

ALL FORMATS

116 PAGES MONTHLY

# Wireframe

LIFTING THE LID ON VIDEO GAMES

## NEW DOOM

The rise of the nineties-style retro FPS

## FLASH GAMES

The fight to preserve browser game history

## DO IT YOURSELF

Code a block-pushing puzzle game

Issue 42 £6

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# BIOHAZARD

SUSPENSE, CO-OP SHOOTING, AND BODY HORROR IN GTFO

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# Video games, please: enough with the RPG elements

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**E**very time. Every time I get a new game that looks like a quick blast of fun, it's got RPG elements. I didn't want an RPG. It was not advertised as an RPG experience. Yet here we are. With *options*.

Upgrade this, enhance that, get armour, upgrade the armour, buy the special gun, upgrade it for better range/speed/damage, but you only have enough to upgrade one of those, and you can't use this gun on the next level, you need a level 12 gun so you'll have to dump this one you've spent millions upgrading for weeks, and you can't just buy the top-level weapon to save time, you can only buy each level's weapon on that level, then take ages upgrading it until it becomes useless the *second* it's maxed out. Anyway, have fun gaming.

I just want to play and have fun. I'm no casual gamer, or a fake geek boy. I've earned my stripes. I had the Grandstand 5000 Deluxe console back in 1977, with its ten *almost* identical games. I've sat waiting 20 minutes for *Sultan's Maze* to load on my Amstrad CPC 464 tape deck. I've played the 75-second demo of the first *Gran Turismo* repeatedly until 4am on the original PlayStation. I fought with your father in the console wars.

But I've never been into RPGs. Good for you if that's your thing, but it's not mine. I tried *Mass Effect*, which looked amazing, but there was way too much to customise; after an hour of customising my face, I was too burnt out to play the actual game.

I got a *Star Trek* game, hoping to die with honour in battle, but instead died of old age after being bombarded with endless questions about ship repairs and upgrades. Even the creepy *Sniper* game for iOS that I enjoy far too much, the very definition of pick up and play, has a million upgrades, and suffers



## JAMES MORAN

James Moran wrote the movies *Severance*, *Cockneys vs Zombies*, *Tower Block*, episodes of *Doctor Who*, *Torchwood*, *Spooks*, and many more. He's been gaming for most of his life, but still isn't much good at it (gaming or life). Find him on Twitter at @jamesmoran.

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## #42



from the same infuriating 'level 12' limitation (unless you pay, obviously).

Why can't there just be a tick box that says "Automatically upgrade to whatever is the best option, I don't want a second job?" I remember when *GTA* first brought in food, exercise, and clothes shopping. It was an unpleasant reminder of reality, ruining my mindless driving into pedestrians. You even had to go on joyless dates, and, weirdly, listen to the sex noises while the camera stayed outside (welcome to my 20s).

I say this as someone who spent *hours* rearranging the inventory in *Resident Evil 4*, rotating things forever to fit in just one more herb, and editing the Film Director mode in *Driver* to make the perfect 43-second movie. I'm not averse to mind-numbing tasks. But at least those were just *one* task with *one* goal. Designers keep banging on about how their new game is more realistic, blurring the boundaries between games and real life. I don't want real life. Real life is rubbish! I want my fantasy game life, where I'm hot, and good at stuff.

Besides, in real life, if I had a sword, I could just kill someone, even if they're at level 12 of *Real Life Fighting Skills*. I wouldn't need a level 12 sword. Even if I did, I wouldn't first have to buy and upgrade swords 1 to 11, discarding them each time they were maxed out. I'd just buy the level 12 sword, and kill the person. And just like in games, there would be no consequences, because other people are merely columns of light and sound that must be destroyed until I am at peace.

So please, please, give us that tick box to save us time. Shame us if you have to, call it the 'I'm lazy and stupid' option, display it in our achievements so everyone knows we suck. I don't care. Just don't make me think, or work. I get more than enough of that in real life. 🗣️

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## WELCOME

There's an FPS theme to this issue, which has given me the chance to air out some of my favourite hardened tough-person phrases like "Go away, please", "How dare you", and "No".

Mostly, though, all the talk of such games as our cover star, *GTFO*, somehow got me thinking about a decade-old generation of solid but unheralded shooters – the mid-range games from a decade ago. Games like *Singularity* – a title that couldn't hope to match the quality of the games that inspired it (most obviously *Half-Life 2* and *BioShock*), but still provided a thoroughly pleasant weekend's entertainment.

*Singularity's* chief draw was its time-manipulation mechanic: you could, say, make an aged object shiny and new or move it forward in time until it was corroded and useless. It was hardly explored to its fullest, since the player could only age and de-age specific objects at specific moments, but flawed as *Singularity* was, there was plenty to like. It was just satisfying to freeze enemies in time and blast away at them.

*Singularity's* troubled development explains why it was such a mix of great and average. It also meant that *Singularity* quickly, unfairly, faded from view. But I'd argue there's enough in this flawed oddity to make it worth digging out of a bargain bin. What I'm saying is, while the likes of *BioShock* and *Half-Life 2* are the games we talk about with reverence years later, the titles sitting a league below still have ideas worth exploring. Or, to put it even more simply: play *Singularity* – it's pretty good. Now go away. Please.

Ryan Lambie  
Editor



# GET THE

Fight together, die together...  
or run away and die alone: **it's GTFO**

# FLIP OUT



**G**ravel-throated fear orators of the world unite: *GTFO* is here to make you bellow with panic as, once again, your team is reduced to mere stains

on the wall and a barely audible echo of the screams let out just seconds prior. It's scary and hard, is what's being got at there. The debut from 10 Chambers Collective, *GTFO* – whatever could that stand for? – marks a decidedly intentional hardcore turn from a team made up of many *PAYDAY* series veterans, led into the fray by the bank-robbing series' creator, Ulf Andersson.

Gossiping through fanciful outings, players take the role of one of four 'prisoners' forced to go into an underground complex by the mysterious Warden. Talk is cheap, sure, but it's also key, because this location is absolutely overrun with monsters. Mean, horrible, scary monsters. *GTFO* is a game that absolutely revels in its level of challenge and, as we discovered when talking to 10 Chambers, it's a title aimed solely at co-operative play. You cannot play it without a squad; even with a squad, you are likely to fail a lot of

the time. You need to work together, you need to talk, you need to be alert to your situation at all times. It is uncompromising and, thanks to a significant amount of time in Early Access with features being added and refined, it's also a startling amount of fun.

Said features being added have arrived in the form of Rundowns – content packs of a sort, each bringing a new set of goals and missions to *GTFO* for players to band together and lose at. The last such Rundown arrived earlier in the year, bringing with it a bunch of expeditions to jump into and a lot more lore for the hungry community to gobble up. The next Rundown – 004 – is set for release soon, bringing with it another new set of locations and missions to work through. It's an elegant system for drip-feeding new

content to players, retaining a controlled output while simultaneously keeping people hungry for more – and it's all building up to the v1.0 launch, planned for some point in 2021.

Feeling slightly uneasy about the whole thing – not the game's fault, it's just cowardice being shown by this un-brave writer – we had a natter with another *PAYDAY* alum working on *GTFO*, Simon Viklund, who functions as designer and composer for the terrifying co-op lose-and-confuse-'em-up ➤.

## What was the genesis of *GTFO*? Where did it all come from?

We knew we wanted to make a four-player co-operative FPS, and that we wanted to push the co-op aspect to the max. We all love co-op games, but felt that many of them don't really force you to co-operate; they're merely games you play alongside your friends. With *GTFO*, our goal was to require co-operation, co-ordination, and communication. It's that or death. That's why our slogan for the game is 'Work together or die together'. After we decided to make a hardcore co-op FPS, the theme and setting came naturally: claustrophobic indoor environments and an atmosphere of horror inspire people to stick together.

## And has it been the same – or roughly the same – game since day one?

We've kept the core vision intact since the beginning: to create a hardcore co-op experience. But you could, of course, say that this concept has evolved during these five years of development – we're a small and agile team with total creative freedom and a willingness to experiment.

## Where did the concept for Rundowns come from? What can we expect from the next Rundown?

The concept of the Rundown comes from an ambition to constantly bring new challenges to the players. It's inspired by seasons and time-limited events, but taken even further. New Rundowns are built on repurposed building blocks of the

old Rundown, so it's not possible to keep the old Rundowns when introducing a new one. That principle helps the game's community focus on the same set of challenges – and things we introduce in the Rundowns can be more 'out there' if players know that it's not going to be in the game indefinitely. So, it allows us to experiment more freely. The upcoming Rundown will bring new expeditions and more backstory.

## How have Rundowns helped the development of the game specifically?

It has helped us gather the confidence to experiment more since, as I said, players know that any Rundown isn't in the game forever. So, if they don't enjoy the game as much because of something introduced in a Rundown, they can jump back in the game when the next Rundown is introduced, and we can tweak and alter things for the future based on feedback and gameplay data we collect.

## How has the Early Access process been for you?

*GTFO* was released in December 2019, so we've been in Early Access for less than

▲ If you just stay still, likely forever, maybe you won't immediately die now.

a year. We have a public roadmap for our journey towards version 1.0, which is still on track for release next year. The Rundown concept is ideal during the Early Access phase – we regularly update the game with new content and wipe the old. As well as allowing us to experiment a lot, to see what works, the community also gets new expeditions, environments, weapons, enemies, challenges, etc. It's also good for balancing the difficulty level, something that is very important for such a hardcore game as *GTFO*. It's supposed to be difficult but fair.

## Would the game exist without Early Access and all that brings with it?

That's very hard to say. I think it would exist regardless, but the Early Access phase gives us the opportunity to invent and try out different inventive concepts that will truly make the version 1.0 the new take on the FPS co-op genre we intend it to be. We also had a very active community even before making the game available, and Early Access is a great way to invite those hardcore fans to share the journey of the game's development.

## How much impact has the community had on the development of *GTFO* – how much say have they had in the game's direction?

The community influences our design choices, no doubt. We have this huge



▼ Motion detectors are incredibly useful, but they're also absolutely terrifying, rendering them difficult to want to use if you're a coward.





when they're ready for more darkness. I really think the game's grim atmosphere becomes yet another thing that the players need to overcome through co-operation – by talking to one another and cheering up the mood. So *GTFO* still allows players to be silly if they want to; we see that in a lot of YouTube videos of people playing the game.

**That emphasis on teamwork will put some people off – those who don't want to communicate or maybe even can't. Is this factored in at all?**

*GTFO* is a hardcore co-op game, so in terms of gameplay and difficulty, we don't cater to lone wolves. If you're looking for a

demands of *GTFO*'s co-operation. For those with social anxiety, we're thinking about adding a system that allows players to trigger pre-recorded voice lines – but using a mic will, of course, always be better.

**What do you think when you look at the current crop of online shooters? Does *GTFO* fit into this established order at all, or is it completely its own thing?**

I think there are a lot of very good games out there that are doing their own thing, but *GTFO* definitely fills a void on the market – there just aren't many four-player hardcore co-op action/horror FPSs around! But no game is completely its own thing: you can see *GTFO* as a mix of the atmosphere of *Alien: Isolation*, the action from *Left 4 Dead*, and the tactical elements from the old-school *Rainbow Six* games.

**Most online shooters stick to the script – outliers like *Evolve* and, of course, *PAYDAY* pop up, but it's largely in a template. Like, say, battle royale. How can *GTFO* navigate this rather conservative audience and find itself a fanbase?**

We've been clear with *GTFO*'s uncompromising vision from the beginning, and I think being →

## “If players want something light-hearted, they can get that elsewhere – in a movie or another game – and then return to *GTFO*”

list of ideas for the game, and if players suggest something that we've already thought of – something that goes in line with our vision – then we know we're on the right track. Same with the data we collect as people play – we know what weapons the community prefers, what expeditions they find especially hard, etc. So the community helps shape the game – whether they know it or not.

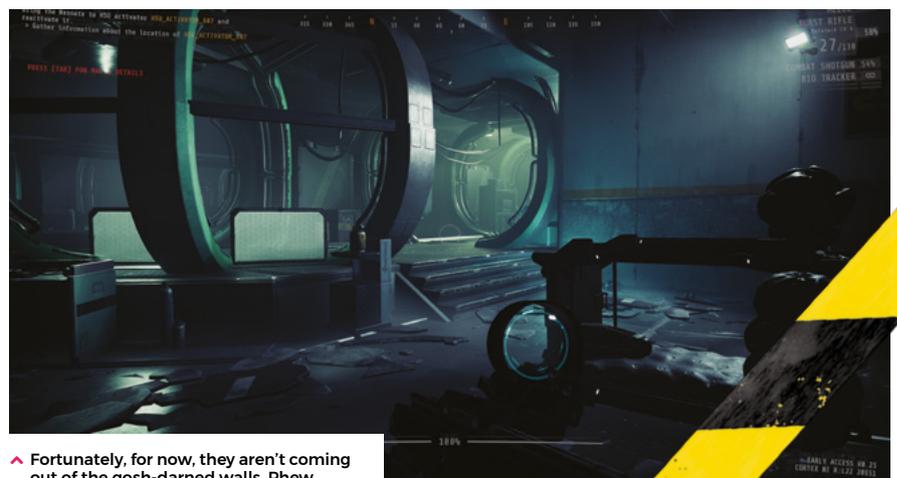
**What has Ulf Andersson brought to the project?**

Ulf is paramount – his importance to the project and the company can't be overstated. He contributes with an immense amount of experience, contacts, game direction, vision and more.

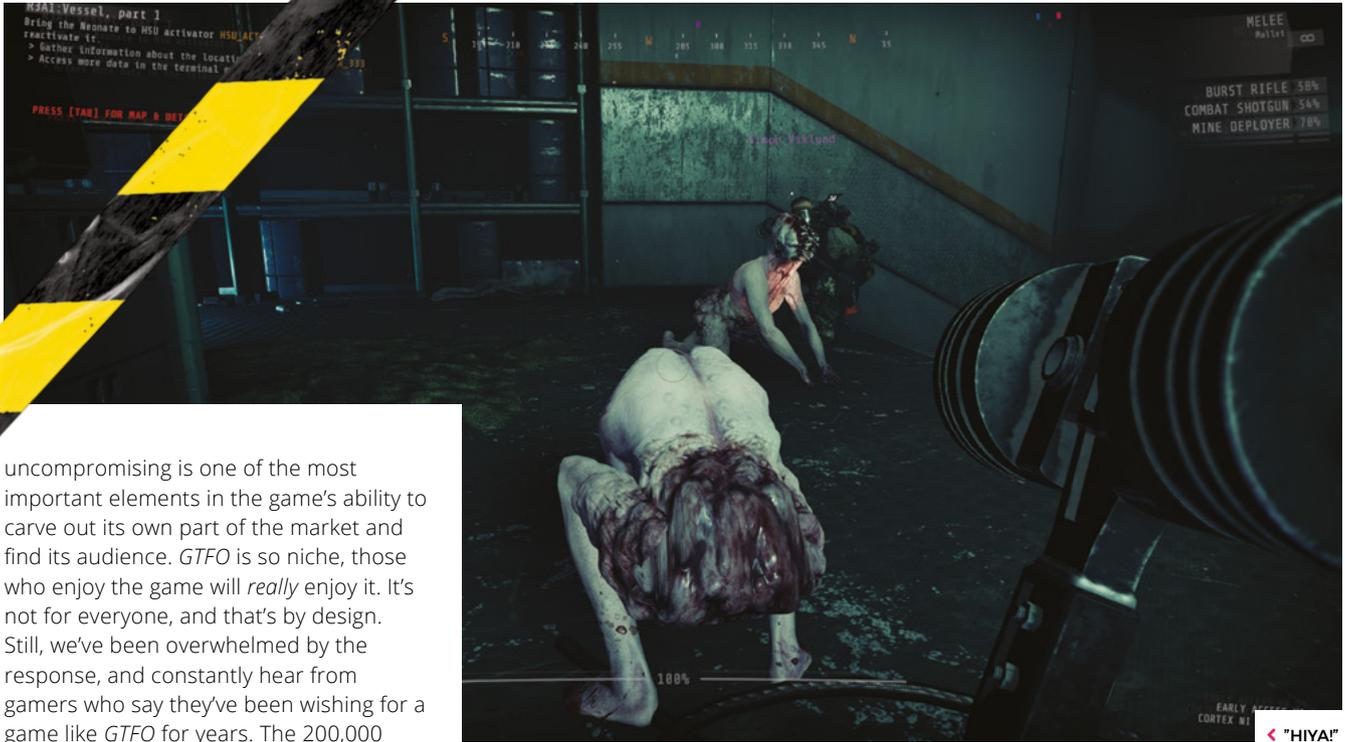
***GTFO* is a very dark, horrifying game – full of tension and demanding teamwork to survive as long as possible. But is there room for light-heartedness at all? Or is this just not the space for it?**

Ha ha! I think it'll just get darker from here! If players want something light-hearted, they can get that elsewhere – in a movie or another game – and then return to *GTFO*

single-player experience, there are other great games out there that offer that. However, we want to assist people that may not have anyone to play with to find their team. Right now, our Discord server is the main platform for this – with over 200,000 members – and one of the most active Discord servers in existence. We're also working on a sophisticated matchmaking system that will work with the high



▲ Fortunately, for now, they aren't coming out of the gosh-darned walls. Pheh.



uncompromising is one of the most important elements in the game's ability to carve out its own part of the market and find its audience. *GTFO* is so niche, those who enjoy the game will *really* enjoy it. It's not for everyone, and that's by design. Still, we've been overwhelmed by the response, and constantly hear from gamers who say they've been wishing for a game like *GTFO* for years. The 200,000 Discord users show there's obviously an audience for the game!

**How do you keep things under control – manageable – with your being an indie team with no shareholders etc to answer to?**

That's a massive challenge, for sure. Being a small team has its strengths; you have the advantages of being agile – and the lack of hierarchy allows for quick decision-making. We're very ambitious, but the trap is to bite off more than the small team

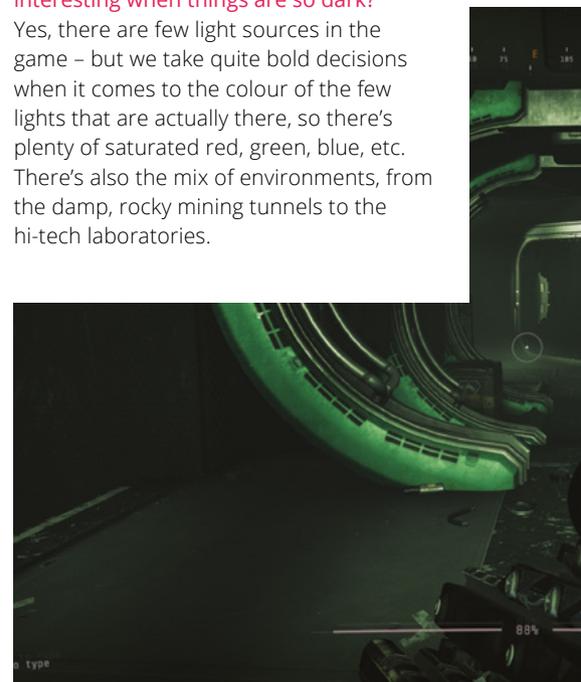
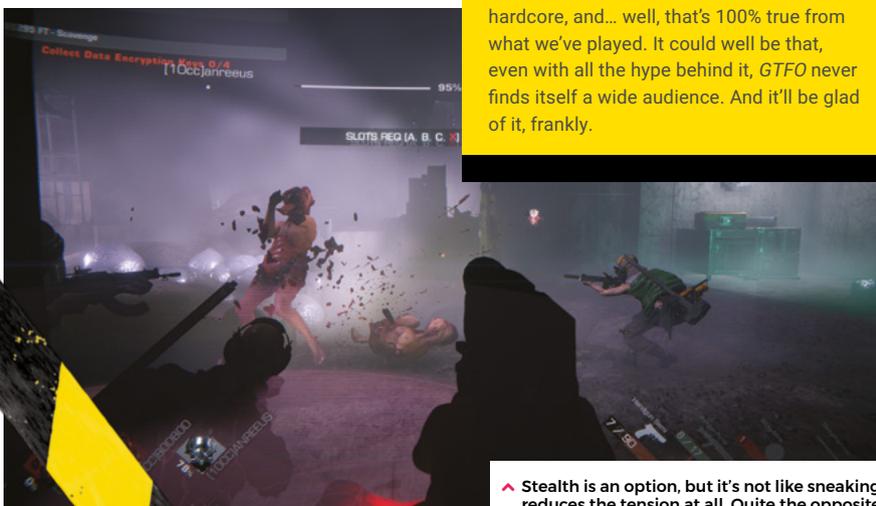
## ENHYPENED

*GTFO* has been at the forefront of quite the hype storm for a number of years now. First revealed in 2017 at The Game Awards, it was always set to have a lot of eyes on it, and the game's appearances at shows since have always been met with a heady mix of salivating and hyperbole. But the question remains: will *GTFO* grab the casual observer? 10 Chambers Collective is absolutely clear the game is made for the hardcore, and... well, that's 100% true from what we've played. It could well be that, even with all the hype behind it, *GTFO* never finds itself a wide audience. And it'll be glad of it, frankly.

can chew – so the answer is knowing your limits, playing to your strengths, and maintaining the vision.

**Visually, things are dark – obviously by design – but how do you keep it visually interesting when things are so dark?**

Yes, there are few light sources in the game – but we take quite bold decisions when it comes to the colour of the few lights that are actually there, so there's plenty of saturated red, green, blue, etc. There's also the mix of environments, from the damp, rocky mining tunnels to the hi-tech laboratories.





Is it limiting at all to work in such dark environments, or maybe it just requires a different form of creativity?

The lack of certain elements gives those elements more purpose. *GTFO* is a game where the player is deprived of a lot of vital resources: health, ammo, sight distance (due to fog and darkness), knowledge of where to go, knowledge of where the monsters are, etc. So when the player has the ability to acquire a tool that helps with any of these things – like the motion tracker that helps detect monsters – it matters so much more. It's the same with light – the lack of it makes it matter more when it does appear. That goes for how the light plays into the visual identity of the game, but also how it affects the gameplay. In a way, you could say that the lack of light is a limitation, and as the saying goes: creativity benefits from constraints.



▲ With each Rundown comes new stages, areas, and terrors to enjoy.



▲ When the action kicks up a gear – and it does, frequently – it's a real challenge to keep your head and not just immediately run away. Apparently. Ahem.

## “Being a small team has its strengths; you have the advantages of being agile – and the lack of hierarchy allows for quick decision-making”

**Sound design: how important has it been in *GTFO*?**

Sound design and music are very important in all games, but I believe that's even more true for horror games. I've been longing to make music for a horror game for 20 years, and now that I'm finally doing it I realised it's hard as hell! When you're fighting the monsters, I want the music to be intense and stressful, but you don't want it to have a 'groove' and be easy to listen to; I want it to be panic-inducing. At the same time, that sort of intensity becomes unbearable quickly, so you have to use more subtle methods as well. It's a real challenge, and I'm happy the game is still in Early Access because I feel I haven't nailed it quite yet.

**And what engine is *GTFO* being made in? Has it required much customisation along the way? If so, why?**

*GTFO* is being developed in Unity. It's a fantastic engine which is flexible and easy to work with – and it lends itself particularly well to prototyping, which has served the development of *GTFO* well. We

can hatch ideas, and our programmers can throw together a quick and dirty test of that idea in a matter of hours to see how it works in practice. We've replaced elements of the engine ourselves, and that is yet another testament to Unity's flexibility.

**How many people are working on the game? How has it been to work on such a long-running project?**

We're nine people and two consultants working on the game, and many of us have worked together before on games such as *PAYDAY 2*, so we know each other well. When Ulf recruited the team to start 10 Chambers Collective, he mainly looked in his immediate circle of friends. When you're going to work with a small team on such an ambitious project, you need experienced and reliable people, and that's what we have – and, probably, that's why it has worked out pretty well! We're having fun, and we're making the game we all want to create. [w](#)

***GTFO* is available on Steam Early Access for PC; a full release hits in 2021.**



# Ynglet

What we're affectionately referring to as a 'swim-bubbler'

## Info

**GENRE**  
Platformless  
platformer

**FORMAT**  
PC

**DEVELOPER**  
Niffilas / Triple  
Topping

**PUBLISHER**  
Triple Topping

**RELEASE**  
2020

Some ideas come from grand beginnings, full of notions of changing the world and making a mark on things from the outset. Some, like *Ynglet*, see a more humble genesis. "I simply wanted to try out the idea of using your momentum to jump between bubbles of water floating in the sky," explains Nicklas Nygren, aka Niffilas, creator of the game.

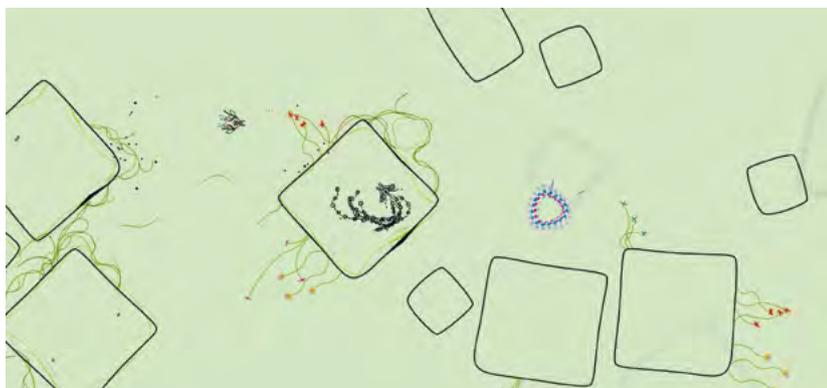
From there, *Ynglet* grew, through a game jam prototype (available at [wfmag.cc/ynkletjam](http://wfmag.cc/ynkletjam)) and – with publisher Triple Topping coming on board to help out 'with all the boring stuff and practicalities that are a part of game development' – eventually into a full, commercial project. But from day one it's been about momentum, jumping, and bubbles. You take control of a thing – a creature, an object, a marker – as it swims through disjointed bubbles of different shapes, using the Power Of Physics™ to get from one bubble to the next.

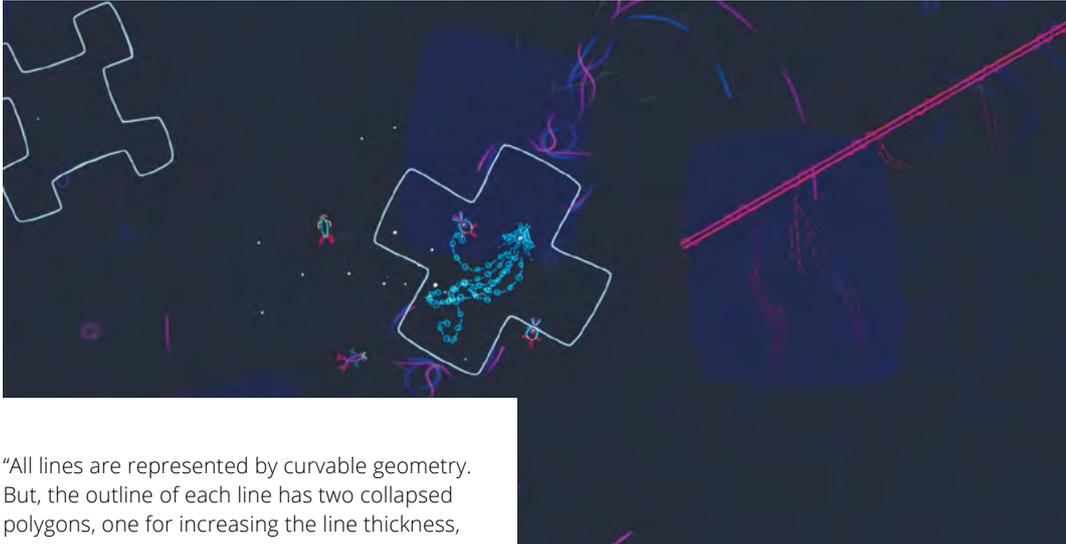
It's a platformer without platforms, and it's both engaging and mesmeric in equal measure. If you think about the PSN game, *Flow*, but then add in a bit more of a point to things, you're on the right sort of track.

As with all games that look so enticing, it's those visuals that draw you in – and *Ynglet's* visuals weren't just a hand-drawn aesthetic: in many cases they were literally hand-drawn. "The original game jam prototype had actual hand-drawn line art by Sara Sandberg which we photographed," Niffilas says. "In the new version, we wanted to keep the same style, but with thinner, sharper lines. So, our technical solution had to be different, but a lot of the art is still originally drawn on paper." That technical solution sees Niffilas and Sandberg using their own graphics software, as existing tools were unable to generate the geometry and UV data required for how the lines in levels grow and shrink, while combining it with sharp lines and a depth of field effect. "Unity has gotten really good at allowing me to import a custom file format as a regular asset, though, which makes the process very smooth," Niffilas says.

This need to use custom tools isn't something Niffilas presents as a cross to bear, mind – there's a liberating effect on development that comes from being able to combine said software with a constrained visual style: "[That] definitely added the benefit of a lot of unusual effects being really easy to implement," says Niffilas. "When everything was finally in place, modulating line offset, thickness, blur, and cutting holes became really easy, something the game takes advantage of a lot." To go into a bit more detail:

♥ Your platforms, of a sort, are these bubbles – navigate from one to the other with thrusts and momentum.





"All lines are represented by curvable geometry. But, the outline of each line has two collapsed polygons, one for increasing the line thickness, and one for extending the depth of field. I use up both the normal three UV channels with data for the shader to be able to do this. The ability to grow and manipulate the shapes along the lines emerged naturally, it wasn't actually something I even planned first." Simple, then.

And just to throw more technical delight in there, *Ynglet* is backed by an adaptive, responsive soundtrack – again, a tool built by Niffilas – which plays algorithmic music directly integrated with the game itself. This allows for more of a dynamic response from the music, both to what the player is doing and what's happening in the game, rather than just crossfading/jumping in and out of different pre-baked music tracks. Niffilas describes the software as 'needlessly complicated', and that's probably not an understatement.

"In the core of the music software is a node-based system where different modules, represented by scripts, can be connected and pass data to each other," Niffilas explains. "Such a module can be a sampler, FM synthesiser, or devices for generating/modifying musical notes and scales.

"An interesting aspect about this is how notes are selected," Niffilas continues. "Instead of using absolute note names, I reference a note in the units of 'pitch', 'degree', 'awkward', 'approximation', and 'octave'. Pitch is a multiplier of the sound's base frequency. Degree references the note index on a musical scale. Awkward roughly translates to 'OK, how weird would it be to play this note right now?'. Approximation is similar to degree, except it is not exact and is meant to be combined with an Awkward value. Octave is what it sounds like. So, when I want to play a note, I pick out which of those values I want to supply – they're

**"A lot of the art is still originally drawn on paper"**

all optional – and the system will pick out an appropriate note from one of the active musical scales."

It's a system that offers up countless adaptive possibilities for *Ynglet*, as well as being able to add new chord progressions to already 'composed' melodies, or the ability to compose said melody by drawing a maze and having little walking 'things' pottering about colliding with other things – every collision makes a noise based on their location, coming together to form a percussive whole.

Beyond just some complex coding ideas and concepts way above the heads of some humble writers, this soundtracking tool results in a game backed by what is recognisable music, but something driven entirely by the

player's actions. Niffilas is aiming for a finished product where the player almost creates their own soundtrack based on their play style, how risky their jumps are, how quickly they reach new checkpoints, and all manner of other factors. "Something I want to do that I haven't done yet is make the music dynamically affect the gameplay, too," Niffilas says. "I just recently added support for this. I'd like to incorporate player-driven rhythm elements, where the player both creates the music but [also] has to time their actions according to what they created."

The idea for *Ynglet* might not have come from a particularly grand place – using momentum to jump between bubbles – but the closer we get to the finished game, the more it looks like this will be full of surprisingly high concept aspects. We await its release later in 2020 very much with bated breath. 🎧

◀ We're struggling to show you the adaptive, meditative soundtrack that plays through the game in picture form. Sorry.



▲ It's like the PSN game *Flow*, except released in a world where people are more accepting of lo-fi games where you control a thing floating about a place.



# Bugsnax

We're going on a Bugsnax hunt... we're going to chomp a small one...

## Info

**GENRE**  
Earworm simulator  
**FORMAT**  
PS5 / PS4  
/ PC / Mac  
**DEVELOPER**  
Young Horses  
**PUBLISHER**  
Young Horses  
**RELEASE**  
2020

**A**mid all the big-name, blow-your-eyes-out-of-their-sockets ultra triple-A projects announced in Sony's PS5 showcase, there was one outlier: *Stray*. Wait, sorry – two outliers: *Stray* and *Bugsnax*. The latter the thing Young Horses did next after its resounding success with the excellent and hilarious physics-based stylings of *Octodad*. *Bugsnax* has been in the works for about six years now; a case of the team not entirely knowing what it was making in the course of its first few months – even years – of existence. But the vision cemented, the core loops were settled on, and what we have in front of us is... confusing. Wonderfully, delightfully confusing.

First, though: the song. *Bugsnax* arrived hand in hand with a bright little ditty from Kero Kero Bonito, a three-piece indie outfit leaning heavily on J-pop and video game music influences. *It's Bugsnax!*, as the song is titled, is an earworm. It gets right in there. It doesn't leave. And if this approach to game marketing suddenly becomes the de rigeur approach, then... well, we'll take it. Because it really is a fun little song, and it makes us want to play the game more. "We find that having a catchy theme song really helps to stick the game into people's brains and draw them in," says Kevin Zuhn, creative director on *Bugsnax*. "Kero Kero Bonito made such a cool song, and we're happy to get it into as many hands/ears as possible."

But the game – mustn't forget the game – is a first-person adventure where you explore an island, encountering creatures part-animal, part-foodstuff, and you feed them to Grumpuses, creatures who don't look too far removed from

Jim Henson's Creature Shop. On doing so, the Grumpuses take on attributes from the Bugsnax fed to them – strawberry hands, maybe, or an orange for a nose, or many other examples. Why? Well, why not? It's a game of exploration and collection, bringing together influences like *Ape Escape*, *Dark Cloud*, and *Viva Piñata* – among many others. "There's definitely [a] universal joy [in] collecting things," Zuhn says. "And there's also the observation, understanding, and interacting with an ecosystem. But outside of that, each of these [influences] is very distinct in aesthetic and structure. You don't often see a 'Viva Piñata-like', and that makes it all the more interesting."

The journey to making *Bugsnax* a *Viva Piñata*-like was, as mentioned, a long one. "About a year after launching *Octodad: Dadliest Catch* we were looking to start a new original game," Zuhn explains. "Everybody on the team was coming up with pitches, and generally trying to out-weird each other. Trying to come up with ideas, I was looking through one of my old sketch-books and found an old drawing of a hybrid caterpillar-waffle (that I drew at Kevin Geisler's request, he would want me to inform you).

"I pitched the vague notion of catching half-bug, half-snack creatures to the team, and it turned out to be one of the more popular concepts," he continues. "It kept building steam throughout our prototype process and eventually became a real project." That real project did take time to form up into *something*, though, and over the half-decade-plus of the game's creation, there have been lessons learned: "That's the trouble with starting from a vague concept; there are a million directions it could go," Zuhn says. "And we

♥ Is a spider less terrifying to arachnophobes when it's actually chips?



Young Horses weren't always on the same page about what we were making. Combine that with our general high ambitions and lack of deadlines, and it took us a couple [of] years just to figure out what *Bugsnax* was. If anything, we've learned that clearly communicated ideas save a lot of time. And that we need a real production team."

But when you've been quietly in development for a number of years, it can be just as hard to introduce yourself to the world as it was making sure there was an actual game with a focused core concept in the first place. Fortunately, Sony was keen on showing a bit more than just Military Battle Royale 2021 in its PS5 showcase, and *Bugsnax* received far more attention than might have been expected. "It was incredibly exciting, and a bit intimidating," Zuhn says. "After years of secrecy our game was suddenly in front of millions of people – now we've got art, memes, and fans eager to learn more... It's all very validating for the amount of time and care we put into *Bugsnax*. We're trying to balance being active in our new community with actually finishing the game. And me personally, I struggle every day not to spoil things about the game!"

Of course, with visibility comes negativity, and some subsections of the online audience have been vocal in their distaste for a title like *Bugsnax* – even if they have next to no idea what the game is or what you do in it. Ah, the internet. Still, Zuhn remains diplomatic about the nay-sayers: "We've seen the negativity, but we don't spend much time thinking about it," he says. "We encountered all of the same things back when we announced

**"There's definitely a universal joy in collecting things"**

*Octodad: Dadliest Catch*. I hope that as we reveal more about *Bugsnax*, folks who had knee-jerk reactions against it change their minds... but if they don't, that's alright."

With *Bugsnax* coming to a brand new console as well as current-gen and personal computers, there's going to be more than enough chances to play it. Well, unless you own an Xbox or Switch. Sorry. Still, Zuhn is hopeful for the game's future – and for those lovely licensing opportunities beyond just a brilliant earworm of a song: "I want tons of people to play it and love it," he says. "I want to see more incredible fan work, and to read all of the critical analysis, and to release a bunch of adorable merchandise. And if it's not too much trouble, a Saturday morning cartoon and a breakfast cereal would be nice." 🍷

^ So, are these ribs scavenging on ribs, and, if so, is this the darkest screenshot we've ever featured in Wireframe magazine? Answers on a postcard.

^ There are some real Jim Henson vibes to *Bugsnax*, and that's a resoundingly good thing in our book.





# Whipper-snapper

What would you do in a world that wants you to Just Die Already?

## Info

**GENRE**  
Goat Simulator  
simulator

**FORMAT**  
PC

**DEVELOPER**  
DoubleMoose  
Games

**PUBLISHER**  
Curve Digital

**RELEASE**  
2020

“In *Just Die Already*, we let you hurt the most unsympathetic beings on Earth: the boomers.” Armin Ibrisagic, CEO and co-founder of DoubleMoose Games, isn’t one to mince words. Coming off the back of an unexpectedly massive success in the form of *Goat Simulator* – a joke that got out of hand, essentially, in which you played as a goat and caused physics-based chaos for no reason other than you could – Ibrisagic says he wanted to make something in the same genre, but pivoting away from the *Goat-y* one. “Adding blood and gore to *Goat Simulator* always left a bad taste in our mouth,” he says, “Because who would ever want to hurt a cute animal?” Hence, the addition of the elderly player characters, presented in a thoroughly unsympathetic light.

At the very least, things have reined in from earlier days. “Initially, in our first prototype, the objective was to find the coolest way to kill yourself as an old man,” explains Ibrisagic. “For

some strange reason, store page fronts weren’t OK with this.” And so the idea developed into the far more complex, somewhat philosophical take we see today: you are an old person, you have been kicked out of your retirement home, and you need to earn your way back into a (better) home by taking on tasks, causing mayhem, and generally messing up the day of whichever whipper-snapper it is you come across. It is, in a word, silly. But unlike *Goat Simulator*, there’s a bit more structure to everything.

“We launched *Goat Simulator* after only two months of development, were hugely surprised by the popularity, and then frantically patched the buggy mess up over the coming two years and added content so people could have fun for more than just half an hour,” Ibrisagic says. “With *Just Die Already*, we’re launching with substantially more content, a way more dense world that there is much more to do in, and an actually stable game that doesn’t crash all the time. There are still some bugs that are considered features though, and it will be up to you to find them.” Longevity is the big thing here, and that’s being tackled by the DoubleMoose team making sure the whole game map is dense with *stuff* to do. “We have made an effort to make sure that every street and alley has something interesting to find,” Ibrisagic says. “Most buildings can be climbed up on to find something on the roof, and sometimes there’s a window halfway up you can break into and find a naked guy showering.

“The other way we’ve approached longevity is through challenges which work sort of like

✓ In case you were wondering: yes, *Just Die Already* is actually quite gory. Huz... zah?



a bucket list of things you want to do in your life," he continues. "This can be everything from managing to lose all your limbs so that you're only a chunk of meat rolling around to finding enough explosives to start a chain-explosion. Completing challenges can give you some unique items that you can't find in any other way." Throw in multiplayer – up to four people playing together – and you're starting to see a fairly compelling picture here: the maniacal free-for-all that was *Goat Simulator* was raucous fun, but short-lived. Add in a reason to continue caring, and you end up with something that's got a bit more meat on the bone. Or less if you've been blown up during your attempts to strap rockets to a bike in order to harass a nearby millennial, or something.

We actually have a couple of features coming in future issues discussing both elderly game players and elderly game characters, so it's something fresh in our collective mind right now. Why DoubleMoose decided on the pension-aged folks as their protagonists, though, comes down to something – as you might expect – a whole lot more base. "[I'm] not quite sure why it ended up being old people when we first made the prototype," Ibrisagic says. "But once we saw the first couple of seconds of gameplay of an old man jumping headfirst into a lawnmower, we knew that this was what we would be doing in the coming couple of years with our lives."

All in all, *Just Die Already* could be one of two things. On one hand, it could be a deep and meaningful social commentary on how society treats the older generation, something

**“Unlike *Goat Simulator*, there’s a bit more structure to everything”**

rendered all the more poignant by an ongoing global pandemic which has brought into sharp relief the gap between young and old, and how ‘useful’ the latter is seen as being – and so, how expendable an entire generation of people is seen to be. On the other hand, it could just be a ploy for Ibrisagic to get in touch with Hideo Kojima,

who – even though he was called out by name in *Just Die With Me*'s trailer – still hasn't picked up the phone or written an email. We asked the DoubleMoose CEO what his hopes for *Just Die Already* are. It's the latter: "[We hope] that Kojima sees our trailer and responds to it. That's really the only reason we made the game." 🗨

▲ It's more of a defined game than *Goat Simulator*. It's also more flirtatious with copyright law.

▼ That's a to-do we all fail to do at some point in the week, I'm sure.



# That was the month that was



01

## 01. Mixing it up

Best news of the past month? Most likely, yes. Irish author John Boyne was dragged into a little bit of controversy over his use of ingredients in his latest novel, *A Traveller at the Gates of Wisdom*. Why? Well, because said ingredients included things such as 'Octorok eyeballs', 'red lizalfos', and 'Hylian shrooms'. If it doesn't sound familiar, you've obviously not got as obsessed with *The Legend of Zelda: Breath of the Wild*'s cooking as everyone else has.

Yes, these ingredients were lifted directly from the *Zelda* games. Nefarious? Boyne trying to get one over on the world? Hardly. It was all down to a cursory search on Google for inspiration, leading to an author not thinking much and just *putting stuff in there*. Boyne admitted the mistake and, frankly, we're all just laughing about it.



02

## 02. O-no!

The long-time face of *Street Fighter* and lover of carrying a little Blanka toy around with him everywhere in the world, Yoshinori Ono is leaving Capcom. Or maybe he's left already; he didn't tell the world when he was going. Nor did he give a reason for leaving his gaming home of around 30 years. It's all a bit strange, truth be told.

Ono announced his departure on Twitter, with the brand manager writing: "I've been with the *Street Fighter* brand for a long time, experiencing good times, bad times, and even non-existent times. And now, after serving almost 30 years at Capcom, I am leaving the company this summer. This means that I will resign my position as the brand manager for Capcom's various titles, including *Street Fighter*."

03



## 03. Konami PCs

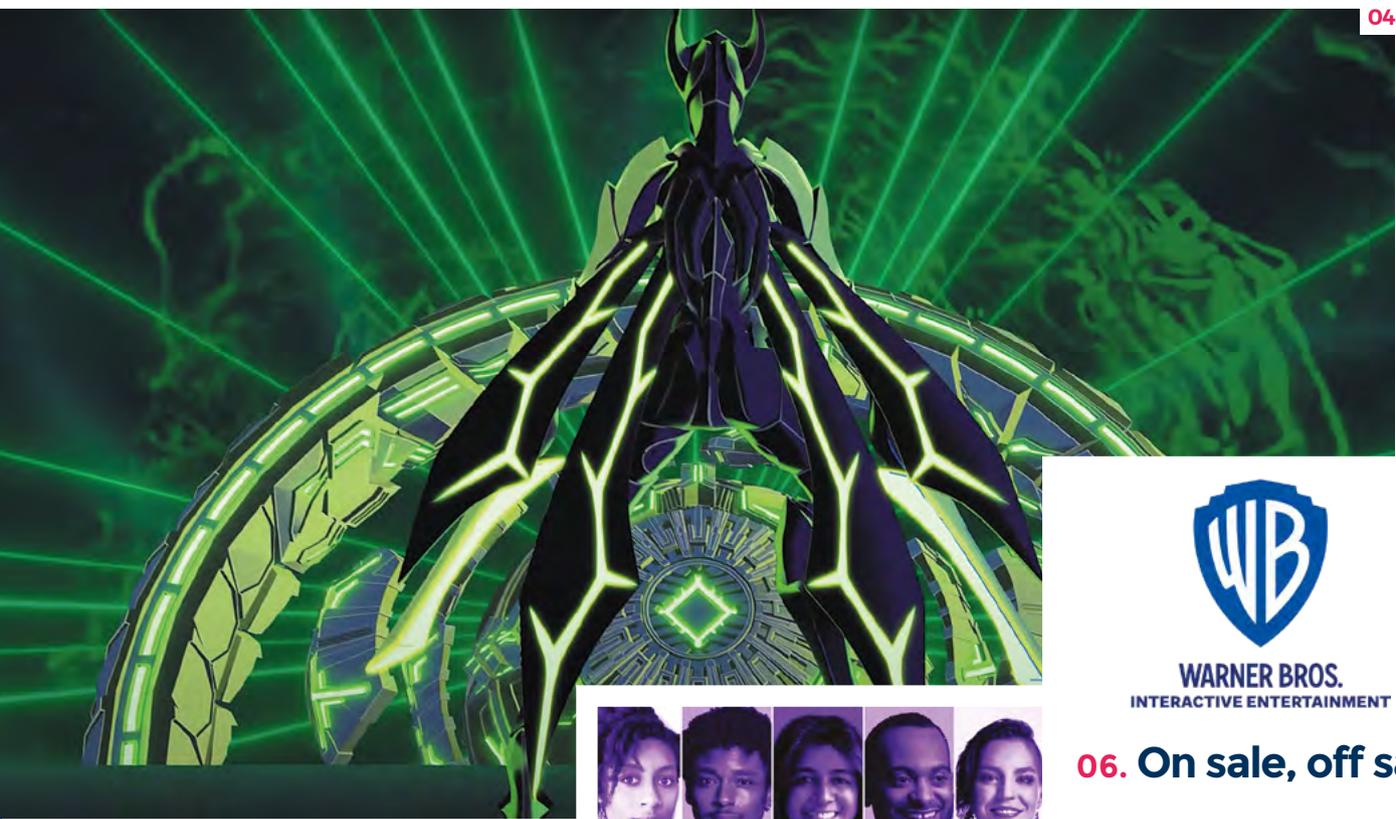
Difficult to know how to make a witty pun about news like this, because it's just a big pile of 'Huh, OK then'. Konami is releasing a batch of PCs via its Konami Amusement division. Yes, personal computers. No word on whether the company is branching out to, y'know, make more games that you'd be able to play on them, but there you go.

Prices for the PCs will range from around £1350 to £2450, which – considering the decent-but-not-worth-that-much-outlay specs on offer – isn't all that tempting a deal. This is ignoring the fact they're unlikely to be released outside of Japan anytime soon, of course. One thing unanswered, though, is if they'll come pre-installed with *P.T.*



"Craig the Brute is Xbox's mascot!" says Phil Spencer (he's not)

Hideo Kojima 'was stung by about ten bees at once' before his dev days. Obviously



04

## 04. Aeon in flux

The reveal of a brand new, gorgeous, synth-infused action romp for PS5 should have been cause for celebration – and it was for *Aeon Must Die!*... at least until former employees of Limestone Games, the Estonian developer behind the title, alleged numerous issues. Said allegations include a toxic work environment, psychological abuse, and the *Aeon* trailer itself, shown off at Sony's State of Play event, claimed to have been 'stolen' work. It's not the most auspicious start for a game that was somewhat eye-popping in its presentation.

Focus Home Interactive, the game's publisher, and the Estonian chapter of the IGDA have both independently said they're looking into matters. At the time of writing, the status of *Aeon Must Die!* was unchanged.



05

## 05. When it Rains

Silver Rain Games, the studio started up by BAFTA-nominated actor and producer Abubakar Salim, announced its starting line-up to the world. With the studio launching in March this year, the Covid-19 lockdown has had an impact on things – obviously – but it hasn't stopped a fine team from being assembled. Salim has been joined by composer Nainita Desai, narrative designer Corey Brotherson, animator Lou Rigoudy, and already-there head of studio, Melissa Phillips. The studio – made up of '63% unrepresented ethnic groups and 47% female' – will announce its first project later this year.



WARNER BROS.  
INTERACTIVE ENTERTAINMENT

06

## 06. On sale, off sale

Warner Bros Interactive Entertainment went from apparently up for sale at a bargain (roughly) £3 billion, with the likes of EA, Take-Two, and Activision Blizzard all smacking their chops at the opportunity, to... not being for sale, apparently. What a rollercoaster of a couple of months that's been.

AT&T, WBIE's parent, was said to be looking to offload the gaming division, though no real reason was ever divulged as to why this might have been. The publisher owns and works with many successful studios, with Warner publishing all manner of highly successful titles both licensed and not – from the endless *Lego* games, through Rocksteady's *Batman* titles, to the likes of *Mortal Kombat*. It's a money-maker, that's for sure. So it was less surprising to then hear that, actually, there was just a bit of restructuring going on at WB and things will pretty much continue as normal. Rollercoaster!

*Control's* AWE DLC brings the world of *Alan Wake* into play



*Fall Guys* releases, sells over two million copies in a week. Neat

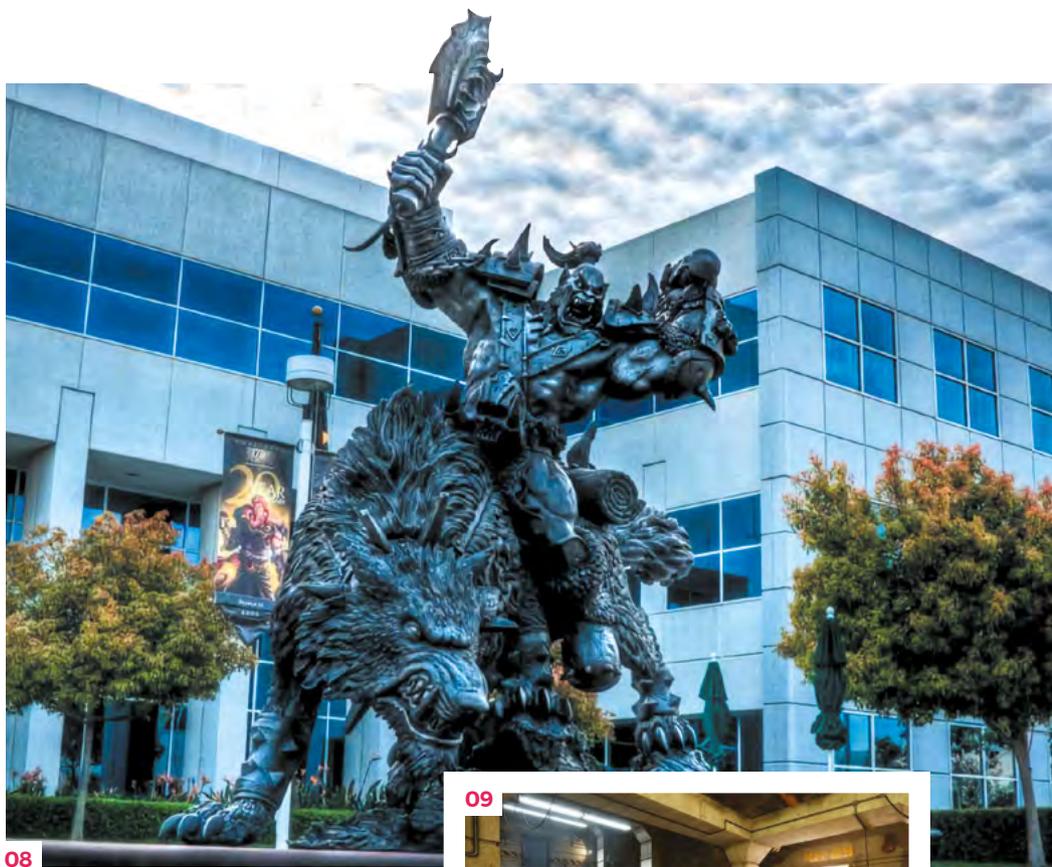


07

## 07. Spectrum returns. Again

The ZX Spectrum Next is dead; long live the ZX Spectrum Next – Issue 2. The original remake of the classic computer was Kickstarted back in 2017 and successfully, actually finished (unlike the Vega) – and now we're getting another, improved version. It includes all the compatibility of the original model with improved components and extra bits and bobs – basically, it's going to be the best way to play Speccy games in modern times, so long as you don't mind spending £300 to do so.

Operating in the special way we do here, we're able to give you a vision of the past: the ZX Spectrum Next – Issue 2 had raised over £1.2 million at the time of writing, which is a magnificent achievement given it had only been up for funding a couple of days. The figure you see right now may well be bigger, and so more impressive, but we'd like to offer the number as some kind of time capsule, you know? You can find out more info on its Kickstarter page: [wfmag.cc/ZX2](http://wfmag.cc/ZX2).



08

## 08. Storm warning

Some employees at Blizzard Entertainment aired their grievances regarding pay by sharing the details of their remuneration at the company, as reported by Bloomberg. Following an internal survey in 2019, it became apparent to the brass that many workers at the studio were unhappy with their salaries. In fact, some were on such low pay they were opting to skip meals so they could afford rent. A 'fix' was implemented in July, and the outcry followed soon after.

See, it seems a raise of less than 10%, as many workers received, was a) not what was expected following the review, and b) not something that makes a *giant* difference when you're already on low pay. Hence, open discussions of salary: when you know what everyone's on, you know what you should be on. Still, we have to wait and see how the House of Kotick will respond.

09



## 09. Goldensigh

James Bond died since our last news section. Well, more accurately a fan-made project to remake *GoldenEye 007*, the seminal N64 FPS, died. *GoldenEye 25* was set to remake the original game's single-player campaign in Unreal Engine 4 with a release slated to tie in with the Rare title's 25th anniversary. Sadly, MGM – via its owner Danjaq – got in touch with the hobbyist team and 'kindly asked' them to stop. This is unlikely to mean an official remake is on the cards, it's fair to say. As for the part-finished *GoldenEye 25*? Well, that's being spun off into its own 1990s-inspired, non-copyright-infringing project: *Project Ianus*. So maybe keep an eye on that.



Xbox Series X to release in November, specific date unknown

While *Halo Infinite* has been delayed to 2021



10

## 10. Reading festival

Young people say playing games both encourages them to read more and improves their general literacy, at least according to a survey issued by the UK's National Literacy Trust. Of the 4626 youngsters between 11 and 16 surveyed, a whopping 79% said they play games and read related material, like blogs, books, and fan fiction. 35% thought they were better readers *because* they play games, while 63% of players also write about games themselves – be it blogging, scriptwriting, guides, or what have you. Definitive? No. But it's an insight into a positive aspect of gaming that does tend to be glossed over: with a lot of text to read in games, maybe these virtual libraries are... a boon? No. No, it can't be that. Games are nothing but bad, won't somebody please think of the children, etc etc.



11

## 11. Earthworm bin

*Earthworm Jim 4* is still coming to the Intellivision Amico, that computer... thing... you completely forgot was happening. What's also happening is a bunch of controversy around the fact that *Jim's* original co-creator, Doug TenNapel, is involved in the current project despite his proclivity for racist, homophobic, and conspiracy-toting comments in past editions of the *Audio Mullet* podcast, which TenNapel co-hosts. Intellivision has told GamesIndustry.biz that TenNapel's involvement is as an unpaid consultant, but still, why bother having him involved at all? Just dig around that particular nostalgia nugget.



12

## 12. Ex-cloud

The future of games – that being the likes of Microsoft's Project xCloud and Google's Stadia – isn't having a fun time of things on Apple platforms. See, Apple seems to have this little thing of needing to review every game put up on iOS to make sure its content is appropriate for the platform. Stadia and the Xbox streaming platform are both services with plenty of games that *haven't* gone through the approvals process trying to make themselves available on iOS. It's silly red tape, yes, but can you see where the issue lies here? Microsoft has since cancelled its xCloud test on iOS, and Stadia is still having a rocky time of things. *The future is fun.*

Twitch Prime rebranded as Prime Gaming, for some reason



*Vampire: The Masquerade – Bloodlines 2* delayed to 2021 as well

# Post Apocalypse

Wireframe now has its own letters page!  
Here's what you've been saying this month



Issue #41

Want to write to Wireframe?  
Message us at [wfmag.cc/hello](mailto:wfmag.cc/hello)  
or tweet us @wireframemag



## Backwards backwards backwards compatibility

I've concluded over too many years of purchasing games consoles that the notion of backwards compatibility is too often something of an afterthought. And while that appears to have changed in recent years as console manufacturers realise the value of their back catalogues, I'm still perennially disappointed at the short-sightedness of it all.

I'm preparing to buy my fifth generation of Sony PlayStation machine this year, and inevitably I've got a bit of a stockpile of games dating back over two decades. Some of the corkers on the original PlayStation, such as *Bishi Bashi Special* or *Vib-Ribbon* lost me hours in my youth. But where's the option to play these on a

modern console? It's surely clear – just from a sheer processing grunt perspective – that every game of that era should run comfortably on the architecture of the PS5 with the bare minimum of faffing about. But will it? I doubt it. And it leaves those of us with extensive libraries of games beyond one generation old switching machines to get our fix.

This isn't the biggest problem in the world, granted, but it's a reminder of how muddled console manufacturers seem to be when it comes to older titles that didn't sell millions of copies.

I'm off for a game of *Bust-a-Move 4*.

**Paul Hitch**

**Ryan writes:**

It'd be marvellous if the PS5 could play the discs of all the previous PlayStations, but I guess console manufacturers are more keen to get us buying and playing new games rather than spend our time revisiting the ones we already own. As for *Bust-a-Move*, I still find it outrageous that it isn't called *Puzzle Bobble* in Europe and America. I'll refer to the series as *Puzzle Bobble* until my dying breath.



## The Cheapest Of Us

Aside from the bashing you got for giving *The Last Of Us Part II* such a high score in your last issue, I wonder if you've been keeping your eye on the retail price of the game? The



speed at which a price drops always feels to me like a decent litmus test for its commercial performance. I remember it was easier to get a straight answer out of Boris Johnson than to save more than a tenner on *Red Dead Redemption II* when that first came out.

Yet at the start of August, courtesy of a deal from eBay and ShopTo, I picked up *The Last Of Us Part II* for under £37. This, for a game that's apparently storming the charts and leaving Naughty Dog with

the funds for a quality social-distanced Christmas party.

A blip, or is PS4 fatigue setting in?

**K Wootton**

**Ryan writes:**

That really is a bargain. One online store I've just looked at is selling *The Last Of Us Part II* for £349.99, which sounds a bit steep. On closer inspection, it does come with a free PlayStation 4 Pro, though, so it's not all bad news.

## The 'Frame in Spain?

Hello, everyone! As my daughter is starting to read, I was just wondering, are there any plans to translate this great magazine to Spanish? Maybe there are some volunteers out there – cough *me* cough – who will be willing to share their time translating (since I am already doing it for my daughter every issue)? Thanks!

Javier Olguin

**Ryan writes:**  
If there are any billionaires out there who'd like to help us set up a Spanish edition of *Wireframe*, we'd be more than happy to hear from you. Me and Ian have our shorts and sunglasses packed and ready.



**“It’s the opposite of the shovelware and compatibility problems that blighted the *Ultimate Collection* a few years ago”**

## Command & Credit

Thoroughly enjoyed the last issue, and have to agree with Ian Dransfield's assessment of the recent *Command & Conquer* remaster. It's the complete opposite of the shovelware and compatibility problems that blighted the *Ultimate Collection* a few years ago, and credit very much where it's due.

Amy Upchurch

**Ian writes:**  
Ah, the *Ultimate Collection*. Best £10 I ever spent, as well as the worst, because of a) a lack of compatibility, as you say, and b) *Renegade*, which does still exist and there's no denying it, sadly. Anyway, it's nice to not have to shout at EA for once, hopefully it will continue (with *Tiberian Sun* and *Red Alert 2*).

# Shortcuts

Over on Twitter, we asked: which digital-only games would you like to see get a physical release?

I'd like to see all the word games and logic puzzles by @lightwoodgames [creators of *Pic-a-Pix Pieces 2* and *Epic Word Search Collection*, among others] make it onto a physical Nintendo Switch cart.  
**@BigFlyWalking**

The newly finalised and released *Mixolumia* by @davemakes deserves attention and support! I'd instabuy a Switch if it were to get a port and ideally a physical release. **@domugraphic**

*LostWinds!* Get on it, **@frontierdev**

*Polybius* by @llamasoft\_ox [aka Llamatron and all-round game dev legend Jeff Minter] **@PVBuk**

*Everybody's Gone to the Rapture*. I'd love to have a collector's edition with the soundtrack, art book, maybe a book with a deep nerd dive of the game, that sort of thing. The deluxe edition could come with a bloodied handkerchief or maybe a tiny can of petrol.  
**@maine\_stuart**



## The burning question

This month on Twitter, we asked: "Which of these all-time classics deserves the next-gen makeover treatment, preferably as a physical release with soundtrack CD, cloth map, stickers, A1 poster, enamel pin, and so forth?" We may have been pushing the meaning of the word 'classic' with our game choices...



**Rise of the Robots - 19%** **Duke Nukem Forever - 22%**

**Aliens: Colonial Marines - 19%** **Daikatana - 40%**

# Preview

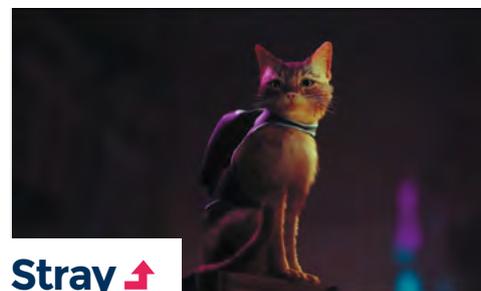


## Bus World ↑

From the creators of *Bus Driver Simulator 2019* comes another game about ferrying passengers from place to place – only this time you'll be ferrying passengers through tense scenarios like earthquakes and floods. Another stage, meanwhile, offers a scale replica of the Chernobyl Exclusion Zone to drive about in. A game that combines disaster movie scenarios and a driving sim? We're definitely on board for that.

## Heavenly Bodies ↓

Imagine the death-defying upper atmosphere antics of the hit movie *Gravity* but flattened out into a 2D physics game, and you'll have an idea of what developer 2pt Interactive is attempting with *Heavenly Bodies*. You control a hapless astronaut – or rather, the astronaut's hands and arms – as he or she manipulates expensive bits of hardware, carries out repairs, and generally tries to avoid slipping off into the inky depths of space. *Heavenly Bodies* will have us floating in a most peculiar way in 2021.



## Stray ↑

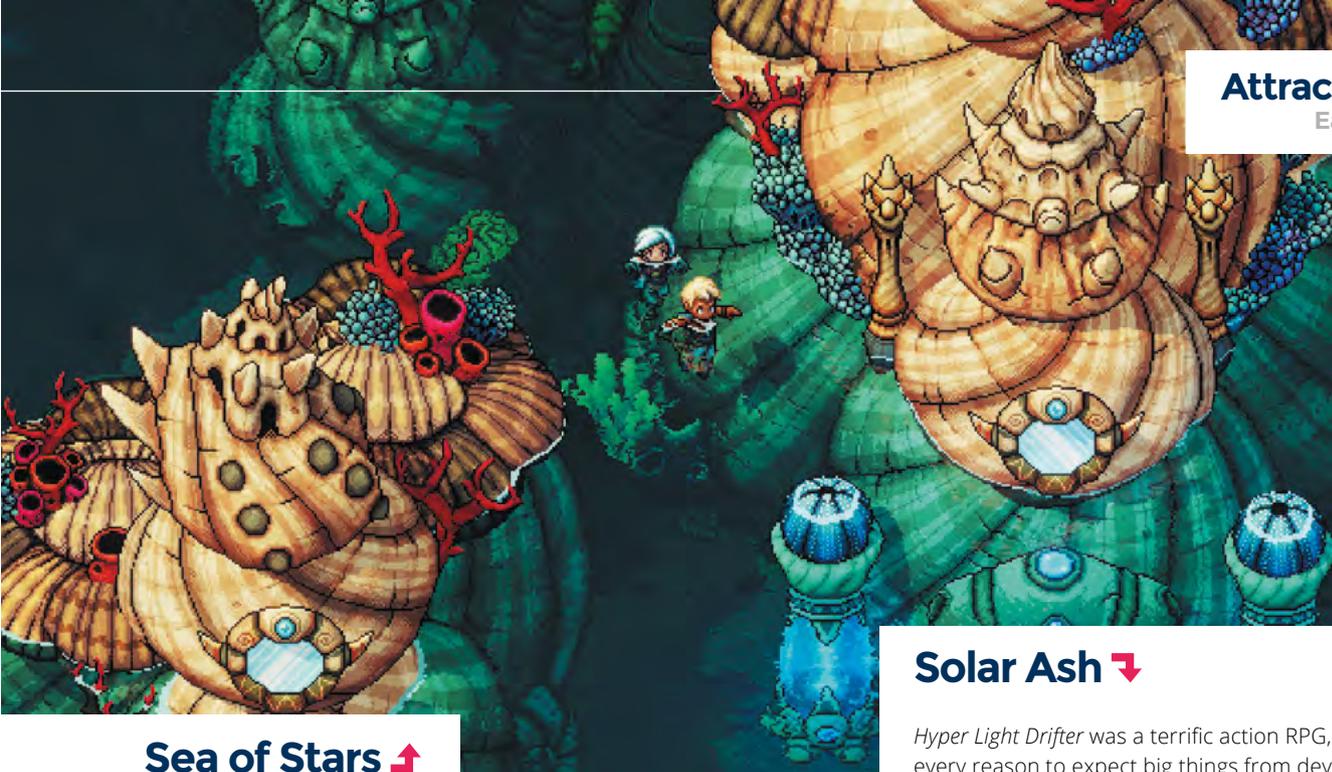
One of the most talked-about original games from Sony's PlayStation 5 line-up reveal in June, *Stray* takes a familiar-looking cyberpunk dystopia and adds a touch of feline insouciance. In other words, you play the role of a stray cat navigating the dangers and mysteries of a city full of robots and blinking neon signs. BlueTwelve Studio's 3D action-adventure looks absolutely charming so far.



## Sackboy: A Big Adventure ↑

We're a little bit surprised that the stuffed-and-stitched mascot from *LittleBigPlanet* hasn't had his own full-blown spin-off before now (we've had a PlayStation Move demo, an endless runner, and that's about it), but over a decade after he first appeared, along comes this announcement. *Sackboy: A Big Adventure* will be a PlayStation 5 exclusive from Sumo Digital, and will take the form of a 3D platformer for up to four players.



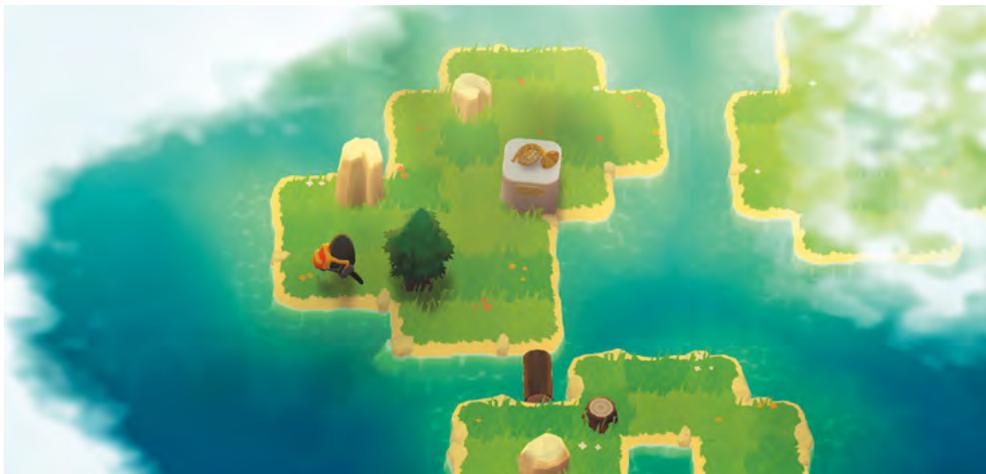


## Sea of Stars ↗

Like Heart Machine's *Solar Ash* (see right), Canadian developer Sabotage's sophomore outing is both a step forward from its predecessor, *The Messenger*, and also tonally of a piece with it. Set in the same universe as that corking 2018 ninja action game, *Sea of Stars* takes its cue from classic JRPGs like *Chrono Trigger* or *Secret of Mana*. But just as *The Messenger* soon revealed itself to be far more than a *Ninja Gaiden* homage, *Sea of Stars* introduces lots of ideas and genre twists of its own. Protagonists Valere and Zale – a pair of 'Solstice Warriors' – are on a quest to save a group of islands from an evil entity named The Fleshmancer, and the duo are aided by their unique ability to control the motion of the sun and the moon, which can be used to solve environmental puzzles. Although the game's clearly a much larger production than *The Messenger*, *Sea of Stars* will also be a focused RPG experience, we're told: there won't be endless random encounters to pad out the play time, while timed attacks will give the combat more of an arcade feel. All this, coupled with some frankly gorgeous lighting and pixel art, makes *Sea of Stars* a fantasy opus well worth looking forward to – expect to find more about the game in a future issue of Wireframe.

## Solar Ash ↘

*Hyper Light Drifter* was a terrific action RPG, and so there's every reason to expect big things from developer Heart Machine's next title. *Solar Ash* is both a clear step forward in terms of scale for the studio, but also recognisably from the same creative minds: there's another colourful and absorbingly abstract world to roam, but the one in *Solar Ash* is rendered in glorious low-poly 3D. A similar hybrid of exploration, combat, and RPG elements as *Hyper Light Drifter*, then? If that's the case, then we'll be perfectly happy.



## ← A Monster's Expedition

A puzzler designed to gently tease your brain rather than frustrate you into a frothing rage, *A Monster's Expedition* has you felling trees and rolling the trunks around to create bridges between tiny islands. The game also introduces us to something called a 'Reverse Mermaid' – human legs, head of a fish – which gives you a taste of its likeably off-kilter humour.

## Attract Mode

Early Access



### Kena: Bridge of Spirits

The level of detail developer Ember Lab has put into their 3D Eastern-infused fantasy world is the first thing that struck us about *Kena: Bridge of Spirits*; the quality of the environments and character animation really is something to behold. We don't yet know what the game will bring to the table in terms of its action, but those visuals make exploration an exciting prospect.

### Balan Wonderworld

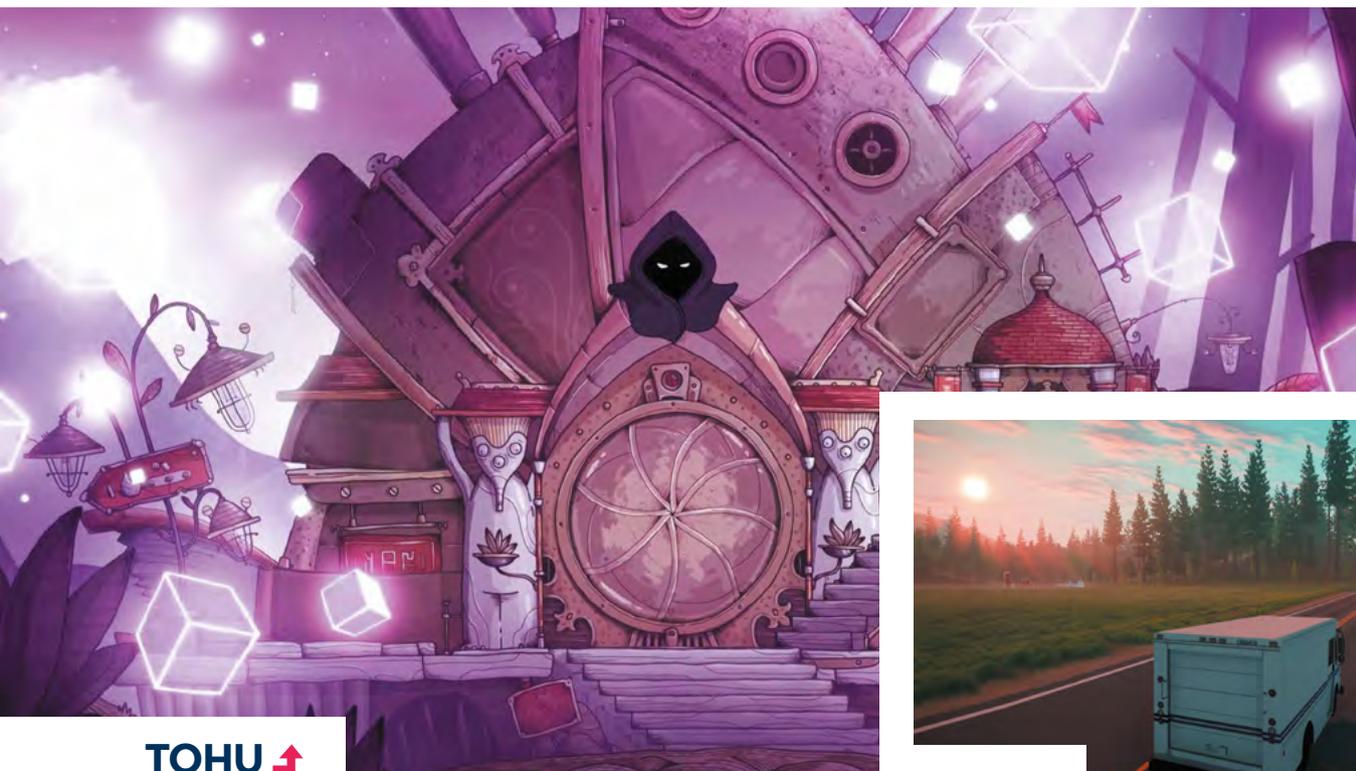
There's an air of unfinished business to this upcoming 3D platformer; first, because it sees designer Yuji Naka and artist/designer Naoto Ohshima reunite for the first time in absolutely years, and second, because it continues some of the theatrical themes the pair explored in one of their best-known outings, 1996's *Nights Into Dreams*. Now under the banner of a new studio at mega-publisher Square Enix, Naka and Ohshima are busy crafting an action fantasy that also draws heavily on the blue skies and soft-edged whimsy of

their earlier games. There'll be 3D worlds to bounce and collect our way through, and myriad costumes to collect and wear, which each provide their own unique abilities. There's still a lot we don't know about *Balan Wonderworld*, though: whether it can add some new ideas to a genre that's already enjoyed something of a revival thanks to the likes of *A Hat In Time* or *Yooka-Laylee*, or whether Naka and Ohshima can match the quality of their most successful collaborations. More on this one as we get it.



### Carto

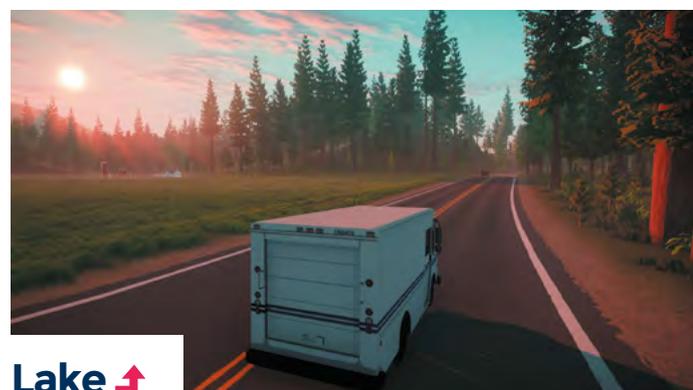
A game you'll also find mentioned in our feature about wholesome games on page 38, *Carto* is a top-down adventure that emphasises exploration and chatting to locals over combat. The central challenge? Figuring how to manipulate the tile-based, top-down world to unlock new areas and solve puzzles. The work of Taiwan's Sunhead Games, *Carto* is due for release this autumn.



## TOHU ↑

The pace of point-and-click adventures makes them the perfect venue for artists and illustrators to show off their skills, and *TOHU* is no exception: taking place on a gently surreal 'fish planet' of cobbled-

together machines and multi-eyed creatures, it's the kind of game you'll want to play just to drink in the delicate line work and vibrant colours. Look out for this one on Steam this autumn.



## Lake ↑

It's the mid-1980s, and you're driving your father's mail truck around the sleepy Oregon town of your birth. That's the basis for this understated and soothing narrative adventure, which ostensibly entails delivering parcels and letters, but is really about the townsfolk you meet and the stories they tell. Developer Gamious is planning to release *Lake* this December.

## Alex Kidd in Miracle World DX ↘

We've been on something of a Master System binge this month (see Backwards Compatible on page 104) which might be because Sega's erstwhile mascot Alex Kidd is in the process of getting a long-overdue revival. As its name implies, *Miracle World DX* is a modern overhaul of Alex Kidd's debut platformer from

1986, with the same level layouts and abilities overlaid with shiny new hand-drawn graphics. Sega's given its IP to some talented developers of late, resulting in cracking games like *Wonder Boy: The Dragon's Trap* and *Streets of Rage 4*. Here's hoping this latest remake continues the run of form.



## King of Seas ↑

This one takes us back to the Golden Age of Piracy – no, not the ZX Spectrum era, but rather the Caribbean of the 17th century. We're not sure whether there are any human characters in *King of Seas*, since all the footage suggests we'll be puttering around a procedurally generated world as a sentient pirate ship, blasting rivals into submission with our cannon and generally making mischief on the high seas. Expect this one to sail into view later in 2020.

# AFTERSHOCKS

## Reviving the retro FPS

Low polygon counts, frantic action. The first-person shooter is back with one goal: to party like it's 1995

WRITTEN BY RICK LANE

**D**avid Szymanski always wanted to make a retro first-person shooter, but actually starting the development process almost happened by accident. A solo indie developer with roots in first-person narrative horror, Szymanski woke up one day and decided that he wanted to make a shotgun.

"I put that [gun] on a camera and made it move and made it fire and stuff," Szymanski says. "After that, it's like, 'Okay, that'll be accompanied by low-res textures, so let's just find some stock images online, down-res them, and there are my retro low-res textures.'" None of it was very good, he freely admits, but it made him happy. "I was like, 'Maybe it's time to make that retro FPS I always wanted to make.'"

A little over three years later, and Szymanski launched *DUSK*, a *Quake*-inspired FPS that also happened to be the best FPS released in 2018. With incredible level design, relentless action, and enough gibs to make John Romero's head explode, *DUSK* was an enormous success. "The response to this game has been completely insane, and I don't feel like it or me deserves it," says Szymanski.

*DUSK* isn't the first retro FPS to be launched in recent years, and it most certainly won't be the last. But like a certain other shooter released in 1993, it's a game that has blasted the idea of retro shooters

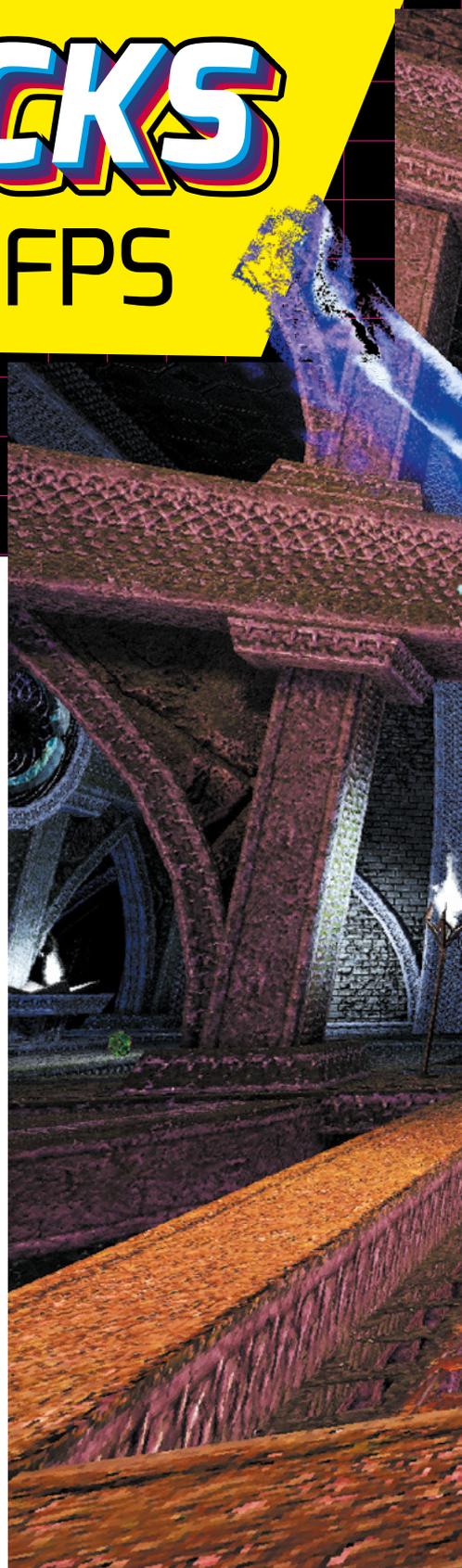
into the popular consciousness, like the first cracks appearing moments before a massive pressure explosion.

Across the world from California to New Zealand, an army of retro shooters are preparing for battle. Some, like *DUSK*, are by new designers who grew up turning Imps and Pig Cops into piles of sticky red goo. Others are new projects by the same people who breathed life into those original, genre-defining classics.

"I think the resurgence of these games is because in many ways they take us back to the roots of FPS gaming," says 3D Realms founder Scott Miller, whose studio developed and published such nineties shooters as *Shadow Warrior* and *Duke Nukem 3D*. "It's a total nostalgia trip for those of us who played shooters in the nineties, and for younger players, it's like going back to the original *Star Wars* trilogy and seeing how it all started."

### LOCK AND LOAD

More recently, 3D Realms published two new shooters: *Ion Fury*, developed by Voidpoint (see the box on page 31 for a few words on that game's controversy), and *WRATH*, co-developed by 3D Realms and KillPixel Games. Both games are partly inspired by specific nineties shooters; *WRATH*, for example, is inspired by *Quake*. But *how* do you approach creating a shooter that looks and feels like a nineties FPS? Each developer has its own →





^ It's all sweet, sparkly chaos in *Amid Evil*.



▲ Don't be fooled by *Amid Evil's* melee weaponry; each weapon has a unique distance attack as powerful as any gun.

## THE OTHER CONTENDERS



### PROJECT WARLOCK:

Released at almost the same time as *DUSK* (and sadly, somewhat overlooked because of it), *Project Warlock* is arguably the most retro of the retro FPSs', with an aesthetic that sails right past *DOOM* and lands in *Wolfenstein 3D* territory. It sees you play as a Warlock who sets out

to eradicate all evil from the world (just a small job, then) and includes 60 levels that take you from the deserts of Egypt to, well, the colder deserts of Antarctica.



### PRODEUS:

Created by two former FPS developers whose credits include *BioShock Infinite* and 2016's *DOOM* reboot, *Prodeus* is an FPS which, like *Amid Evil*, attempts to blend modern and old-school graphical techniques.

The resulting aesthetic, however, couldn't be more different, combining crunchy pixels with state-of-the-art shader tech on lights and explosions. The result is an extremely pretty and unique-looking shooter. It's also astonishingly violent. Look out for *Prodeus* launching later this year.



### SIGIL:

As if there wasn't enough retro FPS action to get excited about, John Romero released *SIGIL* in 2019, a spiritual successor to the fourth episode of *DOOM*. *SIGIL* picks up right where *DOOM* left off. It includes nine new single-player levels and nine multiplayer maps. The *SIGIL WAD*

is available to download for free, but a special version with a soundtrack composed by the guitarist Buckethead can be purchased for around £6.

*Quake*, and hand-painted many of the game's textures to give them an appropriately rough-edged look. "That was how the texture workflow came about," he says. "I got the workflow ironed out just by doing it over and over."

Not every retro FPS in development is quite so interested in authenticity, however. One particularly celebrated – and inauthentic – project is *Amid Evil*, a *Hexen*-style fantasy shooter created by New Zealand-based Indefatigable. "We actually came up with the name of *Amid Evil* back when we were kids – about 8–9 years old," says Indefatigable director, Leon Zawada. "It was originally used in a *DOOM* WAD that never surfaced."

Like Szymanski, Zawada and his co-developer Simon Rance have been long-time FPS fans. But their development backgrounds were in more modern-style games, in this case using Unreal Engine 4. It was this combination of passion and experience that almost literally led to *Amid Evil*. "[In] late 2016, we were messing around inside UE4 and found that adding normal maps to unfiltered textures looked really cool," Zawada says. "We wondered if it would work on a first-person weapon sprite akin to *DOOM*. Simon created a test model and made it into a sprite – it looked amazing! From there, we started to wonder what it would be like to mix up old and new graphics techniques."

The result is an FPS that looks like no other, a hybrid of mid-nineties 3D modelling with modern lighting and shader effects. "*Amid Evil* uses all the latest UE4 abilities such as PBR, nice lighting, Volumetric Fog, and so on," Zawada says. "The only way we limited ourselves aesthetically was the texture resolution and mesh detail, otherwise, we aren't afraid to use all the power UE4 has to offer."

*Amid Evil's* stylistic approach may not be authentically retro, but the game wears on its sleeve an idea that underpins all of

approach. With *Ion Fury* and *WRATH*, both games were created using genuine, era-appropriate engines. *Ion Fury* was made on the Build engine, while the technological basis for *WRATH* is the original *Quake* engine, id Tech.

## MORE THAN RETRO

"The idea was to be authentic to the era we are trying to replicate," Miller explains. "It makes total sense to us, at least, to use the actual famous engines from the nineties. That said, both engines have been modded and improved in many ways over the years, with better lighting and so on, but they still retain the basic look and especially the feel of the original shooters [that] kicked off the FPS era. It's the feel-factor that really is super important."

This is a very different method from Szymanski, who built *DUSK* in Unity 5 and reverse-engineered an aesthetic that resembles a *Quake*-era engine. The process required considerable research and experimentation. For example, Szymanski adopted the same limited colour palette as

▼ Ah yes, *WRATH's* snot-gun, a staple of the genre.



these projects. Although nostalgia may have played a role in the genesis of all these shooters, none of them are simply looking to replicate the past. Instead, they take the basic structure and rule set of those classic games, and use them to build something new and exciting.

A perfect example of this is *DUSK*'s level design, which takes the concepts pioneered by John Romero in *DOOM* and *Quake* and elevates them to new heights: they play with perspective and 3D geometry in a way that even the classics never did. Highlights include Escher Labs, a mind-bending 3D maze inspired by *Thief: The Dark Project*'s mission, The Sword, and The Infernal Machine, a gigantic underground meat-grinder that's as spatially ambitious as it is gut-churning.

### METAL TEMPLE LAB THING

Indeed, when *DUSK*'s second episode launched into Steam Early Access (*DUSK* and *Amid Evil* both mimic the shareware-style releases of early-nineties shooters like *DOOM*), it was so well received that Szymanski became concerned about the remainder of the development. "I'm like, 'What the heck am I gonna do after this? I already did the non-Euclidian geometry level, I did the giant machine that grinds things up, I did a freakin' metal temple lab thing in the sky, so what is episode three gonna have?'" The answer turned out to be a massive medieval cityscape inspired by *Hexen* and *Dark Souls*, as well as levels which call back to the earlier stages, but twisted and warped to deliberately mess with the player's head. "I guess somehow we pulled it off," Szymanski says.

As for 3D Realms, despite using nineties-era engine tech, the sheer power of modern PCs means that games like *WRATH* can set their ambitions higher than repeating past glories. "Given the speed of modern computers, it allows for much more detail in the levels, larger levels, and definitely more enemies per level," says Miller. "We're emphasising non-linear levels with lots of freedom to explore, and we want players to use their own approach to solving them." It's that move to less linearity that makes



^ *Ion Fury* uses the Build engine as its technical foundation.

games like *WRATH* really stand out as more than just a re-run of a nineties classic.

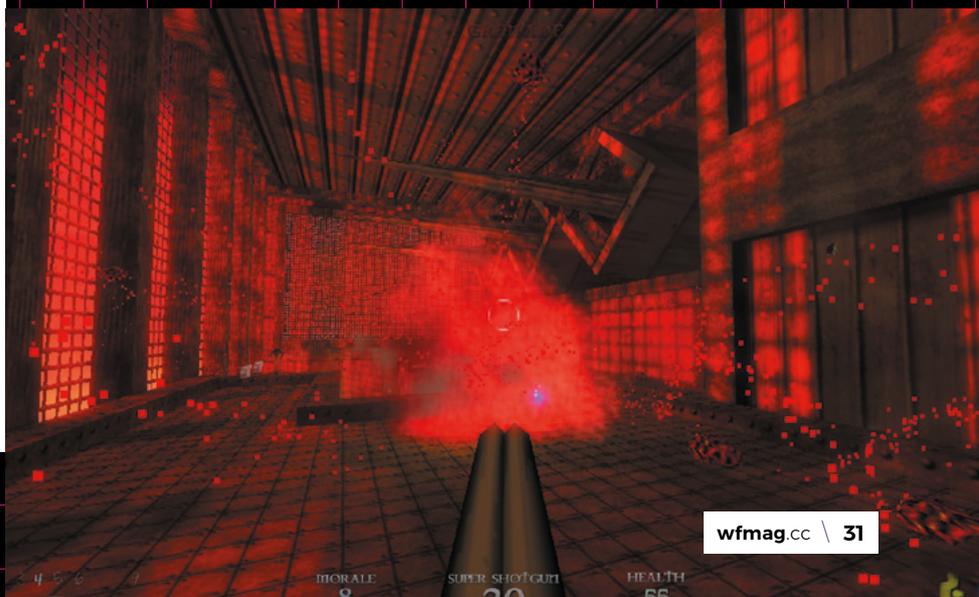
Ultimately, though, what all these shooters represent is less of a throwback to a different time, and more a continuation of work that was left unfinished. Each of these projects essentially explores a different timeline in the evolution of the FPS genre, asking questions like 'What would shooters look like if *Call of Duty* had never existed?' or 'What if graphics cards had never evolved past the Voodoo 2?'

It's a fascinating period in the evolution of the FPS, since it's simultaneously looking backwards and forwards to the genre's future possibilities. How much of an impact these games will have on the industry in the long term is hard to quantify, but one thing is certain: this is the most exciting FPSs have been in a long, long time. 🙌

### EDITOR'S NOTE

After the interviews for this feature were conducted, developer Voidpoint sparked controversy when it emerged that its game, *Ion Fury*, contained a number of homophobic slurs. These were rightly condemned by the majority of the playing public – as well as by 3D Realms' Scott Miller. We considered removing all mention of *Ion Fury* from this feature, but in the interest of retaining the flow and feel as it was intended by the author, we've kept a brief mention of it in here. It absolutely goes without saying, however, that *Wireframe* does not condone homophobia in video games or anywhere else.

v *DUSK*'s double-barrelled shotgun is a thing of beauty.





# The (genuine) **RETRO SHOOTERS** you can play today

Away from the likes of *DUSK* and *Amid Evil*, there are plenty of classic shooters available to play on modern systems. Here are just a few



## **Duke Nukem 3D:** 20th Anniversary World Tour PC, PS4, Xbox One, Switch

Do you remember when *Duke Nukem* wasn't garbage? Well, the 20th-anniversary package of the bleach blonde moron's best outing could be a good place to look. Mixing some classic FPS action with genuinely creative and unique level design was more than enough to distract from the frankly laughable main hero and his proclivity for being Just The Worst. Seriously, ignore *Duke Nukem Forever* for precisely that long and stick with *Duke Nukem 3D*: one of the finest shooters of the entire nineties.

## **DOOM** PC, PS4, Xbox One, Switch, calculators, printers, digital cameras...

Obviously. *DOOM* has been available on every home console generation since the PlayStation, but this time around the ports to the current machines did actually add a bit of pizzazz. That being: 60 frames per second. The original *DOOM* ran at 35 fps, but this port now runs in buttery smooth smoothy butteriness, as well as just *being DOOM*. You can also pick up *DOOM II*, *DOOM 3*, and *DOOM 64* for modern machines – so basically, there's a lot of *DOOM* to play. That, at least, is a good thing in this skip fire of a year.



## **Perfect Dark** Xbox One

As the N64 original – the other-other FPS on the format – turned a decade old, it was ported to the Xbox 360. More than just a quick shunt from one format to another, 4J Studios actually rewrote *Perfect Dark*'s code to make it more compatible with the modern system. Then it was quickly shunted across from the 360 to Xbox One, via the *Rare Replay* compilation. Does the tale of spies and aliens hold up well? Once you're past some quirks of control, yes. Yes, it does.

## **Halo: The Master Chief Collection** PC, Xbox One

It's impossible to overstate the impact the 19-year-old *Halo: Combat Evolved* had on the FPS genre, especially on consoles. It *made* them. So it's impossible to ignore this genuinely superb collection – crafted with real care and attention, it brings together six titles from the *Halo* franchise, gives them more than just a vague lick of paint, and encourages you to sing along with the theme tune all over again. *Halo* might have gone a mite off the rails in recent years, but those first three are still bangers.





## Star Wars Jedi Knight: Jedi Outcast/Jedi Academy

PC, PS4, Switch

A sudden double-whammy of games we thought almost forgotten arrived over the past year or so, as port specialists Aspyr did its magic on the force-wielding FPS of the early 2000s. *Jedi Outcast* is still a fantastic game; controlling an intentionally force-severed Kyle Katarn is a fine narrative tool to make the quest to get a lightsaber again a thing. *Jedi Academy* meanwhile moves the action away from Katarn and onto one of his students – of the player's design – in a straightforward action FPS/third-person lightsaber-'em-up hybrid.



## Turok: Dinosaur Hunter

PC, Xbox One, Switch

Handled by another porting specialist, this time Nightdive, *Turok: Dinosaur Hunter* reminded us all that, actually, there was more than just *GoldenEye* on the N64. Turok's adventures in shooting dinosaurs in the face ('hunting' is a stretch) were plagued by fog and slowdown in the original, but here that's a thing of... well, the past. Instead, we have a version of the game much more faithful to that original vision – surely a solid reason for modern ports of older titles to exist in the first place.

## Red Faction PC, PS4

*Red Faction* often gets the short end of things when it comes to influential shooter lists, and that's a real shame. The fact is Volition's 2001 tale of major miner revolution on Mars – GeoMod destructible terrain and all – was a genuine turning point for the FPS genre on console. Xbox had *Halo*, PS2 had *Red Faction*. The former was the better and more impactful game, sure, but *Red Faction* still rose up and made its voice heard. It's worth playing today for an idea of that very turning point in the console FPS, as well as just to blow crap up.



## Borderlands: The Handsome Collection

PC, PS4, Xbox One, Switch

Now we're definitely pushing the 'retro' tag, as the oldest game in this bundle of two turns eight in September. Still, this is a couple of last-gen FPS titles bundled together and, would you believe it, they're worth a pop. *Borderlands: The Pre-Sequel* is one of the most *absolutely fine* things out there, while *Borderlands 2* maintains its place atop the mountain of best games in the series. It's a classic looter-shooter, and still superb fun in four-player.



## BioShock: The Collection

PC, PS4, Xbox One, Switch

Another teenager in the group, *BioShock* first stomped and splashed into our lives in 2007, followed a few years later by *BioShock 2*, then more years later by *BioShock Infinite*. All three are included in this superb remaster-ish bundle, and it's a great way to play through a series that was another to wield gigantic influence over the FPS genre. It's also another great way to realise that *BioShock 2* is an absolute overlooked gem of a game, and in many ways superior to the original.

## Call of Duty: Modern Warfare Remastered

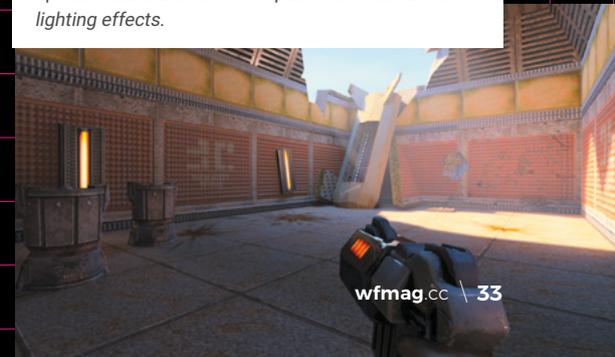
PC, PS4, Xbox One

We weren't about to put this in as it feels too new, but – and you might want to sit down for this – *Call of Duty 4: Modern Warfare* is 13 years old. It's a teenager. Oh, time, you *scamp*. Anyway, Raven's do-over of the FPS that changed the game was a solid one, and gives you the best opportunity to play the game on modern formats without having to drag yourself to CEX or anything for a used Xbox 360 copy. It's dated a bit, sure, but you can still see why *Modern Warfare* changed gaming forever.

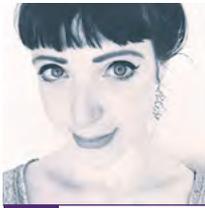


## Quake II RTX PC

This might be fudging it a bit, as really you're just playing the original *Quake II* on PC, which you've always been able to do. But honestly, sitting down with this for the first time and cranking those real-time ray tracing effects to the max doesn't just give id's original a new lease of life: it blows the mind. If you've got a rig powerful enough and are a fan of the old shooters, there's no excuse not to pick up this freebie and relive the past *with much better lighting effects*.



# The Church of Merch



## LOTTIE BEVAN

Lottie's a producer and co-founder of award-winning narrative microstudio Weather Factory, best known for *Cultist Simulator*. She's one of the youngest female founders in the industry, a BAFTA Breakthrough Brit, and founder of Coven Club, a women in games support network. She produces, markets, bizzes, and arts, and previously produced *Fallen London*, *Zubmariner*, and *Sunless Skies* at Failbetter Games.

**“Indie merch is a blue ocean: most devs don't bother with it unless they hit a certain milestone of success”**

Imagine a dystopian future where big corporations sue other big corporations over mobile games, where everyone and their mum is making a PC game, and where esports makes more money than any of us despite nobody really knowing what it's for. You're a small indie dev stuck in the middle of all this. How can you stand out and get noticed, in this picaresque world?

One way is to offer people something they can't get elsewhere: top-notch merchandise. Indie merch is a blue ocean: most devs don't bother with it unless they hit a certain milestone of success (think *Darkest Dungeon* or *FTL*). But it can make significant money. It opens doors to other opportunities. And it diversifies your revenue streams so you're not entirely dependent on the whims of store algorithms, influencers, or press.

Your first decision is what sort of shop you want. This'll depend on your interests, skills, and financial situation. Do you want a dedicated website? An integrated shop page on your studio's site? Or would you like to be part of a larger outlet, alongside other games? A dedicated website requires the most technical setup and makes you responsible for all the stock and ordering, but it gives your brand exclusivity. An integrated shop page keeps traffic on your site and moves the burden of stock-keeping and shipping to your provider. But it limits you to bigger, expensive providers like Shopify or Fangamer. Being part of a larger shop – getting a branded section on Gametee, IndieBox, or Awesome Merch, for example – brings great consumer traffic alongside great competition: someone who's come to buy a *Skyrim* hat probably doesn't want your octopus mug. And if they have come for an octopus mug, maybe *Subnautica's* one is nicer.

The type of shop you opt for has major knock-on effects. It'll decide whether you design and produce your own items, and what items you can make in the first place. Most big producers



^ Are you an indie developer looking for delicious new revenue streams? Then it might be time to join *Hollow Knight* in the dark church of merch.

offer a set catalogue: this makes your setup easy but your offerings generic, reducing that vital stand-out-ability. Your shopfront also determines customers' experiences: do you want social proofing, with your merchandise next to *Destiny* and *Call of Duty*? Or do you want to be a hidden boutique gem, at the expense of looking small? I chose to host my shop on Etsy, because it has a good balance between brand exclusivity and high-frequency footfall from people who are likely to want what I sell: notebooks, grimoires, tarot decks. Hippy-dippy nonsense for the magically inclined.

The last major piece of the puzzle is pricing. A good starting point is keystone pricing: essentially, your price is double how much it cost you to make. Balance that against the price of other similar items on your chosen platform to avoid pricing yourself out of contention. It's a bit of a guessing game – I've guessed wrong in the past!

All of this might sound like a lot of hard work. And it is. But play your cards right and you'll not only end up with another revenue stream to feed your business, but a treasure trove of marketing fodder (think of the giveaways, or the Kickstarter rewards, or the variety in your communication channels). If you're at all interested in new business models and doing what other people aren't, step into the church of the merch and take a pew with me. 🙏

# WIN A PC ENGINE COREGRAFX MINI

Here's a chance to get your hands on one of two PC Engine CoreGrafx Mini consoles. Two lucky Wireframe readers will get one of these fabulous mini retro gaming devices sent direct to their home.

The PC Engine CoreGrafx Mini has 57 games built in, including:

- **Blazing Lazers**
- **Bomberman '93**
- **R-Type**
- **Ninja Gaiden**
- **Splatterhouse**
- **Ys Book I & II**
- **Castlevania: Rondo Of Blood**
- **Parasol Stars**

Worth  
**£99.99**



You can enter at  
[wfmag.cc/compo](http://wfmag.cc/compo)

Developed by Konami, emulation masters M2, and manufactured by Hori, the PC Engine CoreGrafx Mini is a shrunk-down revival of Hudson Soft and NEC's much-loved 16-bit console which originally launched in 1987.

Known as the TurboGrafx-16 in the US, the system was never officially released in Europe, but has garnered something of a cult following over the past few decades thanks to its broad library of games. The CoreGrafx Mini

collects together some of the finest titles from the PC Engine's US and Japanese hey-day, and packages them together in a handy USB-powered device which plugs straight into a modern TV via the HDMI port.

If you want a convenient and authentic way of revisiting such classics as *Splatterhouse*, *R-Type*, or *Super Star Soldier* in your living room, then the PC Engine CoreGrafx Mini is for you.



Competition closes on Friday 2 October. Prize is offered to participants worldwide aged 13 or over, except employees of the Raspberry Pi Foundation, the prize supplier, their families or friends. Winners will be notified by email no more than 30 days after the competition closes. By entering the competition, the winner consents to any publicity generated from the competition, in print and online. Participants agree to receive occasional newsletters from Wireframe magazine. We don't like spam: participants' details will remain strictly confidential and won't be shared with third parties. Prizes are non-negotiable and no cash alternative will be offered. Winners will be contacted by email to arrange delivery. Any winners who have not responded 60 days after the initial email is sent will have their prize revoked.



**GAME**  
BPM: Bullets Per Minute

**ARTISTS**  
Jake Briggs and Jeremy M Brown

**RELEASE**  
15 September 2020

**WEBSITE**  
[bulletsperminute.com](http://bulletsperminute.com)

**BPM**



## BPM: Bullets Per Minute

Given that this edition of Wireframe has something of a first-person shooter theme, what with the ominous *GTFO* on the cover and our big retro FPS revival feature on page 28, we were keen to give you a closer look at the unique-looking *BPM: Bullets Per Minute*. Developed by Awe Interactive, it's a shooter with a rhythm-action twist: every movement, from your frantic running, jumping, and blasting, to the scuttling moves of your hellish enemies, is synchronised to the beat of the game's hard rock soundtrack.

To go with the game's distinctly metal theme (you play a Valkyrie set on murdering denizens of the underworld), the Derby-based studio came up with a fittingly baroque look that wouldn't be out of place on the cover of a Judas Priest album: it's all heavy shadows, hot shades of red, and ornate architecture. "We decided to go with a high-contrast art style," says Awe's game design assistant, Josh Sullivan, "as we wanted *BPM* to have its own unique visual identity."

We can't help thinking *DOOM* legend John Romero would feel right at home in *BPM*'s angry hellscape of stone walls, wailing guitars, and unfeasibly large guns.



# The rise of WHOLESDOME GAMES

Cosy, welcoming, and compassionate video games are on the rise of late. We talk to a trio of developers to find out why

WRITTEN BY MATTHEW TAYLOR

**I**n February 2019, I started a Twitter account called Wholesome Games (@\_wholesomegames) to curate the type of games I enjoyed the most. I didn't think much of it at the time. It wasn't until PC Gamer wrote an article contrasting the kindness and positivity of my feed with the often depressing nature of social media that the concept fully clicked for me. As a game developer myself, I couldn't be happier or prouder to explore these games every day, and hopefully give a name and a sense of community to my favourite genre.

What are wholesome games, though, and why are they growing so quickly? The simplest explanation is this: the kids who grew up on titles like *Animal Crossing* are not only hungry for more, they're making more. On the more practical side, the enormous success of games like *Stardew Valley* and *Slime Rancher* has proven the audience for this genre isn't niche. Recent panels at industry events have shed light on how to craft cosier experiences, which will, in turn, produce even more developers ready to throw their hats into the ring. I spoke to the developers of three genre-defining wholesome games to get their opinion on what qualifies as wholesome, how their games contribute to the conversation, and how wholesome games will evolve in the future.

## WHOLESDOME SNACKS

At the heart of Wholesome Games is a trend of game developers less concerned about how you play, and more concerned about how you feel. Erisa Liu is the artist behind *Snacko*, a colourful farming adventure starring cats and other friendly animals. Before development began, Liu asked herself a simple question: "Wouldn't it be cute if our cats did *this*?" – and just like that, *Snacko* was born.

"It started from simple things such as imagining a world where cats could drive cars, plough fields, open a bookstore, or use an ATM," Liu explains. "If we find something cute, we try to incorporate it in some way. One recent example was noticing how cats love to sleep in empty boxes – so we turned what was planned to be a normal sleeping bag into a cardboard box!" Wholesome games are often made by wholesome people, and I've never felt more certain of that than listening to Liu explain the inspiration behind a project that now

receives almost \$600 in monthly Patreon pledges. Speaking to such a wholesome developer, I have to know: what's the most wholesome feature in *Snacko*? "We think it would have to be the town-building feature. It's wholesome in the sense that your character is spending their time and resources making an inviting place for other animals to come and live, and it's also a wholesome experience for the player; we think having the freedom and tools to plan out a space and execute it to your imagination is a very cosy and fulfilling activity." This freedom and creativity is far from a genre requirement, but it instantly

**"Stardew Valley and Slime Rancher come to mind"**

reminds me of the most iconic wholesome games: *Animal Crossing*, *Stardew Valley*, and even *The Sims*, which Liu mentions as a

wholesome influence. Perhaps creativity is a secret sauce in the wholesome world.

When asked about her first wholesome gaming experience, Liu points to a simple feature that elicited a strong emotion. "I think it would have to be *Pokémon Crystal*, the feature where you would swap numbers with trainers along your journey, and they would call you and ask for a rematch or just tell you about their day. It did a great job of using simple dialogue to make you feel as if you had friends in that universe." This small touch, which we can assume was not the highest priority for *Pokémon* developer Game Freak, struck a chord with young Liu. Conveying the feeling of genuine friendship is no small feat, but it's a recurring theme in my conversations with each developer. ➔

◀ **Opposite:** This illustration, designed by artist Bree Lundberg, features several key ingredients for a wholesome game.



## NICE DREAM

Will wholesome games create wholesome players? "Wholesome games often feel wholesome because the player is doing good deeds or because they're in a pleasant situation," Liu explains. "Using *Animal Crossing* as an easy example, players feel rewarded when they help locate the owner of some lost mittens, or are incentivised to take care of the town's environment. We think these attitudes carry into daily life, where players may subconsciously or consciously seek to improve their interactions or environment to get the same wholesome feeling."



▲ It's impossible to overstate the influence *Animal Crossing* has had on wholesome game developers.

## Interface

The rise of wholesome games

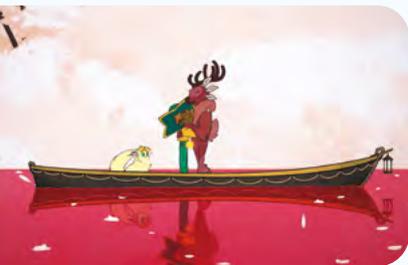


^ Switching from *Pokémon*-style creature battles to dance-offs may seem like an unusual decision, but it helped make *Ooblets*' gameplay as wholesome as its graphics and writing.

### GOOD BEHAVIOUR

Could wholesome game mechanics spread beyond the genre? "It's really interesting to me to see how systems lead to certain behaviours," Wasser says. "Some games seem to produce worse behaviour, like little kids screaming racist insults over voice chat. Other games promote co-operation and camaraderie. Some of it might be context or appeal, but I think a lot of it is related to how interactions and communication mechanics are designed. Rewarding or disincentivising bad behaviour can be a part of any game, regardless of whether there are guns involved or if it's *Club Penguin*."

^ Build a boat, explore the world, and care for spirits before releasing them into the afterlife. *Spiritfarer* illustrates that wholesome games can still get heavy.



### CATCH THEM ALL

Now that *Animal Crossing: New Horizons* is available, you'd be hard-pressed to find a more anticipated wholesome game than *Ooblets* (though it is technically out already in Early Access). Ben Wasser represents half of the core development team behind the unique creature-farming, dance-battling, life-simming indie. When I ask Wasser about what lessons a wholesome game can impart on the player, he cautions me. "People have conflicting ideas of what it means to be good or right about things. I think what's a lot more valuable is to encourage and teach the idea of empathy, which people can apply to any situation. It's about putting yourself in other people's (and animals') shoes before you hurt them or let them be hurt by others." At this point, it's perhaps something of a cliché to mention the unique empathic powers that video games offer, but wholesome games represent a rare genre where creating compassionate characters and situations isn't simply icing on the cake, but the very reason we sit at the table.

Recalling the still-in-progress development of *Ooblets*, Wasser stresses that the game has undergone a lot of changes. "I think we always had it in mind to make a cute game in the same vein as *Pokémon* and *Harvest Moon*, but we did have some elements we made more wholesome over time, like replacing battles with dance-offs. A lot of these decisions came up when we were world-building and writing dialogue about why you'd be dog-fighting and capturing these cute creatures. It just didn't fit."

Although there was already a precedent for cute creatures fighting to the point of 'fainting' in *Pokémon*, the decision to go a more wholesome route with dance-offs has given *Ooblets* yet

**"It can change the world for the better"**



^ How does *SkateBIRD* developer Megan Fox think wholesome games will evolve in the future? "Hopefully, more birds."

another way to differentiate itself, not to mention the other features the change has given birth to. "One of our goofier features is how you get new ooblets," says Wasser. "We redesigned it away from capturing ooblets who lost battles, to having to outdance them in a dance-off and then offer them consolation prizes for a chance to get a seed you can plant in your garden to grow your own ooblet." Instead of forcing ooblets to join your squad by overpowering them, now the ooblets are consoled and befriended. It's a compassionate and infinitely more wholesome interaction that runs contrary to the power trips we're accustomed to.

### DO YOUR BEST

After raising nearly \$70,000 on Kickstarter, Megan Fox's *SkateBIRD* – a game about tiny birds riding even tinier skateboards – has proven that wholesome concepts resonate far beyond the genre staples of friendship and farming, but that doesn't mean she hasn't learned from those games, too. "*Stardew Valley* and *Slime Rancher*

come to mind, in terms of aesthetic choices and ways of creating challenge or achievement for a player that is expansive and choice-

driven, as opposed to typical game achievement approaches, typically driven by fear – fear of dying, of having to try again, of not advancing."

Fox has clearly put a lot of thought into the design principles behind wholesome games, but her simple observation about a lack of fear is a particularly resonant one. So many of us grew up with games that put our feet to the fire, filling us with anxious thoughts about everything that *could* go wrong. Wholesome games aren't devoid of obstacles and challenges, but they're undoubtedly more carrot than stick. Wholesome games ask: "If we try our best, what could go right?"

Friendship, empathy, and motivation without fear. These basic principles can result in a variety of experiences too expansive





to imagine, and yet each is linked to a wholesome centre. *SkateBIRD* has the magical quality of being a unique concept that also manages to feel familiar and comforting. There's something about seeing a bird flapping its tiny wings just before sticking the landing that feels so right.

Fox mentions avoiding forced time limits as a way to make the game feel as cosy as it looks, but even beyond the game's technical design, there's a wholesome-ness underpinning the whole experience, including the marketing materials: "...and if you bail, you just get back up – because above all else, skate birds try their best."

## REMAINING INCLUSIVE

Each developer I spoke to was keen on expanding the idea of what a wholesome game can be. "It seems like the intention is to celebrate kindness and empathy instead of falling into the trap of sterile puritanism," Wasser explains. "It allows for a lot more creativity and personality. *Ooblets* isn't totally candy-coated and has a lot of weird elements, but I think it fits these new conceptions of what wholesome can be, and that seems like a great thing."

In my interview with Fox, I made the mistake of lumping "excessive sexuality" in with a list of things that might disqualify a game from being wholesome. She smartly countered, "It's more of a vibe thing. Sexuality can be wholesome." She directed me to *how do you Do it?*, a game which puts players in the role of an eleven-year-old girl using her dolls to ponder how sex works. "But guns and violence are anti-humanistic, so you could argue that anti-humanistic themes are unwholesome in general."

"There are many aspects of day-to-day life that are unwholesome," Liu says. "Games that highlight and discuss these aspects are important, but can leave most players feeling helpless and frustrated."

## THE FUTURE

A year or so ago, I was simply a fan of these games; playing, enjoying, but not particularly thinking much more about their broader impact. Now I'm in a unique position to shine a spotlight on them while encouraging the developers of tomorrow to learn from their work and continue the journey. The Wholesome Games community

press **Y** to hold hands :)



## ELLIOT & KO

Still in development, *Elliot & Ko* was one of the first games I highlighted on the Wholesome Games Twitter account. Developer Jacob Blommestein now manages the Wholesome Games Discord, where he works to create a community of fans and developers that is every bit as wholesome as you'd expect.

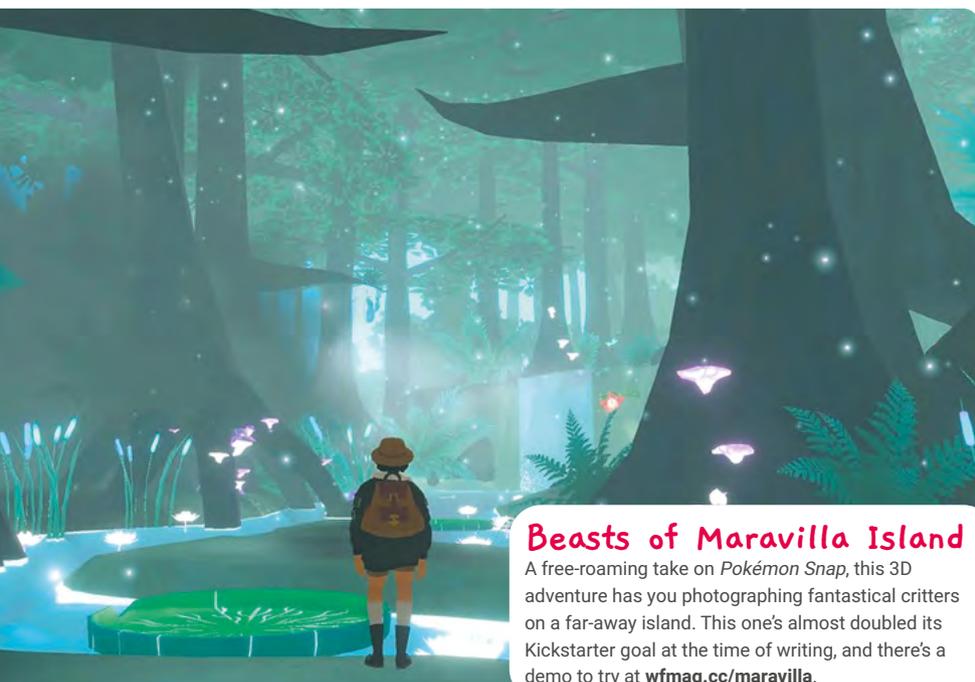
on Discord, in particular, has brought together fans and developers alike, creating countless real friendships as discussions of virtual friendships flourish. With those real-world friendships in my mind, Wasser's answer to the question of where things are headed next is particularly fitting. "I'd love to see some more multiplayer or massively multiplayer games that elevate human interaction," he says. "I keep thinking back to that week or two when *Pokémon GO* first came out, and everyone was outside talking to each other, making new friends, and having a good time. If a game has that sort of power, it can change the world for the better." 🐾



▲ Beyond farming and town-building, *Snacko* also features puzzle-filled dungeons, a nod to the team's original design of a cat protagonist exploring mysterious ruins.

# Wholesome Highlights

Our pick of ten soul-nourishing games from Wholesome Games' Twitter feed



## Beasts of Maravilla Island

A free-roaming take on *Pokémon Snap*, this 3D adventure has you photographing fantastical critters on a far-away island. This one's almost doubled its Kickstarter goal at the time of writing, and there's a demo to try at [wfmag.cc/maravilla](http://wfmag.cc/maravilla).



## Tentacular

Multi-limbed creatures are usually villains in most games. Not so in *Tentacular*, a VR experience where you play a gigantic, octopean beast intent on running odd jobs for a small town full of humans.



## Happy Grumps

We briefly covered this one in issue 40. It's a roguelike, although your aim isn't to slaughter enemies and hoard loot, but rather to spread joy and happiness among its surly NPCs by solving puzzles.

## Mineko's Night Market

Our cover star back in issue eight, this gorgeous-looking life sim – about “crafting crafts, eating eats, and catting cats” is a wholesome game we've been looking forward to for what feels like years.

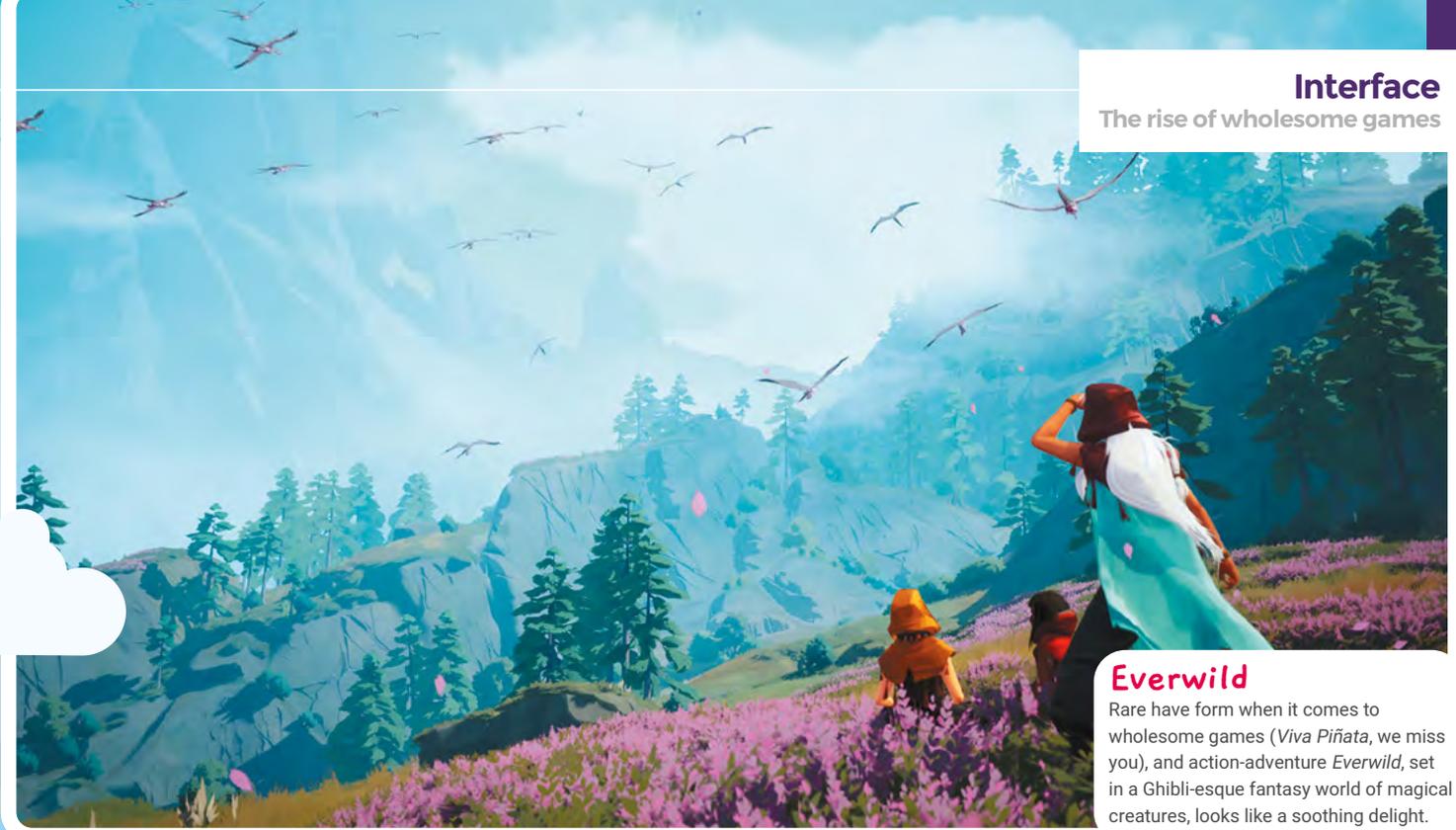


## A Frog's Tale

An affectionate nod to the *Zelda* series, this top-down action-adventure has some weighty themes going on beneath its cute exterior. You can read our full interview with creator AJ Norman in Wireframe #33.

## Interface

The rise of wholesome games



### Everwild

Rare have form when it comes to wholesome games (*Viva Piñata*, we miss you), and action-adventure *Everwild*, set in a Ghibli-esque fantasy world of magical creatures, looks like a soothing delight.



### Summer of Joy

Coming soon to iOS, *Summer of Joy* is a romantic narrative adventure created by artist and animator Tanya Jaiswal. The visuals are sumptuous, but music will also play a key role in the intimate story.



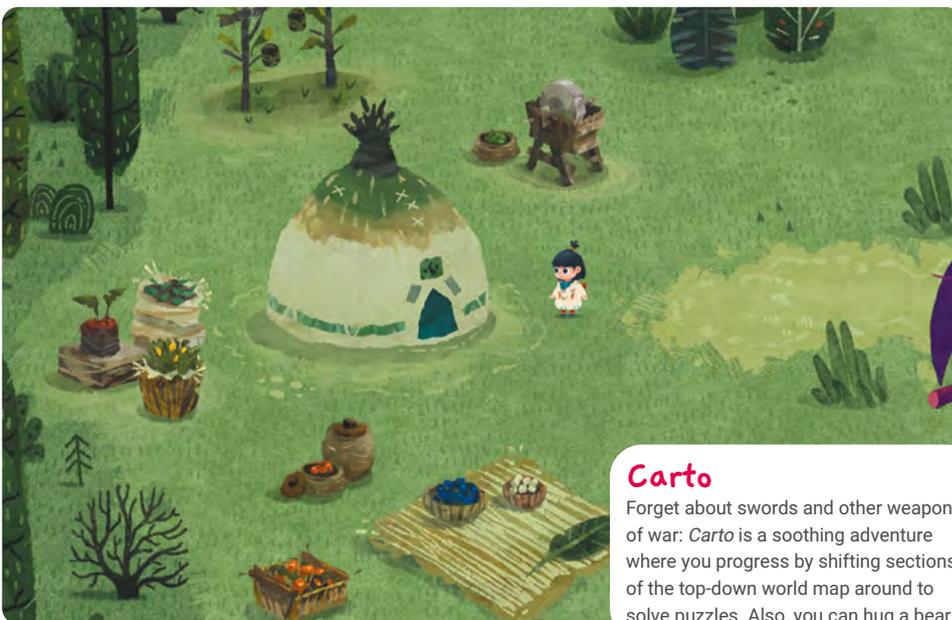
### Lonesome Village

Another *Zelda*-like, this one stars an intrepid fox whose abilities focus more on collecting items and solving environmental puzzles than slaying gigantic beasts. You can play the tech demo at [wfmag.cc/lonesome](http://wfmag.cc/lonesome).



### Alba: A Wildlife Adventure

Rescue animals on a sun-drenched Mediterranean island in the latest charming experience from ustwo games, the makers of *Monument Valley* and *Assemble with Care*.



### Carto

Forget about swords and other weapons of war: *Carto* is a soothing adventure where you progress by shifting sections of the top-down world map around to solve puzzles. Also, you can hug a bear.



# Toolbox

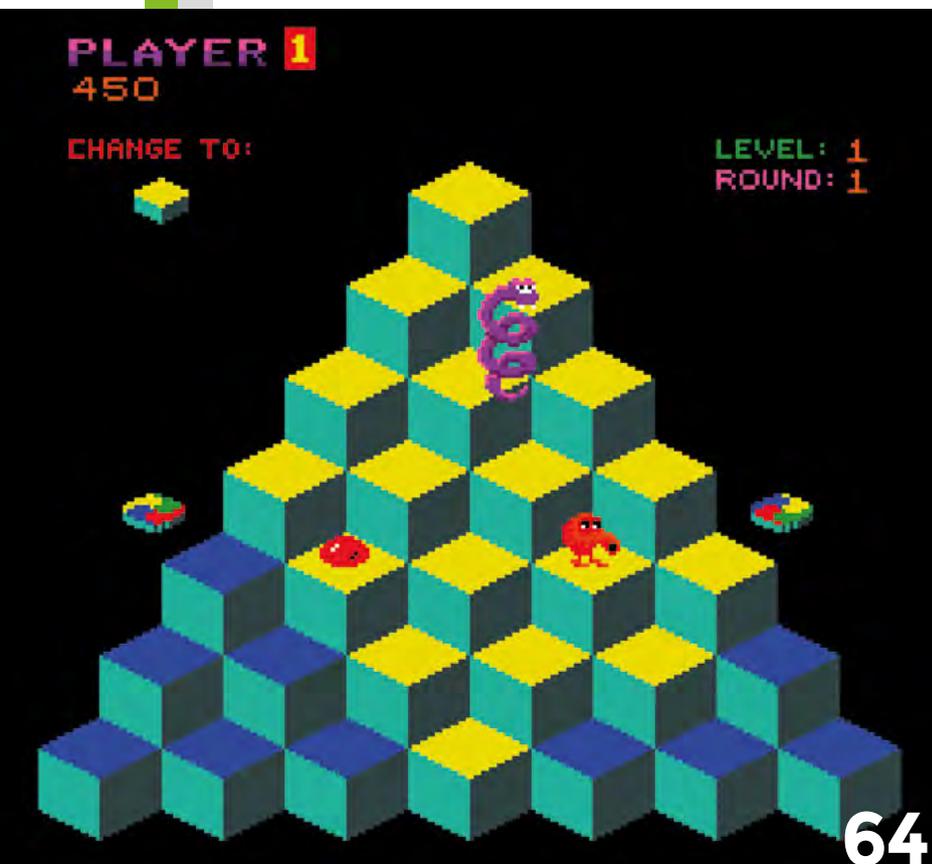
The art, theory, and production of video games

- 46. Design Principles**  
Howard shares some of Atari's weirder game moments
- 48. CityCraft**  
Using grids to construct your game's metropolis
- 50. PuzzleScript**  
Code a small but perfectly formed puzzle game
- 56. Narrative Design**  
The pitfalls new indie narrative game devs should avoid
- 58. WarGames: DefCon 1**  
The Oliver Twins on the making of their PSone RTS
- 64. Source Code**  
Recreate Q\*bert's bright and bouncy arcade action



46

Video games controlled with the mind? Just one of the creative ideas Atari explored in its heyday. See page 46.

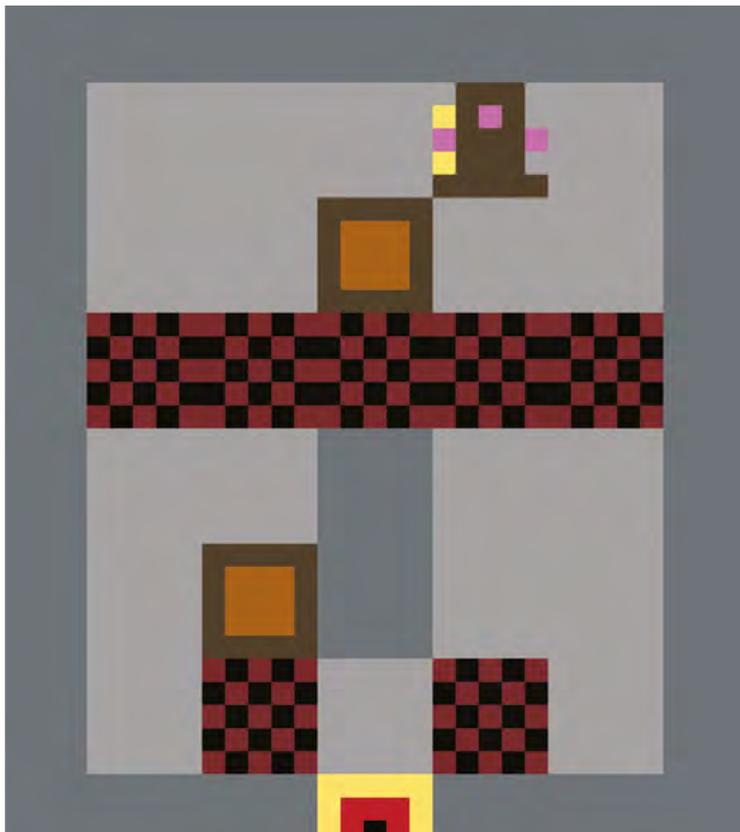


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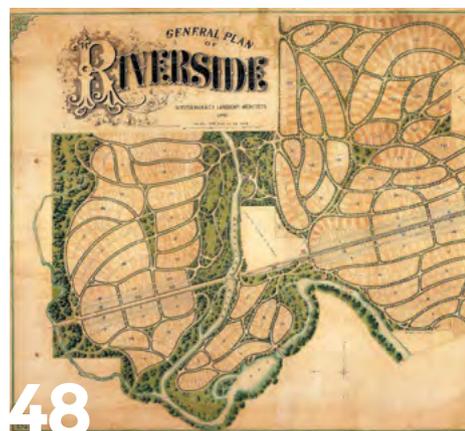
58

Squeezing the real-time strategy game *WarGames: DefCon 1* onto the original PlayStation posed some unique challenges. The Oliver Twins explain all on page 58.



^ Guide a hapless wizard to freedom in *Dungeons of Nabokos*. Find out how to make it yourself on page 50.

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48



They moved further north.  
You spooked them, they stopped.

56

# The principles of game design

A game that developed psychic abilities? Howard recalls some of Atari's weirder eighties developments



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

Howard is a video game pioneer who authored several of Atari's most famous and infamous titles. [onceuponatari.com](http://onceuponatari.com)

One of the remarkable things about being at Atari was sharing a pervasive sense that we were changing the world. We felt it happening. We could see it happening. It was obvious we were changing the landscape of entertainment and the meaning of television, yet time would prove we grasped precious few of the myriad ways video games would come to shape the world around us.

One arena in which the video game industry has created a dramatic shift is simulation technology. This used to be the exclusive province of government-funded academic programmes and defence contractors. But the technology and tools created to facilitate the production of video games yielded drastic changes in the economics of simulation. This makes sense, since most video games are about creating new environments or simulating existing ones in which the games may be played. The exciting and inspiring nature of what we produced served as a beacon to innovation seekers of all sorts. They came knocking on the doors of digital consumer entertainment producers in the hope of finding help with (and support for) their *special projects*. Atari was one of the early leaders in this regard.

For instance, one day the US Army showed up on the doorstep with a 'secret mission' request. They wanted a simulator for training tank commanders, so they commissioned the makers of *Battlezone* to create a higher-end version, later known as the *Bradley Trainer*. And to think I came to Atari to avoid military applications. Gotta love that irony.

And it wasn't unusual to see unusual characters show up with more exotic requests or ideas. A great example is the time a noted physicist and his psychic sidekick came to Atari seeking help with Mindlink, their ESP-based game concept. The physicist was an interesting character: he was an extremely tall and thin man with a mop of sandy hair and bottle-bottom glasses. The psychic was short and muscular with an extraordinarily ordinary bearing. Together, they were quite a pair – the long and the short of it.

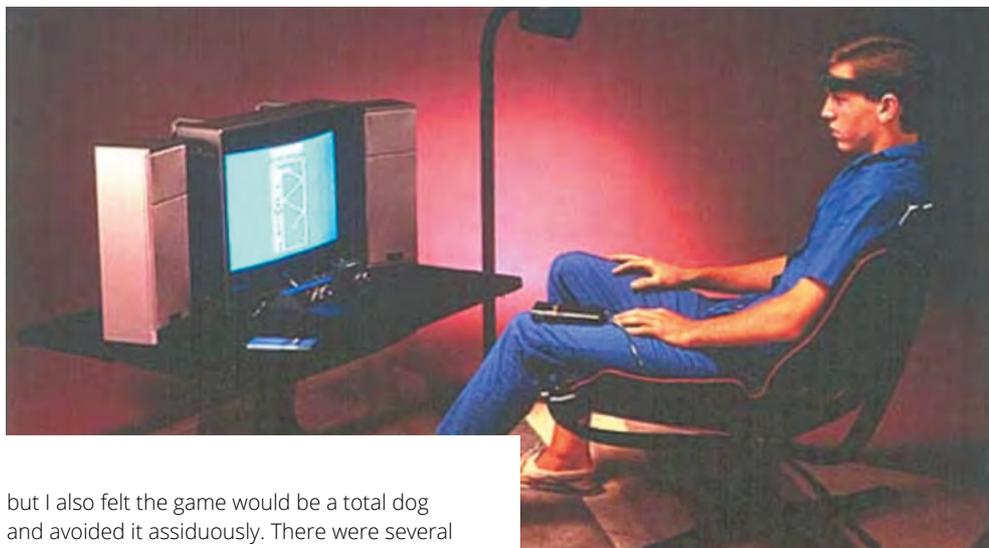
The physicist specialised in paranormal phenomena, and the psychic had apparently proved himself by accurately predicting movements in the silver market for several months (which may have been the source of their initial funding). They wanted a game that used, tested (and ideally developed) psychic abilities, and they hoped Atari could help them move forward with it. The whole affair had a decidedly *Last Starfighter*-esque quality. After reviewing many video games, they came to me because they felt my games were "the most visually generous." I found the concept intriguing and was flattered to be chosen for such an opportunity,



▲ Designed as a way of teaching military personnel how to operate a real tank, the *Bradley Trainer* was an adaptation of Atari's 1981 arcade game, *Battlezone*.

▼ Atari spent several years experimenting with holography; the Cosmos tabletop game system was the result. Briefly shown off in the early eighties, it was never officially released.





◀ Another unreleased Atari experiment, the Mindlink system would have brought controller-free gaming to eighties living rooms.

but I also felt the game would be a total dog and avoided it assiduously. There were several times like this, where I saw a project coming and abruptly turned away. But not *E.T.* – I really tied myself to the tracks for that one.

## OPEN YOUR MIND

The Mindlink episode was an example of how Atari did not change the world. Of course, Atari didn't need anyone else's help to not change the world. There were developments and explorations inside Atari which also failed to move the cultural needle, like the holography lab.

Atari created the greatest holography lab the world had ever seen, at a time when everything seemed to be moving in that direction. Once the lab was established, there was the issue of what to do with it. In previous writings, I've mentioned my 'Shower with the Stars' brainstorming proposal (see issue 29). It might have revolutionised the entire personal hygiene industry! Alas, we'll never know.

Atari also spent an enormous amount of time and money trying to create a handheld digital dictionary. They hired a high-profile scientist to commute from Southern California and create this innovative piece of handy tech. Nowadays, everybody carries one around all the time, but 40 years ago this was a breakthrough concept.

Atari changed the world, for sure, but not in every way it tried. Even in the world of video games, Atari was late to the market with a next-gen system (which was really a warmed-over version of last-gen tech), so the 5200 never really took off the way it needed. These were nice ideas and they gave Atari places to throw some of the money with which it was being inundated, but none of these projects ever produced much value for the company.

Sometimes we're born to greatness, and sometimes we accidentally stumble into greatness when we're really looking for a restroom. Then there are times when greatness comes crawling to our door, begging us to let it in... and we laugh, slam the door in its face, and send greatness packing. This happened many times at Atari. Let's review some of the tech innovations Atari refused along the way.

### **"One day the US Army showed up on the doorstep"**

Ever hear of spreadsheets?

The makers of VisiCalc came to Atari with the first prototype spreadsheet. Who needs one of these? I can add. It didn't take long to reject these people.

After all, they weren't even displaying graphics in their 'groundbreaking' project. Interestingly, they ended up releasing it on the Apple II.

And there was the time late in the game (so to speak) when Nintendo offered Atari the exclusive rights to distribute their NES game system in the United States. After some unsuccessful negotiations and a bit of paranoia, Atari rejected them, too.

Then there's the pièce de résistance: can you guess where Steve Jobs and Steve Wozniak worked just before they opened Apple? Yup, that's right: Atari. They offered Atari their home computer, but nothing doing. Atari was too smart for that.

One could do an entire series on the big ideas that Atari walked away from. Oh well, we all miss now and then. I guess it comes down to a couple of famous quotes: the unattributed, "Genius must be allowed to fail." And the golden maxim of Hollywood: "No one ever got fired for saying 'no.'" 🍷

## Boom and bust

One of the interesting ways Atari changed the world was by legacy. It took some 10,000 employees who all understood what it was like to work at a company that can literally change the world, and spread them all over the tech industry. One of the key inputs enabling the dotcom boom (and bust) was the legacy of these 10,000 seeds, each one looking to sprout a second round of economic lightning strikes. How many people fell down a rabbit hole while following an ex-Atari dreamer?

# Using grids to design game cities

How shaping road networks can  
bring structure to your game cities



**AUTHOR**  
**KONSTANTINOS DIMOPOULOS**

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

**W**ith the transportation of goods and people being a fundamental, core urban function, roads are an essential element of all cities.

Roads and avenues determine urban flows, host parades and marches, are packed with human activity and traffic, keep economies breathing, and shape urban form from the macro level all the way down to the size and geometry of the atomic civic unit: the city block.

## THE MIGHTY GRID

When people think about city blocks, they generally imagine a rectangular space delineated by four streets. Why is that? Mostly because these are the shapes grid layouts produce, and the grid has been the most widespread street pattern, both historically and geographically. At its simplest, it consists of a network of horizontal and vertical roads intersecting each other at

90-degree angles, and is often also referred to as the checker-board or the gridiron.

Being a set of perpendicular lines, the grid is easy to design and expand, while also ensuring the equal distribution of land. It even makes plot parcelling effortless, usually by implementing a smaller grid within each block. But neither the grid nor any other urban form can ensure an egalitarian society. Form, you see, doesn't define function. Straight lines are convenient when it comes to defence and policing too, and equally sized plots can be planned with real estate instead of equality in mind.

Historically, the grid was a common characteristic of most Roman cities, of European colonial settlements around the globe, and of the new cities the ancient Greek metropolises spawned around the Mediterranean. In Greece specifically, the grid was known as the Hippodamian system, named after Hippodamus of Miletus and his orderly city layouts, intended to embody a rational social order. Much older grids discovered in ancient Giza were likely meant to support pharaonic social order, and we know that many modernists believed grids could help liberate cities from cumbersome tradition.

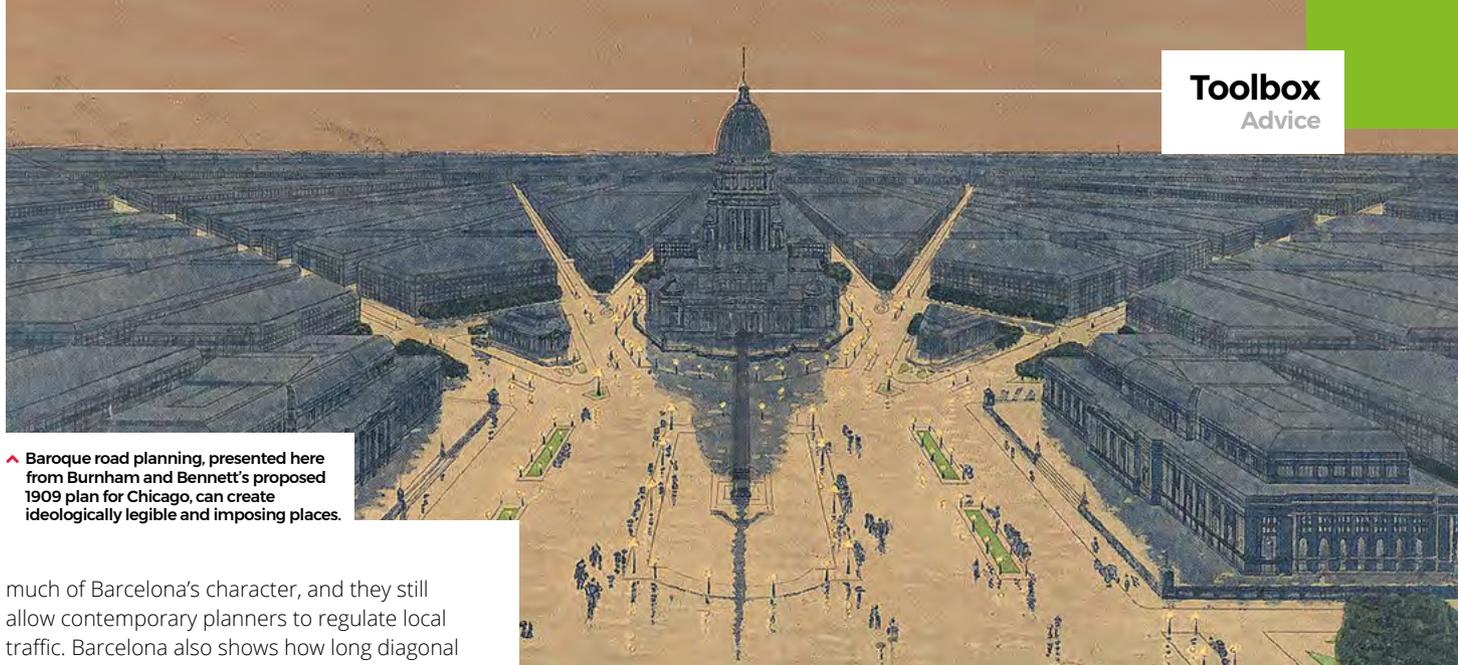
A grid doesn't have to be uniform. The roads of the typical Roman city weren't all of equal size and importance – the Decumanus Maximus and the Cardo Maximus were the dominant arteries – whereas both late medieval and Renaissance grids experimented with all sorts of harmonies and rhythms. The length of each block was sometimes derived from the diagonal of the one preceding it, and was rarely a perfect square. Not that perfect squares didn't inform

## Urban Patterns

There are several books and essays on the shape of the city and its road networks, but few can compare with Spiro Kostof's seminal *The City Shaped*. This insightful, brilliantly illustrated, exhaustive tome is an essential read for anyone wishing to understand how cities are formed, and how to decipher their patterns.



▲ Figure 1: The grids of New York City, as presented in the 1807 Commissioner's Map.



^ Baroque road planning, presented here from Burnham and Bennett's proposed 1909 plan for Chicago, can create ideologically legible and imposing places.

much of Barcelona's character, and they still allow contemporary planners to regulate local traffic. Barcelona also shows how long diagonal roads intersecting a grid can fit in. Taking a look at a 19th-century plan of New York (Figure 1), meanwhile, not only reveals another major diagonal road, but also how differently oriented grids can interlock with each other. Even on flat terrain, politics, history, and indeed rivers can modify layouts.

Then again, grids are incredibly flexible and adaptive anyway. They can work in democratic egalitarian systems or despotic monarchies equally well. They rearrange themselves to fit within any type of boundary, curve and bend as topography dictates, climb hills, extend over lakes, align with waterfronts, and can be combined with other urban patterns (Figure 2).

Such qualities are handy when it comes to designing cities for games. Not only is a grid easy to conceptualise and design, but it can be adapted to your line of sight, game engine, or other design needs. Changes in block shapes and sizes can help differentiate game districts, while grids also lend themselves to several layers of abstraction and simplification.

## OTHER SHAPES

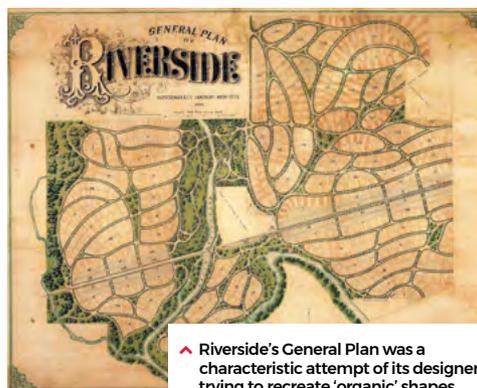
Versatile as they might be, grids aren't fitting for all purposes, nor are they the only option available. They aren't, for example, as effective as the baroque plan when it comes to emphasising a city's power structure: the baroque is characterised by long boulevards radially emanating from squares, symmetry, and an obsession with geometrical shapes, and is ideal for showing off majesty and strength. It uses high ground to emphasise its monuments, and it often perceives the city as a theatrical stage and elegant diagram. Saint Petersburg, Washington DC, Paris, and Rome are all packed with baroque elements that still define their form.

The perception of the city as a diagram isn't exclusive to baroque design. Many strains of modernism are also fascinated with triangles,

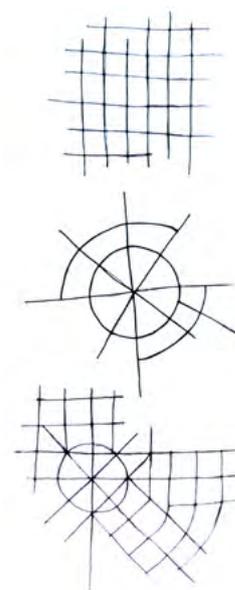
ovals, semi-circles, and a radial emphasis on centres and sub-centres. As for the modern ring road, it's often the result of functional traffic concerns, and originates from the more or less circular roads that substituted demolished city walls across Europe. Geomatic street designs – roads arranged in mystical or theological patterns – connections between points in a city, and detours around major buildings can all add interesting shapes to a city's map.

Finally, there's the notion of the organic street plan. It's a pattern that spontaneously emerged on its own, and is often used to describe the maze-like, twisting streets of old cities in Europe and the Arab world. And though replicating something almost magical and seemingly random

is essentially impossible, realising that so-called organic street plans are the result of pre-existing layouts, larger and smaller planning choices, historic changes, defensive needs and so on, means that a believable medieval city plan can be convincingly recreated. Note that the specifically designed, sinuous shapes found in suburban cul-de-sacs and garden cities are also often described as organic. 🌿



^ Riverside's General Plan was a characteristic attempt of its designers trying to recreate 'organic' shapes.



^ Figure 2: Three common types of road networks – the grid, the radial system, and mixed type.

## Geometrical Concerns

When designing roads, whether virtual or real, we have to think beyond the overall shape and logic of their network. The way road geometries are constructed also determines how vehicles and pedestrians use them, and aspects such as road widths, slopes, curves, and visibilities have to be taken into account – especially if the physics of driving are to play an important gameplay role.

# Make a dungeon puzzle game in PuzzleScript

Learn a simple but powerful scripting language by making the block-pushing puzzler, Dungeons of Nabokos



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



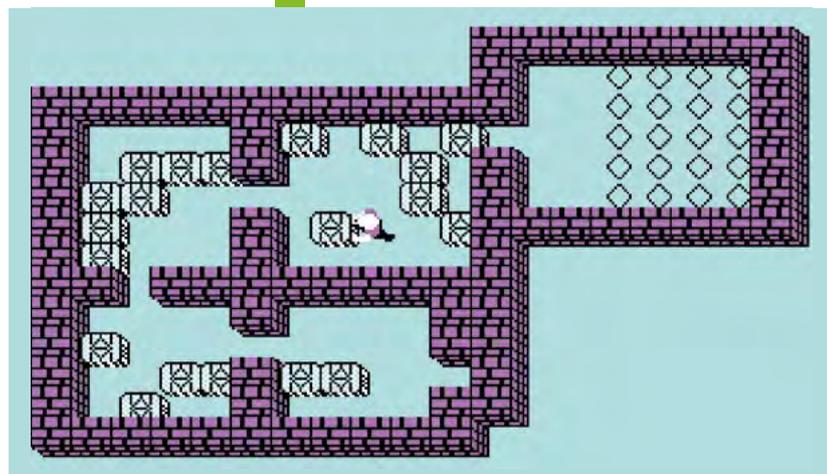
**S**okoban was designed by Hiroyuki Imabayashi and originally published in 1982 for the NEC PC-8801. It proved to be an incredibly popular and influential puzzle game, and thanks to its elegant concept – which involves pushing crates around maze-like levels and onto specific storage locations – *Sokoban* is now rightly regarded as a classic. It's the textbook example of a puzzler that is easy to learn and hard to master, and its mechanics have since found their way across multiple genres and countless gaming platforms. Here, we'll make our own take on *Sokoban* in a browser-based platform called PuzzleScript.

## THE FIRST STEPS

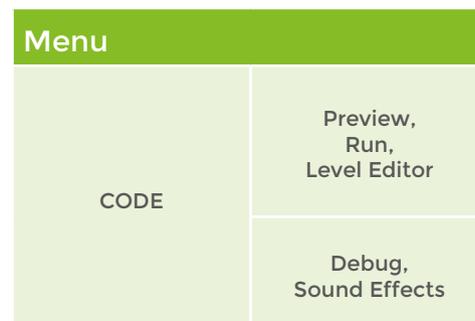
PuzzleScript is a free, open-source, beginner-friendly puzzle game engine you can play with in the comfort of your browser. As its name implies, it's a tool and scripting language you can use to puzzle games with, so recreating *Sokoban* using the PuzzleScript language is quite easy, as is trying out new ideas, devising fresh mechanics, designing your own levels, and sharing your creations. What's more, by keeping everything retro and low-res, PuzzleScript lets you work with simple yet chunky and visually pleasing assets. We'll try to keep things as simple as possible in this introductory guide, and hopefully, also appeal to people who despise the mere idea of scripting.

We'll start with the simple step of visiting the PuzzleScript website at [puzzlescript.net](http://puzzlescript.net). Playing some of the games featured on the site is a great way of seeing what the tool is capable of, as well

▼ *Sokoban*, the obvious inspiration behind PuzzleScript, pictured here in all its 1982, CGA-coloured glory.



▼ Figure 1: The standard PuzzleScript UI.





^ The levels of a PuzzleScript game don't have to be of a uniform size or shape.

as providing a source of inspiration for your own game.

In this guide, we'll make a simple puzzler comprising four levels, which sees a wizard trapped in a dungeon with a useless, out-of-power staff. The wizard's aim is to reach the exit on each stage; impassable chasms litter the dungeon floor, though, and will need to be bridged by pushing boxes over them.

Following this guide will give you a grounding in the basics of PuzzleScript, and *Dungeons of Nabokos* is designed with expandability in mind, which means you can use it as the foundation for a completely new game. With that in mind, let's get started.

## A SIMPLE INTRO

To begin coding, click the Make A Game button in the PuzzleScript main page, and you'll be transported to the engine's editor. As shown in **Figure 1**, the main interface is broken up into three resizable windows and a menu bar. The menu bar at the top lets creators save and load projects, explore scripts, run games, rebuild them, and of course, export and share their creations. The main window on the left-hand side of the screen is the editor where you'll be doing your coding and scripting. The top window on the right-hand side of the screen is where you'll preview and play your game, and also where the level editor can be accessed. As for the window below, this is reserved for PuzzleScript's logs, debugging, and, oddly, where semi-random sound effects can be generated. This is also referred to as the PuzzleScript console.

**Figure 2**, on the other hand, shows the structure of the typical PuzzleScript file. It consists of eight sections, which we'll tackle in order while coding *Dungeons of Nabokos*. But first, make certain that the text editor's previous content has been deleted, and start by typing the following:

```
title Dungeons of Nabokos
author The Wireframe Readership
noundo
```

**“Recreating Sokoban using PuzzleScript is quite easy”**

This is how most PuzzleScript games start – with an introductory section of the script commonly described as the PRELUDE. Here the title and author of the game are stated, and certain options are set. In our example, the game is called *Dungeons of Nabokos*, and we state that it was made by The Wireframe Readership. I also added the **noundo** command, which disables the undo key

(Z), which will mean that players won't be able to brute-force their way through puzzles.

Other options that can be part of this section are **flickscreen (width)x(height)**,

which allows for the creation of larger levels of interconnected screens; **color\_palette**, which lets you pick between 14 different predetermined palettes including C64, Amiga, and EGA; **zoomscreen**, which zooms the camera and centres it on the player.

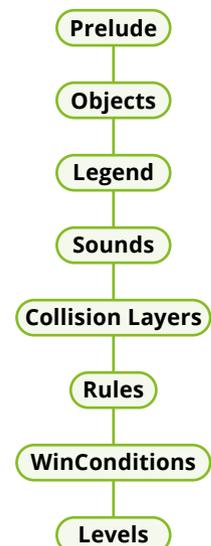
## CREATING OBJECTS

To work on the actual game, we first need to declare its objects in the Objects section of the PuzzleScript file. Everything that will exist in-game, such as the player avatar, enemies, traps, walls, exits, decorations, backgrounds, and hazards must all be declared here. Thus every object has to be named and provided with a graphical description. An object description takes up a minimum of two lines, with the first one being the object's name, and the second its colour. Should the object be presented as something other than a solid coloured 5x5 box, lines 3 to 7 of its description will feature the 5x5 matrix of its sprite. Every object in PuzzleScript, you see, is represented by a sprite that is five chunky pixels wide by five pixels wide, and a different colour value can be assigned to each pixel of the grid. At its simplest, a solid green object called Lawn could be defined like this (note that this isn't part of our final game code):

```
Lawn
green
```

Instead of using a colour name such as black, grey, purple, dark red, red, yellow, a colour's →

v **Figure 2:** The structure of a PuzzleScript file is simple, effectively unchanging, and divided into eight distinct sections.



## HACKING!

The vast majority of PuzzleScript games come with a 'hack' link. Click it, and you'll be granted access to the game's complete code, where you'll be able to see how tricks were pulled off and how complicated mechanics or rules were implemented. Peeking at the work of others is, after all, a fine way of learning.

# Toolbox

Make a dungeon puzzle game in PuzzleScript



^ Figure 3: The sound buttons, and some examples of generated sounds. The 'X' button on the left clears the console.

hex code can be used. Multiple colours can be used for a single sprite, too. These, as above, are defined right under the object's name in the second line, and are indexed from 0 to 9. A simple dot '.' represents transparency. And, here's how to make a simple robot (again, not a part of the example game code):

### Robot

```
grey red yellow
.000.
.010.
00100
20002
.0.0.
```

Keeping names simple and descriptive will help you when scripting. Also note that, generally speaking, one object called Background and one called Player are in most cases mandatory. The objects needed for our game here will be Background, Player, Chasm, Wall, Bridge, and Exit. The code that defines them and is meant to be entered after our already typed-in Prelude is as follows:

=====

### OBJECTS

=====

#### Background

gray

#### Chasm

darkred black

01010

10101

01010

10101

01010

#### Wall

darkgray

#### Player

darkbrown pink yellow



^ Vertebrae (playable at wfmag.cc/vertebrae) is one of the most visually elegant PuzzleScript offerings, and an example of what can be achieved in the platform.

.000.

2010.

10001

2000.

00000

### Bridge

darkbrown brown

00000

01110

01110

01110

00000

### Exit

yellow red black

00000

01110

01210

01110

00000

## THE CRUCIAL LEGEND

The freshly created objects are for now unusable. They can't be placed in the game, and this is something that the second part of their definition in the Legend section of the file fixes. Each object is assigned a single character that will represent it in the level design phase, and allow it to be entered into the game.

=====

### LEGEND

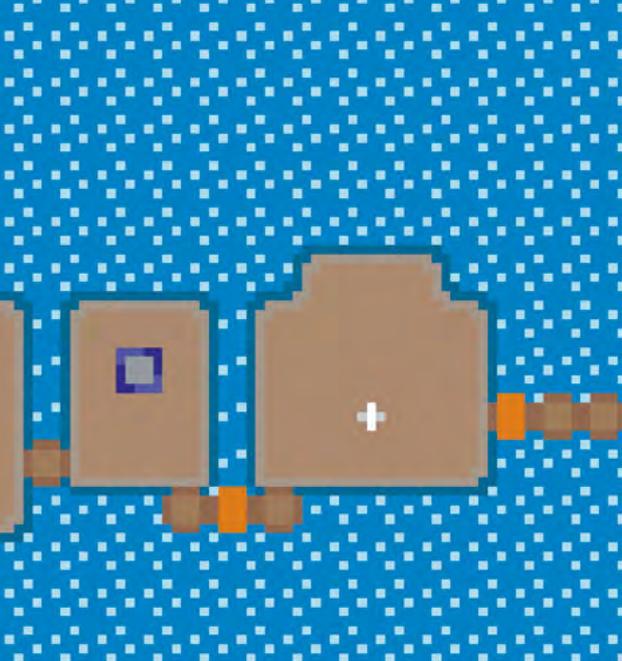
=====

. = Background

# = Wall

## GOOD PUZZLE DESIGN

Among the countless high-quality articles and videos on puzzle design, *What Makes a Good Puzzle?* by Game Maker's Toolkit shines as a pithy, accessible, and quite frankly excellent introduction to creating satisfying puzzles. You can watch it on YouTube at this link: [wfmag.cc/good-puzzle](http://wfmag.cc/good-puzzle).



- P = Player
- \* = Bridge
- C = Chasm
- e = Exit

### SIMPLE SOUNDS

Now take a look at the console window of the interface – it’s the one on the lower right of the screen (as seen in **Figure 1**) – and you’ll notice a set of icons. These are the sound buttons (**Figure 3**). Click on one to hear an appropriate sound effect, and you’ll see a number displayed in the console. Copying and pasting these numbers in your code, and coupling them with an event, will play the specific sound effect whenever said event occurs in the game. The sounds of *Dungeons of Nabokos* will be pretty basic:

```
=====
SOUNDS
=====
endlevel 50402709
Player move 11122106
Player cantmove 60711104
Player action 95877703
```

The events each sound has been assigned to here are hopefully self-explanatory. As for the player action, this is what happens when the ‘X’ button is pressed. In an effort to keep the code brief, I haven’t assigned a mechanic to the X button – a noise simply indicates that the wizard’s staff is out of energy whenever it’s pressed. You could always assign your own mechanic to the X button later, though, if you want to.

### LAYERS AND COLLISIONS

The next step is to place our objects on layers in the Collision Layers section, thus defining which object collides with which, which objects are on the same level, and whether something is above or below something else, as well as the order in

which things will be rendered on screen. Layers are crucial in PuzzleScript, as they resolve the movement of objects; two objects can’t occupy the same space on a layer.

Note that ‘Background’ is a mandatory layer, and one that must be placed below everything else. Also note that the last layer typed is the uppermost and that layers are not named – they’re simply defined by the objects they include. In our game example, the background is the dungeon’s floor at the very bottom; above it lies a layer containing only the exit on which players can move, and on the top, we have the walls, the bridges, and the chasms. This means that chasms are impassable. Had we wanted them to kill players that moved onto them, we would have to move them to the second layer (and added the appropriate Rules).

```
=====
COLLISIONLAYERS
=====
Background
Exit
Player, Wall, Bridge, Chasm
```

### DEFINING GAMEPLAY

The heart of the game is scripted in the Rules and WinConditions sections. These describe how things work, and how levels can be beaten. Rules, in particular, are all about patterns or situations, and how they have to be changed when encountered. Their general syntax is [Pattern 1] -> [Pattern 2]. That is, they have a left and a right side separated by an arrow. Whenever the engine recognises occurrences of Pattern 1 on the left side of the rules, it changes them to match Pattern 2 on the right side of the rules. So, here’s how the game would describe the movement of the traditional *Sokoban* box which moves when pushed by the player’s sprite (again, this isn’t a part of the example game code):

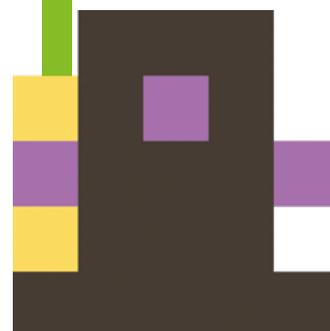
```
[ > Player | Box ] - > [ > Player | > Box ]
```

The pattern on the left translates to the player moving towards a box – the ‘>’ symbol is a directional arrow indicating movement towards something, while the ‘<’ would indicate movement away from something. The pattern on the right translates to both the player and the box moving together in the same direction. ➔

### SPIKES ‘N’ STUFF

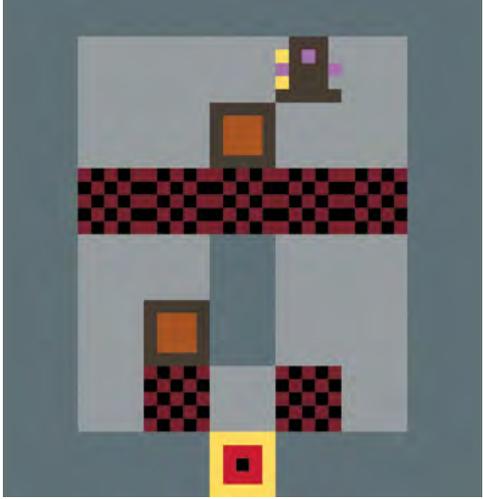
Created by Alan Hazelden, *Spikes ‘n’ Stuff* is a fantastic freeware puzzler created with PuzzleScript, and, not unlike our game, is set in a deadly dungeon. What’s more, it’s one of those games that will happily share its inner workings with you. Play the game and check out its code at [wfmag.cc/spike-stuff](http://wfmag.cc/spike-stuff).

▼ 25 pixels do not allow for much detail. Still, I can’t help but love my little ineffective wizard.



# Toolbox

Make a dungeon puzzle game in PuzzleScript



^ The first level of the game was designed to be accessible, brief, and to also provide some challenge.

puzzle games, the quality of their level design is key, since it restricts and dictates movement, controls difficulty, teaches the game's underlying logic, and can even provide a story arc.

Getting into the details and theory of puzzle-focused level design is beyond the scope of this article, but let's look at a few helpful pointers. Most importantly, we want players to understand what each puzzle is all about; in this case, reaching the

**“Keeping names simple and descriptive will help you when scripting”**

exits. The puzzle pieces – bridges and chasms here – should stand out, and the ways they interact with each other need to be clear. Players must know our rules and then, via less obvious ways as levels progress, reach an increasingly satisfying solution. Even the most complex puzzles should be relatively easy, and seemingly impossible puzzles must still feel solvable; a well designed and truly tough puzzle should, when looked up in a walkthrough, make players feel silly for not having figured it out by themselves.

Designing levels in PuzzleScript is simple. Using the assigned Legend characters, we can create levels of all sizes and configurations. Each character will stand in for an object, below which a background object will be automatically generated. Every level is then separated from the previous one via an empty line in the editor, and all levels are accessed serially. The first one in your code will be the first one players will get to experience.

Interestingly, messages can be displayed between levels, and there's also a graphical level editor tool, which I don't really enjoy using, but I've noticed that many of my students tend to favour it. To access it, click on the Level Editor link in the top menu and the game window will switch to editor mode. Left-clicking on the new toolbar that appears will now select the available objects; left-clicking on the levels themselves will place said objects on them, and right-clicking will delete them. Pressing the S button of the editor's toolbar will save your changes to the console window

Another pattern could be three blue boxes that are brought to stand next to each other. To change them into yellow ones in this case, provided all objects have been properly defined, one would need to type something similar to the following:

```
[BlueBox | BlueBox | BlueBox] -> [YellowBox | YellowBox | YellowBox]
```

To check whether two boxes are standing next to each other and make them disappear, try this line:

```
[Box | Box ] -> [ | ]
```

... and if you want things to overlap, use a syntax similar to this:

```
[Player Trap] -> [DeadPlayer Trap]
```

As for *Dungeons of Nabokos*, what we have is a couple of simple rules allowing players to push bridges into chasms to make them crossable. Essentially, when a bridge is pushed into a chasm, the latter disappears.

```
=====
RULES
=====
[ > Player | Bridge ] -> [ > Player | > Bridge ]
[ > Bridge | Chasm ] -> [ | ]
```

Another important rule is the one defining when a level has been won; the win conditions, which when satisfied, will lead players to the next level. In our game, when players hit the exit tile, a level is successfully over. Other win conditions could include states such as 'No Chasms' or 'Some Bridges on exit'. Keep in mind that win conditions can be combined, in which case, all of them have to be satisfied for players to progress.

```
=====
WINCONDITIONS
=====
All Player on Exit
```

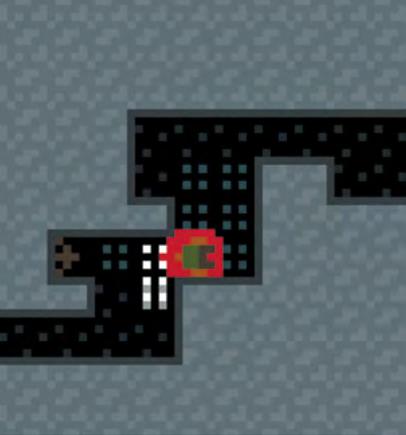
## LEVEL DESIGN

With the mechanics of our game in place, we can now organise the spaces for players to interact with our rules and objects. When it comes to

## THE ACTION BUTTON

We didn't really use the action button [X] in our example game, mainly due to it usually demanding more assets, and slightly more intricate code. Generally speaking, though, use of the action button can add an extra layer of complexity to your game, while mechanically functioning more or less like another directional input. For example [ Action Player | Chasm ] -> [ Action Player | Bridge ] would allow players to press X to bridge any chasm.

♥ Bloody death awaits careless dungeoners in Spikes 'n' Stuff.



below, from where they can be copy-pasted into the core script of your game.

There are four levels in our example game. It includes an introductory puzzle, a short puzzle-less sequence, a longer and more complex puzzle, and finally a relatively difficult one. Here's the last part of the code:

```

=====
LEVELS
=====

message Move the bridges onto the void! (an
unexpected, obviously incorporeal voice says)

message Also, your wand seems to be
malfunctioning here. You'll probably have to
use your physical body.

#####
#P...#
#...#
#CCCC#
#...#
#*#...#
#.C.C.#
###E###

message Catch a breath... (the voice adds)

#####
....P.
.....
E.....
#####

message ... (the voice seems to have gone
silent. Or away)

#####
...C...CC...CCC.....
E...##...C...CCC...*...*.
...##...C...CCC...*...P
...C...CC...CCC.....
#####

message Ah! You are a good one! (the voice
notes in a rather bored tone)

#####

```



```

#...C#
#C*P..#
#C...*#
#**CC#
#..C#CE
#####

message Congrats! (the voice says, and you can
feel it fly away)

message ~ The End ~

```

^ *Baba Is You* has its roots in *Sokoban*, but it pushes the mechanics into imaginative and enthralling new arenas.

### DISTRIBUTING

Having finished with the first version of our game, we can save it by clicking the 'Save' link in the top menu, which will store it in the browser. Other options include exporting the game as an HTML file, ready for emailing or uploading on the portal of your choice, and also sharing it via GitHub. You can also copy your complete script, and then paste and save it as a TXT file.

If you're thinking of extending, polishing, renaming, or generally experimenting with *Dungeons of Nabokos*, please feel absolutely free to do so. If I were to turn it into a full game, I'd start by improving the graphics, adding more detail to the backgrounds and single colour objects, and by expanding the game's scope with more levels. I might also consider introducing an enemy or two, and with them, new mechanics, most probably making use of the action button and the wizard's staff. You could even place these new mechanics in a thematically different set of dungeons, and top everything off with a final boss puzzle to give the game a dramatic finale.

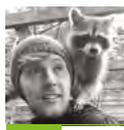
So there you have it: a simple block-pushing puzzler in just a few lines of code. You can download the full listing – and play the finished game – at [wfmag.cc/wfmag42](http://wfmag.cc/wfmag42).

^ *Sokoban* has appeared on all kinds of systems, with radically different presentations in each. Pictured here: the Apple II edition.



# Starting an indie narrative studio

Ever thought of going indie? Danger! There's a trap awaiting you. Here's how to avoid it



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

Antony is Wireframe's game writing and narrative design columnist. He's also creative director of Far Few Giants. You can find his work on [default.games](#), or see [@antony\\_de\\_fault](#) on Twitter.



▲ Note how simple the relevant part of this interface from *80 Days* is: white text on black, a map background, two character images.

▼ *The Night Fisherman* is an anti-racist game we accidentally launched the morning of George Floyd's death. It was a weird time, but it resonated with people.



**B**ack in 2018, my friend Chard and I started Far Few Giants. Our big idea was this: we'd make something using simple, stylised art and animation, but where the gameplay was mostly text. Like *Subsurface Circular*, we wanted to punch above our weight by making the most of a small amount of very polished art, then layering text-based gameplay over the top. The game would screenshot/GIF well, and be quick to produce a substantial amount of gameplay for since it was all text. Our sights were set on publishers, since Chard had spent a lot of time researching what they wanted and how to approach them. A publisher would pay our wages to make a full indie game over

a year or two, something a few hours in length, then we'd move onto a second, slightly larger project and repeat. Easy peasy.

## THIS WAS A TRAP

It turns out that unless you post a GIF one day that gets 100,000 likes out of nowhere, the chances of which are *laughably* slim, you're going to have to do six to twelve months worth of work *minimum* before a publisher thinks seriously about your narrative game. Indie publishers look at thousands of games every year, and sign maybe 0.2% of what they see. The few games they do sign are mostly already years into development, with the team having survived thus far on savings or family support. Those that don't get astronomically lucky go bust, with nothing but thousands of hours of work on a prototype that's unprepared for public release, so never sees the light of day. The developers walk away with absolutely nothing to show for their work. This is more or less what happened to us.

Luckily, we did just about well enough to warrant a second chance, and a local government funding body stepped up to give us enough runway for another shot. This time, we've been putting a very different plan into action. What if, instead of gambling a year away on catching a publisher's eye, we made eight to twelve tiny narrative games? We'd put them out for free, and if one of them blows up, then great, we talk to publishers about it. But if not, we walk away with a bunch of shipped games under our belts, a much bigger audience, and far better personal prospects for getting hired. What if?



## THE CASE FOR SHORT GAMES

People have a huge number of games in their library, and masses of free games exist online. How do you carve out a space for your work in someone's day? One answer: be short! People don't get to those backlogs because, although they might have 30 minutes to kill right now, who knows whether they've got the time to actually get into the meat of the game? Who knows if they'll even reach a save-point in that time? So by making something that only lasts a fulfilling five or ten minutes, your tiny game can compete with those massive libraries, because you're solving a dilemma the others don't: the commitment problem.

Narrative games lend themselves well to the short format, since generally the technical complexity of an individual scene in a narrative game is very low, much less than in other genres. In *80 Days*, an interactive fiction about travelling the world, a conversation scene is very simple: it's some moderately branching text, with a few still images in the background, then some UI and accompanying sounds. If you limited yourself to a single, impactful conversation with one character from *80 Days*, it could be recreated by a scrappy indie in a day or so without a drop in quality.

## WHY NARRATIVE GAMES?

In *Overcooked!*, a co-op game about running a ridiculous kitchen, getting just *one* great level of gameplay requires almost all of the design and programming work. The movement has to feel fun and requires a ton of iterations, it needs animation, it needs controller and multiplayer support, it needs the scoring system, the UX and UI need to be smooth, the sound has to be juicy, and so on.

Hopefully, you can see why narrative games are an especially good fit for releasing short ten-minute experiences frequently, as they have comparatively low up-front complexity. You

can make a really compelling short experience with only some good writing and a palmful of attractive audio-visual assets.

## EARLY RESULTS

So, we're trying it. We put out *The Night Fisherman* and *The Outcast Lovers*, each a single conversation with minimal, stylised graphics. They took between one and three weeks to make, and we have a bank of other games we made in short bursts waiting to be released over the next eight months. People have said that our games "say more in ten minutes than most do in ten hours", and that's very intentional. We pride ourselves on hitting you hard within less time than it takes to have a tea or coffee, and when it's done, you go about your day. Immediately our follower counts have bloomed, we've received flattering praise on Steam, got brigaded once by 4chan, we've attracted publisher interest, and we've had coverage in most of the major gaming news outlets. The proof will be in the pudding, so we'll have to wait and see whether this approach catches on. But for now, we've made more progress in a few months than we did in years. 🍷

▲ *Ring of Fire* was the game we pitched unsuccessfully to publishers. We'll finish it one day.

## Narrative vs scaling

In *80 Days*, as I say opposite, a single scene has very low complexity overheads. However, when you need new art, new sounds, and new writing for over 170 cities, each with their own characters in the game, further multiplied by the fact that there are tons of interactions that vary depending on choices made earlier in your trip, then production becomes orders of magnitude more complex in terms of the underlying tech and structure. It becomes at least as complex if not more so than other genres. Bear this in mind before committing to your lengthy interactive fiction magnum opus.

▼ *The Outcast Lovers*, our second attempt, featured a few more characters, a new camera mechanic, and a whopping two (two!) environments.





# Squeezing WarGames onto the Sony PlayStation

How the Oliver Twins managed to fit WarGames: Defcon 1 onto Sony's debut console



**AUTHORS**  
**PHILIP AND ANDREW OLIVER**

The Oliver Twins have been making games since the early eighties, and can now be found at their new consultancy firm, Game Dragons. [gamedragons.com](http://gamedragons.com)

**A**s Sony entered the console market with the PlayStation in 1995, Hollywood film studios were beginning to take video games more seriously. Rather than license their properties to game companies, as they had been doing up to this point, many of them started their own interactive divisions to produce and publish titles themselves.

Robb Alvey was a former producer at Virgin Interactive and had just moved to the film studio MGM, and saw the potential of using the *WarGames* film license for a real-time strategy game.

He was good friends with our agent Jacqui Lyons and was sent the pitch for a game we'd been working on at our company, Interactive Studios. Called *Conquest*, it was a space-based RTS in the vein of the hit *Command & Conquer*. Alvey asked if we could make a proposal for a ground-based strategy game based on *WarGames*. We loved the movie – it was definitely a film for computer geeks of the eighties – and so we jumped at the chance.

Released in 1983 and directed by John Badham, *WarGames*

follows a young hacker who unwittingly accesses War Operation Plan Response (WOPR), a United States military supercomputer. We took the film's back story as a basis, but moved it slightly into the future. In our game, WOPR has taken control of factories and created its own arsenal, resulting in a war scenario akin to the original *Terminator* movie. MGM liked the premise, and saw there was even a possibility of a movie sequel based on the idea. They talked to Badham, who liked it and said that he'd rework the script and wanted to be credited on the game. Badham is credited on the game, but we never received that reworked script.

The first version of the game we pitched was for PC, with tanks, jeeps, mechs, and troops all based on a full grid-based rolling terrain that players could zoom, scroll, and rotate around with mouse control. Once this got underway, MGM asked if we could produce a PlayStation version. Clearly this lacked a mouse and would be played on CRT TVs with much lower resolution and rendering capabilities than a PC, and so adapting the concept to a relatively new console would prove something of a challenge.

It took a lot of design work and experimentation to get the controls of multiple units feeling natural with a PlayStation controller. While we played with the idea of group selection around a cursor, it felt wrong to try and emulate

▼ *WarGames: Defcon 1* emerged for the PlayStation and Windows in 1998.





◀ All of *WarGames'* graphics had to fit in the PlayStation's 1MB of VRAM.

the PC's functionality on a console. Instead, we arrived at the principle that you controlled each unit directly until you switched to another unit. AI would then take over and follow the last simple command you gave:

Attack, Retreat, Defend, or Follow. So typically, at the start of a game, you'd set a few units on attack, a couple on defend, and then jump into the driving seat of the lead attack tank. This gave us the right balance of console playability and strategic gameplay.

In the next section, Andrew Oliver explains how he got to grips with making a 3D game for the PlayStation, and cracking *WarGames'* tricky AI.

## GETTING TECHNICAL

The PlayStation was programmed in C. SN Systems, a small development business comprising just two people, created the PlayStation's programming environment using the GNU open-source C compiler for Windows 3.1.

When first programming the PlayStation, I was very suspicious of the code that C was producing under the hood. I'd lived a life of having to optimise everything, and suddenly I was writing in a high-level language – and while C is powerful and easy to read, I wasn't sure it was producing the most efficient code. I wrote small tests and disassembled the code to see what it had produced, and created a document for the other programmers of dos and don'ts for writing C code.

Sony had provided lots of demos and libraries. These were useful, but when it came to the heart of the graphics engine and formats, I looked at

theirs and then spent time optimising. I replaced all of Sony's libraries except sound and CD

handling. I wrote the main PlayStation game engine for *WarGames*, while Ian Bird wrote the gameplay and missions. John Whigham

and Richard Hackett wrote the PC version and helped massively with my understanding of 3D.

## DEVELOPING A 3D ENGINE

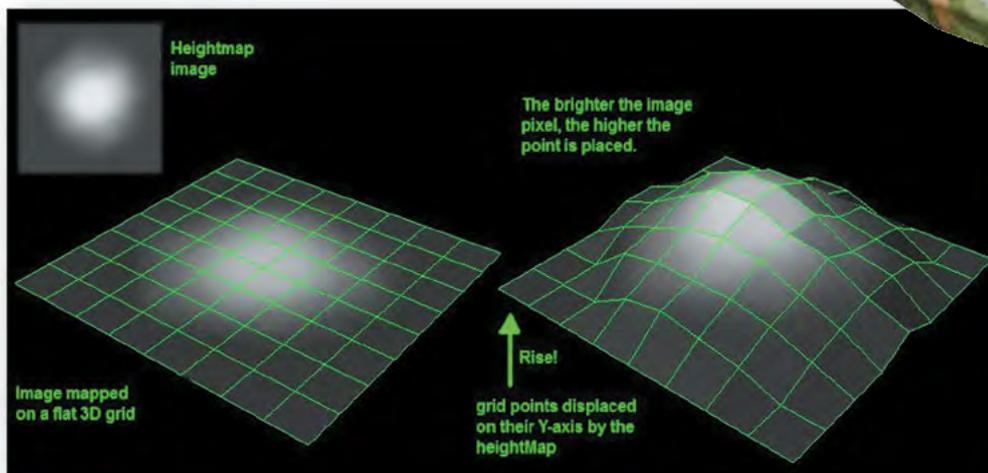
I'd been writing code for over ten years by the mid-nineties, but all that skill was built up in assembly language, and largely for 2D games. Sony had mandated that all games on the PlayStation were 3D, since this was the ▶

**“Sony had mandated that all games on the PlayStation were 3D”**

▼ *WarGames: Defcon 1* contained a total of 16 story-based missions.







◀ **Figure 3:** *WarGames: Defcon 1* used a simple height map system to create varied terrain.

✓ **Andrew programming *WarGames* back in 1997, when he still had most of his hair!**



the polygons nearer the camera on top of it, in order. The GPU would draw from the Z-sorted depth list, building the screen from the back to the front. To optimise the sorting, I pre-sorted each object within itself, as these polygons were, by their nature, all next to each other within a small Z-distance.

It's a simple process, but it can cause massive overdraw. For example, I'd print a large blue polygon across the whole screen to represent the sky, followed by the far landscape which would cover much of the sky, then coming forward I'd print more landscapes, buildings, and objects, and finally the screen overlays (HUD). What occurs is 'overdraw', where many pixels of the 640x480 pixel screen have been overwritten multiple times, which causes the game's frame rate to drop. This is often due to the GPU failing to draw all the polygons before the next game cycle is ready.

Sony produced a useful analysing tool which could snapshot the screen at the end of the frame and show how many pixels were overdrawn. The lighter the colour of the pixel, the more it's been written to (see **Figure 2**). We'd see what things had been completely obscured and come up with techniques to avoid this. For example, my landscape routine would store the lowest screen coordinate of its further edge, so that on the next draw, the sky would only print from the top to a few pixels below this point. This saved the GPU an expensive full screen redraw.

**“We estimated that we had a budget of 3000 polygons to create each frame”**

### HEIGHT MAP LANDSCAPE

The landscape was created using a simple height map system (see **Figure 3**). The landscape was divided into tiles, a little like a chess-board, which had an 8-bit indexed 'tile' type. I gave every point a height, keeping this to 8-bit as this variation was ample. If the landscape looked too flat, I'd just multiply all points by a constant. Technically, these points were the corners of the tiles (their nodes); therefore there would be 65x65 nodes.

This size was awkward to store and index, and it's this kind of thing that often causes bugs, so I just kept to 64x64 while the far edges (the

65th position) used the 64th's height. This was generally the sea, which was flat anyway.

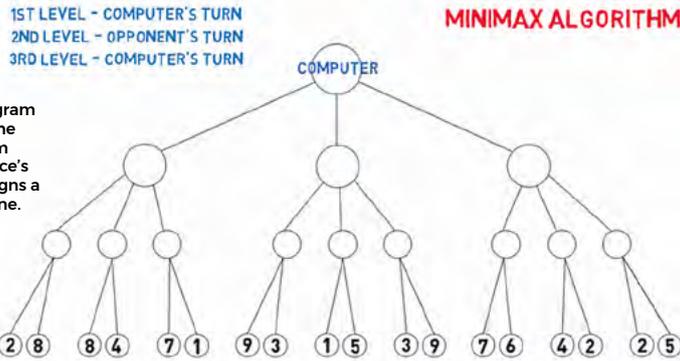
### AI AND ROUTE FINDING

An important part of *WarGames* was commanding units: jeeps, armoured personnel carriers, tanks, boats, and helicopters. Infantry units could also assist, but these were controlled by the computer rather than the player. Each unit type had its own strengths, weaknesses, and navigated the landscape differently. The game had to handle direct control and AI control of each.

When playing *WarGames*, players would start with a set of up to eight different units. Players would switch between each of the units and when in control, could 'drive' around with the controller. Players also had the ability to set a unit's AI between four basic states: Attack, Retreat, Defend, or Follow. As players left ▶

### SHADOWS

Shadows are important in games, since they bed objects into the world. However, with all the units possible on the screen, the complicated systems employed today were out of the question in *WarGames*. I therefore created a single polygon texture that could be rotated and printed in subtractive transparent mode underneath each unit, which darkened the area. It was simple, cheap on the GPU and CPU, and highly effective. Then we came across the issue of having WOPR units that are big mechanical walkers, so we created four frames of textures for these – effectively small GIFs.



► **Figure 4:** A diagram showing how the Minimax system works out a piece's moves and assigns a score to each one.



direct control of a unit, it would follow this basic command. This was done in a system similar to Chess AI, which always fascinated me.

The system is called Minimax (see **Figure 4**). It takes a single piece, looks at the rules that govern it (a bishop can only move diagonally, for example), tries every place it's allowed to go, and gives it a score. If it's left in a position of being captured, it's a low score, and if it's a position of capturing an opponent's piece then it's a higher score, depending on the value of the piece it can take. The algorithm also needs to run through every available piece to see if other pieces would score higher. If it were to execute the move based on the highest scoring position, then it would appear to make a sensible move. This assumes it's looking ahead one place. Using this system plays a decent game of chess against an amateur.

The system can also be adapted to look multiple moves ahead and consider the opponent's potential moves. The code's written

in a recursive manner, where it not only moves every piece and assigns a score, but also moves every opponent's piece between each move and calculates those scores too. The size of the scoring table and calculations go up exponentially, but the algorithm is able to hold its own against even the smartest chess player.

I decided to use this system to control units in *WarGames*, since it's relatively simple but creates a smart adversary. Like chess pieces, each unit has its movement rules and values for scoring. Jeeps move faster than tanks, but can't go up steep inclines and have less armour, so can take less damage before they explode.

Each unit would locate a grid space and work out possible moves, decide which scored best, and then set its sights on moving to that position. It would move in the most sensible direction to get to its eventual destination. As it crossed boundaries between grid spaces, it would set its location to that grid space. This blocked the space for other units coming into the same space and used far fewer calculations than adding a separate system for collisions between units.

Unlike chess, however, units in *WarGames* used ranged weapons and needed to get into a good position where they could fire on the enemy. So while the first system was used for navigation, a second system checked whether the unit could see an enemy unit to shoot at, and this added to its AI score.

After much debugging, I could see from the calculations taking place that the AI was working, but discovered a problem: in chess, the recursive nature of the algorithm means

▼ Do not underestimate the power of PlayStation. Or the Oliver Twins.



### THE PREDATOR TANK

Inspired by the 1987 Arnold Schwarzenegger film of the same name, the Predator tank had a cloaking ability that rendered it almost – but not quite – invisible. The effect was created with a small piece of code in the texturing mapping routine. When it was printing the Predator tank as it tried to get the VRAM coordinates for the texture of the tank, I'd pass the screen coordinates it was going to print to. Ordinarily, that would just print exactly what was already on the screen. But I'd add a small offset of up to a few pixels based on the depth – applying this meant you could see the 3D shape of the tank, and it looked like it was slightly glassy as it just distorted the background.

► The stealthy Predator tank, inspired by a certain eighties Arnold Schwarzenegger flick.



^ The team behind *WarGames: Defcon 1* - Interactive Studios, later known as Blitz Games.

^ Music and sound effects were produced by composer Tommy Tallarico (*Earthworm Jim*, *MDK*).

moves can take several seconds to calculate. *WarGames* was running real time at a constant 30fps, meaning that a complex recursive route-finding system would cause the game to stall when it did the calculations. I had a solution, or I thought I had a solution, whereby each frame the game would only calculate the AI for one unit. So if there were a maximum of 32 units in play, then every 32 frames, a unit would calculate its best destination. Even the fastest of units would take more than 32 frames to get to a previously desired destination. So this spread the calculations out to something more manageable for the processor.

In the heat of a battle, however, the AI was still slowing down considerably. I therefore took a novel approach: when games are locked to specific frame rates, you do all the processing for that frame, and then you wait for the next screen refresh. It was quite common on fairly empty screens, with only a couple of units, that the game could run every frame (60fps), but it would still wait for the second frame refresh (30fps). So I wrote a system where, instead of just waiting for the next screen refresh, it would start calculating the AI movement positions for the next units, until the screen refresh time arrived and then it would bail out and restart after the next frame had been processed.

Effectively, this processor-hungry routine now appeared to take no time off the processing. The game suddenly ran very smoothly - in fact, most of the time the game ran at 60fps, except when there were a lot of explosions, which were much slower for the GPU to process.

**“In the heat of battle, the AI was still slowing down”**

While I was pleased by how well the system worked, it had a downside. If there were a lot of units on the screen, there was little processing time left at the end of the main loop, meaning the AI didn't get much time to calculate the units' actions. As the system struggled to have enough processing time, it decreased the number of tiles it looked ahead to, down from the maximum of five, to help mitigate this problem. However, that meant its destination was closer, and if the 'action' was prolonged, the units would reach their destinations before a new destination was calculated. It would get there and just stop. This only happened in prolonged battles with screens full of action, so most people wouldn't notice it. I'd like to think that the AI was behaving more human-like: that is, in a prolonged, high octane, battle scenario, its ability to think straight becomes more restricted!

You can now play in a browser right here: [wfmag.cc/wargames](http://wfmag.cc/wargames).



^ Models ranged from simple buildings that were as low as ten polygons, to tanks and vehicles that ranged between 50 to 100 polygons each.

- ▶ Players must change the colour of every cube to complete the level.
- ▼ The cabinet employed a diagonal joystick to move Q\*bert around.



▲ It was probably just as well, considering how popular the game would become, that Jeff Lee went with Q\*bert instead of his initial idea: *Snots And Boogers*.

Source Code

# Recreate Q\*bert's cube-hopping action



AUTHOR  
MARK VANSTONE

Code the mechanics of an eighties arcade hit

Late in 1982, a funny little orange character with a big nose landed in arcades. The titular Q\*bert's task was to jump around a network of cubes arranged in a pyramid formation, changing the colours of each as they went. Once the cubes were all the same colour, it was on to the next level; to make things more interesting, there were enemies like Coily the snake, and objects which helped Q\*bert: some froze enemies in their tracks, while floating discs provided a lift back to the top of the stage.

Q\*bert was designed by Warren Davis and Jeff Lee at the American company Gottlieb, and soon became such a smash hit that, the following year, it was already being ported to most of the home computer platforms available at the time. New versions and remakes continued to appear for years afterwards, with a mobile phone version appearing in 2003. Q\*bert was by far Gottlieb's most popular game, and after several changes in company ownership,

the firm is now part of Sony's catalogue – Q\*bert's main character even made its way into the 2015 film, *Pixels*.

Q\*bert uses isometric-style graphics to draw a pseudo-3D display – something we can easily replicate in Pygame Zero by using a single cube graphic with which we make a pyramid of Actor objects. Starting with seven cubes on the bottom row, we can create a simple double loop to create the pile of cubes. Our Q\*bert character will be another Actor object which we'll position at the top of the pile to start. The game screen can then be displayed in the `draw()` function by looping through our 28 cube Actors and then drawing Q\*bert.

We need to detect player input, and for this we use the built-in keyboard object and check the cursor keys in our `update()` function. We need to make Q\*bert move from cube to cube so we can move the Actor 32 pixels on the x-axis and 48 pixels on the y-axis. If we do this in steps of 2 for x and 3 for y, we will have Q\*bert on the next cube in 16 steps. We can also change his image

to point in the right direction depending on the key pressed in our `jump()` function. If we use this linear movement in our `move()` function, we'll see the Actor go in a straight line to the next block. To add a bit of bounce to Q\*bert's movement, we add or subtract (depending on the direction) the values in the `bounce[]` list. This will make a bit more of a curved movement to the animation.

Now that we have our long-nosed friend jumping around, we need to check where he's landing. We can loop through the cube positions and check whether Q\*bert is over each one. If he is, then we change the image of the cube to one with a yellow top. If we don't detect a cube under Q\*bert, then the critter's jumped off the pyramid, and the game's over. We can then do a quick loop through all the cube Actors, and if they've all been changed, then the player has completed the level. So those are the basic mechanics of jumping around on a pyramid of cubes. We just need some snakes and other baddies to annoy Q\*bert – but we'll leave those for you to add. Good luck! 🍀



Download  
the code  
from GitHub:  
[wfmag.cc/  
wfmag42](https://wfmag.cc/wfmag42)

## Bouncing between cubes in Python

Here's Mark's code for a *Q\*bert*-style, cube-hopping platform game. To get it running on your system, you'll need to install Pygame Zero – full instructions are available at [wfmag.cc/pgzero](https://wfmag.cc/pgzero).

```
# Q*bert

WIDTH = HEIGHT = 500

gameState = 0
blocks = []
qbert = Actor('qbert2', center=(250, 80))
qbert.movex = qbert.movey = qbert.frame = count = 0;
bounce = [-6,-4,-2,-1,0,0,0,0,0,0,0,0,1,2,4,6]

for r in range(0, 7):
    for b in range(0, 7-r):
        blocks.append(Actor('block0', center=(60+(b*64)+(r*32),
400-(r*48))))

def draw():
    screen.blit("background", (0, 0))
    for b in range(0, 28): blocks[b].draw()
    if gameState == 0 or (gameState == 1 and count%4 == 0):
qbert.draw()
    if gameState == 2 : screen.draw.text("YOU CLEARED THE
LEVEL!", center = (250, 250), owidth=0.5, ocolor=(255,255,255),
color=(255,0,255) , fontsize=40)

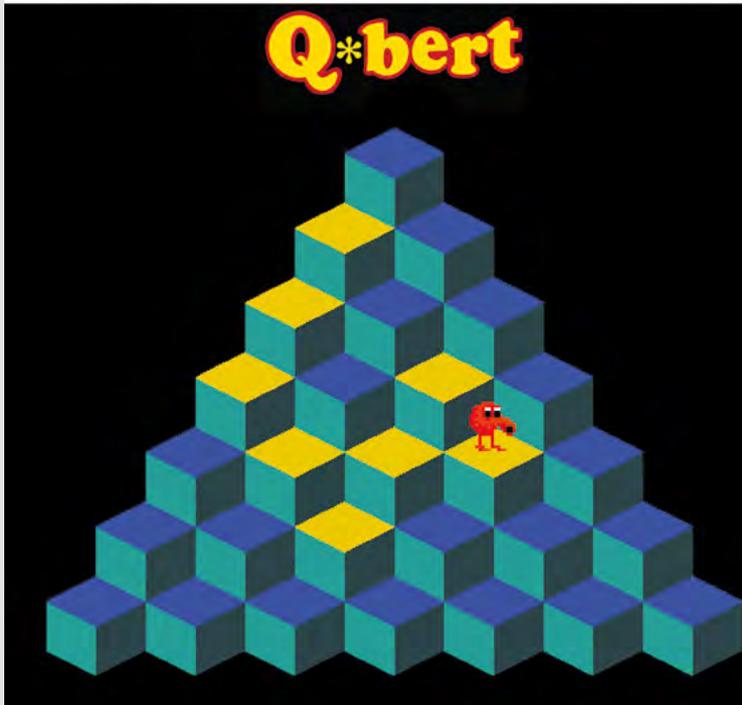
def update():
    global gameState, count
    if gameState == 0:
        if qbert.movex == 0 and qbert.movey == 0 :
            if keyboard.left: jump(32,48,3)
            if keyboard.right: jump(-32,-48,1)
            if keyboard.up: jump(-32,48,0)
            if keyboard.down: jump(32,-48,2)
        if qbert.movex != 0 : move()
    count += 1;

def move():
    if qbert.movex > 0 :
        qbert.x -=2
        qbert.movey -=2
    if qbert.movex < 0 :
        qbert.x +=2
        qbert.movey +=2
    if qbert.movey > 0 :
        qbert.y -=3 - bounce[qbert.frame]
        qbert.movey -=3
    if qbert.movey < 0 :
        qbert.y +=3 + bounce[qbert.frame]
        qbert.movey +=3
    qbert.frame +=1
    if qbert.movex == 0 :
        checkBlock()
```

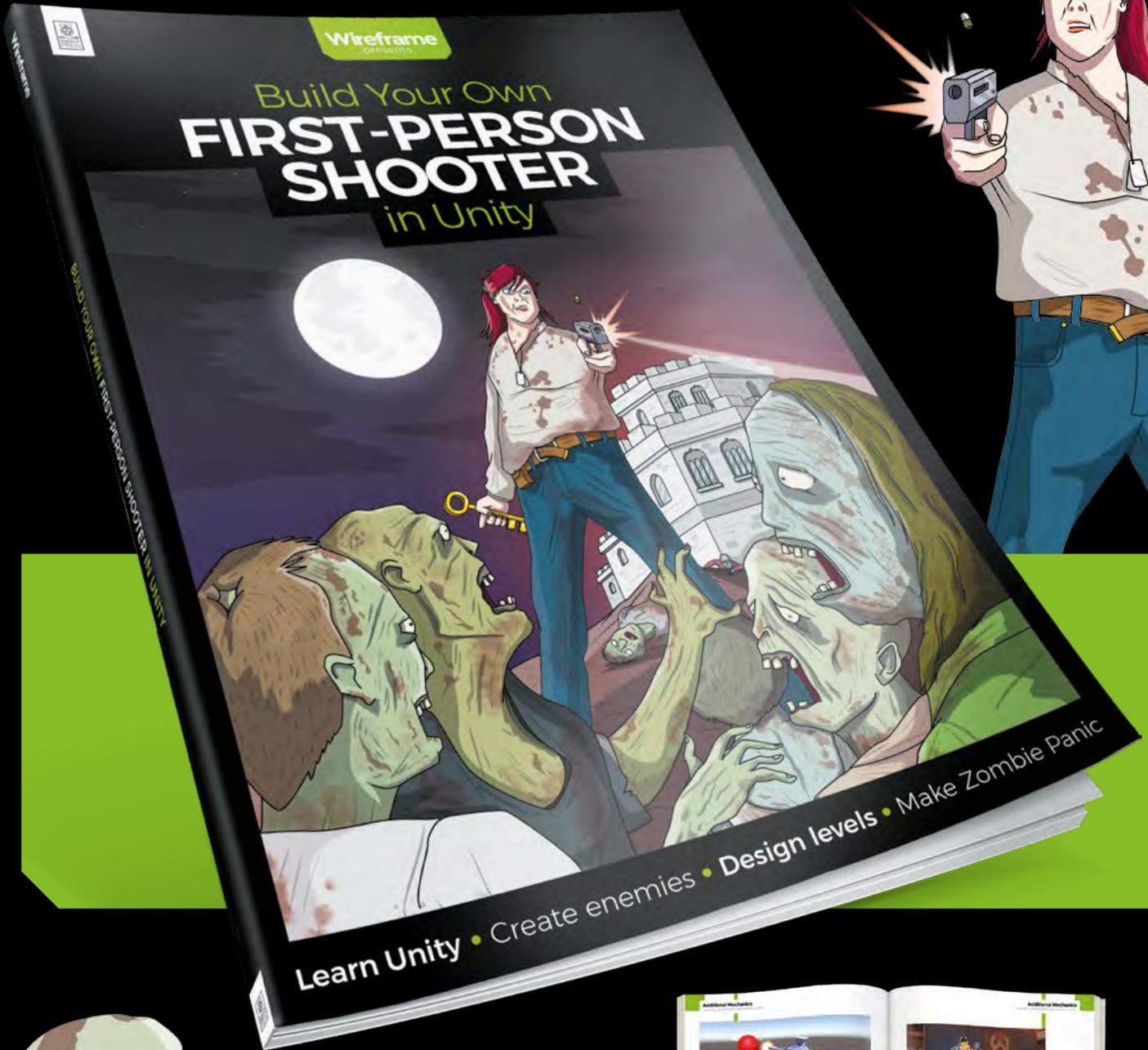
```
def checkBlock():
    global gameState
    block = -1
    curBlock = 0
    numSelected = 0
    for r in range(0, 7):
        for b in range(0, 7-r):
            x = 60+(b*64)+(r*32) -2
            y = 400-(r*48) -32
            if qbert.x == x and qbert.y == y :
                block = curBlock
                blocks[block].image = "block1"
                curBlock +=1
    if block == -1 : gameState = 1
    for b in range(0, 28):
        if blocks[b].image == "block1" : numSelected += 1
    if numSelected == 28 : gameState = 2

def jump(x,y,d):
    qbert.movex = x
    qbert.movey = y
    qbert.image = "qbert"+str(d)
    qbert.frame = 0
```

Pygame Zero Game



^ Our homage to Gottlieb's classic *Q\*bert* game. Try not to fall into the terrifying void.





# Build Your Own FIRST-PERSON SHOOTER in Unity

Making a fast-paced 3D action game needn't be as daunting as it sounds. *Build Your Own First-Person Shooter in Unity* will take you step-by-step through the process of making *Zombie Panic*: a frenetic battle for survival inside a castle heaving with the undead.



## IN THE PROCESS, YOU'LL DISCOVER HOW TO:

Set up and use the free software you'll need

Create and texture 3D character models

Make enemies that follow and attack the player

Design a level with locked doors and keys

Extend your game further, with tips from experts

Available now: [wfmag.cc/fps](http://wfmag.cc/fps)

**GAME**

Hades

**ARTIST**

Supergiant Games

**RELEASE**

2020

**WEBSITE**

[supergiantgames.com/games/hades](http://supergiantgames.com/games/hades)

## Hades

Supergiant Games' first stab – in more ways than one – at the Early Access model has borne the most delicious of hellish fruits: *Hades*. The game's not even at version 1.0 at the time of writing, but already has hearts a-flutter with how fantastically *fun* it all is. And, frankly, it's helped out a lot by visuals both striking and stunning in equal measure. While we expected no less from the studio behind *Transistor*, *Bastion*, and *Pyre*, it's still a genuine treat to just drink in the dazzling looks of yet another fantastic Supergiant title.



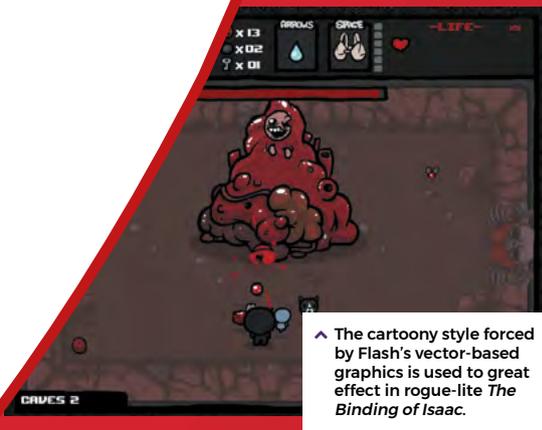


# Flash Back

## Preserving a gaming legacy

Within a decade, Adobe Flash has drifted away from the centre of browser-based gaming to near-obsolence. Now a wave of hobbyists are working to save its legacy

WRITTEN BY  
ROBIN WILDE



^ The cartoony style forced by Flash's vector-based graphics is used to great effect in rogue-lite *The Binding of Isaac*.

The humble Flash game is a term that can mean different things depending on who you ask. It can mean a long slog of frustration through games like *QWOP* or *The Impossible Quiz*. It can mean surprisingly strong browser-based MMOs like *AdventureQuest*. Or it can mean the incubator of whole genres, like escape the room, tower defence, and plenty of idle games. Throughout the 2000s, a huge swathe of gamers, many of them goofing off at work, became familiar with the easily identifiable vector graphics, smooth keyframe animations, and quick-fire mechanics of Flash games.

Whatever its proud history, though, Flash has had a difficult few years. The decline began in 2010, when it was pulled from iOS over concerns about battery life and difficulties running on mobile devices. The rise of HTML5, capable of



^ *Super Meat Boy's* prototype, missing the prefix and simply titled *Meat Boy*, was originally developed in Flash.

building and displaying web apps and games in a more lightweight, secure, and easily integrated way on modern browsers, has had a big impact. And so too has the rise of mobile games, capable of offering quick, colourful experiences to the procrastination-prone.

## THE END IS NIGH

In 2017, Adobe announced that it will be pulling support for Flash as a platform at the end of 2020, with no more maintenance, updates, or patches to come. After two decades, it will be the end of an era.

All this leaves the tens of thousands of Flash games in a difficult place. These were games never distributed in any physical medium, and the amateur nature of their development means many will be cut adrift. Fans are trying, though. BlueMaxima, real name Ben Latimore, an Australian gamer and content creator, has set up Flashpoint, a preservation project which aims to archive titles from the golden age of browser gaming.

Other deprecated formats, like Silverlight and Unity Web Player, are also covered, but this is a Flash-led affair. In just over a year, BlueMaxima and the team of volunteers have saved over 11,000 games. The truly hardcore can grab them all in one terrifyingly large zip file, but there is a smaller version containing just the front-end – think of a cut-down version of the Steam store – where individual games can be picked up at will.

BlueMaxima can't do it alone, though, and there's a Discord of contributors strip-mining the web for files. "I call it the 'assembly line' approach," Latimore says. "We have a version of Flashpoint with next to no games in it called Core that we ask people to test their games in. Once



^ The Behemoth's *Alien Hominid* was the first to make the jump from Flash to consoles – their multiplayer-focused arcade-style games are still popular today.

they have a zip with logo, screenshot, meta, and game, they send it to [the] submissions channels on our Discord. I have a coded tool that lets me take those zips and add them straight into the Flashpoint database."

## WORKING WITH CREATORS

Responses from developers to Flashpoint have been mixed, with some out of contact altogether, given how long ago their games were made, and most not consulted about their work being archived. "We don't ask for permission," Latimore explains, "There's a reason for that; most Flash developers are off doing other things at this point. Some are in completely different jobs. If

we had to wait around for permission, nothing would ever get done, and with the games in danger of disappearing, it was better to act now and

ask for forgiveness later.

"We've had lots of developers come into the Discord to say they support what we're doing (which I've been taking as 'You have permission to archive our stuff'). In fact, Tony, the guy who developed *SHIFT* [and] *IndestructoTank*, told me that he used Flashpoint to help him make the video on his résumé, on his website."

Where Latimore hasn't had so much luck is with the bigger Flash game portals, where many of the more popular games still live for now. "I've tried to contact people at the head of sites like Armor Games and Kongregate," he says. "I've been told anything from 'It's a license rights issue so we can't legally help you' to 'I might be able →

## FLASH! AH-AHHH

First released in 1996, it was the introduction of ActionScript, Flash's own object-oriented programming language, in 2000 which really saw the use of Flash take off as a gaming platform. For the first time, it allowed complex interactive content to be embedded in web pages, rather than merely hosted for users to download and install.

**"All this leaves the tens of thousands of Flash games in a difficult place"**

▼ One of the biggest online Flash portals, Newgrounds was where now-famous developers The Behemoth made their debut.



## SAVIOUR OF THE UNIVERSE

Some of the portals which hosted Flash games have become familiar names in their own right. Mention Newgrounds or Miniclip to players who were around in the mid-2000s, and they'll likely have some fond memories. Now they tend to lend themselves to supporting indie developers in other ways. Newgrounds began supporting non-Flash content in 2012 with the introduction of its own video player and support for HTML5 content, though it's still a huge museum of Flash animations and games. Armor Games Studios, now a publisher in its own right, supports indie developers, and many of their games are now available on Steam.

to help you when the issue is more pressing' to total silence."

Armor Games' VP of Business Development, John Cooney, is himself a former Flash developer, having created dozens of games including the popular *Achievement Unlocked* series and *Hedgehog Launch*. "We're currently investigating ways we can preserve our top content," he says. "Porting content to HTML5 is possible, but many of these games are over a decade old, so it's not always technically simple.

"The preservation effort is larger than Armor Games, not just for the technical hurdles but for the way we need to do it," he continues. "Flash developers are so important to modern gaming. So many Flash games innovated in their genres and still resonate in them today. Flash developers set the foundation for the modern indie scene and what it means to be indie. What they brought to gaming was wonderful, diverse, and special. We owe it to these developers to preserve their content in the way they want it to be preserved, to respect and acknowledge the incredible work they have done."

### THE LEGACY OF FLASH

While the technology might be going away, the legacy of Flash in amateur-developed, often quick-fire games can still be found in the

industry, first in the indie boom of the late 2000s, and most recently in the enormous mobile game market. The energy of the small-time or solo developer is mostly found in those spaces, but Latimore worries that a breakthrough is harder now than it ever was in the hey-day of Flash.

"Clearly there's going to be someone still motivated in the same ways," he explains. "The problem is you have to dig through a whole lot more to find it. Mobiles have been utterly overtaken by major companies putting out soulless wallet-drainers for profit. The PC market is struggling under mounds of shovelware on Steam and bad discoverability on pretty much every other platform. HTML5 does exist as a game publishing platform, but it isn't anywhere near as popular as Flash used to be, and people still say that it doesn't go toe-to-toe with Flash's capabilities to this day.

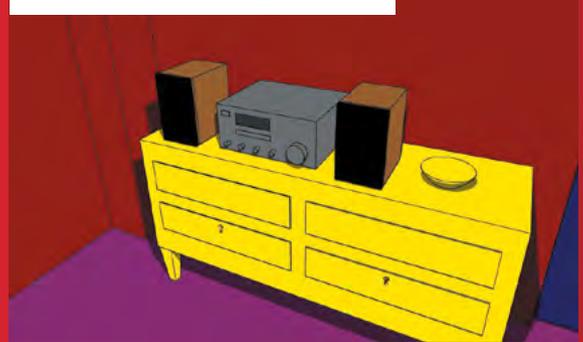
"Flash had a ton going for it that the rest of the industry doesn't have," he continues. "An extremely low barrier of entry to play with almost universal coverage, a low development hurdle, really high capabilities for its time... combine that with legitimately good games being able to rise to the top of Flash portals thanks to their quality, and you have a healthy market."

Despite – or perhaps because of – the gargantuan preservation effort he's making with



^ John Cooney's *Achievement Unlocked* series showcased a creative meta-humour in its approach to achievements and failure states.

^ Building on the legacy of point-and-click adventure games, the 'escape the room' genre was born on Flash.



Flashpoint, Latimore seems pessimistic about the format's legacy in public opinion. "Flash's legacy is probably going to be written by the victors, in this case being the mobile market," he says. "Heck, everyone knows *Angry Birds*, but how many people know *Crush the Castle*, which has been cited as a direct influence, by comparison? If you ask about Flash games on a modern forum, you have a 50-50 chance of getting a 'that was the best' or 'that was the worst' response, and there is definitely a kind of negative vibe around Flash games that's been around for years. I remember back in the late 2000s when certain games were described as 'Flash games' in a negative way. That's one of the main reasons that Flashpoint exists, you could argue – to at least try and reverse that view."

## BREAKING INTO THE MAINSTREAM

Whatever the popular memory of Flash as a format, it's served as a great jumping-off point for many developers. Edmund McMillen found fame with *Super Meat Boy*, originally prototyped on Newgrounds as simply *Meat Boy* – his later hit, *The Binding of Isaac*, was also developed in Flash before its remake, subtitled *Rebirth*, eventually found its way to ten different systems.

The Behemoth's *Alien Hominid* made headlines in 2004 when it found itself the first Flash game to be ported to PS2 and GameCube. Since then, the developer has produced perennially popular arcade-style titles such as *Castle*

*Crashers*, *BattleBlock Theater*, and *Pit People*, still maintaining the cartoon style reminiscent of Flash's distinctive look. The lower-budget end of the indie scene still sees these simple graphics and innovative mechanics occurring in the phenomenon of game jams, where developers work to create new games against the clock.

"While a lot of creative energy is pouring into Steam/PC and console," Cooney says, "I still see hints and sparks of the original Flash dev scene in the jam communities. When Flash games were at their peak, it was viable to step away from a day job and work full-time on small, single-serving Flash games. While that's less viable today, we do see more of a jam culture and experimentation happening on the web, which continues to be a strong path towards quick distribution and feedback. There, the scale and scope of projects tend to fall in line with what we saw in Flash. Jams are the new safe place to explore and create."

The death of a platform has never heralded the end of creativity, but it does change its nature. As Flash sails over the horizon, and digital archivists both professional and amateur work to secure a large slice of gaming history, it might be a good chance to revisit some of your favourites, and remind yourself why this simple software captured the world's attention. 🌐



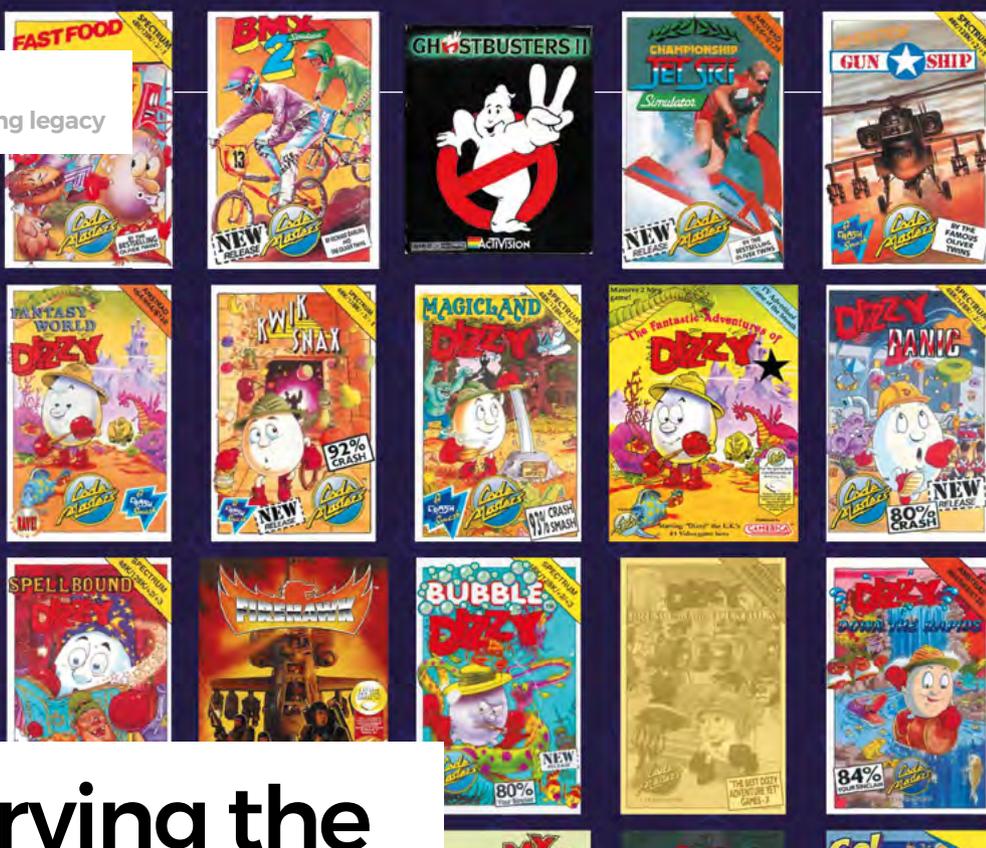
^ It isn't much to look at now, but *AdventureQuest* managed a surprisingly complex in-browser MMO experience.

## KING OF THE IMPOSSIBLE

As well as using Flash as a jumping-off point, some games made popular by Flash have continued into the modern era. The *Grow* games, beautifully animated puzzlers from Japanese developer On, have been coming out since 2002, and recently completed a successful crowdfunding campaign. The most recent instalment, *Grow Comeback*, was released in June 2018 and built in HTML5.

## Interface

Preserving a gaming legacy



# Preserving the Oliver Twins' gaming legacy

While so many stories from the industry's early years are sadly lost to time, the Oliver Twins have spent lockdown preserving their Codemasters legacy online

▼ Click on a game and you'll uncover some candid information about its making.

**C**oronavirus has had far-reaching effects on society, and its impact will last for many years yet. Lockdown has meant different things to different people. The games industry hasn't been hit too badly; obviously, there are exceptions, but by and large, we're an industry that can work remotely, and sales of games have risen.

Museums have, on the other hand, been badly hit by the pandemic. They all had to close, including the National Videogame Museum (NVM) in Sheffield. When talking to people at the museum, we found that while interest in retro games and the history of the UK games industry has grown, few developers have kept much stuff

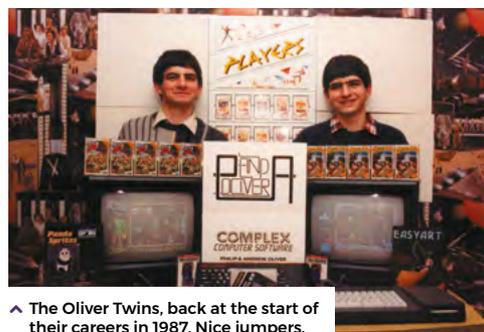
from those early pioneering days. Paper designs and notes were discarded, and disks with source code and assets have been lost, written over, or just become unreadable with age.

It turns out that Andrew and I are quite good at keeping a lot of this stuff. As a result, we've often been asked to talk about and display our collection at museums, including the NVM. Obviously, this hasn't been able to happen in lockdown.

## RETRO INTEREST

Andrew and I grew up at a time when computer games were just getting started; back then, they were accessible enough that we were able to start programming them and make games ourselves. It was an era that fascinates many gamers today, especially those who aspire to work in the industry.

The broader public interest in retro games seemed to start around 2000, and we were interviewed a few times about games we'd written in the mid-eighties. We found it hard to remember all the details, so we decided to attempt to catalogue the games we'd written, since we'd kept many of the development files. This led to us creating nothing more than a simple Word document. At the same time, Andrew decided to buy [OliverTwins.com](https://www.olivertwins.com) before



▲ The Oliver Twins, back at the start of their careers in 1987. Nice jumpers.



someone else nabbed it and tried selling it back to us. With nothing to put on the domain, we simply published the Word document in HTML as a holding page, and it remained there for several years.

Around 2008, a member of the media team at our studio, Blitz Games, had some spare time so we suggested they improve the site. The new build included all the details of the games along with some box art and screenshots. It looked respectable, but such is the pace of change in technology and people's expectations that it eventually started to look quite dated. We've always been too busy to do anything about it, but were aware that the site needed attention. We also knew it needed starting from scratch with a modern browser-based GUI editor, something like Squarespace, WordPress, or Wix (in the end, we chose the latter).

With lockdown imposed, and usual work and travel restricted, we thought now was the time to start over. The new website, then, covers the games we created from 1983 to 1993, starting when we were teenagers at school, playing and making games when we should have been doing homework. We show just how basic those early games were with type-in listings, and graphics produced on graph paper and converted into hex codes.

In total, there are 176 games recorded on the site – 54 titles across 16 platforms. Behind each game is a brief background story about when we made it and why; there's artwork, screenshots, scans of old magazine adverts and reviews, and in some cases, the original design notes. You can even play emulated versions of the games through your browser.

## WHAT'S NEXT?

The next question is, should we start adding the Blitz years? The original PlayStation and Nintendo 64 era is now considered retro. We've already written a feature on the making of *WarGames: Defcon 1* (see page 58), and we're often asked about *Glover*, our original N64 title released in 1998.

Recently, we attempted to work out how many titles we created at Blitz Games (initially called Interactive Studios) before its closure in 2013. The final tally is 70 titles across 14 different

formats – a total of 161 games over a period of 20 years. While some of those games are better than others, we're proud of them all – and the people who made them. To prevent those games being lost and forgotten, we kept the Blitz Games website alive, but it too suffers from being unmaintained and frozen in time. Or maybe that's a good thing?

## THE VALUE OF HISTORY

With lockdown continuing and the website complete, we're not about to start expanding into those Blitz years just yet. Still, we hope the revamped site will give the next generation of developers a grounding in what it was like to try to make engaging games with great characters, graphics, audio, and depth in just 32kB of memory.

Our path through the industry wasn't a bed of roses – there were many low points, but thankfully enough high points to keep us driving

forward. Our experiences were fairly typical of the period, but many developers aren't telling their own stories from those days, since they became too disillusioned and

left the industry, or in a few cases, become so successful that they couldn't spare the time to delve back into the past. There's also the danger that successful developers will paint an unrealistic picture of working in the industry; our story was tempered by some hard times, where grit and determination were the only way through.

What's great about history is that the older it is, the more fascinating it becomes if the detail is there, simply because it's so far removed from what we know and take for granted today.

Understanding where you've come from is not only interesting, but it's also helpful to see where you're going as you can clearly see the trajectory. You can also see the pitfalls that have happened along the way, and hopefully, avoid them in the future. 🍷

**“Our story was tempered by some hard times”**

## Interface

Preserving a gaming legacy

Get solid chest. Drop beside cliff. Head left and get rubber snake. Hit stone on the way to lower platform on screen below.

Go and get glass sword and camera.

Head back to beach and drop sword and camera.

Enter water and get salt water spade.

Arrange objects so spade can be dropped before snake.

Go to wedding alone and drop spade on it. Go back and get camera and sword. Enter water. Stand on bubble and walk on across the rocks.

Give camera to storekeeper. Take boat to pier and drop.

Get axe. Drop sword on gravestone. Do not go down gravestone. Get fish.

Cross ocean. Drop axe on bridge but don't go down yet. Arrange objects so that rubber Bible or snake can be dropped on picking up other object.

Go down bridge. Get treasure. Take treasure to store keeper and drop outboard motor on pier.

Get golden key from pier. Go down gravestone. Get dynamite. Head right until you are in a room with half a barrel blocking an entrance. Drop golden key on this. Go down. Get microwave oven.

Cross ocean again. Drop oven on pier. Get bag of gold coins. Give bag of gold coins to storekeeper and take (griton ray to pier and drop. The boat will now move. Jump on boat and walk right. Read message. You have finished the easy part of Dizzy II. Now find the coast!

**MESSAGES**

1 Danger! Blasting Area!

2 Cude Masters advertisement.

3 The Buggles tree house comes. Dismantled now, since the threat of tourists ruining the peaceful life.

4 Cude Masters advertisement.

5 Legend has it that Hooliver the pirate, buried here, still guards over his treasure.

6 Cude Masters advertisement.

7 Warning! Magic well of water!

8 The smuggler's cave. Inexpensive glass sword on gravestone lock design, copyright Roger – infamously ironic.

9 No boarding the boat until it is covered!

10 You've found Blackbeard's secret kitchen! Ideal for those midnight snacks!

11 Congratulations! You have successfully solved all the puzzles and truly earned your freedom. Good luck Dizzy.

**KEY**

1 Bag of gold coins

2 Gold coin hidden behind scenery

3 Gold coin

4 Sinclair Abuser mug

5 Sharp glass sword

6 Small video camera

7 Rubber snake

8 Infrared detector

9 Rubber snake

10 Tube of toothpaste

11 An empty solid chest

12 Salt water spade

13 Spade of dynamite

14 The woodcutter's axe

15 An old Holy Bible

16 An old Holy Bible

17 An old empty biscuit

18 A large golden key

19 A microwave oven

As well as design documents and game information, the site also preserves scans from eighties magazines.

A number of the Oliver Twins' games can be played directly through the browser, including *Robin Hood* and *Fantasy World Dizzy*.



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▲ The POC in Play team, from clockwise: Adam Campbell, Des Gayle, Chella Ramanan, Mike Anderson, Jodie Azhar, Moo Yu, Nida Ahmad.

# TOXIC STREAMS

## WHY GAMING NEEDS TO TACKLE ITS RACISM PROBLEM

From community summits to grassroots campaigns, the industry has committed to make gaming a more inclusive space – but do these efforts go far enough?

WRITTEN BY  
TOLA ONANUGA

▼ The POC in Play team have experiences that are beneficial to understanding the barriers faced by people of colour, and solutions to address them.



**F**or many Black people, gaming can be a fraught experience. While many millions of people around the world enjoy online gaming on a regular basis, their experiences can differ wildly, depending on their race. As gaming platforms have grown, so have instances of racism. It's not uncommon to be exposed to racist slurs, harassment, and bullying in any online gaming space.

The problem has now reached a tipping point, and in the wake of the Black Lives Matter movement, most of the big players have made public commitments to eradicate such toxicity and encourage better behaviour.

EA Games announced in June that it was contributing \$1m (£780,000) to organisations dedicated to the fight for racial justice in the US and against discrimination around the world. It also hosted what it described as a Community

Conversation to further discuss racism. This follows on from the Building Healthy Communities Summit it hosted in 2019, which brought gamers, experts, and community leaders together to discuss online toxicity.

Xbox chiefs have also been vocal about the need for more inclusivity and safety in gaming spaces. Last year, it emphasised this with a 1200-word essay written by Phil Spencer, the head of Xbox, in which he stressed that "gaming must promote and protect the safety of all." More recently, in June 2020, the company vowed to amplify Black and African-American voices.

When asked to explain what policies and procedures Xbox has in place to deal with racism, a Microsoft spokesperson responded with a blanket statement: "At Xbox, we believe everyone has the right to create, play, and share their opinions about games without the fear of being a target of violence or harassment.



We and our industry partners need to stand up against this, and at Xbox, we have a dedicated safety team that act against content that violates our community standards.”

The spokesperson said further information could be found on a section of their website that discusses diversity and inclusion in the Xbox community, and pointed out that users have a robust set of reporting and family settings tools available to both respond to abuse and aim to avoid it – as much as possible – in the first place.

Still, it appears that some of the most dedicated anti-racism efforts are coming from grassroots organisations and individual gamers who believe that improving diversity and representation will make the most impact. While acknowledging the efforts EA, Xbox, and other companies are making, many in these groups remain frustrated at what they see as the overall failure of the industry – particularly developers and publishers – to tackle the issue head-on.

## GAME-CHANGERS

In 2018, games developer Adam Campbell co-founded the UK-based organisation POC in Play, which advocates improving racial diversity in the gaming industry. “To put it simply, the video games industry has an issue with racial diversity and inclusion,” Campbell says. “This is represented in games, media, and behind the scenes in terms of those working in companies. We can point to a few statistics around this, alongside an ongoing discourse [that] gamers, employees, and activists alike have been having for several years.”

Campbell believes organisations such as his must exist because sectors with more diversity tend to be more successful. “[Diverse industries] express more innovation, present fresher ideas, and reach new audiences,” he says. “The video games sector can benefit from this too.”

The global gaming market is predicted to generate \$159 billion (£126 billion) in revenue by the end of 2020, according to analytics company Newzoo, and as Spencer pointed out in his Xbox essay, the community encompasses a wide range of people, all genders, ethnicities, and backgrounds. It is therefore in gaming companies’ interests to make their products and platforms as inclusive as possible.

Campbell says that although gaming bosses may be more aware of racism on their platforms, the situation has not improved

▲ Ebonix’s custom Sims characters feature braids of every variety – from box to cornrow to micro.

Credit: EbonixSims

to any great extent. “Overall, the explosive growth of the video games industry and online communities has been a positive thing, but toxicity in online communities is a very real issue that has grown as quickly as social media and online communication itself,” he says. “If something has improved, the response of platform holders and companies who run big online studios appears to be showing more sense of urgency to address the issue.”

## SKIN IN THE GAME

One area where developers appear to be making meaningful, if somewhat limited, progress on racial diversity is in the characters that populate their games. *Grand Theft Auto V*, a sales behemoth and enduring favourite among players, had a Black lead character, while the likes of *Overwatch* and *VALORANT* include several non-white characters. Titles like *Animal Crossing: New Horizons*, *The Elder Scrolls V: Skyrim*, and *Dragon Quest Builders 2* have multiple skin tone options for characters, not to mention the create-a-character tools in countless sports titles over the years.

There is still much more work to be done on reflecting the broad racial diversity of players, however. This is especially true when it comes to the aforementioned character creation tools in games providing a full spectrum of Black skin tones and Afro hair-styles, says Danielle Udogaranya, who makes custom content for *The Sims 4* under the moniker Ebonix.

Udogaranya’s creations include racially diverse skin and hair-style options, as well as clothing and accessories. She has been carrying out this work and showcasing it on her EbonixSims website since 2015, the venture borne out of ▶



## BLACK GIRL GAMERS

An international community that aims to positively promote diversity and effect change within the gaming industry. Since launching in 2016, the group has become a hub for gaming-related issues from a Black female perspective. More than 5000 Black girls and women are active members who meet and socialise regularly to enjoy their passion in environments that are free from racism and sexism. @blackgirlgamers



frustration by the lack of available options. "It's very important to bring representation to the game because people are striving for it," Udogaranya says. "I used to role-play with *The Sims*, and I found it difficult to make [the characters] representative of me or my culture. I could barely make a Sim that looked like myself because there was no content there.

"As a base game, I think *The Sims* comes with an Afro and some braids. [Black people's hair] is not just Afros or braids. Over the past few years I've been bringing content into the community that people don't have to pay for so that there's a lot more representation. People can put the content in the game and know that they can make Sims that look like them."

## THE TROUBLE WITH TWITCH

Udogaranya is also a Twitch affiliate, meaning she can earn money through paid subscriptions to her channel, among other benefits. Twitch also provides important opportunities to engage with the community and have fun with the people that have supported Udogaranya for years. However, she says she has been subjected to repeated racism on the platform. "Bots would come in to spam the chat with racist and derogatory comments," she says. "Usernames would be extremely racist. It's really sad. I brushed it off because it's not something that really affects me, but I know it happens every day to gamers of colour. I've experienced it on Twitch."

While attending TwitchCon Europe, the EU-located offshoot of the main US convention,

▲ Danielle Udogaranya says *EbonixSims* has been particularly well-received by younger gamers, thrilled with the options available to them through her site.

Credit: EbonixSims



## THE COOKOUT

A group focused on building a safe space for content creators of colour to share their content and their stories in new and innovative ways. It aims to bridge the gap between the gaming industry and influencers, while helping members gain the knowledge and opportunities needed to level up their creative skills and build a personal brand.  
[thecookout.org](http://thecookout.org)

Udogaranya confronted Twitch's moderation team about racist behaviour on the platform. "I asked them: 'How we can make it so that people don't feel afraid to stream because [they] are worried about hitting that live button and then being assaulted and bombarded with racist bots?'"

She says that although there is a willingness from the company and its rivals to drive change, their efforts are likely to fail unless they broaden the conversation to include anti-racism and diversity advocates in the gaming community.

Twitch did not respond to a request to comment for this article.

## COMMUNITY OUTREACH

Udogaranya doesn't believe the wider gaming industry is anywhere near as diverse as it should be, and that there's still a long way to go before it becomes as representative as the global population of gamers. She praises grassroots groups such as Black Girl Gamers, of which she is a member, and The Cookout, who are doing important work on the issue. "To be able to make gaming more inclusive, companies do need to start looking to these types of groups to be able to see what's missing [from their strategies] and take action," she says.

"It's not going to help anyone if they're not broadening their teams' minds, and learning that they need to look to such groups and open up spaces to allow them to express what the community's feeling."

Udogaranya accepts some gaming companies are communicating and collaborating with race-focused gaming groups more so than in the past, but there is still caution: "If gaming companies don't have the right people on their team who aren't looking in the [grassroots] spaces, they aren't going to fully hear our voices," she explains. "So there is a willingness to act, but maybe not the knowledge of where to look."

## RISE OF THE FAR RIGHT

While racism in gaming – or elsewhere in society – isn't exactly new, it has become more insidious over time, in part due to the recent resurgence of far-right politics. Reports of hate groups and white supremacists using gaming chat rooms and forums to recruit new members and spread racist propaganda about African-Americans and Jewish people are no longer particularly surprising, even if they are still abhorrent.

Marijam Didžgalvytė is a tech industry campaigner and critic who's written extensively on racism and far-right activity in gaming. "My interest in this field perked up when I discovered that far-right figures like Steve Bannon and Milo Yiannopoulos were involved in the Gamergate controversy," she says. "Since then, we've seen mass shooters in Christchurch and San Diego citing gaming memes in their manifestos, etc. The biggest YouTuber in the world, PewDiePie, has had very public brushes with racist and anti-Semitic remarks." She pointed out the links between the likes of *Minecraft*, used for recruiting young players into hate groups – something confirmed by one former white supremacist, who also named titles like *Fortnite* and *Call of Duty* as fertile recruitment grounds.

### FREE SPEECH VS HATE SPEECH

Didžgalvytė likens the current situation in gaming to football in the 1970s, with "organised racists targeting unassuming gamers via their chosen gaming forums, and attempting to influence their political beliefs towards xenophobia and misogyny, sometimes with truly awful consequences."

As for whether gaming companies are doing enough to tackle racism, she says the answer is both yes and no: "Depending on whether the game's players are diverse, the companies will either intervene in the politics of the community or not," she explains. "Creators of [widely popular] video games like *Overwatch* and *Street Fighter* will keep tight control on hate speech on their platforms.

"Games designed with a very particular, singular audience, however, may turn a blind eye when there is evidence of harassment and racism on their platforms, as that may spook away the customers, i.e. the players," Didžgalvytė continues. "It is this relentless chase for profits that is determining the politics of the companies right now – hardly goodwill towards progressive ideals."

### THE FIGHT TO UNITE

Didžgalvytė believes unionisation would allow people from all backgrounds to feel secure in the gaming industry, enabling a more diverse intake and retention in the industry. "Events and

games created to cater for diverse audiences and safe spaces to maintain them would also normalise a wide range of views and experiences in the industry," she says. "I would also like to see us taking serious steps in reducing the plight of people in the Global South that takes place for us to even have the hardware on which to encourage diversification of careers in the Global North. There's immense abuse of human rights happening in mineral mines in the Democratic Republic of the Congo and Foxconn factories in China. Our inclusivity must be international."

Studios hiring a much more diverse intake of young developers and creators is certainly a move that Udogaranya recommends. "To get into the industry, you do need some knowledge and experience," she says. "But if you don't start off with that and there aren't programmes that are encouraging these things, then it isn't likely that we're going to get as much diversity. It does start when you're young... but people from African and Caribbean backgrounds aren't really encouraged to work in gaming."

It is certainly a positive step that gaming companies say they are committed to eradicating racism and increasing diversity, but such efforts will only bear fruit if they are sustained over the long term and backed by rigorously enforced policies. It's the very least that gamers of colour deserve. 🗳️

### "BOTS WOULD SPAM THE CHAT WITH RACIST COMMENTS"

## twitch BY THE NUMBERS

1,178,075  
TOTAL DAILY STREAMERS

549 BILLION  
MINUTES WATCHED DAILY

5.8 MILLION  
MONTHLY STREAMERS

45,365 PARTNERS

1,941,000  
AVERAGE CONCURRENT VIEWERS

Source: Twitchtracker  
[twitchtracker.com/statistics](https://twitchtracker.com/statistics)

▼ The TwitchCon Europe event, which took place in Berlin in April 2019. TwitchCon began in San Diego, US, in 2015 to bring together thousands of streamers, influencers, and industry insiders.



# Online Diary

## GITTIN' GUD

Trying out a game I might be a bit better at.  
This month: Grand Theft Auto V

WRITTEN BY IAN 'DEATHMATCH KING' DRANSFIELD



^ Taking on regular missions with human team-mates, blasting away at AI drones is a hell of a lot of fun when it goes well.

v Don't get as captivated with the glint on the boot as I did, because it does lead to crashes.

I pivoted to *Grand Theft Auto V's* multiplayer segment – cunningly entitled *GTA Online* – because I wanted to get away from the FPS-heavy focus of networked games I'd been sucked into. Done with deathmatches, I promptly chose of my own volition to challenge another player, who had just attacked me unprovoked, to a one-on-one deathmatch. Because apparently, I don't learn. I stalked my opponent through the long grass, rain pouring down, bullpup rifle at the ready, keen for a solid game of cat and mouse... and was killed, five times, very quickly. Including once when I respawned in the water and could hardly

move before he shot me from 200 metres away. An auspicious start? Well, no.

Open up *GTA Online's* in-game menu, though, and you're swiftly met with a wall of choice: things to do. Stuff. Options. This is an offshoot to the single-player game that has seen all the attention and, therefore, all of the building works layered on top of it over the years. We got no single-player DLC for *GTAV*, and that's because it's all gone into the (eternally monetisable) online side of things. What that means is if you load up *GTA Online* for the first time in years, as I did, you will be met with a genuinely disconcerting amount of *content*. Emails, text messages, phone calls, pop-ups, on-screen ads – so very much telling you about the extra bits here and there Rockstar has crammed into an already overflowing online sandbox.

But go to those options and choose to do a random job, and suddenly all becomes well – or at least less confusing – in the world. I'm dropped into a mission with three other random folks and, hark! – that's Lamar from the proper game! This isn't just a bland screen with a description of what to do on it (though that is often the case): it's a fully voiced and acted cutscene setting up a mission where we need to go about shooting some... people... for reasons. Look, I didn't exactly get drawn into the thrilling narrative as gangland warfare in *GTA* has been the same since the first game's release: go to place, shoot the people. This ends up being no different.

But it's fun. I'm driving, and I'm decent at it. I can't shoot for the life of me in games, but put me behind the virtual wheel, and I can be your





^ Here she is, in all her top-hat glory: Wireframeo the not-so-great.



^ Opting for a one-on-one deathmatch with the person who just knifed you turned out to be: a bad decision.

Vin Diesel (*Wheelman*). Yes, there's the odd spin-out and crash, and yes, the car might have gone off a cliff in another mission when it... shouldn't have gone off a cliff... but I *get* this. My partner is a fine shooter, eliminating those purple-dressed chaps who I have no actual beef with myself before we repeat the process a few more times. At the end, we meet up with our team-mates and have a big shoot-out in a car park. It's basic, yes, but it's engaging and mixes up the *GTA* formula enough – just through the sheer strength of having other real people playing with you.

I didn't find myself returning too much to the open-world roaming, not like I still do in the single-player game, and certainly not like I did back in *GTAIV*. The older game introduced multiplayer to me (it's been in the series in some form since day one), but it was a very different beast: playing with Actual Friends, we would muck

about in the open world, hijacking helicopters and skeet shooting with cars. It was an absolute hoot, but a disorganised one – the sort of hoot I didn't stumble upon myself while ambling about *GTA Online* on my lonesome.

But it seems that's not a bad thing, because – did I mention? – there's just *so much* content in the game. I will admit some attempts at being slotted into a random mission fell short, while another level proved way too difficult for me and my lone team-mate and resulted in me getting a telling off by the game for quitting out. I also didn't like that when I encountered others outside of missions, they would, maybe seven times out of ten, shoot or stab me to death. It's funny when it's someone you know, but when it's just a stranger, I start to wonder about the stability of people out there in the real world.

**“I challenged another player to a deathmatch. Because apparently I don't learn”**

*GTA Online* may well be the first game I actually make a return to for these pages. I love the single-player game and still pop it on periodically to blow off some steam. Playing through a set few missions with real folks in tow – and actually being able to be of service with some half-decent driving – makes it something I do *want* to play more of, rather than something that just scares me off. I will, however, remember to stay well clear of those one-on-one deathmatches. And the random stabbings. And being run over. And driving off cliffs. ☹

## Lessons from GTAV



### Loot boxes

The casino is fun, and you're able to win money in there if you know how to play properly (i.e. avoid anything that isn't blackjack). Still, it's hard to recommend this virtual gambling as it's backed by a system supporting spending real money on the currency you can use to gamble.



### Story time

Rockstar's writers do like dialogue in their cutscenes, and this has never been more apparent than in *GTA Online*. You want to quickly pop into a story-led mission to blast some goons and see some familiar faces? *Enjoy five solid unskippable minutes of talking before you get to do it.*



### Be quiet and drive

You don't actually have to do anything in *GTA Online*, and instead, it can be relaxing to just pootle around with no particular goal in mind. Might I recommend getting a big rig for this, as it means when you have a lapse in concentration and hit another car, it doesn't matter (to you).



## Developer Profile

# Psygnosis

Legends as both developers and publishers: categorising Liverpool's favourite studio

**B**orn from the ashes of Imagine Software, the little studio with big ambitions and a bank account that wasn't *quite* as big, Psygnosis erupted onto the scene in early 1986 with *Brataccas*: an ambitious, good-looking, somewhat clunky title with fantastic cover art and a surprisingly deep storyline. And that's more or less how things continued through the studio's lifetime. Article over. Ah, no, have to write more. Well, I would argue that the 16-year life of Psygnosis (see box on page 87 for the rest of it) can be categorised in five ways.

## AMIGA ACES

Psygnosis' first great relationship came with the Commodore Amiga. While the studio didn't necessarily overlook other formats – many games developed and published by the team made appearances elsewhere – it was the Amiga that was Psygnosis' de facto home format. See, while plenty of other studios were keen to stick with the tried-and-true approach of making a game for the Atari ST and porting it across, Psygnosis, eventually, looked on things differently: the Amiga was more powerful a machine. It could do better. *It should* do better.

The breakthrough came via *Shadow of the Beast*, an early title from Newcastle-based Reflections, which went to great lengths to show what the Amiga was

capable of. Coupled with Psygnosis' already recognisable cover art style – more on that in a minute – *Beast* was an impactful, influential title that helped to lift the Amiga to new heights. And Psygnosis continued this trend, publishing titles like the bona fide legend *Lemmings* from DMA Design, as well as the cult classic *Walker* (again, DMA), and plenty of others that helped the Amiga stand out from the crowd. Far be it from this humble writer to

claim Psygnosis made it a personal mission to evangelise the Amiga and its capabilities, but it certainly seemed there was something in the

water back in the eighties through to the mid-nineties.

## PLAYSTATION PURISTS

But with success came attention, and with attention: money. Sony came sniffing around in 1993, picking up Psygnosis to help the company out with its upcoming console, the ➔



▲ The watchful owl logo, as designed by the mighty Roger Dean.

**“The Amiga was Psygnosis' de facto home format”**

▼ Psygnosis helped put some now household names in front of players for the first time, publishing titles from the likes of *Traveller's Tales* (TT Games), *Reflections* (Ubisoft Reflections), and *DMA Design* (Rockstar Games). A decent output, no doubt.





▲ **Terrorpods** definitely got the 'terror' part right. Not so much the 'pods', oddly.

then-unknown PlayStation. But this wasn't like many a corporate embrace we see these days – at least not initially – and Psygnosis continued down the path of both developing *and* publishing a variety of titles across many different genres, even releasing titles on PlayStation competitors the Sega Saturn and Nintendo 64.

Beyond that, though, Psygnosis helped to define the very era of the PlayStation with an in-house development: *Wipeout*. The futuristic racing game brought hardcore (well, *hard*) racing action to homes across the world, backed up by fantastic visual design and a soundtrack that wasn't out of place in the club scene of the day. *Wipeout* was, daring as it might be to say it here, *cool* – and Psygnosis was the reason why. That push to release edgier, more 'mature' games continued through the nineties, with the Liverpool team trying its hand at a hard-boiled cop thriller (in space) with *G-Police*, a space opera (in space) in *Colony Wars*, and... well, *Spice World* (not in space), as well as dozens of others.

Things fizzled out towards the end: Psygnosis was amalgamated fully into the Sony corporate structure and the resulting team, Studio Liverpool, never really regained the foothold Psygnosis once enjoyed. The studio might have

loved the PlayStation, but Sony was the death of it.

### DEAN'S DISCIPLES

Roger Dean. You might not know the name, but if you've ever seen a selection of Amiga game covers or browsed a 'best cover art' feature, you've seen his work. The British artist has been involved in countless projects over many decades,

**"The hit rate for Psygnosis was superb"**

but in our little subculture, we know him best for the beguiling sci-fi and fantasy vistas he put together for many a Psygnosis game.

This wasn't just a cool thing to do, featuring 'proper' art on your game covers – it helped Psygnosis to stand out on the shelves in your local game shop, and it gave Psygnosis titles an identity all of their own. Would the studio have been as successful without this input from a 40-odd-year-old artist from Kent? It wouldn't be too much of a stretch to say no, probably not. Sadly, though, Dean didn't compose the cover for *Lemmings*.

### COLOSSUS CREATORS

One other important factor in Psygnosis' journey was its publishing endeavours. Plenty of studios both make games and release ones made by other studios, but the hit rate for Psygnosis – its effective discovery of, or more accurately the

amount of big breaks it offered to studios in their early days that went on to become massive – was superb. Psygnosis published DMA Design's first game, *Menace*, in 1988, and went on to publish plenty more titles from the Dundee dev. Eventually, that studio became Rockstar North.

Reflections, as mentioned, got its big break via Psygnosis with *Shadow of the Beast*, and went on to craft titles like *Destruction Derby* under the watchful wing of the purple-silver owl. Nowadays, the studio plies its trade as Ubisoft Reflections and is involved in making super-realistic driving game physics for all manner of Ubi titles. *Traveller's Tales* became TT Games, going from releasing titles like *Leander* and *Puggsy* with Psygnosis to the 32,000 *Lego* games via Warner Bros Interactive. Raising Hell brought *The Killing Game Show* and *Wiz 'n' Liz* out with Psygnosis' help, before rebranding as Bizarre Creations and making driving games essential again.

▼ **There's something very disconcerting about how both the barbarian and terrorpod are standing here.**

**THE BARBARIAN HAS ARRIVED! THE TERRORPODS ARE COMING!**  
TWO GREAT NEW TITLES FROM PSYGNOSIS

**BARBARIAN**  
Can you become the fiercest of the famous dragon-slaying, monster-mangling Barbarians? Are you the warrior who can enter the fearful realm of the underground world of Dargan, a world terrorised by the evil Nacon? Can you handle the adventure, the twisted attacks, the hidden traps, the gruesome death-dealing monsters? Your quest: to destroy the lair of the accursed Nacon. Your prize: the kingdom's crown. Your task is awesome! You must help your wife, conquer your enemies' lair, use every skill and weapon available to you, and every ally you can find. Can you survive?

**TERRORPODS**  
It's been a long watch... As the sun disappears over the horizon, the terrifying, grey-breathed Colan becomes an adjacent. Following the night sky, the battles of full arena competition in the arena. In the environment, and the stark interior of the D-15 arena almost humbler. Deep melancholy is suddenly smothered by the bright rays of light. The status panel has gone crazy, an uncontrollable Good grief! what's happening?

**ARENA**  
The classic sports simulation. Become the earth scientist accused of genetic fraud.

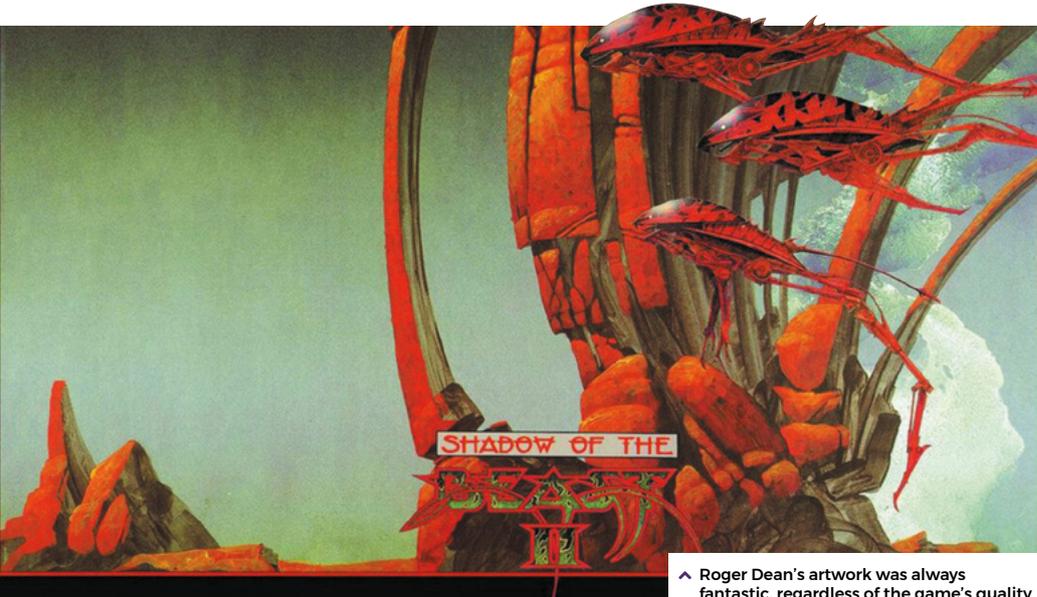
**BRATTACCAS**  
Frantically, you learn to look at the command screen, hunting through the mass of information before you in a desperate attempt to decipher what has happened.

**DEEP SPACE**  
Your whole being freezes. It can't be! The Terrorpods. 128 colour version available for Atari ST and Commodore Amiga - colour monitors only.

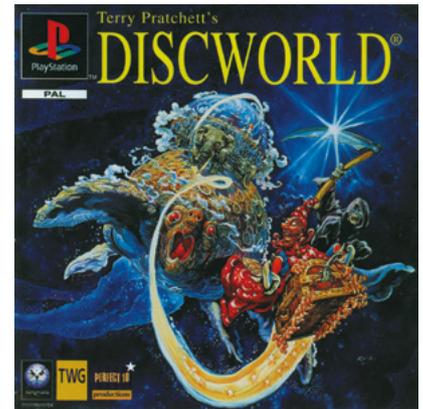
**ARENA BRATTACCAS**  
128 colour version available for Atari ST and Commodore Amiga - colour monitors only.

▶ BARBARIAN	£24.95
▶ TERRORPODS	£24.95
▶ DEEP SPACE	£34.95
▶ BRATTACCAS	£34.95
▶ ARENA	£25.95
▶ ARENA BRATTACCAS	£34.95

Psygnosis  
FREEPOST  
Liverpool L3 3AB  
United Kingdom  
Tel. No. 051 647 8116 (Daytime)  
051 227 4800 (After hours)



^ Roger Dean's artwork was always fantastic, regardless of the game's quality.



^ Psygnosis' publishing duties didn't end, even after Sony purchased the studio.

Psygnosis acted as benefactor for *Benefactor*, an early release from the studio we now know as EA DICE.

They weren't all hits. Attention to Detail might have knocked it out of the park with *Rollcage*, but it wasn't to be. Lunatic Software... apparently existed? No idea. But that hit rate – for one publisher to have been involved in helping make so many studios the powerhouses they are today (or were for a while in Bizarre's case) – it's phenomenal, and worthy of recognition.

### BEST OF BRITISH

Finally, where Psygnosis was in the world. This was a studio located in Liverpool – not the usual London or just outside the M25: a proper northern powerhouse that survived the bedroom boom of the eighties and made itself attractive to a massive foreign investor in the shape of Sony. While it's hard to argue most of Psygnosis' releases had that immutably British 'feel' to them – there was no *Skool Daze* here, though *Team Buddies* certainly ticked a few boxes – there's a sense of pride that comes from one of gaming's most influential and risk-welcoming (both from a development and publishing standpoint) studios being a product of the north of England.

It's telling that the studios Psygnosis helped out along the way – the ones still surviving – are largely anonymous as to

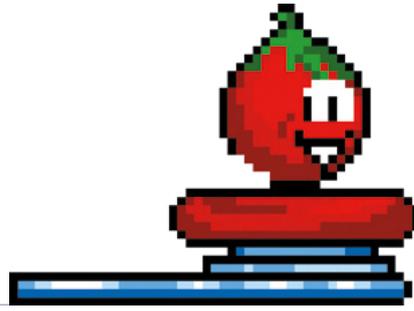
their heritage, but the same can, and should, be said of Psygnosis itself. Would you have played *G-Police* or *Wipeout 2097* and thought 'Yeah, that's made by a UK team'? No, of course not. The homogenisation of gaming culture was an inevitability and a wave ridden out by Psygnosis. It was also something that contributed to the studio's consolidation within Sony towers and, of course, its eventual shutdown. What was once creative and vibrant, standing out on the shelves in the shops and luring you in with promises of otherly worlds and rich atmospheres, soon became a team pumping out Yet Another Game. By 2000, Psygnosis no longer existed in name. 2012 saw what became of the studio closed down for good. 🗿

### So... what about Studio Liverpool?

Psygnosis didn't die at the turn of the millennium – it was incorporated into the grand corporate family at Sony and rebranded as Sony (later SCE) Studio Liverpool. The loss of its name, many of its staff, and its relative independence came hand in hand with a significant shift in output: from 2000 through to the studio's closure in 2012, Studio Liverpool released twelve games and one DLC pack, all either *Formula One* titles, or new/reworked entries to the *Wipeout* series. They were, generally, good games. All the same, it was genuinely sad to see a developer and former publisher of such a wide range of games in many genres and styles go down this very limited path, but this was a direction pretty much forced on the team by Sony. Psygnosis didn't die at the turn of the millennium, but its spirit didn't survive post-2000.



^ Psygnosis' latter years – as Studio Liverpool – were dominated by *F1* and *Wipeout*.



# Psygnificant

## Ten titles Psygnosis released

Publisher or developer: there were plenty more we couldn't fit here



01

### Brataccas

Amiga / Atari ST / Mac – 1986

*Brataccas* sees players taking control of a genetic engineer searching for evidence on a colonised asteroid to clear their name. It stands out for three reasons: one, it's Psygnosis' first game. Two, it saw Roger Dean artwork on the cover. Three, it came from the ashes of another project, *Bandersnatch*, which was in the works at Imagine Software but never actually released.



02

### Menace

Amiga / PC / C64 / Atari ST – 1988

A bland shooter might not grab your attention, were it not for the fact it was DMA Design's first game, that its coder was David 'I invented *Grand Theft Auto*' Jones, and that it was all made in Jones's bedroom at his parents' house. Oh, and that the backgrounds bore a striking resemblance to those in *Lemmings*. Odd, that...



03

### Shadow of the Beast

Amiga / C64 / Atari ST / multi – 1989

The first *Beast* saw the beginning of a fruitful partnership between Psygnosis and Reflections, the latter developing this legendary Roger-Dean-artwork-come-to-life-'em-up. The atmosphere and seemingly magical tech on show is something truly legendary. And while it isn't on the list, a special shout-out to Reflections' other Psygnosis series, *Destruction Derby*.



04

### The Killing Game Show

Amiga / Mega Drive / Atari ST – 1990

A unique take on a platformer-shooter, *The Killing Game Show*'s gimmick saw your playthrough replayed exactly as you'd just done it on losing a life, with the ability to interrupt at any point and try a different tactic. It's unsurprising something so seemingly simple but actually riddled with depth should come from Raising Hell Studios, aka Bizarre Creations.



05

### Lemmings

Amiga / everything else – 1991

As closely associated with Psygnosis, the publisher, as it is DMA Design, the developer, *Lemmings* changed the fortunes of both companies forever. It's hard to understate how much of a phenomenon this mix of puzzles and exploding mammals was in the early nineties, and it directly resulted in the explosive growth of DMA and Psygnosis' acquisition by Sony.



06

### Leander

Amiga / Mega Drive / Atari ST – 1991

Another first from a dev team, this time Traveller's Tales, *Leander* brought a mix of depth and arcade-style platforming/battling to the Amiga and ST before being ported to the Mega Drive. If you don't recognise the name of the developer, maybe you've seen it pop up on all those *Lego* games we see released each year, in the guise of TT Games.



07

## Wipeout

PSone / PC / Saturn – 1995

Psygnosis didn't just publish, and after Sony acquired the studio, it went to great lengths to become a development studio that defined the PlayStation as a format. The first result was *Wipeout*: an instant classic on the console and a game that... well, *defined* the overall attitude of this bold new generation of consoles. So yeah, a decent effort.



08

## G-Police

PSone / PC – 1997

As gaming evolved, so did Psygnosis – *G-Police* was a flight sim set inside a biodome on one of Jupiter's moons. It combined gorgeous looks (and poor draw distance) with impenetrable controls and a genuinely atmospheric narrative. It's one of those series you see bandied around on the 'Sony should bring it back' lists, and you'll find no disagreement here.



09

## Colony Wars

PSone – 1997

Same year as *G-Police*, same graphical style (dark, polygonal, neon lasers), but released from the confines of any biodome, *Colony Wars* brought together a superb console-styled space sim and a deep, involving, branching narrative. Overblown in some respects it might have been, but it's hard to deny how *cool* it was to see the big ships explode here.



10

## Team Buddies

PSone – 2000

Bar *Formula One 2000*, *Team Buddies* was Psygnosis' last game under that name. This was made by the Camden offshoot, not the core studio, but *Team Buddies* was still a fine swan-song. Despite controversy – they swore! – it was a neat RTS and a hoot in multiplayer. It was also the last truly original thing the studio formerly known as Psygnosis would do.

# It's fun to share!



## STEVE MCNEIL

Steve has always loved games, and yet he missed out on the best ones for ages.

**“It’s easy to get going and, in these strange times, it’s a great way to have some fun with friends, remotely”**



◀ Share Play: no second copies required.

**T**his week, I did something really stupid. I gave someone four games on Steam. This might not sound stupid; it might even sound like I'm nice\*. The reason I gave them was because we had a guest on our show on Twitch, Bilal Zafar\*\*, who doesn't have a PS4. Why does this matter? Well, because usually we just give our guest a PSN login, so they can temporarily download and play multiplayer games against me from our company's 'Player 2 account', thus avoiding having to buy them afresh for a new guest every time. As Bilal only had a PC, we had to grab a few PC games to battle on instead.

What I failed to remember, as many of you have already done, is that I should have just used Steam's Remote Play feature. It allows you to share your multiplayer games with four friends or more, if your internet connections are beefy enough, without them needing to own or install them. This is obviously a godsend for our show, both logistically and financially, and I won't be making that mistake again. Really, I'm only telling you here because I wanted to sing its praises for anyone who's not yet given it a go. It's disarmingly easy to get going and, in these strange times, it's a great way to have some fun time with friends, remotely.

Of course, there is further confirmation hidden above that I am a very thick man. Did you spot it? That's right, I have purchased second copies of most casual multiplayer games on PS4 to use in our show, when I could have just used the console's similar Share Play feature. If you ever bump into the guy I do these shows with, Rob Sedgebeer, please don't tell him I've wasted £400 on games.

I'm not the only one to have forgotten Share Play, of course. I think most of us have ignored it for a long time, partly due to it only allowing one other person to connect but, more annoyingly, it having that 60-minute timeout where you have to then reconnect them. But in truth, that's a minor issue (and certainly not one for our show, where single battles last just a few minutes).

There are so many incredible games out there that you could enjoy with friends remotely right now, so I'll end with a few of our favourites, some simple, accessible indie games that don't take much time for new players to get their heads around: *Gang Beasts*, *Nidhogg*, *SpeedRunners*, *Tricky Towers*, and *Oh...Sir!! The Insult Simulator*. Yes, that last one is a real thing.

Here ends my Public Service Broadcast. 📺

\* I'm not.

\*\* [twitch.tv/Zafarcakes](https://www.twitch.tv/Zafarcakes) – please check him out on Twitch if you haven't already, he is incredible.

# Backend Contents

Reviews, retro games, and lots more besides

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- 94. SnowRunner** PC, PS4, XBO
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- 97. Before I Forget** PC, Mac
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- 102. Moving Out** PC, PS4, XBO, Switch

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- 10-19**  
A truly bad game, though not necessarily utterly broken.
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- 30-39**  
Might have a redeeming feature, but otherwise very poor.
- 40-49**  
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- 50-59**  
Average. Decent at best. 'Just about OK'.
- 60-69**  
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- 70-79**  
A very good game, but one lacking spit and polish or uniqueness.
- 80-89**  
Brilliant. Fabulous fun. Everyone should at least try it.
- 90-99**  
Cutting edge, original, unique, and/or pushes the medium forward.
- 100**  
Never say never, eh?



^ Page 92: Does the PS4's last big exclusive leave us hai-cooing?

## PLUS

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Getting into a 2D platformer; falling out of love with Story of Seasons
- 112. Killer Feature**  
The one thing that lifted OutRun from a great game to an absolute legend.



^ Page 112: The magical melodies of OutRun, celebrated.

# Ghost of Tsushima

Sakura Punch

## Info

**GENRE**

Kurosawa-'em-up

**FORMAT**

PS4 (tested)

**DEVELOPER**

Sucker Punch Productions

**PUBLISHER**

Sony Interactive Entertainment

**PRICE**

£49.99

**RELEASE**

Out now

**REVIEWED BY**

Nic Reuben

## HIGHLIGHT

My head says the Guiding Wind, but my heart has to go with Shigeru Umebayashi and Ilan Eshkeri's stirring score; sweeping Hollywood grandeur with Japanese folk instrumentation.

► The larger villages are detailed mazes of rooftops, alleys, and shadows for Jin to surprise his enemies.

I was having trouble writing about *Ghost of Tsushima* until I read the comment: "I love how the pure beauty of this game has turned every reviewer into a poet" online. A visually beautiful game is one thing, but a game inspiring its audience to want to creatively toast to that beauty is a lovely thought. I'm tempted to attempt my own descriptions, but I think acknowledging a communal experience here is worth more than describing a personal one. So, in lieu of gilding the lily: *Ghost of Tsushima* is so beautiful it will make you want to write about how beautiful it is.

It's a stunning bit of virtual tourism, although front-row seats have come at the lamentable cost of any real risks in terms of the game's structure. We've all been to *Tsushima's* stealth-action open world before, it turns out. Liberated its outposts, climbed its towers, slaughtered its wandering patrols. Dotted the islets and crossed the streams in a time-killing trance. It's a superhero origin story written by a haiku poet; perhaps to pay the bills between passion projects, or perhaps because this is where their heart always was. Predictable right up to the point where a splash of colour or detail leaves

you breathless. Pulp, sure, but when was pulp ever not entertaining?

The plot's inciting incident is a Mongol invasion of the Japanese island of Tsushima, but the central question is this: how would an honour-bound samurai react if fate forced them to become an opportunistic stealth-game character? It's an internal struggle that follows the Ghost, samurai Jin Sakai, from his first silent kill to the game's conclusion. Jin is likeable enough – all easy humour and boy scout bravado – if thinly sketched. It's this conflict, not so much the man conflicted, that propels the story, and propels it well.

It does slip from the arresting to the maudlin frequently, though, as you side-quest your way through scores of hopeless short stories, the conclusions to which often feel like the game overplaying the despair card in a ploy to thrust Jin toward the light at the end of the tunnel. That's not to say the story is incapable of affecting tragedy. There are some genuinely harrowing moments, thanks in no small part to





REFLECT ON REFUGE



▲ Jin can rest to compose haiku at certain spots on the island.

phenomenal motion capture, able to convey wordless anguish through nothing more than gritted teeth and taut facial muscles. Still, much of the tragedy that occurs outside the main plot begins to develop a cloying, synthetic aftertaste to it through overuse.

The ensemble cast that join Jin on his quest are well-acted, voiced, and exceptionally likeable, though, and the handful of times they all convene for a mission are not only highlights of the game, but some of the most engaging action set-pieces I've played in recent memory. Not thrilling in say, the *Uncharted* sense, but the sense of taking part in pivotal narrative beats that make you want what Jin wants. A thief and her blacksmith brother, an irritable sensei, a warrior monk, and a proud woman out to avenge herself all have their own personal quest chains. You'll get to know them individually, and when the time comes, you'll feel like you're heading into battle surrounded by people you care about.

That fighting itself? It's crimson-spattered choreography that embodies both the zenith and nadir of what the word 'cinematic' means for action games. It's a system that evokes the desperate duels of *Sekiro* and the counter-punch combos of *Batman: Arkham*, but is hampered by a dedication to visual flourishes that snare it in with the slightly cardboardy, limp rhythms of fencing in an early *Assassin's Creed* title. The same lavish audio-visual design defining *Tsushima* prevents it from ever feeling weightless, however, and each finishing blow is such a decisive, convincingly virtuosic act of violence that it's rarely unsatisfying.

There's the *Ghost* side, too: Jin's selection of stealthy tools. Smoke-bombs, hallucinogenic blow darts, wind chimes to distract, throwing daggers, explosive arrows, and the classic knife in the back. You've uh... you've played a third-person stealth-action game before, right? You know how the chorus goes. Avoid direct sight lines and you can silently kill some poor

**"A superhero origin story written by a haiku poet"**



▲ The tension between honour and pragmatism propels the story without dictating the action.

sod while his mate whistles and waters plants two metres away, and the game will make you feel like the Predator in a Kabuto helmet for being smart enough to work out which side of someone's head is the back. Old room, new paint job, looks and feels like 2020, thinks like 2007. The explosive arrows are more fun than a monkey with a jet pack, though.

*Ghost of Tsushima* has a few tricks all of its own, though. The Guiding Wind – gusts that blow in the direction of your next objective, taking any need for a minimap with them – is a simple but effective solution to a long-persistent issue.

The stand-off battles you can initiate to duel groups of enemies are astoundingly tense, and the way Jin flicks his Katana clean of blood after a fight is consistently brilliant. Again, in lieu of a paragraph of flowery descriptions, the soundtrack is on YouTube. Go have a listen ([wfmag.cc/ghOST](http://wfmag.cc/ghOST))! It's phenomenal, and this extends to every aspect of *Tsushima's* sound design, from the clattering of horse hooves to the Mongolian folk singing drifting to meet you as you sneak up on an enemy camp.

If you've got a new TV or sound system you've been dying to test out, don't especially care about seeing anything you haven't seen before, and fancy a weekend or two of luxury digital escapism, then it's a fairly easy recommendation.

*Ghost of Tsushima* asks very little from the player – it reminds me, in many ways, of the very first *Assassin's Creed* game – and, comparatively, gives a lot back. It's gorgeous enough to bear repeating, and it's as wildly competent as the word 'wildly' can be stretched before the word competent needs upgrading.

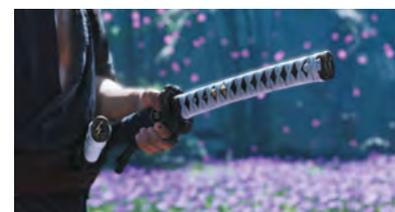
I enjoyed myself right up to the final moments, but I'm left with very little motivation to return to *Tsushima* again. I might well flick through some photographs, though. 🐼

**VERDICT**

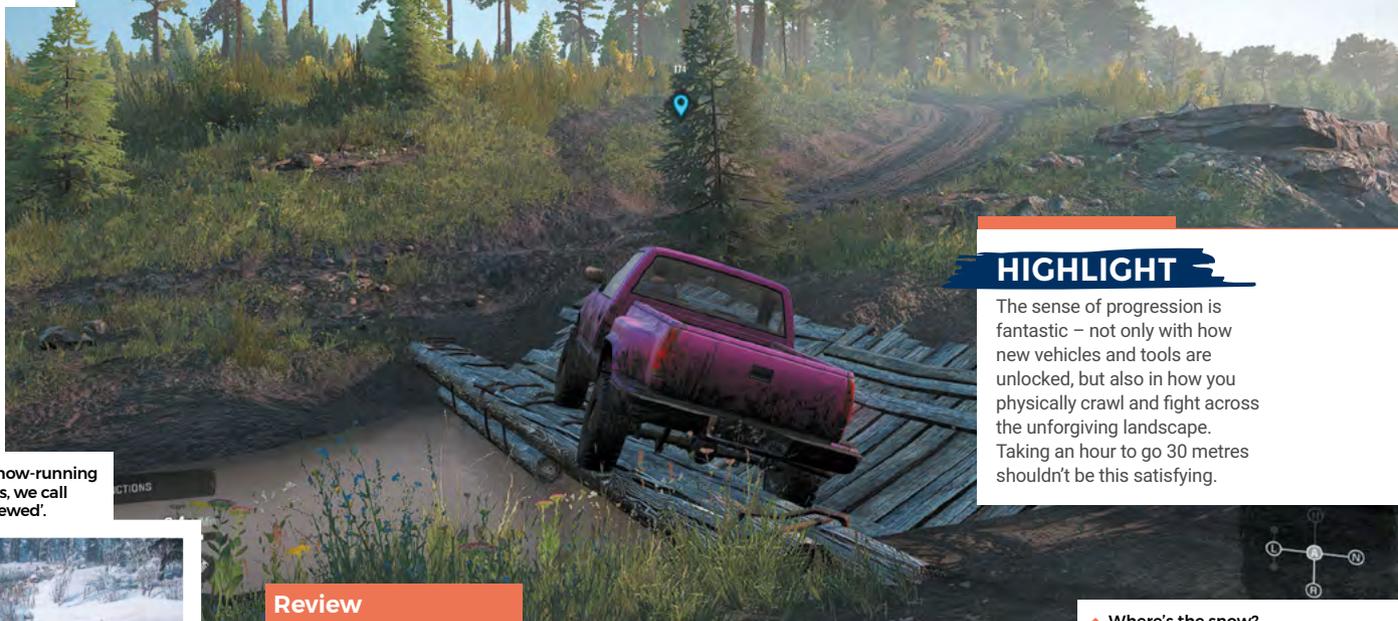
*Ghost of Tsushima* is a competent stock genre offering, but – like its protagonist – it'll make a strong impression before slipping back into the shadows beyond sight, and likely beyond memory.

**70%**

▼ Cinematic, tense duels are one of the game's highlights.



**Rated**  
Review



## HIGHLIGHT

The sense of progression is fantastic – not only with how new vehicles and tools are unlocked, but also in how you physically crawl and fight across the unforgiving landscape. Taking an hour to go 30 metres shouldn't be this satisfying.

✓ In the snow-running business, we call this 'screwed'.



Review

▲ Where's the snow?

# SnowRunner

Snow business like the driving sim business

## Info

### GENRE

Simulation / Driving

### FORMAT

PC (tested) / PS4 / XBO

### DEVELOPER

Saber Interactive

### PUBLISHER

Focus Home Interactive

### PRICE

£34.99

### RELEASE

Out now

### REVIEWED BY

Joe Parlock

## VERDICT

*SnowRunner* feels too similar to its predecessor to stand out as an essential.

**64%**

have a lot of time for The Series Formally Known as *Spintires*. The first, *Spintires*, introduced a completely original take on the driving sim that rewarded perseverance and mastery over the terrain, while its successor, *MudRunner*, took that formula and made it much more polished and accessible. Now we're on the third entry, *SnowRunner*, which maintains everything that made its two siblings great, but also adds a creeping hint of staleness to the formula.

It's a hardcore driving simulator where you're tasked with navigating hulking vehicles over muddy, tricky environments. By carefully managing your fuel, gear, and situation awareness, you're able to haul your trucks to complete contracts in mud, rivers, and now, as the title might suggest, snow.

*SnowRunner* has retained the simulation excellence of *MudRunner*, offering beautifully grim environments and detailed vehicles. There's nothing more satisfying than trampling over the ground with a brute of a lorry and seeing mud squelch and twigs snap underneath the tyres. Much like *MudRunner*, the joy of *SnowRunner* isn't in the times where you're zipping along; it's when you're inching through the mud, frantically switching gears and tethering to anything you can find. Spending ten minutes and moving only a couple of metres shouldn't feel satisfying, and yet it absolutely does.

*SnowRunner* has also successfully streamlined the controls, making the entire game a much

more accessible experience than ever before.

The hours of tutorials and challenges are gone, and instead you're taught the basics of the game in a more seamless way. The *Spintires* series has always felt like a battle with the controls as much as it did the world you were driving in, but with *SnowRunner* it finally feels like a problem of the past.

However, all of these things are small iterations on the formula and not anything I could reasonably call sequel-worthy. The snow doesn't make as much of a difference as would initially be expected – black ice poses a decent threat, but the snow itself feels like reskinned mud. Annoyingly, the water remains stubbornly liquid, too; I would have loved to acquire new tyres to distribute my vehicle's weight better while crawling across frozen lakes and rivers, but the game just doesn't lean hard enough into its Arctic theme.

What's worse is that the snow is only in one of three locations – the other two are just as muddy as any other entry in the series, and pose the same challenges as well. This isn't the *Ice Road Truckers* fantasy I was hoping it would be.

*SnowRunner* could have been an expansion to *MudRunner* instead of being a fully priced sequel. What you get is still an excellent bit of sim driving, but for the most part, that's because *MudRunner* was excellent. If you're new to the series, *SnowRunner* is a great place to start, but veterans may get just as much enjoyment out of its muddier brethren. 🗣️

HIGHLIGHT

The charm of *Atomicrops* is heavily bolstered by the personality of its evil bunnies and boss monsters, but most of all, the crops themselves. There's nothing more heartwarming than a field full of warbling, smiling chillies, prickly pears, and rice plants bouncing with joy. It's almost a shame to pick them.



- ▶ Grow some roses and you'll be able to pursue a romantic relationship when you visit town.
- ▶ Different characters can be unlocked, each with unique abilities.

Review

# Atomicrops

Farmed and dangerous

It's tough being a farmer in *Atomicrops*. You start at sunrise, tilling, weeding, and watering your small grid of arable land, then head into the surrounding wilds to forage for supplies before dark. At sunset, you gun down the slugs, locusts, and alarmingly well-armed rabbits that descend on your blossoming veggies until dawn returns. Survive, and there's just time to sell your produce and tool up for the next day's work. It's a punishing schedule, but it quickly reaps rewards, and there's a sense of pride with every monster carrot you bring to market.

Tight time limits and neatly interlocking systems are the key ingredients in this colourful roguelike. Farming your patch is initially labour-intensive, leaving small windows to explore further afield, but you soon gather tools that increase your productivity and expand your land, recruit cows, pigs, and bees to help take care of crops, and install drone turrets for defence. Proficiency and delegation mean deeper excursions, rarer seeds, and more bumper yields. All the while, the remains of pests you exterminate make for high-quality fertiliser, which further increases the harvest.

*Atomicrops* works because it refuses to compartmentalise its phases of play, and encourages multitasking. Crop tending can be fiddly to direct, as a single button triples up on digging, planting, and weeding duties. But a little imprecision is a small sacrifice once you grasp the potentials of farming and fighting simultaneously.

**“The remains of exterminated pests make for high-quality fertiliser”**

You soon find yourself clearing weeds or rooting a new sapling between enemy waves. Once things get busy in later seasons, you'll be scattering seeds and planning how to maximise space while weaving between grenade impacts and blasting a tide of insects closing in on your date tree. Backed by twangy guitar tracks and the chattering of your lively plants, it's a frantic and blissfully surreal experience.

All that's missing is an element of surprise. The short duration of each day leaves no room for intricate level design, so the roguelike random element has little effect on locations. The four

themed areas around the farm are simply large open spaces, teeming with local beasts and collectables encircled by clusters of guards. While each environment has bespoke creatures, and blasting

through them is therapeutically fun, it's only really the rewards that differ each time. You'll also see the same end-of-season boss battles in each run, repeating tactics learned long ago.

Few games mash-up genres with the same fluidity as *Atomicrops*. Tight twin-stick shooting melds seamlessly into the positive feedback loop of sowing, reaping, and commerce, and the tone is joyously silly. Yet variety is heavily focused on items you unlock and find, rather than places and adversaries, and there's only a rising difficulty to tempt you back once you complete all four seasons. For the short to medium term, that's plenty, but even the hardest working farmer might burn out after a few years. 🐰

Info

- GENRE**  
Farming / Twin-stick shooter
- FORMAT**  
Switch (tested) / PC / XBO / PS4
- DEVELOPER**  
Bird Bath Games
- PUBLISHER**  
Raw Fury
- PRICE**  
£13.49
- RELEASE**  
Out now

REVIEWED BY  
Jon Bailes

VERDICT

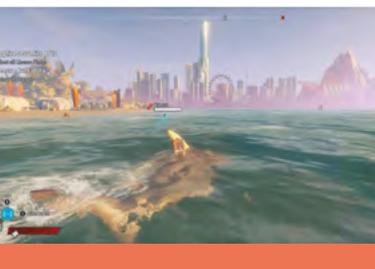
A hearty, wholesome feast that's just short of a few secret ingredients.

73%

## HIGHLIGHT

Actor Chris Parnell (*SNL*, *Rick and Morty*) provides narration throughout the game, injecting the moment-to-moment action with plenty of character. He has a talent for sounding authoritative even when talking complete nonsense, and spends the game delivering comical one-liners, numerous pop culture references, and even some actual shark facts.

▼ When you're not eating the hapless residents of Port Clovis, *Maneater* is a collect-a-thon, with landmarks to find, licence plates to hoard, and dubious nutrients to consume.



Review

▲ Growing from a pup to a megashark offers the kind of size progression that's rarely found in RPGs. By the end, you barely resemble an actual shark.

# Maneater

They're gonna need a bigger boat

## Info

**GENRE**  
Shark-'em-up

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

**DEVELOPER**  
Tripwire  
Interactive

**PUBLISHER**  
Tripwire  
Interactive

**PRICE**  
£34.99

**RELEASE**  
Out now

REVIEWED BY  
Richard Wakeling

## VERDICT

Being a killer shark is inherently satisfying, but tedious mission design holds *Maneater* back.

58%

**T**halassophobia is an intense fear of the ocean that encompasses the dread of open water and the sea creatures that reside within it. Yet even this anxiety-inducing phobia is quick to dissipate when you're the one inhabiting the black, lifeless eyes of the ocean's apex predator. Instead of being frightened by what might be lurking in the murky depths below, *Maneater* casts you as a bull shark and turns the ocean into your playground, where seals, turtles, and human beings are only one violent bite away from providing a hearty meal.

Admittedly, this insatiable bloodlust isn't great PR for sharks, which have been vilified since the release of *Jaws* in 1975; though *Maneater* isn't concerned with providing a lovable human cast, either. It parodies the cheap-thrill reality shows you'll find on American TV, following the shark-hunting exploits of antagonist Scaly Pete. A natural rivalry is formed when he kills your mother, cuts you out of her womb, and proceeds to lose an arm for his efforts, setting the stage for a bare-bones story that at least provides some momentum.

From here, you begin life as a pup before gradually growing in size to a teen, adult, elder, and finally a megashark. That last growth spurt is more at home in a cheesy B-movie than anything based in reality, but it does give you a decent idea of *Maneater's* irreverent tone. As you devour the local sea-life and complete quests, you'll not only grow in size but also amass a curious

assortment of evolutionary upgrades. These range from electrified teeth to rock-encased fins and even the ability to fire lethal venom from your tail. Experimenting with this diverse arsenal of upgrades is a large part of *Maneater's* charm.

Unfortunately, however, the novelty of *Maneater's* premise doesn't carry over into its mission design. The environments may be varied, as you begin life in a dreary bayou before making your way into the waters of an opulent beachside neighbourhood, the expansive depths of the Gulf of Mexico, and so on, but the majority of quests in these areas simply revolve around consuming x number of y. This only deviates when you have to, say, sink a boat, or defeat a single, more powerful target.

Combat against foes like alligators, orcas, and great white sharks is slightly more interesting than eating defenceless fish and humans. You have a standard bite attack, a tail whip for stunning targets, and a dodge for weaving out of harm's way when whatever you're fighting propels itself towards you like a torpedo. The lack of a dedicated lock-on makes these encounters clumsier than they would otherwise be, though, and spamming the attack button is usually more than enough to defeat most enemies.

There's a simple pleasure in being a killer shark, but *Maneater's* unique premise and comic tone are neglected in its pedestrian mission design. At under ten hours in length, repetition isn't enough to completely sink it, but this shark could've done with more bite. 

That was before we met. I look so young!

Rated  
Review

## HIGHLIGHT

Flashbacks are often fleeting, but the ones that linger most in the memory take you all the way back to Sunita's childhood in India as she goes stargazing with her Auntie Leela. Besides an indicator of what inspired her to pursue cosmology, it's just refreshing listening to Hindu myths delivered by authentic South Asian voices.

Review

# Before I Forget

Home alone

**A**s someone who's had to rely on glasses from a very young age, I can sympathise with a game that begins with everything looking blurry until you've fumbled around for your specs. That motif of bringing a world back into focus continues in *Before I Forget*, only now it's to paint a picture of a woman struggling to hold on to her memories.

As you study photographs, magazine covers, trophies, and other pieces of the past, the objects and their surroundings fill with colour and detail. You remember that you are Sunita, an Indian cosmologist living in a nice part of London and happily married to a concert pianist called Dylan. It all sounds rather comfortable and middle class, except that she's also living with dementia. While her condition is never made explicit, it's made apparent when you see all the Post-it notes someone has left with instructions, or reminders on what day it is, or when she examines a pocket watch but can't articulate what it actually is.

You'll encounter other manifestations of her symptoms over the course of the game, but that's not to say this is a rote dementia simulator – nor does it lean heavily on exploitative tropes. What you do get is a grounded portrait showing different shades of the condition. Certain interactions trigger flashbacks, which feel more immersive thanks to the use of voice acting. For Sunita, however, these moments feel no

different from the present, as she muses on when she'll next see that person, seemingly unaware her last exchange with someone was years in the past.

More importantly, *Before I Forget* is a love story, as you relive Sunita's relationship with Dylan and the life they have built together. Telling this story through photographs, postcards, love letters, and other nostalgic artefacts will be familiar to anyone who's played a walking sim in the past decade. Nonetheless, where that's usually for discovering someone else's story, there's an acute poignancy in

restoring her own happy memories, which also hint at an unspoken conflict between two accomplished individuals balancing their career ambitions and their future together. The game, however, isn't without limitations,

literally gating certain doors in the flat until the story dictates you can explore further, while the ending does come somewhat abruptly, even if you might be able to guess where it's all leading.

Ultimately, it's a short experience you can finish within an hour, although a developer's commentary can be unlocked for a second playthrough. That being the only unlockable seems for the best though, as the story does all it needs to without unnecessary padding. There have been a few games addressing mental health or neurological issues in recent years, but it's good to see one that doesn't seek to gamify it through any distracting gimmicks. 🗨

**“This is not a rote dementia simulator – nor does it lean heavily on exploitative tropes”**

▲ There's a distinctly impressionist visual style as colour seeps back in after iterating with objects, as if their significance has been restored.

## Info

### GENRE

First-person narrative

### FORMAT

Mac (tested) / PC

### DEVELOPER

3-Fold Games

### PUBLISHER

3-Fold Games

### PRICE

£5.99

### RELEASE

Out now

### REVIEWED BY

Alan Wen

## VERDICT

*Before I Forget* depicts dementia with sensitivity while reminding us there's more to a person than their condition.

72%

Rated  
Review

## HIGHLIGHT

Ben and Dan are a cracking pair of protagonists. Sure, sometimes they get a bit too self-referential, but most of the time their friendship feels real and irreverent in a way you don't see often in games. It probably helps that they're based on the real friendship of developers Ben Ward and Dan Marshall.

It's rather rude.

Review

# Lair of the Clockwork God

Like *Monkey Island* with more jumping and naughty jokes

## Info

**GENRE**  
Platformer /  
Point-and-  
click

**FORMAT**  
PC

**DEVELOPER**  
Size Five  
Games

**PUBLISHER**  
Size Five  
Games

**PRICE**  
£15.49

**RELEASE**  
Out now

REVIEWED BY  
Joe Parlock

## VERDICT

Its bugginess isn't enough to take away from what is a truly unique, hilarious, and clever adventure game, with a surprisingly good platformer thrown in for good measure.

77%

**E**very few days we seem to get somebody claiming the point-and-click adventure is dead. Which is weird, considering we're constantly getting games like *Kentucky Route Zero*,

*Thimbleweed Park*, and basically anything Wadjet Eye does. And look! Here comes yet another game to prove that point-and-clicks are well and truly still alive, Size Five Games' *Lair of the Clockwork God*. While far from perfect, its novel take on the genre lets it stand alongside the adventure game greats.

Size Five has a history in the point-and-click space, having developed the excellent *Ben There, Dan That!* and *Time Gentlemen, Please!* way back in the late 2000s. *Lair of the Clockwork God* marks its return to the genre, but it's also brought a few new ideas along with it.

*Clockwork God's* main hook is that one of its protagonist duo, fictionalised versions of the game's developers Ben and Dan, has decided that instead of being an adventure game protagonist, he now wants to be a platformer mascot instead. And so you must swap between the two to solve the various puzzles: one playing as a standard point-and-click and the other controlling much more like *Super Meat Boy*.

What's surprising is that neither genre feels diminished by the other's presence. The platforming feels quick and responsive, with some death-defying jumping required, while the adventure game aspect has all the combining random objects and talking to everything in sight you could possibly want.

Often, the interaction between the two genres is as simple as doing a bit of platforming to carry

the adventure guy to his next task, but there are some flashes of brilliance – particularly when the influence goes the other way, and you have to adventure-game-logic your way around traditional platformer obstacles. One sequence sees you examine/combine inventory items, and chat to NPCs to get around the 'platformer afterlife', where all platform protagonists go before they respawn. Moments like that are absolute genius.

The humour won't be to everybody's taste. Sometimes it swings too far into self-referential territory, or sniping at other games. But brief eye-roll moments are surrounded by genuinely funny ones and interactions making every character memorable in their own way. Ben and Dan's back-and-forth, in particular, is incredibly well-written, feeling more like you're intruding on two friends chatting in the pub rather than saving the world from every apocalypse happening at once.

*Lair of the Clockwork Gods'* biggest problem is its bugginess. The UI sometimes decided to stop working for no obvious reason, and at one bit, I got stuck in a never-ending loop of dialogue that I had to force-close the game to escape from. I'd broken the game in so many different ways that as soon as I hit a wall in my progress, I'd first suspect a bug, instead of it just being me not knowing what to do next. (Do note the game has been patched since this review was written.)

Despite its flaws, *Lair of the Clockwork God* is a fresh-feeling game. With its slick platforming, irreverent dialogue, and clever puzzles, it's going to be difficult for people to claim the point-and-click genre is dead after this. They will, of course, but they'll look even sillier when they do. 🗿

## HIGHLIGHT

Learning about how the different zombies move and attack is super-important if you want to succeed. Once you've got the knowledge, you can figure out what's what with a glance, and that's testament to the brilliant design of the game.

▲ You can use environmental elements to deal massive damage, but be careful not to waste them.

Review

# Wanna Survive

The smartest, tiniest zombie assault around

**T**urn-based strategy games are often considered the more ponderous cousins of their RTS kin. Zombies, on the other hand, are meant to be a furious and implacable army, focused only on chowing down on your digital bones – stopping and waiting doesn't really become them. *Wanna Survive* takes these two seemingly opposite ideas and combines them, creating something that's original, tense, and just the right side of frustratingly tough.

The game sees you leading a pack of survivors through grid-based levels filled to the brim with a variety of slobbering undead wretches. Unlike other turn-based games where each unit moves individually, here the two sides have different styles. The survivors move one at a time, letting you pick out your actions and make your stand; the zombies move all at once, crowding in around you and attacking as a pack. There are icons to make sure you know what's going on – marks on the squares

show where you can move and attack, and an exclamation mark flashes above your characters when they're in range of a zombie's next move. Those characters are incredibly fragile – once they die in a fight they're not coming back, which can make the next level even more difficult. You also need to feed them between each scrap – leave a character unfed for too long and they'll die of starvation, again leaving you short for the next battle.

Different characters have different skills, too – some have shotguns, others just wave around sticks, and there are characters with powerful fists who can knock back the horde. That's really important, because there's a clever 'grasp and bite' system here. A zombie holding onto one of your fighters will attack the next turn, and when they're that close you can't use a ranged weapon to get rid

of them. Using your team in unison is the key to success, and leaving one of them stranded with a bad move can really ruin your chances of victory.

*Wanna Survive* manages to blend its two ideas together really well and fits the end product onto mobile in some really clever ways. Levels never take more than a few minutes, and a save system at the end of each fight lets you back-up your progress in case you take too many casualties and need to restart. It doesn't loosen up the genre enough to make it welcoming to everyone, but it makes for a more frantic and entertaining experience that, even when it gets super-hard, is going to keep you coming back for more. 🗣️

**“Zombies move all at once, crowding in around you and attacking as a pack”**

▼ Getting surrounded by zombies is never a good idea; try and avoid it if you can.

## Info

**GENRE**  
Strategy

**FORMAT**  
iOS (tested) / Android / PC

**DEVELOPER**  
PINIX

**PUBLISHER**  
PINIX

**PRICE**  
£2.99

**RELEASE**  
Out now

**REVIEWED BY**  
Harry Slater

## VERDICT

*Wanna Survive* is tough, but massively rewarding at the same time.

**80%**



- > Mirio Togata joins the fight!
- > Quirk-based super-moves always look awesome.



Review

### HIGHLIGHT

The expanded roster does more than just add a few new characters. Older staples have been boosted to feel more powerful and viable, reflecting the progress they've made in the show. Midoriya's even got an entirely new fighting style, with his kick-based shoot style now playable.

# My Hero One's Justice 2

Go beyond! But only a little bit

## Info

### GENRE

3D Fighting

### FORMAT

PC (tested) /  
XBO / PS4 /  
Switch

### DEVELOPER

Byking

### PUBLISHER

Bandai Namco

### PRICE

£39.99

### RELEASE

Out now

### REVIEWED BY

Joe Parlock

## VERDICT

Although it captures the magic and intensity of the show, it fails to improve on the first game.

# 56%

In the 18 months since the first *My Hero One's Justice* came out, the *My Hero Academia* universe has expanded significantly. The ever-lovable Izuku Midoriya and his classmates have all come into their own as heroes-in-training, and the enemies have gotten bigger and scarier along the way. Despite the advances seen in the anime, *My Hero One's Justice 2* just feels like it's treading the same ground as the first.

In the future, everybody has superpowers and so some, including the series' protagonist Midoriya, train to become 'heroes' who use their 'quirks' to fight back against an ever-increasing wave of villainy. By jamming together western superhero media with the intensity of a shonen anime, *My Hero Academia* managed to become a massive hit, and is by far one of the best animes you can watch today.

Much like the first game, you play as a wide range of characters from the show and use their own unique quirks to do battle in a 3D arena-style fighting game. The roster is *One's Justice 2's* greatest success, as it gives the old favourites like Bakugou and Kaminari some move-list updates to reflect their progression in the show, while also introducing new fighters from the third and fourth seasons. *Finally*, you can play as the best boys in the whole series, Mirio Togata and Fat Gum.

It's smart how some of the more intangible quirks have been adapted. Midoriya's super-strength is simple, but what about someone like Togata who can slip through walls, or Sir Nighteye's future vision? Byking has done a good job of making each fighter feel viable and powerful while staying true to their character.

But *One's Justice 2* not only fails to fix a lot of the first game's problems, it straight-up recycles content – stages being the biggest offender here – making it feel more like an expansion. *One's Justice 2* can only be called a sequel to the first because

**"Each fighter feels viable and powerful while staying true to their character"**

it continues the story set out for it by the anime, not because it makes any sort of iteration or improvement. The fighting is high-on identical, being very simplistic and easy to mash your way through. The story is also still told through slideshows of screenshots from the anime, meaning any of the character development or nuance of the show is lost for the sake of brevity. This one is even less approachable for newcomers to *My Hero Academia*, as it literally starts in the middle of the story.

*My Hero One's Justice 2* isn't good on its own merits – it's good because *My Hero Academia* is good. For many, this will be more than enough. Being able to run around as Endeavor or Kendo Rappa might give fans a buzz, but it does nothing to assuage the overwhelming sense these games have been made to quickly cash in on a show's glimmer of popularity. 🗣️

HIGHLIGHT

Showdown Mode may be just fancier wording for 'pause', but that doesn't stop it being a remarkable tool for establishing complex causal chains between character abilities, environmental cues, and enemy behavioural patterns. Meticulous orchestration is required, but dispatching a group of carefully positioned guards with a single command is immensely satisfying.

▲ Long Coats are the toughest opponents in the game. It will take Hector's brute strength or some serious collective effort to incapacitate one of them.

Review

# Desperados III

The fastidious bunch

**D**esperados III has cinematic aspirations. It's an obvious thing to point out, but this game *really* tries hard to nail the spaghetti western feel. Delivering 'cinematic' experiences was a near-universal aspiration for the industry in the early 2000s, but rarely had that dubious ideal been approached with the assurance of the original *Desperados*. A wild west saga played out in cycles of intense tactical planning, followed by spurts of hectic action, its exquisite dioramas would freeze then revive with a press of the pause button, making you feel like the star in a genuine American frontier epic. Injecting life into the fading franchise could have been a challenge, but German studio Mimimi had already proved itself up to the task by modernising the genre with its previous game, *Shadow Tactics*.

A prequel dealing with protagonist John Cooper's first encounters with his long-standing comrades, *Desperados III* tells a convincing, even occasionally touching origins tale so liberally peppered with *Once Upon a Time in the West* references it almost crosses over into homage territory. From the initial act of involuntary patricide that sets Cooper on the path of revenge, to the majestic closing confrontation inexorably leading to one final pull of the trigger, Sergio Leone's fingerprints are all over this story, and it's all the better for it. Even the electric guitar flourishes punctuating the flashbacks' climactic moments are Ennio Morricone-inspired.

Over 16 chapters, you will become familiar with the distinct personalities and skillsets of five playable characters, including new series entry

Isabelle Moreau, whose voodoo powers make her the deadliest of the group. Gradually, you'll learn to co-ordinate all that knife-throwing, trap-setting, and sharpshooting to counter increasingly complex setups by the railroad company's hired muscle with a minimum of fuss. Stealth isn't required, strictly speaking, but there's a certain inelegance to finishing a mission with guns blazing, a small army at your heels, hanging on to your last shreds of health when options abound for a smoother exit.

While the series' mechanical core has remained intact, a powder keg of criss-crossing patrol trajectories and probing visibility cones are ready to explode at your slightest misstep, so environments in *Desperados III* feel more vibrant and responsive than its predecessors, as chickens noisily cluck at your approach and footprints on snow reveal your position to guards. They offer some dazzling sights too: an array of traditional locations complemented by a lavish party at a train mogul's estate or the back alleys of New Orleans.

For all its theatrical allure, however, the visual ambiguity of the isometric perspective remains the source of frequent irritation. From the way right-clicking doesn't always select the desired character, to misjudging the elevation of your next target, you suffer one unintended causal chain after another. As the whole operation dissolves into shouts, stampeding feet, and gunfire, each reload starts feeling like an injustice personally inflicted on you.

Ironically enough, this also underlines the cinematic aspirations of *Desperados III*: you're the exasperated director shouting "Cut!" over and over again, until everyone gets their damn shot right. 🎬

Info

GENRE

Spaghetti western sim

FORMAT

PC (tested) / PS4 / XBO

DEVELOPER

Mimimi

PUBLISHER

THQ Nordic

PRICE

£44.99

RELEASE

Out now

REVIEWED BY

Alexander Chatziioannou

VERDICT

The *Desperados* franchise is back on form, establishing Mimimi as undisputed masters of the genre.

76%

Rated  
Review

2/24

2:40 0:26



- > If you want gold medals then you need to communicate and plan your move efficiently.
- > An interactive map of the town of Packmore lets you drive between destinations.



## HIGHLIGHT

When playing in co-op, heavy items can only be carried by two people working together. Holding down the throw button will start a swing, which can be released at the correct time to sling it in the right direction. It's not only satisfying but combines some of the game's best elements – planning, working together, and throwing things out of windows.

# Moving Out

Fred Durst is smiling because it's time to break some stuff

## Info

### GENRE

Co-op party

### FORMAT

PC (tested) /  
Switch / PS4  
/ XBO

### DEVELOPER

DevM Games  
/ SMG Studio

### PUBLISHER

Team17

### PRICE

£19.99

### RELEASE

Out now

### REVIEWED BY

Paul Walker-Emig

## VERDICT

An uneven but enjoyable co-op party game in the *Overcooked!* mould.

69%

**T**hrowing valuables through the glass of upper-floor windows into a truck below is just fun – there are no two ways about it. There's a lot of that sort of thing in *Moving Out*, a co-op party game where you and up to three other friends take on the role of professional movers. The idea is simple: you go into a property and get everything that needs to be moved loaded into the van as quickly as possible, regardless of how damaged that might leave the property and the stuff you are moving.

Though you can play *Moving Out* in single-player mode, it'll be no surprise to hear that you'll get more out of it if you've got someone who can join you. Having two players opens up the possibility of engaging in some of the game's more fun mechanics, and adds a layer of complexity to planning when you're trying to optimise your runs for better times. For example, smaller items can not only be thrown, but caught, leading to some satisfying co-ordinated moves – grabbing each end of a sofa with a partner and giving it the old 1-2-3-throw is unendingly satisfying.

Complexity is added as you progress through the game, with the unconventional architectural tastes of some of the residents of the town of Packmore providing bizarre layouts to work in, encouraging you to think carefully about how best to move objects through the space. Things get

ever more outlandish as you're forced to hop across logs, *Frogger*-style, to move furniture across a river, deal with levers, fans, and conveyor belts, or dodge flamethrowers and other hazards. It's unfortunate that the developers didn't quite seem to get a handle on which of these nuances to the core idea made the game more fun or interesting and which just made it plain annoying. Some of the early additions to the game's formula are particularly frustrating – ghosts that chase and grab you if you wander into their field of view

are a pain in the backside – and it's only when you stick with the game a little longer that you discover there are some great ideas too, such as the movie-like scene where you throw things off a moving train

running beside you. You'll wonder why there's not a little more of the good ideas and groan in frustration when you stumble across the odd bad one, but this unevenness shouldn't be enough to ruin your fun.

*Moving Out* is a game clearly pitched to fill the *Overcooked!*-shaped hole we might be looking to fill in our lives – another co-op party game from the same publisher that's aiming for a similar aesthetic and tone. It might not be quite up to that level, but like the movers who stuff their clients' bruised and battered furniture into the removal van, it just about gets the job done, in one way or another. 🗣️

**“There are some great ideas, such as the scene where you throw things off a moving train”**

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# Backwards compatible

WRITTEN BY RYAN LAMBIE



## Mark my words

Sega finally hit its stride with the Mega Drive in the late eighties and early nineties, but its path to console success was far from a smooth one. The Sega Master System may have been popular in Europe – anecdotally, far more of my friends owned one than its rival, the NES – but it was a decidedly slow seller in America and its native Japan. In fact, the Master System was effectively Sega's third attempt to crack the Japanese console market; its predecessors included the SG-1000, a somewhat underpowered 8-bit system that had the misfortune of emerging on the exact same day as Nintendo's all-conquering Famicom, and an awkwardly named revision, the SG-1000 II.

What would become the Master System, the Sega Mark III, was launched in 1985, and looked markedly different from the more familiar black-and-burgundy system that appeared later, both in Japan and then the rest of the world. Rectangular, off-white, and surprisingly short compared to its depth and width, it's quite apologetic-looking when compared to the cream, red, and gold styling of its rival, the Famicom.

The slow sales of those systems make them a rare – and often expensive – sight in the online marketplace today, which is why I immediately jumped at the chance of buying a Sega Mark III from a UK seller

at an affordable price. Sure, it's lacking its original controllers and the plastic's a bit marbled-looking, but it's otherwise perfectly clean and functional.

I only currently have three Japanese cartridges compatible with the Mark III (American and European Master System carts are a completely different shape), but fortunately, I managed to get my hands on a pass-through adapter, which means I can play my much larger library of western Master System releases on a unique bit of original gaming hardware.

Doing so also has an interesting side effect: plug a European game into the Mark III, and it'll automatically boot up the Japanese title screen. The classic shooter *Power Strike*, for example, will load with its original Japanese title, *Aleste*; similarly, the perfectly average shooter *Cloud Master* loads under its eastern moniker, *Chuka Taisen*. Western Master System cartridges also carry the same FM sound files as their Japanese counterparts, which means if you have the FM Sound Unit – an add-on Sega launched in 1987 – then compatible games like *R-Type*, *Shinobi*, and *Alien Syndrome* will all play with enhanced music and sound effects. Predictably, though, the FM Sound Unit is an expensive bit of kit; as is the revised Japanese Sega Master System, which also has the same YM2413 chip built in.

There is a cheaper alternative, though: devices like db Electronics' Power Base FM Slim allow Master System games to be played on a Sega Mega Drive, complete with that enhanced FM audio. Sadly, even these are getting hard to track down these days. Such are the joys of retro collecting.





## The price is right?

Unlike western releases, which were housed in robust plastic clam-shell cases, Japanese Master System games came in cardboard boxes. Their fragility – and relatively low production runs – makes some of these Japanese titles expensive to collect, though there are notable exceptions to this. In recent years, venerable platformer *Alex Kidd In Miracle World* has become one of the most sought-after games on the format, with copies selling for as much as £130

or more, dependent on condition.

A complete copy of the Japanese version, though, can be picked up for around £35. Similarly, an EU copy of *Power Strike* will cost about £80, while the Japanese version, *Aleste*, can be picked up for around the same price. Both are infinitely cheaper than the US edition of the game, which was only briefly released in stores and was largely sold via mail order; a US copy of the game, with its monochrome box art, will run you close to £200.

## Made in Japan

The Mark III/Master System's slow sales in Japan mean there were far fewer games released there than in the rest of the planet. Of the 360 games released for the Master System around the world, only about 80 were also published in Japan. And unlike, say, the

Sega Mega Drive, which had a number of games only released in the Far East, the Master System has relatively few Japanese exclusives – according to Sega Retro's list, there were only 13 titles that didn't make it



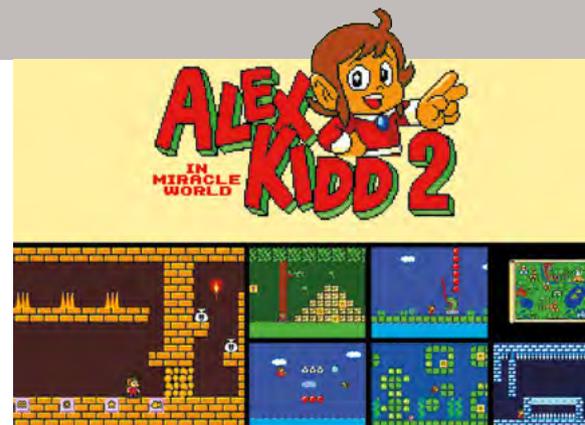
to the west. Two further titles – a side-scrolling brawler based on the violent anime and manga series *Hokuto no Ken* (or *Fist of the North Star*), and an adventure called *Anmitsu Hime* – both emerged in the west in heavily edited guises. *Hokuto no Ken* became a somewhat anonymous fighting game called *Black Belt* (though the exploding bodies remained intact), while *Anmitsu Hime* dropped its own anime connection and became *Alex Kidd: High-Tech World*. If you played the latter as a youngster and wondered why it didn't really feel like an *Alex Kidd* game (or even all that high-tech), then this is why: the game was originally about a cheeky little princess who wanted to visit a cake shop.

Perhaps more noteworthy is the number of games designed by Japanese studios that went unreleased in their home market: one of my favourites is *Ninja Gaiden*, a rock-solid and entirely separate game from the cult side-scroller on the NES. Then there's the enjoyable top-down action RPG spin-off, *Golden Axe Warrior*, and vulpine platformer *Psycho Fox* – one of the best platformers on the system. The latter is a particular curiosity, since it's packed with nods to Japanese folklore that don't really make much sense to a western audience. Our best guess is that Japanese releases were planned but quickly cancelled when the Master System failed to take off.

## Miracle mile

Considering Alex Kidd's status as a proto-Sonic mascot, Sega was remarkably lax about making quality sequels to his debut, *Alex Kidd in Miracle World*. Sure, we got a few new series entries, like *Alex Kidd in Shinobi World* and *Alex Kidd in the Enchanted Castle* on the Mega Drive, but none really measured up to the original's quality. Arguably the best sequel released so far, *Alex Kidd in Miracle World 2*, wasn't

even an official release: it was a fan-made ROM hack of the original with all-new level layouts. Again – and this is a common refrain now – *Alex Kidd in Miracle World 2* enjoyed a painfully small physical production run in 2017, and copies are already expensive and scarce online. Still, at least fans have Merge Games and Jankenteam's upcoming (and official) remake, *Alex Kidd in Miracle World DX*, to look forward to.



# Backwards compatible

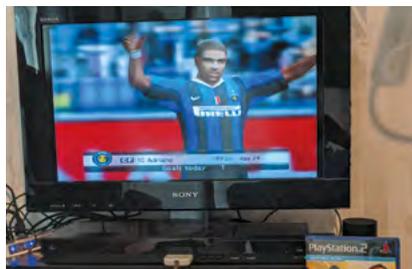
WRITTEN BY IAN 'IAN DRANSFIELD' DRANSFIELD

## Telly addict

I'm all for cluttering up my already cluttered workspace with things I a) don't need, b) won't use, and c) can't really afford. So imagine my surprise when not too long ago I was offered a Sony Bravia KDL-22PX300 for £notverymuch, and it dawned on me I'd be able to grab one of the fabled PS2 TVs with just a) and b) applying. Yes, dear reader, I bought one. I had no idea what I was going to do with it, but I bought one.

Back in 2010, the PS3 was finally coming into its own and entering the ascendancy. Sony, then, thought it right to strike while the iron was hot... by releasing a TV with a PS2 built in. Naturally. It was an odd decision, but quite obviously something of an experiment on the part of the company: the PX300 released in limited numbers and only in Europe (and then only available through Richer Sounds in the UK) for £200. It honestly did little of note: the PS2 was dead by this point, and the thought of picking up a TV with a slim PS2 strapped to the bottom of it just seemed a bit archaic. A PS3 would have made more sense, but then strapping a PS3 to a TV in 2010 would have seen said tellybox end up weighing approximately 925kg. Or thereabouts.

And so it was, the PS2 TV became a curio and little more: a failed experiment in marrying the games machine and visual/audio delivery device into one unit, a bit before the days of everyone having smart TVs to do all that sort of thing for us. It was clumsy, and a bit of a stretch – again, it involved releasing a 'new' PS2 product in 2010 – but I've always had a sincere fondness for the machine. And oh! the feeling on finally getting one



and not being absolutely gouged for the privilege. Heavenly for retro nerds, I'm sure you'll agree.

The PX300 isn't an elegant device, it's very boxy, and the click-and-slide disc cover is the stuff of (very mild) nightmares. The screen only bumps up to 720p. It, like many Bravias of the period, takes a heck of a long time to warm up before you can use its menus. The bezel... is ugly, though it *is* from 2010. But I love it. I slapped down a hot 50p to pick up a copy of life's greatest football game, *PES 6*, and promptly set to work, testing it all out. It works, plays PAL PS2 games, has memory card slots, Ethernet ports, the lot. And Adriano is still hilariously overpowered in Konami's classic kick-'em-up.

The funny thing is, the PS2 TV has genuinely turned into a centrepiece of my work (and play) station. Why? Well, because it's a small TV, so doesn't take up

*too much* space; it's a Sony Bravia, so even though it's a decade old, the LCD screen is half-decent; and it has pretty much all the connections. Seeing a SCART socket on the back of a telly hit me with such a nostalgia blast I think I got whiplash.

What this means is that I'm able to hook up any of the plentiful retro computers and consoles strewn around the office and – so far – all of them play absolutely fine without any need for special tucks and tweaks.

Turns out, then, that this purchase has ended up with just a) from the list of three things applying, and even that's debatable now, given how much I'm using the thing. Admittedly, none of this means the 55-inch OLED downstairs is going anywhere, but it's nice to have options, right?



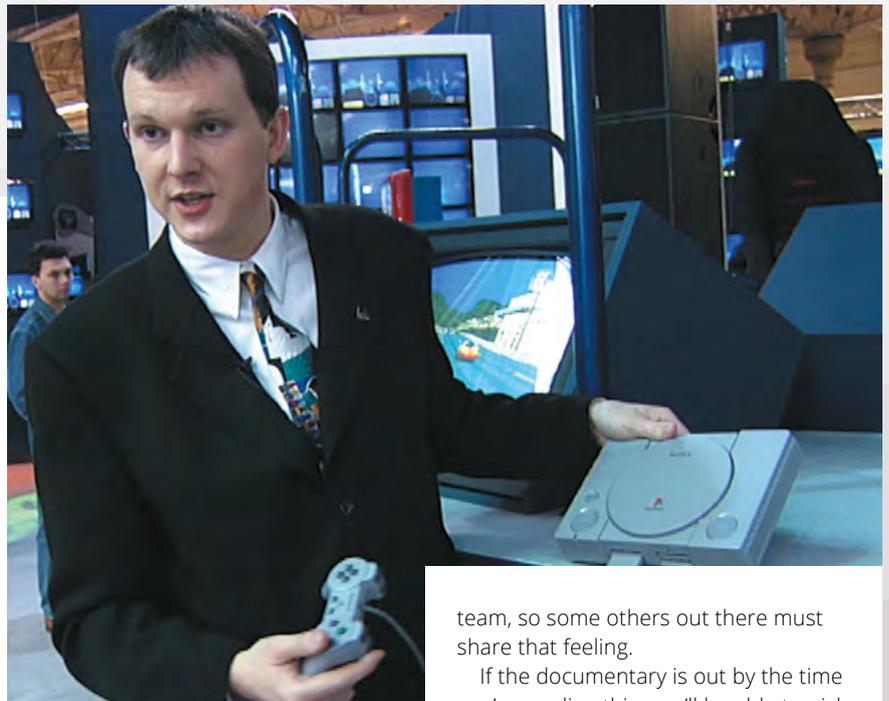


## Game changers

Sticking in the land of PlayStation, there's a fantastic little (it's quite long) documentary either about to release on 7 September, or already released, depending on when you're reading this.

From *Bedrooms to Billions: The PlayStation Revolution* charts the story of Sony's first console from birth through its game-changing life, and includes interviews with luminaries like Hideo Kojima, Ian Hetherington, and Hideki Kamiya. Oh, and Phil Harrison's in it, too. Guess you have to put him in there, too. The documentary was originally Kickstarted back in 2017 and has seen a series of delays hit it over the years, but we're finally on the home stretch. Or there, again depending on when you're reading this.

And this ain't no Mickey Mouse production, at least not unless you mean that in the sense that it might be a documentary Disney itself might produce. *The PlayStation Revolution* is a



full-on *production*, with a runtime pushing close to the three-hour mark and plenty of interesting facts, figures, and anecdotes thrown in there for good measure.

It's precisely the kind of thing I want to see more of, and... well, it's the third release from the *Bedrooms to Billions*

team, so some others out there must share that feeling.

If the documentary is out by the time you're reading this, you'll be able to pick up a digital download, or a physical Blu-ray/DVD, depending on your taste. If it's not available when you're reading this, wait a few days and it *will* be available. Either way, check out the Rebellion site (they're publishing the doc) for more details: [wfmag.cc/PlayRev](http://wfmag.cc/PlayRev).

## Make it again

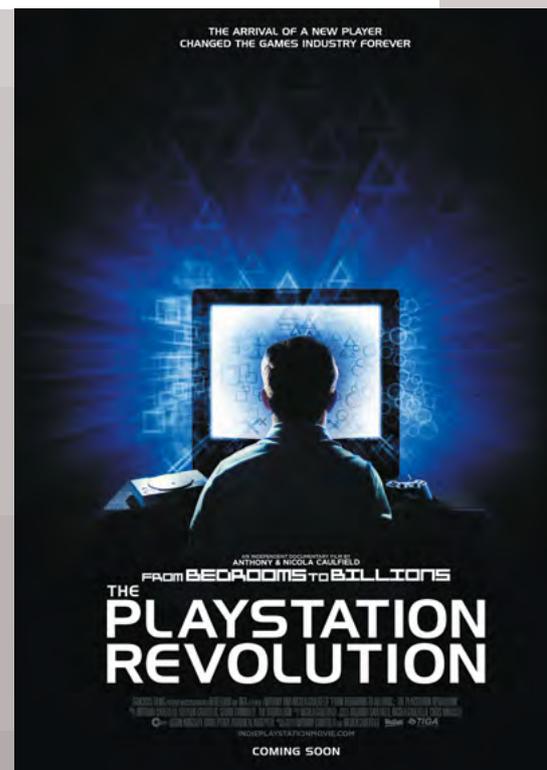


Endless remakes and remasters – it's not a new concept. Honestly, the amount of times Atari and Namco classics have been redone (*and* Midway and millions of others), you'd think people would have cottoned on by now instead of ranting aimlessly about an industry obsessed with revisiting the past as if it's a new

concept. Where was I? Oh yes: can we have a remake of *Walker*, please?

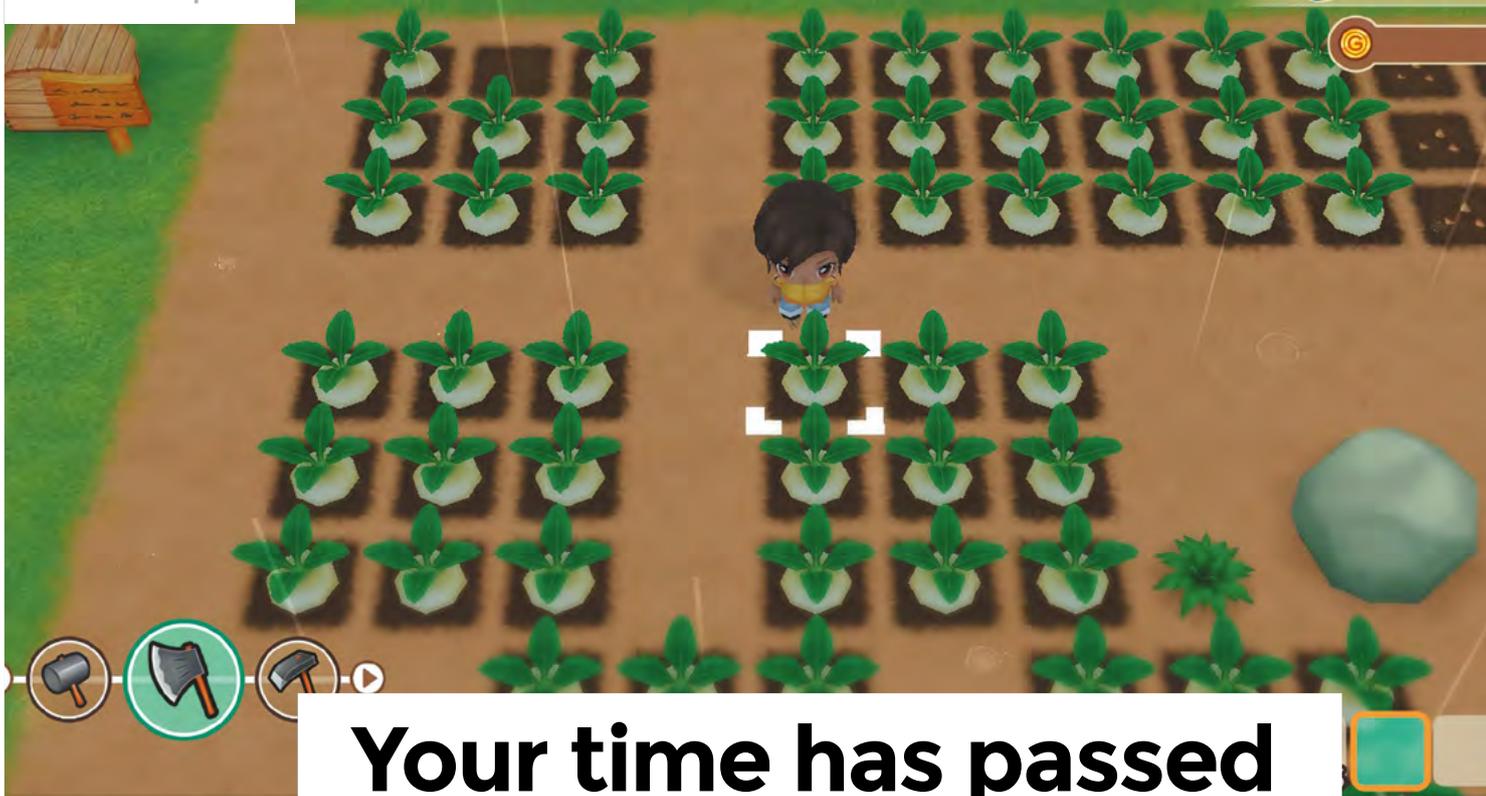
The Amiga classic is, on replaying it just recently, still fantastic fun. Clunky in the thick of it, and way too hard for its own good, but unadulterated *fun*. You control a giant stompy robot in the purest sense, said stompmachine stomping its way stompily through time on a quest to blast (and stomp) all the bad buggers in your way in a hail of fiery violence. A modern

do-over could be just what we need in these trying times, though I haven't quite thought through the why of that statement. I could see original developer DMA Design revisiting the game, too – it's not like the current incarnation of the studio has very much going on. Just something called *Grand Theft Aut...* oh.



Now playing  
Your time has passed

Spring  
8 (Sun)  
6:10 AM



# Your time has passed

Ian just... well, gives up on *Story of Seasons: Friends of Mineral Town*

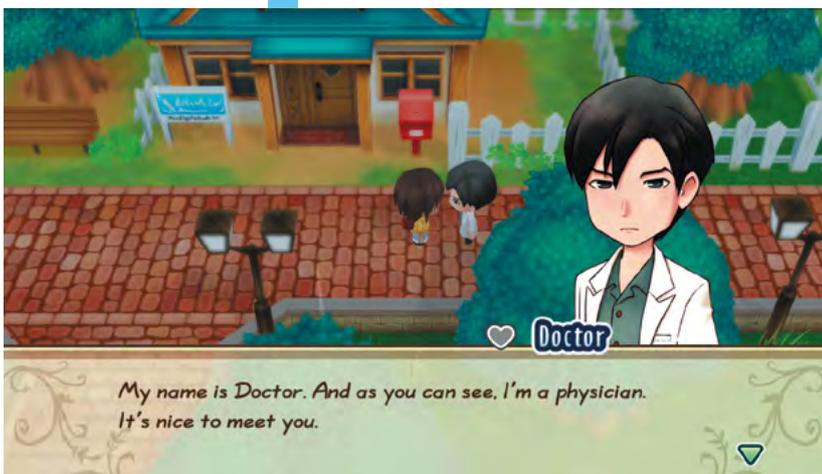
I tried, I really did. *Story of Seasons: Friends of Mineral Town* was making all the right sounds – and I’m sure there are plenty out there who will be drawn in by it and stick with it for much longer than I managed. But the fact is, this is not the *Harvest Moon* I once knew and loved. And, in case that’s a confusing name-switch, a brief explanation: this is the remake of *Harvest Moon: Friends of Mineral Town*, released on Game Boy Advance in 2003, with a new lick of polygons and

a whole new name because licensing (or the lack thereof) is a thing for publisher Marvelous.

So yes, I came into *Friends of Mineral Town* with some hope. Only last month did we see what happens when nostalgia is done right, thanks to the brilliance of *Command & Conquer: Remastered*. I’d almost forgotten the daily mantra I chant into my mirror while trying not to break eye contact with the old man staring back at me: ‘nostalgia for nostalgia’s sake is worthless’. Never figured a suitable tune or even cadence for that one, to be honest, but a mantra is a mantra. This 17-years-removed do-over had a chance to impress, had a chance to reclaim its throne, had a chance to remind me why I fell in love with it so hard back in my university days.

*Friends of Mineral Town* – that’s *Story of Seasons*, not *Harvest Moon* – nails the remake aspect. It’s different enough that you might not recognise it at first, but as soon as... well, anything kicks into motion you know full well this is standing on the shoulders of a GBA giant. Character portraits are new, but similar. The music is reworked from the original tunes. The layout of the village just popped back into my head as soon as I set off from my farm, allowing me to hit the *really too far away* general store in no time at all. It’s right. It’s a good update. It gets that.

▼ I honestly don't know if this was meant to be funny, but I laughed like a drain.



My name is Doctor. And as you can see, I'm a physician.  
It's nice to meet you.



There's a good little one.  
Hurry and grow up strong, okay?

^ Though if you do grow big and strong, it'll be nothing to do with me playing the game.

But it faded quickly, and soon enough I realised I was just playing it because I felt I owed it to the game. The original had given me so much enjoyment until its battery ran out, thanks to the fact I'd accidentally bought a dodgy reproduction cart off eBay. It would only be right that I put in enough time to get to sweet potato season on this revisit. Admittedly I also kept playing for longer than I would have because I knew I was writing about it here, but... well, there's only so far you can force yourself to sit through something that just doesn't feel right anymore.

This is the part where I get more flowery with my language and allude to the changing of the seasons like the changing of moods or tastes impacting it; the ripening of my personality and maturity in the time since I last played *Friends of Mineral Town* leading to less actual enjoyment of the new product. Something about seeds and rain, maybe. I don't know. What I do know is every minute I played in the *Story of Seasons* version of the game, I felt like I couldn't be bothered to do the next minute. Maybe it would have grabbed my attention gland hard had I given it another minute, another hour, maybe a few days – but the fact is, not long after I started on *Friends of Mineral Town* v2.0, I'd mentally checked out. And not long after that, I just turned it off.

**“The fact is I am different now. I'm older. Tastes change”**

But really it's not the game's fault. I've alluded to it a few times here, but the fact is I am different now. I'm older. Tastes change. This isn't uni, where most of my *Harvest Moon* play was done in bed at 3am with a bottle of pre-hangover strawberry Yazoo to hand, drunkenly wishing for sweet potato season to hit. *Story of Seasons* has some legitimate clunk, but it's largely a fun and genuinely sweet experience, and is absolutely the sort of thing I'd recommend to... well, to *some* people. No idea who, but some of them.

The entire time I was playing it, though, I wanted to be back in *Stardew Valley*. A game that has learned from the past and made changes accordingly (unskippable animations when you enter a new stage of fatigue are *not a good thing*, *Story of Seasons*), brought in the best from its inspirations and added a lot more on top and – key – has been the game that has run my life for the past four years. My affair with *Harvest Moon* lasted two years at most. It was nice to have this fling with the old flame, but like every man of a certain age making the biggest mistake of his life, I was quickly crawling back with regret in my heart to the one true love in my life. That said, *Stardew Valley* doesn't have sweet potatoes in it, which is ridiculous. *A yam is not a sweet potato.* ☹️

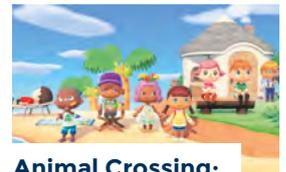
## Wireframe Recommends



### UNDERTALE

PC, PS4, SWITCH, VITA, MAC, LINUX

A story-led RPG isn't your usual chill recommendation, but *UNDERTALE* manages to both have spurts of action while also being thoroughly relaxing (and sweet/funny/heartbreaking). If you've never played one of the best games in recent memory, get on it.



### Animal Crossing: New Horizons

SWITCH

The big confession here is I've not played it myself, but I've seen more than enough people having a pop at *New Horizons* to know it's as chill as they come, and well worth it if you're just looking to trundle along through a game with no major goal in mind.



### No Man's Sky

PS4, XBO, PC

This is the second time we've stuck this in the recommended section, so maybe a full entry is on the cards. Regardless, it's one of the best chill-em-ups out there, and a fine way to just exist in a rich, atmospheric game world (before leaving for another one).

Now playing  
A quick whip-round



## A quick whip-round

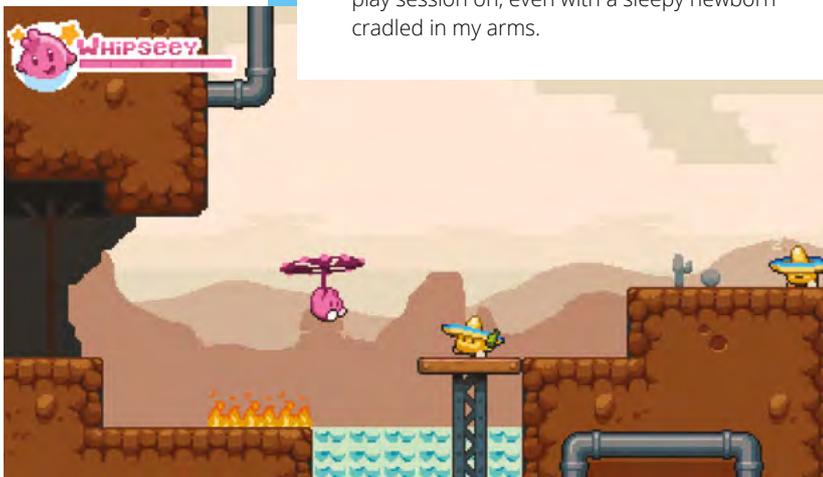
Ryan takes a break from changing nappies with a tough yet charming action platformer

^ These enemies may look cute, but their projectile attacks are deadly.

**N**ot unlike every other parent across the globe, I've discovered that becoming a parent isn't entirely compatible with spending hours engrossed in a video game.

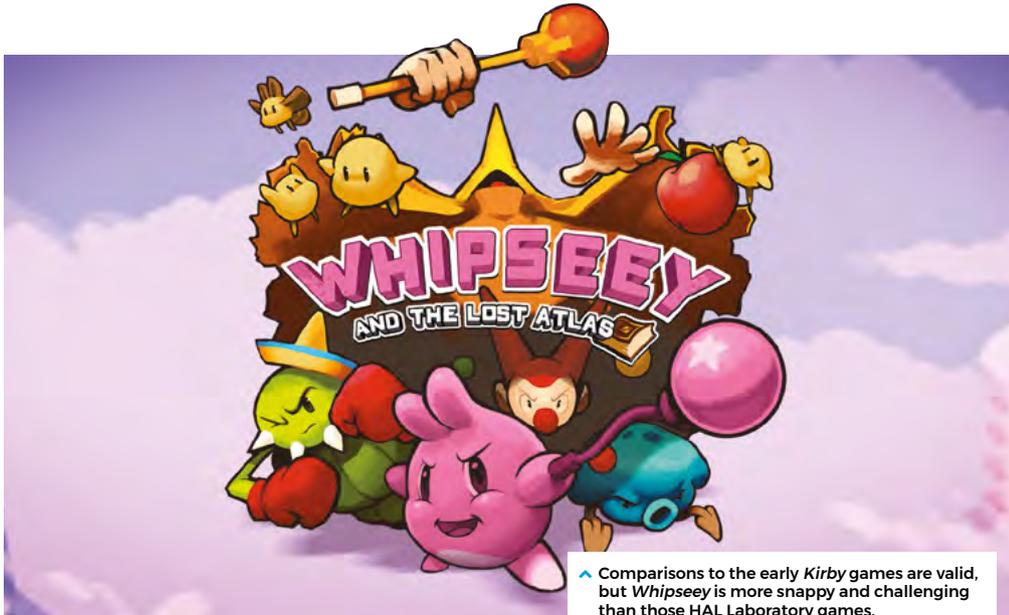
The welcome arrival of our new, adorable yet startlingly vocal baby has left my gaming life even more fragmented and chaotic than usual – between nappy changes, feeds, and assorted other bits of housework, I've found myself slotting a few minutes of gaming in here and there over the past month. My trusty Nintendo Switch has been an absolute godsend in this regard: it's the kind of system I can reach for and have a quick play session on, even with a sleepy newborn cradled in my arms.

v Unlike Kirby's flying mechanic, Whipseey's only lasts for a few seconds. No gliding over the top of levels here.



Against the backdrop of rookie parenthood, the types of games I've turned to have been quick-fix, too. One title that caught my eye was *Whipseey and the Lost Atlas* – a charming little platformer we previewed way back in issue three. Now on the Nintendo Switch eShop, it's priced at just 89p as of this magazine going to press, which seemed like an offer too good to pass up. And reader, it is a good offer: *Whipseey*, despite its sugar-sweet presentation and passing resemblance to the early *Kirby* games, offers a surprisingly robust test of your platforming skills.

*Whipseey's* distinguishing mechanic is its central character's dinky pink whip – with it, you can lash enemies into oblivion with snappy little close-quarters attacks, latch onto circular bits of scenery to swing across chasms, and spin it like a set of rotor blades to float over wider gaps. If all this *still* sounds a bit like *Kirby*, then the experience itself actually feels much closer to the cult platformer, *Gimmick!* – a late NES title that is prized for both its slick execution and fearsome difficulty. Like *Gimmick!*, *Whipseey* is about a diminutive character navigating a set of increasingly intricate and devious platform stages, where death lurks at every turn; like *Gimmick!*, *Whipseey* offers focused yet pleasing methods of attack and traversal; and just like *Gimmick!*, *Whipseey* could probably be completed in about 20 minutes if you're a skilled and practised-enough player.



^ Comparisons to the early Kirby games are valid, but *Whipseey* is more snappy and challenging than those HAL Laboratory games.

Admittedly, *Whipseey* isn't quite as frighteningly hard as that old NES platformer, but it's still notable just how quickly the intricacy ramps up. Complete the first world, and the game tells you that you're already 20 percent through the adventure. This, coupled with the relatively placid first boss, might lead you into a false sense of security. But by the second world, you're already dealing with screens containing enemies with multiple modes of attack – expect electric shocks, fast-moving projectiles, and deadly nosedives from above – and increasingly narrow platforms that have to be leapt between with millimetre accuracy.

*Whipseey* isn't just toughness for the sake of it, though. The game follows Nintendo's now widely understood school of design, where challenges are first introduced, then complicated slightly, and finally taken to their logical conclusion before they're replaced by a new test. In *Whipseey*'s second world, for example, you'll come to a waterfall with a single log rolling down the middle; to cross the gap, you need to time your jump onto the moving log and over to the other side – a simple enough task you can understand at a glance. Move to the next screen, and you'll find two waterfalls with two logs and a spiked enemy to avoid – a more complicated test to navigate than the first – while the third screen contains multiple falling logs and narrower platforms occupied by several spiked enemies.

No, there isn't anything revolutionary about *Whipseey*'s three-part rhythm of rising challenges,

but it's all executed with such neatness and precision that the process of completing them is satisfying all the same. There's also a pleasing conciseness to *Whipseey*'s level design; there's no filler added to bolster each area's length, and only a handful of items to collect. There are only a couple of dozen or so enemy types, but each one is unique and crisply animated. *Whipseey* is largely the work of one developer, El Salvador's Daniel Ramirez, and he's cannily made the most of the time and resources available to him; rather than stretch himself too thinly with a sprawling Metroidvania, he's crafted something that's closer in style to the kinds of high-score-hunting arcade

**“There's a pleasing conciseness to *Whipseey*'s design”**

action games we used to get before cartridge capacities got bigger and game worlds became larger and more intricate. (*Gimmick!* was one of those games, and Ramirez is unabashed about its influence on *Whipseey*.)

*Whipseey* doesn't set out to redefine the platformer as we know it, but it ably succeeds in the modest goal it sets for itself: to provide a short, sharp homage to an era of fast-paced 2D action games. Most usefully for me, it's the kind of thing I've been able to quickly pick up and play in between other tasks; at the time of writing, *Whipseey*'s fourth area – a strange hellscape of ice, plastic toy trains, and hatted enemies that rain cascades of projectiles down the screen – is currently kicking my backside. Getting good enough to fight my way to the end of the game is, however, a challenge I'm thoroughly enjoying – even if I do have to be careful not to wake the baby with my growls of frustration. 🐾

## Wireframe Recommends



### Sky Racket

NINTENDO SWITCH

A mash-up of traditional 2D shooter and bat-and-ball block-breaking game, this fun little action title really comes to life in two-player mode.



### Black Bird

NINTENDO SWITCH

From Onion Games, the creators of *Dandy Dungeon* and *Million Onion Hotel*, comes one of my favourite 2D shooters in years. The dark cousin of Sega's *Fantasy Zone*, it's the ideal way to spend an idle few minutes.



### Aqua Kitty UDX

NINTENDO SWITCH

Take a hint of *In the Hunt*, add a dash of *Defender*-like speed and movement, plus a pounce of adorable moggies, and you have this corking undersea blaster. Perfect for short play sessions.



# OutRun

There are many reasons why Sega's arcade racer was such a seminal one, but music heads up the list, Ryan writes

SEGA / 1986 / ARCADE/LOADS OF HOME SYSTEMS

"So realistic, you can actually feel the wind in your hair!" went the sales patter for *OutRun*, which accompanied its triumphant arrival in mid-eighties arcades. For the time, Sega's racer certainly was on the cutting edge: its sprite-scaling pseudo-3D was faster and smoother than any arcade game before it, with the game's ribbons of tarmac undulating, curving, and branching off on abrupt, thrilling tangents. The arcade cabinet itself, with the deluxe version resembling a miniature Ferrari which the player could clamber into and steer, was an upgrade from the 'full body' systems designer Yu Suzuki had already pioneered – *Hang-On*, *Space Harrier*, *Enduro Racer* – with the machine's hydraulics throwing players left and right as they screeched and slid around all those bends.

*OutRun* was thrilling, all right. But realistic? Hardly. Far from a simulation, *OutRun* offers up a sun-drenched driving fantasy: your Ferrari Testarossa purrs and shimmies under an impossibly blue sky; palm trees, billboards, and ocean vistas whip past as your speedometer climbs to 293 kilometres per hour.

As much as the sprite scaling and the design of the arcade cabinet, *OutRun's* music is key to reinforcing that driving fantasy. Composed by the great Hiroshi Kawaguchi, it's nothing less than iconic: a synth-pop mash-up of Caribbean beats and catchy, uptempo melodies. *OutRun* is ostensibly a race against time – the aim is to thrash your supercar to the next checkpoint before your counter ticks down to zero – but Kawaguchi's soundtrack gives away the game's true purpose:

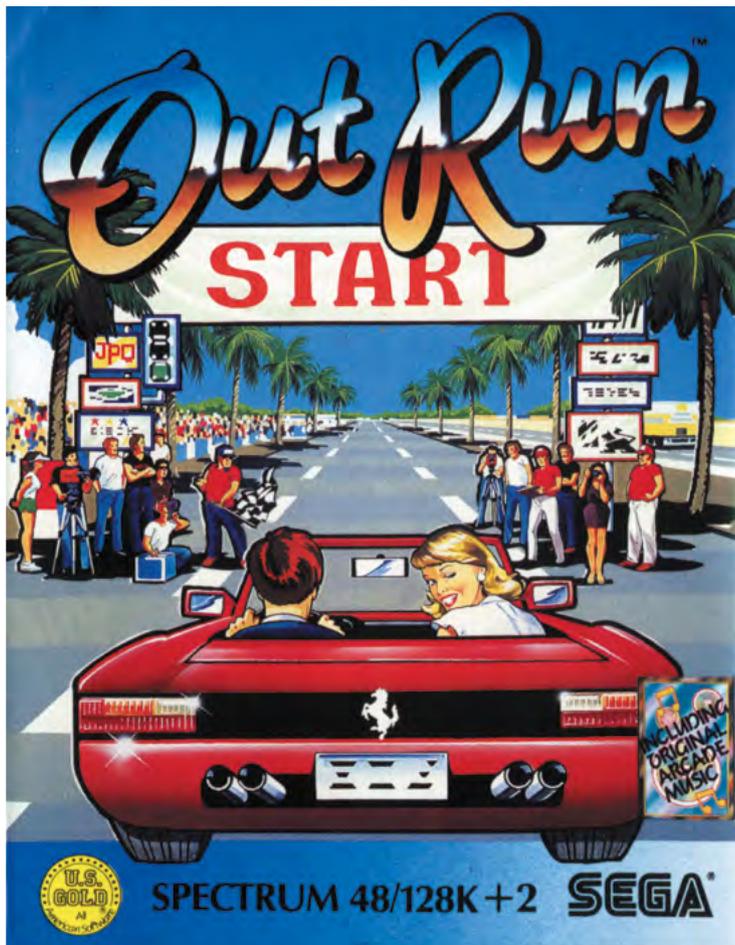
*OutRun* isn't really about competition or racing, but rather the visceral thrill of driving. You're cruising with the roof down and a passenger beside you (hardly things you do if you truly wanted to win a race), enjoying the scenery and grooving to Kawaguchi's laid-back beats. In a 2015 interview with Eurogamer, Suzuki revealed that he went on a real-world road trip across Europe while *OutRun* was in its planning stages, and as writer Martin Robinson pointed out, it's hard to think of another game of its era that so perfectly captures – and romanticises – one designer's personal experience.

*OutRun's* introduction underlines just how pivotal music is to building the game's upbeat tone. Before you set off on your journey, you're presented with a close-up of your Ferrari's stereo; by turning the steering wheel, you can 'tune in' to one of Kawaguchi's tracks. Do you go for *Splash Wave*, *Passing Breeze*, or *Magical Sound*

*Shower*? All three rank among the most catchy pieces of video game music ever written, and the seemingly incidental design choice of letting the player choose which track they select is inspired; it reinforces the illusion that you're at the helm of an unattainably expensive supercar.

Like the Testarossa *OutRun* so lovingly (and unofficially) depicts, the game has been superseded by newer, faster, flashier racing games. But *OutRun* remains an enthralling game in 2020; there's still the timeless allure of clambering into an exotic car, cranking up the stereo, and setting off down an open road that stretches to the horizon. And, nodding along to Kawaguchi's wonderful music, you can almost feel the wind in your hair. 🌊

**"OutRun's music is key to reinforcing that driving fantasy"**



## Passing Breeze

All kinds of *OutRun* ports emerged after 1986, and the results were decidedly mixed. Most systems couldn't hope to capture the speed and colour of the original game's Super Scaler hardware, but that didn't stop software houses from at least trying to capture *OutRun*'s essence. Of all the home ports, the ZX Spectrum version was perhaps the most flat-out horrific: your Ferrari plodded along at a depressing pace, and if you played the 48K version, you largely drove around in silence. Still, publisher US Gold at least recognised how important music was to the *OutRun* experience: the port's original release came with a separate cassette containing an edited version of the soundtrack. Switch on the tape at the same time as the ZX Spectrum game, and you could pretend you were playing an arcade game about pretending to drive a Testarossa – a matryoshka doll of eighties fantasies.

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