Wireframe

LIFTING THE LID ON VIDEO GAMES

Broken Sword
Revolution's fight
for survival

BLAST OFF
Create a jetpack in
Unreal Engine 4

TEARAWAYS

JOYFUL NOSTALGIA AND COMIC
ADVENTURE IN KNIGHTS AND BIKES

A Call For Unionisation

What's the first thing that comes to mind when you think of the games industry and its working conditions? Is it something that benefits workers, or is it something that benefits the companies?

When I first started working in the games industry, the way I was treated wasn't often something I thought about. I was making games and living the dream! But after twelve years in the industry and a lot of horrible experiences, it's now hard for me to stop thinking about our industry's working conditions.

It's not a surprise anymore when news comes out that another game company is treating its workers poorly. In the past year alone, we've heard terrible stories about Rockstar, Riot, Activision Blizzard, NetherRealm, Telltale, and ArenaNet, to name a few.

When I see articles about companies mistreating their workers, I'm reminded that almost everyone I know who has been in the industry for more than five years has experienced excessive overtime, been laid off, or had an abusive boss. The ones who haven't had those experiences consider themselves unusually lucky. It's pretty clear that it's not just one or two game companies that are treating their workers poorly – it's the majority of the industry. This is a systemic problem.

So what do we do? We can try individually asking our bosses to give us a raise, to stop requiring crunch, to not lay us off, and to treat us more kindly, but in my experience that doesn't really go anywhere.

Even if your boss is awesome and treats you well, gives you a raise, says you can stop crunching, and guarantees your job will be around in a year – that still leaves the rest of us out in the cold. To use an analogy, a single person can't stop the climate crisis by changing their purchasing and eating habits. One person alone won't stop companies from continuing to destroy the environment, just as one person alone trying to change the games industry won't be enough. The only way
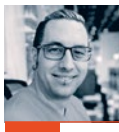
AUSTIN KELMORE

Austin Kelmore is a programmer and the Chair of Game Workers Unite UK, a branch of the Independent Workers Union of Great Britain.

#15

we're going to get industry-wide change is collectively, by working together to make all companies improve.

So what does collective action look like? It's workers getting together within their companies to figure out what they want their workplace to be like. It's workers within a region deciding what their slice of the games industry should be like. And it's game workers uniting across the world to push for the games industry to become what we know it can be: an industry that welcomes everyone, treats its workers well, and allows us to make the games we all love. That's what a unionised games industry would look like.

In March 2018, an international Game Workers Unite movement took off and helped gather workers in the UK to start discussing changes they wanted to see in the industry. Last December, we created Game Workers Unite UK, the UK's first game worker union, as a branch of the Independent Workers of Great Britain. We are a worker-led, democratic organisation that is campaigning to end the institutionalised practice of excessive/unpaid overtime; improve diversity and inclusion at all levels; inform workers of their rights and support those who are abused, harassed, or need representation; and secure a steady and fair wage for all.
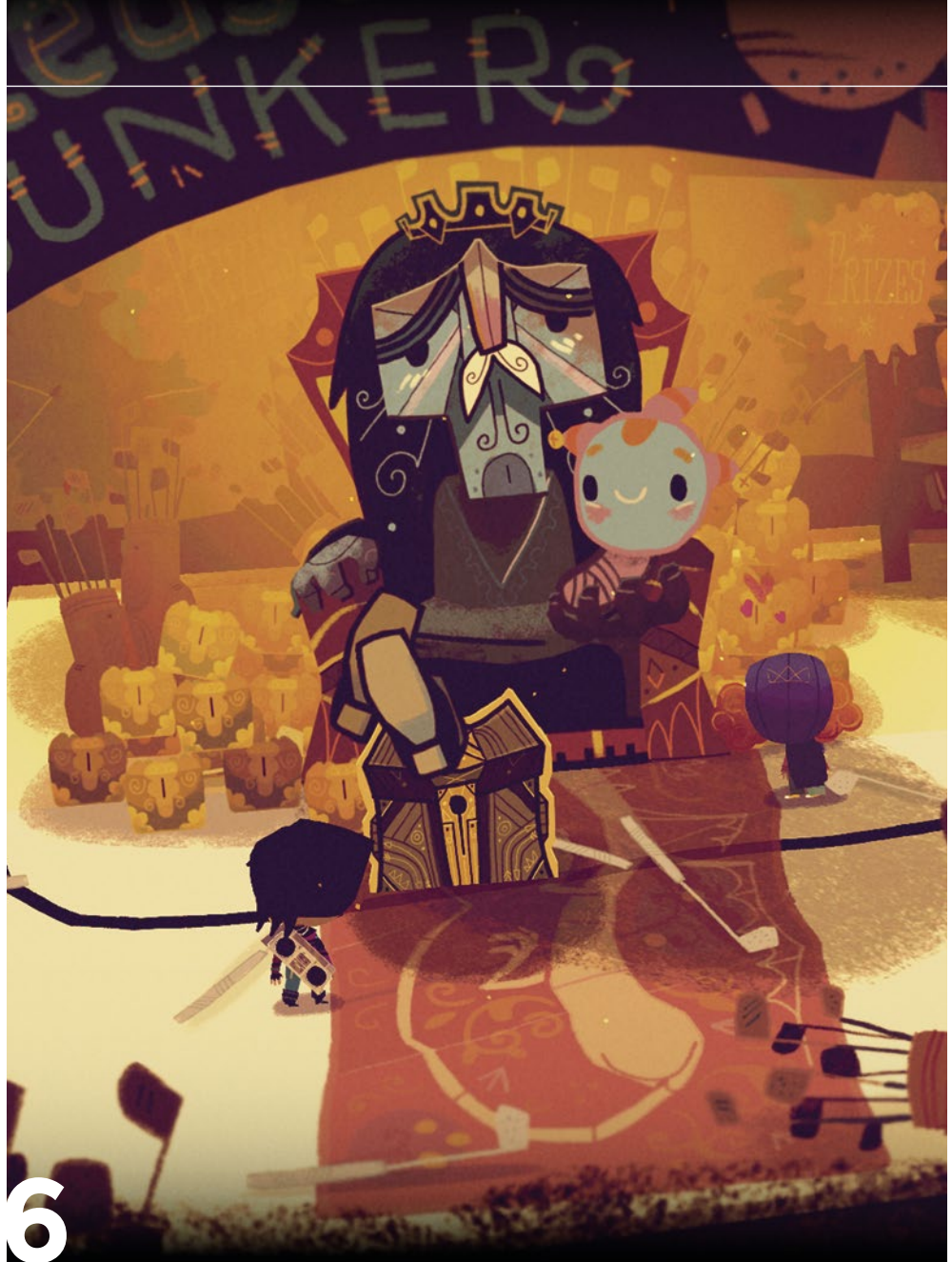
In the five months since we formed, we've educated game workers about their rights and helped several of them secure redress from companies that mistreated them. By unionising, we can protect individual workers, collectively bargain at each company, and coordinate to improve the industry as a whole. By banding together, we can be a voice for people who don't have the power to stand up for themselves. The union is for the workers, and the workers run the union.

We have an opportunity to improve the games industry for ourselves, those who work with us, and those who come after us. Come check us out at **gwu-uk.org**, and join the union to help make this industry a better place for us all. ⓦ
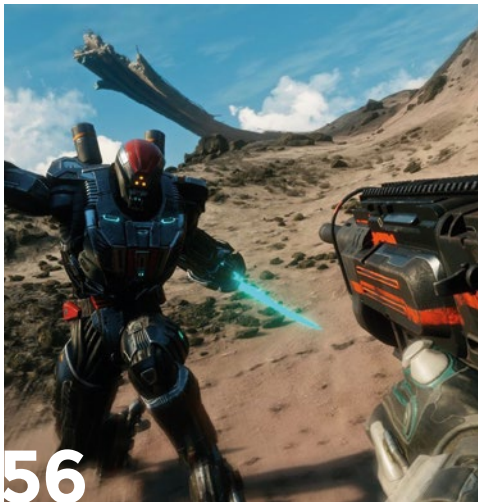
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As you'll read on page 50, *Pokémon* creator Satoshi Tajiri started out making a video game fanzine before he started developing games of his own in the late 1980s. Before that, Tajiri famously spent much of his youth collecting and studying insects, and became so obsessed with the pastime that his grades began to suffer at school.

When asked, in a 2004 interview with the magnificent Japanese TV show *Game Center CX*, what his advice was to other budding designers, his reply was simple: combine your two biggest interests to create something new. In Tajiri's case, the disparate hobbies of video games and bug collecting came together to create the monster-catching phenomenon, *Pokémon*.

It's proof that even big, world-spanning franchises can start with a small and personal idea. (In the original Japanese version of the game, lead character Ash was named Satoshi, which further underlines how much the game spoke to his childhood memories.)

Regrettably, I haven't quite figured out a way of turning my two hobbies of video games and collecting dog-eared sci-fi novels into a global multimedia franchise as yet, but that doesn't mean it isn't worth a try. Enjoy the new issue!

Ryan Lambie
Editor

Toolbox

Rated

LITTLE BIG ISLAND

Eighties caravan holidays make an unexpected, welcome comeback in Knights and Bikes

T hey might be called 'staycations' now, but they'll always have a place in our hearts: trips to some previously unheard of place in the UK, usually on the coast, to lay your hat in your new home for a week. Which was probably a caravan. Maybe a chalet if those taking you on the trip had a few more quid to spare. It's a very particular form of nostalgia, and it's one we can see recreated – and expanded on – in *Knights and Bikes*.

> **"The Cornish influence has meant being able to draw on memories of places I explored as a child"**

More than just a British childhood holiday simulator, *K&B* tells the story of two young girls who meet and go on adventures on a small, fictional Cornish island. It sounds twee, but the game has quite the team behind it: Rex Crowle, who worked as creative lead on *Tearaway* and worked on *LittleBigPlanet*, and Moo Yu, whose credits also include *LBP* along with the likes of *Ratchet & Clank*. Foam Sword Games, as the twosome are known, sat down with Wireframe to chat about its forthcoming opus, inspired by *Earthbound*, *The Goonies*, and Cornish caravan parks.

There's a nostalgic feel to *Knights and Bikes* – is that what you were aiming for? Where's that inspiration come from?
REX: Yes, it's definitely built around some nostalgic themes. After all, it's a coming-of-age story set in 1987 about childhood friendships and having a grand adventure together.

In many ways, it's like simulating a childhood holiday friendship. It starts with our two characters, Demelza and Nessa, meeting up on a caravan park; one is a local, the other is more of an outsider. But together they support each other, to deal with the confusing adult world around them, and also to go on a quest for a long-lost, possibly-cursed, treasure. When Moo and I first started thinking about making the game, we actually thought of it as a more direct lift of *The Goonies*, but with some gaming influences from my favourite 16-bit game (*Earthbound*) and Moo's favourite (*Secret of Mana*). This version would have entailed managing a larger gang of adventurous kids, but as time went on we gradually reduced the number of characters down to our favourite two, Demelza and Nessa, so we could make the most of them and their unique abilities.

With our characters designed, we needed an environment to support their adventure. It needed to be both rugged and beautiful, and give this feeling of a childhood holiday adventure, so we created a fictional island called Penfurzy, which is set just off the coast of Cornwall, the area where I grew up in.

And the Cornish influence has meant being able to really draw upon lots of personal memories of places I explored as a child, from local fishing villages and Arthurian ruins to abandoned theme parks and a scrapyard. So it's quite a touristy place, but with lots of wild countryside, ancient history under the surface, and plenty of jam scones to munch on while you pedal around.
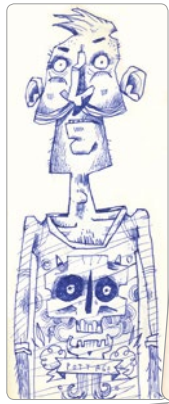
A pickled severed head makes a fair few appearances – is there more grittiness going on than we might have noticed so far?
REX: Maybe not grittiness as such, but it's definitely a game with feelings. Demelza is dealing with the recent death of her →

An energetic game, but also an emotional one, according to its creators.

Behind-the-scenes sketches show how much care has gone into every element of the game.

mum, and has been constantly arguing with her dad. So much so that she's moved out of the family home on the caravan park and commandeered a tiny spare caravan to set up as her own base away from the shouting.

Nessa's character is a little bit older and more punky and knowledgeable about the wider world, and although she's more mysterious, it's clear she's had some hardships in her past as well.

So while it's a very energetic game about bikes, frisbees, pet geese, and treasure, it's hopefully quite an emotional journey as well. When I was leading the *Tearaway* games at Media Molecule, the thing I got the most out of its success were all the letters that came in from players. These were often about how much the game had affected them, and often it was a surprise to them how emotional the game was. And while this is quite a different game, that emotional connection has been a goal during this project as well. All that being said, you are correct! There is the slightly-rotten (but still alive) pickled

head of a former knight that joins your party at a certain point in the story (along with your pet goose). So it's not just a game about super-cute kids running around. It's more that kind of mixture of cute and ickiness that you might see in a cartoon like *Adventure Time*.

Bikes. Discuss. Why are they in the game? What can you do with them? Why are they important to the experience both from a mechanical and stylistic viewpoint?

MOO: Bikes are such a critical moment in any kid's life, especially the less athletic kids like I was. For me, it was the first time I could start going where I wanted to go without getting approval from the giant human who was in charge of me. So it's not only a huge expansion of possibilities, but a new level of decision-making that I found myself suddenly in. We express this idea of new horizons with all of the bike upgrades that you slowly unlock throughout the game. For example, one of the first upgrades you apply are high-grip tyres, which get you past all the deep mud pits left around the island by the frequent heavy rains.

So there's that big macro change in a child's life that we wanted to capture. But there's also the instantaneous joy of riding a bike. There's the skid turns, kicking up

mounds of dirt, and coasting along with your arms and legs in the air.

It's single-player or co-op – is it more one than the other? More a case of a single-player game a friend can join in with, or a co-op game you can play alone?
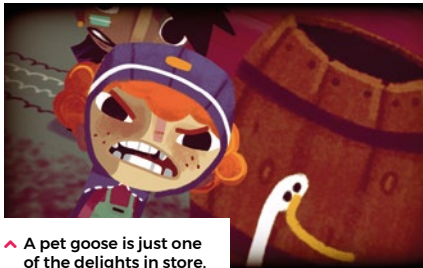
MOO: It's a game about two girls and their friendship, and can be enjoyed in either single player or co-op. It's not the kind of game where you have two identical characters and the red one disappears if you're playing alone. Each girl has distinct abilities, and you need to work together to embark on this journey. The only difference is whether the other girl is being controlled by a real-life friend or a computer friend.

If anything, though, I would say that the single-player mode is an invitation to play co-op. So even if you completed the game single-player, I would hope that it's the kind of experience that would stick with you and one day, you might just meet someone who you'd like to play it again with.

I had a pretty dark decade of my life where I really struggled to fit in anywhere or make any friends. I became obsessed with 100-hour single-player experiences, and I started using them as an excuse to become more and more reclusive. It got to the point where I always said no to everything, so everyone I did know stopped inviting me. That's when I

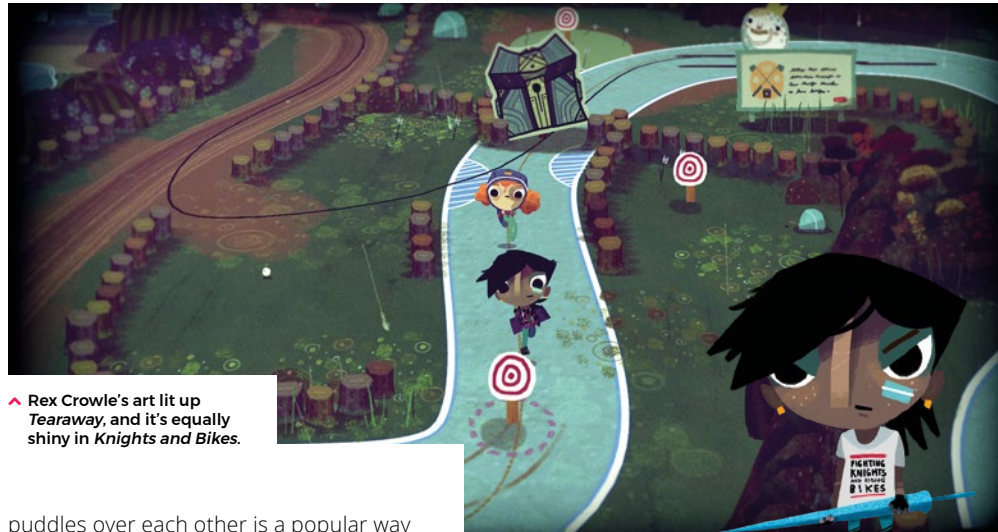Demelza's the quieter of the two lead characters, and pictured here in her tiny caravan.

▲ **A pet goose is just one of the delights in store.**

▲ **Rex Crowle's art lit up** *Tearaway*, **and it's equally shiny in** *Knights and Bikes*.

decided I needed to reboot my life and moved to the UK. Because of that, it's really important to me that the games I make aren't a choice to either play games or spend time with others, but instead an encouragement and invitation to play together.

LittleBigPlanet runs through the core of the team – what of that game's spirit would you say has been carried along?
REX: Yes, it would probably be hard for there not to be some *LittleBigPlanet* DNA in there, as we all worked on that and from early in its lifetime. I have to give a special mention here to Kenny Young, who was the head of audio at Media Molecule for both *LittleBigPlanet* and *Tearaway* and it's been really great to have his ears and skills joining us on this project as well. The audio experience is sometimes a little overlooked, but it really makes every aspect of a game so much better, and can often make a mechanical feature suddenly work when no amount of visual polish ever could. And neither of us would have anything to show without Moo making it all possible with all the tech and the tools and lots of implementation. So the three of us are all doing similar things to what we did on *LittleBigPlanet*, but each with a lot more to take on too, because this time it's just us!

But aside from who's working on it, there are some similarities in some of the tone between the two titles. They're both very English and uh… I'm going to have to force myself to use this word… 'quirky'. Also, the combination of co-operation with a bit of competition between players was definitely influenced by *LittleBigPlanet*. There are definitely ways you can mess with the other player in *Knights and Bikes* – messing up each other's hair by splashing

puddles over each other is a popular way of doing this, although the real 'wrong-uns' out there can do something far worse… with some fresh goose poop.

How does all that lovely art come together? Hand-drawn, and then…?
REX: Yep, so a key element of the art style is to be very hand-painted. It's been designed to look a little bit like the kids in the game have used chalk and paints to tell you their story. In other words, these are the materials they'd choose to try and convince you that this tall tale of treasure and adventure actually all happened like they said it did. And that also allows for some artistic licence. In the story, when the kids' imaginations start to get carried away, you'll see extra elements painted into the scene, representing what they are thinking, as everyday items take on more imaginative forms. So a car-crusher in a scrapyard becomes a dragon, and an obstructive chain-link fence becomes a castle's battlements.

Behind the scenes, it's a lot of painting. Hundreds of hand-painted sprites reused thousands of times, each of them facing the camera on a 3D plane, and all individually colour-tinted to either recede into the background, or stand apart from their neighbours. And wherever possible, this artwork is redrawn three times to create a stop-motion 'line-boil' effect.

It's a fairly painstaking process, but it's still more manageable on a tiny team than full 3D, which is good as I've got the

level-design and a bunch of other roles to perform! And while the style works well for the world-building, I have occasionally cursed the '2D art in a 3D world' method while doing the game's animation – as getting a fully customisable 2D bike moving in 32 different directions in a 3D scene has been pretty tricky, and still has a few last-minute visual bugs for us to fix.
MOO: While Rex has to draw the thousands of images, it's my job to make sure they all play nicely together. We do mix lots of different kinds of images and animation technologies together, and I've tried (probably to medium success) to make sure they all get along. For example, we use a piece of software called Spine to do our character animations.

For [other] objects, they might be frame animations, they might use Unity's animation system (both MechAnim and Legacy), or might even be some kind of procedural animation.

Add to the mix particle effects, Unity terrains, and the occasional giant 3D mesh to give a solid background for a few hundred sprites to be layered on top of. I've also implemented a handful of 3D generation tools to create roads, bike tyre tracks, preview lines and the like without having to open up Maya. I even once tried to write a procedural 'hedge generator', but I'm fairly sure all uses of it have been deleted – poor hedges. ⓦ

Knights and Bikes **releases in 2019 on PC and PS4**
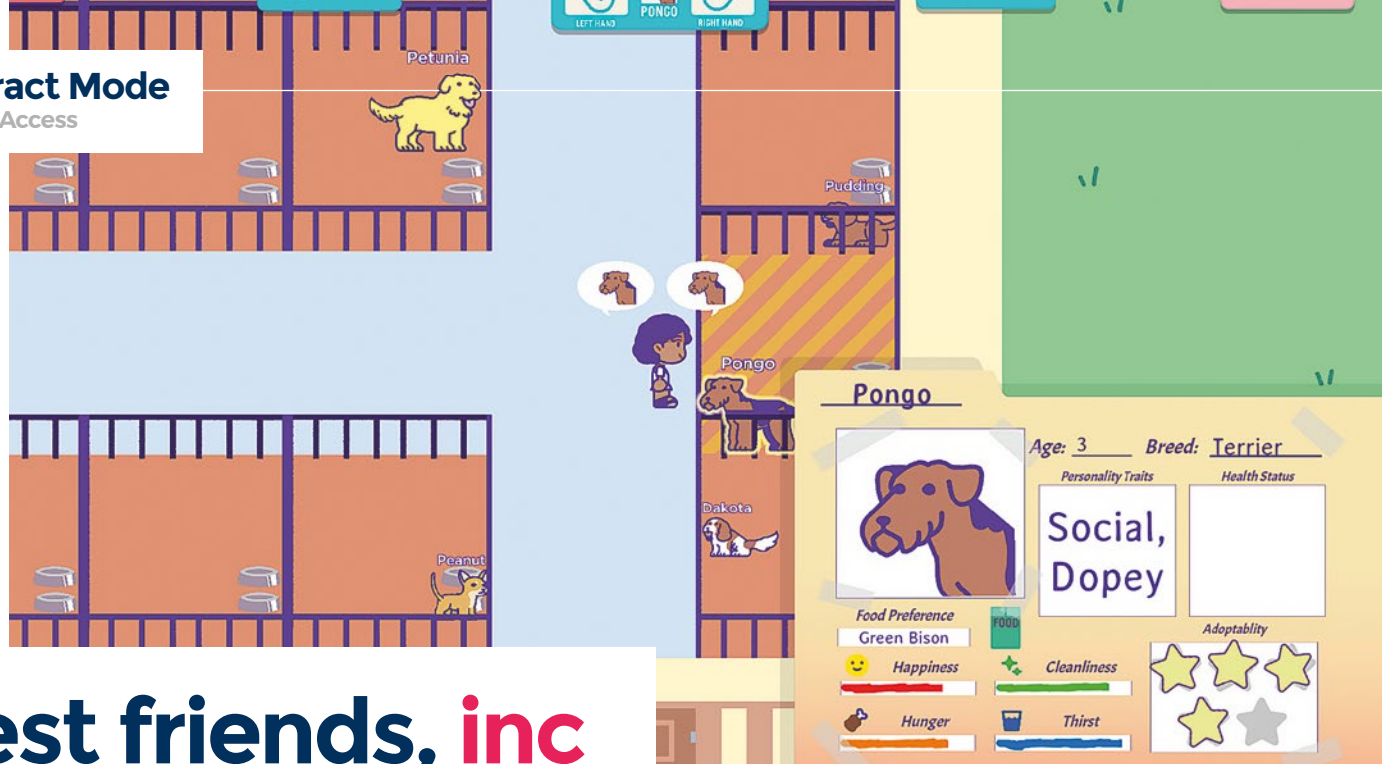
Best friends, inc

To The Rescue! hammers home the ethos 'adopt, don't shop'

Made by Little Rock Games – Olivia Dunlap and Tanner Marshall – *To The Rescue!* is, quite simply, a dog shelter simulation. *Theme Park* with less salt. *Jurassic World Evolution* without as many civilian casualties. *SimCopter* without any 'copters. You get the idea. It has an adorable look to it and is full of all the 'snoot boops', as I'm forced to write, you would expect of anything dog-related in the contemporary gaming world. You run the shelter, look after the dogs and their welfare, and aim for all the rescued pooches to be adopted into suitable homes. But it goes beyond that, into areas you might not expect of something so bright and airy-looking.

"We really want to represent the good, the bad, and the ugly aspects of running a shelter," Little Rock tell us. "Which means that even though you get to interact with and get to know all kinds of dogs, some of them are more adoptable than others. Just like in real life, some kinds of dogs are more appealing to adopters

for a variety of reasons like their age, breed, and personality traits. But you also have to deal with the threat of illness and disease, running out of funds, and other adverse situations."

And that's where the unique aspect of a dog shelter sim comes into play – your goal might be to get these pooches into their forever homes, but the simple fact is you will face many roadblocks along the way, seemingly conspiring to work against your efforts to keep the shelter running. "Sometimes, when dogs are sick, or old, or aggressive, and no one wants to adopt them, you won't be able to afford to keep taking care of them and might have to make a tough decision," Little Rock explains. "But if everything works out and the shelter gets plenty of donations, you'll be able to take care of them for as long as you like."

Those tough decisions mentioned incorporate euthanasia, a hot topic for any animal lover, and a constant source of controversy surrounding shelters (and even activist groups like PETA) around the world. But it's a part of the dog shelter experience, and it's something Little Rock felt strongly had to make up a part of the game. "From the very beginning of the project, we wanted to include euthanasia in the game.

"We know that the idea of it being an option may be shocking to some people, but the truth of the matter is that there are way more dogs and cats in need than shelters can handle. It can be hard for 'no-kill' shelters to take in every animal that might need help. Those that may be hard to adopt, rehabilitate, or find room for may eventually end up at other shelters that have no choice. A tragic side effect of this is

∨ **New dogs arrive all the time, meaning your little shelter is constantly short of room.**
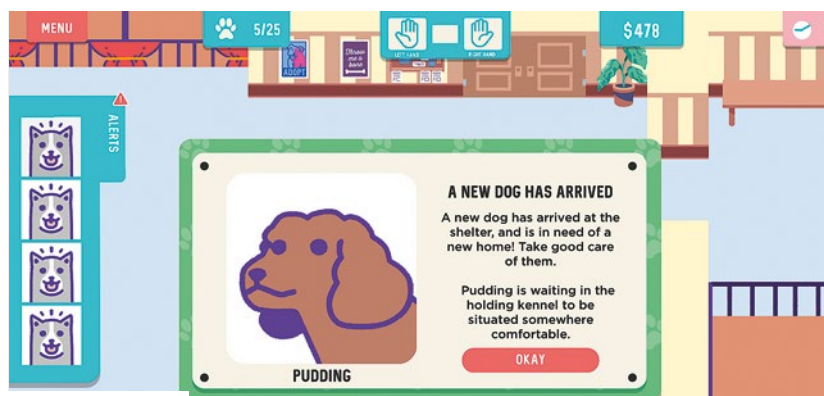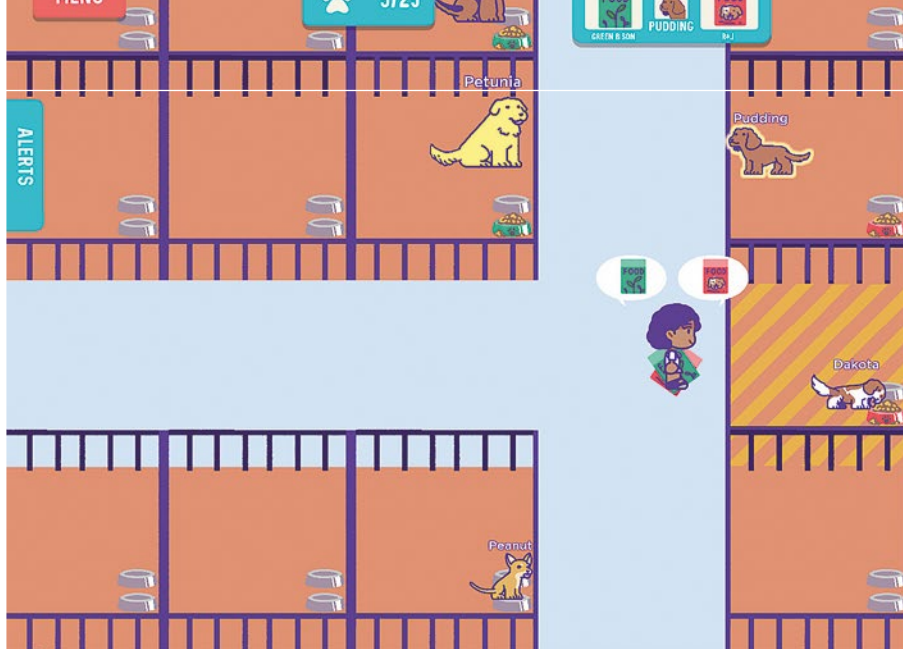
∧ *To The Rescue!* may look fluffy, but it forces some tough decisions on players.

that shelters that need help the most may end up with a bad reputation. No one ever wants to have to euthanise. But since we want to raise awareness, we don't want to pretend that it's not potentially part of the job. It's not glorified or presented as an easy way out, but it's an important part of the experience."

But this is a game, and there's the option to turn off the euthanasia mechanic for those who feel strongly about it for whatever reason. It's not an aspect to dwell on – this isn't a dog murdering simulation – but it's still quite jarring to hear something so fantastically twee does cover such a tough, real-world element.

"The game has a pretty cute art style that might suggest it's more light-hearted than it is, and one of the reasons for that was to make it a little bit less realistic," the team explains. "In some ways, we want to subvert people's expectations about the type of experience that they might have with that kind of game. We don't

> ### "The game's cute art style might suggest it's more light-hearted than it is"

want to shock people, but we really want to make games that are meaningful and that make a difference."

Even when opting out of its harder aspects, *To The Rescue!* is sure to point out to the user exactly what it is they're opting out of, as well as that "in reality, not every shelter has that option." But it's not browbeating or forcing you to feel bad – there's the chance to engage with and succeed in a niche management sim, growing and succeeding in your dog-rehoming business just as you would in any other managerial title.

Unlike the others, though, *To The Rescue!* offers one extra nugget to tempt in dog-lovers of the world: you'll be helping out real-world shelters. "One really important thing for us is to try and be honest," Little Rock says. "Not only to generate awareness but also to raise money for real-world shelters. To that end, we are donating 20% of the profits to charities that support shelters across the United States." ⓦ

∨ It's a sad fact that you'll find some dogs easier to rehome than others.
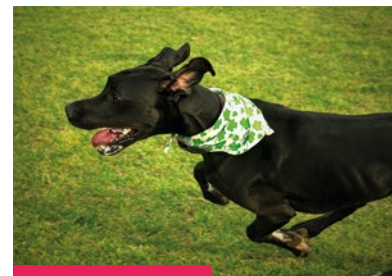
LITTLE ROCK'S TOP DOG

But, really, the most important question of all is – which is the best kind of dog? "Truly, one of the universe's most difficult questions," Little Rock says. "We love them all, we really do. All dogs have the potential to be the best if someone will give them a chance! But as any dog owner will tell you, the best kind of dog in the world is your own… so here is our dog, Keanu Reeves."

A Rare spring in its step

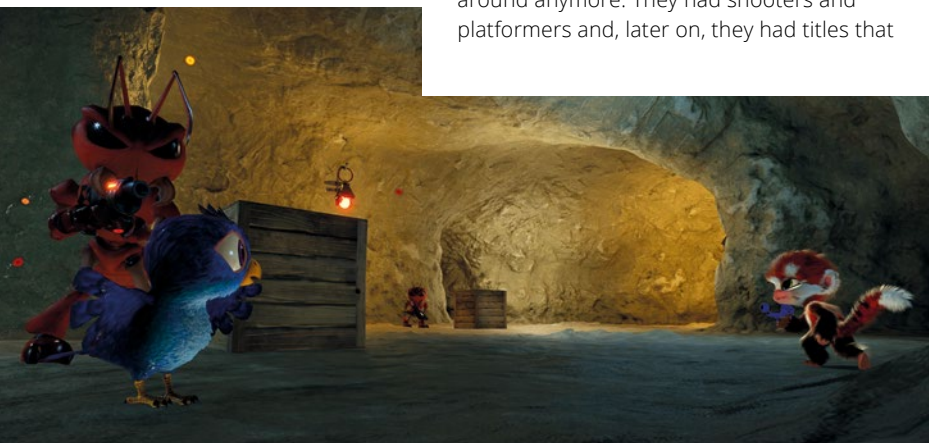## Chameleon Games' platformer could be a return to a Rare-like golden age

⌄ *Tamarin* has *Mario 64* and *Banjo-Kazooie* to thank for inspiring its explorative elements.

T he rise of 3D games in the 1990s represented a sea change among the industry's leading developers. Rare, with its offbeat brand of humour, iconic characters, and excellent mechanics, emerged as one of the era's shining lights of the British industry.

The ever-changing face of the gaming landscape meant that Rare's influence would wane in the years to come, but its legacy remains an inspiration. *Tamarin*, Chameleon Games' upcoming action-adventure platformer, wants to build on Rare's heritage and revisit what made the *Banjo* and *Donkey* games so great.

"If you look at SNES and N64 games then they're the most celebrated era of what they did," Omar Sawi, *Tamarin*'s creative director, explains. "What's really fascinating about them is that they had a variety of games that aren't around anymore. They had shooters and platformers and, later on, they had titles that

mixed the two. Blending *Tamarin*'s cute graphics with the adult themes is something that I was inspired by, and is a celebration of those games."

Tamarin sees players take control of a baby Tamarin – a small monkey, basically – that sets out to protect its family and home from an invading horde of intelligent ants. Comparisons to humanity's impact on the natural world are evident from the get-go, with the ants ransacking the Tamarins' habitat and consuming their resources. It's a core theme that drives the game's plot despite not forcefully pointing the finger at players.

"We're not a preaching kind of game, but I wanted a game that appreciates those parts of the world that can disappear if we're not careful," Sawi says. "I think that's something that humanity can think about a bit more than we do currently as it might come back and bite us. If you have to go to the zoo to see a certain kind of animal, I think it's a really serious issue."

Tackling such an important topic from a realistic visual standpoint wouldn't have accurately represented the adorable and humorous tone that Rare had become renowned for. *Tamarin*'s aesthetic quickly changed, then, after numerous ex-Rare employees joined Chameleon's cause.

"If you have a movie or entertainment product, it's always nice to have a star," Sawi says. "I looked at all the animals that nobody's made a game about before, and ended up on Tamarins because they're really cute. I spoke to some people who worked at Rare before, because they made some really famous characters, and worked with them to create

this iconic character that could be recognised." Eventually, he adds, things turned in a more stylised direction.

In choosing such an agile creature in the Tamarin, Chameleon was able to plough headfirst with its desire to create an adventure-platform-shooter hybrid, that mixed genre itself being reminiscent of famed Rare games.

"We spent a lot of time just getting the basic controls right," Sawi explains. "The way you move, jump, and just the way they have to catch things. You can run around in quadruped mode, which is the animalistic perspective, to use your acrobatic moves to solve puzzles or get around environments by swimming, leaping, and running. And then you have the shooter parts where you're in bipedal mode. You're walking like a human and can use weapons and tools that are the key to how you proceed through the environment."

Collaborating with veteran Rare developers enabled Tamarin to incorporate elements from the company's back catalogue. The inclusion of helper characters, akin to Bottles from *Banjo-Kazooie*, is a cool throwback to the studio's golden era. Collectables form part of the experience too, such as rescuing innocent birds, which gives players the opportunity to explore *Tamarin*'s idyllic settings and locations. Even the game's soundtrack will have a familiarity about it, with former Rare composer David Wise's soaring score helping to direct your emotions throughout *Tamarin*'s plot.

"David's music is very beautiful," Sawi says. "I think that's a really good fit for a game about nature because, for example, you have the *Donkey Kong Country* series that were in natural environments and they had a really nice atmosphere. That was something we wanted to capture, and the music helped so much with that to create that contemplative or darker mood from those older SNES games."

Tamarin isn't the first game to try and revitalise those halcyon Rare days. Playtonic Games' *Yooka-Laylee*, also developed by ex-Rare personnel, received mixed reviews following its release in April 2017. While capturing the feel of 3D platformers from that bygone era, it struggled to shake off concerns around such genres being outdated. There could be an

inclination to pre-emptively critique *Tamarin* similarly thanks to its own Rare-esque style. For Sawi, however, keeping these gaming genres alive in an industry increasingly focused on whatever is profitable and nothing else is more important now than it ever was.

"There are so many games nowadays that start by exploring DLC or games-as-a-service or they don't focus on giving you a good, traditional experience," he says. "I think a lot of big companies just want to get the money, and games these days are all about grinding. I hope there will be more games like *Tamarin* and that genre won't go away. We need single-player or story-based games where it's possible to finish them, and there's a satisfaction from concluding them." ⓦ

"Blending cute graphics with adult themes is something I'm inspired by"

NORDIC AND NICE

"We tried to make different locations based on that sort of scenery, so you go through forests, coastal areas with fjords, and mountains," Sawi explains. "We also researched various species that live there. We had specific flowers and trees, and we chose them very carefully so that they'd stay true to that biome – bluebells, spruces, and hazel bushes – and tried to use them in the right places. I actually had a plant expert from France, who is also a 3D modeller, so he helped to make some of those. His knowledge helped a lot. Also, the fact that I could go home and just study these things, take pictures, and reference these things where I grew up helped as well."

Headlines
from the virtual front

01

01. The PlayStation show(s)

It's been a big couple of weeks for Sony, with so many announcements and snippets coming from the Japanese company that it's fundamentally altered the very structure of our news section. That's not something you see every day. Or fortnight. *Anyway*, first up came the surprise announcement – and it even surprised folks at PlayStation – that parent company Sony will be working in partnership with Microsoft on some future endeavours.

Said endeavours include the likes of collaborations on cloud solutions and streaming services (both gaming and other content), with the general belief being the two companies have found it necessary to work together in the wake of Google's announcement of its own Stadia platform. There's always a bigger fish, and all that.

Elsewhere, Sony has been showing off its less-friendly-to-Microsoft side, demonstrating some PlayStation 5

> **"The surprise announcement – it even surprised folks at PlayStation – that Sony will be working with Microsoft"**

loading tech, otherwise known as 'an SSD'. OK, we're being facetious – this is a solid state drive with all the benefits of being hooked up to a device dedicated to and built for it, and we're being promised loading and data access times an order of magnitude quicker than in previous mechanical drive generations. Yes, even quicker than if you put an SSD into a PS4, smartypants.

Finally, everybody's favourite house of [insert gaming mascot here] *also* revealed PlayStation Productions: a new division specifically aimed at getting its IPs into the world of TV and film. And games too, but mainly the first two. And what's the initial offering going to be? Well, we're not sure, but there is a *Twisted Metal* TV show in the offing. With inspiration coming from the Marvel Cinematic Universe and a broad range of characters to draw from, we look forward to seeing what the big PP can put together.
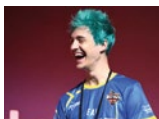
Ninja displays basic humanity; will eat off-camera during Ramadan.

Bandai Namco partners with ISKN to make 'creative entertainment platform'.

02

03

04

02. **BAFTA's babies**

BAFTA will be handing out those vaguely terrifying face-trophies on 29 June in a special awards ceremony for its Young Game Designers Competition 2019. 53 youngsters aged between 10 and 18 have reached the final, with their 40 gaming projects all addressing issues such as mental health, climate change, and transgender rights.

Dr Jo Twist OBE, chair of the games committee at BAFTA, said: "Games are a fantastic art form for creators to express themselves, and I am delighted to see young people tackling important topics through their design and concept entries this year. Their creativity and ambition for social change through the medium of games is inspiring. A very well-deserved congratulations and good luck to all the 2019 finalists!"
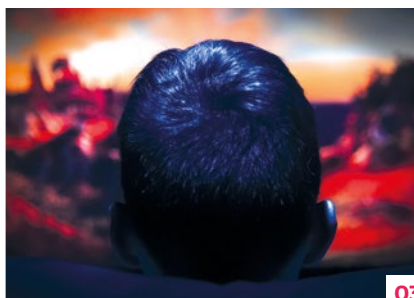
03. **MS PSA**

Microsoft's head of operations for Xbox has admitted research needs to go into the impact of games on players, with Dave McCarthy pointing out that – additionally – companies themselves have to take responsibility for things like loot boxes and addiction.

Speaking with PC Games Insider, McCarthy said: "We feel that we have a huge responsibility when it comes to the healthy gaming lifestyle of the players on our service overall.

"Some people need help. Parents especially, it's not easy being a parent in this modern age. I think it's a balance of having the right research to guide decision-making overall, but that does not excuse ourselves from having responsibility to lead in this area."
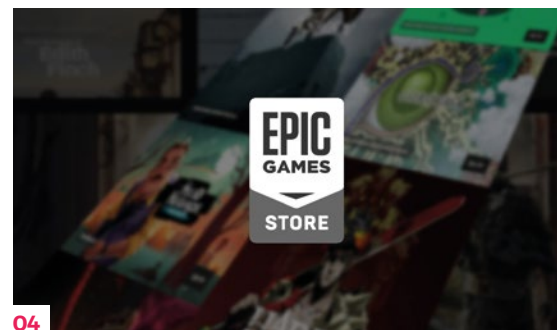
04. **Epic fail – again**

Epic's teething troubles on its Games Store continue to pile up, with a couple of more egregious examples rearing their heads recently. First up, a user requesting their personal data – something we can all do in Europe as part of GDPR regulations – received said data from the company. Along with an email from a completely random stranger explaining *they* had been sent the original person's data, too. Epic owned up to the mistake (after it was caught, naturally), apologising for this... we want to say 'idiocy'.

Elsewhere, users on the Games Store found they were unable to purchase more than a few games in succession without their accounts being flagged for 'possible fraudulent activity'. The magical benefits of a shopping cart. And finally, the reason people were buying so many games – Epic's first big sale – actually resulted in some publishers *removing* their games from the platform. Things can only get... better?

Forgetful engineer finally remembers to shut off OUYA services on 25 June.

George R.R. Martin 'consulting on a game out of Japan'. FROM where?

Incoming

Playdate ⬆

The Switch is exciting, but it didn't have a crank. Playdate, an upcoming mini-handheld, has a crank. And buttons, and a screen, and all those sorts of things, naturally.

Manufactured by Panic, the studio behind a decade's worth of iOS and Mac software, as well as publishers of *Firewatch* and *Untitled Goose Game*, Playdate is set to arrive in early 2020 at a price of $149. For that, you'll get the device, measuring a teeny 74 mm × 76 mm × 9 mm, and all of the games from Playdate's first 'season'.

What's a season? It's 12 weeks of (secret) games automatically delivered to the device, automatically installed and ready to play on the 68 mm monochrome screen, displayed in a lovely 400×240 resolution. As well as games from the likes of *QWOP*'s Bennett Foddy, *SpellTower*'s Zach Gage, and *Katamari Damacy* creator Keita Takahashi, users will be able to create their own.

"The device will be very open," Greg Maletic, director of special projects at Panic, tells us. "Most platforms nowadays have tight restrictions, so it was important to us that Playdate be open enough to allow experimentation."

Creators can still get on board with the Playdate project, with potential plans for a Mac-based SDK to be released. If a game's been written using Lua or C, it can be written for Playdate, and Maletic says there's potential for this to be expanded if there's demand, and it's technically feasible.

But there is a big question: why? "Very little in the video game industry feels like a surprise anymore," Maletic says. "Even most new console announcements represent just spec bumps from the previous generation. We're hoping Playdate can inject a little unpredictability and fun into the video game experience."

You can find out more at **wfmag.cc/playdate**.

Lost Ember ⬆

What's better than being a wolf? Being a wolf that can possess any other animal, naturally. *Lost Ember* brings to life the dreams we never even realised we had, with this narrative-focused exploration title ticking a lot of now-traditional indie boxes. Idiosyncratic visuals, a smooth and relaxing soundtrack, uplifting graphical flourishes when you take over the mind and body of an innocent bird – it's all in there. If it all comes together, *Lost Ember* could be a great way to while away some lazy summer evenings.

Dwarf Fortress ⬇

Yes, you read that right. Legendary indie game/life dominator *Dwarf Fortress* is going legit and making its way to Steam at some point this year. One of the deepest, most influential titles ever made, *Dwarf Fortress* had a huge hand in kickstarting the trend towards survival roguelikes we're still seeing a lot of. Does the old master still have it? With a graphical overhaul and decades of development behind it, we're going to bet on: yes. Yes, it does.
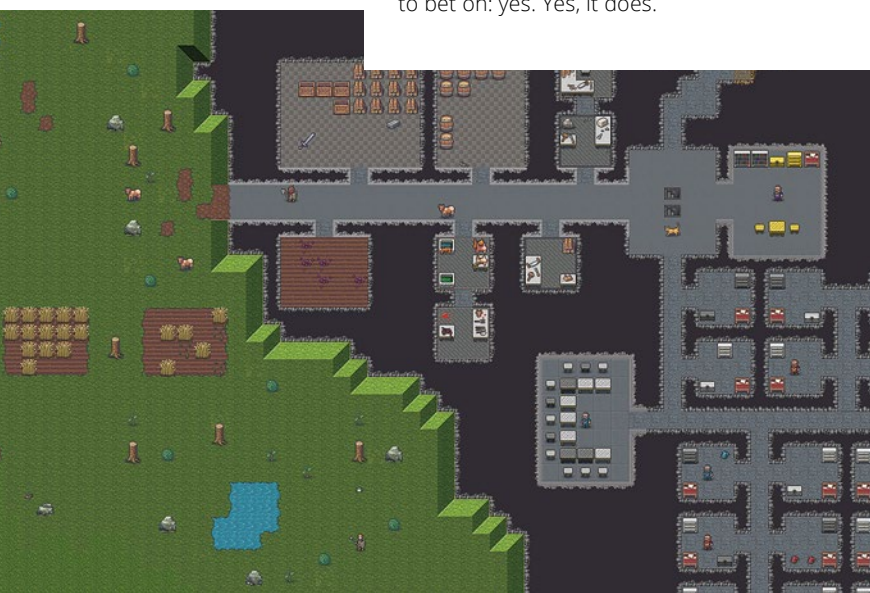
Doctor Who: The Edge Of Time ⬇

Just when you thought it was safe to put your PSVR in the loft, out comes the Doctor. Jodie Whittaker reprises her role as the fantastically northern Time Lord in a virtual reality adventure spanning – would you believe it – time *and* space. Developed by Maze Theory – a studio set up by former Activision and PlayStation brass, and focused on the potential storytelling chops of VR games – *The Edge Of Time* sees players tackling all manner of puzzles and fending off many of the Doc's (if Bradley Walsh says it, so can we) most legendary foes. We'll hold off on the comment that VR isn't meant to be used by under-12s for now, because this just sounds *cool*.
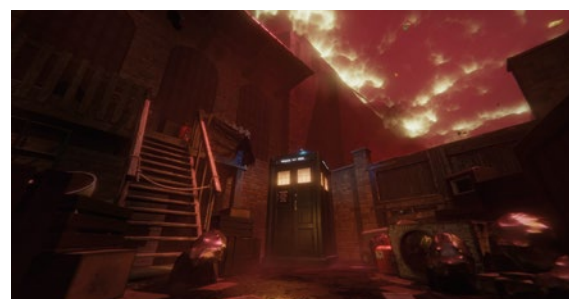
How **Revolution** survived the British games industry

Charles Cecil talks Broken Sword, problems with publishers,
and how Apple saved Revolution from the brink of collapse

**WRITTEN BY
JACK YARWOOD**

Charles Cecil is a natural storyteller. If that wasn't clear enough from his games – adventure titles like *Broken Sword*, *Lure of the Temptress*, and *Beneath a Steel Sky* – it certainly is from hearing him recount his lengthy 30-year-plus history in the games industry.

Over the course of two interviews, he spins some exciting tales about run-ins with dodgy lawyers, a chance robbery that could have changed gaming history, and how his beloved company Revolution was rescued from the brink by the unlikeliest of sources: the American tech giant, Apple. But like all good stories, his starts with somewhat humble beginnings.

Cecil's introduction to computing happened in school, with a proud maths teacher showing off his new tech. From there, Cecil followed an unusual path, studying engineering at university and securing a place on a specialist program working for car manufacturer, Ford. Here he would learn BASIC, as well as meeting Richard Turner, who was in the process of starting up software company, Artic Computing.

Turner convinced Cecil to start making games for his company, and the partnership resulted in such creatively titled releases as *Adventure B: Inca Curse* – which Cecil now admits borrows perhaps too liberally from blockbusters such as Indy's first outing, *Raiders of the Lost Ark* – and *Adventure C: Ship of Doom*.

^ Visiting exotic locations has always been at the heart of the *Broken Sword* series.

THE FALL OF ARTIC

Cecil continued making adventure games for Artic over the next few years, but eventually, the company found itself in a compromising position. Not only had larger publishers like US Gold and Ocean started to push out smaller, more amateurish operations, but the company had found itself employing a number of suspect characters.

"We were very naïve," says Cecil. "We were 19 or 20. Our lawyer went to prison... and he was the most honest of the whole lot. Our accountant, I remember, was so laissez-faire. He'd walk in and he'd say, 'How much tax do you want to pay? None? OK.' And he'd come back, and we'd paid no tax. We had a really bad bunch of people around."

After Artic ended, Cecil went on to start a new company, Paragon Programming, working on games for US Gold, before eventually jumping ship and joining the publisher, becoming Head of Development.

"I was really looking forward to turning up and being the Head of Development," he recalls. "Then I turned up and there was me, a tester, and a part-time masterer. And that was it. And the interesting thing is... people had rather a contempt for their audience at the time. They believed it was all in the marketing and all in the licensing. That was where the big people were."

He gives an example. Prior to Artic's closure, US Gold's Geoff Brown approached the

company to license its game *World Cup Football*, because the publisher had recently secured the rights to make a game for the 1986 World Cup in Mexico. The plan was to release Artic's *World Cup Football* under another name with the license attached, then promote it as a brand-new title, and not let anyone see it until its release.

"I was really uneasy about this, but we were effectively bankrupt," Cecil recalls. "So I'm quite ashamed to say we took the money. It was a

"Our lawyer went to prison... and he was the most honest of the whole lot"

job, but it wasn't right. And the game came out, and people realised it was Artic's game and there was quite a backlash. But the packaging was unbelievably beautiful, and that's what US Gold did."

TALKIN' 'BOUT A REVOLUTION

After a few years in the world of publishing, working for companies like US Gold and Activision, Sean Brennan over at Mirrorsoft managed to entice Cecil back into game development with an offer to potentially publish some of his ideas. Along with Tony Warriner, David Sykes, and later Noirin Carmody, Cecil established the studio Revolution Software and got to work on a concept to pitch.

It was around this time something happened that could have changed gaming history. ➡

^ Cecil has over 30 years' experience working in the games industry, for the likes of Artic Computing, US Gold, Activision, and his own company, Revolution Software.

∧ Action set-pieces are rare in the *Broken Sword* games, but that doesn't mean they don't have some exhilarating moments.

When the day of the Mirrorsoft pitch arrived, the car that Revolution had used to transport its new 386 computer was broken into. In a miraculous turn of events, however, the thief opted not to steal the bulky piece of hardware in the passenger seat, choosing to take the car radio. Had they chosen instead to steal the 386, Cecil reckons this would have spelled the end for Revolution as a company.

"We did a presentation to Mirrorsoft's partners. I finished, and there was silence"

"I remember we then did a presentation to all Mirrorsoft's partners, and I finished and there was silence," he recalls, taking a brief pause for emphasis. "I looked around and somebody started clapping. Then everybody started clapping. And then everybody stood up and I realised that they were all just blown away. It was the most amazing moment. It was just realising that we'd arrived."

The game they were showcasing at the time was *Lure of the Temptress*, a point-and-click adventure game, which eventually released for DOS in 1992. It was conceived as a response to the more po-faced, adult-oriented output of their competitors in America, Sierra On-Line, who were releasing games at the time like *Gabriel Knight* and *King's Quest V*.

"Their stories were so pompous and were very much appealing to an older American audience who had this fantasy about Britain," claims Cecil. "I think the younger audience were much more into the slapstick and the fun. So LucasArts and ourselves were very much aimed at a younger audience."

The dystopian *Beneath a Steel Sky* followed *Lure of the Temptress* a few years after, in 1994, also for DOS. A collaboration between *Watchmen* artist Dave Gibbons and the company, it came about as a result of Cecil's earlier attempts to adapt *Watchmen* into a video game while at Activision, an endeavour that came to naught after they realised that it was Dark Horse who actually held the rights.

"It was a huge pleasure to work with him," says Cecil. "Because we were this tiny little company working in this grotty little office above a bacon butty arcade and he'd get the train to London, get off at Doncaster, and take this bone-rattler to Hull, and he was just really game. He was just good fun. And he contributed enormously to it, partly because he said, 'I can contribute to the story, I can contribute to all these areas, but I accept that this is your domain, mine is the art.'"

REVOLUTION'S KEY GAMES


Lure of the Temptress
1992
A member of the king's hunting party, a peasant named Diermot, unwittingly becomes embroiled in a conflict with an evil sorceress named Selena. It falls to Diermot to stop her and save the kingdom from ruin.

Beneath a Steel Sky
1994
Taking place in a dystopian vision of Australia, where labour rights have been all but stripped away, you play as the outsider Robert Foster, named for his discovery as a child next to an old can of lager. Taken from his home to Union City, Foster must find out the truth about the computer LINC (Logical Inter-Neural Connection) and flee the city.
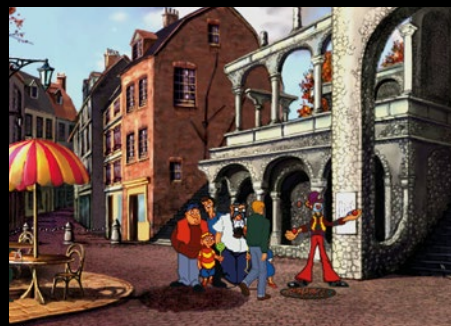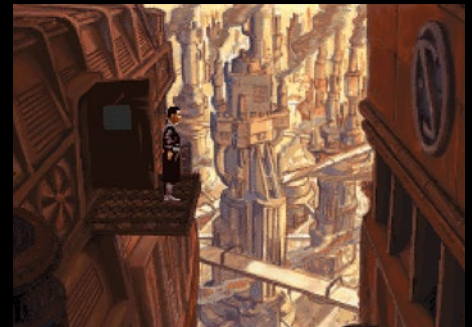
Broken Sword: The Shadow of the Templars
1996
After an explosion rocks a quaint Parisian café, American tourist George Stobbart and journalist Nicole Collard team up to find the culprit, in an adventure that involves the Knights Templar and a whole lot of air miles.

In Cold Blood
2000
A post-Cold War thriller, *In Cold Blood* puts players in control of the MI6 agent John Cord. He has been sent to investigate the leaders of the fictional country of Volgia, after a violent coup has destabilised the region.

BREAKING SWORDS

While both *Lure of the Temptress* and *Beneath a Steel Sky* were moderately successful, however, it would be Revolution's next project that would secure its legacy. Released in 1996, *Broken Sword: The Shadow of the Templars* was an adventure game that combined challenging puzzles, a globetrotting plot, and conspiratorial intrigue.

Significantly, unlike Revolution's earlier titles, it also released on the original PlayStation, being published under Sony Computer Entertainment, as Virgin, the game's original publisher, thought 2D games wouldn't sell on console. This outcome saw the game reach an entirely different audience than what Revolution was normally used to, resulting in some incredible sales on the platform.

With the game becoming a surprise success and subject to immense critical acclaim, a sequel followed shortly after, in 1997. *Broken Sword: The Smoking Mirror* built on what *The Shadow of the Templars* had done a year earlier, but shifted the plot to focus on Mayan and Aztec culture in place of Christianity. It turned out to be another commercial success for the studio and ➡

^ Goats are a common enemy that players will meet when trying to solve puzzles in the *Broken Sword* games.

garnered a positive reception from the gaming press at the time.

Afterwards, fans would have to wait a while for a third instalment. Cecil blames a number of reasons for this, the biggest being the pressure to move *Broken Sword* into 3D. Retailers at the time were lobbying publishers to publish more 3D games, but Cecil still didn't believe the technology had advanced to a point where a *Broken Sword* in 3D was tenable. The release of Sierra On-Line's *Gabriel Knight 3: Blood of the Sacred, Blood of the Damned* only reaffirmed his belief.

"[*Gabriel Knight 3*] came out using very, very primitive 3D and it looked horrible,' he says. "And I'm making no criticism, but it did look horrible and it wasn't a great experience. We had no choice but to sit it out, because people didn't want 2D and I didn't want to produce it in 3D at that time."

DARKER DAYS
In the meantime, Revolution started working on three new projects: *Gold and Glory: Road to El Dorado* (2000), a video game tie-in for the DreamWorks' film of the same name; *In Cold Blood* (2000), an adventure game for Sony Computer Entertainment swapping ancient civilisations and religious conspiracies for secret agents and espionage; and *Good Cop, Bad Cop*, an action game where a player's choices would affect how the story would play out.

> **"We were insolvent. I remember telling my wife, 'We're going to have to bankrupt the company'"**

While *In Cold Blood* was a moderate success for the studio, and lives on today as a cult classic among fans of a certain age, *Gold and Glory: Road to El Dorado* received a number of terrible reviews and *Good Cop, Bad Cop* would ultimately struggle to secure funding, get cancelled, and fade into obscurity.

Around this time, conversations began in earnest on the topic of a new *Broken Sword* game. Licensing RenderWare, Cecil was finally capable of making a true 3D sequel to *Broken Sword*. The result, *Broken Sword: The Sleeping Dragon*, launched only a couple years later, in 2003, for Xbox, PlayStation 2, and Microsoft Windows.

Broken Sword: The Sleeping Dragon received mostly positive reviews from the press and sold extremely well, but unfortunately the agreement made between Revolution and its publisher THQ meant that THQ earned a profit of several million dollars from the game's success, while Revolution suffered a huge financial loss.

"We'd closed the studio," says Cecil. "So we'd gone from 30 to 40 people, and we'd made everyone redundant. And it was a horrible thing to do. We had no studio at all. THQ came to us and said, '*Broken Sword 3* was successful – we want to do *Broken Sword 4*.' I said, 'We don't have a studio. Also, we need to change the deal.'"

Despite having no development team, the remaining members of Revolution got to work on the next *Broken Sword*. They drew in the Sheffield studio Sumo Digital to do most of the game's production, while Revolution itself focused squarely on the design.

Broken Sword: The Angel of Death followed for PC in 2006 and attracted some decent reviews, though it still didn't sell well enough to fix Revolution's financial worries. "We were insolvent," admits Cecil. "I remember talking

to my wife and saying, 'We're going to have to bankrupt the company.' Though we never did… we actually got to the point of talking to people about doing it, because we wanted to be as responsible as possible. We were very, very close. Then we got a call from Apple."

AN UNLIKELY ALLY

It was during this time that Paul Burford, a technology evangelist at Apple, reached out to Cecil to ask whether he'd be interested in bringing the Revolution back catalogue to iPhones. Cecil immediately jumped at the chance. This working relationship would help Revolution to rebuild, and would also introduce its games to a whole new generation of players.

With interest in Revolution's work renewed, the company took the opportunity to start a Kickstarter to raise funds for *Broken Sword 5* in 2012. The Kickstarter would raise over $850,000 from 15,000 backers, and *Broken Sword 5: The Serpent's Curse* released episodically across 2013 and 2014 in two separate parts.

For Cecil, it represented a chance for him to finally get in touch with the community that he had helped create with Revolution's games, and break down some of the frustrating barriers between developers and fans.

"The passion of people who play adventure games is extraordinary," says Cecil. "Because people will come and say, 'I remember I used to play this with my grandmother. And we played for weeks and weeks and weeks and now that she's gone I remember the relationship of playing the game, solving the puzzles together, experiencing the story.' It's a genre of which I think we should be very proud, and of all the games and all the genres it is the one that people remember more."

Broken Sword 5: The Serpent's Curse has since been ported to multiple consoles, including the Nintendo Switch as recently as last year. Now Cecil is working on the long-awaited sequel to *Beneath a Steel Sky*, called *Beyond a Steel Sky*, which was announced at a recent Apple keynote as part of Apple Arcade.

Cecil may have overcome a lot of difficult and turbulent times working in the games industry over the years, but ultimately, the continued appetite for adventure games – and his compelling stories – ensures that we haven't seen the last of him yet. ⊙

⌄ Despite their adventure taking them far afield, Nico and George always return to a quiet apartment in Paris when they need to crack a mystery.

Project Behemoth

Interactive

Rigid Force Alpha

Former Anno 1701 level designer Marcel Rebenstorf
tells us all about his solo shooter project

When the mainstream turns its back on a certain style of game, it's sometimes better to roll your sleeves up and make one yourself. That's what German developer Marcel Rebenstorf has done with *Rigid Force Alpha* – his take on the kind of side-scrolling shoot-'em-up that was once a video game mainstay, but has since dwindled into relative obscurity.

Rigid Force Alpha immediately recalls such genre-defining series as *Gradius* and *R-Type*. For Rebenstorf, it's a chance to revisit a style of game that he was addicted to as a youth in the C64 era. "There's a whole range of games that inspired me throughout the production – including *R-Type* of course, which is obvious," Rebenstorf tells us. "Other classics such as *Gradius*, *Katakis*, *Darius*, *Ikaruga* and even games of other genres such as *Turrican* or the *Metroid Prime* series have left their mark, too."

What's immediately striking about *Rigid Force Alpha* is its level of polish: rather than the retro pixel art of early shooters, Rebenstorf has instead gone for a 2.5D approach akin to *R-Type Delta*, with 3D models flying through a starry battlefield of eye-searing laserfire and explosions. Clearly, Rebenstorf has brought a lot of industry experience to his first project as

a developer; before he set up his indie studio, com8com1, in 2017, he spent eleven years as a level designer, working on the *Anno* series of strategy titles and browser games such as *Might and Magic Online*. Initial work on the shooter began around 2012, and for the next five years, Rebenstorf had to juggle his full-time role as a level designer with his spare-time work on *Rigid Force Alpha*.

DISCIPLINE AND MOTIVATION

"It was a pretty tough time," Rebenstorf says, "due to also having a quite demanding full-time job at the same time, but I was very determined to get this project done and so I worked a few hours before and after work every day, and also throughout the weekends. You need very supportive and understanding family and friends, as well as a good level of discipline and self-motivation to keep up this double burden over such a long period of time. I think every hobbyist developer knows what I mean and will agree."

For *Rigid Force Alpha*'s engine, Rebenstorf turned to Gamestudio's Acknex A8 – a platform that, although somewhat outdated ("Development ceased a few years ago, so I can't recommend it to anybody," Rebenstorf says), provided the flexibility and ease of use he

^ Rebenstorf has plans to bring his game to consoles, but he'll have to port it to a new engine to do so. "The chances this will work out are good," he says.

^ "My first finished game was actually also a small, minimalistic shooter on the C64, where you had to pop balloons using a turret," Rebenstorf reveals.

needed as a solo developer. For modelling the game's spiky spaceships and bio-mechanoid enemies, meanwhile, Rebenstorf used a piece of software many indie devs will recognise – Blender. "For 3D modelling, animating, sculpting, and texture baking, I've been using Blender as an all-round solution," Rebenstorf tells us. "Despite the steep learning curve, I'm always amazed by the range of features it delivers, and believe that there are only a few things where Blender can't compete with its commercial competitors."

Rebenstorf also wrote certain tools from scratch, including an editor for configuring enemy attack patterns. The greatest challenge, though, didn't come from the technical side of making the game, but rather the logistics of designing and balancing a game as a solo developer. "During this long development period, you constantly develop your graphics and programming skills, try out different visual styles and game design approaches, and after several weeks of working on the same stage, you realise that it's at a very different level of quality compared to anything you've done before. So it often happened that I had to completely rework or even discard finished stages, game elements, and graphics that worked well in the beginning because they no longer met current standards."

> **"It often happened that I had to rework or discard finished stages and game elements"**

Rebenstorf admits that he "underestimated" how long it would take to make *Rigid Force Alpha*, but nevertheless kept in mind the essence required to make a satisfying 2D shooter. For him, it's all about feedback: "The player's ship must react immediately to any input, its weapons must feel powerful, and explosions should deliver a real punch. I tweaked these elements a lot in *Rigid Force Alpha*, and adding rumble effects, screen shakes, and really fine-tuned sound effects helped substantially to create the right feeling."

A solid soundtrack is also vital for any decent shooter, and Rebenstorf managed to assemble some sterling talent for his game's musical backdrop. "The music supports the tempo, defines the rhythm, and generally carries the game's atmosphere," Rebenstorf says. "I was very lucky to have two top-notch musicians, the Finnish synthwave artist Dreamtime and US-based indie game composer Michael Chait."

Rigid Force Alpha emerged on Steam in August 2018, and Rebenstorf hopes to port it to Switch and Xbox One. He's also thinking about a successor: "With modern technology, there's a lot of potential for completely new ideas," he says. "Just imagine a battle royale shoot-'em-up. A totally wild idea! And let's not forget, there are already some interesting efforts in terms of creating genre mixes such as *Starr Mazer* or *Drifting Lands*. In short, the genre isn't dead, and hopefully, we will see many more interesting game ideas in this direction in the future." Ⓦ

GERMANY'S INDIE SCENE

Although there are plenty of developers in Germany working for major firms, or creating games as a hobby, Rebenstorf says that setting up a small indie studio is far from easy. "The immense costs that arise here every month alone deter many founders from becoming self-employed in this quite difficult sector," he tells us. "And also the pressure to succeed – if your first title isn't already a substantial hit, that's it for you, and you've got nothing but a pile of debts."

Open the gameplay doors, please, HAL
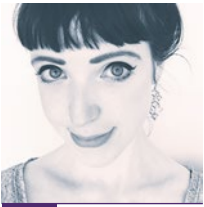
LOTTIE BEVAN

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 current BAFTA Breakthrough Brit, and founder of Coven Club, a women in games support network. She produces, markets, bizzes and arts, and previously worked on *Fallen London*, *Sunless Sea*, *Zubmariner*, and *Sunless Skies* as producer at Failbetter Games.

> "Control is a large part of the fun because so many humans feel like they lack agency in real life"

Much of human psychology is about control. David Hume described religion as a magical schema humans imposed on the world to control natural forces far more powerful than themselves. Politics revolves around controlling who's allowed in and out of countries, what information belongs to whom, and whether one group of people have the right to tell another group of people what to do. The information age has long been interested in whether technology allows us to control things or things to control us, and one of the most common causes of the growing epidemic of anxiety disorders is whether people feel like they're in charge of their life or not.

Much of the joy of gaming is control. Planting the perfect field of crops in *Stardew Valley*, or mastery of controls themselves in combo-timing games like *Street Fighter* and *Tekken*. Capturing and containing all 807 wild floofs in *Pokémon*; the git gud mentality of *Dark Souls*; overriding increasingly complex robots in *Horizon Zero Dawn*. I suspect control is such a large part of the fun because so many humans feel like they lack agency in real life, but that's by the by.

It's very interesting when games remove control. I don't like it, of course, because I'm a completionist millennial perfectionist running an indie start-up who feels quite powerless enough most of the time, thank you very much.

But I respect the artistic choice, and it gives me something to chew on. *BioShock* famously removed control in its 'thank you kindly' reveal, sparking a debate about whether it was genius or folly that the player watched a cutscene rather than actively participated in that moment.

Edith Finch, a game contemplating the inevitability of death through a series of whimsical walking-sim narratives, deliberately incorporated different control schemes for each chapter of the game, specifically to stop the player 'mastering' the controls and feeling like they were in charge. *The Stanley Parable* revolves around a satirical pastiche of control, and a bloody pantheon of horror games from *Silent Hill* to the *Resident Evil 2* remake know that what's really upsetting isn't how much blood you see but whether you have the health, items, speed, and visibility to control your situation. Well, that and never having enough batteries for your freakishly defective electronics.

With the exception of cutscenes, QTEs, or other scripted events where it's important the player acts in a certain way, removing control is almost always a deliberate artistic point. Maybe it's to heighten the tension; maybe it's a comment on society; maybe it's to make you feel powerless and weak. It's a sudden reminder that though we've lost ourselves to the power-narrative the game's laid out for us, we're not really an alien assassin rampaging through Greece or a god of war crushing draugr skulls with an axe. We're meat-sacks in a holodeck, whose worlds are vivid and alive and utterly destroyed when someone blows a fuse. Of course, you should give into games and live the fantasy you want to – but bear in mind that at any moment, HAL could refuse to open the door. Ⓦ

⌄ *Resident Evil 2*: much of its rising tension comes from the constant scramble for ammunition and other items.

Toolbox

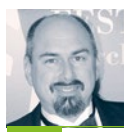## The art, theory, and production of video games
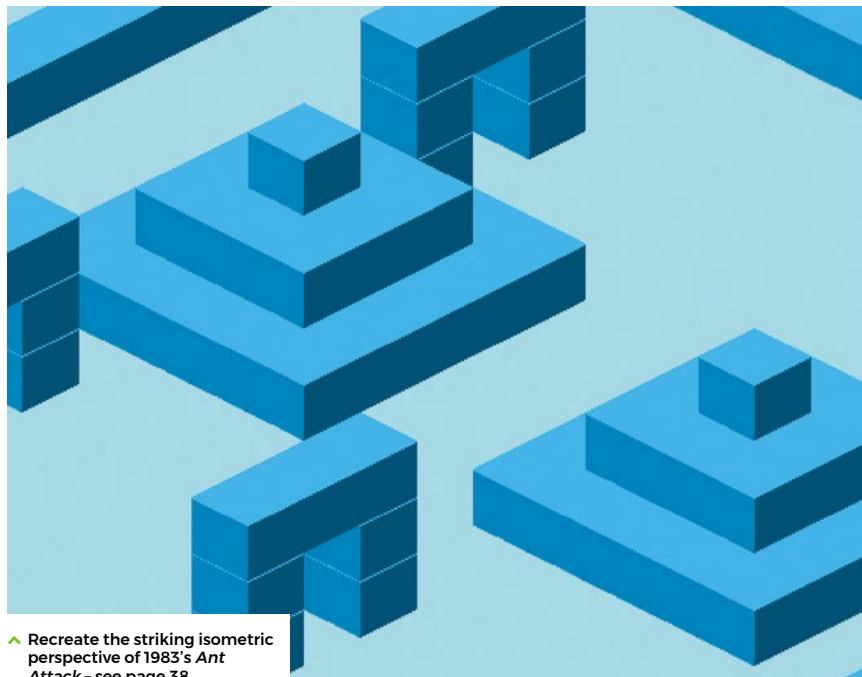
∧ **Recreate the striking isometric perspective of 1983's _Ant Attack_ – see page 38.**

∧ **Pretend you're Iron Man with our build-your-own jetpack guide on page 32.**

The principles of game design

Howard explains how the notion of 'you are what you play' rings truer than you might have thought

AUTHOR
HOWARD SCOTT WARSHAW

Howard is a video game pioneer who authored several of Atari's most famous and infamous titles.
onceuponatari.com

Do you know the funny thing about video games? I don't either, but if you tell me what you think it is, I can tell you something about you. That's one thing about video games, they can tell you a lot about their designers and players.

If you want to understand an artist, look at their paintings. If you want to understand an author, read their stories. If you want to understand a video game maker, check out their games. This will tell you plenty. Why? Two reasons: We're all unique, and everybody signs their work.

Given any task, I'll put something uniquely 'me' into it which will differentiate it from the product of anyone else performing the same task. The markers will be there – you have only to read them accurately.

When people make video games, they tend to make games consistent with their desires, goals, and outlook on life. In this way, they sign their work. Players tend to play games that reflect the types of life experiences they seek and the things they most value. I might go so far as to say if you really like someone's games, you might well like the person too.

As a therapist, I find these aspects and delineations quite compelling. I enjoy strolling through a gallery looking at the paintings and figuring out what the artist was like. What kind of person would make these choices for the canvas? I do

Pac-Man is for those who love conquering patterns.

the same thing with video games. I don't just enjoy playing the games, I enjoy deciphering what the game says about the makers and the players who engage them.

Let's look at the different types of experiences games offer and what they say about the people who make them and play them.

There are many kinds of games; driving games, shooters, flying, targeting, treasure hunt, and so on. But within those many kinds of games are a wealth of game styles.

Game styles are things like: does this game have a finish or am I always playing toward a higher score? Is it a pattern game like *Pac-Man* or 'read and react' like *Robotron*? Is luck a significant part of your success as in backgammon, or is it more deterministic, like chess? Is it an action game, an adventure, or a hybrid? Most games have some aspect of competition, but which one? And let's not forget the ever-popular anal-retentive games like *Space Invaders* and *Asteroids*. What do these various styles say about their players and makers?

Do you prefer quest/mission-based games, or would you rather play the how-high-is-up style where your goal is always a better score? Some people like to see something through to an unambiguous finish whereas others like the ongoing challenge of doing better than last time, no matter how well last time went.

Put another way: do you prefer the clarity of closure or the thrill of unlimited potential? Both are acceptable goals, but they speak to decidedly different personal preferences. Neither is better or worse, they are simply aesthetic choices we make.

▲ *Robotron: 2084* **suits those who like to read and react.**

▲ *Space Invaders*, **meanwhile, is 'anal-retentive'.**

How about competition? Most games engender competition of some sort or another. Do you like to compete against other people, yourself, or an algorithmically-based computer opponent? Do you like to compete as part of a team or individually? Do you like one opponent or multiple opponents? These are also different choices which reflect personal styles. Some are more socially interactive; some are more isolated. Some have you anticipating your opponent's psychology (social challenge), and some have you trying to figure out the algorithm with which the environment was programmed (technical challenge). Are you a lone wolf? Are you a team player? Or maybe you are team captain! Who you are shapes what you enjoy.

"Do you like to compete against other people, yourself, or a computer?"

CLEANING THE SLATE

At Atari, we used to talk about anal-retentive games. *Asteroids* (no pun intended) is the all-time classic. In the anal-retentive genre, the player is confronted with a mess which they must clean up. Upon successful completion of this janitorial charge, the player is rewarded with a new (usually bigger) mess. *Asteroids* is a perfect example because, in the process of cleaning it up, the player must first make a bigger mess (splitting the asteroids into many smaller rocks) before potentially removing them. And since there is nothing else on the screen, a genuine clean slate is achieved. Some people love anal-retentive games because of the satisfying nature of cleaning up the mess, and the gratification of seeing your progress displayed so clearly.

This is great validation for gamers. I play, therefore I am! Just plug in your game Descartes and away you go. This doesn't make these people anal-retentives, but it could reveal their obsessive-compulsive tendencies.

Or perhaps it's just the immense joy of immediate gratification. How about pattern games vs 'read and react'? *Pac-Man* is a game where maxing it out means knowing all the patterns and executing flawlessly for screen after screen after screen. *Robotron* throws you into a semi-randomly generated chaos and expects you to fight your way out every time. Are you Laurence Olivier, taking pride in delivering a perfect reading of a script, or are you James Bond, shooting from the hip and dealing with whatever comes your way instantly and responsively? Let me answer this question with more questions: do you like to live by a plan, or are you all about spontaneity? Do you like knowing where things are going or do you prefer to rely on your wits and your reflexes?

The answers to these questions are not merely game preferences, they are Life Choices we all make. Different perspectives and preferences lead not only to different styles of gaming entertainment, but they also lead to different careers, different relationships, different lives. Video games are like personality tests. When you tell me what you like to play, you're telling me who you are. ⓦ

Atoms matter

I believe games reveal their makers and players. This is perceiving the whole from a part. I also believe what I call "The Holographic Model of the Universe." One distinguishing characteristic of holograms is if you break the glass upon which they're printed, every piece will hold a view of the entire image… which is pretty cool. I believe the same is true of the universe. Any piece of it, any atom of matter, has all the information you need to understand the whole thing. We just need to figure out how to interpret it correctly.

CityCraft: Urban shifts and civic history

How cities are subject to change, and how we can give our video game cities the same sense of history
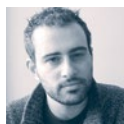
AUTHOR
KONSTANTINOS DIMOPOULOS

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**

Throughout history, cities have been the focal points of human activity. The proximity of people to each other, the sheer density of ideas, and the unending, shifting needs of cities mean they never stand still. They have to keep on evolving, rebuilding, and reshaping themselves as they continuously expand. Only a major catastrophe ever stops this process, and even then, cities often manage to cling to life. The cataclysmic, world-changing fall of Rome was thus temporary; the old imperial capital quickly evolved into the powerful Papal city, and eventually the capital of the modern Italian state.

The remnants of ancient, medieval, Renaissance, and modern Rome are all visible next to each other today, as the city keeps on changing, both emphatically and subtly. Urban history and dynamism are interlocked, and in a constant dialogue with each other. It's this very dialogue that makes cities so fascinating, and something that can be simulated to create more enthralling cities in our games.

SHORT-TERM CHANGES

There's no reason why a game city can't have a sense of history, even if players only get to explore them for a few hours or even minutes. The evidence of changes small and large, old and recent, can all imply a city's historical progress. Besides, not all change has to be seismic; even on a daily basis, countless small things in the average city change, and simply picking a few apt ones will help tell your location's story.

A neighbour may move, a mall could change ownership, or a factory might shut down. Power outages will darken whole districts, maintenance work will hinder traffic, and the police might choose to block off several roads. Depending on your game's genre (and budget), such changes can be shown, talked about by NPCs, or relayed via updated descriptions. More dramatically, whole blocks could be demolished or a new landmark constructed, thus fundamentally changing the cityscape.

Built environment aside, the dynamism of a city can also be supported by the movement of crowds and vehicles within it; by the operation of its networks, and by day and night cycles that not only change how an environment looks but

> Take a break from all the shooting in *Kane & Lynch 2*, and you'll notice that the city of Shanghai is rapidly changing around you.

The Evolution of Kamurocho

Experiencing the change of cities over the span of a series of games is a rare pleasure, and one that both the original *Mass Effect* trilogy and the *Yakuza* saga offered. The latter in particular focused on recognisably contemporary, important details that allowed a sense of place to permeate the series' narrative, and shape its open world. The plot of *Yakuza 0* revolved around a small, seemingly insignificant empty lot in Kamurocho, which, by the time of *Yakuza 1*, had been replaced by the imposing Millennium Tower.

▲ Futuristic additions and new buildings built directly on top of older ones emphasise the historical layers of Dreamfall's *Propast*.

how it actually functions. As offices empty out, for example, streets will become deserted, whereas sparsely populated red light districts will overflow with life and crime at night. Similarly, we can employ seasonal cycles with, say, tourism during the summer, an annual carnival, and cycles of workdays and weekends.

Then there are the periods of dramatic change that fundamentally alter a city. A war will affect every single aspect of urban life; an industrial revolution will deeply influence local economies, infrastructure, pollution, and architectural styles, whereas a political revolution could reclaim and radically change the function of any building or space.

"The shifting needs of cities mean they never stand still"

For more inspiration, take a look at the surviving rows of baroque façades in Saint Petersburg and Paris; the medieval core of Brussels and Venice, or the almost 100-year-old Empire State Building. One of the finest ways of physically experiencing the layers of a city's history, though, would have to be the archaeological dig located beneath Geneva's Saint Peter's Cathedral. Exploring it takes the visitor back through the centuries, from the medieval era, to early Christian times, to the age of the Romans, to the third century BC.

Finally, remember that in most cases, the physical aspects of a city will need time to adapt to any new socio-economic reality. Cities heal, but still wear the scars of change. Simulating those scars in your own city will only make it feel more real, and exciting to explore. ⓦ

TRACES OF HISTORY

A Mind Forever Voyaging, Infocom's classic dystopian text adventure, provided glimpses of a city sinking into dystopia over successive decades. Spaced ten years apart, every new visit to the town of Rockvil brilliantly presented players with a progressively grim urban reality. In some cases, a few carefully changed adjectives proved more than enough. Describing the once-new town hall as barely standing conveyed change, and made the game's history palpable.

There are other ways you can make history's presence felt, too. Architectural remnants from different eras, museums, and local legends are just some of the elements that can provide a city with a sense of its past. The effects of a great fire or plague can be felt for decades or even centuries. Then there are places like the Vatican that seem untouched by history, even as they fuel a modern tourist industry.

Interlocking Patterns

A city's history can also be seen in the layouts and patterns of its street networks. Axial or radial plans can co-exist with the older, labyrinthine medieval roads, and occasionally even give way to contemporary versions of the grid, just as easily as pre-modern layouts can be broken up by massive highways, and wide ring-roads. In fact, the grid has remained one of the most common and flexible patterns throughout the history of cities.

▲ The simple addition of a few wandering NPCs gave vibrancy to *Shardlight*'s post-apocalyptic towns.

Creating a jetpack in Unreal Engine 4

Use Unreal Engine 4's Blueprint system to create your own dizzying jetpack mechanic

AUTHOR
STUART FRASER

Stuart is a former designer and developer of high-profile games such as *Rollercoaster Tycoon 3*, and also worked as a lecturer of games development.

n issue 13, we looked at making an *Overwatch*-style blink ability in Unity; this time, let's turn to Unreal Engine 4, and take to the skies with a jetpack mechanic. By moving over to UE4, we can look at another way of scripting your logic, since UE4 uses its own Blueprint system. This is often referred to as a Visual Scripting Language, because it replaces code with nodes that link together to build logic. This allows game designers to quickly prototype ideas and mechanics.

The first thing to do is download the Epic launcher that will give us access to the Unreal Engine. This is the same launcher that you can use to purchase games from, so if you own *Fortnite*, then you'll have access to the launcher already. If not, head to **wfmag.cc/ unreal** and follow the registration process. Install the launcher as you would with any other application, launch it, and fill in your login details as applicable.

On the bottom of the list on the left, you'll see text that reads Unreal Engine. Click on it, and then click Library at the top of the launcher menu. You should be presented with some subheadings; next to Engine Versions, select the + symbol and choose the most recent version – at the time of writing, this is 4.21.2, but your version may differ. Next, click Install to start the download process. Now you can start the engine for the first time by clicking Launch.

You'll now see the Unreal Project Browser window; this will allow you to select existing projects, or in our case, create a new one. Select the New Project tab and then pick the Blueprint tab. You'll be presented with several templates designed to get you started on your first project. We're going to select the First-Person template, as this gives us a basis for our Jetpack mechanic. You can leave the settings for the project as is, but be sure to fill in the name of your project with something easy to recognise – for example, Jetpack – and then click Create Project. It may take a few moments for the project to be generated.
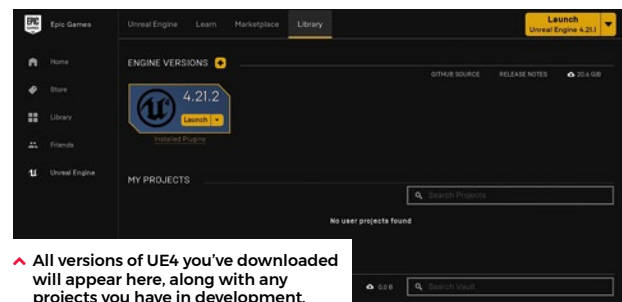
▲ All versions of UE4 you've downloaded will appear here, along with any projects you have in development.
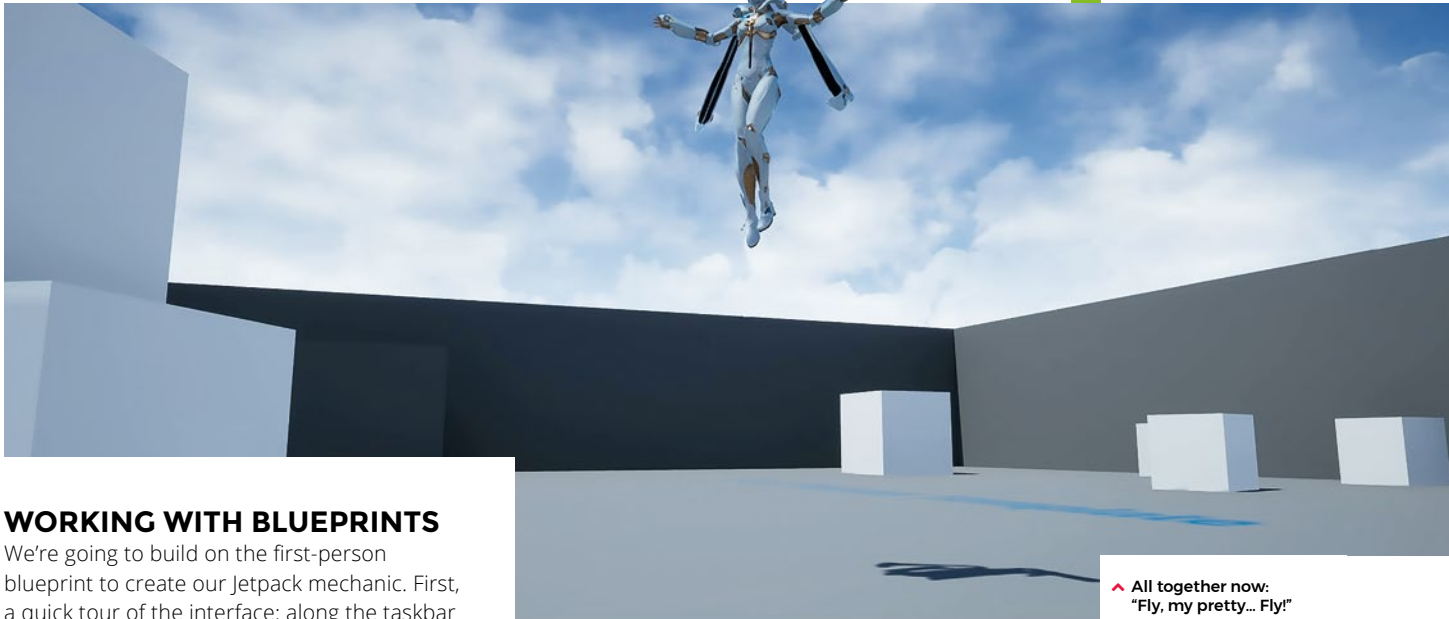
WORKING WITH BLUEPRINTS

We're going to build on the first-person blueprint to create our Jetpack mechanic. First, a quick tour of the interface: along the taskbar are the standard options for saving and loading maps, preferences we can set for the project, and windows for specific tools in the editor. The window to the top-left, called Modes, contains various editing modes and objects that are available within those modes. Currently, we have Place mode selected, which allows us to place game objects into our scene.

To the right of this is our viewport; it also has some large icons above it that have a few different uses, including the option to preview our game inside the viewport. To the right of that is the World Outliner, and this is the hierarchy of the objects we currently have in the scene. Any details on a selected object appear below in the details panel. Finally, the window on the bottom left-hand side is the content browser and shows all the content that is imported and usable in our project, such as materials, animations, and meshes.

Sticking with the content browser, we first need to access the Content folder. If you can't see the folder, then select the icon to the left-hand side of the word Filters. Expand the Content folder by clicking the right arrow and then navigating to FirstPersonBP > Blueprints, and then double-click the icon named FirstPersonCharacter, which is our blueprint object. To make working on the blueprint easier, select the window and drag it up to the main window next to the FirstPersonExampleMap tab. This makes the entire blueprint full screen instead of a smaller, free-floating window.

> **"By moving to UE4, we can look at another way of scripting logic"**

Now we have the blueprint open, we should be able to see the Event Graph: this is where we can do most of the setup for our blueprint. We're going to look for the code that relates to the character's jump input. This should be commented in the blueprint, so move around the viewport and look for the word Jump. We essentially want to remove the jump and replace it with our Jetpack mechanic. So, we need to delete the two function nodes, which are the blue nodes named Jump and Stop Jumping.

We will create our own boolean, or `true` and `false` value, to evaluate whether we're using the jetpack or not. To add the new variable, move over to the left-hand side of the blueprint interface. Look for the panel called My Blueprint – this should have an entry called Variables. Click the + button to add a new variable. Now look at the Details panel on the right-hand side of the ➡

EVENT GRAPHS

You can navigate the Event Graph by holding the right mouse button to drag around the viewport and using the scroll wheel to zoom in and out. You can also select multiple nodes by dragging across them with the left mouse button. To add our own comments, you can select multiple nodes and then press the **C** key on the keyboard. Feel free to comment the elements of the Jetpack code as you follow the tutorial.
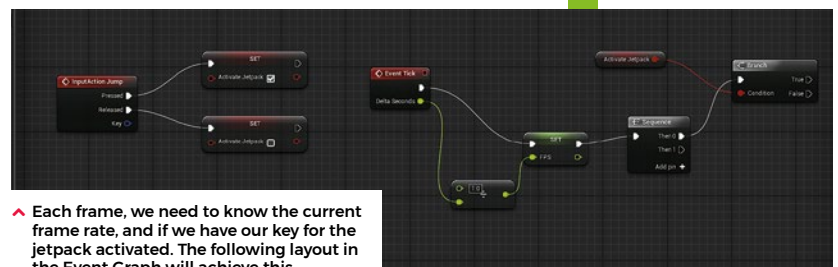
∧ Each frame, we need to know the current frame rate, and if we have our key for the jetpack activated. The following layout in the Event Graph will achieve this.
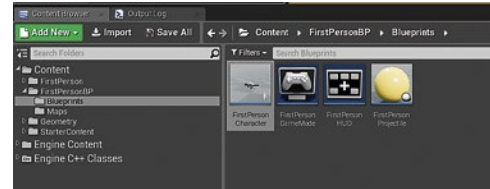
LOGIC FLOW

Branches are essentially an `if` statement. We can evaluate the values coming in and make decisions if we meet criteria based on them. This can result in the route that the logic flow will take in our blueprint code.

> A wide selection of templates are available to help you get started on your projects.

FirstPersonCharacter blueprint window. First, change the default Variable Name to `Activate Jetpack`. We then verify that the drop-down under the Variable Type is set to the default Boolean. Now we've created this, move back to the Event Graph and find our InputAction Jump node, then select the arrow next to the words Pressed. If we left-drag out from this arrow, we can then search for Set Activate Jetpack, which is our variable. We now repeat the process for the arrow next to the word Released. You should see a little checkbox on both these nodes – check the one attached to the Pressed output. When pressed, we're activating our jetpack, so the boolean value is `true`.

Right-click in an empty space, search for Event Tick, and place the node; the event tick will run

"We can set the maximum time players can use the jetpack"

our code every frame. While this is fine, we want our code to be frame rate independent so the jetpack will work the same, even with lower or higher frame rates. To achieve this, we'll store our frame rate. First, we'll add another new variable, so back on the left-hand panel, click the + symbol next to where it says Variables. In the right-hand Details panel, we set the Variable Name to **FPS** and then change the drop-down for the Variable Type to float. Next, move back to the Event Graph and select the arrow pointing right on the Event Tick node. If you hover over it, you'll see the word Exec, as this will execute next in our chain. Left-click and drag from this, then search for our **FPS** variable, and pick Set FPS. We now right-click in an empty space close to the Event Tick node and search for 'division' (or the / symbol), and then pick the option listed as float / float. Now select the type-in for the top left of the division node and replace 0.0 with the value of 1.0. We then set the other value by dragging from the Delta Seconds pin on our Event Tick node to the bottom of our division node; you'll know when it's working because a green tick will appear. We then connect the return value pin – the one on the right-hand side of the division node – to the pin labelled FPS on the Set FPS node.

Focusing on our Set FPS node, select the Exec arrow, left-click and drag from this, and then search for a Sequence node and place it. Next, left-drag from the sequence node on the first arrow labelled Then 0, and search for a Branch node. Now right-click in an empty space and search for Get Activate Jetpack, and place the variable node. We then drag out from the red pin on our Activate Jetpack node and connect this to the Condition node of the branch. Move back to the Sequence node, and drag out from the Then 1 arrow and search for another Branch
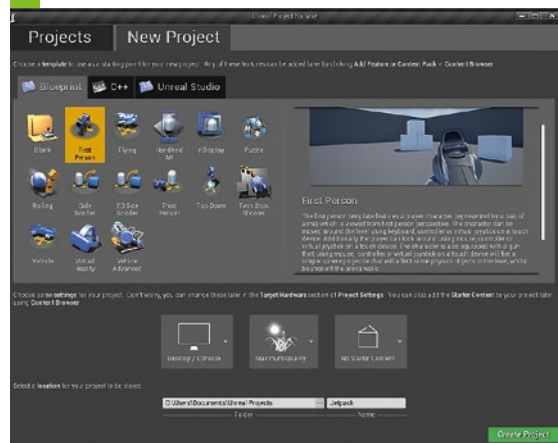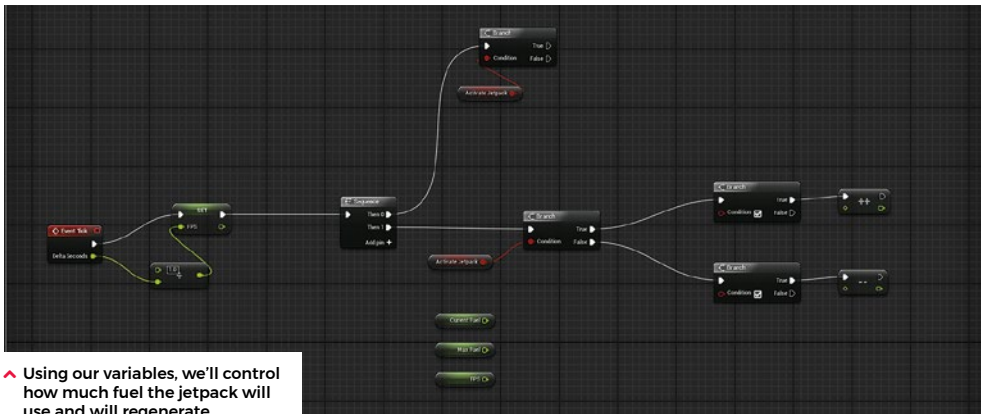
▲ **Using our variables, we'll control how much fuel the jetpack will use and will regenerate.**

node. Select the new Branch node, drag out from the True arrow, and search for another branch. We also want to drag out from the False arrow on the same node that we created from the Sequence node and search for yet another Branch node.

LIMITING FUEL

We're going to add some float variables, so we can set the maximum time the player can use the jetpack, and another value that we'll use to track and compare that to. Think of this as the amount of fuel the jetpack uses; when it's switched off, the fuel value will regenerate. As before, click the + button next to the Variables heading to the left of the blueprint window, then move back over to the Details panel to set up our variable. We'll first change the Variable Name field to something meaningful like `maxFuel`. Make sure the Variable Type is still set to float in our drop-down. We want to check the option Instance Editable, as this will allow us to change the fuel value inside the editor.

Finally, let's set a default fuel amount. You may note that the entry for the Default Value has a message that requires a recompile. We can simply do this by pressing the Compile icon on the main Toolbar interface. You'll then see a field appear under the Default Value heading. I used a value of 130, but you can play with this if you want more or less air time.

Let's create another new variable by using the + button as before. In the Details panel, change the Variable Name to `currentFuel` and make sure we still have the float for the Variable Type.

We'll now make sure that we use fuel when we activate the jetpack, and that it regenerates when it's switched off. For this, move to the branches that split from another branch node, and focus on the one that attaches to the True output. Select this branch and then left-drag

off the True arrow, search for IncrementFloat, and add that node. We now repeat the process with the branch attached to the False output of the initial branch. Again, we select the True arrow and left-drag out and this time search for DecrementFloat. Right-click in an empty space nearby, then search for Get Activate Jetpack and place this node. We then attach the Return Value from the Activate Jetpack node to our Condition on the Branch that attaches to the Then 1 node in our sequence. We can now focus on the fuel variables we created. Move over to the My Blueprint panel, select the `FPS`, `maxFuel`, and `currentFuel` variables, and left-drag them into the Event Graph and choose the Get option for each.

We want to focus on the `currentFuel` variable first, so left-drag from the yellow pin and search for 'greater than' (or the > symbol), and select the option that says float > float. The red pin on this Greater Than node needs to then be connected to the Condition pin of the Branch node that is attached to the DecrementFloat node. In effect, while the fuel is greater than ➡

‹ **The details panel for the variables will let us set not only the type and default values for variables, but what category they will appear in, or if the value has min and max limits.**

> We've set up the fuel usage logic, so all we need to do is make sure that we add our force to the character.
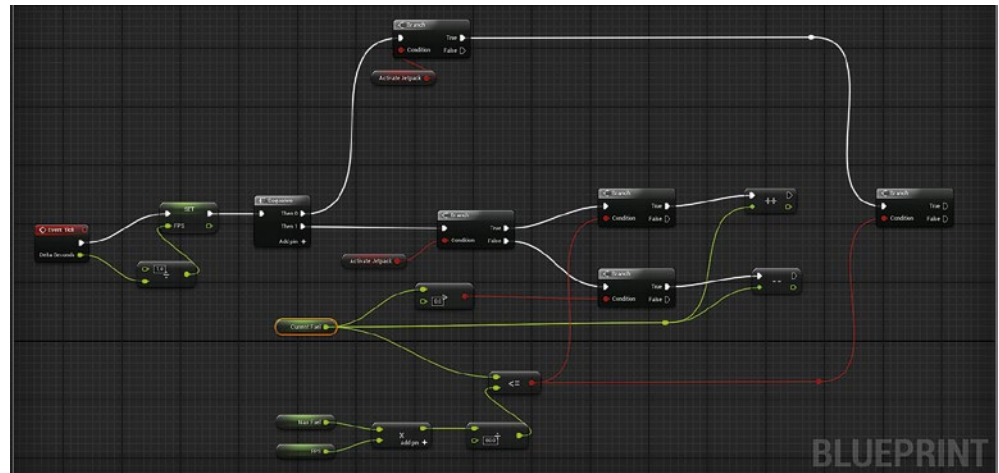
zero, let's reduce the fuel count. We'll also go back to the `currentFuel` variable node and drag from the right pin and connect these to the corresponding pins on the IncrementFloat and DecrementFloat nodes.

Now to work with our `maxFuel` and `FPS` variables. I'd place the `maxFuel` above the `FPS` variable for ease of setting this next part up. Before we start hooking them in, go back to the Branch we created originally that attaches to Then 0, left-drag from the True arrow, and search for another Branch node – the reason being that we want to wire in the condition we create from this next stage. We now move to the maxFuel node and drag out from the yellow pin and search for 'multiplication' (or * symbol) and select float * float. You should now see the `maxFuel` variable attached to the top of this multiplication. We then drag the yellow pin from the `FPS` variable to the bottom pin of the

multiplication node. Now drag from the return value pin on the multiplication node, and search for 'division' (or the / symbol), and select float / float as our node.

We should have the multiplication node attached to the top of the division node, and also see a value of 1.0 in the type-in box for the bottom value. We want to override this value to be 60.0. Now move back to the `currentFuel` variable and again drag from the yellow return value pin and search for 'less than' (or the < symbol), and select the float <= float node. You'll see that the `currentFuel` is linked to the top of the less than or equal to node. Now we attach the return value pin of our division node to the bottom pin of the less than or equal node. Next, plug in the return value pin for the less than or equal to node into the Branch we created last, and the Branch that connects to our IncrementFloat node.

TO INFINITY AND BEYOND

Our last task is to apply a force to the player character. Luckily, we have a premade function, but again, we'll make sure the frame rate is still considered in these next steps.

First, let's have a bit of a clean-up: I like to tidy up all the nodes previously made, and make sure there's plenty of space to work in. Next, select the `FPS` variable from the My Blueprint panel and pull it into the Event Graph view a second time. We will also create another new variable, so again, select the applicable + button next to the Variable heading and then move to the Details panel. Set the Variable Name to `velocity`, keep the Variable type as float, and check the Instance Editable option. Now compile this and set our default value to 26.0. Once we have that variable, drag it into the Event Graph

TIDYING UP

If the wires are becoming messy between nodes, you can double-click on the wires to create a reroute node. This has no effect on your logic, but you can use it to organise the flow of the wires to their destination.

> Once we're finished, we should be able to tap **SPACE** to hover, or hold the button to boost up to the maximum height.

to the right of the **FPS** variable we added, and pick Get Velocity.

Moving back the last Branch node we created, let's drag out from the True arrow and search for a Launch Character node. We'll tell the node about our character, so select the value Target pin and left-drag out, search for the Get Player Character node, and place it. Now right-click on the node on the words Launch Velocity and select Split Struct Pin as this will allow us to set a force in one direction only. We now select an open space on the Event Graph and search for another division node – again, this will appear as float / float in the search.

"We could add a particle effect to the jetpack, or some HUD elements to show fuel usage"

For the top type-in value on the division node, change this from 0.0 to 1.0 and then plug in the most recently created **FPS** variable to the bottom pin of this node.

Now left-drag from the return value pin of the division node and search for a multiplication node, which should show as float * float. We should have linked the division node to the top pin, and we want to type in the value of 60.0 to replace the value of 0.0. Select the `velocity` variable, left-drag out from the return value, and search for another multiplication node – again, pick float * float as our option. Finally, plug in the return value from the other multiplication node into the one we just created, so into the bottom pin below the `velocity` variable. With

▲ Jetpacks have a huge impact on mechanical – and fun-related – aspects.

all that done, drag out from the return value on this same multiplication node and plug this into the Launch Velocity Z pin of the Launch Character node.

We're now ready to run a final compile on the blueprint. We can then select the tab called FirstPersonExampleMap, which is our level, and preview our final mechanic by pressing the **SPACE** key. All we need to do then is select the Play icon from the viewport Toolbar. We can use up all our jetpack fuel to gain maximum height, or if we tap **SPACE**, we can hover for a longer distance. There's obviously room for improvement, as we could add a particle effect to the jetpack, or some HUD elements to show fuel usage – really, the sky's the limit. ⓦ
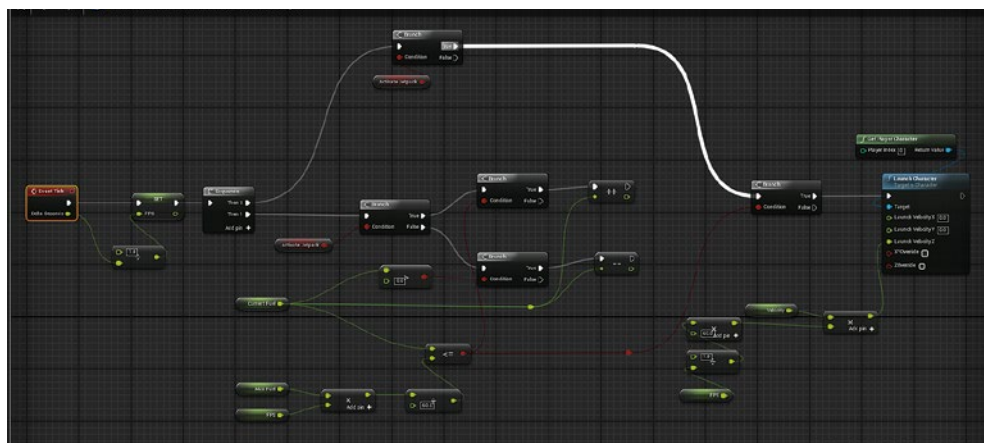
FREE STUFF

Epic has several free asset packs that include elements from such games as *Paragon* and *Infinity Blade*. The studio's also made several deals with content creators to give away marketplace content every month. This is extremely useful when prototyping your own creations, and can be found in the Marketplace under Free content.

‹ The completed logic for our jetpack is now in place: we're finally ready to ascend.

Source Code

Make an
isometric game map

Here's how to make your own isometric game map worthy of Ant Attack

AUTHOR
MARK VANSTONE

Most early arcade games were 2D, but in 1982, a new dimension emerged: isometric projection. The first isometric game to hit arcades was Sega's pseudo-3D shooter, *Zaxxon*. The eye-catching format soon caught on, and other isometric titles followed: *Q*bert* came out the same year, and in 1983 the first isometric game for home computers was published – *Ant Attack*, written by Sandy White.

Ant Attack was first released on the ZX Spectrum, and the aim of the game was for the player to find and rescue a hostage in a city infested with giant ants. The isometric map has since been used by countless titles, including Ultimate Play The Game's classics, *Knight Lore* and *Alien 8*, and my own educational history series, *ArcVenture*.

Let's look at how an isometric display is created, and code a simple example of how this can be done in Pygame Zero – so let's

start with the basics. The isometric view displays objects as if you're looking down at 45 degrees onto them, so the top of a cube looks like a diamond shape. The scene is made by drawing cubes on a diagonal grid so that the cubes overlap and create solid-looking structures. Additional layers can be used above them to create the illusion of height.

"To make things easier on the processor, we only need to draw visible cubes"

The cubes are actually two-dimensional bitmaps, which we start printing at the top of the display and move along a diagonal line, drawing cubes as we go. The map is defined by a three-dimensional list (or array). The list is the width of the map by the height of the map, and has as many layers as we want to represent in the upward

direction. In our example, we'll represent the floor as the value 0 and a block as value 1. We'll make a border around the map and create some arches and pyramids, but you could use any method you like – such as a map editor – to create the map data.

To make things a bit easier on the processor, we only need to draw cubes that are visible in the window, so we can do a check of the coordinates before we draw each cube. Once we've looped over the x, y, and z axes of the data list, we should have a 3D map displayed. The whole map doesn't fit in the window, and in a full game, the map is likely to be many times the size of the screen. To see more of the map, we can add some keyboard controls.

If we detect keyboard presses in the `update()` function, all we need to do to move the map is change the coordinates we start drawing the map from. If we start drawing further to the left, the right-hand side of the map emerges, and if we draw

An Ant Attack-style map in Python

Here's a code snippet that creates an Ant Attack-style map in Python. To get it running on your system, you'll first need to install Pygame Zero – you can find full instructions at **wfmag.cc/pgzero**

```python
import numpy as np
WIDTH = 600 # Width of window
HEIGHT = 400 # Height of window
mapPositionX = 268 # start displaying the map from
mapPositionY = -100 # these window co-ordinates
mapWidth = mapHeight = 20 # the width and height of the map
# make a blank map in a 3 dimensional list
mapBlocks = np.zeros((mapWidth,mapHeight,3))
# draw the window
def draw():
  screen.fill((150, 255, 255))
  drawMap()
# Move the map with the arrow keys
def update():
  global mapPositionX, mapPositionY
  if keyboard.left: mapPositionX -= 4
  if keyboard.right: mapPositionX += 4
  if keyboard.up: mapPositionY -= 4
  if keyboard.down: mapPositionY += 4
# Draw the map to the window
def drawMap():
  for z in range(0, 3):
    for x in range(0, mapWidth):
      for y in range(0, mapHeight):
        bx = (x*32) - (y*32) + mapPositionX
        by = (y*16) + (x*16) - (z*32) + mapPositionY
        # Only display blocks that are in the window
        if -64 <= bx < WIDTH + 32 and -64 <= by < HEIGHT + 32:
          if mapBlocks[x][y][z] == 1:
            screen.blit("block", (bx, by))
# Make a three layer arch
def makeArch(x,y):
  for z in range(0, 3):
    mapBlocks[x][y][z] = 1
```

```python
    mapBlocks[x][y+2][z] = 1
  mapBlocks[x][y+1][2] = 1
# Make a three layer pyramid
def makePyramid(x,y):
  for px in range(0, 5):
    for py in range(0,5):
      mapBlocks[px+x][py+y][0] = 1
  for px in range(1, 4):
    for py in range(1,4):
      mapBlocks[px+x][py+y][1] = 1
  mapBlocks[x+2][y+2][2] = 1
# Map building section
for x in range(0, mapWidth):
  for y in range(0, mapHeight):
    if x == 0 or x == mapWidth-1 or y == 0 or y ==
mapHeight-1:
      mapBlocks[x][y][0] = 1
    if x == 5 and (y == 4 or y == 13):
      makeArch(x,y)
    if x == 12 and y == 14:
      makeArch(x,y)
    if (x == 4 or x == 12) and y == 7:
      makePyramid(x,y)
```
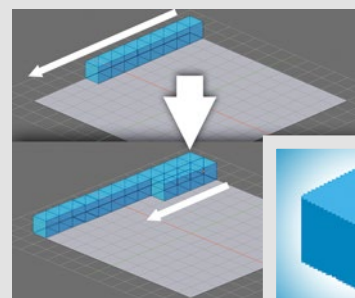

‹ Blocks are drawn from the back forward, one line at a time and then one layer on top of another until the whole map is drawn.

‹ The base image we are using is a cube-shaped block on a transparent background, so that it can overlap other cubes when it is drawn.

the map higher, the lower part of the map can be seen.

We now have a basic map made of cubes that we can move around the window. If we want to make this into a game, we can expand the way the data represents the display. We could add different shaped blocks represented by different numbers in the data, and we could include a player block which gets drawn in the **draw()** function and can be moved around the map. We could also have some enemies moving around – and before we know it, we'll have a game a bit like *Ant Attack*. Ⓦ
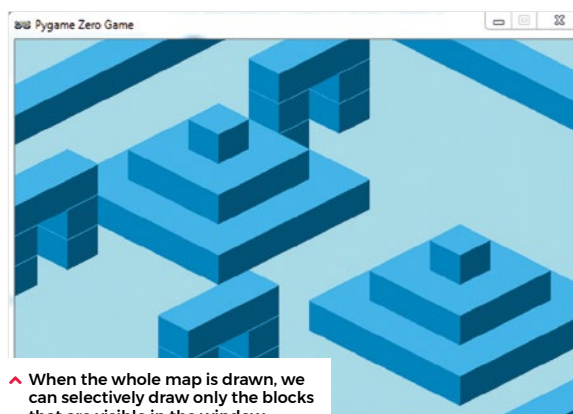
▲ When the whole map is drawn, we can selectively draw only the blocks that are visible in the window.

TILED

When writing games with large isometric maps, an editor will come in handy. You can write your own but there are several out there that you can use. One very good one is called Tiled and can be downloaded free from **mapeditor.org**. Tiled allows you to define your own tilesets and export the data in various formats, including JSON, which can be easily read into Python.
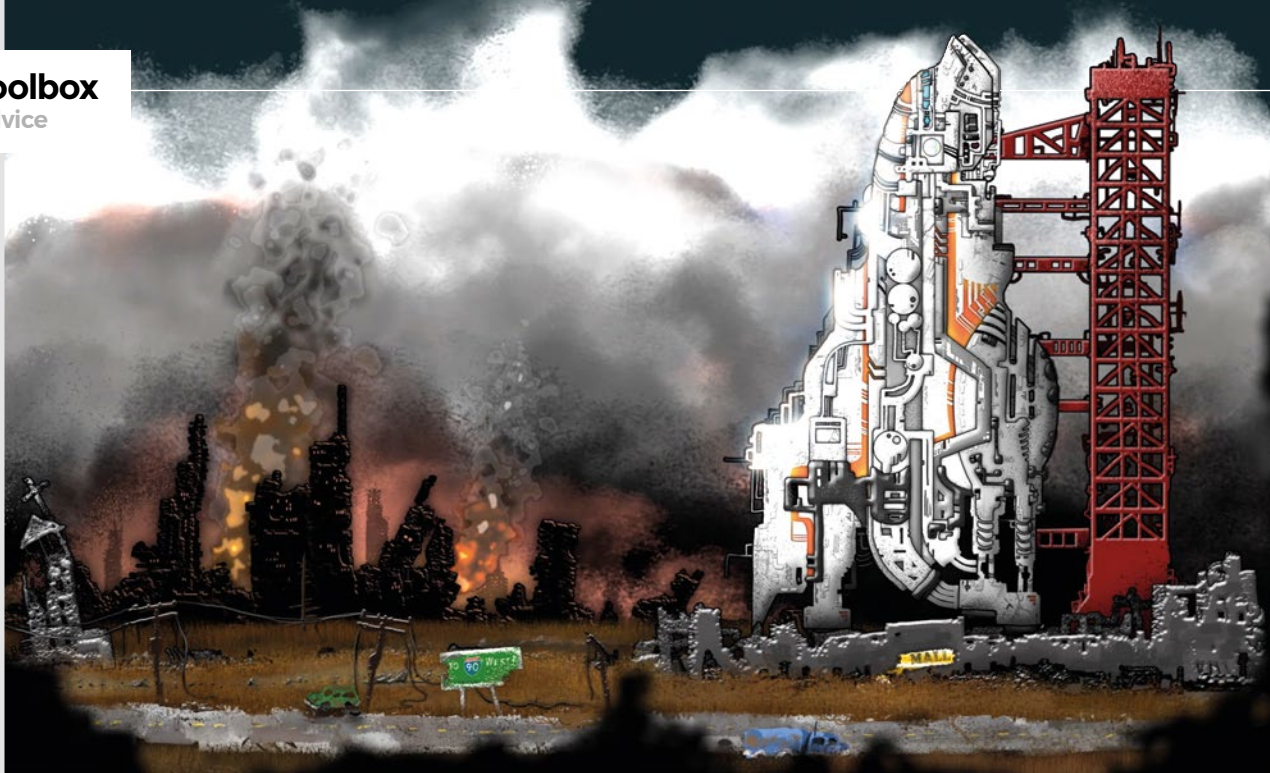
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professor who's been working
on triple-A and indie games
for over 17 years.
anewthegame.com

Indie reflections:
Making Anew Part 5

A vertical slice can help realise your design ideas
and much more besides, Jeff writes

▾ **The overall art
direction for *Anew*
was hammered out
in our vertical slice.**

You have a solid plan in place
for your indie game, its creative
direction, and gameplay features.
How do you begin doing the actual
work? This is where the concept
of a vertical slice comes in. Let's look at how it
can help shape your designs, clarify aesthetic
and mechanics, aid in marketing efforts, and
more besides.

A vertical slice involves designing and
implementing the core features of your game
from top to bottom, in a confined gameplay
segment, to a high degree of polish. The
end product is a fully playable segment that
represents the larger vision for your completed
game. Let's say, for example, you're making a 2D
puzzle platformer. An appropriate vertical slice
would involve the creation of one or two levels
where the player would experience key aspects
of gameplay such as running, jumping, solving
a puzzle, and fighting enemies. These playable
spaces would be fully fleshed out, just as you
see the full game being in your mind's eye.

You may be asking yourself, "Shouldn't I
prototype all of this before fully developing it?"
The answer is, "Ideally, yes." However, chances
are you're working in a small team with limited

resources, which means you may not be able
to afford to prototype your game's visuals,
gameplay systems, and mechanics. That's OK!
You will work through these design challenges as
you build your vertical slice. Creating a vertical
slice is a lot of work and will take time, because
you'll need to get many of your game's main
systems up and running.

REASONS TO SLICE
There are several reasons to create a vertical
slice. Most of your design ideas are theoretical
– they seem promising, but haven't been
proven yet. Creating a vertical slice forces you
to make these ideas real, and in the process,
allows you to evaluate their viability in context.
Since creating a vertical slice will also involve
all members of your team, you'll be able to
figure out the best ways to collaborate and
communicate as a group.

For example, building, testing, and iterating
your player character's design and controls
can take months to complete. You'll learn what
works, what doesn't, and make adjustments and
improvements based on playtesting. Creating
the art assets, AI behaviours, movement
patterns, and combat animations for a few

enemies will allow you to tune and polish them. Are they fun to interact with? Do they seem intelligent? What about your game's story? Making a brief cutscene or NPC dialogue system will allow you to prove out your narrative delivery mechanics in the context of the game world. These are just a few examples to consider. You don't need to get every planned system up and running – just the ones that represent the core aspects of your game.

Another valuable takeaway from a vertical slice is task creation data collection. After finishing each component in the vertical slice, take note of the amount of time it took to complete it. When you move into full production and begin building more assets, you can use this data to more accurately schedule your project.

A vertical slice can also be an extremely useful marketing tool. Once you're confident that the gameplay looks good, plays well, and clearly communicates your planned systems and mechanics, you can record footage from it to create screenshots and a trailer. These assets can be used on your website, social media channels, and as the centrepiece of a crowdfunding campaign. Well-executed vertical slices can also help attract potential publishing partners, as well as gain acceptance into console development programs and curated indie game festivals – all critical to the future success of your game!

SLICING ANEW

For *Anew*, we had a list of proposed gameplay systems, mechanics, and visual goals that we wanted to communicate in our vertical slice. Since we're a team of two developers, it was critical that each component created for the vertical slice would end up being used in the final game. Nothing would be thrown away, so we needed to work intelligently and efficiently. We prioritised the design elements that best represented the larger game we planned to make: a fluidly animated, responsive player character; a variety of enemy types; above- and below-ground gameplay spaces with unique visuals and play mechanics; pilotable vehicles; an identifiable visual style; and a story told visually through playable spaces. All of these components were created from scratch. Not only did we need to develop a tremendous
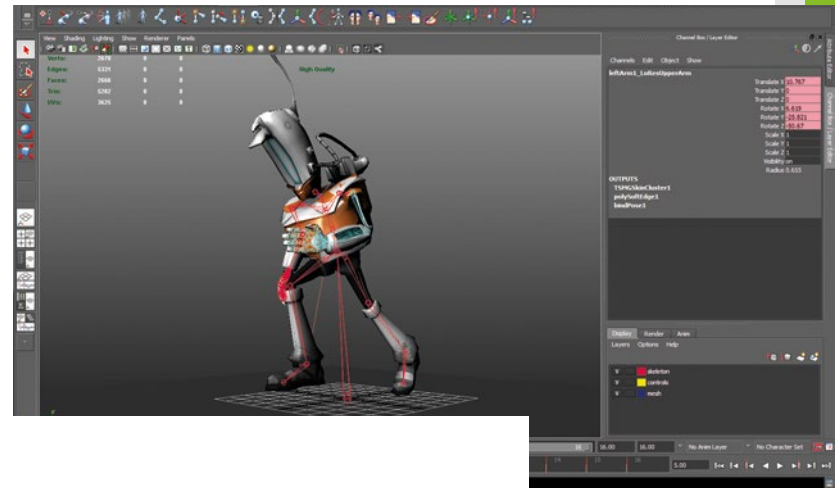
▲ The player character's full animation set needed to be created early during our vertical slice production phase.

amount of new things (remember, indie devs are inventors!), but we also had to teach ourselves the Unity engine, as well as many other new tools and techniques. It was an intense process.

We spent approximately nine months working on our vertical slice. Among other things, game director Steve Copeland spent a great deal of time developing critical production pipelines and development tools that would allow us to make the final game. His work touched on almost every system, including animation, lighting, audio, physics, AI, player controls, enemy behaviours, visual effects, and optimisations. As art director, I spent most of my time working on challenges related to art, animation, sound, story, music, and the emotional tone of our game. As the game's visuals took shape, I ended up needing to create more art assets than originally anticipated. I also spent a significant amount of time developing our terrain creation tools and working out best practices for environment layout and flow. For many of the reasons mentioned above, our vertical slice ended up being a productive use of time. We built an entire zone around the environment, implemented and tested several tools and pipelines, solidified the overall art direction, and used it to create a variety of marketing assets which led to a successful Kickstarter campaign and acceptance into the ID@Xbox and PlayStation developer programs. Although some processes and content we developed for our vertical slice have since become outdated or improved upon, the experience strengthened us as developers and positioned us to create a game we're very proud of today. You'll likely face similar challenges while producing your vertical slice, but stick with it. The end results will be worth the effort. ⓦ

> **"Creating a vertical slice forces you to make your ideas real"**

Find a mentor

Reach out to other indie devs you admire and ask them for development tips. Their game's website will often have a contact email, and direct messaging on Twitter or Facebook also works well. Keep your email brief, and be concise with your questions. Be friendly and professional, and many developers will be happy to help you out.

⌄ Marketing assets derived from our vertical slice led to a successful crowdfunding campaign.
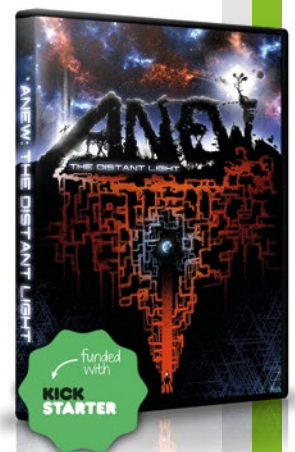
Upcoming online game jams

Inspired by our game jams article on page 44? Then here are some online game jams coming up over the next few weeks

11–23 June
JamCraft 3
A jam dedicated exclusively to crafting – forging items, making potions, that sort of thing. Games can be made in any genre, as long as they fit the making-things theme.
wfmag.cc/jamcraft3

1 July – 31 August
Summer RPG Game Jam
Can you create an absorbing role-playing game in just a few short weeks? Entrants can be solo developers or members of a team.
wfmag.cc/summer-jam

5–8 July
Geta Game Jam 8
Entrants can suggest their own theme for this jam, which takes place over three days – though if you want to take on the 'hardmode challenge', you'll have 48 hours to create your winning entry.
wfmag.cc/geta-jam

24 June – 1 July
VR Jam 2019
As its name implies, this is a game jam focusing on virtual reality, with entrants tasked with making a game for a headset of their choice in one week.
wfmag.cc/vr-jam

22 June – 13 July
The Collect–A–Friend Game Jam
This jam's theme is based on the party-building mechanic commonly seen in such RPGs as *Dragon Quest* and *Pokémon*.
wfmag.cc/collect-a-friend

21 June – 8 July
June/July Jackpot Jam
A game jam with a cash prize: create an experience that impresses the judges, and you could walk away with up to $300 to spend on cakes or biscuits.
wfmag.cc/jackpot-jam

1–22 July
DevSquad Summer Jam
A "relaxed competition", this jam is as much about building teams as the end product, though there will be prizes for winners.
wfmag.cc/devsquad

30 June – 14 July
Watch + Jam 2
Like the game jam above, Watch + Jam is more about watching, learning, and enjoying the development process than creating a polished masterpiece.
wfmag.cc/watch-jam

You can find a regularly updated calendar of online game jams – plus details of how to enter and links to previous entries for a bunch of inspiration – at **itch.io/jams**.

⌄ **One of the prettiest-looking entrants in JamCraft 2018: Gurpreet Singh Matharoo's survival shooter, *Strandead*.**
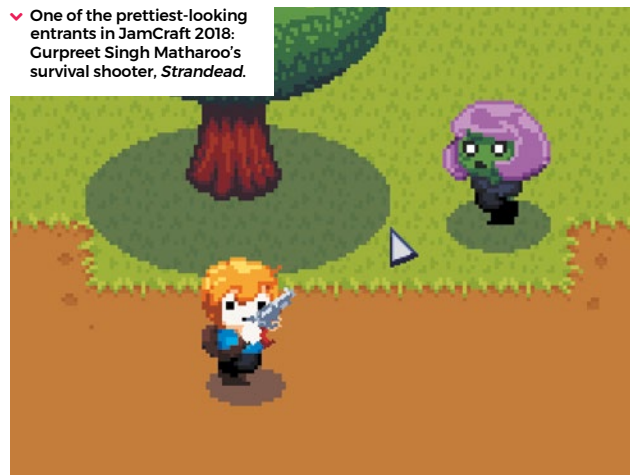
Time Crisis
The creative benefits of game jams

How the time constraints of game jams can bring out the best in designers and coders

L ike most good ideas, game jams are an easy enough concept to grasp: they're events where developers get together and attempt to create a working game within a compressed period of time. Modern game jams can be traced back to March 2002, when developers Chris Hecker and Sean Barrett launched Indie Game Jam 0 in Oakland, California. The event was a small one, with just 14 participants crammed into a tiny office space, but even then, the experimental possibilities were plain to see: among the twelve games produced at the four-day jam were such curious delights as *Angry God Bowling* – which involves knocking over crowds of people with a gigantic ball – and *Worship*, a riff on *Missile Command* with a similarly religious theme.

Just weeks after Indie Game Jam came Ludum Dare (Latin for 'to give a game'), founded by

**WRITTEN BY
ANDREW FISHER**

"It's no accident that video game companies also use jams as a proving ground"

Geoff Howland and later passed over to team member Mike Kasprzak. Ludum Dare Zero took place in April 2002 and established a strict 24-hour time limit, though this increased to 48 hours at subsequent events. Like most game jams, each event follows a similar template: first, a theme is chosen – one such theme was based on the *Zelda* quote, "It's dangerous to go alone" – then there's an intense period of design and development, and then participants are given time to vote on the winner. Ludum Dare is a virtual jam, so competitors don't have to be in the same physical location; instead, participants are encouraged to provide a live stream of their work, or take regular screenshots which are later compiled into a time-lapse video.

Other game jams, like Copenhagen's Nordic Game Jam, draw coders and keynote speakers to Copenhagen for a live, two-day event. But whether they take place in exhibition

^ Eggnog Games
founder and regular
game-jammer,
Andrew Reist.

^ Generating ideas using the theme
'Transmission', Edinburgh's
participants for Global Game Jam
2018 are hard at work.

^ *Low Mem Sky*
developer Paul
Nicholas, better
known as Liquidream.

centres, tiny rooms, or online, game jams are
designed with the same goal in mind: to quickly
and efficiently dream up and test out new game
ideas. It's perhaps no accident that video game
companies also use game jams as a proving
ground; Frontier Developments, creators of
Elite Dangerous, have long held 'Game of the
Week' jams for its employees – a process which
resulted in, among other things, the WiiWare
title *LostWinds*. Tim Schafer's Double Fine
Productions often hold events called Amnesia
Fortnight – two-week prototyping exercises that
test out new concepts. *Costume Quest*, *Stacking*,
and *Iron Brigade* all resulted from developers
splitting into small groups to create new games.

A particularly unusual jam took place at UK
developer Rebellion in 2017. The company's
publishing section had just released Nate
Crowley's book *100 Best Video Games (That Never
Existed)*, based on a surreal Twitter thread; →

^ One of the Wii's most delightful titles,
LostWinds began as an internal game
jam at Frontier Developments.
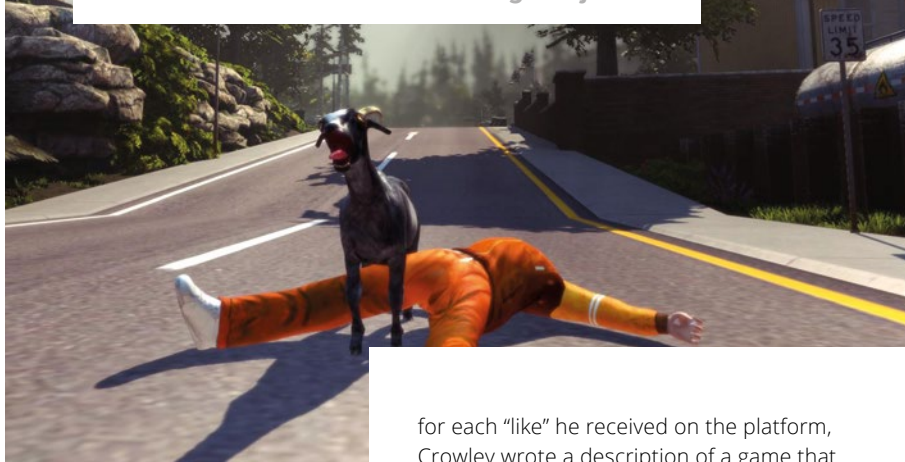
A game jam project that eventually became a commercial release – and a cult favourite: *Goat Simulator*.

Andrew Reist continued to develop his drink-fetching (and throwing) action game *Coffee Bug* after the jam had finished.

for each "like" he received on the platform, Crowley wrote a description of a game that didn't exist. Over the course of a two-day jam, employees in teams of three then created games based on those descriptions. *Seapuncher*, *Pub Fighter Architect* and *Wrestle Chess* were among the imaginatively titled games brought to life during the event.

Game jams are, therefore, an established part of the games industry by now – and what's more, they're growing. Ludum Dare's first game jam attracted just 18 entrants; by 2018, it was receiving upwards of 2500 submissions per event. Meanwhile, the number of game jams taking place around the planet is also building.

ORGANISED CHAOS

Based in California and growing in popularity over the past decade, Global Game Jam was directly inspired by the groundwork laid by the likes of Nordic Game Jam and Ludum Dare. According to its executive director Seven Siegel, the Global Game Jam "caught on like wildfire," with its debut event in 2009 attracting 1650 participants across 53 locations around the world. Since then, the numbers have increased, with events now held in such varied places as Kenya and Kazakhstan.

"Global Game Jam 2018 had 42,811 participants across 803 locations in 108 countries," Siegel enthuses. "Over the past decade, we've seen Global Games Jam start entire game development communities – we want to help every country have its own game dev scene."

Each Global Game Jam takes place over a weekend, with themes for each event chosen "in secret by an appointed group of committee members," according to Siegel. "We give them free rein to come up with the best theme they can. Even I don't know what the theme is before the keynote comes out – which is good, because I'm bad at keeping things hidden. Personally, the more abstract, the better, for me. I love it when a single sound clip or image can evoke such different games."

Siegel isn't just a hands-off executive, either, and has regularly taken part in jams himself. "I make it a point to participate each year – I need to remember what it's like on the ground floor," he says. "This past Global Game Jam, we created a ridiculous VR climbing game influenced by [Bennett Foddy's indie platformer] *Getting Over It*. Mechanically, the game played terribly, and we purposefully made the trailer so unrelated to the game no-one understood it when we presented. Even though the game was silly beyond belief, the experience was great, and late nights laughing and connecting with the team is a memory I'll hold on to."

Most of all, Siegel is keen to point out just how useful game jams are for quickly prototyping new and sometimes curious ideas. "*Goat Simulator* is always my go-to example of a company using an internal jam to come out with a success," Siegel says. "It was ridiculous and fun right from the beginning. Jams are great ways to test single mechanics to see if they have that innate fun factor. If the gameplay loop is fun from only 48 hours of development, you know you have a winning title."

FULL OF BEANS

In July 2018, indie developer Andrew Reist took part in the brilliantly named Miss Myu's Coffee Jam, where he made a game called *Coffee Bug*. It sees players collecting drinks to take back to a café, though said drinks are also handy for throwing at enemies. For Reist, game jams are a "great way to find interesting developers and force yourself to hit a deadline" – which is why, since he started his studio, Eggnog, in January 2017, game jams like Coffee Jam and Ludum Dare have become a regular fixture on his calendar.

"I usually try to finish ahead of time, but I almost always end up doing some work on the last day," Reist says of his game jam experiences. "It's tempting to make the most of every minute, but it's not a healthy habit to get into! Since my first Ludum Dare – which was very stressful – I've forced myself to be a little more relaxed. Jams are self-imposed, so if you miss the deadline, it's not a big deal. Cut your design doc in half, stay hydrated, and have fun."

> **"Cut your design doc in half, stay hydrated, and have fun"**

^ Paul Nicholas' 32kB space sim *Low Mem Sky* in action.

^ Another venue for Global Game Jam 2018: Universidad Pontificia Bolivariana in Medellín, Colombia.

SKY'S THE LIMIT

Taking place in August 2018, the Demake Jam is based exclusively on the challenge of taking a modern game and distilling it down to its essentials – here, detailed 3D models become pixel art, and vast open worlds are reworked as flat 2D environments. Among last year's entries, for example, was *Low Mem Sky*, a demake of Hello Games' indie space sim, *No Man's Sky*. As we saw in Wireframe issue 12, *Low Mem Sky*, made by developer Paul Nicholas, manages to pack a remarkable number of space sim features into the PICO-8 – a virtual console defined by its 32kB cartridges and 128×128 pixel display. More impressively still, Nicholas managed to create the initial build of *Low Mem Sky* in just seven days.

"Game jams can provide a lot of exposure," Nicholas tells us. "Hello Games were even kind enough to share a tweet of *Low Mem Sky*, and included a video in their newsletter. The game has acquired quite a lot of fans, which I'm very grateful for. The challenge I now find is learning to say 'no' to game jams – as beneficial and fun as they may be, they can be an all-too-tempting distraction from working on larger projects. The trick is to find a good balance."

AFTER-PARTY

Development doesn't always end with a game jam's deadline, either – creators can often carry on refining their work for weeks or even months

JAMS VS CRUNCH

With so much talk in the industry right now about the perils of 'crunch', does the culture of game jams – with their built-in deadlines – encourage people to push themselves too far?

Game Jams are, Siegel points out, "challenge-by-choice", while crunch time is generally understood to be mandatory overtime enforced by a larger company. "Game jams are soul-giving, crunch time is soul-taking," Siegel says. "Saying game jams are like crunch is like saying *Sonic* and *Mario* are the same game. Yes, on an outer description, working on a game for a short period of time, cramming to get everything in, seems similar. But game jams are optional and encourage participants to create whatever they want. Participants can go as slow as they want or need to."

"Game jams are meant to encourage small, quick creations – projects which shouldn't require late nights or self-destructive work habits," adds Reist. "As for crunch in the triple-A industry – it's a deeply rooted issue."

afterwards. "I worked on *Coffee Bug* for a solid month after Coffee Jam," says Andrew Reist. "I wasn't happy with the music, balancing, and enemy behaviour. Sometimes a jam doesn't provide enough time to get the game to where you want it to be."

Paul Nicholas, meanwhile, finished work on *Low Mem Sky* several months after the original Demake Jam, with its final update emerging in December 2018. "Whether I do further work tends to depend on a few factors," Nicholas explains. "How close to my original 'vision' did I get, how much did I enjoy making the game, and how popular or well-received was it? For a few of my jam games, I plan to take them further as paid or commercial titles. Due to the unexpected popularity of *Low Mem Sky*, I've started developing a new game in a similar vein, from scratch in MonoGame, so that I can target mobiles as well."

As Seven Siegel reiterates, though, game jams have also resulted in several commercial successes in their history so far. "My favourite success stories are *Surgeon Simulator* from Bossa Studios, and *Keep Talking and Nobody Explodes* by Steel Crate Games," he says. "The teams came up with a great idea at Global Game Jam, it went viral post-jam, and now both are game studios working on great projects. And *Fru*, created in 2014 as a platformer that uses the Kinect – it ended up getting released on the Xbox One. It's the kind of fun that can be created when you start designing outside the box. These are great examples of things that could only be created at a game jam." ⓦ
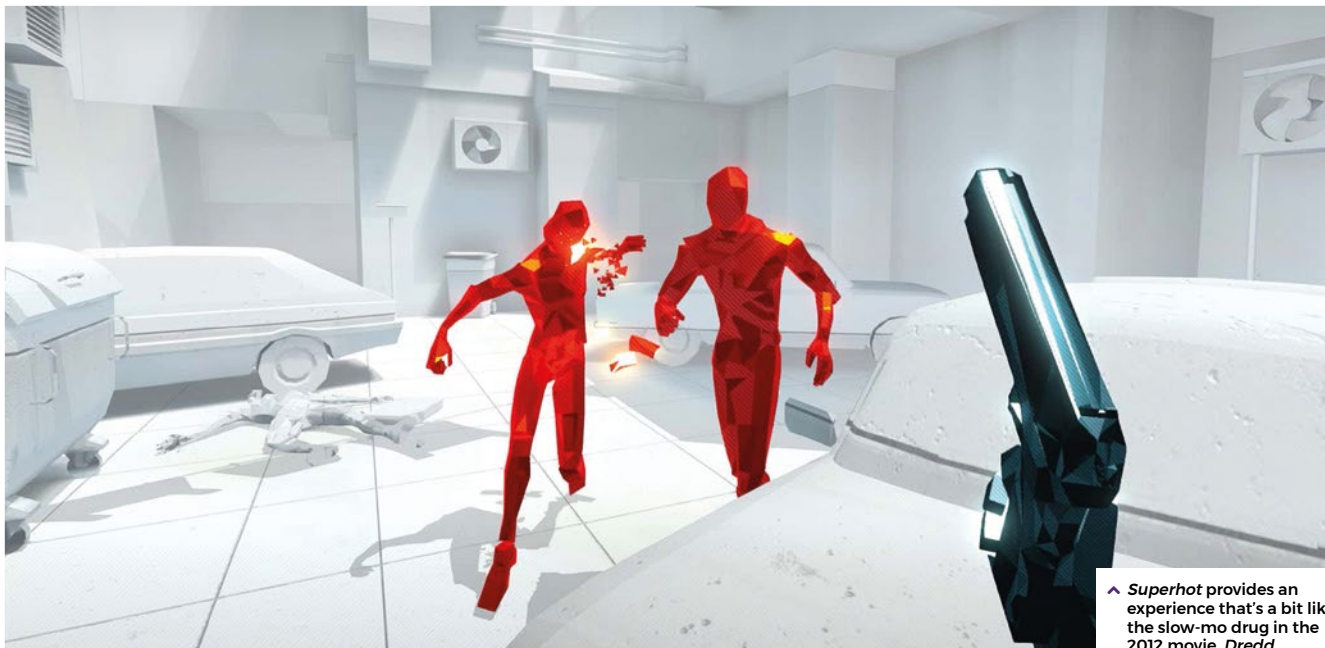
▲ *Superhot* provides an experience that's a bit like the slow-mo drug in the 2012 movie, *Dredd*.

Game Jams:
The sweetest fruits

From bomb disposal to space bunnies, here's a selection of great titles that have emerged from game jams

WRITTEN BY
MIKE CLARK

While making games is now more accessible than ever, it doesn't make the task any less overwhelming. When stripped bare, games are a form of interactive art, and are as vast as our imaginations will allow them to be. The endless possibility of a blank slate has paralysed every artist's mind at least once in their lifetime, and so it's no surprise that constraints can often yield better results, providing direction and streamlining the creative process. Ballet tells a story with no words; text adventures often tell stories entirely with words. A limitation shifts the focus; a self-limitation explores how that focus shifts the artist's approach.

As we saw on page 44, game jams give developers the opportunity to think differently. Since their inception in 2002, game jams have provided enthusiasts with the task of making a game based on a theme, on location, or remotely, normally within two to seven days.

Some jams last as little as 24 hours. At the Global Game Jam, which takes place over about 48 hours, some developers even sleep under the desks to cut out the morning commute.

I've taken part in five game jams in the last four years, and the sheer variety, innovation, and diversity of games has always left me inspired. These events teach newcomers that it's OK to 'fail' several times in order to achieve success. Developers are reminded never to focus for too long on one hurdle; to have something that works is more important than triple-A polish. Many use it as an opportunity to try something bonkers. A wheely-chair racing game, a homebrew Mega Drive shooter, a VR drunk-Peckham-hooligan headbutt-brawler; these all exist. You might be surprised to see how many games find success after first being conceptualised at a jam. After playing a fair number of these wacky creations, then, I've hand-picked some titles that I would highly recommend giving a go... ⓦ
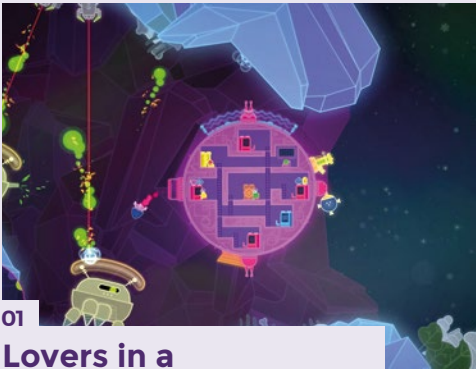
01

Lovers in a Dangerous Spacetime

Spawned at the 2012 Global Game Jam by Matt Hamill and Jamie Tucker, this adorable shoot-'em-up begs for co-operative play. You control a rabbit, frog, or alien as you platform around your little spaceship with your partner, switching between a variety of control panels. There are four different types of panel: engines, shields, lasers, and powered-up weapons.

Your mission: rescue cute space bunnies across a procedurally generated landscape, while defeating astronomically huge bosses like Ursa Major. Employing strategy to switch between the various control panels with more than two players in a cramped ship deck, it can get a little too hectic. A crew of two space cadets, however, is the perfect way to experience this colourfully pleasing sci-fi romp.
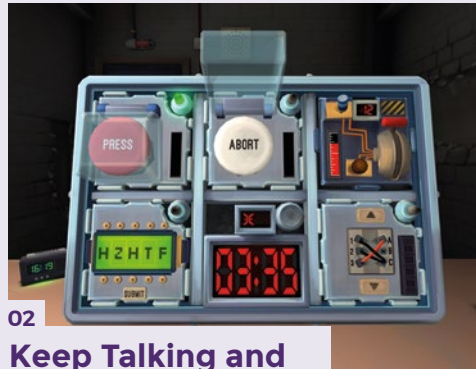
02

Keep Talking and Nobody Explodes

A co-op bomb-disposal title best played in VR, *Keep Talking* will have you pulling your hair out and shouting at your friends however you choose to play. One person disables the bomb within a time limit, while the other players provide directions, using a 'classified' manual that only they can see. At 2014's Global Jam, developer Brian Fetter noticed how VR players were cut off from the rest of the world while others waited for their turn, limiting the options for multiplayer VR games.

He thought to use the isolation of VR to his advantage, and made a game that two or more people could play together with a single headset. The number of modules and difficulty of each bomb increases as you go through the campaign, while the art and music create a cheesy, nineties action movie feel. Brilliant fun.
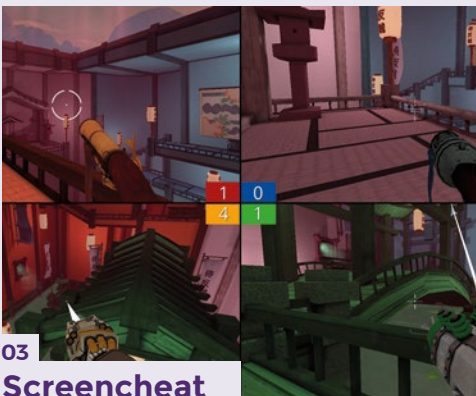
03

Screencheat

Coming out of 2014's Global Jam, *Screencheat* is a sandbox split-screen shooter where everyone, including their weapons, are invisible to you. The only way to kill opponents is by looking at their screen to suss out their location – or, in other words, cheat. Were you that annoying friend who only won *Mario Kart*'s battle mode because you kept sneaking a look at their screen? Then this is the game for you.

The environment is coloured like a child's Lego creation, with distinctive landmarks and points of interest to help you figure out where each player is on the map. The game even has a murder mystery mode where you kill specific targets with the right weapons to earn extra points.

04

Superhot

This '7-Day FPS Game Jam' marvel lets you live out your slow-mo *Matrix* fantasies; it's a futuristic shooter where time only moves when you do. This mechanic creates a great fusion, merging the gameplay of a shooter with the strategy of a puzzle game.

It's been hailed as a "full body VR experience" where the connection between input and feedback creates an uncanny level of immersion. One player was reportedly so absorbed that he kicked over a monitor, forgetting that his feet weren't even being tracked.

Indeed, the response to *Superhot* was so warm that its developers reworked their proof-of-concept into a commercial game, first released in 2016. It's since gone on to sell over two million copies.

⌄ For this year's Global Jam, our team made a fighting game with only four buttons; the gimmick was that you control the game with a set of *Donkey Konga* bongos.

Tajiri programmed *Yoshi* – also known as *Yoshi's Egg* – for Nintendo in just six months. Its success paved the way for *Pokémon*.
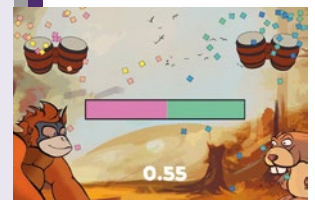
Developer Profile

Game Freak

They gave the world Pokémon, but Game Freak's story stretches right back to the eighties

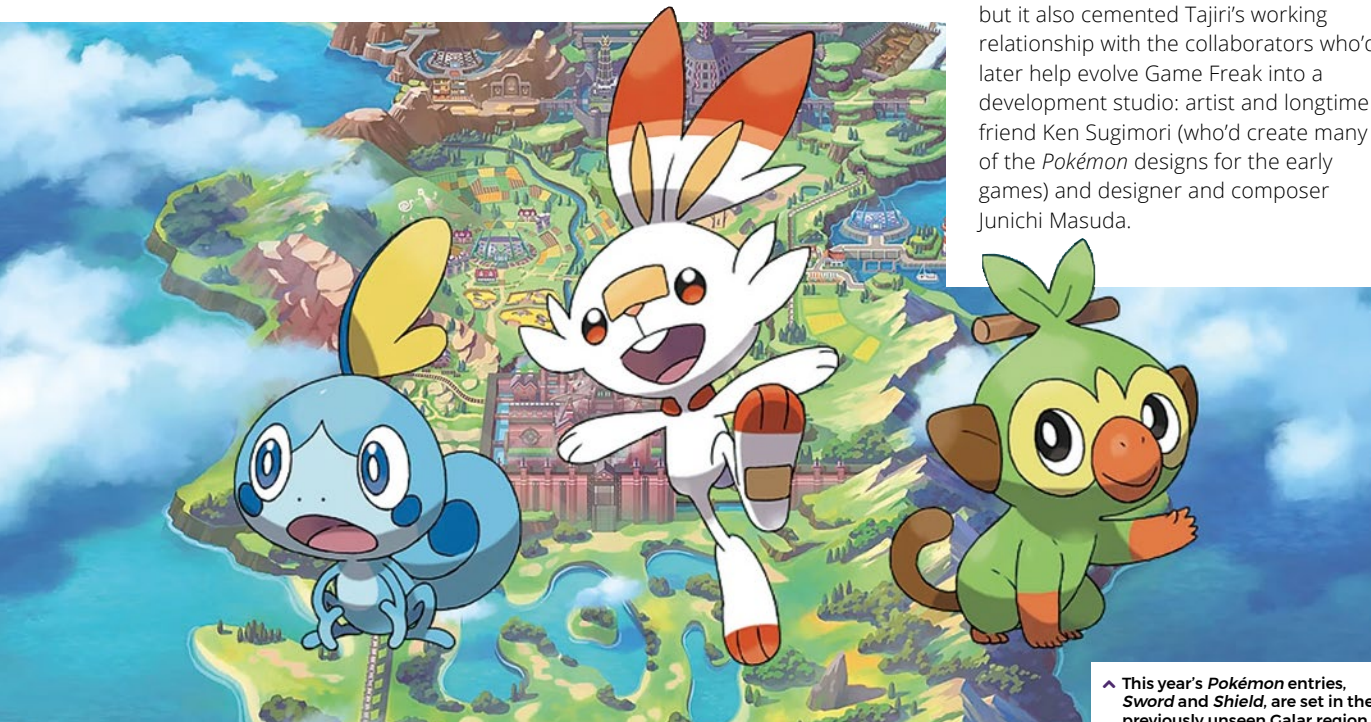When the first wave of Pokémania swept the globe in the late nineties, it's doubtful that even Game Freak, the Japanese developer behind the hit RPG series-turned multimedia franchise, could've guessed at its longevity. Yet here we are, more than two decades later, with a live-action movie in cinemas (that's *Detective Pikachu*) and a legion of players still regularly logging into the mobile app, *Pokémon GO*, developed by Niantic. Oh, and there's the small matter of RPG sequels *Pokémon Sword* and *Pokémon Shield* still to come later this year.

The success of *Pokémon* has, it's fair to say, far outstripped the name of the studio that gave birth to it. But Game Freak already had a fascinating history long before it even began work on its monster-catching phenomenon; before he turned his hand to game design, a 17-year-old Satoshi Tajiri launched a tiny fanzine called Game Freak – a publication that provided arcade dwellers with tactics for improving their scores on such games as *Xevious* and *Mappy*. First published in 1983, the fanzine was not only a success, but it also cemented Tajiri's working relationship with the collaborators who'd later help evolve Game Freak into a development studio: artist and longtime friend Ken Sugimori (who'd create many of the *Pokémon* designs for the early games) and designer and composer Junichi Masuda.

This year's *Pokémon* entries, *Sword* and *Shield*, are set in the previously unseen Galar region.
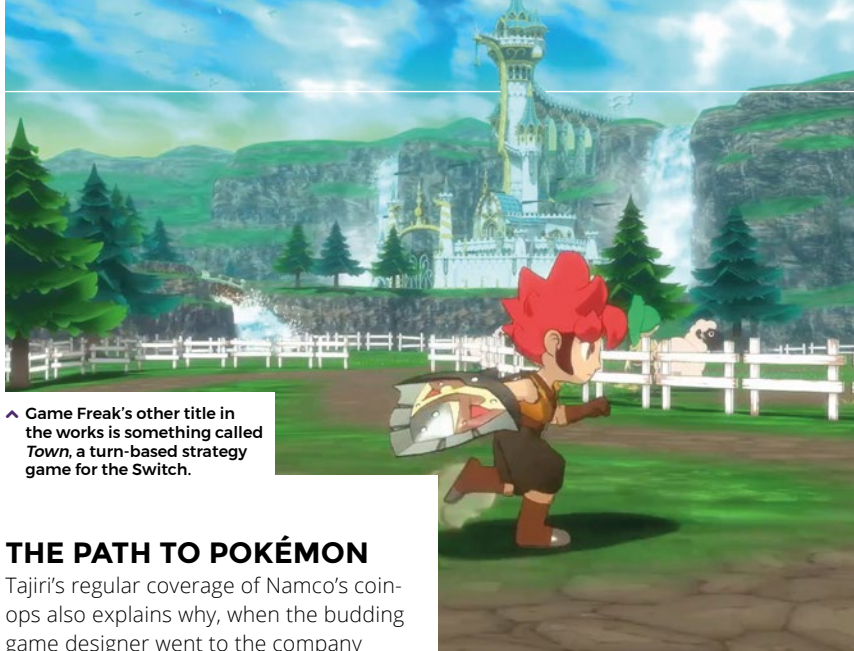
^ Game Freak's other title in the works is something called *Town*, a turn-based strategy game for the Switch.

THE PATH TO POKÉMON

Tajiri's regular coverage of Namco's coin-ops also explains why, when the budding game designer went to the company with his first game – what would become 1989's *Mendel Palace*, also known as *Quinty* – they agreed to publish it rather than immediately march him off the premises. Admittedly, *Mendel Palace*, with its fixed-screen action where the player knocks out enemies by flipping over gigantic tiles on the ground, felt of a piece with the other games Namco was putting out at the time, and it was an early hint of Game Freak's talent for presenting a simple concept with charm and character – thanks in no small part to Sugimori's spiky, distinctive artwork, which was already in evidence at this early stage.

Game Freak's success with *Mendel Palace* led them to make games for other major Japanese firms, and their output was varied, but invariably cute and action-oriented: for Sony, they created the squishy platformer *Smart Ball* (known in Japan as *Jerry Boy*); for Nintendo, they made the block-matching puzzler *Yoshi* and the sorely overlooked SNES title *Mario & Wario* (one of the only *Mario* games never to be released in the West). *Pulseman* was perhaps Game Freak's finest pre-*Pokémon* title: a *Mega Man*-like platformer injected with an electric jolt of colour and speed.

In an alternate timeline, Game Freak might have carried on making games in the same vein – the odd licensed game here, a more personal, original title there – much like another medium-sized Japanese studio of note, Treasure. But even back in the late eighties, as he was finishing up on *Mendel Palace*, Tajiri was already thinking about making

an RPG. In a 2004 interview with *Game Center CX*, Tajiri said the idea for *Pokémon* was born from his frustration while playing *Dragon Quest II* – there was an item that he desperately needed, while his friend and collaborator Sugimori had two of them; but because there was no way of sharing items between cartridges on the NES, he'd simply have to grind away at the game for hours until he found the item himself. When the Game Boy emerged, with its ability to exchange data between devices via its Link Cable, he started thinking about an adventure where players could share items with each other.

From that seed of finding items and sharing them with friends – and Tajiri's childhood hobby of catching insects – the idea for *Pokémon* was born. After a protracted development of six years, the launch of *Pokémon Red* and *Blue* in 1996 was an immediate smash, with its cocktail of light fantasy role-playing, combat, catching, training, and sharing turning the two cartridges into the Game Boy's biggest-selling property.

With *Pokémon* spawning successive generations of sequels, spin-offs, a hit trading card game, and more besides, you might think that Game Freak would descend into a creative semi-retirement. Far from it – as the boxout on the right and the wealth of memorable titles overleaf prove, the spirit of a small, artistically hungry studio still exists somewhere beneath the *Pokémon* juggernaut. Ⓦ

> **"Game Freak already had a fascinating history before it even began work on *Pokémon*"**

^ Even before he entered the industry, Tajiri showed a knack for making games: as a teen, he taught himself programming and won a design award from Sega.

Game Gear

Around 2012 – between *Pokémon* generations *Black and White* and *X and Y* – Game Freak began thinking about ways to generate new game ideas outside its pocket monster universe. The result was Gear Project – an initiative that resulted in such download-only curios as *HarmoKnight* and *Giga Wrecker Alt*. According to *Giga Wrecker Alt.* programmer and director Masayuki Onoue, any employee can suggest an idea for a game – which certainly explains how the firm can come up with titles as wonderfully varied as the chaotic *Tembo The Badass Elephant*, or the impossibly cute 3DS title, *Pocket Card Jockey*.

"The Gear Project program was launched with the intention to seek and propose new titles that could potentially support the company in the future," Onoue recently told us. "There are no restrictions in terms of type of game, small or big, or the choice of platform to work on."

∨ Some may scoff at *Pokémon*, but it's popular for a reason: its light role-playing is approachable, its monsters a joy to collect.
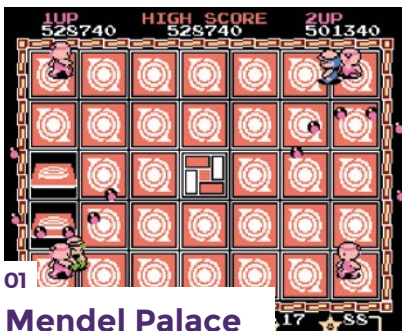
Super Freak
10 games that aren't Pokémon

Because there's more to Game Freak than Snorlax and Pikachu

01

Mendel Palace
NES – 1990

Here it is: the first game from Satoshi Tajiri and artist Ken Sugimori. And while there doesn't seem much of a link between this top-down, tile-flipping action-puzzler and *Pokémon* at first glance, it already shows glimmers of Game Freak's talent for making an addictive game out of a simple concept, and dressing it all up with appealing character designs.
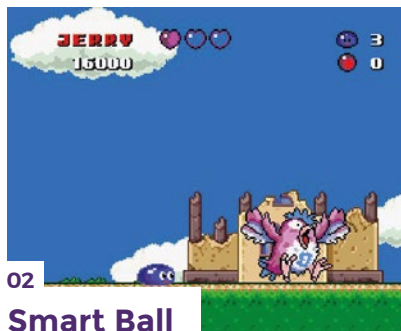
02

Smart Ball
SNES – 1991

A charming and imaginative platformer only slightly marred by some fiddly controls, *Smart Ball – Jerry Boy* in Japan – involves stretching and squashing your way through towns, sewers, and even an ingeniously designed stage on a tiny rotating moon. Oddly, the US edition cut out much of the game's backstory, but did improve the controls somewhat.

03

Magical Taruruuto-kun
Mega Drive – 1992

A little-known manga and anime outside Japan, *Magical Taruruuto-kun* had several video game tie-ins, and Game Freak's was arguably the best: a platformer with huge sprites and cute enemies that could be viewed as prototypes for a certain band of pocket monsters. Look out for a weirdly violent helicopter attack scene that interrupts all the pastel-shaded whimsy.
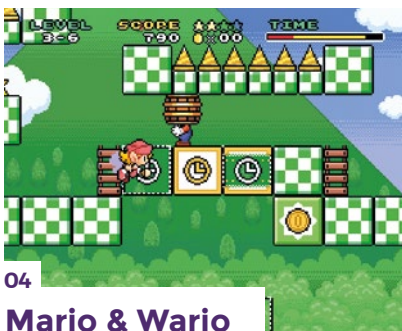
04

Mario & Wario
SNES – 1993

One of the few SNES games to make good use of the console's mouse peripheral, this platform-puzzler – which plays a little like *Lemmings* – is a miniature delight. Like too many of the games on this list, *Mario & Wario* was only released in Japan, making it one of the most undeservedly obscure titles in *Mario*'s long history. A Switch revival surely beckons.
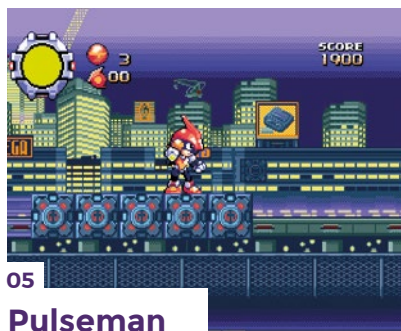
05

Pulseman
Mega Drive – 1994

Game Freak's take on the *Mega Man* jump-and-gun formula, *Pulseman* comes charged with a hint of *Sonic the Hedgehog*'s speed and attitude – not to mention a dash ability that allows its title character to spin around the screen or hurtle along electrical cables like the pipes in *Sonic 2*'s Chemical Plant Zone. Like *Mario & Wario*, this one's another likeable obscurity.

06

Drill Dozer
Game Boy Advance – 2005

Despite some strong competition, *Drill Dozer* is one of the most engaging action platformers on the GBA, with novel controls – you control a pink-haired heroine who can drill through walls and enemies alike with her tank-like mecha – and the kind of captivating character and stage designs we'd expect from the developer. A minor handheld classic.

07
HarmoKnight
3DS — 2012

Between *Pokémon* entries, Game Freak squeezed in this little download-only rhythm-platformer. Precisely timed button presses are required to leap chasms, collect musical notes, and smite enemies; it's an easy-to-grasp formula that's well-suited for a handheld, while occasional shifts in perspective and dramatic set-pieces keep things fresh.
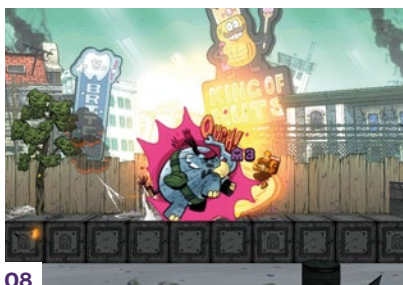
08
Tembo The Badass Elephant
PC / XBO / PS4 — 2015

The destructive action on display means *Tembo* more than lives up to the promise of its title: the rampaging pachyderm is capable of smashing through walls, tanks, and armies of enemies, leaving showers of debris in its wake. The mix of humour with a new-found anarchic streak makes this a hugely entertaining platformer.

09
Pocket Card Jockey
3DS — 2016

This utterly bewildering mash-up of horse racing, solitaire, and kawaii artwork turns out to be an unexpected winner: engrossing, challenging, and completely adorable. We're hoping this one gets a port to the Switch (or better yet, a physical release) before the 3DS's inevitable retirement leaves *Pocket Card Jockey* a minor classic in eShop limbo.

10
Giga Wrecker
PC / Switch — 2017

It's flawed, admittedly (Wireframe gave the Switch incarnation, *Giga Wrecker Alt*, a so-so 60 percent) but this physics-based platform-puzzler still has a lot going for it. Game Freak may be best-known for *Pokémon*, but it's pleasing to see a successful developer insist on trying out new ideas rather than rest on its monster-catching laurels.

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Rage 2

An apocalyptic wasteland full of stops and starts

REVIEWED BY
Richard Wakeling

HIGHLIGHT

Rage 2 isn't always a looker; it often appears as though the screen is coated in Vaseline, and there are some muddy textures and noticeable pop-in. But, explosions are spectacular, with a vivid outburst of fire, flying debris, and rended flesh. And it's all worth it for that sweet 60fps.

⌄ Races are an optional side activity (aside from one mandatory race), and they're not good. The tracks are too pedestrian and the AI too easy.

After a dreaded opening lore dump, *Rage 2* asks you to pick between playing as a male or female protagonist. This decision has little bearing on the rest of the game aside from an obvious difference in your character's seldom-heard voice, but whoever you didn't choose is almost immediately crushed to death by a flying door. It's a humorous moment borne from its suddenness and your character's nonchalant reaction, yet, going forward, this quick slice of dark comedy isn't indicative of the rest of *Rage 2*. While its combat may be fantastic, best-in-class stuff, the game wrapped around its frenetic shooting is surprisingly bland, unimaginative, and disappointingly dull.

All of the marketing material and Andrew W.K. performances painted *Rage 2* as this wacky shooter with attitude, its apocalyptic wasteland doused in pink neon and eccentric, larger than life characters. In reality, none of this comes to fruition besides the pink neon, and even then the landscape is drabber than you might expect. The story is cookie-cutter drivel, with a small cast of forgettable, paper-thin characters, while any attempts at humour fall flat due to

some humdrum writing. The barely-there plot is centred on your status as the last Ranger left alive in these *Mad Max*-inspired badlands. Rangers are the final bastion of hope and justice in this lawless world, decked out in fancy combat suits that grant them access to oodles of earth-shattering superpowers. Your goal is to put a stop to the nefarious Authority, an augmented army of techno fascists led by a cartoon villain who looks like Darth Vader on steroids.

This straightforward narrative informs *Rage 2*'s open-world structure as you quickly set off in search of three characters who will help you put an end to The Authority. There isn't much more to it than that; you do two missions for each of these three characters and then it's on to an underwhelming finale. The only thing padding out the length of the campaign are level thresholds you have to meet in order to advance, which means completing some of the myriad side activities cluttered across its modestly sized map. If you've played an open-world game in the past decade, the majority of

⌄ The environments come alive at night when dynamic lighting and all that pink neon are allowed to shine.
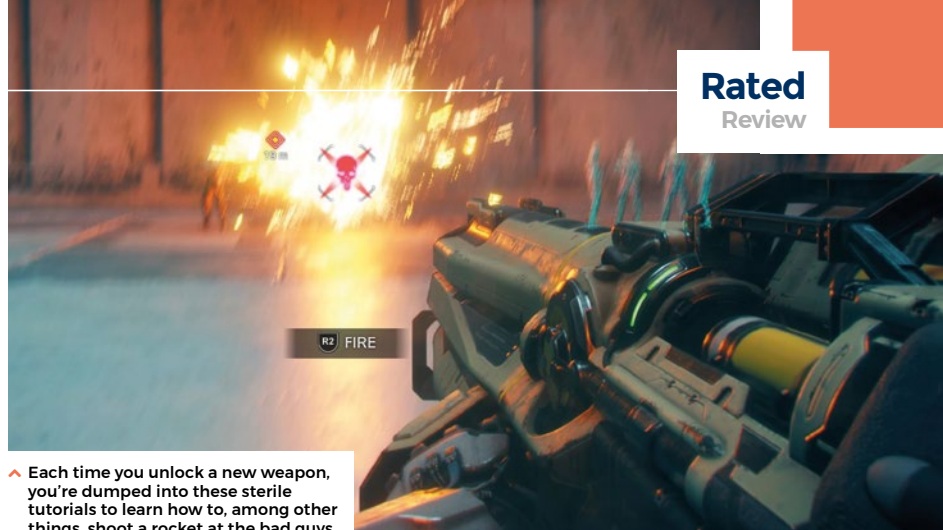
▲ **Each time you unlock a new weapon, you're dumped into these sterile tutorials to learn how to, among other things, shoot a rocket at the bad guys.**

Rage 2's nebulous side content will be instantly familiar. There are enemy camps to clear out by blasting every occupying ruffian in the face, convoys of vehicles to lay waste to, races to partake in, enemy roadblocks to clear, slayed Rangers to recover, and plenty more where this lot came from.

The quality of each of these activities varies wildly, but the key component deciding how tolerable they are boils down to whether or not you can shoot things. *Rage 2* clearly follows in the hefty footsteps of 2016's *Doom*. The shotgun is excellent, which is usually an accurate barometer for how good a game's shooting is, and the rest of the weapons are suitably meaty, packing the kind of punch that just makes them fun to use. Headshots are met with a satisfying pop of displaced brain matter, and each of the Nanotrites – those aforementioned superpowers – complement the gunplay in thrilling and diverse ways that encourage you to experiment.

Your arsenal of firepower is similarly varied, too, building from a standard assault rifle up to a Grav-Dart Launcher that lets you propel enemies in any direction you desire. You might set an enemy on fire using the devious Firestorm Revolver, then while they're writhing in burning pain, knock them back 20-feet with the Shatter Nanotrite until they're nothing more than a splat on the nearest wall. Nanotrites begin simply enough with a handy dash move and double-jump, but it doesn't take long until you're using an area-of-effect ground pound to reduce anyone unfortunate enough to be near you into crimson paste. Kill enough enemies in quick succession, and you'll also build up a multiplier that allows you to activate Overdrive. This puts you in a suped-up haze of radiant colours and intense chromatic aberration that empowers each weapon and Nanotrite's destructive capabilities for a short while.

Similarly to *Doom*, *Rage 2* also incentivises you to keep on the move and push forward. Each enemy you kill drops a currency that's so volatile it disappears after a few seconds, forcing you to wade out into danger to collect a currency that not only upgrades your weapons and Nanotrites, but which also heals you in that moment. In terms of upgrades, there's a veritable bucketload, with various ways to improve and modify your guns, vehicles,

base stats, and projectiles. This amount of customisation is welcome, but there are so many disparate types of currency, the upgrade system could've been streamlined and condensed to cut down on the amount of time you spend faffing about in sluggish menus.

This is an issue with *Rage 2* in general, though. There's a dearth of momentum, and it severely lacks any sort of fluidity. The combat is brilliant in a bubble, but it's broken up by long stretches where you're just driving from point A to B. There's no spontaneity in the open world, with any signs of life restricted to the bandit dens and pit stops that populate the map. Nothing tugs at you to break away from your waypoint and explore, and the amount of scavenger hunts you have to partake in slow down the pace considerably, whether you're searching for fuel tanks to destroy or Ark chests to open.

It's impossible to play *Rage 2* without thinking about how each of its elements has been executed better in other games, particularly those by id and Avalanche Studios themselves. There are brief moments of balls-to-the-wall fun, but they're bookended by an unnecessary open world that dampens the impact and pacing of its kinetic gunplay. There are other issues beyond this, from samey mission design, terrible vehicle handling, and a slew of bugs, but *Rage 2*'s biggest crime is that it's less of an apocalyptic rager and more like a tedious car journey to visit relatives you don't particularly like. Ⓦ
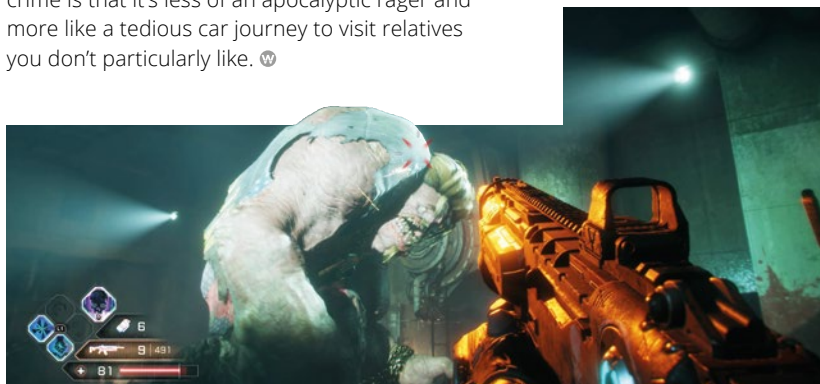
> **"There's a dearth of momentum and it lacks fluidity"**

VERDICT

Rage 2's combat is often brilliant, but it's disrupted by all the trappings of a bland open world.

55%

▼ **You fight the same miniboss multiple times throughout *Rage 2*, with the same weak points and attack patterns.**

﹀ **Most of the environments in** *Close to the Sun* **successfully replicate the 19th century's Art Deco look and feel.**

Info

GENRE
First-person horror

FORMAT
PC (tested) /
PS4 / XBO

DEVELOPER
Storm in a Teacup

PUBLISHER
Wired Productions

PRICE
£24.99

RELEASE
Out now

REVIEWED BY
Aaron Potter

VERDICT

Beautiful and tightly focused, *Close to the Sun* gives players a treasure trove's worth of narrative-driven exploration.

78%

Review

Close to the Sun

Greeks bearing rifts

Stop me if you've heard this one before. A lone traveller gets an invite to visit an Art Deco-laden dystopia only approachable by sea. Eventually, they discover that said dystopia is an idealistic madman's attempt to act freely of any society plagued by judgement, rules, or subjugation. The visitor's only choice from then on is to explore the environment while unravelling the deeper mystery surrounding them, and in doing so, learn more about how they're destined to fit into it.

You'd be forgiven for thinking it's *Rapture* I'm describing. And while, at first, it's true that Helios seemingly begs to be closely compared against *BioShock*'s dilapidated underwater haven, *Close to the Sun*'s wildly evocative setting ends up being just as memorable for reasons wildly different. Chief among these is its emphasis on combat-free exploration, beautiful environments, and cast of well-drawn characters.

This horror-focused first-person explorathon is essential for anyone that enjoys fact merging with fiction. Set in an alternate timeline where Nikola Tesla was able to escape his mentor Thomas Edison's shadow, he quickly founds the Helios as a freighter where scientists can prosper in their questionable but ambitious pursuits. This being a horror game, it isn't long before Tesla and his cohort's good intentions spiral out of control, with you as journalist Rose Archer soon stepping aboard and thoroughly exploring the place in a bid to save your sister Ada.

Despite being a development team of just 15, the folks at Storm in a Teacup have excelled themselves in creating a believable location that stands shoulder to shoulder with the likes of *Firewatch*'s Wyoming forest, *Observer*'s tower block and, yes, that *other* one. Each of *Close to the Sun*'s ten chapters sees you rummaging through a different section of the once prosperous ship, with everything from the on-board Grand Theatre to Tesla's private quarters feeling appropriately lived in.

Close to the Sun might largely be a linear adventure, but every area appears open-ended enough that you never feel pigeonholed into just moving from point A to B. In games of this ilk, it's often too easy to end up combing through sections over and over again in search of the right solution needed to progress, but *Close to the Sun*'s puzzles (hunt down key cards, find the right passcode, and so on) never become obtuse enough that it detracts from the act of sightseeing.

> **"Puzzles never detract from the act of sightseeing"**

The biggest knock I can give to *Close to the Sun* is that its story, while gripping, never really amounts to anything. It's a classic case of the journey being better than the destination. And this being just four hours, it's one that wraps up far too quickly – I wanted it to last longer.

Brevity aside, *Close to the Sun* breaks free of any early comparison to its peers, delivering an evocative first-person adventure that represents one of the best we've seen from the genre in quite a while. ⓦ
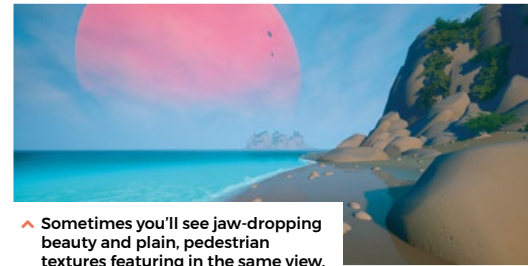
Epitasis

The epitome of enigmatic exploration

It's easy to lose yourself in *Epitasis*, in more ways than one. The distant planet you've been teleported to is not only unfamiliar and disorientating, but thoroughly enthralling to boot. Having left the safety of a New Mexico observatory behind, you've only your ingenuity and wits to help decipher the strange new environment you find yourself in. Though it lacks in traditional storytelling, I found this sense of stumbling through the unknown captivating. From the interconnected portals transporting you around the varied, vibrant planet, to the peculiar puzzles you have to complete, everything feeds into the immersive atmosphere.

Whether you're hoping to uncover the secrets to an ancient civilisation or just trying to find your way home is unclear, but the planet's puzzles must be solved in order to progress, even if you're unsure exactly where this progression is taking you. Some puzzles require precise timing, but most follow the same pattern of pushing buttons and diverting beams of light. Though they aren't particularly challenging in themselves, the satisfaction you feel from completing a puzzle is amplified thanks to the complete lack of instructions, in a manner none too dissimilar to Jonathan Blow's *The Witness*. Fall damage and laser bots are also stark reminders of your fragile humanity, mind – this isn't your everyday superhero protagonist, after all, just a soft, squishy scientist trying to fathom an alien planet.

As much as I loved the complete lack of map, compass, or waypoints directing me to the next objective – something of an engrossing novelty – the occasional nudge in the right direction would still be appreciated. Some areas are inaccessible until you've completed puzzles elsewhere, resulting in a decent amount of dead ends, backtracking, and losing yourself in the sprawling maze of portals.

You won't mind too much sightseeing, though, as *Epitasis* features some awe-inspiring scenery. The sky is particularly exceptional, rich with stars and moons, while a vast sunburnt planet looms over the horizon. Foliage sways pleasantly in the breeze, and the spectacle of a planet's reflection on the tide-kissed sand is utterly exquisite. Not all textures are polished equally, however, and there's a fair share of bland-looking rocks and boulders, but the overall aesthetic is tranquil and pleasing. There's also dynamic weather, and a day/night cycle to keep everything from looking too familiar.

This is all complemented by a smooth blend of funk, synth, and guitar melodies from the serene, carefree soundtrack. It's all 1990s sci-fi, *Stranger Things*, and groovy strings, and the perfect accompaniment to the extra-terrestrial setting. The alien ambience would have been perfect for VR, and though the developer has stated future plans to implement it, not including it in the base game feels like a missed opportunity.

Epitasis offers exotic bemusement and cathartic puzzle-solving in equal measure. Like many first-person adventures from indie studios, it has a few rough edges and quirks, but the overall experience far outweighs these. Though it left me wanting more, *Epitasis* provides a journey that is undeniably worth taking. ⓦ

Sometimes you'll see jaw-dropping beauty and plain, pedestrian textures featuring in the same view.

Info

GENRE
Adventure

FORMAT
PC (tested) / Mac

DEVELOPER
Epitasis Games

PUBLISHER
Epitasis Games

PRICE
£15.49

RELEASE
Out now

REVIEWED BY
Jonny Foster

VERDICT
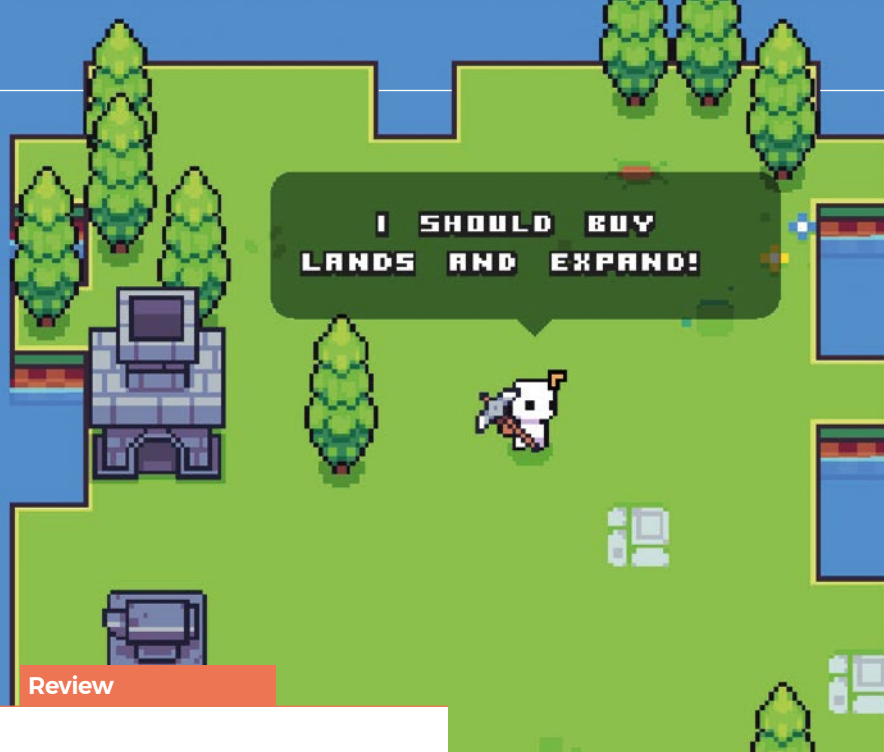
A tantalising yet brief excursion, *Epitasis* is a low-fat treat for the eyes and ears.

71%

wfmag.cc

There's a moment in *Forager* where you find a family of anthropomorphic beets, dancing away in the sunshine. "We love you," they say proudly. They then gift you a reward. It's a minor but extremely wholesome encounter.

I SHOULD BUY LANDS AND EXPAND!

Review

▲ Eventually, you can expand outwards by purchasing land to make new discoveries.

Forager

May the Forest be with you

Info

GENRE
Survival

FORMAT
PC (tested) / Switch

DEVELOPER
HopFrog

PUBLISHER
Humble Bundle

PRICE
£14.99

RELEASE
Out now

REVIEWED BY
Olly Smith

VERDICT

There's a fun crafting experience to be had here, but a large grind and dissatisfying combat system prevent *Forager* from reaching its full potential.

57%

'm not as much of an outdoors person as I used to be. I've been camping a few times, but the bulk of my outside adventuring came when I would play in creeks and woodland as a youth. In many ways, *Forager* reawakens that sense of childlike wonder in the natural world. It's an exploration of how beautiful nature can be.

You're a lone scavenger existing in a land untouched by modern society. Piece by piece, you create industrial structures like forges and furnaces, allowing you to craft items, but the meat of the action comes about through exploration of the world and performing other activities such as cutting down trees, killing enemies, and solving puzzles.

Because, despite being referred to as an 'idle game' – and keeping many hallmarks of the genre – *Forager* takes some cues from the *Legend of Zelda* series, with exploration and combat being a key focus. This doesn't mean loot and crafting isn't important. It totally is, and it doesn't save the game from becoming a massive grind. While there's enough variety during the opening hours, you'll have already built most of the buildings and materials by the tenth hour of play, with only a few final upgrades you need to work towards.

To break this up, there are many locations dotted around the map that offer rare artefacts to increase your stats. There are temples which behave similarly to *Zelda*'s dungeons, where you must travel through a winding maze, defeat a boss, and receive a substantial reward. You can also encounter NPCs who request items. You usually need to craft these, further emphasising the grind.

It's a shame *Forager*'s pacing feels so rough, because its combat isn't any more fun. Fighting enemies is too easy, with all attacks being comfortably avoidable. Even the dungeon bosses don't feel threatening, as their attack patterns are predictable and countered with ease. It's a survival game that isn't difficult to survive in. You need to eat to keep up an energy bar that's slowly ticking down, except food is an abundance rather than a rarity, making consumption a frequent annoyance rather than a struggle.

Still, I think there's something to admire here. No matter how much you pollute the environment with your constructions, *Forager* refuses to loosen its embrace of the natural world. Wait long enough, and the trees, rocks, and flowers will repopulate and overwhelm the land. Your carbon footprint is always temporary, as the game's natural world returns to its own, quietly bewitching equilibrium. ⓦ
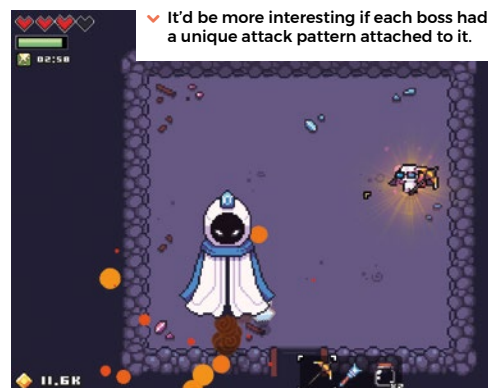
▼ It'd be more interesting if each boss had a unique attack pattern attached to it.

▲ Even without the new team boosts, drift boosts and performing flips in the air are solid mechanics to keep you in the fast lane.

Review

Team Sonic Racing

Does teamwork make the dream(cast) work?

When you're already the fastest thing alive, putting Sonic in a car is ironically the only way to give other competitors a fair chance in a race. As further rebalance, *Team Sonic Racing* requires you race in teams of three, meaning there's more to the game than simply crossing the finishing line first.

Of course, first place will still net a lot of points, but it won't secure victory if your teammates end up eating everyone else's dust. Fortunately, developer Sumo Digital introduces some helpful mechanics. Racers in the lead leave a yellow trail their lagging teammates can use as a Slingshot to catch up, while simply driving past a teammate who's been spun out by a rival's dastardly item is enough to propel them back into breakneck velocity.

Speaking of items, these take the form of Wisps from *Sonic Colors*, and can be offered to another teammate – which in turn upgrade, so a single rocket you give away may turn into three rockets. Performing these team actions also builds up your Ultimate meter, which when activated gives your whole team a huge speed boost and invincibility for a precious few seconds – that's enough to turn around a race.

Complementing these team mechanics are the different racing types, and some well-considered course design, with wide lanes and multiple routes, that give you good reasons not to just pick a speed type like Sonic each time. For instance, terrain like sand or water won't slow down technique types like Tails, while power types like Knuckles can smash through obstacles, which in both cases open up new shortcuts. If your teammates are following behind you, they can also ride on the back of your Slingshot trail to take advantage of these routes.

How well it all holds together is, however, at the whim of the AI companions you're trying to manage. You might be driving ahead leaving a perfectly straight line, only to check your rear camera to find your teammate not making use of Slingshotting at all since they're driving on the other side, and you can offer all the items you

> **"How well it all holds together is at the whim of your AI companions"**

can, but it's out of your control whether anyone makes any effective use of them. When playing with other humans, text prompts and audio cues do at least make co-op easy to read without the need for voice chat. You can even sack off teams altogether and just play locally or online in single races. But while this is perfectly functional, gutting the teamplay means there's little else to distinguish *Team Sonic* from other kart racers.

The biggest disappointment is that unlike Sumo's previous racing entries, this one relies purely on characters in the *Sonic* universe, resulting in a meagre roster of 15 racers that's already scraping the barrel (Big the Cat? That crocodile from *Chaotix*? Really?). Given the welcome resurgence of Sega's brand in recent years, stopping the '*All-Stars*' fan service ride is a missed opportunity that its new emphasis on teamwork can't quite make up for. ⓦ

VERDICT

A fast and fun kart racer but its team-based novelty won't challenge *Mario Kart* anytime soon.

60%

HIGHLIGHT

Forman's relationships with other characters are grounded, be it an affair with a married woman or a fatherly feeling towards a young actor. These provide much of the drama and humour, as well as fleshing out his character and giving his world a foundation that feels familiar to us despite taking place some 400 years ago.
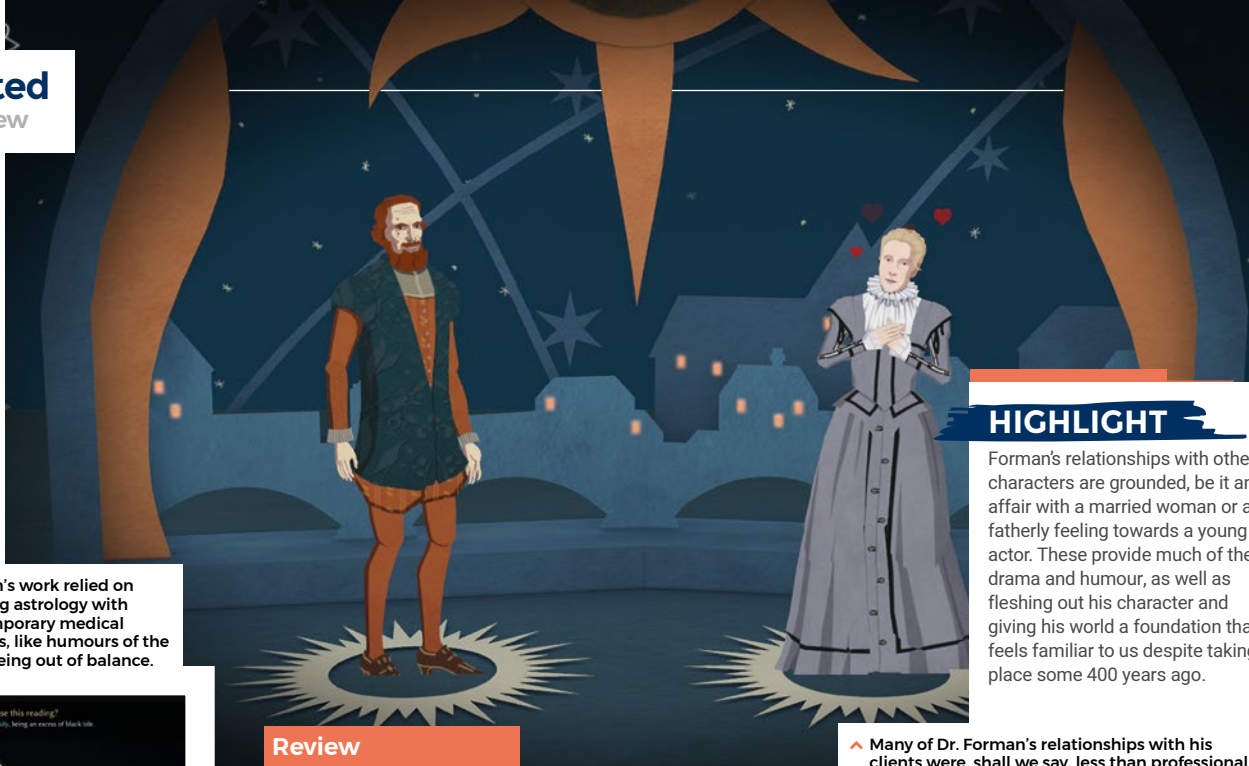
⌄ Forman's work relied on merging astrology with contemporary medical theories, like humours of the body being out of balance.

Review

⌃ Many of Dr. Forman's relationships with his clients were, shall we say, less than professional.

Astrologaster

An Elizabethan experience that may induce most uncouth giggling

Set in Shakespearian England, it's only fitting that *Astrologaster* sometimes feels like a stage play. When a client approaches Dr. Simon Forman's door, an unseen choir launches into a madrigal; a catchy rhyming verse sung about who they are and what they want. Then Forman ushers them inside where he'll hear their complaint and look to the stars to see what advice the movement of the planets might have for them.

Forman (who is based on a real historical figure) gives medical advice appropriate for the era, which could be anything from bed rest and time, to applying leeches to one's privates to suck out the bad blood. He also consults on a wide range of other issues, and it's this excellent variety of sticky situations that makes the game shine. One minute you're knee-deep in relationship drama, the next you're addressing modern problems like anti-immigrant rhetoric through the lens of the 16th century. In many regards, *Astrologaster* shows off both how much and how little has changed.

The stars may have an opinion on these problems, but you're more likely to pick up on the issues suffered by your patients through ordinary common sense. Besides, there's always a range of interpretations available to the player, and you'll probably want to choose the ones that'll keep your clients happy. They'll come back regardless, but Forman needs their letters of recommendation so as not to be locked up

for practising medicine without a licence. In my playthrough, I wasn't especially successful at this, which likely explains the somewhat abrupt ending that I ran into.

Astrologaster is only a few hours long, but it makes the most of that time with a constantly rotating cast of lovable characters who bring life to the history of London. Whether their complaints are familiar, like a simple hangover, or from a very different time, like fearing a Catholic would ascend to the throne after the death of Elizabeth I, they're always presented in a way that's both understandable to a modern audience and – crucially – funny.

Their arcs weave around one another and usually end more satisfyingly than my Forman's did, and though sometimes stilted in its presentation of Olde English, the writing generally lands, whether it's showing the power of unionisation or simply revelling in some classic jokes about the many unfortunate functions of the human body.

The blending of medical and personal inquiries, modern and historical flair, and the serious and the silly all work together to make *Astrologaster* a varied and engaging tale. ⓦ

⌄ The advice Forman gives can have a major impact on his patients' lives.
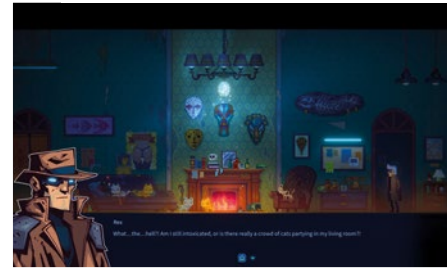

Info

GENRE
Visual Novel

FORMAT
PC (tested) /
iOS

DEVELOPER
Nyamyam

PUBLISHER
Nyamyam

PRICE
£9.99

RELEASE
Out now

REVIEWED BY
Jay Castello

VERDICT

A fun glimpse into history through engaging characters that'll make you glad for modern medicine.

74%

It's gorgeous both in motion and when static, with moody neon lighting littering most of the game.

Review

Tales of the Neon Sea

Does Professor Layton dream of electric rats?

It was after I'd been trapped in two rooms of a flat for an hour, unable to go anywhere else until I'd found the one or two remaining clues at the murder scene, that *Tales of the Neon Sea* revealed to me how much of an arse it was being. The vast majority of clues and interactive elements in the game are highlighted as such when you walk past them. I was used to this, so was looking for an interaction prompt I might have missed. Naturally, the clue I was looking for wasn't highlighted, so it was blind chance (and button mashing) that helped me progress, not superstar cybernetic detective abilities.

Tales of the Neon Sea looks superb, and sounds even better, but after a short amount of time, this not-quite point-and-click detective/adventure game has shown you all it has. There's traipsing around (lovely-looking) areas, with a lot of ferrying back and forth. There's a lot of interacting with clearly highlighted things, and a small amount of trying to find the stuff that isn't highlighted. And there are puzzles, for some reason. Puzzles that make no sense in the game world, even when there's an accompanying explanation as to why they're there, and puzzles that – while sometimes fun – do little more than act as roadblocks to your inevitable progress.

Some roadblocks are bigger than others, thanks to a combination of the puzzles themselves being occasionally challenging and saddled with explanations that have been poorly translated. I won't nitpick the translation

> **"It's not a lot of fun. It's busywork, a lot of back and forth"**

elsewhere – *Neon Sea* is a game made by a small Chinese team, you'd be daft to expect perfection – but when the instructions to a minigame, one you have to complete in order to progress, are muddled at best, it does impact things negatively. Having to wrestle with the actual point of a puzzle before even starting to try and solve it in earnest is not what you'd call fun.

And, on reflection, I think that feeling carries throughout *Neon Sea*. It's not a lot of fun. It's busywork, a lot of back and forth to grab item A and take it to place B, before solving a lockpick/Pipe Dream/line-drawing puzzle, then taking item C to place D and so on and so forth for about ten hours. Or 20 if you get stuck on a puzzle's instructions and the lack of highlighted interactive elements. It's a muddled experience, not quite being an adventure game in the point-and-click sense, nowhere near simple enough to be a casual visual novel-alike – it just comes across as unfocused, not really knowing its own identity.

Tales of the Neon Sea, as you can tell, *is* gorgeous. Its soundtrack is fantastic. The cyberpunk-lite setting is generally well thought-out and coherent. There's a lot you'll *want* to love about the game, especially the cheeky sense of humour and sections where you take control of a feline sidekick and see the secret world of the cats in all its glory. But looking at the package as a whole, it's just a bit of an ill-defined, vague experience. It'll stick with you in some ways, but otherwise, this is sadly a forgettable one. Ⓦ

VERDICT

Gorgeous and atmospheric it might be, but *Neon Sea* flounders where it counts.

53%
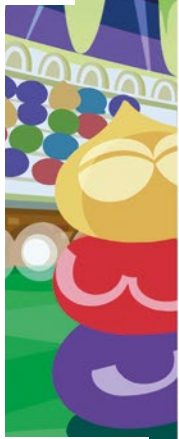
Online play is a good place to be painfully humbled by people way, way better than you.

00001822

Parlock

★★ WIN ★★

00000664

CPU1

Review

I love it when a combo comes together.

Puyo Puyo Champions

Absolutely riddled with Puyo-popping fever

VERDICT

A glut of content and full backing from Sega going forward, this is the start of a new era for *Puyo Puyo* fanatics.

63%

Puyo Puyo Champions is a niche entry in an already niche series, intended primarily for the very best in the scene (in Japan, it's called *Puyo Puyo eSports*). It's bare-bones, offering only what is needed for competitive *Puyo Puyo* players, while many who are only vaguely familiar with the goo-popping puzzler may struggle to get to grips with it. It's *Puyo Puyo* though, so it's still as fun as it's always been.

You're probably already familiar with *Puyo Puyo*; the goal is to match up four of the same coloured blobs (Puyos), and place them in a way that sets off massive chains of popping puyos across the screen. *Champions* includes two of the most popular rulesets, *Puyo Puyo 2*, which is the purist's game, and *Puyo Puyo Fever*, which rewards character-specific patterns with the ability to do large amounts of damage to the enemy.

Champions is heavily based on its immediate predecessor, the brilliant *Puyo Puyo Tetris*, and, at a glance, it'd be easy to see it as *PPT* with the *Tetris* bit lopped off and half the price. And, for the 99%, that'd be a fair assessment: a few characters return from older *Puyo* games, but it's missing a single-player campaign or any of the superfluous modes that competitive players wouldn't be interested in. There also isn't any sort of tutorial mode, so this is definitely not an entry for newcomers or casual fans looking to reconnect.

> **"A streamlined tool for people dedicated to popping their Puyos"**

For those who are way into their *Puyo Puyo* and know the series well, though, *Champions* does offer a sense of balance and focus that its *Tetris*-tinged sibling couldn't, offering all kinds of settings and modifiers to help make training for the main event, online play, more efficient. In single-player mode, you can apply handicaps, change the combo rules, and tweak virtually every part of the game to make practising racking up those 15-chains a simpler affair. While in multiplayer, annotated replays and a full tournament mode help both learning and competing easier.

Online is where things falter for *Champions*. You'd hope a game built around competitive play and rankings would have better netcode, but many games – even with people in the same region – are plagued by lag and connection failures. It's not a huge deal for this sort of game, and finding other players at any time of day is almost scarily quick on PC, but it does take you out of the state of flow *Puyo* is supposed to get you into.

Puyo Puyo Champions isn't for everyone, but then that's the entire point of its existence. This is a streamlined tool for people who are dedicated to popping their Puyos and bagging big combos. If you don't know your stair chains from your GTR, there are much more accessible entries available. But for those who can sandwich and dig with the best of them, this is where the best in *Puyo Puyo* is now happening. ⓦ

One giant leap backwards

Two years on, and Mass Effect: Andromeda hasn't got any easier to swallow

I went into *Mass Effect: Andromeda* full of all the vim and vigour of someone who was going to *prove the internet wrong*. The game had been derided since before it had even launched, with a vocal subsection of naysayers running roughshod over the hard work of BioWare Montreal, picking up on animation glitches and other such relatively minor issues as 'proof' of EA's lack of general care about the quality of product it publishes. 'Nonsense!' I thought, confident in my ability to prove just why these people were foolish. '*Mass Effect* is a fine series, BioWare a fine developer – this will indeed be a fine game!'

The problem I'm having is that, two years after this launch – and while naturally I disagree entirely with the more unsavoury aspect of the online discourse surrounding the game – a lot of the criticism aimed at *Mass Effect: Andromeda* was spot on. In fact, in many ways, it was even worse than people realised. I've been playing through it on and off for over 24 months now, in the most part because... and I might have to whisper this part... *it's really boring*.

For a series focused on the spectacle of a grand space opera – and for a specific story within this universe focusing on a team of bold explorers trying to find a home (or homes) for countless others along for the ride in cryostasis – to be genuinely boring is just not right. I don't

> **"I owe it to myself – and BioWare – to trudge through"**

get it. I do not understand how it's been done; the core elements of exploration, of discovering new alien races, of relationships and choice, it's all there. But there are elements of *Andromeda* where it feels like it's taken steps *back* from its predecessors.

Characters are dull and flat, with motivations you care little about and back stories that end up being mere walls of exposition. Exploration is both uneventful and too fiddly, with your land-roaming vehicle an unwilling steed on much terrain. Combat is the best the series has seen, but at the same time suffers massive, irritating difficulty spikes. It doesn't feel like the fourth game in a series; *Andromeda* feels like it was made by a team that hadn't learned from what came before. The less said on how true that may well be, the better. Either way, it's a massive let down.

But I will trudge on. The original *Mass Effect* trilogy is up there in my favourites of all time, and having played through all three games on multiple occasions (best run: renegade FemShep in *ME2*, obviously), I feel I owe it to myself – to BioWare – to trudge through *Andromeda* and drag myself over that finish line. And I'll do that. But just like the trip to this whole new galaxy, it's going to take a long time, it's going to prove fractious, and it's going to feel utterly alien until the very end. Ⓦ
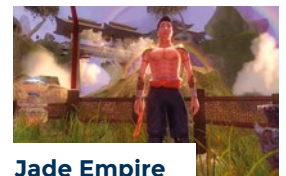
Renegade

A kick, a knee to the groin, a throw off a ledge:
Renegade's combos were its killer feature

TECHNOS/IMAGINE / 1987 / ZX SPECTRUM

Strategy wasn't a term often applied to the brawler genre, at least not in the years before *Street Fighter II* mixed things up with its special moves and combos. Still, *Renegade* at least required a bit of tactical thought amid all the frenzied punches and kicks.

In its localisation for the West, *Renegade* switched the Japanese version's warring high school kids to street gangs – all leather jackets and grimy subway platforms. Following its arcade debut, *Renegade* changed again in its adaptation to home systems, particularly the ZX Spectrum, where restrictive hardware meant that some of the original game's features had to be sanded off to fit. Unusually, though, the Spectrum edition of *Renegade* – programmed by Mike Lamb – succeeded in distilling the spirit of the arcade game rather than watering it down. Unlike later brawlers, such as Technos' own *Double Dragon*, *Renegade*'s battles took place in confined locations rather than long, belt-scrolling stages, with the player's lone martial arts expert set on by a gang of roughly six members. Once enough gang members were despatched, their bigger, tougher leader would enter the fray.

What set *Renegade* apart was the relative intelligence of its enemies. Rather than queue up to take a beating, they'd back off if the player approached, and lunge with a punch or swing of a club if the player turned their back. Meanwhile, other villains would attempt to flank the player and grab them so

> **"To borrow a line from comedian Eddie Izzard, it was all martial and no art"**

an ally could close in for a jab to the guts. This made picking fights with the right enemy, at just the right time, a key part of surviving each round.

Renegade's action was altogether uglier than the brawlers that came before it; to borrow a line from comedian Eddie Izzard, it was all martial and no art. The player could, in response, punch or kick an enemy to the ground, and then kneel down over their unconscious body and finish them off with a few blows to the face. It was also possible to lure an enemy to the edge of a train platform and, with a flying kick, knock them into oblivion. Which finally brings us to *Renegade*'s killer feature – one that wasn't exactly advertised in *Renegade*'s instruction manual on the Spectrum. With practice, it was possible to back-kick an enemy in the crotch, turn around, grab them by the shoulders, knee them in the groin, and then throw them over your shoulder – possibly onto a train track or into a river if you got your positioning right. Was this video gaming's first combo? It certainly predated *Street Fighter II* and *Mortal Kombat* by several years. At the very least, it was a down-and-dirty highlight in a cartoonishly violent game. It was even possible to use the sequence of moves against early bosses, turning once imposing punch-sponges into lead-footed dinosaurs. Bigger, better things would soon come from the brawler genre, of course – but in its day, *Renegade*'s early combo was a crunchy, gleefully nasty delight. ⓦ

Next Issue

The Procession to Calvary

A Renaissance adventure with a Monty Python streak

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