculous asking prices on eBay. If you missed out the first time, there's good news: Wall's now selling a new 2022 edition of the game, which again comes in an authentic-looking box with a cartridge and poster. There's even a Game Gear port available if you're after a handheld version and don't want to play the Master System cartridge through a converter for some reason.

Essentially a ROM hack, *Alex Kidd in Miracle World 2* offers more of the first game's 8-bit action: there are bikes to ride and enemies to punch, while Wall's solidly designed levels are filled with secrets and hidden bonuses. In essence, this is a glimpse of what might have been in an alternate reality: while Sega published several sequels to *Alex Kidd*, none of them followed quite the same formula, and one (*Alex Kidd: High-Tech World*) was itself a ROM hack of an entirely unrelated game called *Anmitsu Hime*.

You can play *Alex Kidd in Miracle World 2* via an emulator right now by downloading the freely available ROM from [wfmag.cc/alexkidd2](http://wfmag.cc/alexkidd2). If you like things in boxes and fancy treating yourself to a physical copy, though, you can email the manufacturer directly at [mmmrevolution@gmail.com](mailto:mmmrevolution@gmail.com) for shipping prices to your region.

# Backwards compatible

WRITTEN BY AARON POTTER

## Reanimating the dead

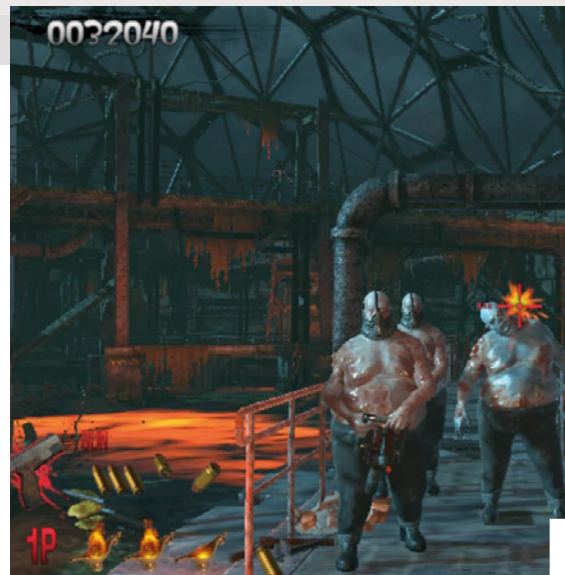
*Time Crisis. Point Blank. The House of the Dead.* These three lightgun games were arcade royalty when I was growing up, with the latter, in particular, scaring the living bejeebers out of me every time I passed by it; this was much to the dismay of my mum, who only sent me off to get a quid's worth of coinage for the 2p machines. Sega's ghoulish rail shooter from 1996 now rears its undead head back into the conversation by way of a Nintendo Switch exclusive remake. And, well, it's all rather cheesy, isn't it? Not that there's anything wrong with gunning it past cowering men in white coats, muscular flesh-eaters, and literal bat men in a bid to rescue the girl. I encourage it, even. It's just taken me 20-odd years to realise how fine a line there is between spooky and hammy. *Hammy House of the Dead.* That's what this remake could have been called.

This is a series that's never garnered much critical acclaim per se, but that hasn't stopped publisher Forever Entertainment from deciding that the game-playing

populace deserves to indulge in a bite of nineties horror nostalgia... as a treat. That leads us to today, where *The House of the Dead: Remake* is indeed real and released, very much staying true to the spirit of the original – right down to the words “Hold your fire” flashing in the lower-left during cutscenes, and some deceptively silent zombies primed to slash the screen each time the camera turns a corner. The visuals have been entirely overhauled, although I wouldn't quite go so far as to say modernised. But it's good to see that the game's schlocky tone has been maintained.

Blasting through the titular mansion sees memories of seaside piers, noisy slot machines, and being constantly bled of coins all come back to me. Of course, the beauty of *The House of the Dead* returning to home consoles is that you no longer have to remortgage your home in order to see the gruesome adventure of Agents Thomas Rogan and “G” through to the end. Quick reaction times are still required to minimise the number of hits you can afford to take, true, but no less than three new difficulty modes makes the overall challenge – and experience in general – feel much less cheap.

I don't envy the task Forever Entertainment took on with this remake. Going in and touching up any cherished title for the modern age always requires a delicate hand. Doubly so for a game like this, where the runtime comes in at well under an hour for the average player. Four chapters is all you get in *The House of the Dead's* story mode. And in that time, you'll venture from castle courtyard to underground science lab, running through it just once before it becomes a matter of score chasing. Knowing the weak points



of each boss enemy and creature type will help rack up the points somewhat. Even then, though, you're always better off aiming for the hand rather than the head, as it's bound to be holding something sinister (and sharp) when thrown.

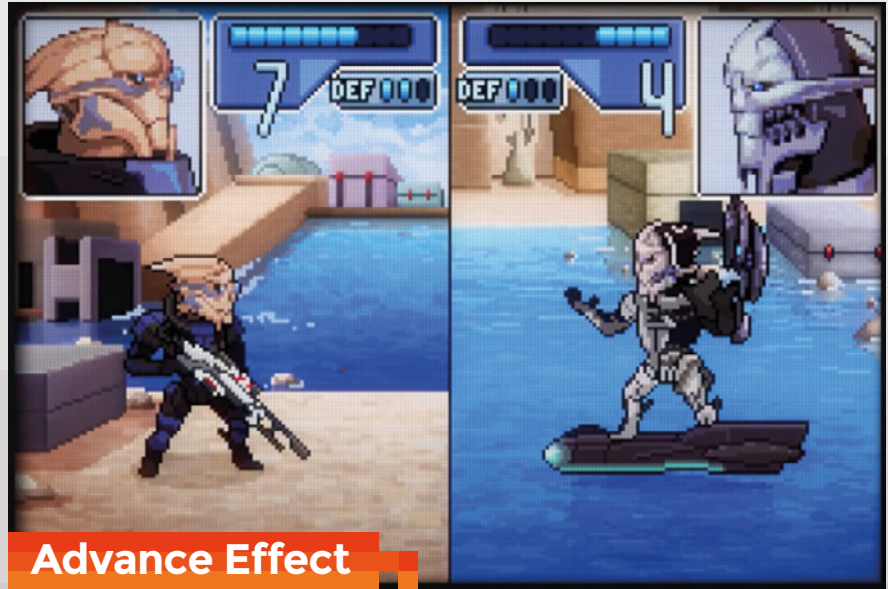
Where *The House of the Dead Remake* does unfortunately slip over its own guts somewhat is in the control setup. You'd think that the detachable Joy-Con would be a perfect means to replicate the original arcade experience. However, gyro-aiming on Switch isn't as accurate as a good old-fashion lightgun, as it happens. I lost count of how many times my Pro controller failed to register slight turn gestures, and recentring the reticle back to the middle of the screen with a frequent button tap isn't ideal. It's still better than using the left stick to aim, but I never could get the sensitivity to my liking when playing handheld.

As a piece of gaming history brought back from the dead, re-animated to be





enjoyed by a fresh audience, *The House of the Dead Remake* is an intriguing if hokey arcade artefact. There's not really enough difference here (aside from a horde mode and step up in visuals) to warrant a return trip for series stalwarts, and new players will likely be left scratching their heads at what to do next when credits roll after 45 minutes of play. For me personally? It feels good to finally conquer a childhood fear in blitzing, B-movie fashion. I only wish I could do so with a proper lightgun in hand, rather than an inefficient imitation.



Hypothetical video game 'demakes' are a trend I'm constantly fascinated by. Not just because it's fun to imagine what a modern experience would look like if it was rendered in pixels rather than polygons, but because it's further evidence that at the heart of every beloved game is a great idea, not just great graphics. YouTube channel 64 Bits recently cemented this belief by reimagining BioWare's seminal 2007 space opera *Mass Effect* as a GBA title from the early 2000s. Crewmates like Liara, Wrex, Tali, and even Commander Shepard are all chibified, with combat playing out *Advance Wars*-style from a top-down view. In other words... a tactics spin-off I never knew I needed.

Only in the last issue did I wax lyrical about how Game Boy Advance throwbacks and homages were starting to bubble up in popularity, heaping

praise on the straightforward yet still satisfyingly wholesome presentation and design of Super Rare's *Grapple Dog*. Long may this continue, I say. Even if it means we only get to fawn over a theoretical *Advance Effect* that presumably exists somewhere in an alternate universe.

At least we'll always have GBA Garrus' little legs to remind us of what could have been. Take a closer look here: [wfmag.cc/GBA-Effect](http://wfmag.cc/GBA-Effect).





## Let's go round again

With the lightest of spoilers, Ryan goes loopy for the time-hopping adventure, *The Forgotten City*

**T**he bottle sits on a table in the marketplace, practically begging me to nick it. If this were *Alice in Wonderland*, the bottle would probably have a label with “Steal me” written on it. But still, I hesitate: in the strange underground city I've found myself in, my choices have deadly consequences for everyone else. If one person sins, everyone is mercilessly hunted down by living statues, shot with arrows, and turned into lumps of solid gold.

But then I ponder on why I'm thinking about pilfering the bottle in the first place: there's a desperately ill woman in the city who needs the medicine contained in it. The problem is, the guy who owns the bottle, a scheming merchant named Desius, wants to sell it for a cripplingly exorbitant sum. So if I steal the jar of medicine and save a woman's life, isn't that justified? Does it even count as a sin at all?

As I grab the bottle from the table, though, I soon learn the answer, as a voice booms from the sky, “The many shall suffer for the sins of the one”, and suddenly, everyone's being shot with arrows and turned into screaming figurines.

Fortunately, I have an escape route: located in a shrine at the top of the city is a portal which takes me back to the start of the day. It's here that *The Forgotten City* teaches me one of its key rules: anything I've collected (or flat-out stolen) on the previous loop will still be in my inventory on the next. This means I can take my pilfered medicine to the woman in the marketplace, cure her malady, and Desius will be none the wiser.

This is the earliest of many logical and ethical conundrums that *The Forgotten City* presented to me during my eight-hour-plus playthrough. Yours will likely be different, since Modern Storyteller's game is an ingeniously intricate, miniature sandbox of interlocking mysteries





you're left to uncover for yourself. There's the question of how you wound up in this subterranean Roman enclave, some 2000 years in the past; for that matter, it's a wonder how its *other* inhabitants wound up down here, or who even built the city in the first place. And what kind of cruel deity would create The Golden Rule – the constant threat of divine punishment that leaves everyone around you terrified of committing even the most mundane of sins?

Fortunately, the citizens of *The Forgotten City* are a talkative bunch, which almost threatens to be off-putting at first. Your questions are often met with incredibly lengthy replies, delivered directly down the virtual lens by a slightly glassy-eyed character model. It's a testament to the strength of writing, really, that *The Forgotten City's* characters are so lively and distinct – within a loop or two, I'd become engrossed in the personal woes of Galerius, the guileless farmer who becomes your helper of sorts; Duli, a hapless thief; or Iulia and Ulpius, a couple stricken by slavery and debt.

By this point, it became clear that *The Forgotten City's* chattiness is the opposite of a drawback: I found myself wanting to talk to the 20-or-so citizens milling around the crumbling metropolis, not just to solve puzzles and progress through the game, but also because I was genuinely interested in finding out more about the people themselves.

It helps that so much of *The Forgotten City* is perfectly judged. There are enough characters and interweaving story threads to keep you

scratching your head, but not so many that you're left feeling lost or overwhelmed. It soon becomes clear that your fate is closely bound up with everyone else's; if you're going to break the time loop, then you'll also have to help others break out of their own personal hells.

There are only one or two occasions where the game falters; I'd somehow missed (or perhaps forgotten) one tiny sliver of dialogue, which meant I failed to understand what was ailing another character, which in turn meant I spent several loops fruitlessly asking different questions in an effort to work out what to do next. There are also one or two brilliant moments of horror that give way to an action sequence that outstays its welcome.

These are minor sins, however, when weighed against the whole. On a philosophical level, *The Forgotten City* exposes the fault line between laws and morality; for example, why is stealing considered an unbreakable rule, but price gouging isn't? Most would agree that murder's a Bad Thing, but what about killing in self-defence?

*The Forgotten City's* biggest triumph, though, is its characters. It was only when I reached the last (and best) of four possible endings that it dawned on me just how attached I'd become to its group of chatty misfits. I was left smiling at the people whose lives I'd improved, and saddened about the handful of threads I'd failed to resolve. But that's the beauty of a well-crafted time-loop game: it's always possible to turn back the clock. Time to head back into the portal to see what else I can fix? Sure, why not. 🗨

**“Exposes the fault line between laws and morality”**

## Wireframe Recommends



### Flower, Sun, and Rain NINTENDO DS, PS2

A lesser-known game from Suda51 (*No More Heroes*), this time-looping adventure suffers from some iffy graphics and gameplay, but its quirky story – about a bomb plot on a picturesque island – keeps things fresh. Can we get a version for Switch, please?



### Minit

PC, PS4, XBO, SWITCH, ANDROID, IOS

Picking up a cursed sword leaves you stuck in the same 60-second time loop; like *The Forgotten City*, though, you get to keep all the items you find in your race against time. Packed with charm and funny dialogue, this 2D adventure is an immaculately crafted gem.



### Outer Wilds

PC, XBO, PS4, SWITCH

Another time-looping opus, *Outer Wilds* is a mix of big ideas and tiny details. Your goal is to unlock the secrets of a dying solar system, but your ship looks like a dustbin and bounces off planets like a pachinko ball. An instant classic.



## Third strike's the charm

Aaron recharges his beam katana for a return trip to Santa Destroy in *No More Heroes 3*

**C**alling Travis Touchdown video gaming's biggest loser seems a little harsh, even if it is apt. After all, this is a slouch that's worked his way up through a rogue's gallery's worth of cartoonish villains not once, not twice, but three times now. And if third time really is the charm, then *No More Heroes 3* most definitely sees this loveable deadbeat go out on something of a high.

I say this as someone who enjoyed the original two slash-'em-ups back on the Wii a lot, even if Suda51's ambitious scope vastly dwarfed the technical ability of Nintendo's pre-HD console. So here I am, revisiting Santa Destroy ten years later once again and oh, environmental pop-in is still this city's single defining feature, huh? At least there's plenty of bosses to carve up – and now they come from outer space.

In some ways it shouldn't be a surprise to see Suda51 look to the stars when seeking inspiration for Travis Touchdown's big bad this time around. This is an underdog series that has made a name for itself by ratcheting up the stakes, pitting you against increasingly outlandish foes each time, and now the bounds of reality are slipped entirely when an alien army commanded by the menace FU suddenly decides to swoop down and destroy humanity. So up Travis gets from his toilet, beam katana in hand, ready to do what he does best.

The use of motion controls might not be as keenly encouraged as it was back in the Wii days, but the act of slashing, dodging, and repeatedly beating opponents feels just as tactile here on the Nintendo Switch. That Y button truly does get a workout during Travis' effort to move upwards





through the intergalactic rankings, but it's just a tad more forgiving here thanks to the new Death Glove abilities. Using these, Travis can throw extra-terrestrial minions around like rag dolls, flinging them from one side of the arena to the other using a psychokinetic push, only to then teleport-kick them into oblivion. What *No More Heroes* lacks in visual flair it clearly makes up for in the rugged style and panache Suda51 is known for. It helps elevate what would otherwise be the best ever 6/10 third-person action game, and little else.


Back to the aliens, then, and the first foe I come up against is a fellow called Mr. Blackhole, and as his name might suggest, he's rather fond of laying down portal traps.

Turns out they're easy to avoid providing I have Travis move quick on his feet, dancing around them until Mr. Blackhole takes a dive only to let me wail on him. I do this six or seven times before the screen whirls black, and suddenly Travis is trapped in the vastness of space. It's only the first boss and already we've entered interstellar territory? Suda51 isn't pulling any punches. Anyway, before I know it, I've transformed into a mech and sent Mr. Blackhole into the void from whence he came.

I'm pleased to report that all nine other boss battles are equally as bonkers, with some of my favourites being the fakeouts. A great example of this is the eighth encounter, where Travis is supposed to face-off against Black Night Direction (are we noticing a theme?) before he's swiftly done away with a Gray Fox-looking wannabe known as Native Dancer. We both showed up for a fight, though, gosh darn it, and a fight we had. What's being asked of me never really

changes; it's just a standard mixture of light and heavy sword attacks shaken up with the odd Death Glove ability thrown in. Rather, it's the crazy scenarios themselves that help keep things interesting, with *No More Heroes 3* using the enemy's intergalactic origins as a way to surprise via leftfield environments and some seriously psychedelic battle sequences.

I'm not sure that players without context for Travis' previous boss-bashing exploits would get as much of a kick out of, er, kicking the crap out of enemies on this scale. We've come a long way from dodging Dr. Peace's gunfire in a baseball stadium. It makes you think about what Suda51 could potentially accomplish if he wasn't limited by the console *No More Heroes* is still tied to. Because while fighting your way up to the mighty FU can be a blast, Travis's third outing doesn't wow that much in any of its open-world elements. True, Santa Destroy is now made up of multiple areas this time instead of the one, but all six – as visually diverse as they may be – suffer from barren landscapes, monotonous side jobs, and a general lack of life. One could argue that this is the point, though my suspicion is that Suda51 chose to focus more where it counts: on the set piece brawls.

By the time the end credits roll, it's these bombastic, unpredictable encounters that stay with me. All the times I was forced to mow the lawn or hunt down shiny scorpions (just to build up enough funds to compete) fall away, and I'm left feeling proud that Travis has accomplished his goal for the third and (surely?) final time. *No More Heroes 3* might not be the most polished open-world actioner, true, yet there's a sense that it's exactly the sort of send-off Suda51 wanted to make. This threequel is scrappy and imperfect, just like the wannabe hero at the centre of it all. 

**“Up Travis gets from his toilet, beam katana in hand”**



## Wireframe Recommends



### Assassin's Creed The Ezio Collection

PC, SWITCH, XBO, PS4  
It may have originally released in 2009, but *Assassin's Creed II* is still an impressively realised open-world title – also now available on Nintendo Switch. Less pop-in than Santa Destroy, too.



### LEGO City: Undercover

PC, SWITCH, XBO, PS4, WII U  
TT Games' first attempt at an original open-world LEGO game is also its last, but playing cops and robbers as police officer Chase McCain is pure brick-based fun.



### Saints Row IV: Re-Elected

SWITCH, XBO, PS4  
If ever there was an open-world actioner equally as bonkers as Travis' latest slash-fest, it's the one where you're kidnapped by aliens and forced to fight in a VR metropolis.



# Gradius

Celebrating the birth and incredible half-life  
of the Konami Code

KONAMI / 1986 / NES

**F**or proof that humans are absolutely useless at keeping secrets, just look at the Konami Code. A series of inputs that yielded things like power-ups or extra lives depending on the game, the Konami Code has grown into a pop cultural touchstone that has appeared in all kinds of unexpected places. You've probably even seen T-shirts with the symbols for Up, Up, Down, Down, Left, Right, Left, Right, B, A, Start on them.

That's quite a lot of fame for a cheat that was never meant to publicly exist in the first place. You may be familiar with the origin story: back in the mid-1980s, programmer Kazuhisa Hashimoto was given the task of porting the arcade hit *Gradius* to the Nintendo Entertainment System (or its Japanese counterpart, the Family Computer). Hashimoto found the game incredibly hard, and decided to put in a cheat code that gave him a full suite of power-ups. "I hadn't played it that much and couldn't beat it myself, so I put in the Konami Code," Hashimoto recalled in a 2003 interview published by Siliconera. "Because I was the one who was going to be using it, I made sure it was easy to remember."

Porting *Gradius* took Hashimoto and his team of three co-developers around six months – long enough for Hashimoto to forget about removing his cheat from the finished game code. By the time the cartridges were produced and in shops, it was too late: the cheat was out in the wild, waiting to be discovered.

It's worth pausing here to ask exactly how the Konami Code was seemingly forgotten about in the first place. For the

answer, we can turn back to that 2003 interview: Hashimoto describes a chaotic and fast-paced working environment at Konami in the mid-eighties, where the most experienced programmers worked on arcade titles, while "the employees who didn't know a thing about programming or game creation were put into the custody of a single 'teacher' who would teach them all to program as they went along".

With small teams of young designers developing games in a matter of months, and staff often sharing roles – "originally there really wasn't anybody exclusively in charge of planning; we'd bring material over from the arcade games and have a sort of duel of ideas", Hashimoto recalled – it's easy to see how something small like a cheat code could slip through the net.

It's more difficult to know when the Konami Code first became public knowledge, but word of it clearly spread quickly around Konami's offices. The NES version of *Contra*,

released less than a year after *Gradius* and programmed by Shigeharu Umezaki, became the second game to feature the Konami Code. And, thanks in no small part to its popularity in the US, it was *Contra*, and not *Gradius*, that became most closely associated with Hashimoto's hidden cheat.

From there, the code evidently became a kind of in-joke among Konami's programmers, since it appeared in many of the company's games in the years that followed. What the Konami code did varied from game to game: in *Contra* and several subsequent titles, it granted the player 30 lives; in

**"It's possible that the  
iconic sequence of  
presses will outlive us all"**





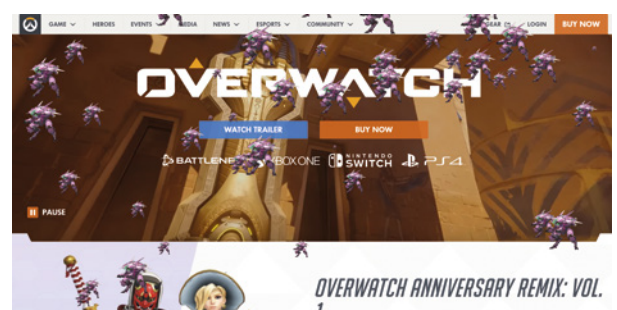
most *Gradius* sequels and spin-offs, it activated power-ups. Interestingly, the Konami Code didn't appear in the first three *Castlevania* titles created for the NES, suggesting that the teams behind those games were less interested in continuing the tradition. The 1990 comedy spin-off *Kid Dracula*, meanwhile, had the code built in, but using it simply triggered a message that translated to "There's nothing here" in English.

The Konami Code's fame only grew through the nineties, though, as it showed up in later Konami franchises like *Dance Dance Revolution* and *Metal Gear Solid*. By the 2000s, it had even begun to appear in games produced by other studios: *The Bard's Tale*, *LittleBigPlanet 2*, *BioShock Infinite*, and *Just Cause 4* are a few of the high-profile titles that used the Konami Code as an Easter egg.

Hashimoto passed away in 2020, leaving behind a small but important body of work: besides *Gradius*, he worked on hit Konami games *Ganbare Goemon* and *Lethal Enforcers*. His most lasting legacy, though, is undoubtedly the code he accidentally gave the world over a quarter of a century ago. Indeed, it's possible that the now iconic sequence of button presses will outlive us all: when the human race finally goes extinct, maybe passing alien visitors will stumble across the remains of a Konami Code T-shirt left billowing among the debris of a forgotten city, and wonder why this arcane collection of symbols meant so much to us. 🤖

## The Konami Code in the wild

Programmers the world over have clearly enjoyed slipping the Konami Code into all sorts of random places. Repeat it to virtual assistants like Alexa and Siri, and you'll probably be greeted with an amusingly nerdy response ("Super Alexa mode activated..."). Type it into *Overwatch's* website, and you'll see a smattering of D.Va mechs trickle down the screen. Perhaps the weirdest venue we've heard of, though, is the Bank of Canada's website. Head to a page advertising a commemorative \$10 banknote and type in the Konami Code, and you'll unlock a rainfall of dollar bills and a warbling version of the Canadian national anthem. Try it for yourself at [wfmag.cc/canada-code](http://wfmag.cc/canada-code).



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