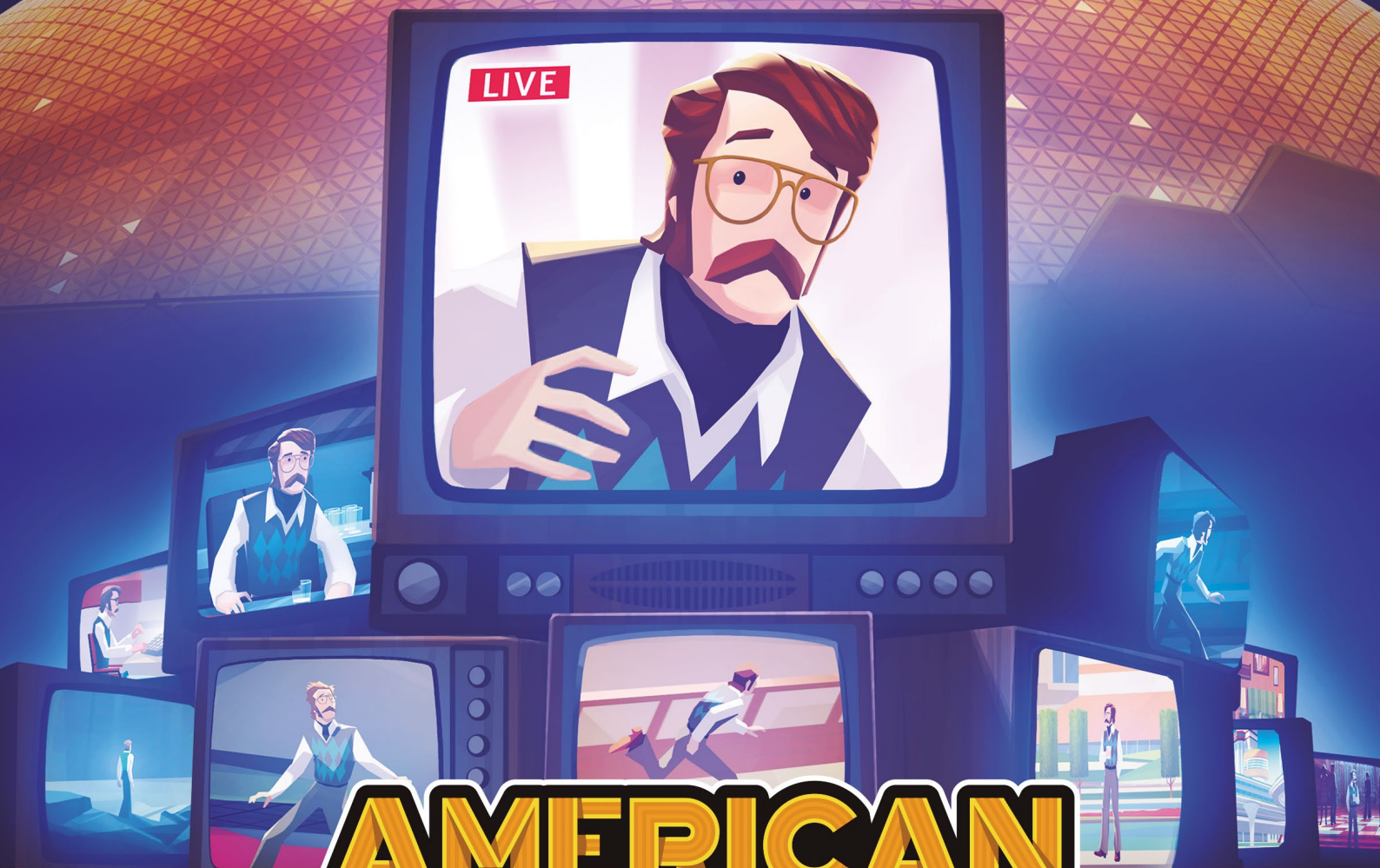


Wireframe

LIFTING THE LID ON VIDEO GAMES



AMERICAN ARCADIA

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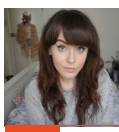


Dystopian games revel in the power of choice – or the illusion of it

When there are no more rules to break, what kind of person will you become? It's the question at the heart of every dystopia – each a highly politicised space, existing at the extremity of either authoritarian control or total societal collapse. There's really little room for neutrality in a zombie apocalypse and cyberpunk technofuture. We must all make our choice, with only our own moral compass to guide us. In *Fallout 4*, nuclear war leaves behind a parched and radiated Earth in which its few survivors must lay their claim, by any means necessary. The Institute, and its synthetic humanoids, promises a better world, but at what cost? Or would you be willing to sacrifice the most important thing in your life in order to ensure humanity can carve out its own path?

Gaming has increasingly used the concept of dystopia to explore how choice and consequence not only determine an individual's story, but can shape the fate of an entire society. *Dishonored's* 'chaos' system allows you to craft your own flavour of revolution within the bounds of the plague-ridden, steampunk citadels of Dunwall and Karnaca. If you deal in death, then death will haunt your steps. As pests fill the streets, you amass a power great enough to, in *Dishonored 2*, potentially take the throne for yourself. But if you're merciful, you will be remembered as a hero, and the world will start to build itself around your vision. In *BioShock*, you can harvest the Little Sisters, each a corrupted child, for the ADAM which powers your abilities. If you spare them, you're promised only undefined rewards somewhere down the line.

Dishonored and *BioShock* both use their gameplay mechanics as a form of ultimate temptation – it's objectively more fun to unleash hordes of rats and flies to devour your foes, or shoot fireballs from your fingers, but what must you give up in return? Your soul? Academic Miguel Sicart argued that these types of choices don't constitute genuine, ethical tests, since a player's decision to pursue High Chaos or harvest Little Sisters can be solely driven by the in-game benefits offered to them. I'm not sure I agree. Acting a little



CLARISSA LOUGHREY

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

trigger-happy in a video game is hardly an indication of real-life villainy (and I'm as guilty of it as the rest of us), but choosing to further one's own personal progress is still a moral choice – albeit one taken in an entirely safe and consequence-free zone. Games allow us to test the boundaries of our values without causing material harm.

That said, the evidence does suggest gamers tend to impose personal morality on their avatars. Critic Amanda Lange, in 2014, surveyed 1000 players and found that, on average, they leant towards "good choices" in their first playthrough, but were more likely to explore darker options during a second replay. That certainly reflects my own habits. The heroic path is the primary, and 'correct' one. But I always like to see what happens if I were to blaze through as a full-blown megalomaniac. And isn't that what the fictional dystopia offers us? We can gaze into the crystal ball and see what lies ahead if we continue to prioritise our own selfishness. *Detroit: Become Human*, which follows an uprising of sentient androids, pushes players to more deeply consider the ripple effects of their actions through an on-screen flow chart. There are 99 different endings in total, each promising a different dream of a possible future.

But, consider this: our choices are inevitably limited to what a programmer can predict and code. *BioShock*, famously, integrated that flaw into the heart of its story. The player, Jack, is revealed to have no free will at all – he's merely acting out, through the trigger phrase "Would you kindly?", the commands of a wealthy industrialist named Fontaine. As Andrew Ryan, the founder of the subaquatic dystopia of Rapture, might say: "A man chooses. A slave obeys." The irony is that this promise of ultimate freedom, as drawn from the objectivist philosophy of Ayn Rand, is merely an illusion. The rich and powerful, like Fontaine, can only ever triumph through the exploitation and compliance of the masses. These dystopian games, whatever their specifics, speak to some of our greatest insecurities about what lies ahead: how much do our actions impact the world around us? Or are we, ultimately, powerless against those who control our destinies? 🤖

#70



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FAREWELL...

Crikey, this is harder to write than I thought it would be. In fact, I've deleted several versions of this editorial before finally settling on the one you're reading here, and look – I'm still waffling without getting to the actual point.

Long story short: this is the final edition of Wireframe in its printed form. Yes, after 70 issues, over four years, and copious cups of coffee, a confluence of factors mean it's time to wind the magazine to a close.

A big thank you, first of all, to everybody who's helped us make Wireframe what it is. From our amazing contributors to our designers to our sharp-eyed sub-editors, there have been all kinds of talented, clever people helping to make every edition a polished gem.

Then there's Eben and Liz Upton: a big, heartfelt thanks to them for being brave enough to launch a games magazine in the 21st century.

An equally big thanks goes to you, gentle reader, for supporting the magazine in all its forms. Whether you've brought a paper edition or downloaded a PDF, you've played a pivotal role in helping us explore all that's creative, original, and downright unusual in the world of video games.

Hopefully, this final edition will serve as a distilled version of that Wireframe spirit, from quirky climbing games to Mega Drive developers to tutorials.

So one last time: enjoy the new issue! It's been a blast.

Ryan Lambie
Editor



The sun always shines on TV

Out of the Blue Games reveals how it changed channels to make American Arcadia, a 2.5D side-scroller, first-person puzzler hybrid that plays on the paranoia of questioning your own reality



More than just a useful parental tool to get kids in bed at a reasonable hour, the old adage “watch too much TV and you’ll get square eyes” also has a degree of truth to it. Particularly in the case of reality shows, where viewers who get drawn in are constantly being blindsided by the producers, editors, and script doctors who chop it up in the edit, doing their best to fool the audience into thinking that a world they know deep down to be false is somehow genuine. Or worse, perfect.

Someone who isn’t fooled, however, is Trevor Hills, one of the ordinary-seeming stars at the centre of Earth’s most-watched TV show: *American Arcadia*. At first this seventies-inspired

metropolis looks like the perfect utopia in which to make a life, but after learning that the cost of dropping in viewer popularity ratings is death, Trevor changes plans and decides to break free from the capitalist fantasy. Luckily, he has outside help in the form of Angela, a sleeper agent of sorts also trying to dismantle the show from within. Only by working together, advising each other through a healthy mix of 2.5D platforming and first-person investigation, can they hope to succeed.

To find out more about this two-character approach, how it affects gameplay, and the fabricated world both are intent on taking down, we caught up with various members of the *American Arcadia* development team at Out of the Blue Games... ➔

Life on the small screen

By the time we catch up with Trevor in *American Arcadia*, the show is enjoying its 55th season. The lives of its inhabitants are being broadcast 24/7, 365 days a year, with most happy to thoughtlessly indulge in the mundane. But after nine years working an office job and seeing his best friend Gus mysteriously “win a vacation” and retire, Trevor’s routine no longer proves popular with viewers, triggering a bombastic series of events that will see him sneak, run, and chase his way through various set pieces. Such a premise allows *Out of the Blue* to create the perfect 1970s-inspired reality before continually breaking it.

^ Angela’s phone allows her to perform all sorts of useful hacks, such as switching off cameras.

How did you land on the idea of blending the worlds of reality TV and surveillance for your next game project?

Tatiana Delgado Yunquera (Creative director): We were just brainstorming ideas for a game after *Call of the Sea*. We wanted to do something different from scratch, and we came up with a few things that we wanted to make a game about. Two ideas were really strong: the ‘escaping from a dystopia’ theme, which is a kind of story that we all love in *Out of the Blue Games*, and the 1970s setting, which we believed is not that exploited in games and we really find appealing. So we can say that in the end, *American Arcadia* was born after combining both of these concepts.

Do you find people’s comparison between *American Arcadia* and 1999’s *The Truman Show* frustrating, or is it actually quite flattering?

Manuel Fernández-Truchaud (Producer): We find it quite flattering, since *The Truman Show* is a masterpiece, and one of the main inspirations for the game. But there are

many differences between *American Arcadia* and *The Truman Show*, despite both being set in a televised utopia. While Truman always felt trapped with his mundane life and couldn’t wait to leave his hometown, Trevor actually enjoys living in Arcadia. The problem is that in a show with many unknowing prisoners, a mundane ordinary life is not good *American Arcadia* material, so he’s forced to escape due to his low audience ratings.

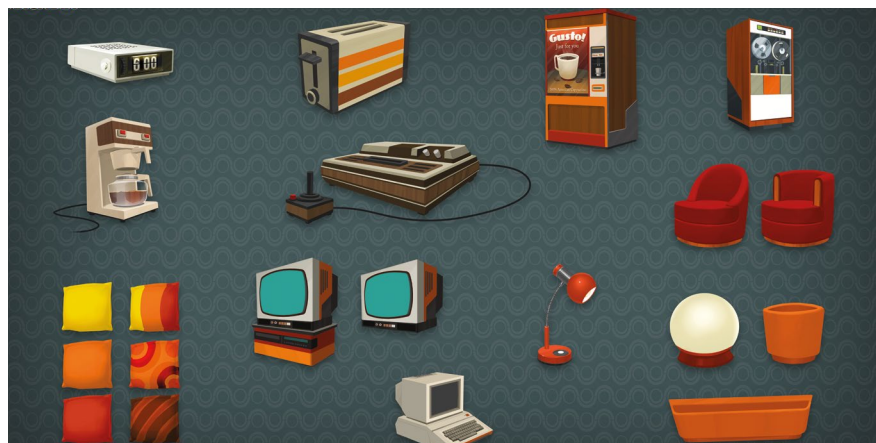
Did you always know that *Arcadia* as a city would riff on a retro-futurist theme, and are there any other examples you turned to for inspiration?

TDY: The retro-futuristic aesthetic came at the same time as the ‘escape from utopia’ theme because we felt that it was really compelling to build a completely fake world and explore it from inside and outside. It’s very enriching for the player not only to understand how Arcadia works, but also how the ‘real world’ where Arcadia exists functions. Besides that, the retro-futurist theme also allowed us to tweak the city to fit our gameplay needs. As long as the retro part is there, we can have almost any futuristic device we need. Drones? Electric vehicles? You name it.

About inspirations, we have plenty. Of course, it all started with the classic ‘escape from dystopia’ movies and books, such as *Logan’s Run*, *THX 1138*, and *The Prisoner*. But we have been influenced by some more modern works, such as *The Island* and *The Truman Show*. We were also inspired by *The Fugitive*, and *Black Mirror* episodes were a huge inspiration for the darker version of today’s society – that is the world where Angela lives.

v Playing as Angela means aiding Trevor from the behind-the-scenes production offices however you can – including sneaky investigation.

✓ The inhabitants of Arcadia can be found roaming in all sorts of retro-futurist attire.



▲ Out of the Blue is committed to grounding you in the seventies aesthetic using era-accurate product designs.

Was it a challenge to affectionately capture that 1970s-style period aesthetic from a game design and presentation perspective?

Daniel Nombela López (Art director):

The truth is that many of the team members were born and raised during the 1970s, so there was no need to go that far when looking for inspiration and visual references. Most of us already carry them within our memories. On one side is the television medium. Many of the television programmes, shows, contests, etc. that we watched in our childhood are present in some way or another in *American Arcadia*.

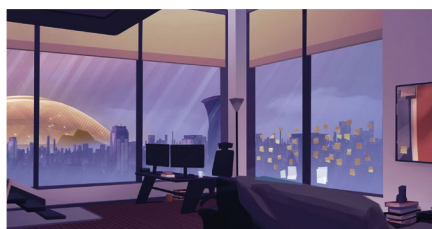
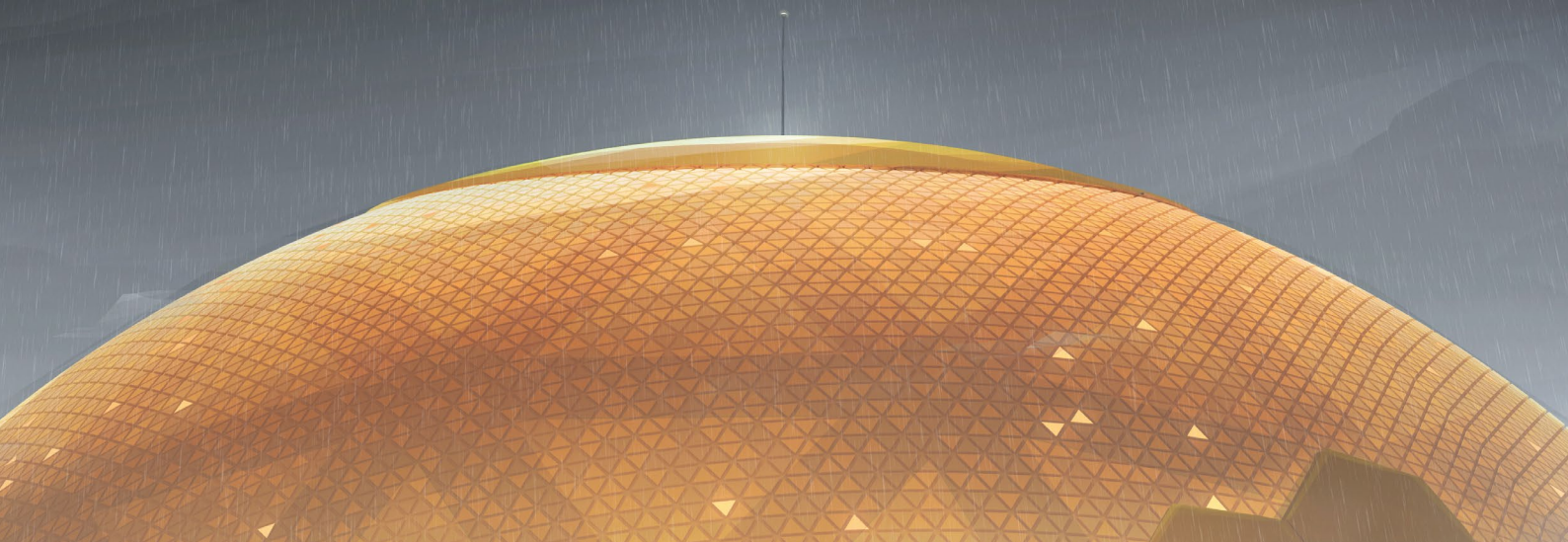
We also had other visual references in our own homes and in the clothes worn by our parents, friends, relatives, and ourselves. The design of the furniture, the colour of the walls, the wide-collared shirts, the bell-bottom pants. And without forgetting the hairstyles, the moustaches, the sideburns... all of this is relatively familiar to us.

But as in *Call of the Sea*, we wanted to move in a world that was evocative for us. That's why we like to give them a twist, and in this case we have chosen to push it to the limit, so the characters, the environments, [and] even the furniture represent this kitsch and super-amped version of the seventies.

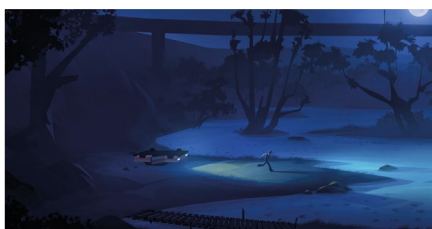
On the other hand, *American Arcadia* has allowed us to recreate [that period] but in a very idealised way. Actually, it is rather a more or less utopian vision of how we would have imagined the future since that time. Not just from a futuristic perspective, either. We have also incorporated a [few] of the things that we would have liked to enjoy at that time but lacked then.

I imagine it's a lot of fun to create this fictionalised 'utopia', but then also intentionally break it at points, too.

TDY: Any game where a fictional world has to be developed from scratch represents a challenge: we have to define its own set of rules and constrictions. That, of course, might lead to plot holes or contradictions. But in the 'escape from' genre, those problems might be turned into advantages, because someone has actually figured it out and managed to break them or escape, so most 'break points' come naturally, and we were creating Arcadia. ▶



▲ Out of the Blue changes up the colour palette to cooler blues for the outside world locations.



▲ Trevor's adventure also takes him outside Arcadia's typical colourful bounds.



▲ Between the two gameplay types, *American Arcadia* cuts to documentary-style sequences.

Can you explain a bit more about how the 2.5D platforming and first-person puzzle sequences will complement each other? Does one directly affect – or even influence – the other?

Álvaro González Pérez (Lead game designer): One of the most interesting gameplay aspects of *American Arcadia* is how different the two main characters are. Trevor is an introvert, a calm individual, while Angela is more daring, chaotic, and idealistic. So we tried to translate their personalities and set them in the complete opposite gameplay, just to increase the game's tension.

Following that principle, Trevor's escape will be full of action, chases, and physical efforts – things that really take him out of his comfort zone. Even Trevor's puzzles will be more affected by timing, quick-thinking, and, of course, cooperation with Angela, who will be helping him through her control of CCTV devices.

The same happens with Angela's gameplay. Being more chaotic, she'll be faced with challenges where she'll need to explore, move stealthily, hack devices, and use her deductive skills to solve puzzles.

Of course, the influence of Angela's actions affects Trevor, but Trevor's actions

will also affect Angela. We don't want to give too much away yet.

Was there ever a point during development where you saw *American Arcadia* as a co-op experience, or has it always been a single-player-driven game?

AGP: *American Arcadia* was always conceived as a single-player game. Being a small studio, we always try to approach development with a realistic scope. Developing two completely different gameplay styles in the same game was a challenge enough, and even if a co-op experience could be an interesting gameplay experience, that would require an insane amount of work. That's why we have focused on a single-player experience. That is something we know we can work on to provide a nice polished experience.

How much will players get to learn about Trevor and Angela as people the more the story progresses, and what is their relationship like?

TDY: While *Call of the Sea*, our first game, was about understanding and love, *American Arcadia* is a game about friendship and cooperation between

individuals. Something that nowadays we are forgetting in favour of individualism and self-branding.

Both Arcadia and the real world are extremely individualistic worlds, where ego is everything. Everybody is a brand. But Trevor isn't. And as the game progresses, we discover through Angela's eyes that Trevor is much more than a boring average guy, so their initial need for each other (Trevor needs Angela to escape, and Angela needs to get Trevor out to accomplish her mission) ends up in a strong friendship bond that develops throughout the game.

So, in short, we could say that *American Arcadia's* motto is that cooperation is the winning strategy.

You've recruited an amazing cast for *American Arcadia*. How important was it for you to find the correct voices for Trevor, Angela, and others?

TDY: It was such an amazing experience to work with Cissy Jones and Yuri Lowenthal in *Call of the Sea*. After we released the game, we understood how talented voice actors in a game brings [it] to new heights and makes it shine. So obviously, we wanted to work again with both of them, as well as Regi Davis, who had a really short role in *Call of*

- Certain areas of Arcadia lean into the Art Deco aesthetic to offer a sense of oppressive grandeur.
- ◀ In a true *The Truman Show*-style twist, the city of Arcadia is also encased within a large dome.
- ▼ It wouldn't be a 1970s vision of the future without low-hanging lights or extremely curvy sofas.



▲ From the inside, Arcadia replicates the look and feel of retro-futurist metropolises seen in other forms of sci-fi media.

the Sea, so we created a specific character in *American Arcadia* just for him.

Then, of course, we had Angela, who is Latina and bilingual. We knew that to portray a bilingual character we needed a bilingual actress, and then we got in contact with Krizia Bajos, and she is nailing it.

We also decided to do ensemble recordings (via Skype) because we felt that there is a great chemistry between the actors, and we wanted to make sure that chemistry got to the game. Ensemble recordings are a challenge, but the result is amazing.

You mention that the story will be presented “as a documentary” in addition to Trevor and Angela’s perspectives... In what ways have you captured this style?

MFT: One of the critical points when creating a world as complex as Arcadia is explaining that set of rules that we have to define. In a movie, you can stop the action, but it's harder to do it in a game. So being structured as a documentary, the action in *American Arcadia* is sometimes interrupted with character interviews, ads, or old TV footage. That might be used as information, but also as clues or explanation of the rules inside the city. But not only that. This constant switching between fact and fiction allows us to play constantly with this kind of Russian doll structure of footage inside a TV, inside another TV, and on your computer monitor. Points of view are really important in *American Arcadia*.

Do you think there are parallels to be drawn in how Trevor himself is trapped by technology, but in a way, so are a lot of people today?

TDY: There is a resemblance [between] Arcadia's show and how social media works in the real world. Social media drains people's time, and makes self-esteem and identity depend on them in some ways. What initially was meant to be a tool to connect and share between each other is in fact a marketing tool. And the product sold is fake happiness.

Arcadia is a reflection of that world where if you are not doing something amazing daily and you are not popular or relevant enough, you are nobody. The message we would like to share with *American Arcadia* is that it doesn't matter what others think; be happy doing what you want, being who you are or living the life you need. You don't need to share your life, all the time doing amazing things, to be happy, because, in the end, you are not living your life, you are living a display life for others. 🗣️

American Arcadia is scheduled to release on PC and consoles sometime in 2023.

- ▼ At a certain point in the story, players will need to guide Trevor through Arcadia's backlots and behind-the-scenes sets.



Shifting perspectives

It's not just the perspectives between Trevor and Angela that are vastly different, but the actions you'll be asked to do as both characters, too. Trevor plays like a traditional platformer, for example, while first-person sections as Angela means hacking cameras from the TV control room, playing recorded footage on a loop so as to help cover Trevor's tracks, and infiltrating the offices of the various execs. Angela's sequences are purposefully designed to look and feel colder than the unnatural warmth of Trevor's fake world. This perspective shift is matched by the change in tone and surrounding technology.



Climb every mountain

How a whimsical encounter led to a fruitful creative partnership – and the physics-based action adventure, *Surmount*

Info

GAME
Climb-'em-up

FORMAT
PC / Mac

DEVELOPER
Jasper Oprel,
Indiana-Jonas

PUBLISHER
Jasper Oprel,
Indiana-Jonas

RELEASE
2023

SOCIAL
@SurmountGame

▲ There's a definite *Animal Crossing* vibe to *Surmount's* cast of off-beat characters, who you'll interact with throughout the game.

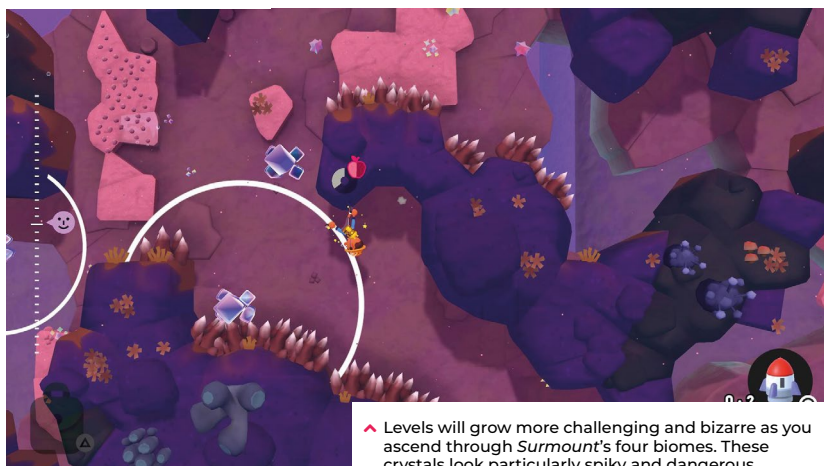
In the midst of the global pandemic in 2020, *Animal Crossing: New Horizons* provided a cosy escape route for many. But as well as a distraction from the isolation and stress of lockdown, Nintendo's life sim also helped bring together Jasper Oprel and Indiana-Jonas Sundberg, the creators of *Surmount*. "We met over *Animal Crossing* just as the pandemic was getting started," says Oprel, the game's programmer and co-designer. "And through a mutual friend, we started visiting each other's towns and started talking from there."

At the time, Sundberg had a prototype for a climbing game intended for mobile devices; taking its cue from *Donkey Kong: Jungle Climber*, it had the player swipe the left- and right-hand

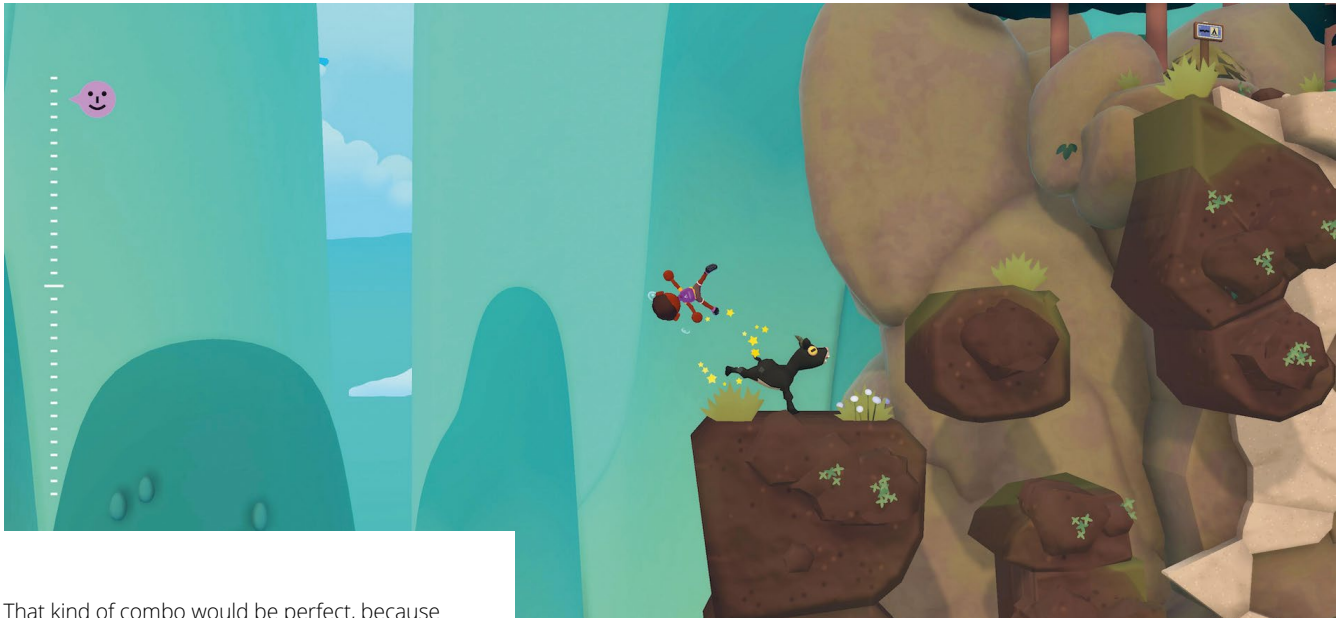
sides of the screen to propel their character up a procedurally generated mountain. As Oprel and Sundberg began collaborating on the project, though, it began to grow into something much bigger and more involved. In the migration from mobile phone to computer, the swiping inputs were switched for an entirely different system, where you fling your climber from point to point with the left stick while using a face button to grip onto handholds.

Today, *Surmount* is a unique take on the roguelite genre: starting at your base camp, you ascend a procedurally generated Mount Om, spinning and leaping between handholds and keeping a watchful eye on your energy levels. "It's about preserving your stamina and making sure you take a breather every now and then," Oprel explains. "[The climbing] is semi-lifted from the way that climbing works in *The Legend of Zelda: Breath of the Wild* – the way you grab stuff and how long you can climb for."

There are also hazards that will not only make you lose your grip but also take away a chunk of your stamina – getting kicked in the head by a mountain goat is one example Oprel describes. *Surmount* is therefore intended to provide a challenge for players, especially in its later stages, even if the overall tone is serene and relaxed. Get a second player involved and you'll be able to help each other navigate the crags of Mount Om. "We're going for something that's approachable in the beginning – I want somebody who plays games a lot to be able to play this with somebody who doesn't play games at all," says Oprel. "Say, a father and child or boyfriend and girlfriend.



▲ Levels will grow more challenging and bizarre as you ascend through *Surmount's* four biomes. These crystals look particularly spiky and dangerous.



That kind of combo would be perfect, because they can both have fun. They can pull each other along with the rope system."

Away from the climbing, there's the little town at the mountain's base. Here, a hint of *Animal Crossing's* social aspect comes to the fore, with the town populated by a likeably eccentric cast of characters, including other climbers hoping to conquer Mount Om. "I don't think there's the same generated life aspect to *Surmount* as *Animal Crossing* would have, where everybody has their own routines," Oprel says. "But as you move through the world, the characters move along with you. You meet the same characters again and again, and get to know them. We think players will get attached to a couple of the side characters who are doing their own thing."

PEAK FITNESS

Like *Spelunky*, there are handcrafted side paths that branch away from the procedurally generated challenges. Here, you'll uncover nuggets of story or extra abilities that will help you on your journey. "There are items you can equip to give you a passive boost, and there are one-off items that you can throw, like a rope or a little trampoline to get up higher. But it's constantly in flux – just this week we were prototyping lots of new items."

Those items will come in handy, too, because the path to the summit will only get more hazardous – and surreal – as you climb. "There are four different biomes on the mountain," Oprel tells us. "First it gets colder, then it gets warmer again, then it gets weirder. There's weird stuff with gravity because you get up so high. There are different, strange creatures and plants that live up on the mountain – there's a cool backstory as to why those things are there. So it varies from zone to zone, and it helps to be prepared ahead of time

– 'ooh yeah, the next zone is snowy. It'd be nice if I found the gloves that give me extra grip because of the icy rocks.'"

As of November 2022, Oprel and Sundberg estimate that there's around 30 percent of the game left to develop, and while they can't confirm what consoles it'll appear on, ports are being looked into, they say: "If we're going to port, we're probably gonna do it ourselves as well, because we're dumb like that," Oprel laughs.

Talking to Oprel and Sundberg, it's clear that they're enjoying the process of making their first collaboration. They talk warmly about their chance encounter, and how the modern miracle of remote working has brought two like-minded designers together. Before *Surmount*, Sundberg – originally from Sweden, now based in Paris – worked as a freelance artist on such games as *TOEM* and *Hokko Life*. Oprel – based in the Netherlands – initially trained as an architect before the threat of burnout loomed, and he set his sights on game development.

Says Oprel, "When I was at school, I thought I'd find the other piece of the puzzle. That other person who has all the skills that you don't. But I never did find a person who had that same interest in games. So it was a very magnetic encounter when I met Jonas. I was like, 'Oh yeah, he might be that one!'. When we worked together, it all felt natural."

"I also felt the same in school," Sundberg says. "I wanted to meet someone I could click with and collaborate with. But I didn't find that person until I started working with Jasper."

"You know," Oprel laughs, "we've never told that to each other before...!" 🐾

▲ As Oprel points out, getting kicked in the head by a goat is bad for your health.

▼ Climbing will have the fun physicality of, say, *Heave Ho*, but with more of the precision and predictability you'd expect from a platformer.



Making mountains

"One of the first big challenges we undertook was the procedurally generated levels," Oprel tells us. "It's hard to make them feel handcrafted and interesting, not completely empty. The game doesn't have combat, so in a roguelike, it doesn't matter if a dungeon is a bit bland if you at least have a steady influx of new enemies to fight... But we're getting there at the moment; we're using a new way to generate levels that I haven't seen in other games."



Absolutely knackered

Solving puzzles while lying down? It's all in a day's work for Exhausted Man

Info

GAME
Exhaust-'em-up

FORMAT
PC / XBO /
XB X/S

DEVELOPER
Candleman Games

PUBLISHER
Candleman Games

RELEASE
2023

SOCIAL
@Candlemangames

“To make the character funnier to play with,” says Ming, “we’ve added more physical parts and joints to the arms and legs to make the character behave like noodles.”

Challenges include touching your laptop with your face, moving a game controller to a marked spot, and crawling around an object, collecting coins.

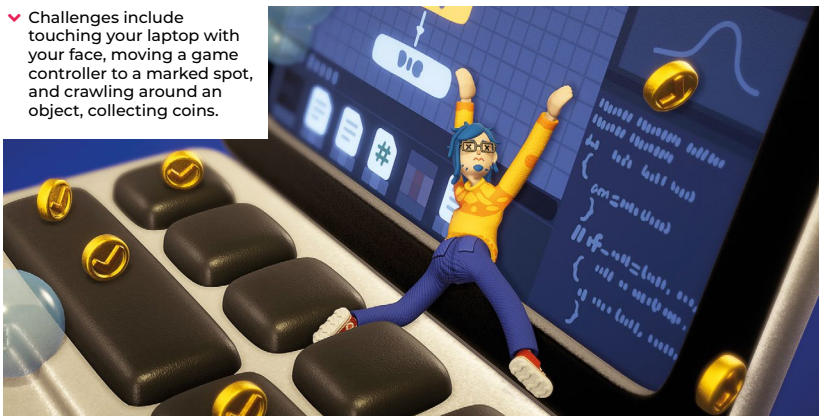
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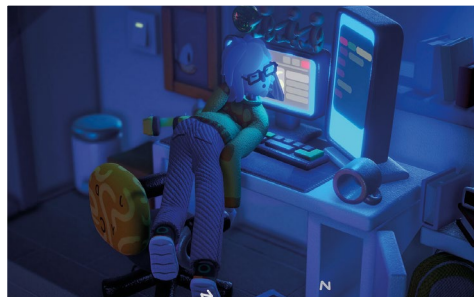
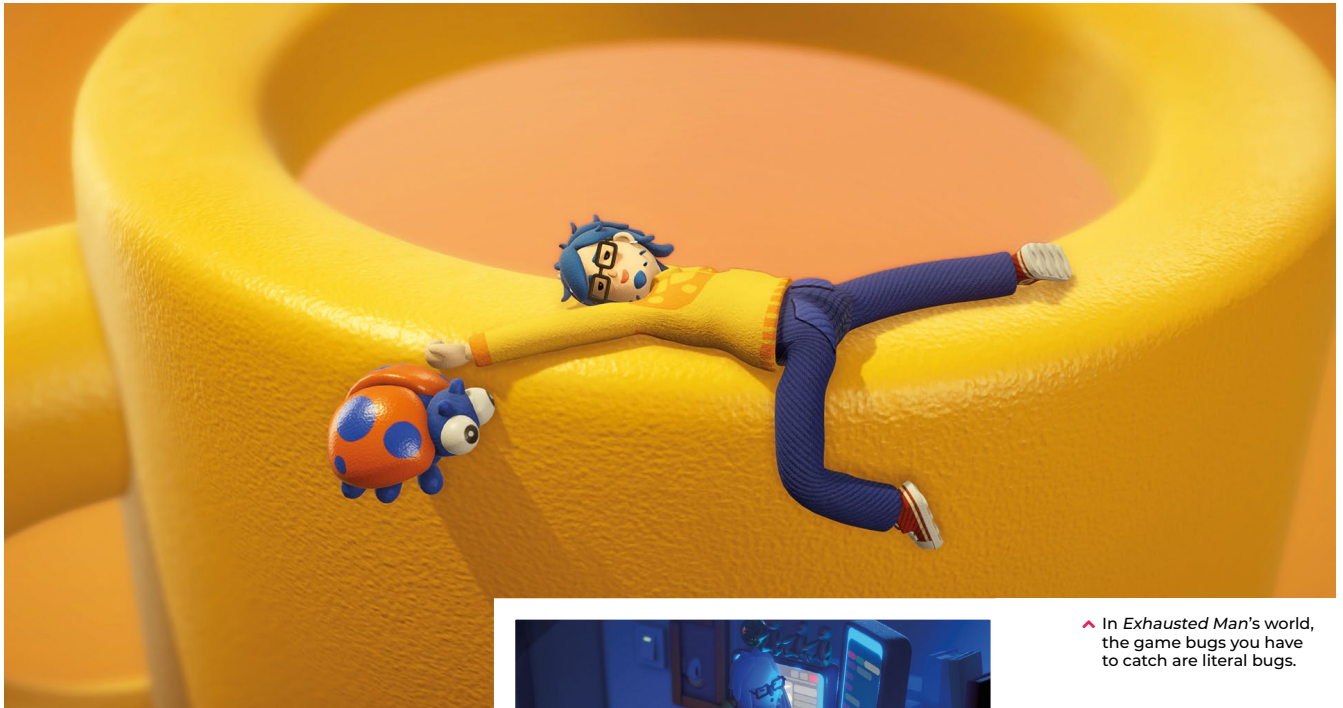
Whether we're feeling overwhelmed by work or bewildered by crises at home or abroad, it's probably safe to say that many of us can identify with the torpid protagonist in *Exhausted Man*. Certainly, this curious puzzle game, in which players flex, guide, and corral a flaccid human figure around a series of domestic environments, has captured the attention of such outlets as Kotaku and Rock Paper Shotgun since its announcement in late 2021. “Yes, I think most players and press are interested in *Exhausted Man* because the theme’s so universal,” agrees developer Gao Ming, founder of Beijing’s Candleman Games. “The reasons for feeling exhausted may vary, but the result is the same. Maybe it’s related to the high competition in modern society, or the explosion of information.”

Exhausted Man first emerged as a prototype for a Ludum Dare game jam in 2017; the event’s theme was ‘running out of power’, and so Ming thought, “How about a man running out of power?” With that in mind, Ming initially thought about making a 3D platformer where your character crawled and dawdled rather than sprinted around the place – “In short,” Ming tells us, “a hilarious platformer without the jumping.”

After a bit of experimenting, however, Ming came up with something rather different: a physics-based puzzler that takes place over two phases. In phase one, you’re presented with an empty room which you can decorate with furniture, shelves, and other assorted knick-knacks. When you’re finished, it’s onto phase two: the daily tasks. These will involve guiding your floppy hero (or heroine, if you so choose) around the room and interacting with the objects you placed earlier; you might be asked to touch a laptop with your head, or pick up an object and guide it to a marked location. The latter is one of Ming’s favourite challenges of the ones he’s designed so far; “It’s straightforward enough, but will also give some unexpected challenges while doing it,” he tells us. “The mark might be obscured by other items, or the target item is knocked out of the marked area by the character’s foot... We want to make a comedy game, so it should not only be challenging but also capable of creating some comedy moments.”

Complete these daily challenges and you’ll further the plot – appropriately enough, about an exhausted software developer – and unlock a





▲ In *Exhausted Man's* world, the game bugs you have to catch are literal bugs.

new scene with fresh items and yet more tasks to tick off your list. “The process is quite like how kids play with toys,” Ming says. “Select some toys from the collection and place them in your toy house, then perform some events using those items and characters. We’ll give you more items that you could place in a single playthrough, and the in-game shop will show them randomly. That way, room decoration will vary from player to player.”

The player character’s movement, and the specific way the figure flops and lolls about as it’s guided along walls and over objects, proved to be one of the trickiest hurdles during early development. Ming’s previous game, the sumptuous-looking platformer *Candleman*, was firmly in the tradition of the 3D platform-puzzler genre, which meant there were other reference points to fall back on during development – “we could judge the quality of gameplay according to *Mario* and learn how to craft the emotional experience by looking at *Journey*,” Ming says. With *Exhausted Man*, the lack of other similar games to reference “was frightening and made me feel lost,” he adds. “For quite a long time, almost a year, I wasn’t sure if it’s OK to make a game like this, if those game mechanics would work, or if we should move on.”

Ming found solace in maverick Japanese developer Keita Takahashi, whose work – most famously *Katamari Damacy* and *Wattam* – pushes

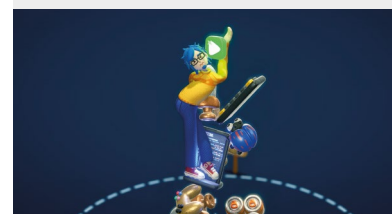
the boundaries of what a video game can be. “The most important lesson I learned from Takahashi’s games is that it’s OK to make games that no one has seen before,” Ming tells us. “His work encouraged me to move on and explore more strange game ideas. In fact, I’ve a list of names that I’ll look at to find courage when I’m facing frightening problems of innovation. Keita Takahashi is sure on that list.”

Now in full production with an eye for release later in 2023, *Exhausted Man* promises to be one of this year’s most unusual and creative puzzle games. And while its story may be about a perpetually tired developer trying to debug their game on the eve of an expo, Ming says his experience of making *Exhausted Man* hasn’t been quite as draining so far. “I hope players will laugh a lot during the game, and leave with a smile after finishing it,” he says. “Although we’ve faced some serious design problems during development, I think it’s been enjoyable overall – we’ve constantly received positive feedback from players and kind help from the media since the start of the project.”

Tiredness Top Trumps

“Being exhausted is a common thing for modern people – that’s why I came up with *Exhausted Man's* idea,” says Ming, before offering us a list of his own most memorable exhausting experiences. How do yours compare?

- Struggling to finish a game jam entry in twelve hours without any sleep as a game jammer
- Taking care of two kids after a whole day’s work as a father
- Rushing for a game expo’s deadline as a game developer
- Preparing for an exam the following day as a college student (Just reading those makes us feel tired.)

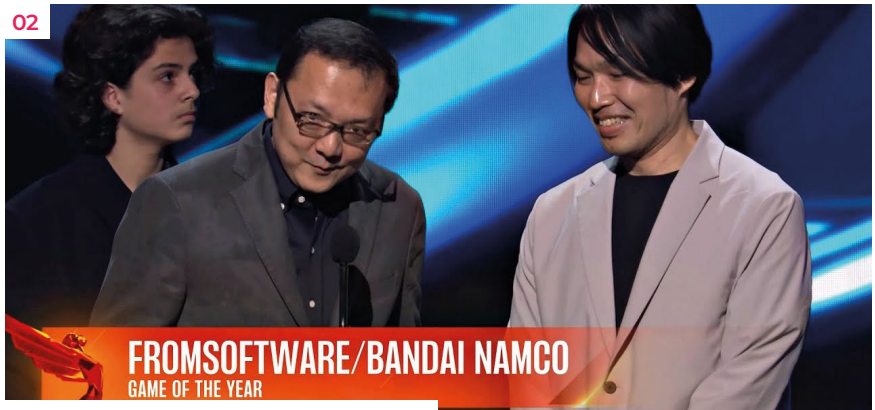


That was the month that was



01. Business blocked

Microsoft's long-drawn-out pursuit to have its Activision purchase cleared by global industry regulators has hit its biggest roadblock yet, as the FTC (Federal Trade Commission) announced plans to sue and block the acquisition after fears it would cause a monopoly. "Microsoft has already shown that it can and will withhold content from its gaming rivals," the FTC's Holly Vedova said in a statement. "Today we seek to stop Microsoft from gaining control over a leading independent game studio and using it to harm competition in multiple dynamic and fast-growing gaming markets." Condolences to anyone hoping *Diablo 4* would hit Game Pass at launch.



02. Elden king

As if it were ever in doubt, the winner of the biggest award at the annual Geoff Keighley extravaganza was none other than *Elden Ring*. Not too surprising considering the open-world *Dark Souls* successor is FromSoftware's biggest breakout hit yet, placing second just behind *Call of Duty: Modern Warfare II* as the year's top-selling game. Creative lead Hidetaka Miyazaki was appropriately humble in his acceptance speech, thanking his team and teasing the studio's future output while simultaneously paying no attention to the renegade stage invader lurking at the back. Bill Clinton didn't win 2022, *Elden Ring* most definitely did.

03. Gone off

Days Gone co-director John Garvin continues to sulk about the critical and commercial reception of the game, despite it being almost three years on. He exited Sony Bend shortly after its release, and it appears he's still bitter. This time he took to Twitter to let us know as such, claiming that the biker-based zombie game was poorly received due to "woke reviewers" and reviewers who "couldn't be bothered to actually play the game". Unsurprisingly, Bend doesn't agree with its former employee's summary, stating it "does not share his sentiment" and nor do Garvin's words "reflect the views of [the] team".

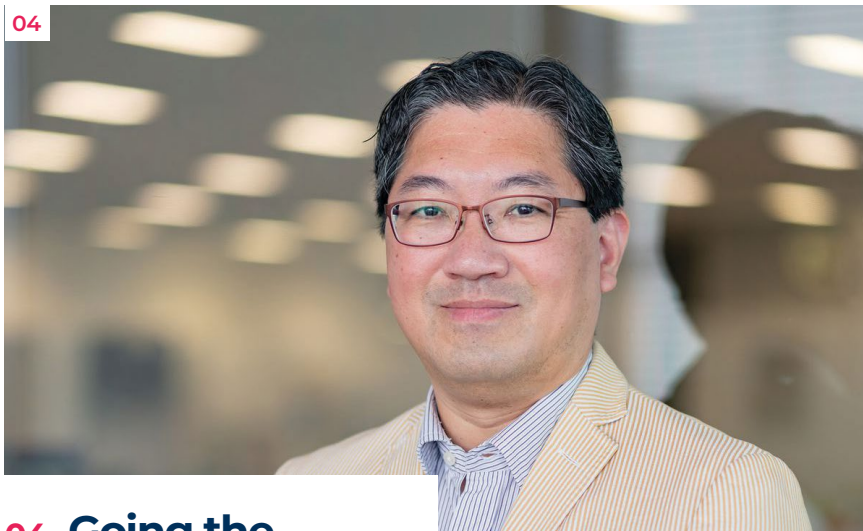


Fortnite moves to Unreal Engine 5, parachuting down just got prettier

Xbox promises "incredibly exciting" announcements after poor Game Awards presence



05



04

04. Going the whole hog

What's better than getting arrested once for illegal insider trading? Getting arrested twice, apparently. That's according to *Sonic the Hedgehog* co-creator and former Sega programmer Yuji Naka, anyway, who continues to test the Japanese authority's patience after being accused of purchasing 144.7 million yen's worth of shares in Square Enix developer, ATeam. It's alleged he had advance knowledge regarding the announcement of its mobile *Final Fantasy 7* spin-off, *The First Soldier*, an accusation that follows a similar charge regarding another Square Enix-publishing mobile spin-off based on *Dragon Quest*. Naka himself is yet to comment publicly on any of these (alleged) shady goings-on.

05. Halo, goodbye (again)

At a time when Xbox needs all the first-party wins as it can get, *Halo Infinite* developer 343 Studios has seen the exit of another major figure. Multiplayer director Tom French took to Twitter to announce his departure, writing that he'd be "off to new adventures" after working on the franchise for twelve years. "I couldn't be more proud of my time at 343," he signed off. "It's been a massive honour to have been part of a game I loved so much as a player and admired so much as a developer." No word yet on if this will affect the free-to-play shooter's roadmap.

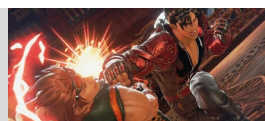


06

06. Tiers for fears

Diablo is once again causing quite a stir. This time due to news that its upcoming fourth entry – recently given a 6 June 2023 release date – will offer an Ultimate Edition priced at a staggering £90 here in the UK, compared to the £60 standard edition. Admittedly, that extra dosh includes what Blizzard calls an "accelerated" seasonal battle pass (that lets players skip 20 tiers) and the ability to play *Diablo 4* four days early. The community wasn't impressed, but game director Joe Shely told Eurogamer the season pass gets you "additional cosmetics and other cool stuff." So there's that.

EU sets December 2024 deadline for mandatory USB-C charging



Tekken 7 reaches ten million sales worldwide, ahead of 8's release

Video games to look forward to in 2023

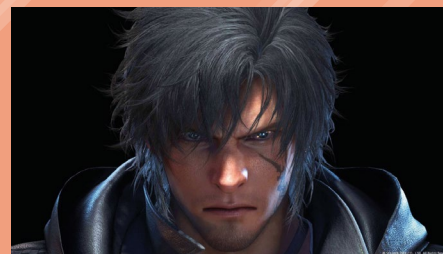
Another year, another raft of video games on the horizon. Here's Wireframe's most anticipated titles, large and small

WRITTEN BY **RYAN LAMBIE & AARON POTTER**



◀ RESIDENT EVIL 4

Another year means *Resident Evil 4* coming to another console generation. But at least this time Capcom is putting in the work to make its beloved survival horror classic a true event. Leon S. Kennedy's mission to rescue the president's daughter from a supernatural Spanish cult is being rebuilt from the ground up, with the RE Engine treating us yet again to some strangely satisfying gory visuals. This remake of *Resident Evil 4* also wisely does away with the original's overly brown colour palette, replacing it with a moody dark tone to help set in modern scares.



▲ FINAL FANTASY XVI

Having previously rescued *Final Fantasy's* fledgling MMORPG from the brink of failure with the much celebrated *A Realm Reborn* reboot, all eyes are on director Naoki Yoshida to see what magic he can work with a true, single-player mainline entry in Square Enix's classic RPG series. *Final Fantasy XVI* keeps one foot in the past by steeping the land of Valisthea in a medieval fantasy setting, but the third-person combat being real-time is sure to give this grand story of conflict and factional divides a 21st century feel. *Final Fantasy XVI* gets a thumbs-up from us for calling its protagonist Clive alone.

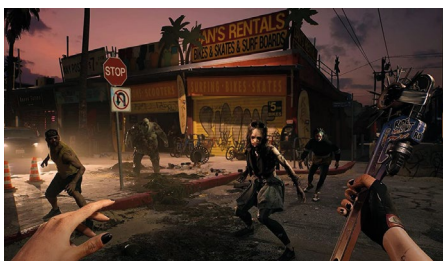
► STARFIELD

Bethesda's highly anticipated space opera looks a lot like its other RPG fare at first glance, hence why we're hoping there's more happening underneath *Starfield's* mechanical skeleton than has already been shown. With a new universe to explore comes a fresh start, after all, but how much it dazzles rests on whether studio director Todd Howard can live up to his promise of making over 1000 planets uniquely diverse. We're certainly intrigued by the freedom that should come from jumping into our self-built, rickety ship and blasting off anywhere. A true Xbox Series X/S exclusive launching in early 2023? Wouldn't that be nice.



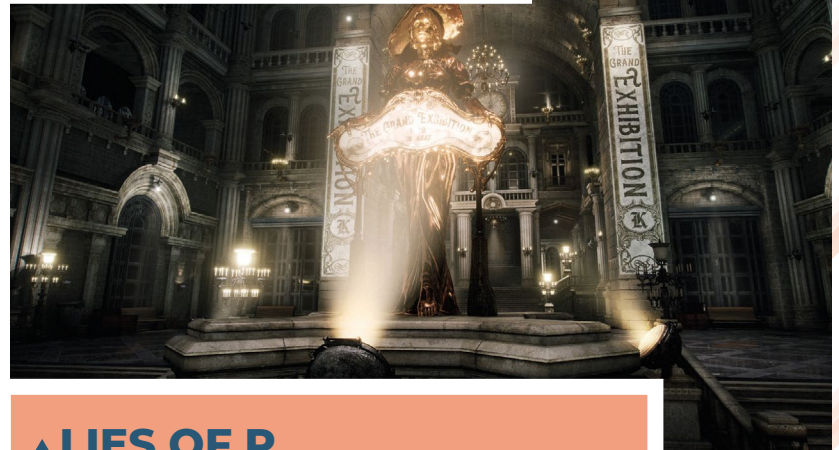
▲ HYPER LIGHT BREAKER

Heart Machine is one of those boutique indie studios unwilling to stand still. Because while it would have been easy to follow up its initial 2016 hit *Hyper Light Drifter* with a sequel, its focus instead has been to make games with similar vibes and sensibilities but in an entirely different genre. This was the case with 2021's *Solar Ash* before, yet now even more so with the forthcoming *Hyper Light Breaker*. It's again set in the same universe but promises to be a 3D action-adventure playable in either single-player or online co-op. Let's bask in the Hyper Light together.



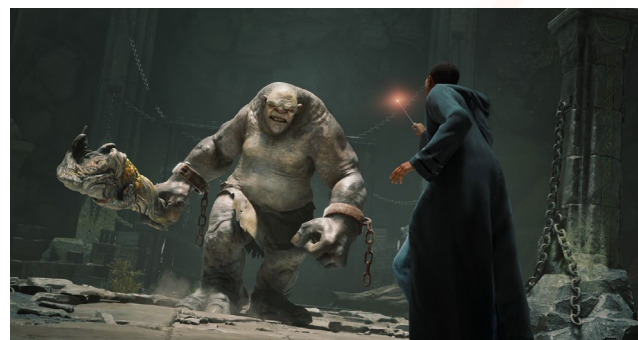
▲ DEAD ISLAND 2

Dead Island 2 has moved through far too many development studios and release dates to count, by this point, surely cementing its status as undead Action-RPG sequel should have died off years ago. And yet we're still morbidly curious... The sun-drenched San Francisco looks to be a setting stacked with variety compared to most games of this ilk, online co-op means slaying with a friend, and getting to repeatedly bash in zombie heads using all kinds of makeshift weaponry is almost always guaranteed to offer grisly fun. *Dead Island 2* isn't thoughtful or grandiose, but the kind of turn-your-brain-off experience we can jive with.



▲ LIES OF P

A *Dark Souls*-esque spin on the Pinocchio story initially sounds like an odd mismatch, we'll admit, but the more you think about it, the tale of a wooden boy wanting to turn human is a tad twisted. In the case of *Lies of P*, your only chance of becoming human is to consistently lie, using your puppet abilities to fight the creatures and horrors lurking in this dark, Belle Époque world. It's easily developer NEOWIZ's most ambitious project yet, but with highly technical combat, bleak visuals, and players always looking to fill the *Bloodborne*-shaped hole in their heart, *Lies of P* could be 2023's breakout *Souls*-like.



▲ HOGWARTS LEGACY

Not since the days of Xbox 360 and PlayStation 3 have we seen a true depiction of everyone's favourite wizarding world in a game – even then they were rushed-out movie tie-ins. Developer Avalanche Software is betting on itself fully, however, giving Potter fans everywhere the open-world RPG they've always imagined, complete with familiar locations to traverse, houses to be sorted into, classes to undertake, and a new mysterious enemy to fight. *Hogwarts Legacy* looks to be the closest way yet to let players feel what it's like to attend the titular school, a full century before the boy who lived's arrival.



▲ SEA OF STARS

It's been a while since *Sea of Stars* graced a Wireframe cover (issue #41, to be exact). But we're sure Sabotage Studio's pixel-perfect homage to classic turn-based RPGs such as *Chrono Trigger* and *Illusion of Gaia* will be more than worth the wait, simply because its first game, *The Messenger*, nailed the essence of what it meant to be a 16-bit throwback so well. Could 2023 be the year we finally get to experience Valere and Zale's attempt to take down an ancient evil alchemist? All the stars align to indicate as such, making this turn-based tribute anything but a grind.



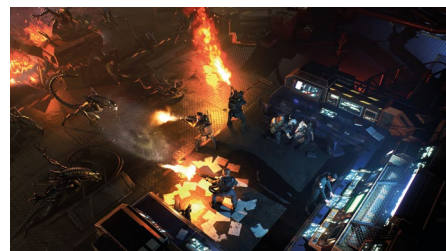
▲ SOLIUM INFERNUM

Politics is hell in League of Geeks' modernisation of the classic PC strategy game that sees you fend off countless demonic rivals in a bid to claim Satan's throne. Playing as a fallen archfiend, you have all the tools needed to either pit forces against one another or take them on personally. Both tactics are possible in campaigns played out either alone against AI forces or in asynchronous multiplayer for up to six people. Coupled with painterly visuals inspired by Milton's *Paradise Lost*, *Solium Infernum* should make overtaking the underworld a hellish delight.



▲ REDFALL

Arkane has the immersive sim chops within the single-player realm, but the jury is still out on how the developer's trademark first-person combat and meticulous level design will meld with the template of a four-player co-op shooter. The thought of gunning down increasingly zany types of vampire alongside friends should prove an all-too-tempting prospect, however, especially when the playable characters shown so far all tout abilities this creative and diverse. We get the sense with *Redfall* that Arkane is having fun with its horror premise here, catering to a broader player base without compromising on its uniquely detailed approach.



▲ ALIENS: DARK DESCENT

We've had some excellent *Aliens* games over the years (*Alien: Isolation*), and some less-than-excellent games (*Aliens: Colonial Marines*). We've every faith that *Dark Descent* falls into the former camp, coming as it does from Tindalos Interactive, purveyors of the *Battlefleet Gothic: Armada* games. Besides, the concept of placing *Colonial Marines* in an *XCOM*-style tactics game sounds like a logical one, and Firaxis's recent *Marvel's Midnight Suns* showed what can be done when a big-name franchise is combined with strategy and engaging storytelling. This could be one licensed game actually worth looking forward to.

Honourable mentions

ROBOCOP: ROGUE CITY

We aren't expecting a classic, but this is from the makers of *Terminator: Resistance*, so it should be fun.

THIRSTY SUITORS

A potentially fascinating mash-up that includes turn-based battles, cooking, skateboarding, and romance. A heady brew and no mistake.



▲ NINE SOLS

Red Candle Games' 2D action-platformer looks like *Hollow Knight* but with a Far-Eastern fantasy spin, but there's a lot more going on beneath the surface. First, there's the combat, which *Nine Sols*' creators describe as 'Sekiro-lite' – each encounter requires precise timing to deflect attacks so you can counter with your own magical abilities. Then there's the look of the thing: *Nine Sols* has some of the most gorgeous hand-drawn animation we've seen in a video game for some time.

PIKMIN 4

It's far from Nintendo's biggest or most lucrative franchise, but that only makes us appreciate its quirky brilliance all the more. *Pikmin 3* was a corker on the Wii U and later the Switch, so we've high hopes for the next entry, even if it's more of the same – and we haven't seen or heard enough from Nintendo as yet to know either way – there's something about the combination of joystick-friendly real-time tactics, environmental puzzles, and those hapless, sentient vegetables that we find difficult to resist.

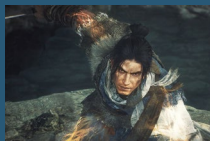


▲ ALAN WAKE 2

Proving that time is nothing but a relentlessly plodding machine, *Alan Wake* is now almost 13 years old. And while Remedy Entertainment has all sorts of projects in the works at present – a *Max Payne* remake, *Control 2*, and more besides – it's exciting to see that it's also going to bring us more tales of woe from video gaming's most terrorised novelist. Wake himself has had something of a makeover (he now looks passingly like Jared Leto), and we're told his latest adventure will lean more on the survival horror genre than the first game's action adventure. We have a torch and a spare set of batteries ready to hand in anticipation.

ANGER FOOT

A colourful FPS where your most powerful asset is, yes, your devastating kick. Can't wait to boot this one up.



▲ LEGEND OF ZELDA: TEARS OF THE KINGDOM

Will it actually come out in 2023? It has to come out in 2023, doesn't it? Well, the much-anticipated follow-up to *Breath of the Wild* has a release date (12 May), so things are looking promising. Unless it gets delayed again, ahem. What's surprised us is how *Tears of the Kingdom* looks as much like a continuation of *Skyward Sword*'s ideas as a sequel to *BotW*, what with all those floating islands and flying sequences. It's led to some speculation that *Tears* might form the final part of a trilogy alongside those two games. With Nintendo keeping specifics to itself, we'll only properly know the truth this spring. We hope.



▲ DELIVER US MARS

Our cover game from issue 64, *Deliver Us Mars*, is one of our most hotly anticipated sci-fi games of the year. Its predecessor, *Deliver Us The Moon*, was a gripping and mind-expanding adventure, and its quality was all the more impressive when you consider the resources its studio KeokeN were working with; now under the wing of publisher Frontier Developments, the follow-up looks more cinematic and enthralling than ever, with the first game's puzzles joined by a greater emphasis on climbing and exploration.

WO LONG: FALLEN DYNASTY

A *Bloodborne* producer (Masaaki Yamagiwa) joins forces with Team Ninja for a *Nioh*-esque action RPG. Expect swords, monsters, and gore. Lots of gore.

SHADOWS OF DOUBT

An open-world detective game with a unique, systems-driven twist: the killer you're hunting is different each time you play.

Interface

Video games to look forward to in 2023



▲ MINA THE HOLLOWER

Given that it comes from the creators of *Shovel Knight*, the pedigree of this one speaks for itself. But rather than continue the side-scrolling antics of Yacht Club's debut, *Mina the Hollower* forges a different path: it's a top-down adventure that takes in the Gothic sensibilities and combat of *Castlevania* and couples it with the exploration and light RPG mechanics of a Game Boy Color-era *Zelda* title. If Yacht Club can match the taut controls, perfectly judged difficulty level and warmth of *Shovel Knight* with its latest outing, this could prove to be one of the finest retro-style action games of the year.



▲ MINEKO'S NIGHT MARKET

We've been looking forward to Meowza Games' adventure-life sim for almost as long as this magazine has existed, and it's started to look as though 2023 will finally be the year we get our paws on it. About a girl's experiences on an island populated by superstitious inhabitants and a surprisingly large number of cats, *Mineko's Night Market* takes in a variety of side activities and minigames, including crafting, trading goods, racing, and an assortment of puzzles. Wrapping it all up is one of the most charming, hand-painted visual styles you'll see in a game. All proof that cute things come to those who wait.



▲ CYGNI: ALL GUNS BLAZING

What would a traditional, top-down shoot-'em-up look like if it were given the triple-A studio treatment? *CYGNI* provides the answer: it's a spaceship shooter given a modern sense of the cinematic. A game we covered a few years ago in these pages, *CYGNI* is the debut of Scottish developer KeelWorks, and its quality has since attracted the attention of publisher Konami – a firm with a long and illustrious history in the shoot-'em-up genre. Who knows? If *CYGNI*'s a success, maybe Konami will give KeelWorks a crack at the likes of *Gradius VI* or *Salamander III*...

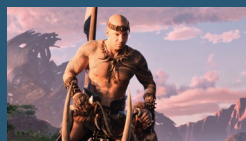


▲ KERBAL SPACE PROGRAM 2

If at first your rocket explodes, build, build again. That was the lesson regularly served up by the original *Kerbal*, which turned the construction and constant refinement of spacecraft into one of the most absorbing sim titles of 2011. Much time has passed, and there's now a new studio involved (Intercept Games), but there's plenty to be excited about in the upcoming sequel. Aside from new ship parts and prettier, current-gen graphics, there's the allure of interstellar travel – for the first time, we'll be able to take our intrepid Kerbals to far-flung planets. Assuming we don't explode on the launchpad first, that is.

ARK 2

More intense survival, more dinosaurs, but this time with added Vin Diesel. How can *ARK 2* possibly fail?



THE TIME I HAVE LEFT

A stylish-looking cyberpunk adventure about a woman's attempt to escape from a high-tech underground facility.

MARVEL'S SPIDER-MAN 2

More superhero fisticuffs and effortlessly slick swinging from building to building? Count us in.

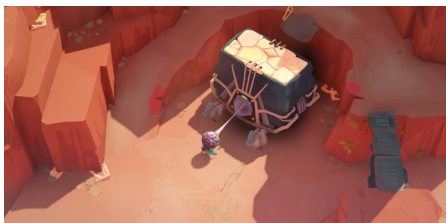


▲ GORD

Once you realise that this upcoming strategy RPG is from the producer of *The Witcher 3*, its unremittingly dark fantasy trappings make perfect sense. It's your job to grow and maintain a small town stuck in the midst of a nightmarish landscape, sending out your finest warriors to fight monsters and bring back vital resources which you can then use to build better defences and other improvements. The whole time, you have to keep an eye on your citizens' mental health: expose them to too much death and horror, and your tiny community will rapidly come apart at the seams.

THE LAST WORKER

The comic book style (the work of 2000 AD's Mick McMahon) and first-person VR puzzles look great, but it's the premise that intrigues: in the near future, one online retailer rules the world. With its fulfilment centres run by robots, you play Kurt, the titular last human in the warehouse, balancing the comfort of performing your daily tasks with the allure of a break for freedom. Does he win in his fight against a big, mechanised corporation? We're looking forward to finding out.

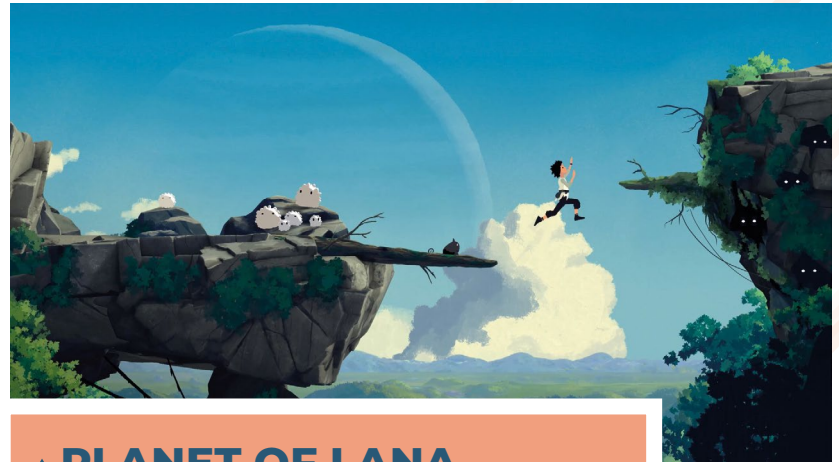
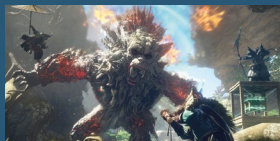


▲ COCOON

We're still wrapping our heads around how *Cocoon's* puzzles work. You appear to be a human-insect hybrid who picks up and carries large, glowing orbs across a fantasy landscape. In these orbs you'll find other worlds which you can leap into. In these worlds you'll find other orbs with worlds in them. In short, it's balls within balls within balls. *Cocoon's* from Jeppe Carlsen, one of the lead designers behind *Limbo* and *Inside*. As such, we have every faith that *Cocoon* will be brilliant and not a load of, er, rubbish.

WILD HEARTS

A *Monster Hunter*-esque open-world title from Omega Force, the team behind *Dynasty Warriors* and other hack-and-slash hits.



▲ PLANET OF LANA

Following in the footsteps of cinematic platformers like *Another World*, *Flashback*, and *Limbo*, *Planet of Lana* also owes a certain debt to the likes of *Ico* and *The Last Guardian*. About a young girl's quest to rescue her sister from alien invaders, its core concept revolves around Mui, a loyal, computer-controlled critter which can be commanded to – among other things – burrow down warrens to hit switches and nibble through vines. From what we've played so far, these co-op puzzles are thoughtfully designed, while the world itself positively drips with mystery and menace.



▲ GUNBRELLA

Gato Roboto was, for our money, one of the best, most underappreciated *Metroidvanias* of 2019, so do catch up with that if you haven't already. Meanwhile, developer doinksoft is set to return with another 2D action-adventure, this one a bit more gritty and gory than its predecessor. The titular weapon is, logically, the centrepiece: it's both an upgradeable weapon, shield, hook (to use on zip wires), and more besides. The noir-steampunk world looks lovely – with a surprising amount of *Super Meat Boy*-style blood and mayhem – and like *Gato Roboto* before it, the controls feel natural and precise. Keep an eye out for this one.

ARCRUNNER

You can shoot, slash, or sneak your way to victory depending on the class of android you choose in this third-person roguelike.



GAMING HISTORY

with Mr Biffo

Snakes on a phone!



MR BIFFO

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

Mobile gaming was popularised by Snake, but that isn't where it began...

I've gone and messed up my sleep patterns. I'd temporarily misplaced my Kindle, you see, and reading a book at night is generally how I fall asleep.

The first game to pay a nod to the horror genre was *Haunted House* on the Magnavox Odyssey. Via a rather attractive overlay placed on your TV screen, one player controlled a 'detective' (represented by a dot – a 'dotective', perhaps) as they wandered through the titular home searching for clues. A second player adopted the role of the resident ghost, and before the game began would hide in one of the clue boxes while the detective player kept their real-life eyes closed.

I have the Kindle app on my phone, so in theory I'll be able to read still, except... my phone

is a temptation. It's where the games live, and it appears that if you give me a choice between reading a book or playing a game, my brain seeks out the latter.

For the last month or so, instead of reading myself to sleep, I'm awake far beyond midnight playing *Sneaky Sasquatch*, *What The Golf?*, or *The Otherside* via Apple Arcade. When I do eventually switch over to a book, it now takes me even longer to relax. Games are all well and good, but few of them are conducive to dropping off.

When did this start? Not me having absolutely zero willpower. I mean... when did the whole games-on-phones thing begin? I'm old enough to remember a time when phones were literally just phones. They had but one purpose, unless you got creative and strapped a handset to your head as a sort of special hat.

You could find out the weather, or the time... You could, at a push, call a specialist line to find out what was number one in the music charts, or call up every man called Michael Finnegan in the phone book, and ask them whether they grew whiskers on their chinnegans... (Of course, I never did this... as if... how immature etc.)

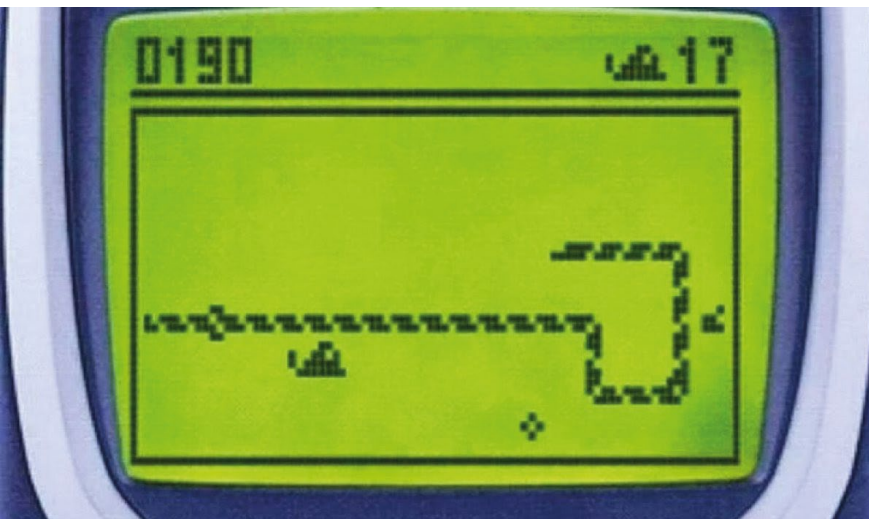
Ask anyone, and they'll probably tell you that Nokia's perennial *Snake* was the first mobile game. Released in 1998, the Nokia 6110 was, for the time, state-of-the-art. An advanced user interface, infra-red communications port, currency converter, calculator – it was a bridge between PDAs and today's modern smartphones.

After more or less completing work on the 6110's operating system and essential features, the developers discovered there was room left over for something less essential or practical.



“So iconic has it become that there's been a version of *Snake* on every Nokia phone since”





Hence: games.

The task of getting something playable onto the 6110 fell to one Taneli Armanto. His first instinct was to put *Tetris* on there – and though a version of the block-drop puzzler did indeed get programmed for the Nokia, the company made the mistake of telling The Tetris Company, which demanded a share of sales. Armanto was forced to think again.

He turned his mind back to a game he'd played on his Apple Mac years before: a clone of the 1976 arcade game *Blockade*. Graphically quite simple, it featured two constantly moving 'snakes' travelling around a screen as they grew in length, with the aim of not crashing into either the opposing snake or your own lengthening body (inspiring the lightcycles in *Tron*). *Blockade* had already spawned a number of clones, and Nokia rightly assumed that – despite a search for the rights holders – the genre's originators wouldn't sue.

Armanto's interpretation added an element of *Pac-Man*, with the lone snake having to consume dots in order to make its body grow. He also added a number of different difficulty levels, which incrementally increased the speed at which the snake moved.

An additional challenge was that the 6110 hadn't exactly been designed with games in mind. Control of the snake was via the phone's keypad. Far less responsive than a game controller, with a screen that wasn't much larger than a first-class stamp, these challenges somehow contributed to *Snake* being incredibly addictive.

SNAKE'S A LIE!

There were in fact two other games alongside *Snake* on the 6110: *Memory* (match pairs of symbols on hidden cards) and *Logic* (cracking a combination of symbols). Similar games had been included with earlier Nokia handsets, but without the sugar of something like *Snake* they didn't go down as well. Without doubt, *Snake* was Nokia's killer app.

And yet... it wasn't the first arcade-style game on a phone.

In fact, Nokia was beaten to it by almost four years. The first proper mobile phone game was released in 1994, on the Siemens S1. The handset included an unlicensed *Tetris* clone named *Klotz*, which was buried inside the operating system as an Easter egg, so as to avoid any potential rights battle.

Released the same year, the IBM Simon was more touchscreen PDA than phone – though it was possible to make calls on it. It included a sliding block puzzle called *Scramble* (no, not that one), played using the device's stylus. 1994's MT-2000 from Danish manufacturer Hagenuk also featured a surprisingly playable version of *Tetris*, simply labelled 'GAME'. The phone wasn't a big seller, which probably protected it from legal entanglements.

Though it might've been an afterthought, *Snake*'s impact was huge. So iconic was it become that there has been a version of *Snake* on every Nokia phone since; something like 400 million devices. People began to expect phones to feature games. When Ericsson released the A1018s in 1998, it initially came without a game, but demand led to Ericsson issuing a firmware update that included yet another version of *Tetris*.

The rest of the industry took a while to wake up to the phenomenon of *Snake*, and it was about a year before mobile gaming really took off. In 1999, NTT Docomo tried to get ahead of the pack by launching its i-mode mobile platform, which offered games that could be downloaded onto phones. Among those offering games through i-mode were Konami, Taito, and Namco.

Elsewhere, Nintendo and Bandai were trying to reverse-engineer mobile phone adapters for their handheld game systems. By 2001 there were around 20 million users of i-mode across Japan, and from there, games and phones would forever be inexorably linked.

And to hell with my sleep patterns. ☹



Re-re-wind

In 2015, Taneli Armanto returned to *Snake*, with a new app for iOS, Android, and Windows phones. *Snake Rewind* did well to retain much of what made the original great – balancing updated visuals with a hefty slice of nostalgia (including a mode which recreated the 6110's monochrome LCD screen). It nevertheless fell into the same trap as many mobile games of eight years ago, by adopting a freemium model and encouraging the purchase of microtransactions through an in-game store.

Far from phoning it in

How hard can it be to bring your indie game to mobile?

The developers behind *Immortality*, *Night in the Woods*, and *Into the Breach* reveal the trials and tribulations that go into making a mobile port of your hit game.

AUTHOR
LEWIS PACKWOOD

Unfortunately, making a mobile port isn't quite as simple as clicking some kind of 'Export To Mobile' button in Unity, then watching the cash roll in. Whereas porting games from PC to console has generally become a lot simpler over the years (although still far from easy), porting to mobile is akin to exploring a different country. People do things very differently over there.

There are dozens of different things to consider. Will your game work with touchscreen controls? What parts of the graphics will be covered by a player's hands? Will the text be legible on a tiny screen? How will you cater for the various devices out there, with their huge variations in processing power and screen size? Getting your game to work on mobile might involve radically retooling every aspect to optimise it for a completely different gaming ecosystem. And this is all before you consider things like pricing, and the regular updates needed to ensure the game isn't pulled from stores by Apple or Google with the next iOS or Android release.

In short, porting a game to mobile takes months of hard work. And in exceptional circumstances, it might take much, much longer.

SPRITE IN THE WOODS

Jon Manning is the head of Secret Lab in Tasmania, Australia, and says he faced considerable challenges with bringing the 2017 indie smash hit *Night in the Woods* to mobile. The port was announced in October 2017, with a release date of 2018 – but the iOS version didn't

come out until September 2021, after some four years in development. So what happened?

"First of all, it's memory," says Manning. "That's one of the biggest things. *Night in the Woods* does not do the standard approach that 2D games these days try to do, which is skeletal animation sprites, where basically you create a 2D paper puppet that has hinges." With this technique, you would draw a character – the sprite – then tell the computer where its arms and legs bend, and the game engine would handle the animation. But *Night in the Woods* didn't do this. Instead, the game used thousands and thousands of individual high-resolution sprites to depict every single movement of the various characters. And these thousands of sprites took up an enormous amount of memory – far more than the 600 megabytes or so of RAM that Manning had available to him on iOS (some of the phone's RAM is reserved for the operating system). →

WHAT WORKS WELL

Indie developers will only get good value out of doing a mobile port if their game appeals to the mobile phone audience, says Jon Manning. "Most people play games on phones ... in short bursts. You do see people lying in bed and playing for hours, but you often see short bursts of gameplay: they play for either five minutes or five hours."

✓ When squeezing *Night in the Woods* onto a phone screen, Jon Manning found that speech bubbles could overlap.



Interface

Far from phoning it in

▶ The thousands of individual frames of animation in *Night in the Woods* took up an enormous amount of memory, so Jon Manning had to use a technique called 'sprite dicing' to get the game to fit onto a mobile phone.



▲ Andrew Carvalho is co-founder of the indie studio Laundry Bear in Toronto, which created *A Mortician's Tale* and *Speed Dating for Ghosts*. He's currently working on the mobile port of *Immortality*.



▲ Jon Manning is co-founder of the studio Secret Lab, based in Hobart, Australia. He worked on the mobile port of *Night in the Woods*.



▲ Sam Barlow released the hit FMV game *Her Story* in 2015, and founded the studio Half Mermaid in 2017, whose latest release is *Immortality*.

"The second challenge, of course, is the screen that you're playing it on," continues Manning. Getting the game to work with touch controls on a tiny screen was a huge headache. "You're doing the whole thing from scratch, basically. For a lot of the interactions that are in *Night in the Woods*, we had to come up with brand-new ways to represent them. For example, there are a couple of scenes where Mae, the main character, has to steal items from a clothing shop, and the way that you do that on the PS4 and on the PC is you have to move Mae's paw as slowly as you can [using the analogue stick]. But if you're dragging a paw around on the screen, and it's following your finger, then we can no longer do that, because it's trying to be where your fingertip is. So how do we make this feel like it's slow and tense while still giving you direct control?"

TINY TEXT

Then there's the problem of legibility. "Text is everywhere in the game," Manning laments, who says that increasing the size of the speech balloons by one-and-a-half times seemed like an easy fix at first. But then he found the player's speech balloons were overlapping the speech balloons of characters in the background, and the dialogue for the latter was sometimes spilling off the screen.

"Figuring out ways to keep up performance was also a big deal," he continues, "because the way that the scenes in *Night in the Woods* are drawn, it's lots and lots and lots of overlapping sprites. So lots of overdraw, which is a thing that you generally are trying to avoid, especially on iOS devices. Long story short, they perform much worse than a desktop or a console at the specific task of blending multiple transparent layers together – and that's basically all we were doing in *Night in the Woods*."

Manning had to come up with an ingenious solution to cram thousands of sprites into the tiny iOS memory allowance. "What I did was make use of a technique called 'sprite dicing',

where basically you take your sprites, [and] you chop them up into small squares." Any squares that were blank were discarded, and any squares that were identical were also filtered out. "Mae's shirt, for example, is mostly one orange piece with a design in the centre of it. So we can find all the bits that are orange, and only keep one block of orange colour, and toss the rest away." These squares take up less memory space than full sprites, and the computer can build any sprite with them, duplicating squares of the same colour where necessary. By the end, it's thought that sprite dicing allowed Secret Lab to reduce the game's memory usage by 40–60%.

After spending endless hours squeezing and tweaking a *Night in the Woods* to work on mobile phones, Manning's advice to other indie developers is to think about possible mobile ports at the start of development. "It's something that you should consider doing very early on in your pre-production," he says. "It took me four years to bring what's a relatively simple platformer/dialogue game across, and that was almost entirely getting the memory right, getting the interface right."

PLAN AHEAD

Sam Barlow, the head of Half Mermaid, is also no stranger to the headaches of mobile conversions. He brought the BAFTA-winning game *Her Story* to mobile platforms back in 2015, followed by *Telling Lies* in 2019, and most recently, *Immortality*, which launched on iOS and Android via Netflix Games last month following a console release in August.

"I looked ten years younger than this six months ago," he jokes. "This wasn't the [result of the] pandemic; this was six months of squeezing *Immortality* onto a phone." That said, a bit of forward planning has helped. "Usually I'm lucky because I'm either designing with mobile in mind from the start, or I'm working with interfaces that are quite unconventional, so it's not a huge



Porting *Into the Breach* to iPhone meant revisiting and tweaking every UI element.

Some information is hidden behind menus on the iPhone version of *Into the Breach*, since there's not enough room on the screen to display it all.



issue to figure out how this works on the phone. And oftentimes the phone controls are more interesting, right?" He notes that scrubbing through film reels in *Immortality* with the swish of a finger or zooming in by pinching the screen is perhaps more satisfying than using conventional control methods.

Unlike Barlow, Matthew Davis of Subset Games hadn't even considered a mobile version of the breakout hit *FTL: Faster Than Light* before it launched in 2012. "It was not something we ever planned on doing," he says. It was only when Subset was making the Advanced Edition of *FTL* some 18 months later that they decided to create an iPad version, purely because "people kept asking us if we're going to do iPad," says Davis. "Which is the last thing I should really say, because you don't need more encouragement for players to be bugging you about platforms."

"Justin [Ma] and I both had limited experience with touchscreen or mobile development," he continues. "I had low expectations, and we went in not sure what was going to happen. And we were pleasantly surprised

"I had low expectations, and we went in not sure what was going to happen"

in that it's probably our favourite version of the game now. The iPad version I think is the most playable, most user friendly, and looks great." They also experimented with a phone version, which was quickly abandoned. "It wasn't nearly as nice as the iPad version," says Davis, "and we'd rather not give people a subpar port."

However, Subset did create a phone version of its second game, *Into The Breach*, which launched on iOS and Android via Netflix in July 2022, some four years after the game came out on PC. "Getting the game on the device and running was less than a month's work," he says. "That was never difficult. It was the six months afterwards of iterating and tweaking the UI and testing and making sure it all worked."

One problem with mobile development is the fractured state of the market. "You're looking at hundreds of different device configurations," Barlow says. "You have, like, 30 different aspect ratios and screen sizes, plugged into different GPUs. So you might have this incredible, high-res, beautiful screen plugged into a lesser GPU." Mobile developers have to account for all this, and make sure their game works on every device. "I remember I visited a Chinese company,

and they showed me their testing labs. It was unbelievable. I walked into this room, and they had a series of walls... and they had every single physical phone device mounted on

these walls, all simultaneously running the same game." The system was entirely automated using artificial intelligence. "It's ridiculous what it takes to thoroughly test all these devices," he says.

To test *Immortality*, Half Mermaid contracted a QA company called Sculpin. "Their obligation was to test it on as many devices as possible," explains Barlow. "And there comes a point where, especially for an indie developer, there is the financial question of: is it better to have someone test the game for four hours on one device, so it's been thoroughly tested, versus spending one hour each on four devices, or half an hour each on eight devices?"

Davis says that Subset also hired an outside QA team to test *Into the Breach*. "And then ➔

EVERYTHING CHANGES

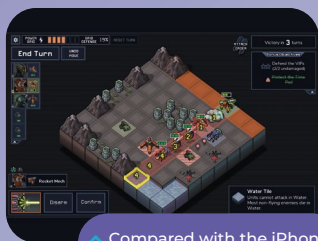
"For both *FTL* and *Into the Breach*," says Matthew Davis, "we had to revisit every single UI on every screen, every store, every menu, how tooltips work... The entire interface had to be, not redesigned from the ground up, but definitely reconsidered from the ground up [for the mobile ports]. Some [elements] could be pretty much moved over wholesale, and others had to [have], at a minimum, buttons made bigger and stuff like that. It's all our custom engine and custom nonsense – and my code's terrible! – so changing the UI was never an easy job."

Interface

Far from phoning it in



▶ Squeezing the many video sequences of *Immortality* onto a mobile phone has proved challenging for Half Mermaid.



▶ Compared with the iPhone port, the iPad version of *Into the Breach* shows more information at once, such as details on each unit at the top left.



▶ Matthew Davis says that the iPad version of *FTL* is his favourite way to play the game.

Netflix also have their own internal QA system, so they run it on a bunch of things as well." Even after all that testing, there were still some issues at launch. "But it's not been too horrific," he says, adding that he's currently in the process of rolling out patches to fix them.

THE LONG GAME

The developer's work is far from finished after a mobile game has launched. The pace of operating system (OS) changes on iOS and Android is relentless, and updates are required periodically. "I've had several titles of my own pulled from the App Store," explains Manning. "Basically, Apple emailed us, going, 'Yeah, we need you to push an update to this game.' And I said, 'No, I'm not working on that anymore'. In some cases, I no longer have the source code. And they went, 'OK, well, it's gone'. And these games still worked, you could still download them."

Andrew Carvalho, owner of Canadian studio Laundry Bear, has found the same thing with Apple: "They're very aggressive with deprecating devices, and constantly updating the OS. So even if there are no bugs, they will sometimes contact you through their little developer portal and be like, 'You need to push out an update, because we said so', even though nothing's broken."

Barlow says he had a situation a little while back where an Android OS update somehow made *Her Story* completely unplayable, necessitating an urgent fix. But he says the biggest problem comes with middleware, such as when an OS update requires you to upgrade the game to the latest version of Unity. "In the worst case, you might have to rewrite 50% of your code," he says. Then again, he notes that many publishers will take ongoing updates to mobile ports into account when allocating budgets. "The maintenance is baked into the deal in the way that it would be if you were just making a pure live service game."

GROW THE PIE

One advantage of making a mobile port is that it helps your game to reach a new demographic.

"I think you're going to reach a very, very different audience who don't necessarily identify themselves as people who play games," says Carvalho, who is helping Half Mermaid to port *Immortality* to mobile, and who also worked on *A Mortician's Tale* and *Speed Dating for Ghosts*. Barlow agrees: "If we pick, say, my parents as people who would not identify as gamers: [they] do not have gaming consoles, [they] do not have Steam. They have a phone. They know how to install apps. They know how to text, check their emails on their phone. So many people told me, like, 'Oh, I installed *Her Story* on my parent's phone, my partner's phone, whatever, and then I just gave it to them. And they didn't realise they were playing a game until it finished'."

Davis says that one of the reasons Subset partnered with Netflix to bring *Into the Breach* to mobile was to find a new audience. "We've definitely saturated the market in terms of, you know, your average Polygon reader has probably heard about *Into the Breach* enough times that they don't need to hear about it again, while your average Netflix user hasn't, necessarily."

THE PRICE IS RIGHT

The question of how much to charge for your mobile port is a thorny one, with the free-to-play (F2P) boom leading mobile users to expect to pay little or even nothing for the latest games. "On Steam our games [are] ten bucks," says Carvalho. "[But] we can't sell a ten-dollar game on mobile, that's ridiculous."

However, Davis did exactly that with the iPad version of *FTL*. "If the game costs ten bucks on PC, it should cost ten bucks on mobile," he argues. "It's the exact same game, we didn't do anything different. And I didn't like, and still don't like, that you see a lot of indie game ports where

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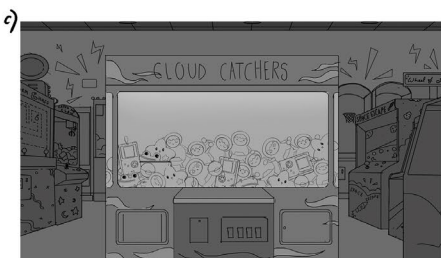
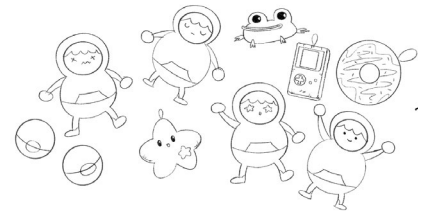
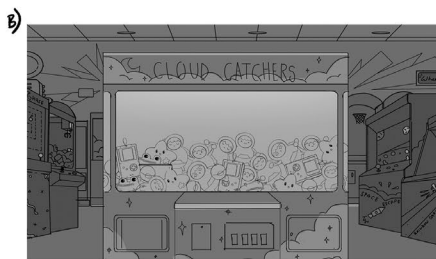
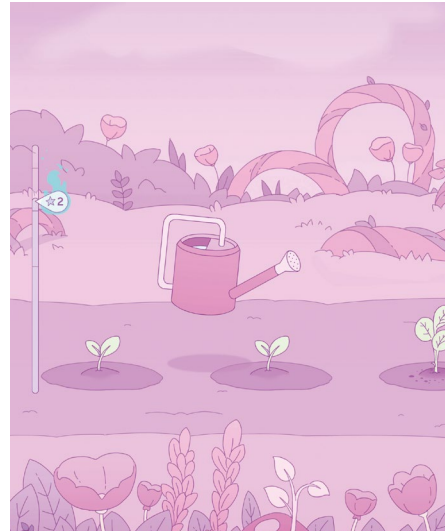


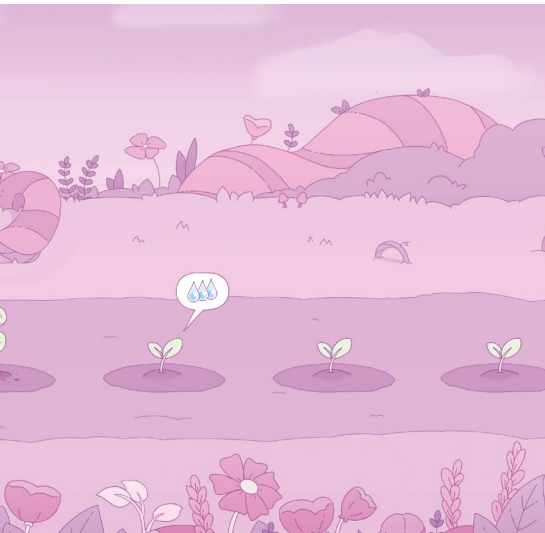
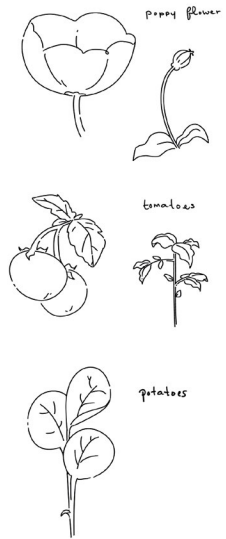
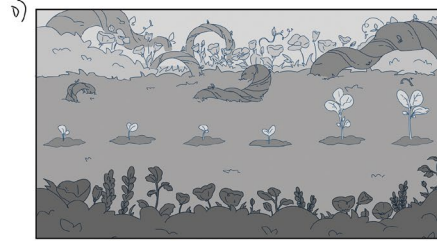
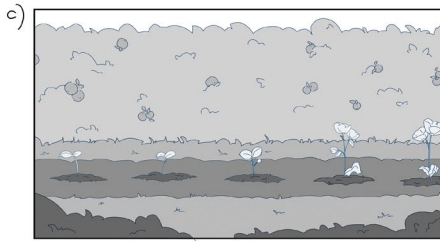
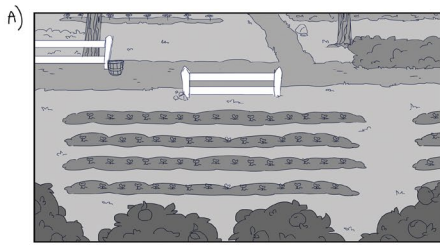
GAME
Melatonin

DEVELOPER
Half Asleep

RELEASE
Out now

WEBSITE
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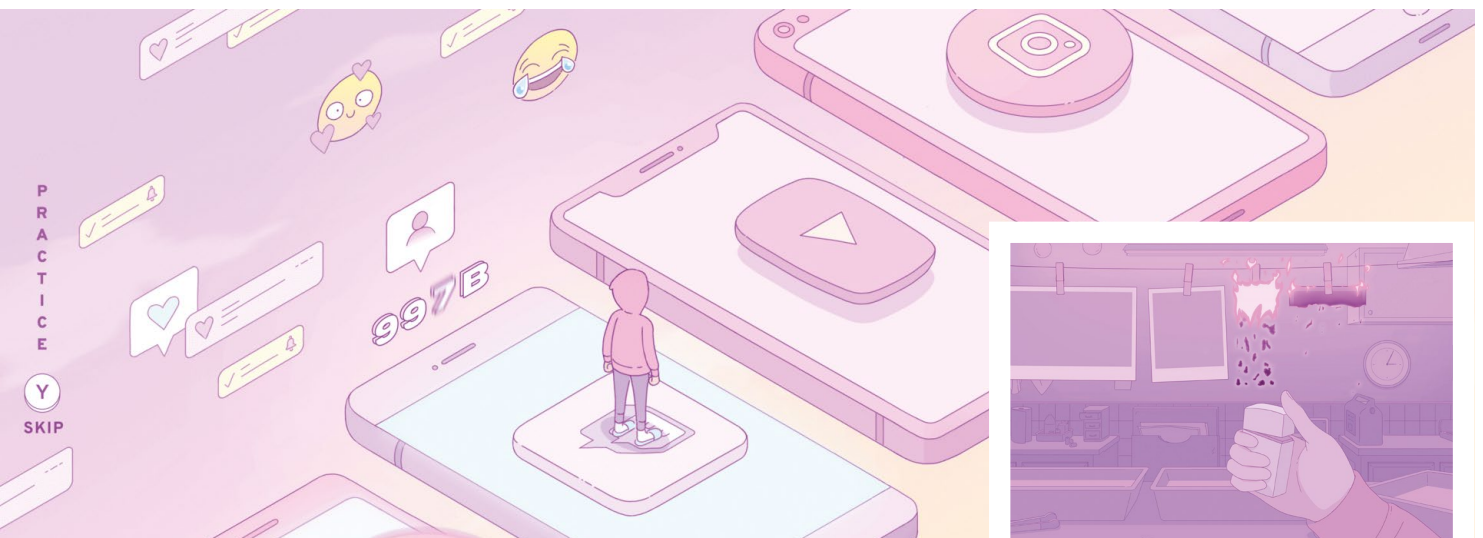


Melatonin

Half Asleep's pastel-coloured rhythm game aims to take players away from the stresses of everyday life and into a dream-like flow state. The lo-fi, melodic beats accompanying *Melatonin's* 20+ minigames go some way to achieving this, but equally important are the gentle art style and muted tones. "The colour palette has a soft feel to it which seems to appeal to a lot of people and stands out when compared to 'edgier'-looking games," lead developer David Huynh reveals. "It also gives the game a slightly surreal vibe, which is fitting for a game about dreams."

With the music and often surreal visuals working in harmony, *Melatonin* is designed to make players feel relaxed, says Huynh. "Since *Melatonin* is a rhythm game, a lot of the visuals need to move to the beat to feel connected to the music. To be able to pull that off effectively, I decided that the art style should be fairly simple so that every character and object has a good amount of clarity and contrast."

Dotted around this page are a selection of Huynh's sketches, which show how his artwork looks before those soothing, pastel colours are applied.



Mega Drivers

Years after its nineties heyday, Sega's 16-bit console is still getting new games. We chat with some of the people behind its thriving indie dev scene

Written by
Ryan Lambie

For three months in the autumn of 2019, the offices of British indie studio Bitmap Bureau were turned into a miniature production line. In one part of the room, developer Matt Cope was flashing data onto PCBs, before handing the boards over to co-founder Mike Tucker, who assembled the cartridges, applied the labels, and placed them into boxes. Then those boxes would have to be parcelled up to be sent to the local Royal Mail depot for shipping. "It was a big process, and there were some days where we'd be absolutely shattered, preparing all these packages," Tucker recalls. "You're burning it to the depot for 5pm, and you can't even see out of the car windows because it's so full of bags."

"One time," Cope chips in, "he did about five or six runs to the post office. And then the guy there goes, 'Oh, if you had this much to send, we could have sent a truck to pick it up...'"

So went the three months that straddled the release of *Xeno Crisis*, Bitmap Bureau's modern release for the Sega Mega Drive. An homage to the likes of *Smash TV* and *Alien Syndrome*, it's a frantic top-down shooter that appears to push the console's ageing hardware to its limits. *Xeno Crisis*'s latter stages of development were crowdfunded by a Kickstarter, which began in late 2018, and the developers were surprised by the scale of the demand. "In all honesty, we were doing the Kickstarter for a bit of fun," Cope says. "If we sold 100 copies, then great, happy days. We'll just make them ourselves by hand."

Instead, *Xeno Crisis* got orders of over 700 from its Kickstarter campaign alone, either for the



cartridge by itself, a boxed version with manual, or a special edition with exclusive artwork.

As Bitmap Bureau's experience demonstrates, Sega's 16-bit console still has a devoted fan base, and in the past few years it's been joined by a small but equally dedicated community of indie developers. One of the early pioneers in this regard was *Pier Solar and the Great Architects*, which began as a small fan game but gradually grew in scale until it was released as a physical cartridge for the Mega Drive in 2010. More recently, we've seen the likes of *Tanglewood*, *Demons of Asteborg*, *Tänzer*, and *The Cursed Knight*, all released in the same cartridge format that previously appeared in shops in the early nineties.

Just about all the developers we spoke to cite SGDK – or Sega Genesis Development Kit – as one of the driving forces behind this Mega Drive development scene. As its name implies, SGDK provides a modern environment for developers to make games in the C language, and provides all the libraries and resources needed to compile that code and output it as a readable ROM image that will run on the console's original hardware. "It would have taken way longer to get started, and way longer to develop the game ▶



▲ Design director Mike Tucker (above) and technical director Matt Cope (top) founded Bitmap Bureau in 2016. Their debut, *Xeno Crisis*, emerged in 2019.

Colour me bad

One of the bits of perceived wisdom surrounding the Mega Drive is that its more limited colour palette (at least compared to the SNES) was due to its hardware limitations. "There's the misconception that the Mega Drive can't do great colours," says Rouse. "It's just that developers focused on the lower end of the palette where it was all browns and darker colours. In the nineties, there was this push for realism, and that's how the Mega Drive was perceived. Nowadays, you see these modern games use the upper end of the colour range, and you can see the vibrancy of the actual Mega Drive colour palette."

▼ When images like this emerged before its launch, it was hard to believe that *Xeno Crisis* could run on original Mega Drive hardware. But it did.

to completion," says Mikael Tillander, developer of the Mega Drive hack-and-slash, *Tänzer*. "To be honest, I don't think I would have done a complete game without it."

"SGDK is the reason so many people can make games on the Mega Drive, concurs programmer Arnaud Tamarais. "Without SGDK, there would be no *Cursed Knight*."

Like so many of the games made for the Mega Drive in the past five to ten years, SGDK began as a passion project. In the late nineties, Paris-based programmer Stéphane Dallongeville created a Mega Drive emulator, Gens. When it came to developing dedicated Mega Drive ROMs, meanwhile, Dallongeville looked around on the web and was surprised at the lack of quality tools for the console. He didn't fancy coding in Assembly – the language many Mega Drive games were originally written in – and couldn't find a dedicated C compiler. "It's why I started to set up my own development environment by compiling recent GCC [GNU Compiler Collection] capable of generating m68k-elf code with a specific link script for the Sega Mega Drive," Dallongeville tells us. "So I finally had a working C compiler and could start writing my own code in a much more efficient way."

Dallongeville has regularly built on and improved SGDK ever since, working on the project between his day job as a software developer in the medical industry. The first public build appeared in 2006. "I was really surprised

▼ Developed by Neofid, fantasy Metroidvania *Demons of Asteberg* has some of the prettiest animation yet seen on the Mega Drive.



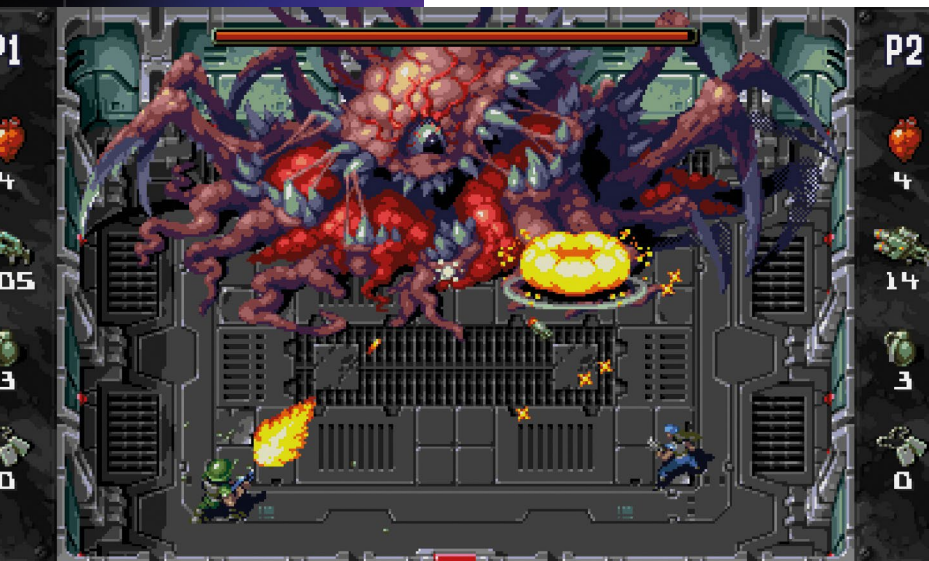
by how well received it was," he says. "That really pushed me to improve it."

Indeed, SGDK has proven so useful that its usage has spread beyond the indie dev community. On the Mega Drive Mini 2 retro console released in late 2022, you'll find *Fantasy Zone* – a new port of the arcade shooter developed using SGDK. For Dallongeville, who spent many late nights and weekends developing SGDK – and still updates it today – its widespread use is a welcome surprise: "The Mega Drive is a very old system, and programming for it is just a hobby for me... it's crazy and awesome at the same time to see some kind of 'professional' games being made with it – and even Sega officially distributing games being made with it!"

For many of the developers we spoke to, making a game for the Mega Drive goes beyond nostalgia: rather, a common motivation was challenge. The console was first released in 1988, making its hardware painfully limited by modern standards; to make a game for the Mega Drive, you have to first consider its palette of 512 colours, the 80 sprites it can handle per frame, and the space available on a cartridge. Bitmap Bureau, for example, had to cram *Xeno Crisis* into just 4MB of RAM.

"I kept a spreadsheet that had a ridiculous amount of tabs and detail," says Cope. "That was the hub of the technical aspects. Because, if you pull too much from one area, you cause a problem somewhere else. If you use too many sprites, then you're probably going to need to store more tiles in memory, then if you push DMA [Direct Memory Access] too much, then you haven't got time to do other things in VBlank. Then you start layering in music, sound effects, and so on... to fit that all in four megabytes was pretty hard."

Cramming *Xeno Crisis* into that limited space required plenty of optimisation – and a bit of



design trickery that would easily go unnoticed in the midst of the action. First: each player can only have eight bullets on the screen at one time. Also: only eight aliens. In fact, this latter rule can be used as a tactical advantage by carrier players, since hostages occupy the same sprite slots as aliens, so if there are two hostages on the screen, the game will only spawn six aliens. "It's like a little tactic," Cope says. "You have less to deal with if you kill the aliens and then you get the hostages at the end."

Limitations aside, the Mega Drive has an appeal to indie developers because, compared to other systems of its vintage, it's relatively easy to make games for. So says Mike Rouse, a veteran game developer who regularly shares news of the latest Mega Drive titles on his YouTube channel, Retro Gamer Boy. "There's two things: there's SGDK and then the architecture of the machine and how friendly it is," he tells us. "Those two things combined mean that you've got this huge pool of developers who are now capable of creating something for the console. It's probably one of the primary reasons why there's this resurgence in Mega Drive development over something like the Super Nintendo, which requires a more refined, almost lost skill set. Whereas what SGDK has done is democratised development for the console, which is fantastic."

"The SNES is a beast of its own," concurs Cope. "There are very limited, high-quality compile chains around for it. I tried porting the *Xeno Crisis* code to various compilers, and I could get it to the point where the code will compile, but it won't link. Basically, the way memory

banks behave is much more complicated than the Mega Drive. Also, the processor isn't as performant in some ways. They both have pros and cons, but the Mega Drive is really great to cut your teeth on."

What's most noteworthy about the recent crop of indie Mega Drive games is just how technically accomplished they are. *Xeno Crisis*'s graphics and sound, with detailed pixel art by Henk Nieborg and pounding music by Savaged Regime, are on a par (if not superior) to those seen in games released in the console's heyday. Similarly, French developer Neofid's *Demons of Ateborg*, a hack-and-slash platformer in the vein of later *Castlevania* titles, brims with

"Without SGDK, there would be no *Cursed Knight*"

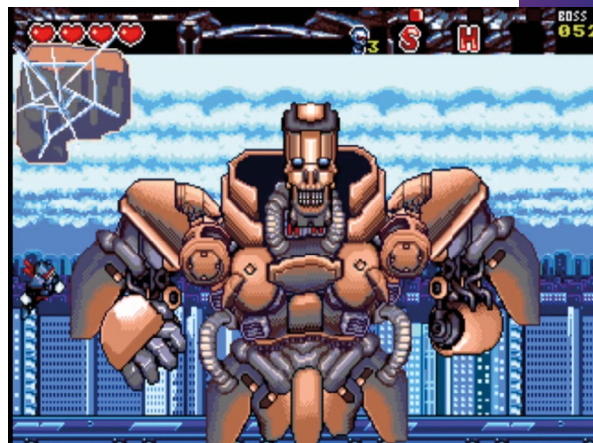
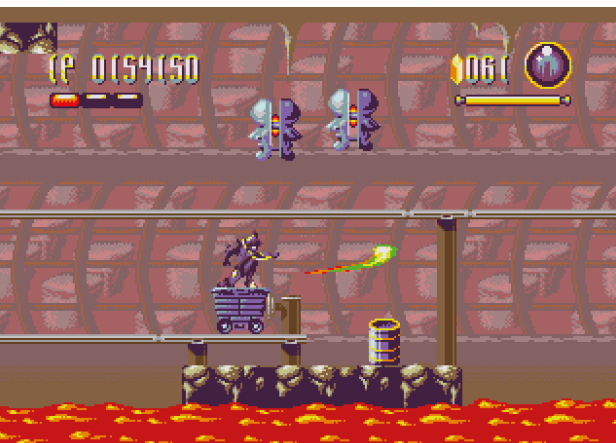
smooth animation and intricate sprite designs. Then there's *Paprium*, a brawler developed by WaterMelon – the studio behind *Pier Solar*. Its making and release

were mired in a series of controversies too complex to detail here ("I'm still waiting for my copy," says Rouse), but there's no denying what its creators achieved: its hulking sprites look like they belong on a more powerful machine like the Saturn or Neo Geo.

There are several reasons for the quality of these and other recent games. First, there's the time factor: *Tänzer*, *Xeno Crisis*, and *Demons of Ateborg* may be made by smaller teams on low budgets, but developers in the eighties and nineties were often expected to create their games to extraordinarily tight deadlines. Cartridge space is another factor: 30 years ago, the price of ROM chips meant that developers were often asked to squeeze their games into just a few kilobytes.

When programmer Yuji Naka ported arcade hit *Ghouls 'n Ghosts* to the Mega Drive, for instance, ➔

▼ Mikael Tillander's *Tänzer* is a fast-paced action platformer in the vein of Capcom's *Strider*.



Tanglewood

Released in 2018, *Tanglewood* is a particularly special modern Mega Drive release. Rather than use a modern environment like SGDK, programmer Matt Phillips managed to track down an original piece of development hardware to make the game. This meant that not only did he have to get the decades-old bit of hardware up and running, but also had to learn 68K Assembly language. "There were a lot of little hacks and tricks to get things to work and save CPU cycles," Phillips told Wireframe's Alan Wen in issue 12. "One of the things I had to take out was buoyancy. I had a lot of puzzles designed around objects floating on top of water, but that was using way too much CPU."

"The way [Phillips] went about it, going full Assembly?" marvels Bitmap Bureau's Matt Cope. "That's real hardcore."

▼ *The Cursed Knight* is a hybrid of shooter and platformer, brought to life with a range of eye-catching visual effects.



^ Sure, you can play a ROM through an emulator, but having a physical cartridge to play on real hardware is a major appeal of these new Mega Drive games.

he was originally expected to squeeze the thing onto a 4Mb cartridge – the equivalent of 512kB of memory. After a bit of pleading, his bosses let him up the cartridge capacity to 5Mb, or 640kB, instead. Naka created a terrific port of the game, but still had to cut corners to make things fit: backgrounds are composed of more repeating tiles, and the palette has been reduced to save space.

Modern games for the Mega Drive are often many times larger than that 640kB *Ghouls 'N Ghosts* cartridge; *Paprium*, say, takes up 8MB of memory. To get an idea of how *Ghouls 'n Ghosts* might have looked had it been blessed with a similarly generous helping of memory to play with, check out aMaru's work-in-progress on YouTube (wfmag.cc/amaru). It's essentially a ROM hack that reworks Naka's port and uprates its graphics to more closely match those of the arcade version. It's but one example of what can be achieved with enough time, memory, and understanding of what can be done with the Mega Drive's architecture.

"Now there are decades of know-how that's been assembled on the internet," *Tänzer's* Mikael Tillander points out, "so information on how to do savvy tricks is easy to get hold of. But you still need to pull it off, so it needs the right person for the job as well."

As several developers describe, the Mega Drive indie scene is truly international, with developers

located from all parts of Europe to Brazil to Russia. "Brazil has one of the most vibrant set of developers out there for the Mega Drive," says Rouse. "There's a huge passion for the console, because it's still culturally relevant in Brazil – it was five, six years ago that they released the Mega Drive again. And Russia as well – you can still walk into a shop and buy a Mega Drive [clone]. There's still a vibrant indie scene in Russia that doesn't break out into the rest of the world, but a lot of that is because they'll make Mario games for the Mega Drive and stuff like that. But there's the PSCD guys, who are actually Russian and Ukrainian; they go to developers and say, 'We'll take your existing game on Switch and bring it out for the Mega Drive.'"

One name that often comes up in our conversations is Sik, an Argentina-based developer who's made the top-down shooter, *Arkagis Revolution*. "Its rotating mechanic is really smart," says Tillander. "Not many people apart from Sik could have pulled that kind of thing off."

"Sik's created a number of games over the years, and is probably one of the nicest guys on the scene," says Cope. "And so knowledgeable – if I'm ever doubting anything on the Mega Drive, I'll ask him."

Cope highlights something else about the Mega Drive indie scene here: the sense of community. When Matt Phillips was developing his Mega Drive game, *Tanglewood* (see box), Sik provided technical assistance, as he later did on *Xeno Crisis*. Bitmap Bureau and *Demons of Asteborg* developer Neofid support Dallongeville's ongoing work on SGDK, and vice versa. Says Dallongeville, "Bitmap Bureau have donated since they started development on *Xeno Crisis* and still are, Neofid Studios donated and they also hire me as a consultant to help them with the development of their games. I also received some generous donations from different people just wanting to help and support SGDK development. So yeah, the community is, for the most part, really supportive."

"It's great to see it grow up – there's loads of people jumping in," Cope says of that community. "And we don't see that as a negative. Some people might think, 'We don't want any more competitors', but the reality is, it's so bespoke, what we're doing, that the more of us there are involved, the more it helps makes things more accessible, like the cartridges, the shells; the more people are buying those, the



◀ Neofid's rogue-lite *Demons of Asteborg* follow-up, *Astebros*, was crowdfunded in August 2022.

more people will be selling them... it grows the customer base."

Indeed, that growing customer base has seen the rise of companies like France's Broke Studio, which specialises in making physical releases for old consoles, including *The Cursed Knight* and *Arkagis Revolution* for the Mega Drive. While there are still challenges to overcome – *Cursed Knight* programmer Arnaud Tamarais recalls that the game didn't work on a particular version of the Mega Drive, requiring some late-night bug hunting – the process of getting physical games made has become somewhat easier in recent years as the audience for them has grown.

Back in 2019, Bitmap Bureau's Matt Cope and Mike Tucker were ordering PCBs, cartridge shells, and boxes, then doing much of the production line labour and packaging themselves. "We were sending stuff out to influencers in the early days and packaging each one individually, handwriting the labels," says Tucker. "We've learned a lot since then. And luckily, we don't really have to do much in the way of manufacturing anymore, which is good. We can actually write some code and make some games!"

The Mega Drive indie scene doesn't look like it's going anywhere, either. While there aren't quite as many projects for the console on Kickstarter lately, many of the developers we spoke to had sequels in the works or had upcoming games to recommend. Tillander is working on the side-scrolling shooter *ZPF*, which looks like a modern riff on such nineties classics as *Gynoug* and *Lords of Thunder*. Tamarais and his collaborators at GGS Studio Creation are working on a run-and-gun sequel, *The Cursed Legacy*, with a demo due for release in 2023. Neofid is putting the finishing touches to its *Demons of Asteborg* follow-up, *Astebros*.

Then there's veteran composer Yuzo Koshiro, who in November 2022 announced that he was working on a 2D shooter for the console.

Rouse recommends *Black Jewel Reborn*, a side-scrolling hack-and-slash successfully

crowdfunded in July 2022. In fact, Rouse has his own Mega Drive game in "super, super early" development – a cyberpunk-themed, RPG tactics title, though it probably won't be appearing on a console near you for a while. "My day job destroys my ability to work on anything," he says. "I'd need to bring two or three other people to help me build it."

As for Bitmap Bureau, it's also preparing to return to the alien-infested world of *Xeno Crisis*, having spent the last few years making the top-down hack-and-slash *Battle Axe* and Neo Geo brawler, *Final Vendetta*. "We're very early on with that, really," Cope says of their sequel to *Xeno Crisis*. "We're at that point where we're looking forward to doing it. When you finish a game, you don't want to necessarily work on something exactly the same again."

"Yeah, we've had *Xeno Crisis 2* in the back of our minds for a long time now," Tucker says. "We've had a nice break from the original and we've got loads of ideas."

Work on *Xeno Crisis 2* is set to begin this year – almost 35 years after the first Sega Mega Drives rolled off the production line in Japan.

The console may be far from the technological cutting edge, but the development scene surrounding it is a vibrant and growing one. 🗨



▲ Argentinian developer Sik can achieve some remarkable effects on the Mega Drive, including the rotating backgrounds in *Arkagis Revolution*.

Booming business

The beauty of developing a game in C for the Mega Drive is that, while the old 16-bit beast is the target platform, it can be ported to other systems with relative ease. *Xeno Crisis* alone is now available for PC, Dreamcast, Switch, PS Vita, and more besides. It's an approach that allows indie studios to support their system of choice while maximising revenue from other platforms. "Ninety-five percent of the game is in C," Matt Cope says of *Xeno Crisis*, "so we could take it to other platforms more readily. That's why, in the next few weeks, we've got a bunch more to announce on different platforms."



▲ Side-scrolling shooter *ZPF* is currently in development, and channels the fleshy spirit of games like *Cynoug* and *Lords of Thunder*.

The ZX Spectrum's colour clash was a good thing: this game proves it



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.

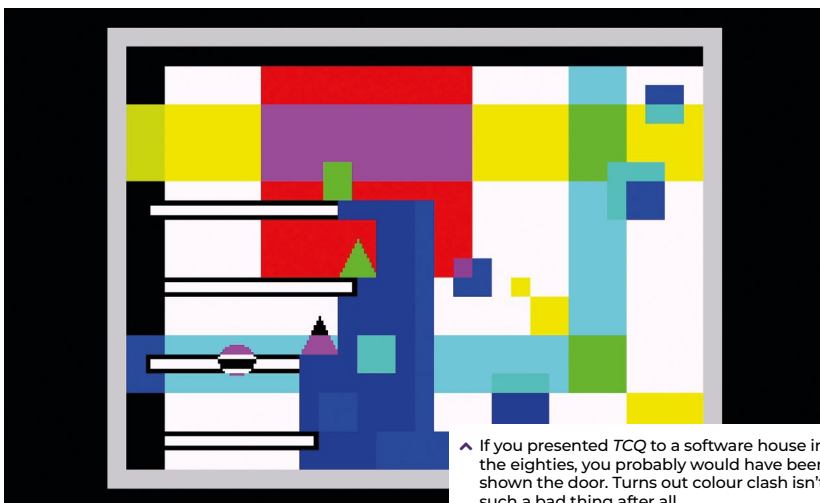
That people are still making modern games for an old computer like the ZX Spectrum is a joy in itself. But what's even more exciting is when someone makes a game capable of surprising you, even after all these years. I encountered one such example this month: a game that uses the Spectrum's limitations in a way that feels incredibly new. This is not a bad thing to see from a 40-year-old computer, it has to be said.

The game's called *Triangle, Circle, Square* – or *TCQ* for short – and it takes one of the Speccy's signature traits, colour clash, and uses it in ways that totally turn it on its head. Colour clash, back in the commercial days of the system, was seen as something to be avoided at all costs because it made the Spectrum look weak. (For technical reasons we won't bore you with here, the Spectrum could only display two colours in one 8x8 block of pixels, which often led to odd visual artefacts like a player character changing colour as it walked past, say, a red wall and a

green hedge – Ed). But what happens when you take this perceived weakness and treat it as if it's a strength? Well, you get something like *TCQ*.

TCQ was made by Brazilian developer Paulo Andrés de Matos Villalva, who goes by the name of Amaweeks online. I noted with interest that he didn't actually become familiar with the Speccy until 2014 and that, as an artist, he fell in love with the strange way the Speccy behaves when two colours fight against each other and bleed out all over the place. *TCQ* uses colour clash to give all of these impressions of playing with light and shadow, of multiple layers working away, and of a depth that you don't often find in games on the Spectrum – and it does it all using basic shapes and primary colours. The game's aesthetic is inspired by the art of the modernist Piet Mondrian, who was famed for only using geometric shapes and primary colours in his abstract paintings, and *TCQ* attempts to go for the same feel in a computer game. It turns out that the Spectrum is quite a suitable computer for this, particularly thanks to its trademark colour clash – the game has a look that would perhaps be harder to recreate on a contemporary machine like the C64.

In the 1980s, software houses would go to some serious lengths to avoid colour clash, even to the point where they would strip the colour out of games entirely. Such commercially minded decisions don't need to be made nowadays, but when you also consider that Paulo didn't grow up with the system, that perhaps also factors into this game's unique style – there's a lot to be said for being able to approach a system without even the prejudices that might have come from using it back in its salad days, and the result of that is a game that feels utterly modern and new on a computer that originally came out in 1982. Highly recommended indeed. 🗨



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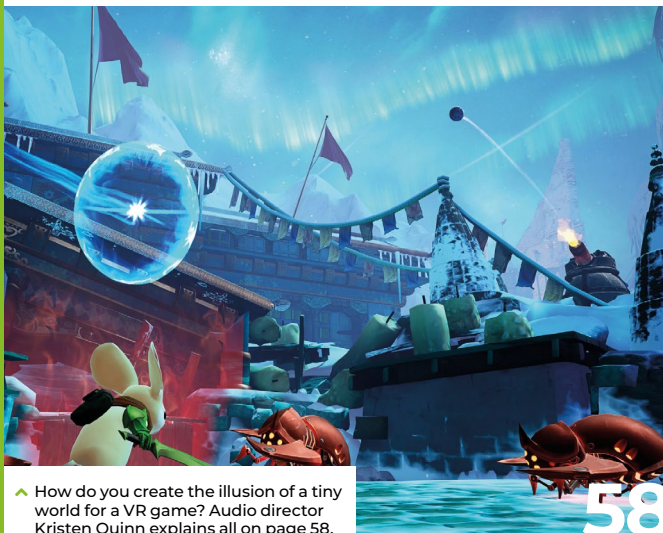
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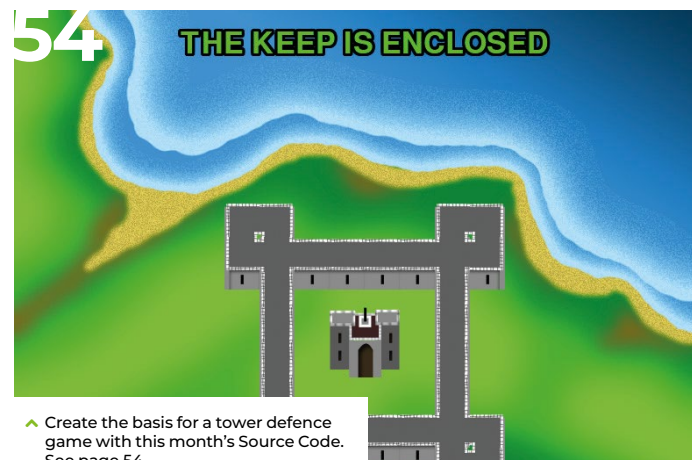
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✓ Add *Animal Crossing*-style seasons to your Unreal Engine 5 project with our guide on page 48.



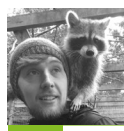
▲ How do you create the illusion of a tiny world for a VR game? Audio director Kristen Quinn explains all on page 58.



▲ Create the basis for a tower defence game with this month's Source Code. See page 54.

Stop when you've had enough

Antony examines the rare few games which dare to let players decide when they end



AUTHOR
ANTONY DE FAULT

Antony is Wireframe's writing and narrative design columnist. He's also a video game storyteller currently at FISHLABS, and you can find his work on [default.games](#) or [@antony_de_fault](#) on Twitter.

There have been three games in the last few years which have featured a unique structure not found anywhere else in the medium. For the purpose of this article, let's call this the 'In Your Own Time' structure. From what I can tell, the first game to format itself this way was *The Legend of Zelda: Breath of the Wild*, in which, of course, you play as Link, the recently awakened Hero of Hyrule. An evil monstrosity named Ganon terrorises the land, and from the very start, you know it's your job to defeat him.

After a brief tutorial area, you're released into the world, and if you so choose, may immediately go and engage Ganon. It's possible to beat him then and there, without engaging with any of the game's 100+ hours of free-roaming adventure. It

would admittedly be a very difficult fight, but the structure is set: you play *Breath of the Wild* until you, the player, feel that you've done enough, at which point, you go and fight Ganon. That could be 20 hours, just enough to get a few key skills, some better items, and to raise your attributes a bit. Or it could be hundreds of hours, finally showing up better-late-than-never to smash Ganon like some sort of over-prepared Hyrulian Hulk. The important factors here are:

THE RULES

1. The must-complete content, also known as the 'critical path', is *remarkably* short compared to the game's full offering
2. The ending, which can be chosen at any time, is the game's 'proper' ending
3. The game is generally designed not to show a preference for any particular level of completionism

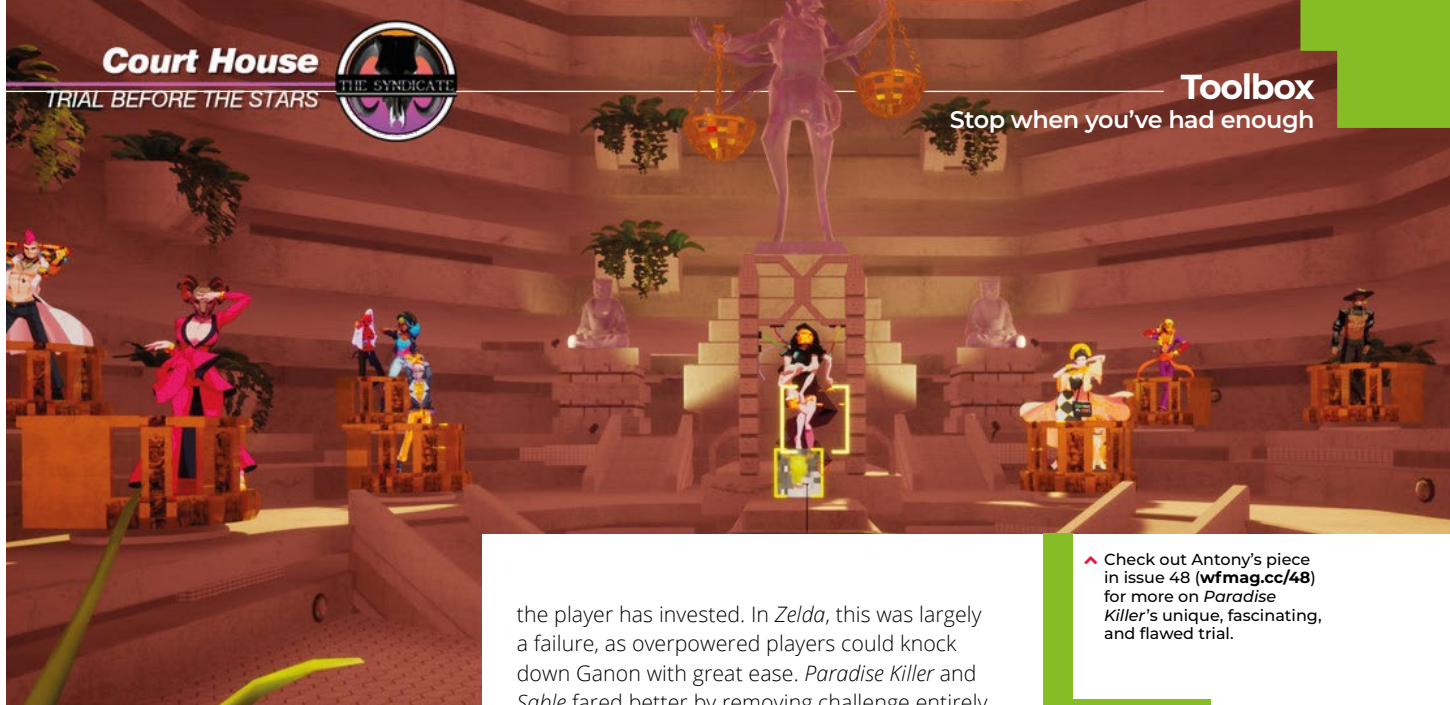
The In Your Own Time structure puzzled gamers at first. Digging back to the months prior to the game's reveal, when long-time *Zelda* series producer/director Eiji Aonuma first publicly mentioned *BotW*'s In Your Own Time (IYOT) structure, you'll find Reddit posts where fans incredulously try to pick apart his words. "The devs wouldn't want you to skip all of that story," states one matter-of-fact commenter, while others assume there's been a mistranslation because the idea "just seems weird."

THE INDIES

But the game came out and did incredibly well. And since possibly one of the best ways to succeed in the indie games market is putting your own spin on a Nintendo design, we have

✓ In *Breath of the Wild*, the castle you must liberate can wait. Perhaps unlimited time to explore is its own sort of power fantasy.





since been treated to two games which also attempt the IYOT structure. The first was *Paradise Killer*, a detective game in which you must scour a very strange island to solve a murder. It's full of secret areas, clues, and iconic characters to interrogate, but within the first 15 minutes, you are instructed that you can return to the courtroom to initiate the Trial and accuse anybody you like at absolutely any time. Unlike *BotW*, there is not even a difficulty barrier to the ending. You simply return when satisfied and point the finger.

The third game in this oddity trio is 2021's *Sable*, in which you play a young girl travelling a desert world in search of her purpose in life. In the fiction of the game, your professional or tribal role is determined by your chosen mask, and a variety of masks exist. All the player must do is venture out, find a mask they like, and then return home to solidify their choice. The player even begins their wandering with one such mask, which represents regular members of their birth clan, and they should earn a second within only a few hours of play. Again, there is no difficulty barrier; you must only return and choose a mask.

THE CHALLENGES

With the urgency of questing mostly stripped away, these games offer us the chance to fully determine our own pace, without feeling that we're 'not playing the game right'. But there are challenges to designing an IYOT game, and not all have yet been solved. First of all, the ending has to be present enough in the player's mind to not get forgotten. We should actually do the ending once we're done with exploring. This is a fine balance to strike if you want to avoid pressuring your player into the ending before they're ready. Also, the end-it-when-ever finale has to be agnostic to the length of time which

the player has invested. In *Zelda*, this was largely a failure, as overpowered players could knock down Ganon with great ease. *Paradise Killer* and *Sable* fared better by removing challenge entirely, and making the IYOT finale a moment of player expression: expressing a theory in the former, or an emotive choice in the latter. This should have fixed things. But instead, each game struggled to allow players nuance.

For most of its runtime, *Paradise Killer* feels like you'll have to accuse someone without knowing for sure that they were responsible, but if you play it for long enough, you'll find irrefutable evidence. All mystery disappears, your hours of theorycrafting don't pay off, and only the smoking gun mattered. Similarly, *Sable* allows for the player to collect over a dozen different masks, but in the end, only a few of these identities are serious choices that any player actually invested in *Sable* herself would choose. The rest are ornamentation, such as an old space helmet or the decapitated head of a worm. Lacking a payoff in the finale, much of the player's exploration is invalidated in this moment.

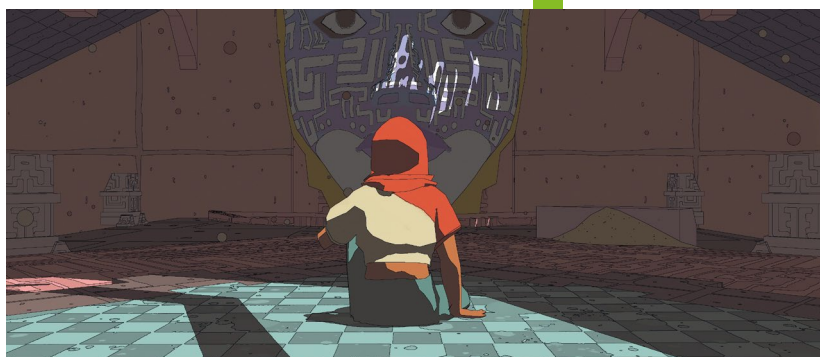
But undeniably, so far this new In Your Own Time structure has provided three-for-three commercial success stories. Hopefully this format will be explored further in projects to come, its challenges overcome, and we'll all be enjoying the unique stories that can be told when the player is asked, with trust, to set the pace. 🗨️

^ Check out Antony's piece in issue 48 (wfmag.cc/48) for more on *Paradise Killer's* unique, fascinating, and flawed trial.

CLOSE BUT NO CIGAR

There are a number of games out there which have flirted with the idea of an In Your Own Time structure, but not fully committed. *Far Cry 4* notoriously offered an early ending if the player simply obeyed the villain, but this ending broke rules two and three of an IYOT game. *NieR:Automata's* early endings are similar. *Fallout 2* came very close with a short route technically available, but its ending montage clearly breaks IYOT rule three, favouring completionism.

✓ *Sable's* Sable spends a lot of time pondering her choice of mask, but not all are worth choosing.



The principles of game design

In the games industry, litigation is even more prevalent than creativity, Howard writes. Can't we all just get along?



AUTHOR
HOWARD SCOTT WARSHAW

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

Talent borrows, genius steals." Oscar Wilde coined this phase before the concept of video games ever existed, yet he pretty much captured the industry in these four words. Look at the ratio of original productions to knock-offs – it's abysmally low. That's not an indictment of developers. It's hard to make viable creative innovations. And we all must service the gaping hungry maw of revenue targets if we are to continue producing anything at all.

Given the cost of development (particularly for consoles and PCs) and the desire to keep eating and paying rent, companies naturally mitigate risk by knocking off popular game concepts far more frequently than launching new ones. We all understand this dynamic. It's not a surprise; it's just a shame, in my humble opinion.

What is a surprise is the shock and ire developers experience when they see industry colleagues borrowing ideas. Some businesses would call this unethical at best and industrial espionage at worst. But in the video game industry, this is just business as usual. We all steal from each other. Making truly new games is simply hard to do. So we try to exercise our genius by stealing brilliantly, and then defending against any ensuing legal barrages. But it goes from ridiculous to absurd when I start to yell "Thief!" because someone steals an idea I stole in the first place. This too is business as usual.

And a good job it is. This sort of theft must not go unpunished. Our illustrious industry was forged in the crucible of litigation. Someone was always trying to recover damages, and this was a crucial part of the process. If I can't recover these monies, how can I possibly satisfy the judgements against me for my own thievery? It would be chaos!

Atari's initial corporate configuration had a very small legal department. But before they would die of financial asphyxiation, that legal department would swell to gargantuan proportions. After the switch from Nolan Bushnell to Ray Kassar, the legal department was where most of the innovation and development took place. Which is a shame, because the time they really needed it was in the beginning. Nobody thought to lock the VCS in the first place. A legal move more than a technical one. As a result, they ended up producing a record player rather than a proprietary video game console. This left the door open. Now, anyone who *could* produce a compatible game cartridge was free to do so and sell it to the public.

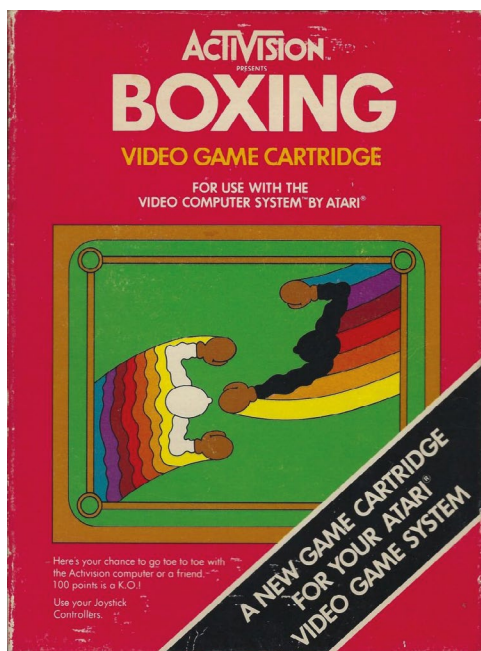
Legal battles and machinations are an integral part of any business. But in the modern creative entertainment realm, this highlights a more fundamental issue: they are all fighting over esoteric rights and protections in the treacherous and rapidly evolving landscape of mobile interactive entertainment (and all that entails). In a world where we're still waiting for the killer app, the big hitters are burning major euros in court proceedings. Money that could be spent in their labs, trying to make the next big thing. And can you blame them?

Apple has a long and storied tradition in this (legal) department. Go back to the olden days, before wireless connectivity, when the big battle was over the PC market. Apple went after Microsoft for knocking off the graphical user desktop interface, ideas Apple got from Xerox PARC in the first place.

Again, Apple came by that honestly since many of their early employees came from Atari. You see, Atari practically invented the if-you-can't-beat-them-sue-them strategy. In the late



▲ Frustrated by their working environment at Atari, David Crane and a trio of other programmers founded Activision in a garage in 1979.

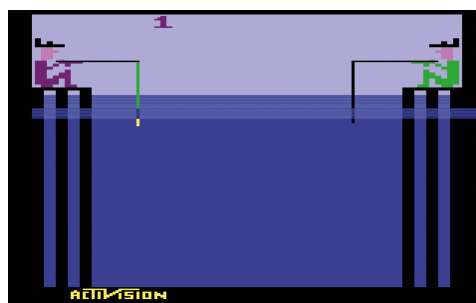
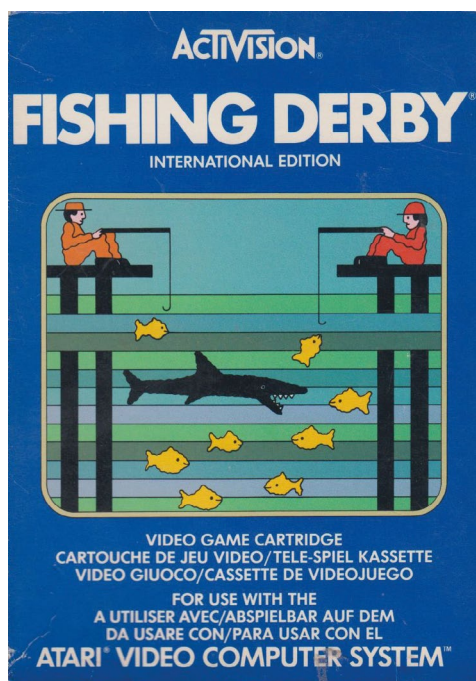


seventies and very early eighties, Atari was dealing with a big problem: competition. The formation of Activision (and later Imagic) tested them. Atari sued them. Atari spent more time in court than in innovation. They did everything they could to hammer people into legal submission rather than attempt to out-produce them, and in the end, it cost them dearly.

What was really interesting was Atari wound up trying to stop Activision and Imagic legally because they refused to entertain the bonus requests of the engineers who left to form these companies. Atari could have spent a very small portion of their legal fees on bonuses for those engineers, eliminating the problem before it began. But they didn't.

In a similar vein, news reports state that Steve Jobs was offered the chance to be CEO of Google early on, but he turned that down (possibly thinking it wasn't worth his time messing with these young upstarts). But the lesson of history is clear: if you don't nip these things in the bud, sometimes they grow and sprawl until they're blocking the sunlight to your garden. Then you have to sue them in order to accomplish what they invited you to do in the first place. It's a bit silly really. Can't we all just get along?

Ours is a *big* pie, but it's feeding a lot of lawyers these days. For some reason, it proves difficult for some people to consider growing together for our mutual benefit rather than taking it all for themselves and cutting



◀ Two of Activision's earliest titles for the Atari 2600: *Boxing* and *Fishing Derby*.

REGION LOCKED

What if Atari had locked the 2600 system? Just think what that would have done... First and foremost, it would have left game engineers with nowhere else to go, since Atari would be the only one legally entitled to produce 2600 games. Activision and Imagic could never have formed. The news of outrageous video game profits would have been delayed significantly, which, in turn, would have prevented other people from jumping in (lame people, mostly, with little or no talent for making video games). This, in turn, would have prevented the 'glut of crap' which contributed significantly to the decline and fall of the industry in the mid-eighties.

others out. And for some other reason, the people who suffer from this affliction cannot stop complaining about their comeuppance (which is not altogether unbecoming their original intentions).

In summary, I believe we are afforded the opportunity to sample a great deal of whining in our beloved industry. But I guess that makes sense. After all, isn't that whine a natural by-product of sour grapes? 🍇

✓ For both better and worse, the Atari 2600 became a venue for a growing ecosystem of third-party developers in the early eighties.



Animal Crossing-style season changes in Unreal Engine 5

Have your game world change depending on the time of year with our easy-to-follow guide



AUTHOR
RYAN SHAH

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



Time will pass and seasons will come and go – well, they will after you’ve read this guide! Today, we’ll look at how to replicate the season functionality from *Animal Crossing* to give us a virtual world that reacts to the real world’s seasons!

We’ll use the Top Down example from the Create Project option in the Unreal Engine 5 launcher for this example. If you already have an existing project, you can follow along by clicking the Add button in the Content Browser, selecting ‘Add Feature or Content Pack’, and then picking the Top Down example.

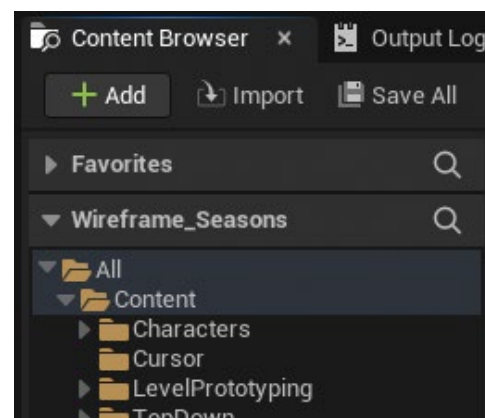
To get things started, we’re going to figure out the season. We need to do this in a central place, so all of our actors in our project have access to the same value and if there are ever any problems, we know exactly where to go to fix those issues.

The place where we perform our Season function needs to happen before anything else in our scene has time to perform what they want to do – this ensures that the correct season is ready for them from the start. Luckily, Unreal has a place where we can do just that: the game instance.

The `GameInstance` class acts as a manager for the current instance of your project. It’s spawned when the game starts and isn’t destroyed until the game shuts down – which means variables and values stored in it survive even level changes – something most other built-in classes can’t do.

Create the `GameInstance` by clicking Add > Blueprint Class in the top-left of your Content Browser. In the Pick Parent Class window that opens, use the All Classes search box to search for `GameInstance`. Select `GameInstance` (see **Figure 1**). Name the newly created `GameInstance` ‘GI_Main’.

With the `GameInstance` created, we need to tell the engine that we want to use this as our main `GameInstance` for this project. We can do so by heading to Edit > Project Settings. When the Project Settings window opens, head to the Maps & Modes subcategory (under Project). At the bottom of the details panel for the Maps & Modes section, you’ll see an option named Game Instance Class at the bottom. Set this option to the `GI_Main` we created earlier. Now the game will use our `GameInstance` class, which means we can now add our Seasons functionality. But before we do, we’re going to make something that will make determining the season easier.



> **Figure 1:** You can use the Add button to add all sorts of things to your Unreal project, from new Blueprints to content packs.



◀ Seasonal changes have always been a big part of *Animal Crossing*, from the sun-drenched beaches of summer to the velvety snowfall of winter.

SEASON STORAGE

Before we add functionality to our game instance, we're going to create an enum to store our season names. An enum (enumeration) is a way to use names instead of byte values. Basically, instead of using 'if 0, do X, or if 3, do Y instead' we can set out names, so '0 and 3' can become 'if Summer, do X, or if Winter, do Y instead'.

Create the enum now by going to Add > Blueprints > Enum. Note that Blueprints is a submenu in this context; we're not talking about the Blueprint Class button we used earlier. Name the new Enum 'Enum_Season' and then double-click it to open the Enum editor. Use the button on the top ribbon of the Enum editor to add four entries. Under Display Name, set them to 'Spring', 'Summer', 'Autumn', and 'Winter', respectively (**Figure 2**). Once you've done this, save and close the Enum editor.

Now we have our enum set up, it's time to add functionality to our GameInstance.



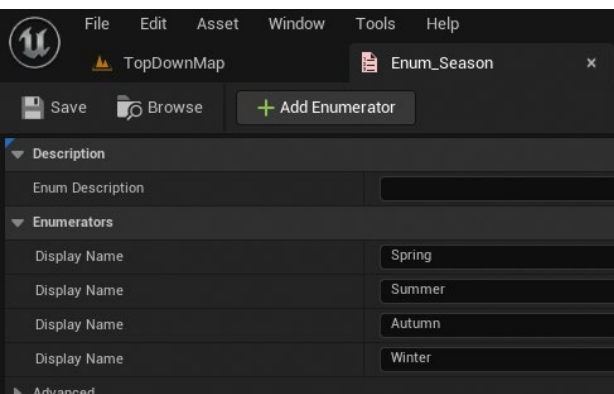
BABY, IT'S CODE OUTSIDE

Open up GI_Main and create a new function by clicking the '+' arrow under Functions in the MyBlueprint tab (the default location of which is on the left-hand side of the GameInstance Blueprint). Name this new Function 'GetSeason'. Select the GetSeason function in the Function list and then head over to the right-hand side details panel, where you'll see Inputs and Outputs. We want our function to output what season we're in, so add an Output (using the '+' icon). Name the output 'Season' and set the type to our created Enum_Season. If your Function isn't open, double-click it to open it – it's coding time!

To get started, we need to know what the current time is when the function is called. Luckily, Unreal has a built-in function for exactly this purpose. Right-click in empty space to open the Blueprint Palette. In the search field, type 'Now' and create a Math > DateTime > Now node. The function we've created gives us the current time and date, at least as verified by the end user's device time and date settings. We're now going to make three Make Date Time nodes; one for Summer, one for Autumn, and one for Winter. Stack these created nodes vertically and set them up like so: ➔

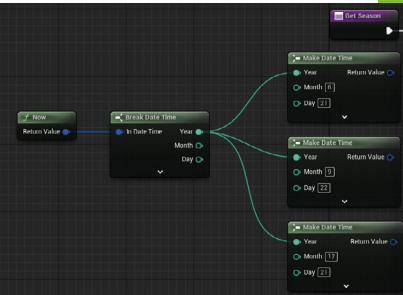
USING SEASONS

Changing seasons can be employed in all kinds of ways, and to achieve a variety of effects. The arrival of winter in *The Last of Us* added to the story's sense of post-apocalyptic desolation. In farming games like *Stardew Valley*, certain crops and items are only available at certain times of the year. Then there are racing games like *Forza Horizon 5*, where the changing seasons affect road surfaces and, by extension, the way your car handles.



▲ **Figure 2:** Enums are a great way to keep your code human-readable.

▼ **Figure 3:** This code makes the assumption that the season changes on the dates supplied. Summer: 21 June; autumn: 22 September; winter: 21 December.



Make Date Time #1 ("Summer")

- Year: Leave Empty, we'll deal with this shortly
- Month: 6
- Day: 21

Make Date Time #2 ("Autumn")

- Year: Leave Empty, we'll deal with this shortly
- Month: 9
- Day: 22

Make Date Time #3 ("Winter")

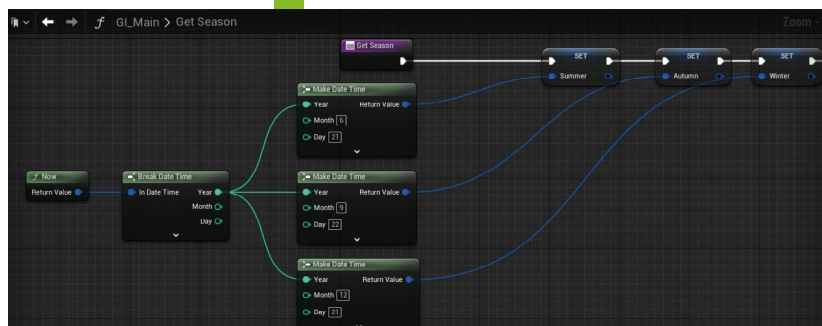
- Year: Leave Empty, we'll deal with this shortly
- Month: 12
- Day: 21

Now we've created our three nodes and set them up, we can feed in the current year to give us a rough estimation of a season. Head back to the Now node we created, grab the Return Value output, and drag it into empty space. This loads up the Blueprint Palette from the context of the pin we dragged. Create a Break Date Time node and connect the Year output to the Year inputs of the three Make Date Time nodes we created (Figure 3).

We now have three dates to check against, but we want to keep our code as human-readable as possible. We'll store the outputs of our Make Date Time nodes into Local Variables (variables that only exist within this function). Right-click the three output Return Value pins from the Make Date Time nodes and select 'Promote to Local Variable'. Hook up the execution pins together and ensure the input of the function goes into the first Set node (Figure 4). Name these variables as follows:

► **Figure 5:** Here, we're checking: 'Is Today's date either the day of the Winter season or later? If not, then is it the Autumn date or later?'

▼ **Figure 4:** Promoting to Local Variable is a powerful feature in terms of keeping Blueprints clean and human-readable.

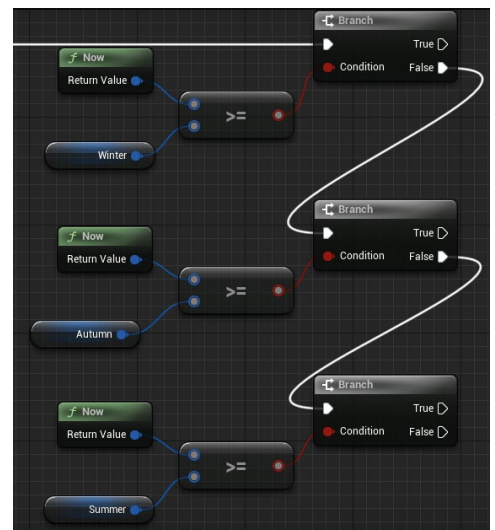


| Summer |
|-------------|
| • Month: 6 |
| • Day: 21 |
| Autumn |
| • Month: 9 |
| • Day: 22 |
| Winter |
| • Month: 12 |
| • Day: 21 |

Now we know when the Seasons should roughly begin, we can check the current DateTime with these stored variables to figure out what season to return within this function. Create three Branch nodes and three Now nodes. From the output of the Now nodes, create three Greater Equal (>=) nodes. Head over to the Local Variables section in the MyBlueprint tab and drag in the three created variables (Summer, Autumn, and Winter) – when asked, select 'Get nodes'.

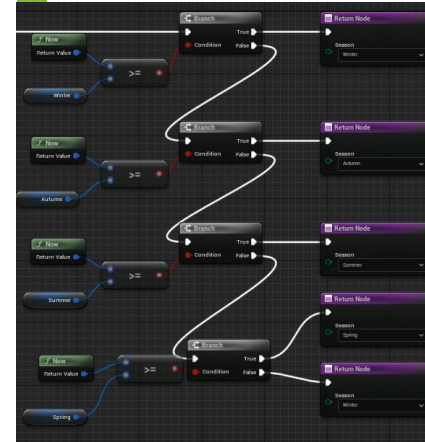
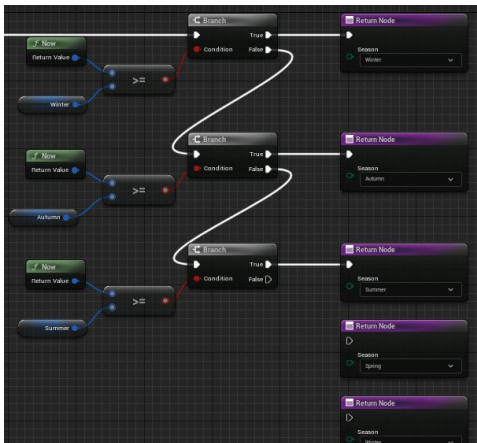
Plug the Winter variable into the second input of the first Greater Equal node, and plug the Autumn variable into the second input of the second Greater Equal node. Finally, connect the Summer variable to the second input of the third Greater Equal node. With the Branch nodes, hook the Winter Greater Equal into the first Branch, the Autumn Greater Equal into the second Branch, and the Summer Greater Equal into the last Branch (Figure 5).

Connect the input execution pin of the first Branch into the output execution of the Set Local Variable node, then plug the False output into the second Branch's input. Connect the second Branch's False output to the input of the third Branch.



Find the Return Node (purple) that was automatically generated when we set the output variable. Duplicate it four times so we end up with five of them in all. Hook three of these Return Nodes into the outputs of the Branch nodes.

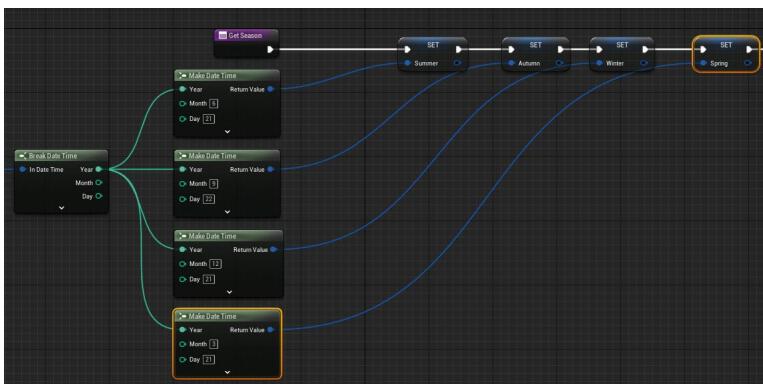
For the first Return Node, we're checking if now is either the date of the Winter season or later, so we set the enum value on the Return Node to Winter. The second one should be set to Autumn and the third one set to Summer. You'll notice that there is an empty False output – that's due to the fact we need to check if it's not any of the dates listed already, it's going to be either Spring or it is still going to be Winter (Figure 6).



▲ Figure 8: This is how the Branch tree for your GetSeason function should look.

◀ Figure 6: Your current setup should look like this.

We need to add an entry for Spring into our existing structure. Create another Make Date Time node and connect it into the Break Date Time just like before (connect the Year variable), promote the output to a Local Variable again, naming this one 'Spring', and place it after the Set Winter and before the first Branch node (Figure 7). Set the Month to 3 (March) and the Day to 21.



◀ Figure 7: Adding a variable to an existing function can be helpful in efforts of keeping everything clean and human-readable.

Create another Branch node, a Now node, and a Greater Equal node as we did before, and hook this into the existing False output. Bring in your new Spring variable and plug it into the Greater Equal node. For the two outputs of the Branch, hook in the remaining two Return Nodes. The True output should have the enum set to Spring and the False return node should have its enum value set to Winter – as it would still be winter if the date is no higher than the spring date (Figure 8).

Our GetSeason function is now complete. It checks the current time against our predefined dates to figure out what season the current date is. Currently, this function isn't plugged in, so it will never fire – so let's fix that.

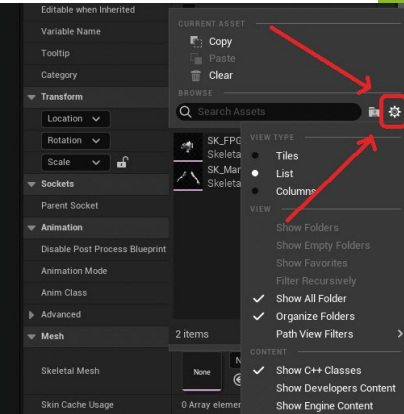
Head back to the Event Graph and create an Event Init node. This event fires automatically as soon as the GameInstance is ready, which in the execution chain of the engine is before the other actors and objects are spawned into the game. Grab the GetSeason function from the MyBlueprint tab and drag it into the Event Graph. Connect the execution pins between Event Init and Get Season together. From the output pin of the Get Season function, right-click it and select 'Promote to Variable'.

Now, when the game starts, the GameInstance will immediately have the correct season. This means any actor or object in our project that needs to know the current season will be able to get it at any time.

HOUSEBUILDING

With our season code set up, we can create an actor to demonstrate our work. We'll make a Blueprint that represents a house to follow in the *Animal Crossing* theme.

First, head back to the Content Browser. Once there, create a new Actor Blueprint now (Add > Blueprint Class > Actor) – name this Blueprint 'BP_House'.



^ **Figure 9:** You can change what content shows up in your asset pickers by clicking the gear icon and selecting Show X Content. This is useful for toggling the visibility of engine or plugin content.

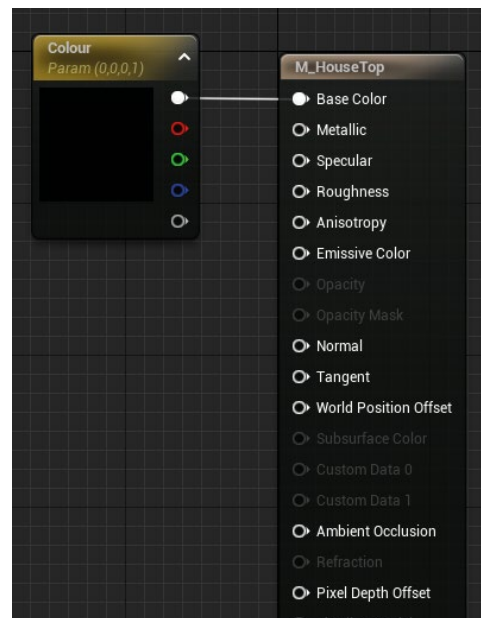
Add two Static Mesh components from the Component tab. Click StaticMesh to see the Details panel on the right. Set the Static Mesh to Cube. Do the same for StaticMesh1, but set the Static Mesh to Cone (**Figure 9**).

Set the Transform details for StaticMesh1 as follows:

- Location:**
X: 0.0, Y: 0.0, Z: 22.0
- Rotation:**
X: 0.0, Y: 0.0, Z: 0.0
- Scale:**
X: 3.25, Y: 3.25, Z: 1.75

Now we have a 'house', we need some Materials to be able to see what season we're currently in. In your own projects, you could replace this part by adding snow or other particles on top of the house.

Head back to the Content Browser. Create a new Material (Add > Material) and name it 'M_HouseTop'. Double-click it to open it. Hold the **3** key on your keyboard and left-click in empty space to create a Constant3Vector, which we will be using to colour the roof of our building. Right-click on the created node and select 'Convert to Parameter' – this allows us to change this value in Material Instances. Name the parameter 'Colour'. Hook the white output pin (top-most pin) into the input of Base Color.



> **Figure 10:** What your Material should look like.

Click on Apply and Save and then close the created Material (**Figure 10**).

Within the Content Browser, right-click your M_HouseTop material and select Create Material Instance. Do this again three times for the remaining seasons. Be sure to name your Material Instance's 'MI_HouseTop_SEASON' (replacing SEASON with the name of the Season).

Open all the created Material Instances. Within each one, you should see a variable named after the parameter created in the parent class (which, if you're following closely, should be 'Colour').

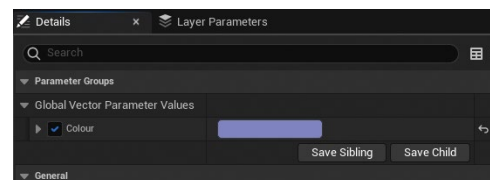
Make sure the checkmark to the left of the variable is set to true on all four Material Instances, then set a unique colour for each of them. For this example, Winter will be Blue, Summer will be Yellow, Autumn will be Red, and Spring will be Green (**Figure 11**).

Once you've made the adjustments to all the Material Instances, save and close them all. With that work completed, head back into BP_House and head to the Event Graph.

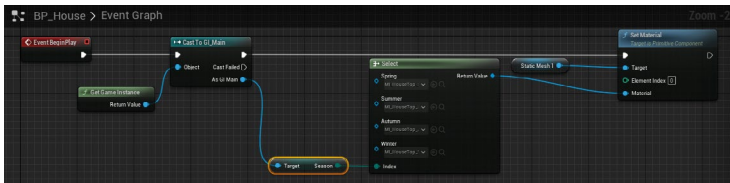
Right-click in empty space and create a Get Game Instance node. From the Return Value output pin, click it and drag it into empty space. From the Blueprint Palette that opens up, create a 'Cast to GI_Main' (or Cast to YOUR GAME INSTANCE NAME) node and hook up the input execution pin to the Event BeginPlay event. What this does is: when an actor's created, we're getting the game instance and checking if it's the game instance we created earlier.

From the output in As GI Main on the Cast node, click it and drag it into empty space. Select Season from the Blueprint Palette (the variable, not the function). Click the created output pin on the variable that appeared in the Event Graph and, once again, drag it into empty space. Create a Select node (**Figure 12**).

Grab StaticMesh1 from the Components panel and drag it into the Event Graph. From the output pin of the StaticMesh1 variable,



^ **Figure 11:** An example of one of the Material Instances with the variable correctly set up.



◀ **Figure 12:** The completed Blueprint for BP_House.

drag it into empty space and create a Set Material node. Hook the input execution pin of the Set Material node into the top-most execution pin of the Cast node (not the Cast Failed execution pin). Connect the output of the Select node to the Material input of the Set Material node. This will convert the Select node into Material references. Fill in the empty references with references to the created Material Instances we made earlier based on the enum value (Spring would naturally be MI_HouseTop_Spring, etc.).

The last thing we'll do is save and compile the Blueprint, close it, and place the BP_House somewhere in the scene (for this example, it is recommended to place it at X: 1570, Y: 1850, Z: 130) and give it a play. If everything went correctly, you'll see the roof of the house correctly update for the current season.

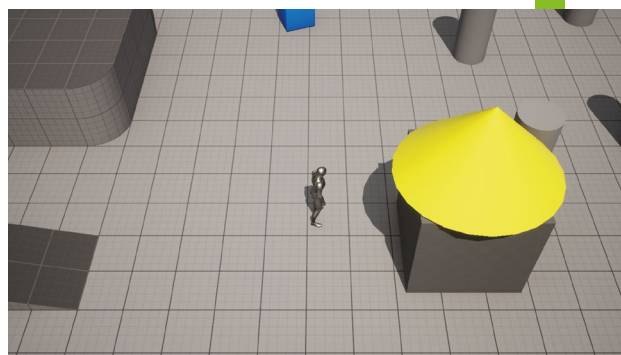
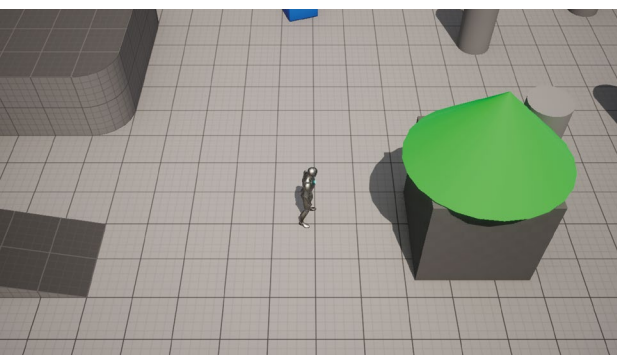
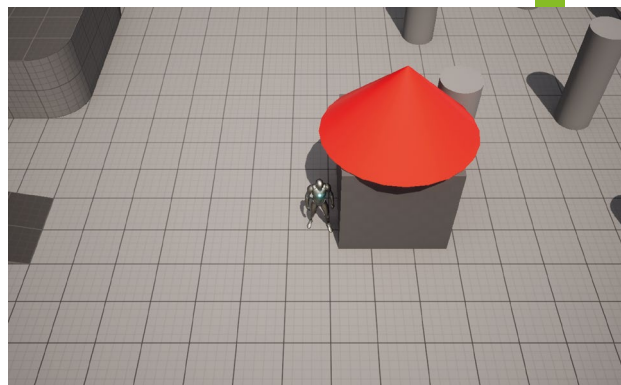
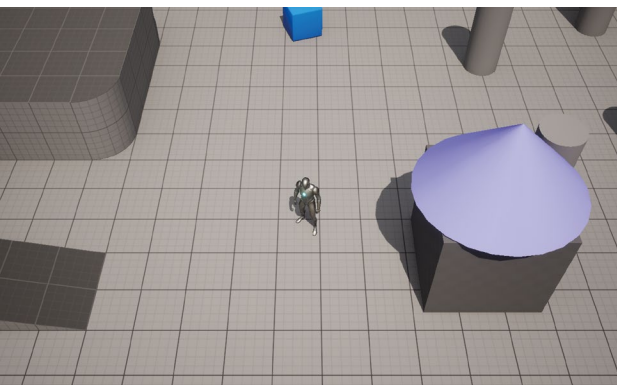
And that's it! Using what you've learned today, you could easily replace the material-switching

mechanic with something more hands-on, such as snow if it's in winter, or you could add more meshes, such as candy canes for Christmas. The possibilities are endless.

Having a central place where the season is set, you can have any (or all) actors or objects in your scene grab the variable, as shown in this example. This also means if you need to debug the season, to make sure that everything's registering and acting accordingly, you can temporarily alter the GetSeason function to return whatever time of year you want.

This process also has other potential applications besides simulating seasons. The keened-eyed among you will have noticed that the Now node can give us more than the day, month, and year: it can even do the current minute, hour, and even second. Pairing this knowledge with a Timer or an Event Tick means you can create things like day-night cycles or other events that occur at a particular day or time. 🕒

▼ Our seasons mechanic in action: the roof goes blue in winter, green in spring, red in autumn, and yellow in summer.





◀ Cannons ready, prepare for battle! It's the original Rampart, developed by Atari in 1990.

Tower defence wall building in Python

Protect your castle in the style of Atari's pioneering Rampart. Mark shows you how



AUTHOR
Mark Vanstone

As the eighties drew to a close, a new strategy genre emerged. The tower defence game involved building walls or barriers around your castle to prevent an enemy destroying it. One notable early entry in the genre was *Rampart*, released by Atari. The game took in two phases. In the building phase, the player filled holes in the walls around their fort and placed cannons. In the second phase, the player's fort would be attacked from the sea by an armada of ships, and the player could fire back with their cannon. This cycle would continue until the player could no longer fill the gaps in the walls or they'd destroyed all the attacking ships.

For our Pygame Zero example, we'll look at two tower defence mechanics: the wall building system and then the check to see if the keep has been enclosed by walls. To start coding, we'll need a background – in this case, a shoreline section of land. We then need to define an invisible grid which will hold the details of where the walls are positioned. If we say that each wall segment is 40×40 pixels, on an 800×600 pixel window we can define a grid that is 20×15 squares in a two-dimensional list. In this list,

we'll start with all the squares set to 0 and then if we add a wall section, switch that square to 1. To define where we can and can't build, we can load in a little black-and-white image and read pixels from that to set squares which are non-buildable as 3.

Our fort will take up four squares, so we set the top-left square of the fort's position as 2 and the other three squares as 3. This will stop the player building walls over the fort. We track the mouse movement with the `on_mouse_move()` function and when we have the mouse x and y coordinates, we draw a single section of wall under the mouse pointer locked to the invisible grid. When we get an `on_mouse_down()` event, we check that the square we're over is a 0, and if it is, we switch that to a 1.

During the `draw()` function, if we draw a single wall section wherever there's a 1 in our grid, we'll see flat squares where the walls are. What we want, though, is for all the walls to join up with battlements around the outside. For this, we need to inspect the squares around each wall piece and change the image we use depending on how it's connected to other wall pieces. We look at the squares above, to the right, below, and to the left, and make a string

with zeroes if there's no wall there, and ones if there is. This means we'll get the string '0000' if no walls connect, '1000' if there's a wall above, '0101' if there are walls on the left and right of our current wall, and so on. This is then used to load the wall image – for example, 'wall0101'.

In the second part of our example, we'll detect whether the fort has been surrounded by walls. There are various ways to do this, but we're going to use a 'flood fill' routine to test this. First, we make a copy of our grid list to test with. Then, starting at the fort location on our grid, we recursively test all the neighbouring squares. If we hit a wall, then we close that branch of the loop. This creates a sort of cascade of tests going outwards until either the side of the map is reached or we run out of squares to test because walls have been hit by all the code branches. If the edge of the map is reached, the wall has holes in it; otherwise, the fort is enclosed.

Those are our wall-building and test routines. To complete the tower defence-style game, you'll need to add some cannons and ships to fight, but we'll leave that part for you to have fun with. ☺

Tower defence in Python

Here's Mark's code for the beginnings of a tower defence 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.



Download
the code
from GitHub:
[wfmag.cc/
wfmag70](http://wfmag.cc/wfmag70)

```
# Tower Defence

import pgzrun
from pygame import image, Color

nobuildmap = image.load('images/nobuild.png')
mymap = [[ 0 for y in range(0,16)] for x in range(0,21)]
mymap[9][10] = 2
mymap[10][10] = 3
mymap[9][11] = 3
mymap[10][11] = 3
for x in range(20):
    for y in range(15):
        if nobuildmap.get_at((x,y)) == Color('black'):
            mymap[x][y] = 3

curMouseX = 0
curMouseY = 0
enclosed = False

def draw():
    screen.blit("background", (0,0))
    drawMap()
    screen.blit("wall", (curMouseX*40, curMouseY*40))
    if enclosed: screen.draw.text("THE KEEP IS ENCLOSED",
center=(400, 100), owidth=1, ocolor=(0,0,0), color=(0,255,0) ,
fontsize=50)

def drawMap():
    for x in range(20):
        for y in range(15):
            if mymap[x][y] == 2:
                screen.blit("castle", (x*40, y*40))
            if mymap[x][y] == 1:
                drawWall((x,y))

def update():
    pass

def on_mouse_move(pos):
    global curMouseX, curMouseY
    curMouseX = int(pos[0]/40)
    curMouseY = int(pos[1]/40)

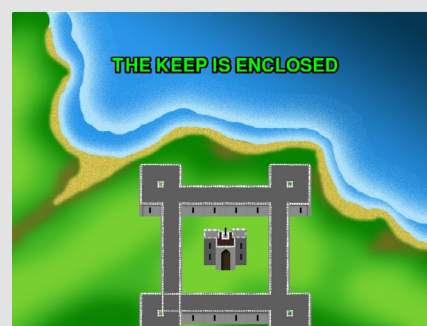
def on_mouse_down(pos):
    global curMouseX, curMouseY
    curMouseX = int(pos[0]/40)
    curMouseY = int(pos[1]/40)
    if mymap[curMouseX][curMouseY] == 0:
        mymap[curMouseX][curMouseY] = 1
        testEnclosed()
```

```
def drawWall(pos):
    walltype=""
    walltype += getNeighbourWall(pos[0],pos[1]-1)
    walltype += getNeighbourWall(pos[0]+1,pos[1])
    walltype += getNeighbourWall(pos[0],pos[1]+1)
    walltype += getNeighbourWall(pos[0]-1,pos[1])
    screen.blit("wall"+walltype, (pos[0]*40, pos[1]*40))

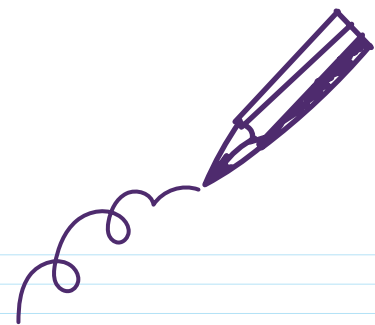
def getNeighbourWall(x,y):
    if mymap[x][y] == 1 :
        return "1"
    else:
        return "0"

def testEnclosed():
    global enclosed
    mytest = list(map(list, mymap))
    width = len(mytest)
    height = len(mytest[0])
    enclosed = True
    def fill(x,y):
        global enclosed
        if mytest[x][y] != 0 and mytest[x][y] != 3:
            return
        else:
            mytest[x][y] = 2
            if x == 0 or x == 20 or y == 0 or y == 15:
                enclosed = False
            return
            neighbours = [(x-1,y),(x+1,y),(x-1,y-
1),(x+1,y+1),(x-1,y+1),(x+1,y-1),(x,y-1),(x,y+1)]
            for n in neighbours:
                if 0 <= n[0] <= width-1 and 0 <= n[1] <=
height-1:
                    fill(n[0],n[1])
            fill(10,10)
    return enclosed

pgzrun.go()
```



◀ Our homage to the tower defence genre. Build a series of walls to safely encircle your fort.



GETTING INTO GAMES

How I became an... **Audio Director**

Jon Newman from Inflexion Games discusses how to be an audio expert and the value of learning other disciplines



What was the game that made you first want to work in games?

I was always interested in computers, games, and computer-generated music from an early age – I used to stay up late with my dad and code basic games on the Texas Instruments TI-99/4 and still remember that loading noise fondly! The first game to make me want to make game audio, and not solely music, was *Final Fantasy VII*. The combination of story, world-building, mechanics, and characters was captivating and made me feel that games had truly arrived as a complete storytelling medium.

How did you break into the industry?

In 2002, I was studying for a degree in Music and Sound Recording at the University of Surrey, Guildford (UK). As part of the four-year degree, one year is dedicated to working as an intern. Luckily, Electronic Arts had their UK studio just down the road in Chertsey. Through the university, EA was able to take on two interns. About five years later, after graduating and working in audio

post-production in London, I had the chance to reunite with some of the team at Codemasters.

What was the first commercially released game you worked on? Are you still proud of it?

The first released game I made a small contribution to was *Harry Potter and the Chamber of Secrets*. One of the NPCs has my voice on it, which is a nice memory. Recently, a colleague mentioned that they had played it on the PS2 growing up – which is a humbling reminder how timeless games can be. I learned a massive amount as an intern and have a lot to thank the audio team at EA UK for.

What's the chief responsibility of an audio director, and how do you achieve it?

The role of a sound designer in games has three main aspects: creative (what you do), technical (how you do it), and communication (how to work with other disciplines).

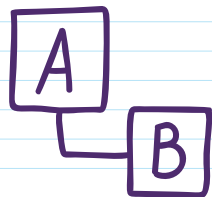
As an audio director, your major responsibilities are naturally to oversee and help shape the aesthetic and technical audio aspects of the project, but also help represent audio across the wider team. The project's creative and technical needs must always be balanced while having the audio department's team health and development in mind. Key aspects of the role are to help mentor and remove technical/scheduling/workflow blockers from the team to enable team members to grow and achieve great work.

How important is it that the audio department works closely with other disciplines over the course of development?

It is crucially important. Oftentimes audio is viewed as 'something that usually happens at



▲ *Final Fantasy VII's* Midgar is regularly cited as an influential location by many modern game devs. For Newman, it was the sound of its steampunk stylings that ignited a creative spark.

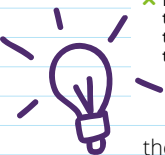


“Audio can communicate elements of gameplay or strategic opportunity that are off-screen or otherwise obscured visually”





▲ Newman's next game, *Nightingale*, challenges players to build, fight, and survive within a fantasy version of the 19th century. Finding the eponymous city sees you traverse many realms.



the end', as 'the end' is the crucial time when the production schedule makes audio work highly visible (e.g. VO and localisation, cinematics, final music delivery, and so on). This view or mindset often overlooks the process as a whole in so far as the last iterations of, say, an animation or a UI sound effect sometimes happen months after the initial audio sketches, concepts, technical investigation, or mechanics prototyping occurs. With modern workflows and tools enabling ever faster iteration on art assets, this longer delivery pipeline needs constant course correction with other disciplines.

Furthermore, working with designers and artists on early prototypes can help shape the feel and pacing of the player experience while a feature is in development. Audio can help the player feel the 'weight/speed' of a weapon or effectiveness of a magic spell. Audio can communicate elements of gameplay or strategic opportunity that are off-screen or otherwise obscured visually to the player.

Are there any unique challenges to sound design that your average player probably doesn't consider?

Many aspects of audio often go unnoticed if it's done well! Take, for example, what the expectations of a listener are to how a weapon impact or explosion should sound. Is the sound of an impact the right weight/energy? The right material striking the right surface? How should the sound reverberate in the acoustic space or occlude when behind a wall? Should the player using this weapon have a punchier version than an NPC or enemy? Lots of these questions inform not only the audio content that needs creating, but also the playback and runtime information that needs providing to inform these systems.

What's a mistake you made early on in your career but learned from?

On one project, the deadlines had to move at the last moment to make the certification dates. This put a lot of time pressure on the delivery of the last pieces of cinematic content across the audio

team. Unfortunately, some creative direction changes also transpired at the same time. The consequences from this underlined to me the importance of constant feedback and ever increasingly smaller creative course corrections and schedule realignment, rather than a single large change, born out of scheduling pressure.

What advice would you impart to your younger self?

Spend some time every week experimenting or dissecting and emulating some other reference material. Make a library of your sound experiments and elements, and don't forget to back them up. Your future self will thank you for all that practice, ear training, and unique source elements. Also, spend some time learning about other disciplines in game development: design, QA, animation, VFX, environment art, etc. Learn about how they view their creative process and how they use their toolset/workflow.

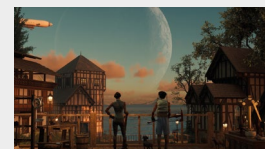
Would you say it's easier or harder than before to work in games today?

These days, it is possible to become highly proficient in the software required for a career in game audio, as well as engines such as Unity and Unreal, without working as an intern for a triple-A studio to get exposure to the tools. The opportunities for self-directed learning through online tutorials as well as networking with other game professionals have never been greater.

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

Make connections (online, game jams, IRL meetups) with other developers, not just in audio. At the end of the day, you'll be working in a creative and collaborative industry with many people with different skillsets, personalities, and perspectives. Taking an interest in other people and the wider arts, building empathy, and understanding are also key life skills, not just for making games. 🎧

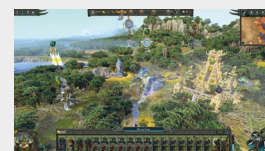
Career highlights



Nightingale

2023

Set to launch in Early Access next year, the main challenge with Newman's audio work on *Nightingale* is making each Fae realm players can enter sound distinct and otherworldly.



Total War: Warhammer 2

2017

Newman led the charge on *Warhammer 2*'s audio direction as principal sound designer during his time working at Creative Assembly. Dying orc cries aplenty!



DiRT 3

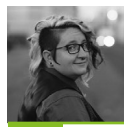
2011

Capturing the roar of a car's engine comes with its own audio obstacles, as Newman quickly found out when working on 2011's *DiRT 3* long before Codemasters was acquired by EA.



How we used sound to craft the world of Moss: Book II

Making an action-adventure for VR devices gave Kristen and her team a unique opportunity to experiment with sound



AUTHOR
KRISTEN QUINN

Author Kristen Quinn has worked in game audio for over 18 years. She was the audio director on *Moss: Book II*. gameaudiogirl.com

Multiple systems went into creating the immersive experience of *Moss: Book II*. We wanted to elegantly transport players into its world and create a believable experience from the perspective of our mouse-sized hero, Quill. Here, I'll talk about our ambient sound system that used virtual speaker arrays as well as some dynamic systems that added to the feel of reaching into the world of Moss.

Moss: Book II is an action-adventure puzzle game designed for VR. The game has a combination of both third- and first-person gameplay as you team up with young hero Quill to try and save the world. While guiding Quill in combat and platforming using familiar action-adventure controls, you also take on the role of the Reader, Quill's friend and key ally. As the Reader, you are able to reach into the world and interact with things in the play space to help solve puzzles, assist in battle, and aid Quill in getting to where she needs to go.

In order for audio to support the feel of Moss, it's important to

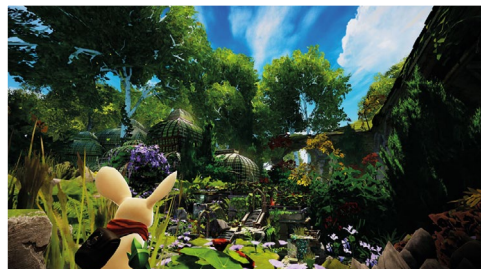
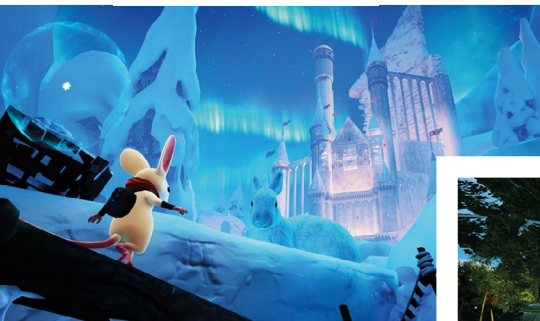
understand how we view scale. We want the player to connect with our characters on an emotional level, and that means seeing and hearing things from their perspective. We think about the game's world as like standing outside a glassless terrarium and looking at it through a magnifying glass.

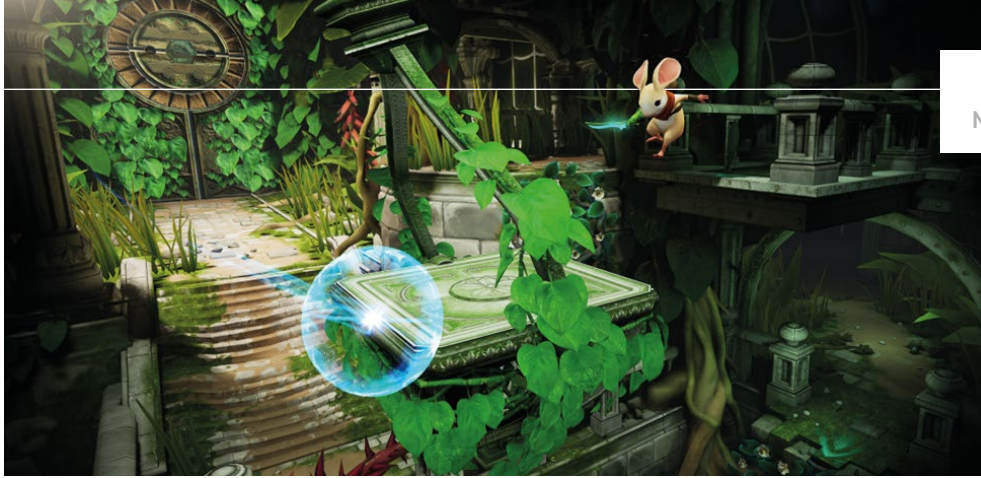
AMBIENCE

Ambiences are a combination of bases, made up of three sets of height-based quad sources, and positional emitters. By breaking out our height-based positions, we can focus on building our ambience up in layers and allowing it to envelop both Quill and the player. We think of our environments as living entities with their own personalities. On creation, the audio manager will spawn three sets of quad components into the room. We call a single room event that will switch content at each location based on height and speaker location. For our top set of quad emitters, think forest canopy; mid quad emitters are ground level; low quad emitters are below ground level. It also sets a float value that allows us to control fades when transitioning between rooms.

We look at ambiances from Quill's viewpoint, but also from the emotional experience and mood we're trying to set. If it's a location with lots of life, we play that up by making it more busy than the player might expect. If it's a quieter area – for example, in a cave – we try to create more evolving movement by adding tonal elements or rumbles that fade in and out. It allows us to sell Quill's perspective even though she's in an area with less activity in it.

▼ Whether the environments are lush and verdant or cold and snowy, ambient sound helps sell the idea of exploring a tiny world.





◀ The Reader (represented by the blue orb) pushes the pendulum closer to Quill so she can jump onto it.

DEVICES

Devices like platforms, blocks, and switches have always been a fun part of the Moss world. Since you can reach into the environment and interact with them, it's important for audio to respect the analogue feel of moving them around. We focus on building dynamic audio systems that support the feel of the interactions.

The pendulum is an example of a device new to *Moss: Book II*. It's logic-driven through an Unreal Engine Blueprint. The pendulum's suspended from a point on the ceiling. The blue orb represents the player's controller (or the Reader's hand). You can reach out to grab and move the pendulum along an arc. If the pendulum is close enough, Quill can jump on it and use it as a platform, which can also shift based on Quill's weight. When the player releases the pendulum, it will swing back and forth and eventually come to a resting point once it loses enough speed. As the Reader, you can release the pendulum at its maximum potential height, or the valley of the arc, each creating a different response from the device. You can also grab it and interrupt the movement at any point.

The pendulum emits sounds from three different locations: the pivot point up by the ceiling, the bottom platform, and the joint location just above the platform.

At the platform level, we play the following content in a blend container (Figure 1):

Swing Tension: the metal stress and pressure that is put on the device as it's moving. This is broken up into mid- and low-end frequency loops so that we can tune them differently.

Foliage: the sound for the plants attached to the platform.

Wind: resonant low air that is dispersed as the platform moves through space.

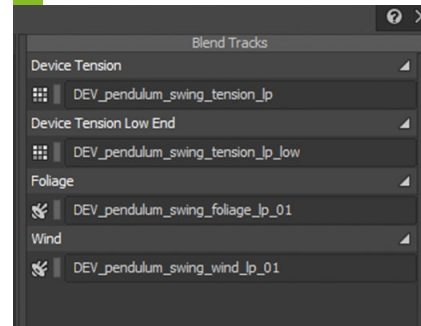
The devices are all about feel. To get them to interact dynamically, we need to calculate both the platform speed and the current angle that the pendulum is at. To calculate from the centre of the

platform, we take the distance it travelled divided by the time it took to get there. We then send that as an RTPC (Real-time Parameter Control) to Wwise, our audio authoring tool (Figure 2).

We have a metal creaking element that plays at a platform's highest speed as well as its most extreme angle from the top component near the ceiling. This creates moments where the tension feels higher when it's at the farthest point of its arc. 0 = far left or right angle, and 1 = dead centre (Figure 3).

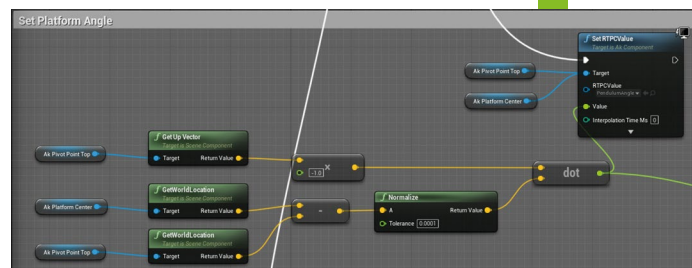
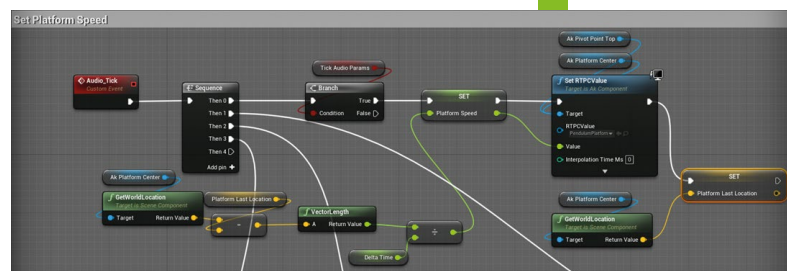
We also have to consider all the ways the player interacts with the device. We have sounds for grabbing, releasing, or just idly holding the pendulum. To also sell perspective, we often add in more detail to the sound. For example, there's a brick you can push and pull that has stone debris sounds that will play when you pick it up and put it down.

Audio for Moss is about emotional connection and feel. Crafting the soundscape involves thinking about multiple perspectives and points of view – Quill's, as well as the Reader's. We hope you enjoy *Moss: Book II* as much as we enjoyed working on it. 🐭



▲ Figure 1: the mix of four sounds that play as a pendulum swings.

▼ Figure 2: the pendulum's angle and speed are calculated and sent to Wwise.



▲ Figure 3: This Blueprint calculates the angle of a pendulum, and sets off a creaking sound once it's at the highest point of its arc.



From obscure Game Boy title to indie darling

The *Shantae* series has been delighting gamers for two decades. To celebrate the franchise's recent anniversary, we sat down with series creators Matt and Erin Bozon

Written by: Paul Cecchini

When it comes to indie gaming success stories, few share the rich history of the *Shantae* franchise. Since its low-key debut on the Game Boy Color in 2002, the 2D platforming series starring a hair-whipping half-genie has become a multiplatform fixture of the indie scene, with five games under its belt and a regular stream of re-releases and merchandise. Even 20 years later, its influence continues to grow.

At the centre of it all are Matt and Erin Bozon, the husband-and-wife team who have been breathing life into *Shantae*'s world from the beginning. Erin created the character and gameplay concept back in 1994 with the hopes of it growing into a franchise that could expand to comics, TV, and other merchandise. She collaborated with soon-to-be-husband Matt, who helped flesh out *Shantae*'s world and colourful cast of characters, as well as create backgrounds and monster designs while she crafted the early 2D animations. "It was a slow process of showing companies

the demo, getting their feedback, and going back to the drawing board," says Erin. "A lot of work for no pay!"

The title was eventually greenlit for development by WayForward, a former educational games software startup transitioning to handheld and console game development. The Bozons had worked at WayForward previously, alongside programmer Jimmy Huey, who'd been involved with the Bozons' original *Shantae* pitch. The small team set out to turn *Shantae* from a potential Super Nintendo or PC title into one for the Game Boy. "We loved traditional paper animation," Erin says, "but changing over to the Game Boy's pixels was still a great way to capture the charm of *Shantae*'s dances and animal transformations. But it was challenging, since we had to fund the game with other (licensed) titles. The team worked during the day to keep the lights on, then switch over to *Shantae* once the sun went down."

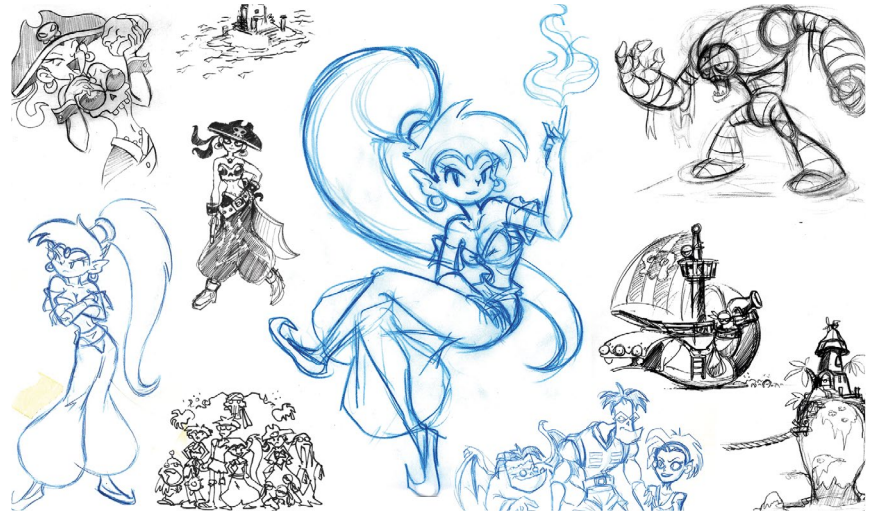
"It was just the three of us for most of development," adds Matt, "but towards the end, we were able to add a few more folks to help."



◀ Matt and Erin Bozon have helmed the *Shantae* series from its inception. Erin designed the character in 1994, and Matt helped flesh out the world and supporting cast.



✓ A handful of early concept art pieces for the original *Shantae* game by Matt Bozon. He would help his soon-to-be-wife Erin develop the character designs, world, and concept of the series.



Humble beginnings

Shantae takes place in Sequin Land, a colourful fantasy world comprised of monsters, robots, and other strange creatures, following the titular half-genie's journey to protect her quaint village of Scuttle Town from threats (predominately the notorious pirate Risky Boots) as part of a 2D Metroidvania platforming adventure. This first game revels in the tongue-in-cheek weirdness of its world, where zombies who need coffee to stay sane live alongside merchants who capture girls and slap fish-tails on them to turn them into 'counterfeit mermaids'.

"*Shantae* is pretty different from other video game heroes," says Erin. "Belly dancing and hair-whipping her enemies gives the whole thing an unusually quirky tone, but it sure helps her stand out. The secondary characters have a lot of depth, too. I feel like any one of them could be someone's favourite character, or someone they could imagine being friends with in real life. *Shantae's* universe offers a lot to play with and is fun to escape into, whether you're a player or a creator."

"Over the years, one of my main roles has been to write the stories and dialogue for the series," says Matt. "I insert a lot of my own humour into *Shantae*, which is based on a love of eighties weekday afternoon and Saturday-morning cartoons and toy lines, and Carl Barks's *Scrooge McDuck* comics. I was also influenced quite a bit by *The Legend of Zelda: Link's Awakening*. That game came out early in my career, and it taught me how offbeat and oddball a game's dialogue could be, and how to get a player invested by sprinkling in a bit of extra charm and emotion. The humour of that game doesn't just sit on top of the game like some funny localisations. It's woven into every aspect: the situations, the music, the quests, the

setups and payoffs. Then it shifts in tone from whimsical and goofy to sad and sombre, maybe a little terrifying.

"Nowadays I think of *Shantae* games being like live stage plays or magic shows; the audience is active, and there's a semi-tangible exchange between the entertainer and the audience. This is a big part of what makes *Shantae* come to life."

Fighting against the odds

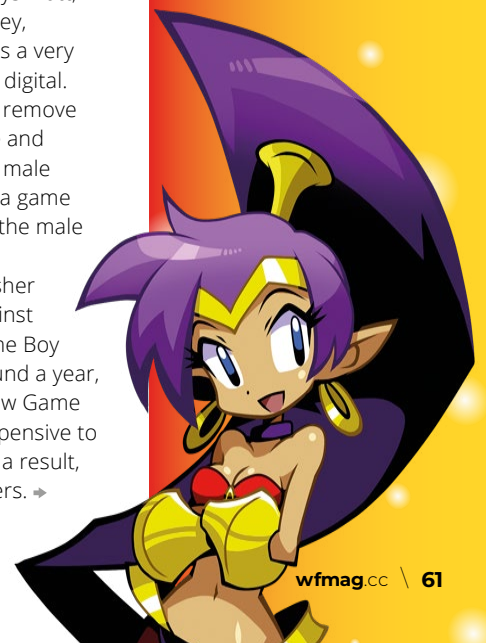
The concept seemed solid, but there was one big sticking point.

"We had to answer to publishers," says Matt, "who would ultimately control the money, manufacturing, and marketing. This was a very different world before everything went digital. Oftentimes publishers would ask us to remove *Shantae* (the character) from the game and replace her with a popular TV star or a male hero to sell more copies, or to make it a game for girls. Always it was asked, 'Who will the male audience play as?'"

Even after eventually finding a publisher in Capcom, the odds were stacked against *Shantae*. It was now 2002, and the Game Boy Advance had already been out for around a year, drawing gamer attention away from new Game Boy titles. The game's cartridge was expensive to produce, so few copies were made. As a result, *Shantae* was overlooked by many gamers. ➔

Cakecom

"We were all so excited to sign with Capcom and get the game out into the world," recalls Erin Bozon of the first *Shantae* game. "I ordered a *Shantae*-themed cake, and remember the tiny team gathering up to celebrate around it. Bigger things were yet to come, but we were so happy in that moment."

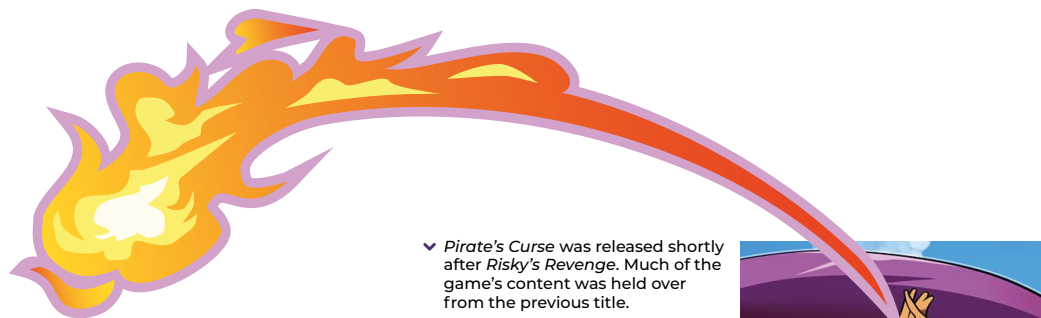


Risky business

"We had more confidence going into *Pirate's Curse*," Matt Bozon recalls. "Once the game shipped, we were able to port the game to consoles and start reaching new players all over the globe. Pixel games were starting to be more widely associated with indie gaming, rather than feeling like being a mere handheld port. It didn't carry the same stigma of old technology that *Risky's Revenge* did at that time. So that worked in *Shantae's* favour, too."



▼ Shantae's fight against the seven sirens takes her across a sprawling island filled with creatures old and new.



▼ *Pirate's Curse* was released shortly after *Risky's Revenge*. Much of the game's content was held over from the previous title.

That wasn't to say that those who were aware of it didn't recognise its quality. "Two of Nintendo Power's reviewers gave *Shantae* perfect 5/5 scores," recalls Matt. "This was huge for me, since I was a Nintendo Power kid! It seemed like we had a winner, despite the low sales numbers. Gaming press started calling *Shantae* the Game Boy's swansong, which was so cool. We loved that system so much."

"These were the first fan letters we'd ever received," adds Erin. "People mailed us their original fan artwork. Later we even saw some cosplay! It was rewarding knowing that we were connecting to players and earning fans."

Attempts were made to keep *Shantae* going. A Game Boy Advance sequel called *Shantae: Risky Revolution* was worked on, but no publishers would bite. New *Shantae* ideas were conceived for then-current consoles and handhelds, including the short-lived N-Gage.

"We would have loved to work with Capcom again," says Erin, "but they were more interested in GameCube at the time. Other GBA publishers were looking for licensed kids or movie brands by then, and *Shantae Advance* had basically timed itself out."

But as the years went by, technology advanced. Soon, smaller game developers like WayForward would have a whole new world of publishing possibilities open to them.



New opportunities

Nintendo spearheaded this paradigm shift with its DSiWare service, which allowed developers to release smaller gamers digitally without an outside publisher. "With digital distribution, WayForward was able to become its own publisher and call the shots for once!" says Matt. "This was just what we needed at exactly the right time."

Shantae's true sequel, *Risky's Revenge*, was initially designed as three separate, bite-sized episodes: *Shantae Overworld Adventure*, *Underworld Adventure*, and *Skyworld Adventure*. Shantae would lose against her nemesis Risky in the first title, fight her way out of the underworld in the second, and save Scuttle Town from its fate as an airborne mechanical fortress in the third. Again, time and advancing technology would prove problematic, as DSiWare was soon to be replaced by the Nintendo 3DS.

"When we saw the tides beginning to change, I opted to fuse the stories into a single adventure," says Matt. "We had no time to make a final boss, so we created Nega-Shantae – a colour swap of Shantae – to give the game a conclusion." The unused material would be reworked into the game's 3DS follow-up: *Shantae and the Pirate's Curse*, which directly continued the story started in *Risky's Revenge*.

Everything was pleasantly falling into place for the *Shantae* franchise. Digital distribution was exploding. WayForward hit development early in the life-cycle of the Nintendo 3DS. They had control over the game's publishing, allowing them to take the series beyond Nintendo handhelds to consoles – and many new potential players. "It was still new to many





people," says Erin. "We were also starting to see more fan internet culture and social media. Before that, it was mostly print magazines, trade show feedback, maybe the occasional letter in the physical mailbox."

Shantae was truly becoming the indie darling the Bozons always hoped it would be, but their next title would put things to the test. Did fans enjoy the series enough to help fund a fourth game via Kickstarter?

Kick off

Long story short, they did. *Shantae: Half-Genie Hero* smashed its target goal of \$400,000 with a final amount pledged of over \$775,000. "Going in, I was a bit apprehensive," Matt admits. "I've always enjoyed keeping my games a secret and then doing a big reveal at the end. I wasn't sure if I'd be able to stay motivated knowing that fans would have expectations from day one. But the more we treated the campaign like another way to entertain and interact with the audience, the more fun it became. And the audience was a lot bigger than we thought!"

"I was excited to see hand-drawn animation return to *Shantae* since the original pitch," says Erin, "but it's a slower and more complex process than pixels. It took a lot longer. But the animation department at WayForward had just finished their work on *DuckTales: Remastered* and were ready to bring *Shantae* to HD."

Half-Genie Hero changed up its Metroidvania roots for a chapter-based story structure. The game would be expanded through additional story modes via DLC covered by stretch goal funding. "When designing the campaign and the game, we didn't know our total budget," says Matt, "so I designed a game that could expand or contract in scope. If we hit the minimum funding goal, we'd have enough cash to create a beginning, an end, and at least a couple of middle episodes. The number of little story arcs we could add to the middle would depend on backers and funding."

With the total funds gained, players could play the entire game as Risky Boots, Shantae's friends, and even Shantae in new outfits, complete with new dialogue, gameplay, and story beats in various 'what-if' scenarios. "I wanted to make sure that they weren't merely cosmetic," says Matt. "Each would have completely unique gameplay."

Present-day Shantae

It wouldn't be long before Shantae returned for her fifth and most recent outing: *Shantae and the Seven Sirens*, where she explores a mysterious sunken city in the franchise's familiar Metroidvania style. In another milestone for the franchise, it was the first *Shantae* title to feature an animated title sequence and cutscenes by Studio Trigger.

This brings us to today, 20 years after *Shantae*'s humble Game Boy debut. The entire franchise is now widely available on modern consoles. As Erin initially wanted, *Shantae*'s reach has expanded into the mainstream. "Sometimes indie devs will reach out and tell us that our games inspired them to become devs," says Matt. "While it does make me feel old, I still love to hear it. Extending a hand to them just like the previous generation of devs did for us is what it's all about, and I hope that they'll want to invest in the next gaggle of creative people, too."

Looking back, what would the Matt and Erin of 20 years ago say if they could see where *Shantae* is today? "I don't think past me would believe future me," says Matt. "Then we'd fight, and someone's timeline would get messed up. Huh, maybe this is how I got an old man hairline at the age of 20. We're more excited than ever to make new *Shantae* adventures. *Shantae* fans are the best!"

"I think I'd be shocked at the number of loyal and supportive fans there are," says Erin. "I'd tell myself that it's a slow journey but worth every step! We'd love to continue telling *Shantae* stories. We hope it never ends!"

◀ Animal forms have always played a part in Shantae's adventures. In *Risky's Revenge*, she can transform into a mermaid.

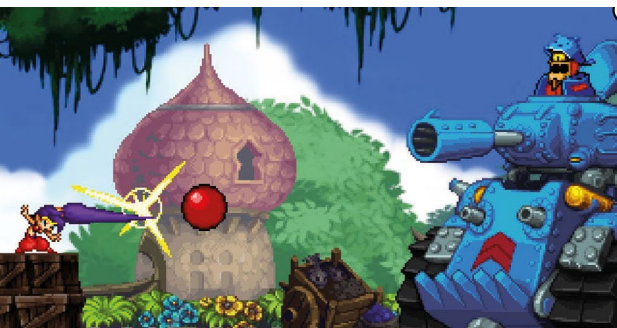
Multiregional

"The idea of launching on every platform in many regions, in many languages, was daunting," Matt Bozon says of *Half-Genie Hero*. "Up until that point, we'd only launched on a single Nintendo handheld, in English, with ports coming after the game was done. In this case, we'd be releasing DLC, free updates, all kinds of stuff. I had no idea that we'd end up releasing over 100 versions of the various game content before we'd reach the end! And, while pitching the game, *Pirate's Curse* was still in development, so for at least a short while, we had to pull double duty."



▲ The most recent title, 2017's *Shantae and the Seven Sirens*, featured her first encounters with a gaggle of half-genies just like her.

◀ *Pirate's Curse*, the story of *Risky's Revenge*, as Shantae fights off an invasion by Ammo Baron, who claims ownership of her town.





Interactive / Video Game Fables

Solo developer Matt Sharp talks candidly about the struggles of making and releasing his charming homage to JRPGs

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

On the one hand, there's never been a better time to make video games. There are a wealth of free tools out there to help you, from game engines to image editing software.

There are thousands of tutorials, online stores where you can sell your work, and social media networks you can use to reach millions of potential players.

One reality remains unchanged, though: making games is time-consuming. If you're working alone, it can be frustrating and lonely.

And at the end, there's no guarantee that your countless hours of work will be rewarded with much-needed sales. Developer Matt Sharp, founder of Momiji Studios, is certainly candid about the toll working on his passion project, *Video Game Fables*, has taken on him. He spent five years making his affectionate parody of JRPGs, funding development by doing IT work, then dedicating long hours to making the actual game. "Basically, I live very minimally and work enough hours on the side to sustain my lifestyle," Sharp tells us. "I do struggle with work-life balance, though, so my relationships and self-care did suffer somewhat throughout development. I was basically just working enough hours at my 'day job' to pay the bills, and then spending almost all the other time I wasn't sleeping doing development work."

Using a mixture of Unity, Blender, Paint.net, and GIMP, Sharp made his RPG on a shoestring budget, but his passion for the genre can be seen everywhere. It's in the knowingly derivative plot, in which a lowly NPC, a plucky princess, and a timid lizard prince set off to save the world's kidnapped villain. It's in the brisk, surprisingly deep combat system, which takes inspiration from *Paper Mario*. Then there's the array of minigames layered on top of the traditional JRPG experience, from platforming



▲ In another fresh writing twist, it's the game world's old villain who needs rescuing; among your party is his son, Tator.



Video Game Fables allows you to shift your XP expenditure around, allowing you to adapt your party's strengths and skills as you traverse through the quest.

sections to zippy driving sequences. Looking at the sheer number of gags, mechanics, and ideas on display in *Video Game Fables*, it's little surprise that development took such a long time – or that, working alone for so long, Sharp found his mental health starting to suffer. “The hardest part for me was the mental health side of it,” he admits. “Developing a game is hard. So even having the constant stress for years of making the game on your own would take a toll on anyone.”

Video Game Fables released in July 2022, and the reviews were positive, with users and smaller video gaming websites all scoring the game highly. It's worth noting, though, that larger outlets – the IGNs and GameSpots of the online world – failed to pick up on it, which is a sadly common experience for indie developers working on tiny budgets. “The anxiety of how things will go after launch is absolutely overwhelming,” Sharp says. “With the incredible volume of games released every year, getting your game noticed or appreciated is nearly impossible. So I was spending years of my life developing this game for no pay, with zero guarantee of how much money I'd make off it after release. That's enough to put anyone in a state of distress.”

Sharp notes that a lack of marketing hasn't helped *Video Game Fables'* visibility (“Sales aren't good, but reviews are, so that tells me that marketing is a big problem for me”). But he also points out something else that is often overlooked in indie development – while promoting a game on Twitter or YouTube may be free, taking your work to live events like expos and conventions is extremely expensive. “One thing I think would have helped me a lot – and I guess it's still possible – would be showing the game at a big convention like PAX,” Sharp

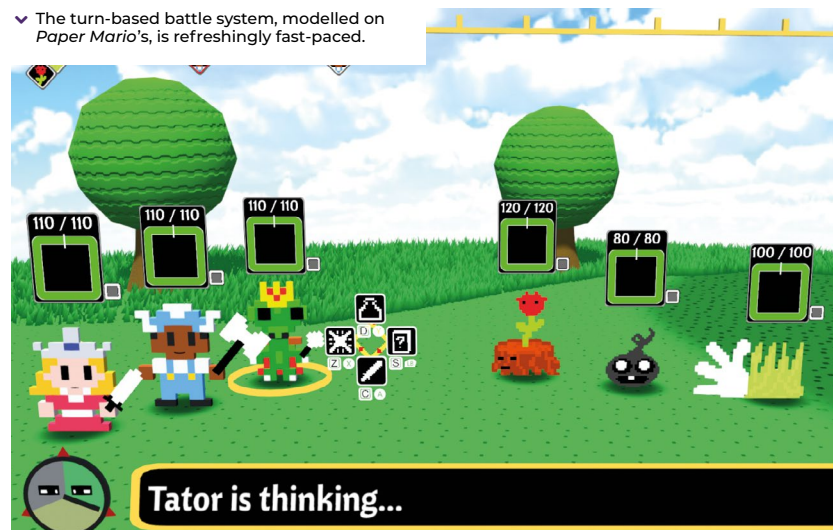
says. “Unfortunately, I just couldn't afford that. Even the smallest booths at a place like that cost thousands of dollars. But if you can get the money to do that, do it.”

The good news, of course, is that *Video Game Fables* isn't going anywhere: it's still there on Steam, waiting to be discovered, and a number of streamers have found the game and introduced it to their watchers in the months since release. For Sharp, though, *Video Game Fables* is now a “closed chapter”; an October DLC, *Nightmare Arena*, was his last major update. “I absolutely love the game – the characters, the world, the story, the writing, the systems... I'm so proud of all of it. I'd love to revisit it again someday, but it won't be any time soon. Right now I'm taking a break, trying to relax, and learn to be a human being again for the first time in almost five years. I'm playing games again, spending more time with my partner and family, and trying to improve my self-care.”

As for game development, Sharp has “millions of ideas” for other projects, but notes that they'll be smaller in scale than *Video Game Fables*. “I don't know if I'll ever want to do a big project like this again unless I have a team of developers,” he says. “I've picked two of my several game ideas as the ones I'll work on next. I really want to focus on making smaller-scale games that I can create faster.”

Do check out *Video Game Fables*. It even has a demo you can try: wfmag.cc/vgfables.

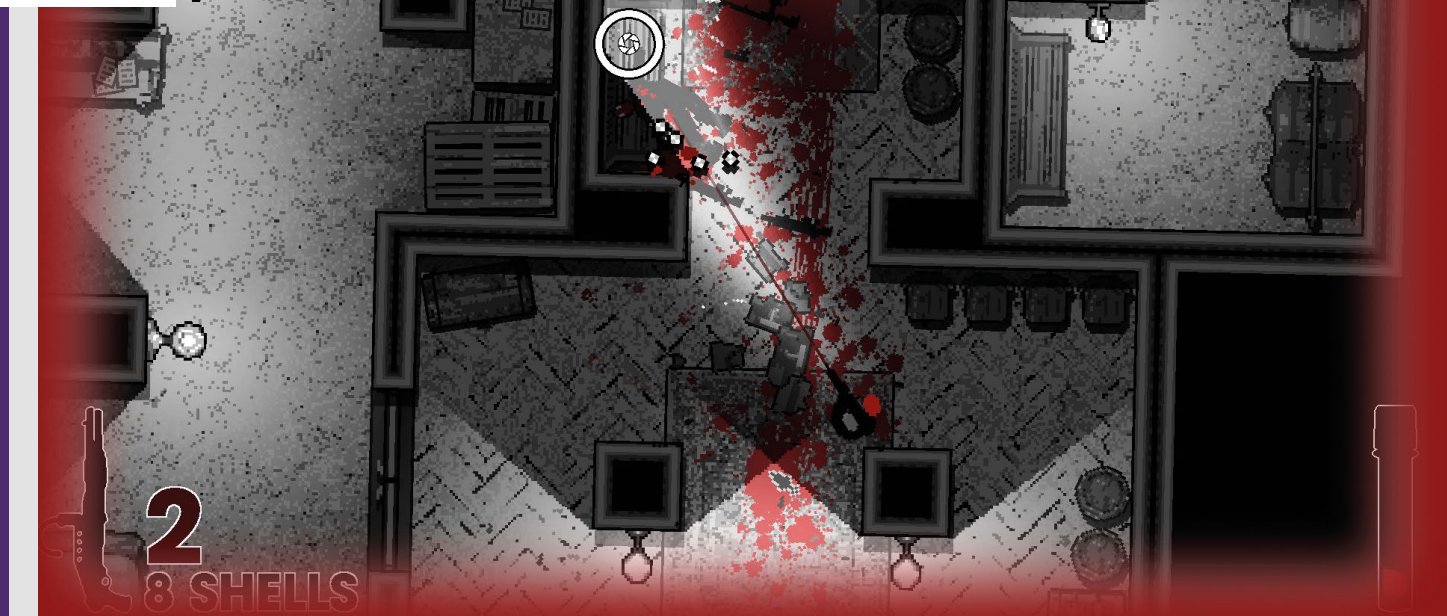
The turn-based battle system, modelled on *Paper Mario's*, is refreshingly fast-paced.



Dragon Fantasy

One of the most enjoyable parts of journeying through *Video Game Fables'* world is spotting all the allusions and parodies of other games in the genre. “A lot of the things that were satirised in the game were based on tropes from old RPGs like *Dragon Quest* and *Final Fantasy*,” Sharp says. “The quirky, weird writing and design came from games like *Paper Mario*, *Earthbound*, *Undertale*, etc.” As for the game's use of 2D characters roaming a 3D world, we wondered whether Silicon Studio's cult gem *3D Dot Game Heroes* was a touchstone. “That was a big visual inspiration from the start,” Sharp admits.





Interactive / OTXO

Nate 'Lateralis' Haddock makes the perfect top-down shooter cocktail with three ingredients: guns, gore, and unpredictability

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It used to be that firing away at endless enemy waves was enough. These days, however, indie devs have been quick to notice the John Wick generation's desire for an experience far slicker, more stylish, and faster-paced when it comes to top-down shooters. Enter *OTXO* (pronounced oh-cho), an unabashedly violent genre entry that fits squarely into the rogue-lite template, but lets players see the level of chaos they are able to inflict by liberally painting the black-and-white walls with blood. As artful as this presentation style seems, as is often the case with solo projects, it was a decision born from practicality.

"To be completely honest, I made that choice because I wasn't confident in my ability to use

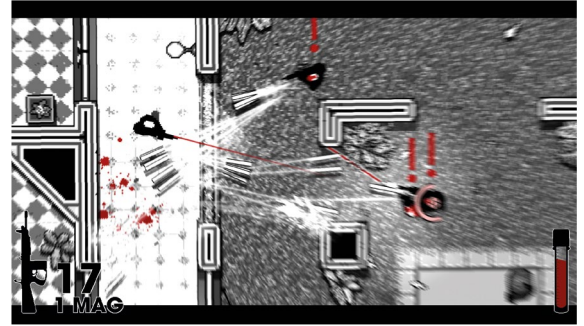
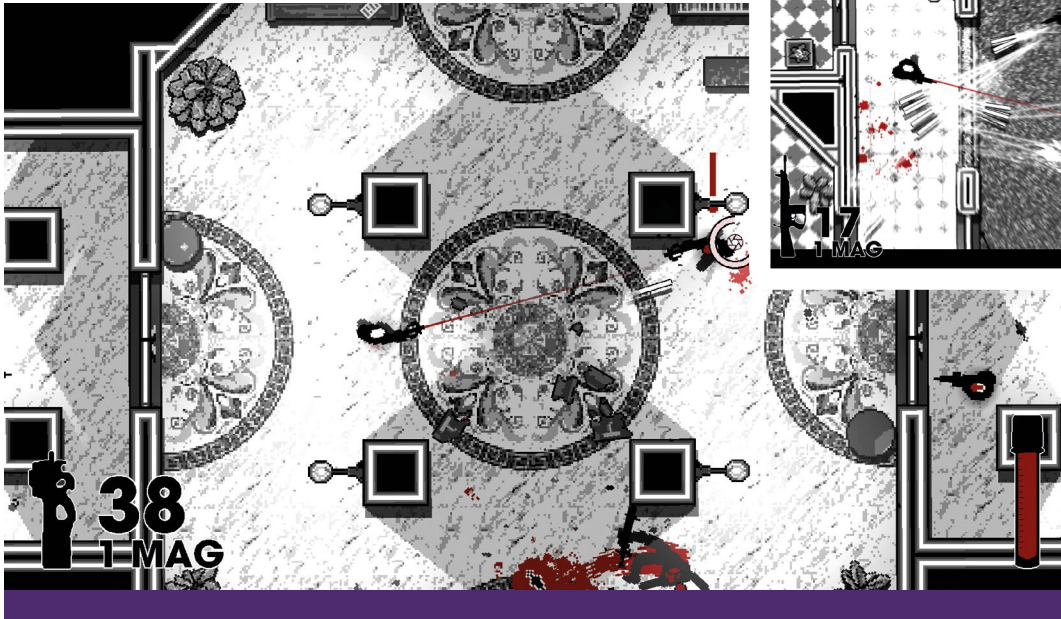
colour," says solo developer Nate Haddock, better known by his Lateralis moniker. "Restricting myself to a simple greyscale and red palette meant that I would be able to produce art assets faster and more comfortably. On top of that, though, I feel like the colour scheme is a bit unique for games like this. The splash of red blood covering the ground when you kill an enemy is a great indicator of 'you've made something happen', which is important for a fast-paced game."

The action in *OTXO* is purposely designed to be quick, with players encouraged to blast their way from room to room in a nondescript mansion, using rapid reactions so as to not get caught off guard themselves. When played with a mouse-and-keyboard setup, the game puts us in mind of those early Newgrounds and Miniclip games from the Flash era – in a good way. But it won't surprise many to learn that *OTXO* owes a great debt to arguably the king of indie twin-stick shooters.

"*OTXO* originally started out as a project between Glass Revolver, Spencer Yan, and myself. We were all going to make relatively short, incredibly violent top-down shooter games and release them as a pack," Lateralis reveals. "Spencer made the infamous *Hotline Miami* mod *Midnight Animal* back in the day, so I think

› There are eight areas to blast through in total, the beginning of each offering up a gameplay-changing cocktail ability.





▲ Despite being depicted in greyscale, Lateralis handcrafted all 150 rooms to give each one a distinct layout and challenge.

◀ “Relatively late in the process I added a chance for you to headshot your enemy when you kill them, which causes them to drop more coins,” says Lateralis.

the plan was to kind of harken back to that era of indie games and just make things that were simple and easy to play. Glass Revolver finished his first and released it as *Heaven's Machine*. As I got deeper into mine, I realised I had the makings of a full-scale project, and shifted into that.”

In addition to its unique colour palette, where Lateralis's title differs from both *Hotline Miami* and the games from his peers is in its rogue-lite aspect. No one run in *OTXO* ever need play out the same, largely due to the inclusion of various gun types, yes, but also due to there being a whopping 150 handcrafted rooms that can be generated in any order.

Combine this with over 100 game-changing cocktail abilities that can be purchased from the mansion's mysterious

bartender at the start of each area, and you have a relentless twin-stick shooter made up of various unpredictable ingredients.

As you can imagine, getting all these elements to piece together in a way that wouldn't make runs feel cheap proved quite the tricky task for Lateralis. “I've kept a spreadsheet of ability ideas for about two years,” he says. “Something interesting I found was how many abilities you have determines how mechanically dense your game is, because at a certain point you need new things to affect. So player speed, fire rate, and ammo were all easy to affect with abilities, but after I had to reach for weirder mechanics like ‘when you throw your gun, it turns into a turret’.

“I worked hard to give each gun in the game a unique reload animation”

Another issue was making sure abilities played nicely with each other.”

Lateralis finally reached a balance he was happy with after a rigorous testing period, but knew that one more crucial element was needed to help players truly feel like an unstoppable one-man army. “Reloading is underrated in a lot of games,” he explains. “I originally added reloading so that I could have boss fights – you get unlimited ammo in boss rooms – but realised that a snappy reload animation makes you feel absolutely badass.”

Similar to the action, reloading plays into *OTXO*'s inherent rhythm. “It's like the bit before a drop in a techno song – reloading builds that tension before you turn a corner and just start unloading. I worked hard to give each individual gun in the game a unique reload animation, and they all have unique sound effects as well.”

All sights are set on *OTXO* hitting a 2023 launch sooner rather than later, by which point Lateralis hopes twin-stick shooter fans will be pleased with the brutal, noirish murder cocktail he's created. “It took forever, to say the least,” he notes.

That said, years after challenging himself to take on almost every development aspect – from visuals and gameplay to art and even music – in what he originally thought would be a smaller offering released as part of a collection, there's no approach with *OTXO* he'd take differently. “I don't think I'd change much, but maybe try some more wild things.”

Multiplayer mansion

Despite being staunchly single-player, there was an early point where Lateralis had considered trying to put a *Dark Souls*-style invasion multiplayer into *OTXO*. “Basically, you'd step into a room and one of the enemies would be controlled by a real human being,” he explains. “That kind of asynchronous multiplayer always interests me because it creates opportunities for stories that wouldn't normally exist in a game (or even a normal multiplayer game). But programming a whole multiplayer functionality and handling servers and all that... turns out it's pretty tricky.”

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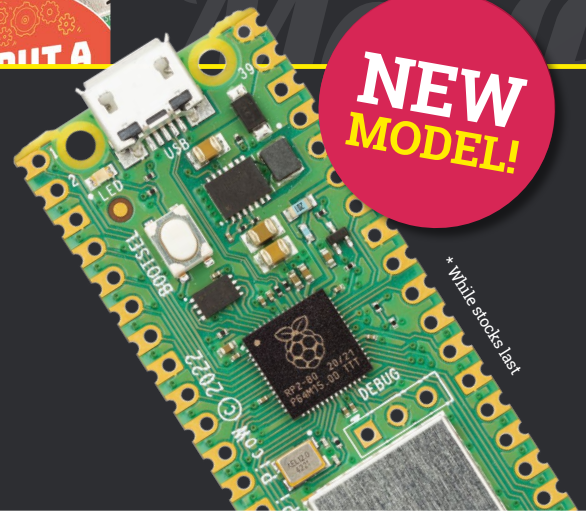


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Developer Profile

Infinity Hero

Activision alumnus Brian Bright talks his early DJ antics, making music for Tony Hawk, and why Embracer Group came calling

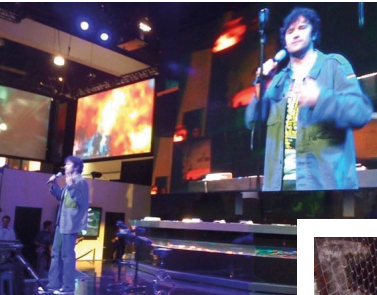
Rarely will you find a person who's worn as many development hats – especially within a publisher as large as Activision – than Brian Bright.

A true industry veteran, these days he's arguably most known for being one of the main faces of the re-formed Infinity Ward, heading up all things co-op and Zombies-related for *Call of Duty* following the high-profile exit of founders Jason West and Vince Zampella, before just recently moving on to new horizons himself. The truth, however, is that

Bright's experience in gaming runs much deeper than simply futuristic and real-world military action. His career also includes a large musical bent, which has always been his first love.

"Growing up in the late seventies and early eighties, I would listen to the local college radio station and tape the shows on my little Panasonic boom box," reveals Bright, on when his passion for music began. "The summer after my first year at Florida State University I started DJing at a few clubs in town. This was back in the day when playing electronic music that was instrumental was a sure-fire floor clearer. Girls would come up and ask me to 'play something with words' ". This encouraged the amateur DJ to explore new genres like house, techno, and UK break, which also saw him start to tinker with hardware. "After college, in 1991, I bought an Emax II sampler to go with my 1200s and shortly after had built a PC, had a SCSI SyQuest hard disk on the Emax (no more floppies!), and was running Voyetra Pro on DOS."

Fast-forward to today and Bright still admits to being obsessed with synths and records, just as much as he is with video games. Growing up in the so-called 'Bible belt' of northern Florida forced the future game director to play games on any system he could get his hands on at the time, leading to some rather unique initial experiences – including his family's first computer, the Interact Model One, which Bright recalls his mum buying for \$599 back in 1979. "For a couple of years, my gaming life was loading up *Dogfight* or



▲ Bright's leadership efforts on the *Guitar Hero* series saw him thrust into the public spotlight, even at events like E3 2008.



▲ The Florida DJing scene in the late 1990s took Bright to all kinds of interesting venues, including a cage booth.



► Bright has a cheeky cameo in one of his own *Call of Duty* DLCs, moccapping the movements of a raving zombie.



▲ Working with plastic peripherals made a lot of sense, seeing as Bright's always had a love of quirky hardware.

Gunfight on the tape drive." He cites the 1983 video game crash as making games even more accessible. "I bought a Coleco Gemini console, which was an Atari 2600 clone. At the time, you could buy new cartridges for under \$5; the toy stores had so many games and nobody was buying them (thanks *E.T.*)."

By 1991 Bright had entered his full creative mode, building a PC that he used for both music production and playing up-and-coming games like *Comanche* and *Wolfenstein*. This knowledge in tech went on to see him accept a role as an IT manager, which he recalls as being dangerous during the time when *DOOM* had just dropped. "I snuck my friend (who is now a successful game producer in his own right) in one night so we could play 1v1," he reveals. "This is a guy who we would sit on my couch, playing Genesis *NHL*, and we would dream out loud about being able to make games." Bright got a step closer to achieving that dream after seeing an IT job at a small firm called Activision.

ACTIVE START

By the time Bright and his wife moved to Los Angeles, Activision mainly consisted of six close-knit internal teams, working almost exclusively focused on PC games.

"*MechWarrior* has launched the year before I arrived," Bright recalls. It wasn't long before he got to work meeting several directors, designers, producers, and artists from around the company in a bid to try and get a job in game development proper. It was this kind of shrewd-thinking and self-made initiative that allowed Bright make his dream come true, rather aptly in the realm of audio.

"After about a year, the audio/video team recruited me to work with them," explains Bright. "I made 96x96 pixel web movies as that is all the bandwidth people could watch. I would make original music for these masterpieces and turned that into becoming an audio designer. I would create the sound FX (and sometimes the music) and mix them all for either marketing or in-game movies [for] games like *Battlezone*, *Heavy Gear*, *Civilization: Call to Power*, and *Dark Reign 2*." Just when he thought he'd found his groove, however, Bright had his first taste of the industry's volatility. "After working on *Vampire: The Masquerade*, Activision shut down the department. They decided it was cheaper to outsource, so I thought I was without a job and started making business cards for the upcoming E3." ▶



▲ Following a brief stint at Activision proper in the 1990s, Bright quickly found a professional home at Neversoft up until 2014.



▲ Neversoft's merger with Infinity Ward gave Bright an excuse to eye up the perfect memento.

Jack of all trades

One of the perks of working at Neversoft was getting to rub shoulders with the legendary Tony Hawk and friends. "We had a fancy dinner at the Hotel Mondrian with Tony Hawk, Mat Hoffman, and Kelly Slater," Bright remembers. "After dinner, Mat's friends Jeff and Johnny joined us, and we all went into Mat's room to watch their new promo show. It was one of the funniest things I had seen, and it turns out this was the pitch show they made for MTV, later called *Jackass*. Jeff is Jeff Tremaine and Johnny? Well, that was Johnny Knoxville."

▼ Bright's 2008 China trip was vital for getting *World Tour's* drum kit peripheral over the finish line in time.



▼ Brian pictured here (left) with the rest of Neversoft at the launch party for *Tony Hawk's Pro Skater 2*.



▼ 2013's *Ghosts* marked the first time the entirety of Neversoft worked on a *Call of Duty* game, shortly before its merger with Infinity Ward.



His initial relationship and experience working at Activision was a little fraught, then, but despite getting off to a rocky start, Bright still holds fond memories of being at the publisher during its earlier period. "Back then, things were *way* less corporate," he enthuses. "Game teams were like 20 people max. Activision was generating \$65 million in revenue, which was nothing compared to \$8.8 billion now. We built the computers from parts, no ordering Dells. You had to be scrappy to get things done." According to Bright, it was when PC games took a back seat that he began to notice a strange shift in how things were done. "As console games started to become a bigger focus, Activision started to let its internal studios go. Some of these teams formed studios like Pandemic and Jamdat, both of which became hugely successful.

"A big change I saw was that we had an internal team working on *Apocalypse*, an action game featuring Bruce Willis and the musician Poe in a small role. The internal studio was not meeting expectations, and the game was pulled and given to a studio called Neversoft. A few of the Activision developers on the internal team joined Neversoft and they began to try and salvage *Apocalypse*." Middling reception aside, the California-based developer impressed its publisher with its work on the game so much, it'd be officially acquired just one year after. "The game made it out, and wasn't bad or great, but right after the team put that Bruce Willis [character] model on a skateboard and the rest was history."

▼ Since the pandemic, Bright conducts most of his music and development work from his home studio.



SKATE NATION

Neversoft was a team Bright quickly got familiar with following their work on *Apocalypse*, having started there as an associate producer soon after being let go from Activision's audio department. This slight breakaway was the perfect opportunity to get stuck in on a new IP at ground level, and learn more about the making of games from start to finish. Little did Bright know that his first producer credit would also see him at the forefront of an entire skating game revolution. Better yet, it was an excuse to tap into his musical prowess once again.

"[I] brought the turntables into the Activision recording booth to lay down some scratches. I was going for an *Intergalactic* by the Beastie Boys vibe," Bright recalls, about his initial work on the first *Tony Hawk's Pro Skater* game. That was for the game's E3 trailer, but things quickly got more serious when he formerly was hired as associate producer, and the tricky Nintendo 64 version loomed. "The audio contractors working on the game said it was impossible to get anything resembling the ten-song PlayStation music soundtrack onto the N64 cart."

A producer's role is to solve problems, broadly speaking, and Bright was adamant on finding a workaround so as to give Nintendo 64 players a comparable experience. Luckily, his music tech knowledge came in handy again. "To fit the music in, I used a Nintendo Sound Tools cart, chopped up each song into samples, and then I could discard the



◀ Despite jumping to PS3 and Xbox 360 with *Project 8*, declining sales made it the last *Tony Hawk* game by Neversoft.



◀ One of Bright's first jobs at Activision was assembling the E3 trailer music for *Tony Hawk's Pro Skater*.

dupes and sort of resequence the samples with the N64 MIDI sample player to make it sound like the original. This worked, and it was all done on the fly at my desk. For all the *Tony Hawk* gamers on Nintendo 64 wondering why things didn't sound quite right, it was this or some [pooney] chiptune MIDI jam."

Despite being a relatively unproven concept, Bright believed that Neversoft had cracked the fun factor in the initial 'Bruce Willis on a skateboard' demo – even before he joined the team fully. Coupled with a kick-ass soundtrack, a wide roster of executable tricks, and iconic maps like School, Warehouse, and Downtown in tow, all those involved had high hopes that the very first *Tony Hawk's Pro Skater* would capture the attention of both the skater and gamer crowd. There were also a few early signals working in its favour. "There was a demo that came with any Pizza Hut pizza," Bright recalls. "Once that was released a few months before the game came out, and Tony nailed the first ever 900 in competition at the X Games, we knew the game was going to be a hit."

LIFE IS A HIGHWAY

Bright's next big career move saw him move into the market of plastic peripherals, soon after inheriting the increasingly popular *Guitar Hero* series from Harmonix, again as part of Neversoft. The studio seemed like a good fit given how important music was in the *Tony Hawk's* games, and with RedOctane (the original publisher for the rhythm game series) recently welcomed into the Activision family, hopes were high that the third *Guitar Hero* game could capitalise on the continued popularity set by the original PS2 games. Also helping was the fact that Bright and a lot of other Neversoft team members were already fans.

"The first *Guitar Hero* released just a few weeks after *Tony Hawk's American Wasteland* and quickly became the most popular game played in the studio," recalls Bright. "Neversoft was full of hard rock and metal music fans, and you'd see people playing in the conference room at lunch, jamming away on that original PS2 guitar. Activision owned the IP and the company that made the guitars, but they did not own any code or patents – that all was still with Harmonix." However, Neversoft studio head Joel Jewett wasn't the type to be dissuaded. "A 'grab the tiger by the tail' kind of guy. He saw that *Tony Hawk* sales were declining after *Project 8*, and *Guitar Hero* was the perfect opportunity for the studio."

The biggest challenge for Neversoft was to get the *Guitar Hero* concept running in its own engine, which proved trickier than you'd think, given that they didn't have access to code and were starting totally from scratch. "I was looking into how we could use MIDI to track the songs and had some →

Changing times

Modern developers might benefit from significant advancements in tech, but what Bright enjoyed most about those early Activision days was the creative freedom that came from being a small, scrappy team. "Now studios are huge, a *Call of Duty* game may begin with a studio of 250, but by the release date, there are at least 800–1000 working on the project all over the world," he says. "Beyond the actual game devs, there is an army of corporate producers, legal, licensing, marketing, and PR people working for Activision proper. There are so many hoops to jump through, we could have never made those early action sports games now."

▼ Neversoft went big for its first *Guitar Hero* game, recruiting the talents of Slash and Tom Morello.



Interface

Developer Profile / Brian Bright



^ Alongside Van Halen and Aerosmith, Metallica's song catalogue was dubbed worthy enough to get its own *Guitar Hero* spin-off.

▼ By the time of *Guitar Hero 5*, Bright and his team added such innovations as multi-instrument play and the ability to drop in/drop out.



discussions with the talented lead programmer, Paul Robinson, and in three weeks Paul had a demo of *Guitar Hero* running on the *Tony Hawk's* engine," reveals Bright. "From that point on, we got cranking to make the game in under a year. That was crazy, there was so much to do to go from zero to *Guitar Hero 3* on all platforms. It was a ton of pressure for the studio, but they totally crushed it."

Guitar Hero 3: Legends of Rock released in 2007 on all major platforms, benefiting wildly from having the full support and infrastructure of Activision behind it. The core idea of hitting notes down a fast-moving highway as songs play remained the same, of course, but it was from the Neversoft era onwards that the rhythm series totally took off. *Legends of Rock* was the first game to include a fully licensed playlist consisting of nothing but original tracks, and it even managed to leverage some celebrity cachet by translating digital avatars of real-life guitar heroes Slash and Tom Morello into the game.

The bigger *Guitar Hero* became, the bigger the pressure was for Neversoft to innovate. Not only in terms of the music selection, but also in the ways players could interact with it. Such expectations were most keenly felt with the addition of playable percussion in *Guitar Hero World Tour*, which Brian remembers differently to most. "I had been working on the drum design for a while, and we were starting to get some initial kits in from RedOctane in China," Bright reveals. "The kits had a ton of cross-talk and dead zones, to

the point where they were unplayable. I remember sitting at home thinking I need to get to China, so I bought a ticket without telling my boss and the next day I had a special build of the game made that displayed the drum velocity values on the screen in the GH music studio. I flew that night to Hong Kong and met with RedOctane's Lee Guinchard.

"I remember us crossing the border into China in a van, where Lee and I were hiding in the back with a bunch of Xboxes, which were not allowed in China at the time. We went through this massive checkpoint that had armed Chinese soldiers interrogating our Chinese drivers. Fortunately, they didn't look in the back of the van and we were able to make our way to the factories in mainland China. We fixed a bunch of issues using that special dev build of the game and were able to get the drums to a pretty good state. Unfortunately, there were a few thousand kits that were not up to snuff, but I think we made close to five million kits after that batch."

CO-OPERATIVE

After just three years working on the *Guitar Hero* franchise, Neversoft had made six games. Market saturation had caused sales of music rhythm games to rapidly fall off, which again led Bright, Jewett, and the rest of Neversoft to plan their next move. Luckily for them, this was around the same time as the Infinity Ward/Activision split was happening, which led the team to believe that there might be an opportunity to work on *Call*

of Duty – they were right! Although it took a while for them to find a good groove.

“Joel had us take the *Modern Warfare 2* code and start working on a futuristic *Call of Duty* code-named NX1,” Bright explains. “The problem is that the studio had no idea how anything worked in the Infinity Ward engine. I was running our Multiplayer team, and remember digging through the new Infinity Ward’s *Modern Warfare 3* check-ins, seeing what they were implementing.” NX1 ultimately got cancelled, but Bright’s team was still able to create a new game mode for Spec Ops called Chaos Mode that was released as DLC.

Soon after getting its foot in the door, Neversoft became close partners with Infinity Ward as it slowly rebuilt itself as the third *Call of Duty* pillar alongside Sledgehammer Games and Treyarch. That is until the two companies officially merged in 2014, following the launch of *Call of Duty: Ghosts*. “The new Infinity Ward studio head was an old boss of mine at Activision back in the day, so that was good,” says Bright. “It was a strange time, though, as we had two studios, each with their own department leads. There was a bit of interviewing going on where the IW studio heads had to determine which leads would lead their departments, an IW or a Neversoft lead.”

Despite this initial confusion, Bright continued to make a name for himself within Infinity Ward by heading up all things co-op, a core component within the annual *Call of Duty* offering. Building off the innovation set by *Ghosts*’ new alien-themed horde mode, Extinction, what followed were exciting strides in both Zombies and Spec Ops. “The team went on to make Zombies in Spaceland, and the subsequent zombies DLC for *Infinite Warfare*. After we finished the post-launch year’s DLC, I started pitching some ideas for a new Zombies experience in the revamped *Modern Warfare* game,” Bright explains. “We had a few different prototypes that were pretty fun, but ultimately went on to make an updated version of Spec Ops.” I had already tried to retire, but my boss asked if I would work from home and help the team out.

I supported the co-op team for a couple of years heading into the pandemic.”

NEW HORIZONS

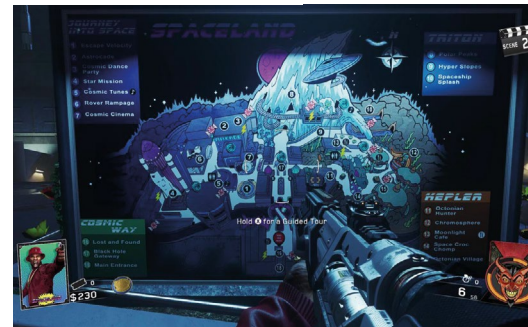
Bright finally left the Activision family in 2021, a quarter decade after he first started there in the IT department and slowly worked his way up to become a principal designer. After playing a crucial role in shipping the critically acclaimed *Call of Duty: Modern Warfare* reboot and supporting it for a year afterwards during the midst of the pandemic, it seemed like the perfect time to recharge and re-evaluate. “At that point, I was done. I needed a break and took the next year off to dive into some passion projects I had brewing.”

It wasn’t too long that Bright was able to take it easy, however, as the call of an old flame quickly came calling. “I’m back working with Lee Guinchard and a few of the old-school RedOctane people I had spent time on *Guitar Hero* with,” he says, doing so as part of Freemode, one of Embracer’s many operating groups intended to incubate new and exciting games. “Embracer Freemode is exciting. We have an interesting group that has both hardware and games in its portfolio. I love working on hardware and software (obviously), so the freedom and the possibilities seemed exciting. It’s a new group and it’s going to be exciting to see where the future takes us.” 🙌

- ▼ *Call of Duty: Ghosts* may have received a lukewarm reception overall, but Bright made innovative strides with the new Extinction co-op mode.



- ▼ By the time of *Infinite Warfare*’s release, Zombies had become a popular staple, giving Infinity Ward cause to have fun with the Spaceland DLC.



- ▼ Bright almost came full circle for the 2019 *Modern Warfare* reboot, again thinking up fun scenarios for the Spec Ops co-op mode.



Full Steam (Deck) ahead!



STEVE MCNEIL

Steve spends more time setting up gaming things than playing games. And he loves it.

Last month, I succumbed to temptation and bought a Steam Deck. I had earmarked the money to pay my dentist to get me legally off my face when I had a wisdom tooth out, but when my anaesthetist skipped the appointment, I decided to be brave and get a Steam Deck instead.

For the first few weeks, I mainly used it to blow money on Steam sales, but then, finally, I started to get the twitch that I should be doing *more* with it. Some brief research showed me how to set up Microsoft Game Pass on it and... it works! There's no official app as such but, if you follow Microsoft's own workaround guide and you have a half-decent internet connection, it works a treat – even a game like *Forza Horizon 5* (which becomes unplayable with any significant lag) held up more than adequately.

That being done, I wanted to get PlayStation Plus Premium working on the system too. Obviously that's not been around for quite as long and, as a result, is far less well covered,

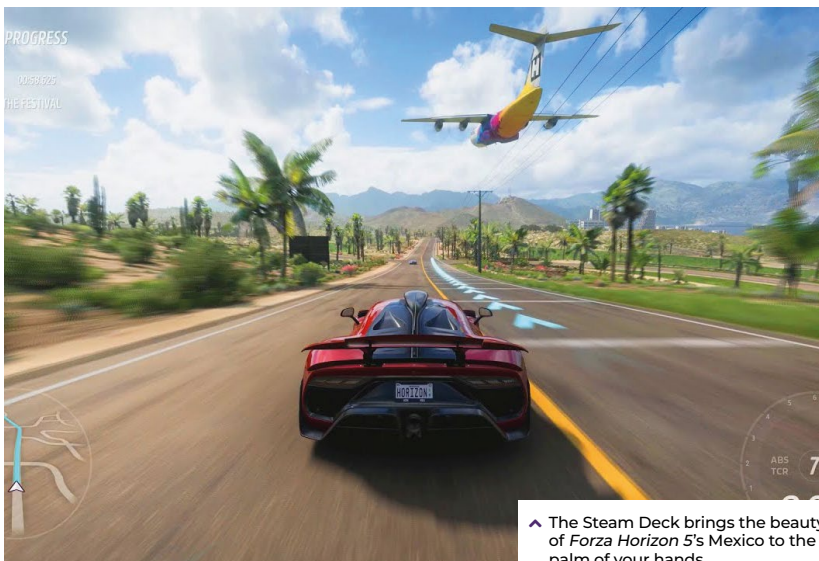
but I can again confirm that it's possible – with the caveat that no one seems to have created a controller map that replicated the PS4 controller's touchpad, so PS4 games that have mandatory uses for that aren't really workable. That said, most are still fine without it, and PS1/2/3 titles on it run as smoothly as the Game Pass stuff.

Hopefully it won't be too long before the touchpad issue is dealt with by a proactive nerd. Indeed, a solution for the mapping does exist from the creators of *chiaki4deck*, which connects your Deck to PS Remote Play, allowing you to use your PlayStation through your Steam Deck if it's on the same network as you. There's also the equivalent for Xbox Cloud Gaming. Basically, if you can set aside half a day or so, you can have your Steam Deck set up to access the Microsoft Game Pass and PlayStation Plus Premium games libraries, as well as giving you remote play access to your purchased game libraries on Xbox One/S/X or PlayStation 4/5 when you're at home.

If you're lucky enough to live in a country where emulation is allowable*, there's even an incredible tool, *EmuDeck*, which will take almost all the faff out of setting up almost any historic gaming system. Whether that's a (loop) hole you're inclined to fall down or not though, the point stands – if you have legally obtained historic gaming libraries, or subscriptions that grant you access to them, the Steam Deck can be an incredible way to exponentially widen the choices available to you in the palm of your hand for no additional cost.

Of course, as a result, I've spent almost all my time on the Steam Deck installing games systems rather than playing games but, honestly, I've loved every second. And anyway, now that *Midnight Suns* has finally launched, I can finally get back to playing a PC game. 🎮

* Always follow the rules, kids.

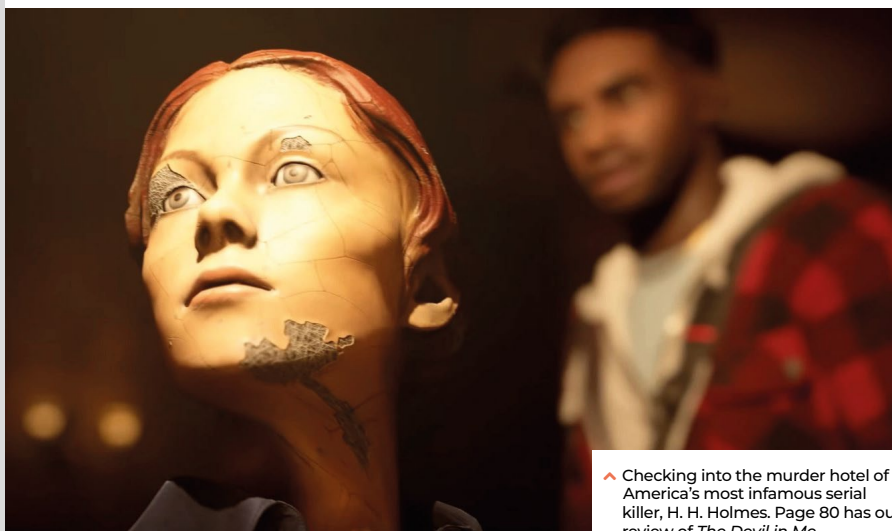


▲ The Steam Deck brings the beauty of *Forza Horizon 5*'s Mexico to the palm of your hands.

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Reviews, retro games, and lots more besides

- 78. Somerville** PC, XBO, XB X/S
- 80. The Devil in Me** PC, PS5, PS4, XBO, XB X/S
- 82. Goat Simulator 3** PC, PS5, PS4, XBO, XB X/S
- 83. The Knight Witch** PC, Switch, PS5, PS4, XBO, XB X/S
- 84. Midnight Suns** PC, PS5, PS4, XBO, XB X/S
- 85. The Callisto Protocol** PC, PS5, PS4, XBO, XB X/S
- 86. Itch.io roundup** PC



▲ Checking into the murder hotel of America's most infamous serial killer, H. H. Holmes. Page 80 has our review of *The Devil in Me*.

OUR SCORES

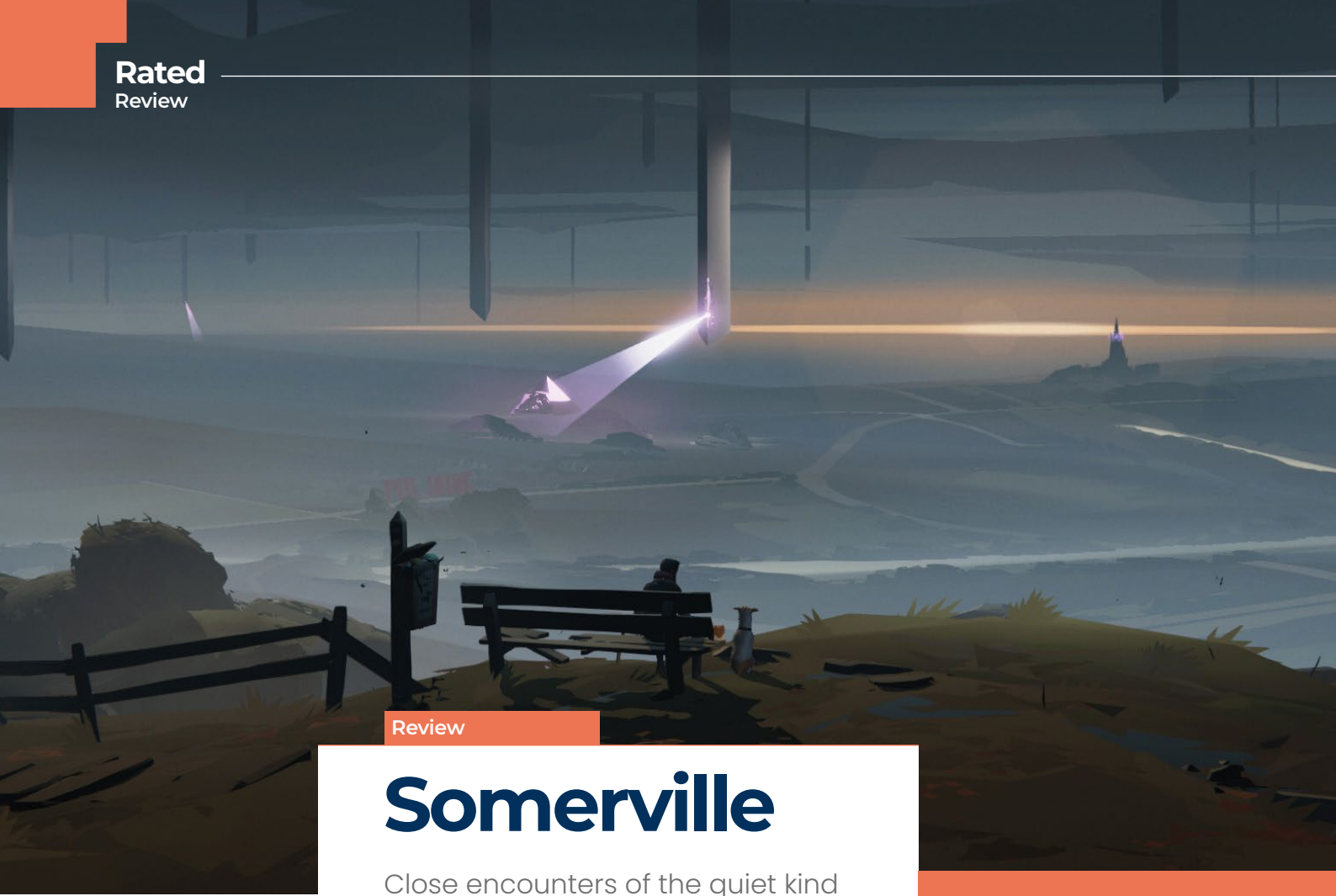
- 1-9**
Trash. Unplayable. A broken mess.
- 10-19**
A truly bad game, though not necessarily utterly broken.
- 20-29**
Still awful, but at a push could be fun for two minutes.
- 30-39**
Might have a redeeming feature, but otherwise very poor.
- 40-49**
Adds in more redeeming features, but still not worth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

- 87. Stream of Consciousness**
Returnal addict and PlayStation fanatic Whitneyvision talks her YouTube journey
- 88. The HOTLIST**
The absolute best PC games available to play right now
- 90. Backwards Compatible**
Advanced SP surgery, retrofied Resident Evil, and more
- 94. Now playing**
Re-experiencing Kratos's original angry side in the God of War 3 remaster



▲ Aaron finally has an Analogue Pocket in his hands after a year in waiting. Turn to page 92 for his full thoughts.



Review

Somerville

Close encounters of the quiet kind

Info

GENRE
H.G. Wells-'em-up

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

DEVELOPER
Jumpship

PUBLISHER
Jumpship

PRICE
£22.49

RELEASE
Out now

REVIEWED BY
Ryan Lambie

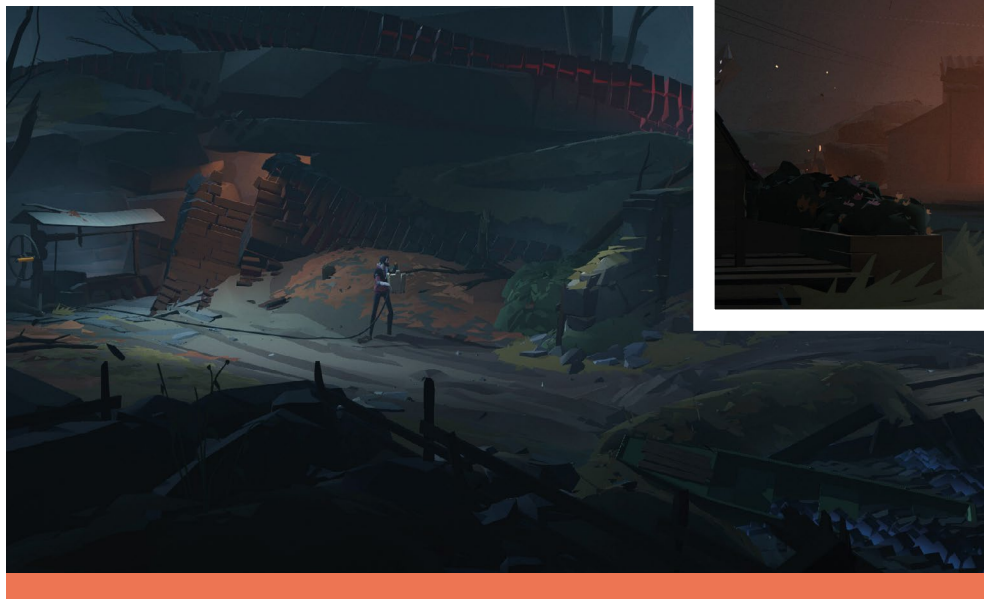
Aliens have invaded, the Earth is in ruins, yet here I am standing next to a pile of rubble, holding a bucket I've dredged out of a well. I think I'm meant to take the bucket and use it to scoop up some voxelated alien goo which I can then use to encourage some spherical, skittering, miniature aliens to do... something or other. I haven't worked that part out yet. Mostly, I keep trying to remember whether the protagonists in H.G. Wells or John Wyndham novels ever survived an alien invasion through the cunning use of a bucket.

In its opening moments, meanwhile, *Somerville* really does echo the mundane nightmarishness of *War of the Worlds* or *The Day of the Triffids*. It follows a typical modern family as their quiet night in front of the television is thrown into chaos; tall, crystalline ships descend from the sky, the family's house is devastated, and the father wakes to find his wife and child have vanished. Off the nameless dad sets, faithful hound at his heels, across the (British?) countryside and through the remains of makeshift human settlements built in the invasion's wake.

Somerville producer Dino Patti also executive-produced the hit cinematic platformers *Limbo* and *Inside* at Playdead, and it shows. There's the unremittingly melancholy atmosphere, the steady rhythm of puzzles, absence of dialogue, and the overarching urge to press forward through a hostile landscape. What *Somerville* assumes, however, is that your favourite parts of *Inside* were the ones where you pushed minecarts around or covered from searchlights by hiding in shadows. You do an awful lot of both in *Somerville*, which is disappointing, because its more innovative mechanics feel only lightly explored. For plot reasons we won't spoil, your hero winds up with the ability to manipulate the environment with some unearthly powers.



› The protagonists' house requires a big suspension of disbelief. How did they afford this vast coastal pile? Had aliens not invaded, they may have defaulted on their mortgage repayments by now anyway.



- ▲ *Somerville* is big on mood, but low on tension – scenes where you feel as though the characters are truly in peril are surprisingly few.
- ◀ *Somerville*'s protagonist is a true Modern Dad: neat beard, skinny jeans, and magical, world-manipulating alien arm. OK, maybe not that last bit.

You can turn certain areas to a kind of penetrable liquid with one trigger, or revert it to a solid with the other, thus enabling you to alternately remove barriers or create platforms – albeit within the confines afforded by the claustrophobically rigid level design.

A handful of puzzles make deft use of these mechanics, resulting in that low-key thrill of accomplishment you need in a game like this. Others feel more arbitrary – like that one above, involving a bucket, some alien goo, and a small herd of Tribble-like critters. Still others ask you to start pulling levers, pushing carts, or prodding switches without providing a clue to the bigger picture: there's no opportunity to see how a problem's laid out, so you simply interact with the elements in front of you and assume logic will eventually prevail.

Worse, there's less of the nightmarish invention or humour found in *Limbo* or *Inside*'s best puzzles. *Inside*'s subterranean areas weren't brilliant because they let you push a minecart through a tunnel; they were brilliant because they had you using a minecart to launch hordes of mumbling, fleshy zombies across a chasm to hit a switch.

Somerville is also hampered by some distracting bugs and glitches, at least at the time

of writing. Part of this is down to the developers' decision to let you move along the Z-axis – this theoretically gives you freedom to explore, but more often leaves you bumping into invisible bounding boxes around bits of scenery. There were several occasions where I died not because I'd made a mistake, but because I'd gotten stuck on an outcropping or because a switch I'd pressed simply failed to engage.

It's the jittering lack of flow that ultimately holds *Somerville* back. Whether it's a canine companion that fades in and out of the narrative without logic or explanation, or actual bugs that break your immersion, *Somerville* electrifies in isolated sequences but fails to cohere as a satisfying whole. The low-poly graphics and art direction result in some truly captivating moments, but the uneven puzzling and janky controls constantly fight against what is meant to be a heartfelt mood piece. Not far below the surface, there's a narrative akin to the 2018 film *A Quiet Place*: a genre piece about fatherhood and loving self-sacrifice. The result could have been truly incredible, better even than that movie; instead, *Somerville* sparks and flounders awkwardly as I stand here with my bucket, thinking about other, better alien invasion stories. 🗣️

HIGHLIGHT

Some janky animation and iffy controls aside, *Somerville* contains some unforgettable set-pieces, including a chase sequence in a church that riffs on Hitchcock's *Vertigo*. In terms of art direction, this is one of the most striking games of last year.

VERDICT

A sci-fi adventure with grand themes and spectacular visuals is let down by inelegant storytelling and irksome level design.

51%

HIGHLIGHT

Erin navigating the hotel's empty hallways while picking up barely audible sounds via her directional microphone provides one of the eeriest scenes in the entire *Dark Pictures* series. If only there were other ways to enrich the tension-filled established formula through meaningful interaction elsewhere.



▲ Even after escaping the hotel, Kate has to navigate the compound's labyrinthine gardens.

Review

The Dark Pictures Anthology: The Devil in Me

A (Super)massive step back

Compared to Supermassive's tent-pole releases, each *Dark Pictures* instalment represents both an experiment and an exercise in economy, its boundaries defined by budget limitations and the creative ways the Guildford-based studio comes up with to camouflage them. Thus, only a few months after their triumphant return to form with *The Quarry*, *The Devil in Me* arrives with less fanfare, a downsized cast of playable characters, and disappointingly lacklustre writing to pay homage to a different sub-genre: true crime.

Documentaries based on real-life serial killers are a dime a dozen nowadays, so Charlie Lonnit's production company – unbeknownst to his bickering crew – is barely keeping afloat. No surprise, then, that the manipulative director jumps at a last-moment opportunity: filming an episode on H.H. Holmes and his infamous Murder Castle (as his small, Chicago-based establishment was dubbed by an overzealous 19th-century press) in a location filled with authentic memorabilia from the murderer's original spree. So, with a nod to David Schmoeller's 1979 cult slasher *Tourist Trap*, the troupe arrive at Granthem Du'Met's isolated estate and check into a derelict hotel populated by malfunctioning automatons that serve both as staff and grotesque exhibits. Soon after their phones have been confiscated under the reclusive mogul's draconian privacy rules, the flabbergasted quintet realise their host has hastily escaped via the only ferry out of the bleak, foggy island. They are now stranded inside a shrine to the legendary killer.

This dire set of circumstances demands an investigative technique as time-honoured as the

Supermassive template itself: checking out the least important stuff in our vicinity first, lest we trigger a cutscene and leave vital information behind. So we switch between characters and – as long as we keep making the right choices and promptly responding to on-screen cues to keep them alive – slowly piece together the puzzle of their personality quirks, phobias, and personal agendas: Mark, the cameraman is deathly afraid of heights; technician Jamie is openly antagonistic toward front-woman Kate, and so on.

An obvious effort has been made to embellish the interactive-movie formula with more conventional gaming elements, bringing *The Devil in Me* a tad closer to traditional adventures, with mixed results. The new hiding system works great, for example, sending you into panic mode whenever you have to dash for a darkened corner. However, the newly included inventories are pointless (mostly used for ineffectual lighting devices) and collecting coins to purchase unlockables is a chore.

Minor alterations aside, this is essentially the same recipe that delivered *Until Dawn* in 2015, and it remains a perfect blueprint for the interactive horror movie. But once the novelty of that achievement had worn off, providing a seamless merging of narrative and gameplay became a minimum requirement: the resultant hybrid still has to be judged on both counts. While no less adeptly assembled than *The Quarry*, Supermassive's latest sorely misses its predecessor's snappy dialogue and playful subversion of well-known tropes. Mired in generic convention, *The Devil in Me* makes for a passable game with a bland, predictable horror movie attached to it. 🗿

Info

GENRE

Interactive horror movie

FORMAT

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

DEVELOPER

Supermassive
Games

PRICE

£34.99

RELEASE

Out now

SOCIAL

@TheDarkPictures

REVIEWED BY

Alexander
Chatziioannou

VERDICT

A disappointing follow-up to one of the best horror games of 2022.

48%

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Three covers of Custom PC magazine are shown. The first cover features an AMD processor with the text 'THE BEST-SELLING MAG FOR PC HARDWARE, OVER 20 YEARS'. The second cover features a RAM module with the text 'THE BEST-SELLING MAG FOR PC HARDWARE, OVER 20 YEARS'. The third cover features an NVIDIA GeForce RTX 4080 graphics card with the text 'THE BEST-SELLING MAG FOR PC HARDWARE, OVER 20 YEARS' and 'NVIDIA GEFORCE RTX 4080'. A white mug with the Custom PC logo and 'BEVERAGE APPROVED' text is shown next to the RTX 4080 cover. A yellow circle with a plus sign is next to the mug. A yellow circle with the text 'GET 3 ISSUES FOR £5' is positioned above the mug. A yellow banner at the bottom right contains the text 'FREE CUSTOM PC BEVERAGE APPROVED MUG WITH 6-MONTH AND 12-MONTH SUBSCRIPTIONS!'.

THE BEST-SELLING MAG FOR PC HARDWARE, OVER 20 YEARS

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THE BEST-SELLING MAG FOR PC HARDWARE, OVER 20 YEARS

NVIDIA GEFORCE RTX 4080

RTX 4080

BEVERAGE APPROVED

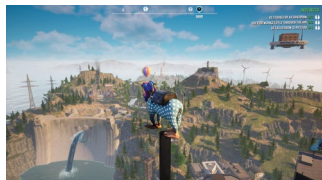
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▲ The humour is so pervasive, it's easy to forget about ongoing environmental effects, like the tornado I accidentally set off barreling towards me.



▲ Of course, faux-human feet are better for climbing than goat hooves. Everybody knows that.



Review

HIGHLIGHT

Goat Simulator 3's funniest moments are in re-creations of levels from such games as *P.T.*, *Wolfenstein*, and *Counter-Strike*. Hidden amongst the angry NPCs and faux name-brand shops, their essence is faithfully captured – apart from the goat in the clown costume centre of the frame, that is.

Goat Simulator 3

Being the G.O.A.T isn't overrated

Info

GENRE
Simulation

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

DEVELOPER
Coffee Stain
North AB

PUBLISHER
Coffee Stain
Publishing AB

PRICE
£24.99

RELEASE
Out now

SOCIAL
@GoatSimulator

REVIEWED BY
Sarah Thwaites

VERDICT

A worthy, iterative sequel that steps out of its own meme-filled shadow.

74%

Throwing my goat-shaped physics body across a vast expanse for what must have been the hundredth time, I caught myself giggling at the sheer absurdity of *Goat Simulator 3*. Coffee

Stain's latest is a laugh-a-minute experience, but it's in the quiet moments when you're hurtling a few hundred metres over a mountain covered in alien goo that the surreal nature of this viral-friendly sandbox really dawns on you.

Goat protagonist Pilgor is back wreaking havoc in a new, better-looking environment full of uncanny valley NPCs. And that's all we ask of him, really. Awkward-to-master controls and frustrating yet fun ragdoll physics still sit firmly at the centre of the experience, but the introduction of robust

open-world mechanics provides a greater sense of purpose. Goat Towers serve as fast-travel waypoints that you scale and pair with to open up new parts of the map. There are myriad missions to seek out and complete, too, ranging from 'smack someone with a fish 15 times' to 'make out with a whale'. This creates hundreds of moreish pockets of goaty gameplay. Working through certain tasks gives you 'Illuminati Points', which let you open up new wings of your off-map hub, a castle fit for a goat king.

Elsewhere, mini-missions earn you Instinct, a currency you can use to unlock cosmetics such as shoes shaped like human feet or the disembodied face of a robot homemaker that

shoots lasers out of its eyes. Dressing my goat in new, avant-garde ensembles was a consistent delight. It's a more focused gameplay loop than its predecessor, then, but the charming randomness of the original isn't lost. Fan-favourite weapons of chaos like the unwieldy jetpack are still hidden in San Angora's hills, and you'll stumble across secret areas lampooning corners of pop culture every five minutes.

When you *do* find a mission, you're confronted with purposefully vague descriptions like 'Become your Final Form!'. The lack of parameters was frustrating at times, but more often than not

led to thoughtful solutions.

Goat Simulator 3 rarely forces you down linear paths, but this approach also opens the door for workarounds involving your abilities that

can feel like cheating. The sheer variety of gear combinations had me gliding, boosting, absorbing, and summoning (often all at once).

Goat Simulator 3 starts to chug and sputter when pushed to its limits, however, with lots of clipping, freezing, and unexpected resets. And while bugs might fit the game's purposefully janky style, repeatedly having your location forcibly reset can feel like hitting your head against a wall.

Even so, this sequel turned threequel is a definite upgrade. By beefing up its rudimentary gameplay with new mechanics and an alluring world that feels alive with absurdity and Easter eggs to uncover, Coffee Stain doubles down on the humour and fun that shone in the original. 🐐

"Frustrating yet fun ragdoll physics still sit at the centre"

HIGHLIGHT

The story is surprisingly good, helped by an imaginative cast of characters and some intriguing twists. The main conceit is that the Knight Witches' powers come from the 'Link' – in other words, the more that people believe in them, the more powerful they become. As you rescue characters, you gain their trust and increase your powers.



▲ You face Emperor Erebus within the first five minutes, in an absurdly tricky boss battle for the opening of a game.

Review

The Knight Witch

Your hex is on fire

Full marks for originality. Putting the disparate genres of Metroidvania and bullet-hell shooter together in one game is an inspired choice, and in motion, *The Knight Witch* can look nothing short of spectacular. Glowing bullets fill the screen with a riot of colour, spiralling out in all directions, while you cast kinetic spells that conjure giant swords from thin air, or send a giant ball and chain barrelling outwards. It's a trip. But a rocky one, at times.

The game starts astonishingly badly. You're thrown into a prologue where you play as Robyn, the leader of the Knight Witches, going up against the Emperor Erebus in a battle so incredibly difficult that I still can't quite believe the developers thought it was a good idea to stick it in at the get-go. After a cursory few screens noting which buttons are for shooting and casting spells (but weirdly neglecting to mention the dodge button – I had to work that out for myself), you're up against an utter nightmare of a boss that relentlessly spews bullets in every direction. I spent the best part of an hour trying to get past the first five minutes of this game, dying again and again.

Yet once you defeat the Emperor and begin playing as the trainee Knight Witch Rayne, suddenly it gets far easier. And then it gives you a tutorial! I'm afraid it's an indication of what's to come, as *The Knight Witch* is an utter mess when it comes to difficulty curves, with relatively sedate periods punctuated by intensely

frustrating and ludicrously tough bosses. It's technically rough, too, with some sections prone to extreme slowdown, and particular enemies causing the frame rate to plunge.

It does look pretty, though, with all that gorgeous sprite work and autumnal colours. And for the most part, the shooting is good fun.

Holding down the fire button causes Rayne to automatically target the nearest enemy, although the right stick is used to manually target foes for extra damage. In addition, you have access to spells – each is represented by a card, and you can initially select six to take into battle with you, but only three are available to cast at any time. There's a bit of strategy in finding good combinations of cards, but they're a headache to use. In the intense battles, you can ill afford the second or so it takes to glimpse at the corner of the screen to see which spell is on which button. And there's a good chance that none of the randomly selected spells will be useful at that particular moment. Deck-building seems a poor match for a twitch shooter.

Rayne herself also seems a poor fit for bullet-hell shooting. In a genre about threading neatly between spirals of bullets, her irregular outline makes the task all the harder, and there's just a touch of floatiness to the controls that perhaps suits a hovering witch but makes bullet-threading all the trickier. In short, *The Knight Witch* is a neat idea, but its moments of brilliance are lost beneath a blanket of frustration. 🗞

Info

GENRE
Metroidvania /
Bullet-hell shooter

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

DEVELOPER
Super Awesome
Hyper Dimensional
Mega Team

PUBLISHER
Team17

PRICE
£15.99

RELEASE
Out now

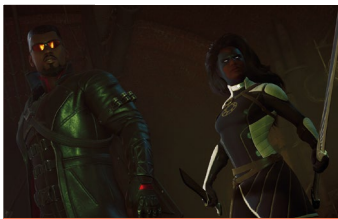
REVIEWED BY
Lewis Packwood

VERDICT

A charming and innovative shooter-adventure hybrid let down by difficulty spikes and technical woes.

67%

✓ Scan the scenery at the start of each battle for objects that can be thrown into enemies or blown up.



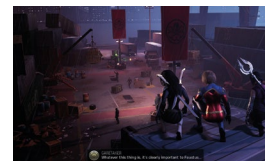
➤ Along with everything else, there are loads of unlockable cosmetic options to dress your heroes as you see fit.



Review

HIGHLIGHT

Yet another absorbing side activity involves exploring the grounds of the Abbey at night, hoping to find clues that will help solve an enduring mystery. Journal pages and runic powers should point you in the right direction, but you'll have to peek into every nook and cranny to reveal the truth.



Marvel's Midnight Suns

Mutants, magicians, and millionaires assemble for some classy superhero strategy

Info

GENRE

Turn-based strategy / RPG

FORMAT

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

DEVELOPER

Firaxis Games

PUBLISHER

2K

PRICE

£49.99

RELEASE

Out now

SOCIAL

@midnightsuns

REVIEWED BY

Jon Bailes

VERDICT

A Marvel sim that's as bulky as its muscle-bound stars, but equally heroic.

80%

Action games may be the obvious choice for digitally representing Marvel superheroes, given that their world-saving antics usually come down to smashing up amassed evil-doers. But Firaxis shows with *Midnight Suns* that turn-based strategy can be an equally effective vehicle for showing off the dynamism of these mask-wearing champions. Add in a generous helping of lore and quality time to get to know an assortment of Marvel's finest up close and personal, and you have an especially rigorous treatment of this well-trodden source material.

The loop of *Midnight Suns* is divided into days, and each of those into three phases – an early morning session of resource management at home base, the Abbey, then a mission centred on a turn-based dust-up, and finally an evening of extracurricular activities (except when some major plot fallout requires immediate attention, which is often the case since the Suns and the Avengers, the two main factions in your party, have very different ideas about how to combat the big bad, Lilith).

The early star of the show is the battling, where you select a squad of three heroes (although story missions always feature customisable protagonist, the Hunter) and enter a rumble against the forces of Hydra and occasional supervillains. Here, Firaxis serves up a hybrid of its previous work on *XCOM* and the modern deckbuilder, with heroes unleashing abilities from a selection of cards, yet also moving around the arena as they act, with positioning

often crucial to planning your next move. Success tends to come from adding damage to attacks beyond the base score shown on the card, which can mean applying status effects or knocking enemies into pieces of volatile scenery or one another. Once you take into account the different skills of your charges, it's a deliciously versatile system.

Outside of fights, however, it's not so much the depth that surprises as the breadth. Like *XCOM*, you can put resources earned from missions to various uses. You'll always receive a new card, but also accrue currencies that enable you to research then build new equipment, upgrade cards, or act on intel by sending a solo unit out to investigate. Unlike *XCOM*, though, and more like the *Persona* games or *Fire Emblem: Three Houses*, you'll equally spend time developing personal relationships with your team, by inviting them to hang out – birdwatching with Blade, anyone? – talking through their problems, or taking part in sparring sessions.

There's much more besides, and as further new elements are poured into the equation, the days grow longer, at times pushing the plot thrust and battles themselves into the background. But it's difficult to resent your time in the Abbey, thanks to some fairly nuanced takes on Marvel's characters, and the rewards you receive for your efforts. *Midnight Suns* is thus like one of those burgers that's been stacked too high with ingredients, but if you can get your teeth around them all, it's a gratifying feast in which everything adds to the flavour. 🍷

HIGHLIGHT

There are plenty of audio logs to find in *The Callisto Protocol* that reveal more about the prison's current horrific circumstances. Unfortunately, the game commits the cardinal sin of not letting you listen to them while exploring, so you're instead forced to halt the action and stare at a waveform.

Review

The Callisto Protocol

Nuts and bolts survival horror has a few screws loose

Living up to any legacy is tough, especially when it's your own. That's the position veteran game director Glen Schofield finds himself in, however, following up 2008's *Dead Space* with a spiritual successor in all but name. The similarities are undeniable. A working Joe trying to survive a viral outbreak within a dank and dreary sci-fi setting? Check. A minimal HUD to increase immersive tension? You bet. That said, *The Callisto Protocol* doesn't pretend to reinvent this oddly specific sub-genre of survival horror. Even if it can't quite escape the shadow of Isaac Clarke's original outing, there's plenty here to make your skin crawl despite a few narrative and mechanical shortcomings.

The primary way *The Callisto Protocol* differentiates itself is via its combat. Whereas other third-person horror outings often make you feel empowered from afar, for protagonist Jacob Lee, the exact opposite is true. Equipped with a heavy stun baton, you'll regularly be whaling on nightmarish space creatures like Jacob's life depends on it – because it literally does. Sure, there's a handful of pistols and rifles to deploy eventually, but overall the emphasis is on waiting patiently, thinking about when to strike as foes stagger and slide up-close.

Sadly, the melee combat is extremely hit or miss in practice, largely due to a dodge mechanic that forces you to move left or right depending on the direction of enemy swipes. Problem is, knowing which side to swerve is a big learning curve that is often at odds with the

need to think and react quickly. It takes a good while to grasp, and feels unfair until you do.

The pessimist in me almost suspects that enemy encounters have been made to be awkward on purpose, if only as a way for Striking Distance Studios to show off the game's gorily detailed death animations. From being pinned down and having his arms stamped off to getting his jaw ripped open, the various terrors poor Jacob Lee is subject to aren't for the faint of heart. The high level of graphical detail on display only contributes to this, too, as it does the incredibly atmospheric sense of place. *The Callisto Protocol* is definitely a case where being a linear single-player game allows its stunning visuals to accurately set an appropriately bleak mood.

Black Iron Prison is your main stomping ground throughout this 8- to 12-hour scarefest. Exploring its many arteries proves thrilling for the most part, though it does lack the cohesion of, say, *Resident Evil 7: Biohazard's* Baker mansion house or even *Dead Space's* own USG Ishimura. Areas and environments constantly tease a jaded history consisting of cults and experimental goings-on, which would be fine were the surface-level narrative anything to write home about. As it stands, the story of Jacob Lee's fight for survival isn't anything more than typical genre fare.

All the elements were here for *The Callisto Protocol* to be a truly great horror romp. Its general lack of refinement, however, left me thinking less about what it is and more about what could have been. 🗿



▲ Jacob Lee is yet another video game protagonist that falls into the 'bald and bearded' category.

◀ As well as the prison's many districts, there are brief moments where you explore the surface of Jupiter's moon.

Info

GENRE
Survival horror

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

DEVELOPER
Striking Distance Studios

PUBLISHER
Krafton

PRICE
£49.00

RELEASE
Out now

REVIEWED BY
Aaron Potter

VERDICT

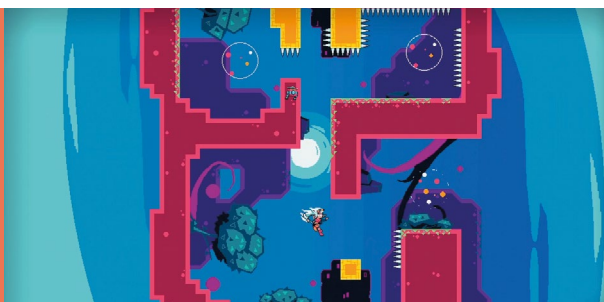
The first game from Striking Distance Studios provides a relatively safe blueprint for a far more solid survival horror sequel.

73%

Why not try...

Itch.io roundup

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



Edge of the Universe

theStoff / Free / wfmag.cc/edgeverse

I've long held that the real trick to both *Meat Boy* and *Hotline Miami* is the lightning-quick respawn time. We'll put up with a lot of death if the respawn isn't frustrating, and for *Celeste*-style platformer *Edge of the Universe*, it's a satisfying animation that warps your cat-eared PC back to the level opening in a glitchy haze of bubble-gum fractals. It's all very encouraging. Hazardous though its stages may be, everything else about this world – from its warm colour palette to its none-more-retro soundtrack – is pure sugar. Tight jumps, double jumps, and wall-slides play against gravity to help you pull off tricky manoeuvres through spike-laden labyrinths.

Agent no. 6

jaimejaime / Free / wfmag.cc/agent6

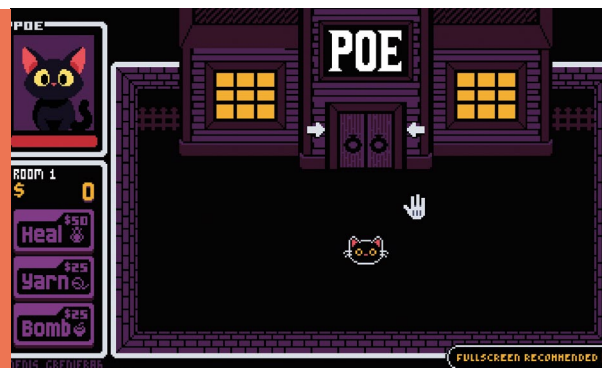
A tribute to the N64's *GoldenEye 007* that's actually a horror demake? Put it in my mouth. Soothe the terror of being chased by a malevolent entity with the sheer joy of blowing up silos that look exactly how you remember them.



Rad Boar Rewind

Alex Rose / Name your own / wfmag.cc/radboar

Somewhere between *Minit* and, uh, *The Lost Vikings* sits this puzzler starring a spacefaring boar. Describing time loop games always makes my brain wobble, but if I tell you that you can, say, set up chains of past-boars to create bridges for present-boars to cross, you can fill in the blanks yourself. Even that hurt to type. Ow. Every ten seconds, the loop resets, though you can manually scrub out progress with the press of a button. Dense level design complements this clever, funny, and deservedly smug pigventure.



Poe

Denis_Grenier / Free in browser / wfmag.cc/poe

I had a few ideas on what *Poe* might be before loading it up, and none of them prepared me for the fascinating click-and-drag pinball rogue-lite it ended up being. Your goal here is to clear the screen of enemies, collect coins for bonus weapons, and restore a health bar that remains contiguous across stages. You do this by bouncing your cat around the screen like a pool ball, aiming to chip away at enemy health, and position yourself out of danger by the time your two turns are up. Either I'm very easily entertained, or this is a deceptively clever game. Either way, it's a real treat. 🐾

The bonus game this month is *You're the Boss* (wfmag.cc/youboss) a charming JRPG parody where you play a mournful end boss.

▶ STREAM OF CONSCIOUSNESS

Returnal fanatic WhitneysVision on kick-starting her YouTube career

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

I'm kind of known as the *Returnal* queen amongst the gaming community, and I'll continue to wave its flag forever. It's probably one of the most challenging games I've ever played, but when it clicks, it becomes an addictive time loop that you simply can't put down. I picked it up when I got my PS5 at the latter end of the pandemic, making lots of friends in the gaming community through it! I would share clips, they would share their journey or any tips they had, and it was as if we were all going through this incredibly difficult but rewarding journey together.

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

My most memorable early gaming moment was when I got given a Game Boy Advance for my birthday. I was super hyped and played *Sonic Advance* endlessly. I still have the cartridges for those games, as I can't let go of the nostalgia it brings. I think that was probably the first game that ever hooked me in an addictive sense. It was also hilarious as my mum initially hid the gift in a shoe box, so I cried before realising she was trying to trick me!

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

I recently learnt that content creation (even for gaming) can be a tough gig, especially if you work full-time elsewhere, like myself. When I started my YouTube channel, the thought of being burnt out from playing games and making videos seemed unimaginable. But I think I forgot you need time to do things, and it's not like I just hop in my chair and get right to it. I make sure I'm wearing a decent outfit, do my makeup, free up my hard drive, and ensure



I have a picture for a thumbnail. Then I need to edit and make it watchable, which I've only just learnt this year! Gaming is a form of escapism for me, but I have to be careful it doesn't start to feel like work, otherwise, it reflects poorly on my content and removes that form of escape.

For you, what's the appeal of making content?

To share my love for gaming with others. It took a bit of self-confidence to get back into gaming and own it as a hobby of mine. I say that because a lot of my close friends don't game, and I spent a lot of my teen years viewing 'hardcore' gaming as more male orientated. When it clicked that people were interested in seeing my gameplay and my thoughts on social media, it pushed me to build a brand from it and hopefully inspire others to take on challenges that I face in difficult games like *Returnal*. I'd also like to think of myself as relatively entertaining, so I love being able to express that on my channel. 🗨️

You can watch Whitney's Let's Plays on YouTube at wfmag.cc/whitneysvision

“It took a bit of self-confidence to get back into gaming and own it as a hobby of mine”

The Wireframe **HOTLIST**

Wireframe's best-reviewed PC games, with something for all tastes



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

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

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

God of War: Ragnarök / Santa Monica Studio / **91%** (Issue 69)

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)

Stray / BlueTwelve Studio / **86%** (Issue 65)

Lost in Play / Happy Juice Games / **86%** (Issue 66)

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)

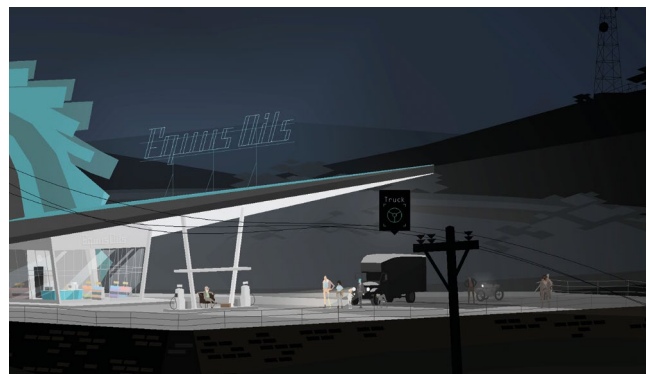
Mythic Ocean / Paralune / **84%** (Issue 36)

Sunless Skies / Failbetter Games / **83%** (Issue 7)

Arise: A Simple Story / Piccolo Studio / **82%** (Issue 31)

Assemble with Care / ustwo Games / **81%** (Issue 27)

FAR: Changing Tides / Okomotive / **81%** (Issue 61)



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)

Heaven's Vault / inkle / **89%** (Issue 12)

Total War: Warhammer / Creative Assembly / **87%** (Issue 60)

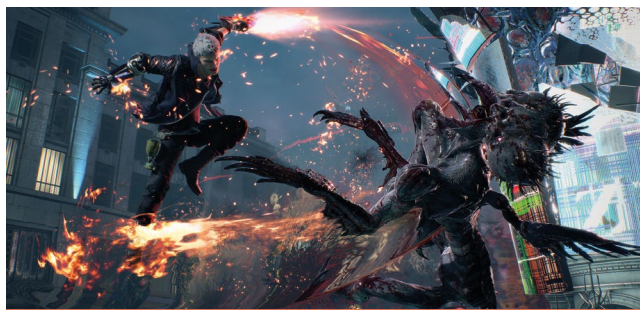
The Pedestrian / Skookum Arts / **84%** (Issue 35)

Dorfromantik / Toukana Interactive / **85%** (Issue 63)

Two Point Campus / Two Point Studios / **85%** (Issue 66)

The Legend of Bum-Bo / Edmund McMillen / **83%** (Issue 31)

A Monster's Expedition / Draknek & Friends / **82%** (Issue 47)



The games for... **HIGH-INTENSITY PLAY**

Tetris Effect / *Monstars Inc./Resonair* / **90%** (Issue 4)

Sayonara Wild Hearts / *Simogo* / **89%** (Issue 25)

Vampire Survivors / *Luca Galante* / **89%** (Issue 68)

Chivalry 2 / *Torn Banner Studios* / **88%** (Issue 54)

Hot Wheels Unleashed / *Milestone* / **86%** (Issue 56)

Star Wars: Squadrons / *EA* / **86%** (Issue 45)

LEGO Star Wars: The Skywalker Saga

/ *TT Games* / **86%** (Issue 62)

Devil May Cry 5 / *Capcom* / **84%** (Issue 10)

Black Bird / *Onion Games* / **84%** (Issue 3)

BPM: Bullets Per Minute / *Awe Interactive* / **83%** (Issue 45)



The games for... **CURING THE INDIE ITCH**

If Found... / *DREAMFEEL* / **92%** (Issue 44)

Can Androids Pray

/ *Natalie Clayton/Priscilla Snow/Xalavier 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)

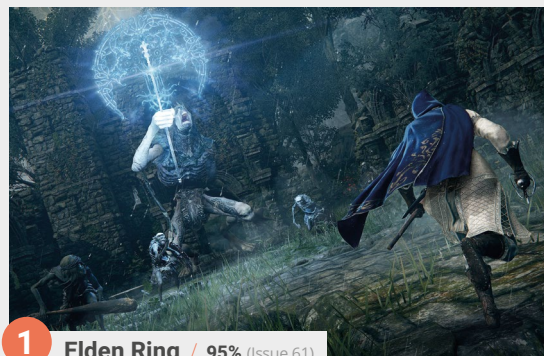
Hypnospace Outlaw

/ *Tendershoot/Michael Lasch/ThatWhichIs Media* / **86%** (Issue 11)

Haunted PS1 Demo Disc / *The Haunted* / **85%** (Issue 39)

OlliOlli World / *Roll7* / **84%** (Issue 60)

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 God Of War: Ragnarök / **91%** (Issue 69)

Gaming's finest sad dad returns with a near flawless action sequel.

8 Yakuza: Like a Dragon / **90%** (Issue 45)

A bold, brash, and joyous rebirth for the long-running gangster series.

9 Kentucky Route Zero / **90%** (Issue 33)

Abstract style meets concrete commitments in this fantastic magical realist adventure.

10 Neon White / **90%** (Issue 65)

A free-flowing, first-person speedrunner that will have you chasing divine perfection.

Backwards compatible

written by [Ryan Lambie](#)

Custom SP

First released 20 years ago (on the 14 February 2003, precision fans), the Game Boy Advance SP was Nintendo's most compact iteration on the handheld up to that point. With its narrower form factor and hinged screen, it was perfect for slipping into a trouser pocket or throwing in a school bag, but still (just about) bulky enough for extended play sessions. It was certainly comfier to hold than its successor, the absolutely diddy Game Boy Micro, which came out in 2005 and promptly gave approximately 2.4 million purchasers terrible eye strain (we're guessing).



With 20 years under its belt, those GBA SPs are probably starting to look a bit worn. The one I acquired recently certainly is. Handily, replacement shells and other assorted bits are readily available online, including at [RetroSix \(retrosix.co.uk\)](#), who kindly offered to print the custom case you can see on this very page. If you fancy a custom shell for your own handheld, RetroSix can print one for prices that start at £19.20 for most early Nintendo systems, and rise to £24.00 for the bulkier Sega Game Gear.

Templates and instructions can be found at [wfmag.cc/retrosix](#).

While I'm taking the SP to bits, I'll also be installing the CleanAmp Pro (£10.80, also from RetroSix), which should provide me with some much clearer, smoother audio.

The first job, naturally, is to strip the SP's screen and motherboard from the original shell. Armed with tri-wing screwdrivers, this isn't a particularly tricky task – at least at first. The existing shell's rear is held in place with six screws, one of which is hidden behind the battery. Once that's off, the motherboard is held in by three Phillips screws – removing these provides access to the ribbon cable that runs to the display.

With all that stripped down, I can install the CleanAmp Pro PCB, which neatly sits on the front of the motherboard and has to be soldered at five or six points depending on which console revision you own – full instructions can be found at [wfmag.cc/gba-sp](#).

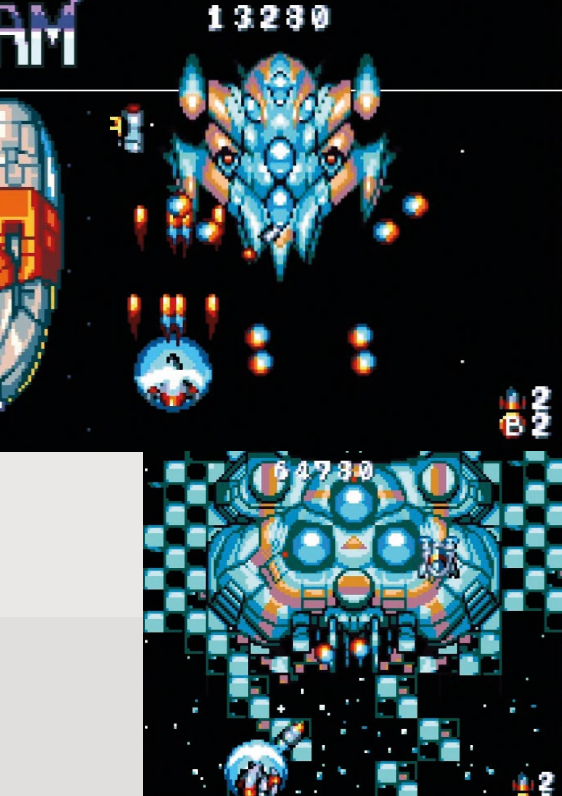
The really tricky bit? The SP's sprung hinges. Unless you buy a new set, these will need to be prised out of your existing console's shell, and they're surprisingly tenacious. After much swearing, I discovered the following method worked best: with the screen removed from the top lid, use a screwdriver and put lots of progressive force



on the inside of the hinge. Get the pressure right and you should be able to force the hinge out without it flying across the room and disappearing forever. To install them in the new shell, I closed the screen lid, pushed each hinge halfway into the aperture, then, with the lid open, gave them another push until they clicked into place. It's fiddly, but it works.

With all that done, I now have a personalised and much newer-looking GBA SP, with some sparkling sound to match. The screen's still rather dull and distinctly un-backlit, but that's a situation I hope to remedy at a later date. Once I start modding a handheld, I find it's quite hard to stop.





Gunstream! Gunstream!

A couple of months ago, we brought word that the tiny Japanese publisher, Habit Soft, had a new shoot-'em-up for the Game Gear in the works. As of early December 2022, it's taken a clear step closer to completion, with demo versions being shown off in certain Tokyo game shops. Called *Gunstream*, it's being made by two former developers at the legendary Compile, where they created the handheld classic, *GG Aleste II*. The game really looks of a piece with those miniature *Aleste* games, too, with all the familiar Compile trademarks in place: the rapidly scrolling backgrounds, the wealth of

upgradeable power-ups, and legions of tiny enemy spacecraft swarming about all over the place. Given how niche the Game Gear was even at its height, we're slightly stunned to discover that it's getting a physical release on cartridge. But over on gameimpact.info, it clearly says its launch is imminent ('Autumn 2022' is the rather loose date given there). Sadly, the company only delivers products to Japan, but we're hoping to find some sneaky means of getting a copy delivered to the UK. Or, failing that, we'll hop on a plane and buy one in Tokyo ourselves. It's only a 12-hour flight, after all.

Ringo, star

Attribute clash was a familiar bugbear for ZX Spectrum owners, and most of us simply got used to games that were either entirely monochrome, or where our character obviously changed colour depending on whether they were standing in front of a hedge or a flowerpot. Modern puzzle-platformer *Ringo*, developed by Denis Grachev, meanwhile, has a cunning way around the old attribute clash problem: make everything so low-res that what would normally be a single

pixel instead fills an entire 8x8 character. Played on an original ZX Spectrum, it would probably make your eyes hurt, but in a little browser screen, it makes perfect sense – and looks quite adorable. The game's simple, *Solomon's Key*-type stuff: jump around, make platforms, and grab the key that unlocks the door to the next level. It's superbly made, though, with responsive controls and deviously laid-out stages. You can try it in-browser at wfmag.cc/ringo.



Films of rage

The success of the *Sonic the Hedgehog* movies seems to have dislodged some sort of stopper over at Sega, because there's an absolute deluge of retro game-themed films on the way. There's reportedly a *Streets of Rage* movie in the works at Lionsgate, features based on *Space Channel 5* and *Comix Zone* apparently on the go, and finally, Amazon Studios

is getting all funky with an adaptation of the 1990s cult roguelike, *ToeJam & Earl*. Will any of them get past the development stage and into production? If we had to choose, we'd go for a *Streets of Rage* flick, just so we can see Chris Hemsworth, cast as Axel Stone, stop in the middle of a punch-up so he can eat a whole roast chicken lying on the floor.

Backwards compatible

WRITTEN BY AARON POTTER

Analogous solution

It finally happened. Nearly a year after pre-ordering my Analogue Pocket, forced to look on enviously as first-wave adopters were singing its praises, mine has arrived. I'm now a changed person. No longer do I have to find emulation workarounds or awkwardly mod hardware to be able to enjoy Game Boy, Game Boy Color, and Game Boy Advance classics in true, pixel-perfect accuracy. It's all here, in the palm of my hands: a beautiful handheld device that faithfully replicates that childhood feeling I had when popping in *Pokémon Blue* for the first time and doing nothing else for days.

Analogue as a company obviously has a good precedent for doing this type of thing. Having formerly released clone consoles for the Sega Mega Drive and Super Nintendo, the high bar for build quality, ease-of-use, and flawless function had already been set, but there's something special about having this magic happen in the form of a portable console. The ethos here was clearly not to reinvent the first Game Boy's chassis design, but rather modernise it a touch. Sure, there are four face buttons as opposed to the original two, and two back triggers sit either side of the cartridge slot to mimic those of the Advance and SP – yet, overall, the Analogue Pocket feels appropriately familiar.

Where the Pocket steps it up significantly is in the 3.5-inch, 615 PPI, LCD screen. It might not be OLED, but when coupled with a 1600×1440 resolution and pro-level colour accuracy, all my existing library of Game Boy titles look better than they ever did before on the original hardware. Not only are

visuals brighter, but they also boast a greater degree of clarity. I was noticing details in games I've played religiously before that I previously hadn't noticed, all because those tiny pixelizations that developers had to compensate for have been cleaned up. The Analogue Pocket's default filter mode is smoother, for sure, but it maintains the original essence (and, therefore, charm) of these beloved handheld Nintendo games.

Holding down the dedicated Analogue button and tapping right or left while playing any cartridge game lets you switch between filter modes. That means lime-sick green is here to stay for OG Game Boy die-hards, while playing GBA titles enables you to cycle through filters mimicking both that original Game Boy Advance look and the less dark, backlit appearance of the later Game Boy Advance SP. All these filters can be

further adjusted deep in the Tools menu, but even right out of the box it's a console that's easy to tweak. This approach only looks set to continue as Analogue opens up more FPGA cores as part of future software updates.

I've only tentatively experimented with the emulation side of things so far, but getting the likes of SNES, Mega Drive, and NES games running on the Pocket has already proved more fruitful than, say, Valve's Steam Deck. These are easier console generations to emulate, true, but it's all about convenience, and it's in this area that Analogue has the device perfectly positioned. Whether due to its impressive battery life, built-in modern features like Sleep/Wake, or simply that gorgeous LCD screen, the Analogue Pocket is my new favourite way to play 16-bit games and has reawakened the Game Boy lover within me.



Retro residence

As beloved as Capcom's iconic survival horror franchise is now, it famously jumped the shark with the ill-received *Resident Evil 6*, throwing almost every aspect of survival – and indeed horror – out of the window in favour of a bombastic, globe-trotting multicharacter campaign. I personally found the 2012 game quite enjoyable when played in online co-op with a friend. In the same breath, though, I admit that the rebooted direction that followed was sorely needed.

It appears I'm not the only one who has a love/hate relationship with *Resident Evil's* divisive sixth entry, though. YouTube channel Rustic Games BR has reimagined the game as a PSone title,

complete with fixed camera angles, polygonal character models, and pre-rendered backgrounds. There's even a brief moment of pause felt as Leon and companion Helena step from one screen to another, upping the degree of tension to be reminiscent of the time when everything wasn't viewed from an over-the-shoulder perspective.

At a little over four minutes, this fan-made *Resident Evil 6* demake doesn't leave much to chew on, but it affectionately captures the essence of the era when the celebrated series was first born. Right down to combining

items in the menu, the lo-fi SFX of your steps, and the inability to move and shoot simultaneously, Capcom seems intent on remaking the classics, but why not demake the modern entries that went a little wayward? Efforts like this certainly prove there's an audience for it.

Watch at: wfmag.cc/retro-resi.



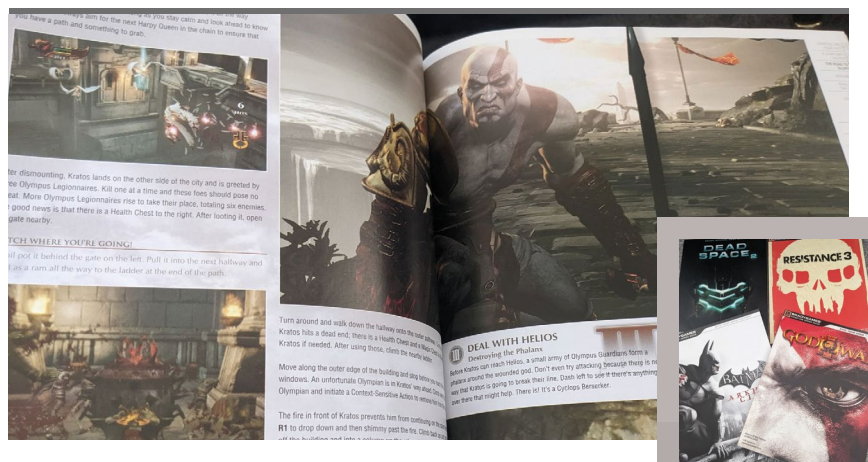
Paper trail

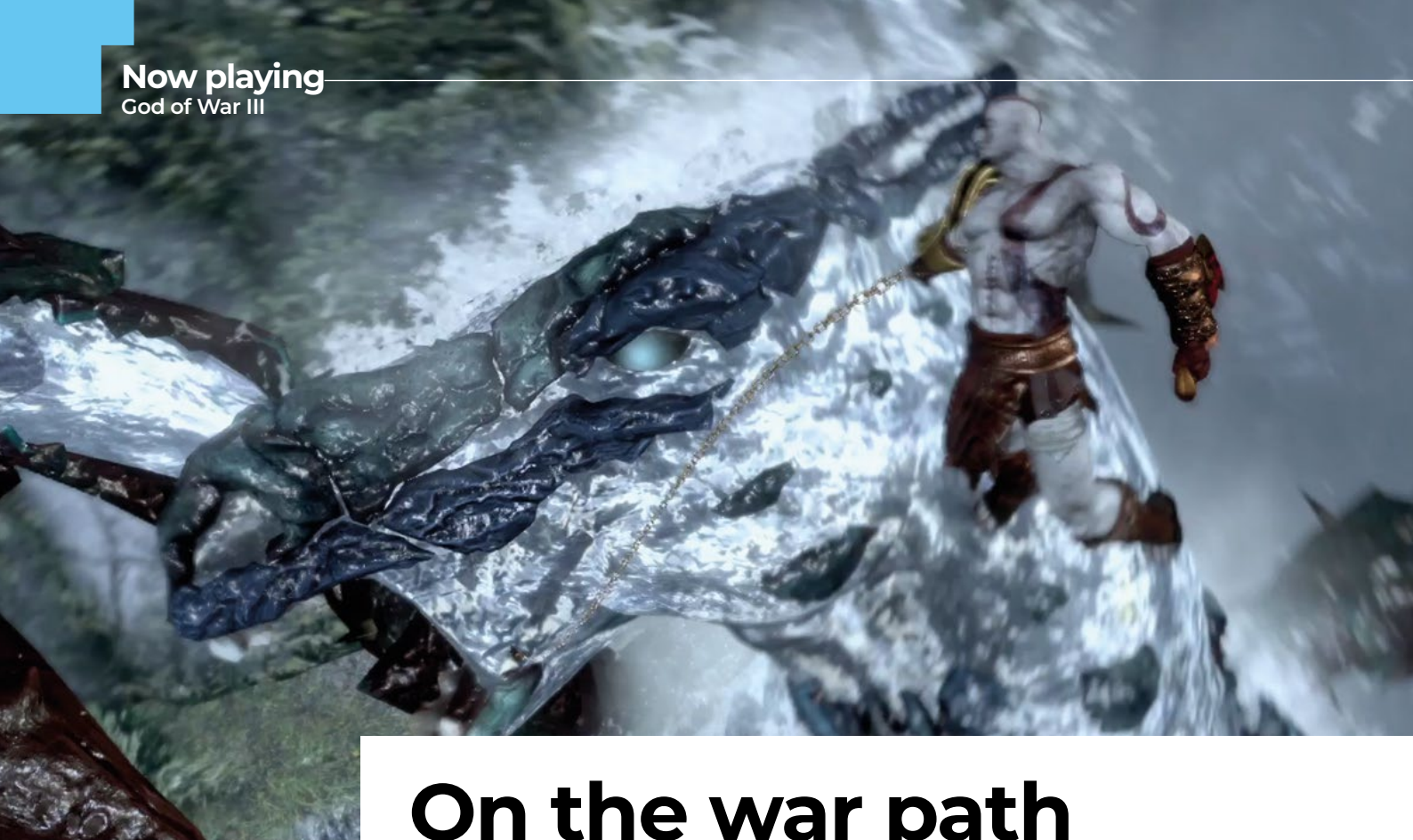
Before the internet became the most convenient resource to achieve 100% completion, it was print that players relied on for their walkthrough fix. Imagine my delight, then, when at a recent car boot sale I uncovered a stack of old-school Brady Games and Prima Games physical guidebooks. These publishers did their darnedest to give people a fighting chance at experiencing the latest games fully back in the day. But in addition to the step-by-step information, of equal significance was the accompanying artwork and brilliantly laid out explainers for characters, world, and lore.

The *God of War III* guide is a perfect example of this. Because as well as guiding you on Kratos's central journey to take down the Greek gods in pursuit of Zeus, it's a tome of story outlines, epic screenshots, and other visual assets that

makes it an ideal companion to experience the universe of the game. I know a little bit about what it's like to deliver concise copy under deadline, go figure, but these guide writers were the real heroes just a

few short years ago. Just because physical guides are of limited practical use in the modern age doesn't mean they can't be appreciated as historical artefacts and works of art themselves.





On the war path

Rediscovering the original angry version of Kratos in God of War III, prior to his sad dad days

Nobody forgets a great video game opening. Entering the bathysphere and descending into Rapture in *BioShock*. Leaving the vault for the first time in *Fallout 3*. Channelling Darth Vader's full power by slaughtering endless Wookiees in *The Force Unleashed*. The list goes on... However, one bombastic opening set piece that has always stuck with me is the one seen in *God of War III*, where Kratos rides on the back of the titan Gaia, fending off a giant water horse, as he attempts to climb Mount Olympus to exact

his revenge on Zeus. It's in epic moments like this where I'm reminded that, before turning all introspective and brooding in the recent soft reboots, this was a man full of unbridled rage. Such rage beautifully translates into what is still one of the most cinematic action games ever.

Of course, Kratos can't claim the vengeance he's been looking for over the course of three games at the start of the third. In appropriate video game fashion, therefore, it's after decimating Poseidon's stallion form that he's almost immediately kicked back down to hell, stripped of any extended health and combat upgrades, and primed to make one last journey to the top. Getting a small taste of this power just for a brief moment might seem cruel, but it's a precedent even the original *God of War* games set early on, and is great way to set the tone while keeping you tantalised by the full god-level strength you'll soon possess.

God of War III still looks amazing, and that's considering the version I played was a PS4 remaster of a PS3 game running on a PS5. Still with me? The glory of ancient Greece is presented in all its true, shining splendour, with the surrounding architecture's grandeur nicely contrasted by the frequent destruction of plinths, columns, and bridges. It's full-on Armageddon as the gods fight for their lives. And without





venturing too deep into *Ragnarök* spoilers, I'm inclined to say that *God of War III*'s version of the end of days is much more ambitious in scale and scope than even Santa Monica Studio's Norse version. But that's OK. This third mainline entry was all about delivering on the promise of Kratos's full anger, while his transition to regretful dad has been purposefully designed to play out far more subdued.

There's a catharsis that comes from endlessly tearing Medusas, harpies, and minotaurs limb from limb, however, and mashing the square and triangle buttons is refreshingly thoughtless in a good way – especially after having just spent 30 hours blocking and thrusting from an over-the-shoulder view in *God of War Ragnarök*. I have no problem with combat being precise, but the ease of destruction in *III* expertly suits Kratos's boisterous mindset.

Indulging in simple light and heavy attacks doesn't come at the cost of variety either, as it's easy enough to switch from the Chaos Blades to Apollo's Bow, to the Blade of Olympus, and back again in one fell attack combo swoop. You feel unstoppable!

There's no such thing as a safe god in Kratos's final Grecian adventure, and tearing through them at a pace is immensely rewarding. Because if draining Poseidon of all his power wasn't enough, Hades has had it coming for a long time, and it's in *God of War III* when the god of death finally gets his comeuppance. Ripping his soul out using the Chaos Blades is an especially satisfying event compared to most, as the first two games on PS2 always had you climbing from out of the underworld at least once for

“Such rage beautifully translates into what is still one of the most cinematic action games ever”

myriad reasons. As such, I can't help but feel like Hades' defeat happening relatively early on was a deliberate statement of intent on Santa Monica Studio's behalf. It makes players aware that this third outing is well and truly the end, going so far as to prove it by having you gut him, and then letting you use his own claws as weapons for the rest of the game.

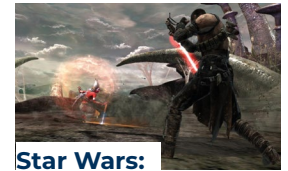
God of War (2018) and *Ragnarök* both integrate a one-shot camera approach to help maintain a steadiness to the story and pacing, but *God of War III* uses its own neat cinematic trick to achieve a similar sense of weight – more in keeping with its brash tone. Whenever Kratos

confronts a god, the camera will occasionally cut to a first-person view from the perspective of that god. What follows is the ultimate in shaky cam as Kratos repeatedly lands blow after blow right before our eyes, I'll admit, but as a way to

witness the full intensity of the Spartan's rage? It works remarkably well. One-shot takes already existed in films and TV, but only in games can you push a button to beat someone up and simultaneously feel the weight of that same beating on the receiving end.

God of War III doesn't pretend to be high art, it's true, but as a way to cap off the franchise's brutal period, it unabashedly delivers. This latest playthrough only proves that, of the Greek and Norse sagas we've seen so far, neither is necessarily 'better' than the other. They represent two versions of Kratos at different stages of his life, both being appropriately epic while serving as bold representations of the ways gaming itself has changed. 🗿

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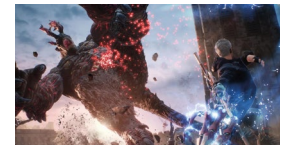


Star Wars: The Force Unleashed

PC, PS3, XB360, Wii

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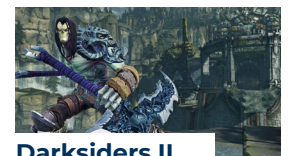
Dismembering stormtroopers and pulling down an entire Star Destroyer as Vader's secret apprentice sees the far away galaxy at its video game best.



Devil May Cry 5

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

Epic in both style and action, *Devil May Cry 5* represents Capcom's classic action series on top form. Dante and Nero's combat style gets the job done up close, while new character V lets you decimate enemies from afar.



Darksiders II

PC, PS3, XB360

The addition of a semi open-world and character upgrades makes Death's journey during the apocalypse a far deeper and fuller *Darksiders* game than the first. 2012's most overlooked third-person action game by far.



Frankie Goes to Hollywood

What could have been tacky licensed fodder was instead one of the most imaginative games of the mid-eighties

DENTON DESIGNS / 1985 / ZX SPECTRUM, AMSTRAD CPC, C64

You don't tend to find much in the way of innovation in licensed games, but *Frankie Goes to Hollywood* bucked that trend in the middle of the 1980s. At the time, the Liverpool band that inspired it was at the height of its commercial powers; in early 1984, BBC disc jockey Mike Smith had made a big deal of banning the single *Relax* from his radio show, which (predictably) helped turn it into a smash-hit. Superstar status soon beckoned.

As follow-up singles appeared in the charts and Frankie T-shirts became a must-have fashion item, someone decided the band ought to get its own video game. The job of actually making it fell to Denton Designs, a Liverpool-based studio formed from the ashes of the infamously ill-fated firm, Imagine Software, which had flamed out in spectacular fashion (in front of a BBC film crew, no less) in 1984.

What the team came up with was arguably one of the most imaginative British games of its day – and among the most technically accomplished, given the limitations of the 8-bit computers it was programmed for. *Frankie Goes to Hollywood* (the game) was an arcade adventure that involved guiding a pale, anonymous figure around a series of similarly bland suburban locations. You could enter and explore a terrace of largely identical houses, rummaging through drawers or poking through kitchen cupboards for items and clues. But clues to what? Initially, the *Frankie* game's objective was

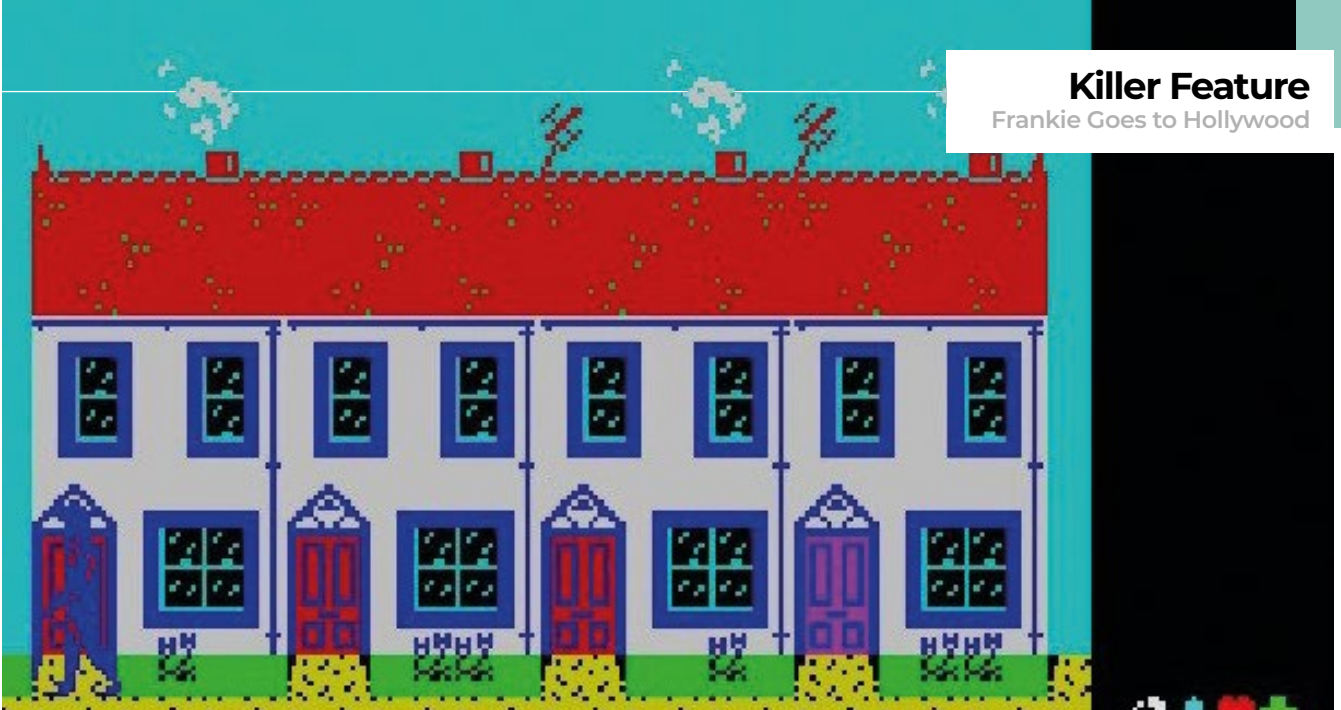
vague – something about becoming a 'full person' – but as you moved from house to house, you eventually made a gruesome discovery. There, lying not far from a hearth rug and some reproduction occasional tables, lay the body of Mrs Average. The game then asked: "Whodunnit?"

It's worth pausing here to note the streamlined brilliance of *Frankie's* controls. Moved around the screen via keyboard or joystick, your on-screen avatar's arm could be manipulated to 'touch' nearby objects. You could, for example, reach up to a particularly high cupboard, or crouch down and interact with something lying on the floor. Doing so would typically open up a little window showing, say, the interior of whatever cupboard you were searching through and the objects contained within. You could then move a little hand-shaped cursor around to pick which objects you wanted to take.

According to Graeme Mason's 2020 making-of feature for Eurogamer, *Frankie's* creators had seen the Apple Lisa's operating system, were inspired by its user interface, and decided to incorporate bits of it into *Frankie*. For an 8-bit game released in 1985, *Frankie's* controls felt almost futuristic; bear in mind that the first true point-and-click adventure, *Enchanted Scepters*, had only appeared one year earlier (on another expensive Apple computer, the Macintosh).

Then again, there were all sorts of forward-thinking, unusual ideas rattling around inside *Frankie*. There's the

"Frankie was both ahead of its time and wonderfully keyed into it"




RPG-lite goal of filling up four stat bars by completing various minigames and tasks (in order to become a 'full person', you have to max out four attributes – sex, war, love, and faith). There's the unpredictability, as you're swept from a sparse kitchen one second and into a maze in an alternate dimension the next.

Most insistent of all, though, was *Frankie's* gently surreal tone. The lack of human life anywhere in the game – unless you count the caricatures of world leaders spitting at each other in one minigame – made its domestic interiors feel doubly eerie. With just a few pixels and a handful of colours to work with, Denton Designs' Ally Noble breathed a terrific amount of life and personality into those interiors: the row of ducks on the wall, the horrendous tiled fire surrounds, and boxy televisions may have been hangovers from the 1950s, but they were still a familiar sight in typical British homes 30 years later.

Admittedly, not everything about *Frankie* quite worked. The idea of phasing between a humdrum everyday world and an alternate world of lasers, floating portals, and futuristic corridors was an inspired one, but the rules of its minigames could be frustratingly obtuse at times. As fondly remembered as *Frankie* might be among computer users of a certain age, it's unlikely that many of them actually succeeded in finishing the thing.

Even those flaws are arguably the side-effect of its creators looking beyond the established conventions of mid-eighties game design. Conspicuously different from its 1985 peers in its design and approach, *Frankie* was both ahead of its time and wonderfully keyed into it. The band's fortunes began to sputter just one year after the game's release, as the band's second album, *Liverpool*, failed to capture the success of the first.

The game itself is something of a time capsule. It's from a bygone era of smoking chimney stacks, Margaret Thatcher, the Cold War, and austere living rooms. From a time when it was still commercially viable, in a much smaller, more local games industry, to come up with places and situations so peculiarly British. From all this, Denton Designs conjured something bold, weird, and truly original. 

Arduous Journey

Frankie Goes to Hollywood wasn't the first band to get a video game spin-off. In 1982, developer/publisher Data Age attempted to capture the sights, sounds, and smells of chart-storming soft rock outfit Journey, in the Atari 2600 game *Journey Escape*. It saw a crude stick figure sprinting up the screen, collecting money and avoiding an assortment of abstract shapes intended to symbolise things like photographers and groupies. A year later, Bally Midway put out an arcade machine dedicated to the same band; simply called *Journey*, it offered up a handful of simple minigames, ranging from shooters to mazes, each featuring the digitised likeness of a band member. The games are all middling at best, but there's some fun to be had from the crude animation and band photos, which make the whole thing look like a long-lost episode of *South Park*.



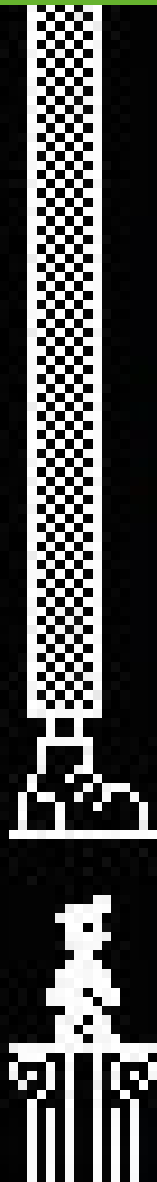
Wireframe

2018-2023...?

Keep an eye on wfmag.cc or twitter.com/wireframemag
for future developments

Game

Over



THANK YOU FOR READING

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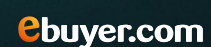
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