

Wireframe

LIFTING THE LID ON VIDEO GAMES

Recompile

A game-changing
3D Metroidvania

Save data

The state of modern
game preservation

HARD TIMES

Crime and moral bankruptcy
in Family Man

Virtual reality

Finding humanity and
emotion in video games





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An industry of imposters waiting to be found out

I don't belong here. I studied Modern Drama at university, a consequence of hurriedly filling in my college application the night before the deadline and just assuming it meant 'minimal Shakespeare'. In retrospect I was correct on that point, I just hadn't factored in all the rolling about, primal screaming, and frankly questionable nudity that went hand in hand with the noble deconstruction of theatrical principles. I secretly wrote some silly words in the evening, dialogue, often linear, like the massive sell-out I am.

I don't belong here. I spent a long Christmas working at a then-thriving music and DVD chain in Kent's premier super-mall, Bluewater. I once located a copy of *The Princess Diaries* for Helen from *Big Brother 2* and for a time thought life might have peaked then and there. I spent the next four years measuring strangers' houses in order to set their council tax bands, once getting called a 'clipboard wanker' across a garden fence, which would have been devastating had it not been, given the circumstances, fairly accurate.

I don't belong here. I landed my first industry break writing those silly words again, this time for a small company called Mediatonic. It was a baffling decision on their part, considering my output up until then consisted of Samuel Beckett rip-offs and the aforementioned rolling about – a decision they then idiotically doubled-down by hiring me full-time. I decided to ride it for as long as possible before being inevitably fired, bringing bold new ideas to the studio like 'making lists' and 'prioritising the things in the lists', and 'not sleeping through constant crippling anxiety of being found out'. All the good stuff.

Because I don't belong here. Still. Ten years later. Not really. They'll find me out at some point; they'll realise I have no formal game design training, that my direction is based largely on not repeating catastrophic decisions from my personal back catalogue, that I still




JEFF TANTON

Jeff Tanton is the Creative Director at Mediatonic, and has spent a decade designing, pitching, producing, and writing for over 20 titles including *Foul Play*, *Hatoful Boyfriend*, and *Fable Fortune*.

think – but no longer say out loud (progress!) – that most character designs can be improved with the addition of jaunty hats and/or googly eyes. That those pitches we won in unfamiliar board rooms and across GDC hotel lobbies, those games we made that went on to find fans and nominations and enough success that we got a chance to go again, all those impossible things that somehow became possible, were just happy accidents where I was, at best, the innocent bystander.

Imposter syndrome doesn't go away, and it's incredibly prevalent in an industry embarrassingly stacked with the most professional and passionate people I've ever worked with. When I first joined MT we were ten strong; there's now nearly 200 of us (a number that never seems more ludicrously vast than when we're all trying to share a single karaoke mic). One of the advantages of managing a large team is that I get to hear these talented individuals regularly convincing themselves that each of their successes are merely luck, that their intuition isn't to be trusted, or that they're honestly not the right person to do the job they're already capably doing despite their best doubts.

It's the same when I meet students at talks and events: fresh faces with a drive and purpose that humbles the kind of person who was considering 'local taxation' as a career path well into their twenties. You see all that from these fantastic people, and it helps to put some perspective on your own doubts. I don't believe there's a force powerful enough to silence our internal critics completely, but I might suggest looking for a bit of balance by sometimes engaging with your internal champion: the voice that recognises the times you nailed the implementation, steered the project to a better place, executed the flawless pun, supported a colleague when they needed it.

Honestly, it can temporarily make a fraud like me believe that maybe I belong here – which means that you definitely do, too. 

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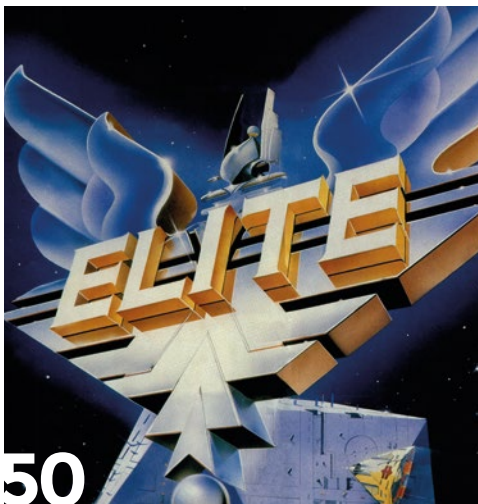
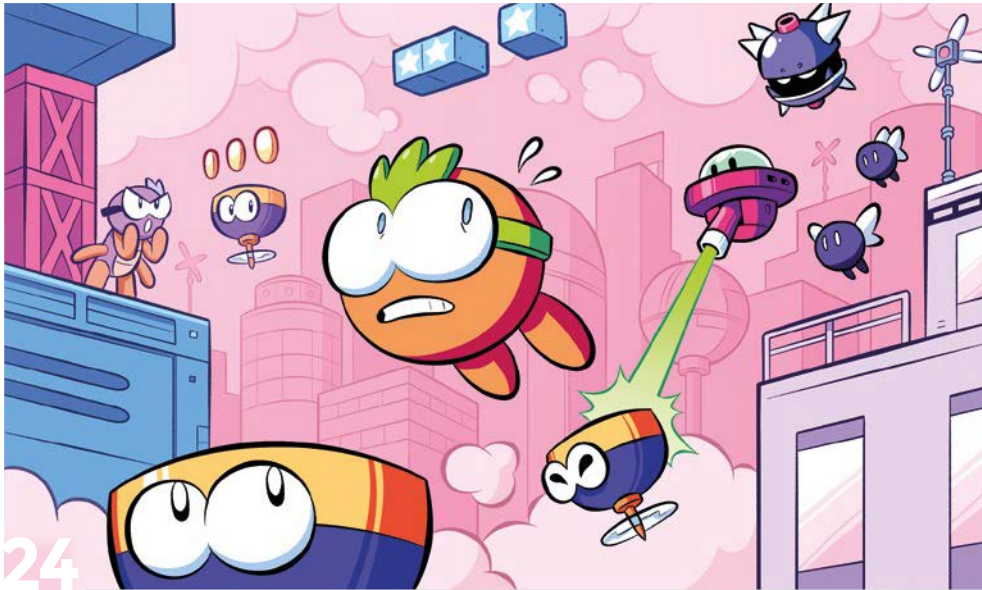
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WELCOME

Games can be many things – an escape, a challenge, an all-consuming pastime – but they can also function beautifully as digital comfort food, something familiar we can turn to when we’re tired or need a bit of reassurance. As our deputy editor Ian Dransfield writes on page 65, *Stardew Valley* is one of those games: an experience so soothing and gentle that you can almost feel the day’s stresses ebb as you water and harvest your crops. Not that games have to be gentle to be soothing; years ago, I found comfort in *Renegade*, an old ZX Spectrum game I got so good at, I could complete it on multiple loops without breaking a sweat. Later, I started memorising the positions of enemies in *GoldenEye*, and analysing maps in *Halo 3*. The process of mastering a fast-moving game provides a sense of control that’s frequently lacking in the chaos of the real world. Sure, games are about skill, judgement, precision, and problem-solving under pressure. But there’ll always be a place in our hearts for games that swaddle us like warm security blankets; whether they’re old or new, they’re always there as a refuge after a hard day’s work.

Ryan Lambie
Editor



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Even killers do dishes

An ordinary father is drawn into a life of crime in the grim RPG, *Family Man*. We chat to its mastermind, Broken Bear's **Craig Harrison**

Where most crime simulators offer stirring power fantasies about stealing cars, automatic firearms, and mansions,

Family Man delivers the opposite: a dark domestic drama about Joe, a middle-aged guy drawn reluctantly into a life of low-level gangsters, murder, and boat theft. Far from the cathartic ladder-climbing of the *Grand Theft Auto* series, *Family Man* sees Joe lose his job and, with mounting debts and a family to support, faced with a stark choice: commit to low-paid shifts flipping burgers or agreeing to slightly better-paid but increasingly horrifying jobs for the mob.

Inspired by the moral murk of *Breaking Bad*, *Family Man* is a story-driven RPG viewed through a lens of low-polygon characters and boxy, *Minecraft*-esque environments. It's a stylistic choice that not only saves on costs, but also serves to make its askew take on the real world all the more engaging: it's a place where small moral compromises gradually snowball into ever-more grim outcomes. Taking on shady jobs for gangsters has a corrosive effect on Joe's relationship with his family; if he kills someone, then the whole coastal town will show up the next day for the victim's funeral.

With scenarios like these on offer, we just had to catch up with Broken Bear Games' Craig Harrison to find out just how dark his low-poly crime drama gets.

An obvious place to start, but what was the inspiration behind *Family Man*? What prompted you to start making it?

Funnily enough, my wife was pregnant when I first came up with the concept. I was thinking about it one day, and it struck me that I would probably do literally anything to look after my own child; that's when I thought it would be an interesting and unique concept for a game.

What was your process for creating the world map and drawing the characters?

Really, the answer to both of those questions is story. I knew from the start I wanted the town to be coastal because that gives you a lot of context for free. There has to be a dock, there will have to be a coastline vista, there has to be a local economy that would've been developed around that. Once I had that as a baseline, I wrote out the story beats I wanted to hit, and the rest of the details were painted in around those.

▼ **Endlessly flip burgers for low pay, or earn more money by working for the mob? That's just one path *Family Man* lays out in front of you.**





As for the characters, it's the same – in *Family Man*, the characters really embody their story. When you see the banker in town stood by his sports car, you've probably already made a value judgement about that character. The intent is the characters are larger than life, and you can decide how or if you want to interact with them.

Was it a case of writing little biographies for each character in the game?

Yes! That was really fun to do, even going as deep as who would've known each other back in school or when they grew up, what their relationships were. It was a little easier as the characters are all connected, but you'll have to play the game to find out how...

When writing a video game script where you have multiple paths, are there certain bits of software or approaches you've found to help streamline the process?

That's a great question, and I looked into a couple of different solutions. The sad truth is I just wanted to get started instead of learning new software and ended up using a massive, horribly unwieldy spreadsheet to track it all. Never again. ➔



^ If this looks a bit dark, wait until you see how the full scene plays out.

Given that *Family Man* is heading to the Switch, have you found that Nintendo is quite relaxed about the game's darker moments?

Honestly, we don't really know yet – I think they usually pass judgement closer to launch. Hopefully, they like it!

Have you struck a balance so that every approach is a viable way of making back the money you need for the mob? Or, are some options just not worth bothering with?

Every approach is viable, but as in real life, there are always sacrifices. You could work at a burger joint all day, and not spend any time with your family, just to pay the mob. On the other hand, you could compromise on your morals, make money faster and spend more time with them – which is the lesser of two evils?

What's been the toughest aspect of making *Family Man* so far?

Tough question. Todd Howard [of Bethesda] said: "We can do anything, just not everything," which has been a difficult lesson to learn on this project. You get so excited about some crazy new idea and just want to will it into reality, that's how the 'Bobby' intro [see boxout] even came about. Reining that in has been challenging, particularly as it has worked out in the past.

When writing a game like this, how long does the script end up being? Is writing all the dialogue for each scenario one of the more time-consuming aspects of development?

The script is nearly done and will end up running to about 15,000 words. Writing isn't time-consuming, but good writing is very time-consuming. It's an area I've definitely improved in, having written such a long, expansive story. One of the toughest parts is having the dialogue choices actually be interesting and entertaining across so many characters.

How dark are you allowing yourselves to go? You're able to take on 'dirty jobs', but how dirty are we talking here?

We're talking dirty. Literally, figuratively, morally. Most of the time that's the player's choice, though. If you want to be an evil, twisted, morally bankrupt father figure, then that's your call.

There's the mundanity of home life, too – how important was it to have household chores like cleaning and tidying in there? Was the aim to make the anti-*GTA* – an unromantic portrayal of criminality?

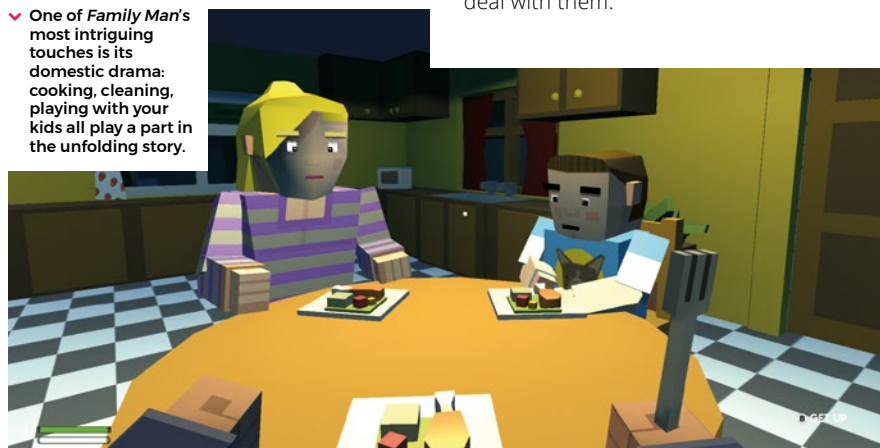
Yeah, it's about showing all sides of people. Sometimes good people do bad things. Even murderers still have to do their dishes, maybe they even read to their kids? Maybe they're even good at it? It's also about the player going out and doing these terrible things, only having to return home and look your family in the eye.

"It's about the player doing these terrible things, then having to return home and look your family in the eye"

Similarly, a lot of games about men getting into crime portray it as exciting and empowering; here, it almost seems emasculating. Is that something you had in mind?

I didn't have it in mind to be emasculating, but certainly, the idea was sometimes you might choose to do terrible things because that's the easier choice to make. Difficult situations are constantly thrust upon you – it's down to the player how they want to deal with them.

^ One of *Family Man*'s most intriguing touches is its domestic drama: cooking, cleaning, playing with your kids all play a part in the unfolding story.



Where did the desire to question the morality of players come from? And is it in any way related to the fact we all play games where endless, cold-blooded murder is the goal?

I think in the vast majority of games there is very little consequence to anything. Player hero X murders countless bad dudes and moves on without a second thought, and there's a place for that, but I wanted to make a game where you very much feel the consequences of your actions. If you kill certain characters, there will be a funeral the next day where people from the town show up. That's the kind of experience I was interested in creating, something that might have the power to actually make you feel bad.

Is it intended as a comment on the real world of the gig economy and precarious jobs?

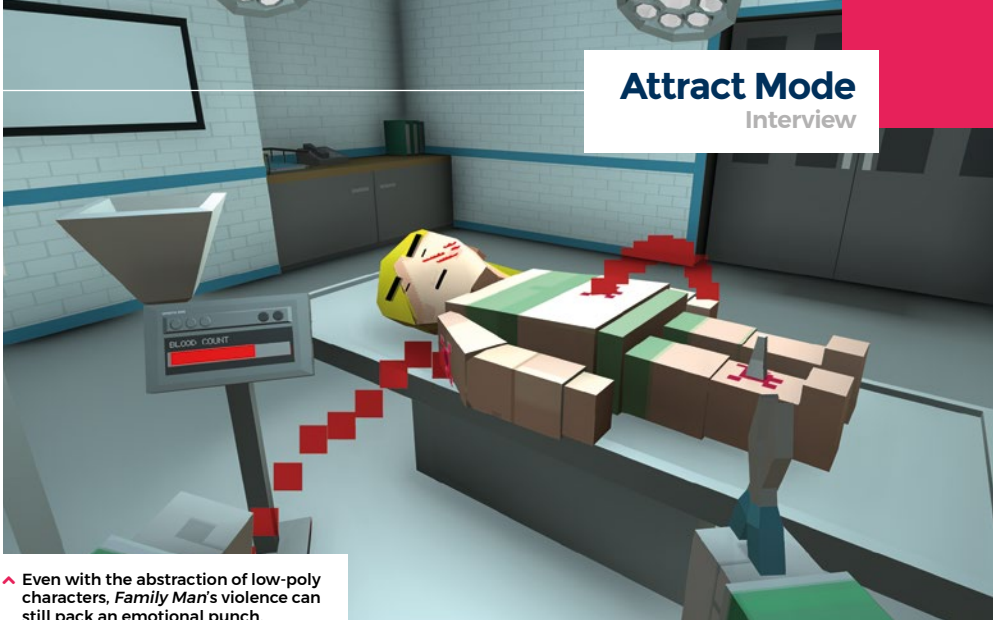
In a way, but hopefully, in the real world gig economy, you don't get paid extra for spitting in people's burgers or stealing their organs. (Spoilers!)

While the subject matter does seem dark, is there a sense of humour running through the whole thing? Was that an important thing to get in there?

Dark but entertaining was my aim, but really, it's one of those things that just happened naturally: the game reflects my personality in some ways, and humour was one of them. There's another big benefit to humour, though, in that you can create quests that are much more imaginative. To me, it's more entertaining to have a quest where you have to remember your lines for a terrible play rather than find another radio tower.

Is the visual style one borne of artistic desire or necessity? What's the idea behind it?

Both! A simpler art style is easier from a practical development perspective, but *Family Man* is a game all about contrast. Having a bright, vibrant world filled with colourful, immoral characters just seemed like a fun way to create even more of a dichotomy.



^ Even with the abstraction of low-poly characters, *Family Man's* violence can still pack an emotional punch.

Bears appear in the trailer. Do they play much of a role in the finished game?

Bearly... sorry!

How many different outcomes can we expect?

That depends on how you define outcomes – the world and characters physically change in a multitude of ways depending on your choices. Your version of Riverport will probably end up looking different to mine. Maybe you have a giant Hollywood sign that spells B-U-R-T, but in my world Burt is a nobody. There are three main endings: good, bad, and true. How you achieve those is up to the player to discover.

How useful did you find January's beta phase, in terms of fine-tuning the game's balance?

So much stuff. We had a lot of players and got critical feedback on just about everything. Time was a big one: people wanted more time to enjoy and explore the world, but balancing that against the tension of not having enough hours in the day was a tricky one. Something else that was really valuable was finding out which elements of the game people thought were the strongest. The storytelling in the intro went down really well, so I've doubled down on that. It's great to have feedback that early so you can course correct and make good calls about what gets cut and what stays.

Finally – seeing as we ask everyone this – will there be a battle royale mode?

There will now! 🐾

***Family Man* releases later in 2019 for PC, PS4, XBO, and Switch**



^ *Family Man* runs on Unity, an engine that "makes iteration super-fast – critical for crafting this kind of experience," Harrison says.



^ *Family Man's* coastal setting is positively idyllic. But like a David Lynch movie, there's horror waiting just below the surface.

PERFECT SHOT

We won't spoil it by going into specifics, but there's an early scene in *Family Man* that aptly sums up its blackly comic storytelling – it's startling, brutal, and bizarre all at the same time, and sets the tone for Joe's descent into a criminal underworld. "That moment has kind of become the signature of the game, which is so cool – and unintended," Harrison explains. "The way it came about was when I saw an episode of *Breaking Bad* that just totally subverted my expectations. The writers were always one step ahead of the audience, and I kept thinking, 'These guys are so [flipping] smart.' So that moment was me trying to create what they would, but in a video game, with 0.001% of the budget."



Return of the Ninja

Not just another NES-style ninja platformer – developer Arne Hunziker talks to us about *Cyber Shadow*

Info

GENRE
2D action platformer

FORMAT
PC / PS4 /
XBO / Switch

DEVELOPER
Mechanical Head
Studios

PUBLISHER
Yacht Club Games

RELEASE
2019

^ Unlike *Shovel Knight* or *The Messenger*, *Cyber Shadow* keeps things pretty serious.

^ The colour palette is noticeably darker and murkier than you might associate with the NES era.

For the past five years, Yacht Club Games has focused on just one game: *Shovel Knight*. Granted, games are increasingly becoming a live service of never-ending

updates, but it's not what you would associate with a 2D retro-inspired platformer. But as Yacht Club finishes up its Kickstarter-funded classic with a final expansion, the developer's next step has been to move into publishing. Enter the newly announced *Cyber Shadow*, a ninja-focused title that confirms the company is comfortable in its love affair with the 8-bit era.

The game is the debut of solo developer Arne Hunziker, who's been working on it for the past three years. And as he puts it, "If *Shovel Knight* is inspired by all the happy and cheerful games of the NES era, mine is inspired by all the dark and gritty ones."

There's a tendency to equate dark, mature games with the Sega Mega Drive, but Hunziker instead cites the NES games he played growing

up like *Batman*, *Contra*, and *Shadow of the Ninja* (aka *Blue Shadow* in Europe) as inspirations for *Cyber Shadow's* dark, futuristic setting.

After getting caught in a nuclear explosion, your protagonist is reborn as a cyborg ninja and embarks on a quest to rescue their clan. It's a pretty straightforward set-up, but it's told with similar 'cinematic' art the classic *Ninja Gaiden* was also known for – as well as its hardcore action platforming, of course. And unlike most retro-inspired games that indulge in postmodern fourth-wall breaking and gags, Hunziker says, "There's nothing funny about the game – it's very serious."

It's also pretty singular in its aesthetic and mechanics; a no-nonsense linear action-platformer that sees your cyborg ninja slashing their way through obstacles, culminating in challenging boss fights. But although it starts simple, with just jump and slash inputs harking back to the two-button NES controller, it soon takes on modern elements that players have come to expect, such as unlocking new skills and upgrades to make your ninja even more adept, and changing the flow of how you play as it goes.

To take one example, illustrated in the opening moments of the game's announcement trailer: a dash attack that has you slashing through enemies doesn't just look cool – it also allows you to move across the screen in fewer frames. While the ability is limited, a successful attack also refills its gauge, meaning a skilful player can feasibly chain-kill multiple enemies and move across a level at a much faster speed. "The first level might take five minutes





▲ Expect some big, tough set-piece boss battles – though hopefully not as tough as *Sekiro*.

to complete on the first try, but with all the skills unlocked it can be 20 seconds,” Hunziker says – which suggests *Cyber Shadow* will prove particularly replayable for speedrunners.

Of course, the structure of an 8-bit game evolving its playstyle over time, as well as the ninja premise itself, may draw comparisons with last year’s *Ninja Gaiden*-inspired retro throwback *The Messenger*, and the recent *Katana Zero* also combines pixel art 2D action platforming with cyberpunk and Japanese tropes (those last two elements are, admittedly, a common blend).

Even discounting the subject matter, there’s no doubt that, while *Shovel Knight* was a breath of fresh air in 2014, we have a lot more 2D pixel platformers knocking around these days. But to conclude there’s an oversaturation of the genre would be unfair, especially when the rest of the industry is also rushing to ape bigger trends like Wireframe favourite, the battle royale.

Hunziker, meanwhile, isn’t bothered by the comparisons, and indeed welcomes them. Prior to *Cyber Shadow*, he was learning pixel art in his day job, which involved creating assets for avatars on Facebook and mobile games with that very aesthetic.

Elsewhere, he cut his teeth in the modding scene with the earliest NES emulators, which allowed users to view and change graphics on the fly. But it all comes back to Yacht Club: “It’s partly thanks to *Shovel Knight* that I started to take my project seriously,” Hunziker explains. “It showed that there’s a market for this sort of game. For the consumer, there’s a lot of choice, which is great. For the developer, there’s more of a challenge because there are more similar

games, but it makes me find new, unique things so that it’s not just another *Ninja Gaiden*.”

Speaking of *Shovel Knight*, it was actually a suggestion from an artist at Yacht Club Games that led to the latter offering to publish *Cyber Shadow*, although it wasn’t without some

resistance. “Initially, I was like ‘no’, because I had decided to do it by myself – I was stubborn,” Hunziker laughs. “But then they offered to help

with level design and inject some of their magic into the game, and that sounded like a very good idea.”

Far from a traditional publisher then, Yacht Club’s role is more akin to co-developer, which has been a boon for the game’s development in an intensive past six months – “down to the pixel detail,” as Hunziker puts it.

“There are only a few companies I would work with, and Yacht Club is one of them, so it’s been very lucky to team up with them.”



“It’s partly thanks to *Shovel Knight* that I started to take my project seriously”

▼ The running slash is one of the signature movements for skilful play, though a whole suite of abilities can be unlocked as you progress.





Hack and slash

Approach with guns blazing, and the AI will react more aggressively.

We catch up with Phigames and their 3D Metroidvania set in a virtual world: *Recompile*

Info

GENRE
Metroidvania

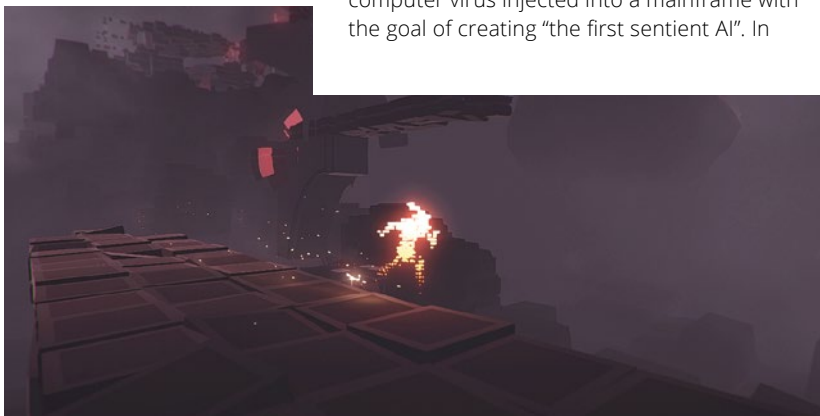
FORMAT
PC / other
platforms TBA

DEVELOPER
Phigames

PUBLISHER
Dear Villagers

RELEASE
2020

Phigames cites *Breath Of The Wild* as an influence in the design of its open map: "In a digital setting, rather than fantasy."



Looking at YouTube videos or perusing still images is one thing, but there are some games where you have to experience them to truly appreciate their potential

– it's only when you feel the responsiveness of their controls that things really click into place. Such is the case with *Recompile*, the forthcoming 3D Metroidvania from Manchester-based indie studio, Phigames.

Recompile certainly looks striking: its low-poly world, set inside a computer mainframe, recalls the clean lines of Disney's *Tron* and Mike Bithell's sneak-'em-up, *Volume*. What's even more striking is how Phigames have created a place that feels alive as you move through it: as blocky platforms form in front of you and shadowy towers shiver into existence, *Recompile* positively crackles with energy.

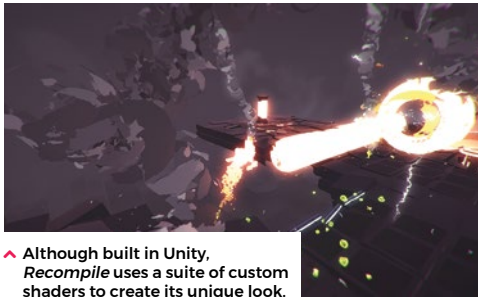
You take on the role of The Program, a computer virus injected into a mainframe with the goal of creating "the first sentient AI". In

time-honoured Metroidvania style, *Recompile* has you exploring an open map and acquiring abilities which in turn help unlock new areas; the twist here is that the world itself will begin to adapt and change depending on your approach to the game, as programmer and director Phi Dinh explains. "It has a dynamic narrative, so the kind of AI you create depends on your play style," Dinh tells us. "So if you go around shooting stuff and being aggressive, you'll end up with an angry AI, and if you're more hacking-oriented and stealthy, then you'll get a different AI personality."

A ten-minute demo Wireframe got its hands on earlier this spring provided a taste of *Recompile's* abilities: The Program can blast away at the Mainframe's army of cuboid enemies with a satisfyingly meaty rifle, hover through the air, and perform an infinite jump – the latter allowing us to get a better view of *Recompile's* impressively large landscape. Looming in the distance, we can see the outline of a building we later learn is called the Hypervisor Core; in a nod to *Breath of the Wild*, it's a place we'll be able to visit later in the game once we have the right abilities, Dinh says.

To get there, *Recompile* will require the mastery of combat, terrain traversal, and the hacking of power grids and locked doors – activities enlivened by some frankly gorgeous visual effects, dreamed up by Dinh and VFX/animation artist James Vincent Marshall.

"There's all kinds of physics stuff and crazy shaders that we use for the visual effects," Dinh explains. "It's built in Unity, but we don't use any



^ Although built in Unity, *Recompile* uses a suite of custom shaders to create its unique look.

of the standard shaders – it’s all custom shaders, and that’s why people are really surprised when I say it’s made in Unity, because it doesn’t look like a Unity game.”

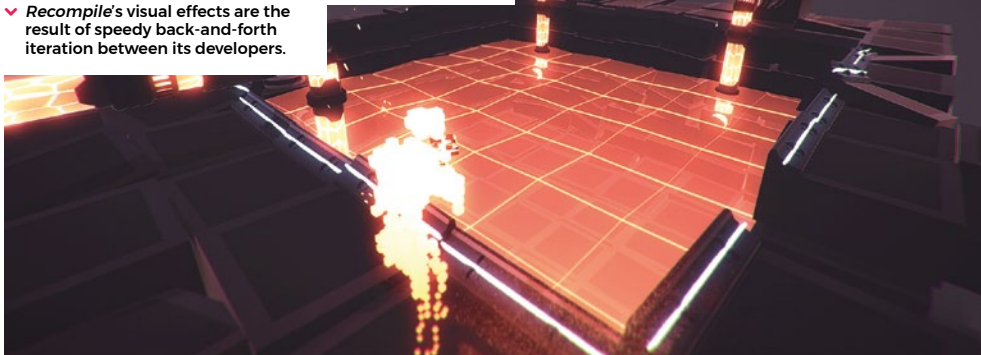
Recompile began life three years ago as a project Dinh worked on in his spare time, while other collaborators – including Marshall, composer Richard Evans, and narrative designer Faye Simms – lent their talents for free. Thanks to some much-needed financial support from publisher Dear Villagers, though (see boxout), Dinh was able to work full-time on *Recompile* from November last year. “Games are so expensive to make, and people are expensive to hire, but you need a good team – so you need funding somehow,” Dinh says. “Now everyone’s full-time on the project.”

“Because the project had so much potential, I was happy to work on it in my spare time while I was working for another company,” Marshall adds of *Recompile*’s early stage of development. “I saw some special stuff going on in this game, and I thought, ‘I need to get on with this.’”

With such a small, agile team, Phigames has been able to come up with ideas for *Recompile*’s glitchy, glowing aesthetic relatively quickly, as Marshall explains. “It’s a very weird process. It wasn’t traditional in the sense of concept art signed off and then developed. It was very much an internal vision that I had, and we just riffed off each other. We made it organically together.”

“Because we’ve got such a small team, there was no point in having concept art,” Dinh concurs. “[Marshall] could model something, send it to me, and I can have it in the game that

v *Recompile*’s visual effects are the result of speedy back-and-forth iteration between its developers.



“People are really surprised when I say it’s made in Unity”

day. And if it looks rubbish, we can get rid of it, or reiterate it, and then we end up a week later with something that’s really polished. We don’t need a game document or a concept artist; we can just make it.”

Dinh estimates that there’s still about a year of development left before *Recompile* is ready to launch; one of the hurdles they’ve yet to clear, he says, is the game’s transition from PC to other platforms. “I think mostly it’s going to be optimising for

performance,” Dinh tells us. “A lot of the physical stuff, like lighting and VFX, is in real time, which means when we’re optimising for consoles or handhelds, it’s going to be really difficult. That’s my concern at the minute.”

As our conversation with Phigames draws to a close, we watch as another player sits down and starts moving around *Recompile*’s world. With a tap of a button, the player sends The Program leaping into the air and crashing back on the ground, causing a shower of blocky sparks. The player grins at the effect. If Phigames can make the rest of the game as tactile and pleasing as this, *Recompile* could prove to be something very special indeed. 🗨



^ “We wanted to take that really responsive feel – twitchy, like *Castlevania* in 3D,” Dinh says of *Recompile*’s controls.



^ The way *Recompile*’s scenery coalesces around you as you explore it is a bewitching visual trick.

STANDING OUT

“A few years ago, you could put your game on Steam, but there are so many games now,” Dinh says, when we ask him about the importance of finding an indie publisher like Dear Villagers. “So how do you stand out?”

“Well, my advice is, hire an artist,” Marshall (the game’s artist) laughingly cuts in. “Oh yeah, there’s that,” Dinh says. “But with a publisher, they already have that network. Publishing means you get [funding], but also they provide marketing, PR help, and stuff that I don’t want to do. I want to make a game, and not do all this other stuff. And that’s important – I think that’s the way forward.”

Headlines

from the virtual front



01. Riot riots

OK, so they haven't rioted per se, but Riot staff have staged a walkout with around 150 employees protesting the company's forced arbitration policies and a more general culture of sexism which is claimed to still exist despite the studio promising reform over the past year.

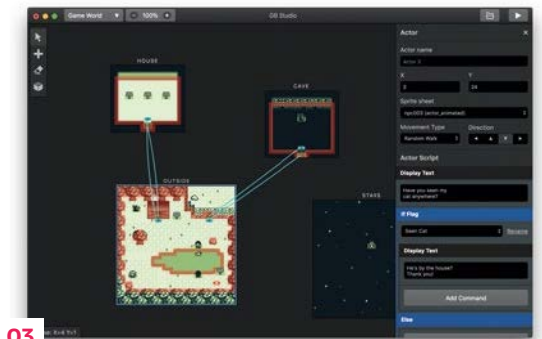
Arbitration policies at Riot have been changed so new hires no longer have to participate in the process, which removes the public justice system from internal disputes, but removal of forced arbitration policies for existing employees had not been enacted at the time of writing. A Riot rep, speaking to Kotaku, said: "We respect Rioters who choose to walkout today and will not tolerate retaliation of any kind as a result of participating (or not)."



02. Boot the loot

Missouri Senator Josh Hawley has introduced a bill called The Protecting Children from Abusive Games Act and hopes to enshrine in US law his belief that loot boxes in games constitute a form of gambling. The bill would stop games for under-18s, or titles "whose developers knowingly allow minor players to engage in microtransactions," (think *Candy Crush*) from featuring loot boxes and other similar elements.

US lobbyist group with publishers' interests at heart, the Entertainment Software Association, responded to Hawley's bill, stating other countries – including the UK – had deemed loot boxes not to be gambling, and that robust parental controls were available on consoles. Not that Hawley is 100% right, but follow the money...



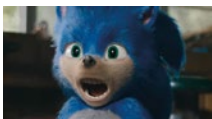
03. Game (Boy) Maker Studio

GB Studio, a free tool produced specifically to create games for the original Game Boy, has launched. Made by Chris Maltby, the dev tool came off the back of a GB game he made for a game jam – several 'disconnected scripts and tools' were brought together into one whole package.

You can make games for emulators, but what makes GB Studio extra special is the ROMs created can also be used on original Game Boy hardware. Visual scripting means there's no actual programming knowledge required, and GB Studio can accept art from near enough any source – though you do have to be able to draw it in the first instance.

You can check out GB Studio over at its home on the interwebs:

wfmag.cc/GBStudio



In case you forgot, here's what Sonic looked like

QuakeCon leaves US for first time; will be held in London, 26-27 July



04. Turn and face the strain

Changes are coming to how EA launches games following a few high profile... underwhelms? Is that a thing? *Anthem* didn't do as well as the publisher had hoped and predicted, basically. EA chief Andrew Wilson pointed out in a financial results call that the gigacorp was already changing how things work behind the scenes, and there will be more obvious tweaks to launches in future.

What this means is a change of focus on elements like QA and dev processes, but also a move to ape the mobile world by introducing things like soft launches – that being where a game is released in a single territory as a test bed. Other tweaks will also see EA move towards conversing more with its players, though why anybody would specifically choose to jump into the comments is beyond us.

05. 'Potato aim'

Microsoft released guidelines on acceptable and unacceptable forms of trash talk after updating its Xbox Live community standards, and quite frankly it's hilarious. Either it was written by some sincerely pure being who has never experienced full bore internet, or it just has to be having a laugh.

Examples of 'acceptable' trash talk – because a lot of us do engage in it, and it can be healthy – include "That was some serious potato aim. Get wrecked," or the mantra for our times: "Get destroyed. Can't believe you thought you were on my level."

The unacceptable stuff, though, is where the harsh words really do come into play: "Hey, that was some serious potato aim. Get wrecked, trash," and... well, the rest is just swearing or racism, really. So genuinely unacceptable. Potato aim, though. *Potato aim*.



06

06. The worm has (re)turned

Earthworm Jim will see another entry to the series with ten of its original creators on board, and the game will release exclusively on the upcoming Intellivision Amico. The return was announced for the series' 25th anniversary, and further details are... sparse, let's say.

The Intellivision Amico, which we missed the existence of given it was announced during our run-up to launch, is set to arrive in October 2020 and focus on low-priced games with no microtransactions or DLC, and it'll basically try to return us to the fabled state of being in the late seventies by only featuring family-friendly titles. Which means *Neo Earthworm Jim* will have to tone it down a bit then, surely?

Epic purchases *Rocket League* dev Psyonix for undisclosed fee



Danish studio Ultra Ultra announces it has 'ceased to exist'; *Echo* will remain on sale

Preview



LUNA The Shadow Dust ↗

A point-and-click adventure with arresting hand-drawn visuals, *LUNA* tells a wordless story with two characters to control and a plethora of puzzles to ponder. Backed by a soaring orchestral soundtrack and – really, just look at it – *LUNA* is one we can't wait to have a closer look at when it releases in the summer.



To The Rescue! ↗

Twice and joyous it might look, running a canine shelter in *To The Rescue!*, but there are darker – real-world – elements at play in the world of dog-saving businesses. Diseases, negative personality traits, and other, sadder factors are still being worked on to make sure they're handled with the care they deserve. *To The Rescue!* might be a fun management title, but it could prove just as good at advocating for the phrase 'adopt, don't shop'.

Doraemon Story of Seasons ↘

How to make a long-running farming series stand out from its forebears? Add a robotic cat-taming from the future! Yes, *Doraemon* is making its way to the *Story of Seasons* world, bringing with it an actual storyline running through the game, rather than just the endless, thankless graft of your usual *Harvests* and *Stardews* and *Stories* of the world.

Somewhat surprisingly, the manga/anime tie-in has been confirmed for a release in the West, so those of us averse to imports will still be able to employ a futuristic cat-bot in aiding with menial tasks like tilling soil and... watering... soil. And it'll be great.



Project Downfall ↗

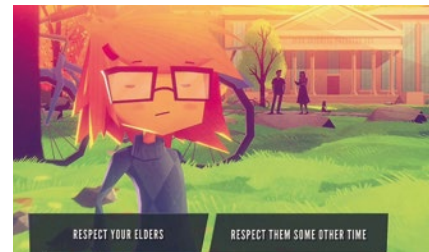
Blending *Hotline Miami* with a retro nineties shooter vibe, *Project Downfall* is already out there in early access but will be continually updated, tweaked, and added to over the coming months (and years). That's a good thing, because this early version is heavy on (terrifying) style, but somewhat lacking in substance. One to keep an eye on for sure, though.





Jenny LeClue – Detectivu ↴

We've been on a bit of a love-in with adventure games recently, and it's titles like *Jenny LeClue* that show why that is. A coming-of-age tale about a young girl's quest to prove her mother's innocence after she's accused of murder, this mystery unfolds across the backdrop of a unique art style and mechanics that are both dynamic – with story elements changing based on your decisions – and that reward curious players.



Vampire: The Masquerade – Bloodlines 2 ↴

Filed firmly under 'sequels we never expected to see', *Vampire: The Masquerade – Bloodlines 2* hopes to hit the ground running following on from 2004's buggy-but-brilliant first-person RPG. This is no great act of bringing the band back together though, with developer Hardsuit Labs contracting original *Bloodlines* writer Brian Mitsoda to pen the sequel's narrative, but with none of the ex-Troika bunch joining in the fun.

This still doesn't particularly dent early hopes for *Bloodlines 2*, which will return to the original's blend of first-person action and in-depth RPG mechanics to tell the story of the

player character – a 'thinblood' vampire – and their travails through a modern-day Seattle during a period of unrest between the varying blood-sucking factions. With Paradox publishing, we can be sure there'll be little in the way of publisher interference to 'dumb down' any role-playing mechanics, so it's fair to assume choice and agency will be a huge factor in the game.

Bloodlines 2's biggest issue so far, then, is the rabid cult following the original has birthed following its underwhelming original release. Fan expectations can be... unrealistic, let's say. Hardsuit faces an uphill battle.

John Wick Hex ↴

It's a John Wick game, so it's from a mid-tier dev and it's an FPS, and it'll be nothing special. Except... *John Wick Hex* is coming from Bithell Games, and it's going to be an action-strategy game, and it actually looks special. This is a confusing timeline we live in, but one that registers a fair bit of excitement. We're going to have to dive deeper into this one.



Finding the Humanity in game design

Understanding the relationships
between games and their players

WRITTEN BY
CHRIS KERR

What does it mean to make people feel something? To string them up like a puppet and have them dance to the beat of your drum?

It might sound like an odd question – the sort of thing you’d overhear at a soiree hosted by Hannibal Lecter – but it’s one that most game developers will have wrangled with at some point in their lives.

When you strip away the polish and look past the technical nuts and bolts, most games stick with us because they tease out powerful emotions. Whether it’s the thrill of victory, the frustration of a hard-fought defeat, or the elation and melancholy of a stirring narrative, our favourites often resonate because they offer the emotional hit we didn’t know we needed.

How though, can devs find the emotional spark that lingers long after the gamepad has been put down? It’s a quandary without a singular answer, and while we could accept that and move on with our lives, it wouldn’t make for a very interesting article. Instead, we went and asked some of the industry’s brightest minds. Turns out they had a few thoughts on the matter.

The whole truth

“I feel like you’re asking what the most challenging part of making art is,” replies *Florence* creative director Ken Wong, when I ask for his take. “What is art, but the attempt to connect with one another, to find deeper truths?”

It’s curious to hear Wong (also founder of *Florence*’s developer, Mountains) dial in on the search for authenticity. Those who’ve played his melancholic narrative-puzzler, charting the path of an ultimately doomed relationship from optimistic beginning to devastating end, will know he succeeded in telling a story that’s wonderfully and painfully honest.

The acclaimed mobile title earns our trust from the word go by walking us through *Florence*’s painfully humdrum life. Most know what it is to be stuck in a rut – to feel like you’re living the same day over and over again – so we instantly relate to the dark-haired girl shuffling lazily across our screens.

“That first level has so much work to do. It has to be interesting enough to the player that they





▲ Developer Karla Zimonja has branded *Gone Home* a “first-person snooper,” because it’s largely about putting your nose in other people’s business.

want to keep playing, but it also has to portray Florence as quite a mundane person, in a not-very-fun part of her life,” continues Wong.

“We want people to like Florence and root for her, even if she’s not strong or heroic. So we’re trying to make her relatable. She snoozes her alarm clock, groggily brushes her teeth, checks social media on the way to work, and has to talk to her mother on the phone even though she doesn’t really want to. The music, the art style, the colour palette, are all geared towards this.”

While some might consider the game’s opening salvo tedious, that’s precisely the point. Players are given time to breathe and reflect on their own experiences as they trudge through Florence’s groggy routine. It allows them to slowly begin projecting onto her, pulling them deeper and deeper into her head space as the narrative becomes corporeal. Then as we’re introduced to the object of her affections, Krish, colour and sound flood our senses. Love blooms, replacing the drab greys and dreary tones of singledom with increasingly vibrant hues and music filled with purpose.

▼ *Tacoma* takes place on a Lunar Transfer Station Tacoma, which serves as an automated cargo transfer point between Earth and the Zenith Lunar Resort on the moon.



▲ The greyscale world Florence inhabits early on reflects her solitude and longing, pulling players back to a similar point in their own life.



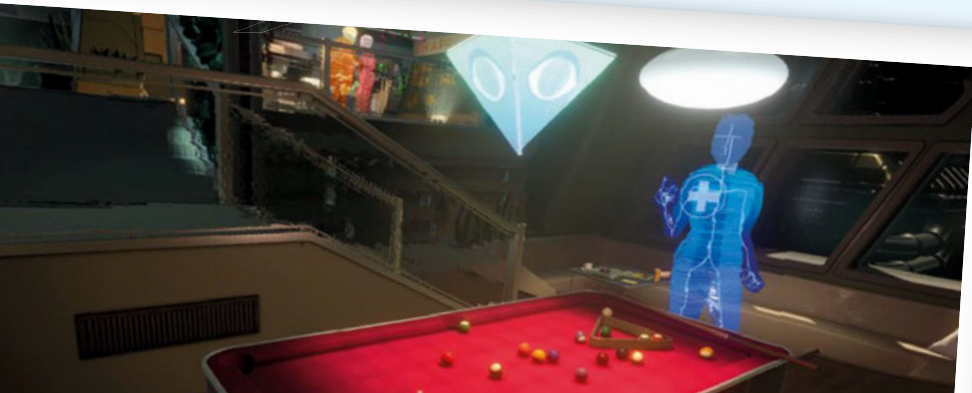
▲ *Virginia* charts the experiences of graduate FBI special agent Anne Tarver as she investigates the mysterious disappearance of Lucas Fairfax in rural America.

Those changes serve to reinforce the notion that time spent with Florence’s new partner is time well spent. When we eventually reach the game’s bitter-sweet conclusion, we’re no longer passengers along for the ride, but active participants reliving our own tales of love and loss. It’s a tough finale to stomach, and one that earns a reaction because of its sincere build-up.

“When they break up, Florence has to ‘let go’ of Krish. To do this, the player has to literally let go of the screen, and allow Krish to simply fade away over time,” comments Wong, explaining how the team made the most of that intimate connection between player and game. “But people can’t resist touching the screen because they’re so used to that, just like they can’t resist contacting or thinking about their ex.”

Wong isn’t alone in his assertion that truth (or the pursuit of it) is what really sells players on a project. As Fullbright co-founder and *Gone Home* developer Karla Zimonja puts it when I ask her a similar question, honesty is the handhold that people reach for.

“The truth is that it’s very hard to make an experience of any sort that’s generic →



Build it yourself

Fullbright believes the 'IKEA effect,' which is basically the notion that the more work you put into something, the more you'll value it, explains why players became hooked by *Gone Home's* build-it-yourself narrative. It's also a concept that explains why you've been clinging onto that tatty IKEA desk chair for the best part of a decade.



and has no identifying markers, because people won't find anything to grab onto," she explains. "Something that has all the edges sanded off is not how we experience the world, so it works much better to create a specific situation. And then, even though people haven't been through that exact situation, it's close enough that people can grab onto it."

She posits that drawing from your own experience is not only invaluable, but absolutely necessary in game development. If you want people to connect with your art, you need to look within yourself and reach an understanding. Find your truth, and share it with the world.

"Using your own experiences, and the depth to which you understand them, is probably one of the most useful things we have in our bag of tricks," she adds. "Massaging those experiences to make them feel like a clear narrative is hard, because life is a mess. It's often hard to make art out of life, but specificity is very important to us, and we find that's the only way to make a relatable narrative."

"It's often hard to make art out of life, but specificity is very important to us"

Human after all

Of course, it's easier to convey that sense of truth when your project revolves around common experiences like a break-up, or a trip back to the family home. How can you hope to elicit a similarly powerful response when dealing with more far-fetched scenarios? As luck would have it, that's a challenge Fullbright encountered with its sophomore effort *Tacoma*, which exchanges the nostalgic 1990s trappings of *Gone Home* for a high-tech space

station drifting above Earth in the year 2088.

The rather drastic switch-up forced Zimonja and the rest of the dev team to think about how players would connect with characters living in a time detached from their own.

Ultimately, they decided to blend their version of the future with the here-and-now, grounding it in as much of our reality as possible.

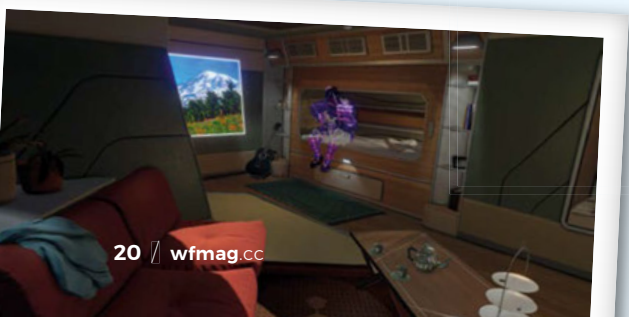
"It was definitely more of an effort, to consider what it meant to be an everyday person in 2088. So what we ended up doing was making the landscape as much of a small leap from what we have today as possible," she explains. "In *Tacoma*, we had seven major characters, and they were all important and had their own arcs and own plot lines. It was a really interesting challenge to think about how to get that information across. We tried to give them all very understandable motives, and keep things as human as possible."

Indeed, clearly showcasing character motivations is imperative. If players begin to second-guess certain decisions, they may begin to fall out of sync with the events unfolding in front of them, resulting in an emotional disconnect that's difficult to mend. That very art of conveyance was something Variable State co-founder Jonathan Burroughs sought to master while serving as game director on *Virginia*, a complex thriller centred around a missing persons case in rural America.

The unorthodox title attempts to tell a complex story without any sort of dialogue or traditional structure. Instead, it steers players through a highly-authored narrative that unravels across a series of painstakingly curated vignettes, each bleeding into one another through use of clever cuts and fades. Deft use of cinematic editing and rigid structure propels proceedings forward at a breakneck pace, but worryingly for Burroughs, also meant players would be stripped of their agency. Aware of the issues that might bring, he sought to humanise his stoic cast through the use of intimate dream sequences and expressive physical performances.



▲ *Tacoma* lets players retrace the steps of the missing crew by recording, fast-forwarding, or rewinding augmented reality holograms.



"One of the first images in the game is the character you inhabit stood in front of a mirror. And they have a pensive expression, an uncertainty to them, and we get an impression of the character in that moment," he explains. "We also featured dream sequences, to allow players to glimpse the inner mind of the character, and perhaps understand their backstory and what was weighing on their thoughts. I think these were to feel empathy for the playable character. And in turn, help you feel what they might be feeling in the various situations they encountered."

Curiously, the Variable State team also didn't put too much stock into how they felt players might react. "We definitely hoped players would feel something from the story, but our barometer for success was really 'did the game make *us* feel anything?' Rather than engineer situations to produce specific feelings, we welcomed a certain ambiguity and created scenarios which interested us, and left it up to the player to feel whatever they may feel."

Leave everything on the page

At this point, it's evident there are some common threads binding our devs together. Honesty, empathy, and intelligible motivations make for a potent glue that seems to bind us to our favourite games. Captivating narratives, stunning visuals, intrepid audio, and polished mechanics all play their own crucially important roles, but players also need to see a small part of themselves reflected back. "Often art will bring to the surface things that the viewer is already feeling or thinking. It's a mirror of their own selves. I see designing games in the same way," chimes Wong. "How the viewer responds is up to them, and will always differ from person to person."



▲ Puzzles begin to get simpler as Florence becomes more comfortable with Krish, giving players a tangible sense of emotional progression.

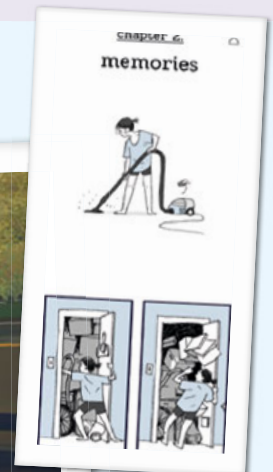


Rather than shirking away from that emotional ambiguity, perhaps it's important to embrace it. No piece of art can be all things to all people, and that's perfectly fine. We cherish some games over others because they seem to be speaking directly to us, as if an entire development team sat down and said, let's make this one just for *them*. It's impossible to predict how the multitude of people on the planet will react to something, but if you can find a "seed of truth" and plant it at the heart of a project, there's a good chance you'll find out.

"That's probably the most important thing," replies Zimonja when asked what advice she'd give to devs striving for a human connection. "Things have to ring true for anyone to care about them. Even if the whole story isn't literally true, which I don't know how it could be, you need to have a seed of truth in there that makes everything else understandable." 🗨️

Indies and inspiration

Florence was borne out of a desire to create a game that eschewed violence, and was specifically inspired by movies like *500 Days of Summer*, *Eternal Sunshine of the Spotless Mind*, and *Titanic*. The Mountains team have previously stated they hoped players would be encouraged to explore their feelings, rather than try and achieve specific goals.



Beyond Machina

Game pioneer Mel Croucher revisits his viral marketing years, from Duracell Bunny games to promises of free beer

WRITTEN BY
MEL CROUCHER

When I turned my back on *Deus Ex Machina* in 1985, I thought all I had to do was wait a couple of years until technology caught up with what had been in my head, so I could recreate it properly. I was wrong. Instead, I had to wait a quarter of a century, first for the internet to be invented, and then for games machines to go portable. Meanwhile, the mirror declared I had grown old. During that quarter of a century I produced things which were not great innovations, but neither were they a complete waste of time. I suffered from the dreadful compulsion to Do-It-First, and it's weird how compulsive Do-It-Firsters never learn what a fundamental error it is to pioneer anything. Looking back, it's clear that the beneficiaries from innovation are developers who wait for the pioneers to cock it all up, extract the essence of success, ditch the crap, and cash in.

In the early 1990s, I produced a video game called *Run The Bunny* for Duracell. It exploited something new called 'email', plus a novel strategy called 'let's stick a floppy disc on the cover of a rubbish magazine in a desperate attempt to attract readers'. It also exploited the age-old concept of piracy, where I actively encouraged players to copy the game.

Today, the industry calls this viral marketing; 25 years ago they called it bonkers. I called it fun. Gameplay consisted of shoving virtual Duracell batteries up the virtual arses of virtual Duracell pink bunnies. The incentive was that if you copied the game and someone you seeded it to won a prize, then you too would win the same prize. Provided I knew who you were, your email address, what hardware you owned, what hardware you wanted to own, and whose oxen you coveted. I produced *Run The Bunny* in eleven languages, mounted it on half a million computer magazine covers for 'free', and I think it was the first viral marketing campaign to go global. Duracell seemed even more pleased than my bank manager.

GOING VIRAL

My favourite viral marketing campaign for a bunch of multinational capitalist bastards involved booze, which was how I squared it with my conscience. One of my clients back then was Bass Breweries, and one of my duties was to encourage students to abandon their studies in favour of the pub. Obviously, Bass had a strategically located pub within puking distance of every university campus, so instead of entertaining the student community with yet more video games, I offered them free beer. All they had to do was tell me when their next drinking session was going to be and which Bass boozery they were going to inflict themselves on, and there would be a free pint waiting for them behind the bar. Well, that was not quite all they had to do. I also needed their email address and those of a dozen mates, to plague them with future offers. And their mates had to attend the drink-up so Bass could sell them enough beer to recoup the bribe of the freebie. I launched the campaign in Portsmouth on Saturday 5 October 1996 by emailing every student union in the UK. By Sunday night, I was getting sign-ups from as



► The faintly nightmarish *Run The Bunny*, a combination of 3D maze game and viral ad for Duracell batteries.



far away as Christchurch. That's Christchurch, New Zealand. Hey, this internet thingy had potential. So I got sidetracked applying it to the careers of various superstars by using the web to harness their fans. Most of the superstars I worked with were nuts, apart from the likes of Prince, Eminem, and Frank Zappa, who were genius nuts.

NEW GODS

One morning, a few years after I hit my 60th birthday, I'd got back home from attending yet another funeral, and my dog went out the back yard for a sniff but dropped dead instead. I was not yet dead, but the clock was ticking, and it was time for a reappraisal. It was time to get back into the video games business. That's what it was. So I decided to reimagine *Deus Ex Machina* for the 21st century.

Well, you'd think the video games world would have changed beyond recognition in the time since I'd quit, but the only things that had really changed were the numbers. When I started out, there were a few thousand video gamers across the globe. When I came back, there were a billion of the little monkeys. Before I quit, I was trying to sell products at a premium price. Then when I wanted to return, most games seemed to be free. But guess what, I wasn't in the slightest bit surprised to discover the games themselves were still nothing more than a load of chess, dice, ping-pong, and bullshit. The graphics were great, though.

There had been the little matter of a mainstream game released in June 2000 by Eidos, the software company founded by another old fart of a UK games veteran, the sainted Ian Livingstone. His company's title was voted the 'best PC game of all time' and it sold more than a million copies, netting a fortune.

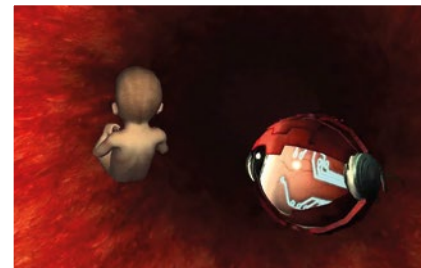
"Today the industry calls this viral marketing; 25 years ago they called it bonkers"

It was called *Deus Ex*, and no sooner had it been released than I was asked by an eager member of the legal profession if I was going to sue them for trading on the name, goodwill, and legacy of *Deus Ex Machina*. I was not. A legal spat would have generated some great publicity, of course, but I had absolutely nothing to publicise. Besides, I would almost certainly have lost. The name of their game was undeniably a truncated version of mine, but their theme was the usual malarkey of kill or be killed, which could hardly be confused with my hobby-horse of non-violence.

Spookily, Ian Livingstone quit Eidos in September 2013 after 20 years at the helm, the week that preview copies of my remake of *Deus Ex Machina* were loosed into the wild. A bizarre coincidence.

Another bizarre coincidence was the key image used in the marketing of their *Deus Ex*. Like the cover of my *Deus Ex Machina*, it was in dark monochrome and featured a solitary face with surrounding hints of a dystopian world, but whereas my artwork had narrow beams of light coming out of one machine, their artwork had narrow beams of light coming out of several machines. Well, sod that. This time around I resolved to wheedle and bribe the greatest actors on the planet, an enormous symphony orchestra, massed celestial choirs, rock legends, plus a programmer or two, and I resolved to make the definitive interactive movie. What's more, I resolved to do it all with other people's money. Which is exactly what I did. But that's another story. ☹

◀ Thanks to a successful Kickstarter campaign, *Deus Ex Machina* returned in 2013, and it was just as surreal as ever.



BREAK TIME

Another of my viral marketing games was called *Take A Break*, for the two-fingered chocolate-mongers at KitKat. Essentially, groups of office workers would stare at a dopey screensaver of a branded planet Earth. As the planet revolved, cities appeared as illuminated beacons, and the idea was for these office workers to eat a whole load of KitKats in order to win a world trip to all the cities they had identified. Again, it was based on the "please pirate me and pass me on" viral principle, and I probably bankrupted several essential corporates due to non-productivity.



▶ Another piece of mid-nineties viral marketing from Croucher, this time for Nestlé's KitKat.



Interactive

Cheering for the underdog in Rog & Roll

We chat to illustrator and game dev Clayton Chowaniec about his underdog platformer, Rog & Roll

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

Won't someone please spare a thought for the poor Goombas? For decades, Mario has cheerfully jumped and stomped his way through adventure after adventure, leaving countless numbers of the series' rank-and-file enemies squashed in his wake. Pittsburgh-based illustrator and solo developer Clayton Chowaniec is, at least, intent on highlighting the plight of video game history's little people – which brings us to *Rog & Roll*, his platform game about a Goomba-like character who finally gets an adventure of his own.

"Rog is kind of my take on the Goomba archetype," Chowaniec tells us, "a tiny, armless monster who's outgunned by everything else around him. I think it'll be interesting to play a platformer from that perspective. In any other game, Rog would get stomped on within the first 30 seconds – but not in this one. Hopefully."

Rog & Roll, then, is a retro-inspired platformer with a twist akin to Disney's *Wreck-It Ralph*: it's about the background characters we'd expect to see in the genre, and what they get up to

when athletic heroes like Mario and Sonic aren't hogging the stage. Rog originally began life as a character in Chowaniec's comic, *Badnix*, before he began thinking about how his story could be transformed into a video game. "So the comic series, *Badnix*, is a story about a video game told from the perspective of the enemy monsters, these underdogs living in the shadows of the

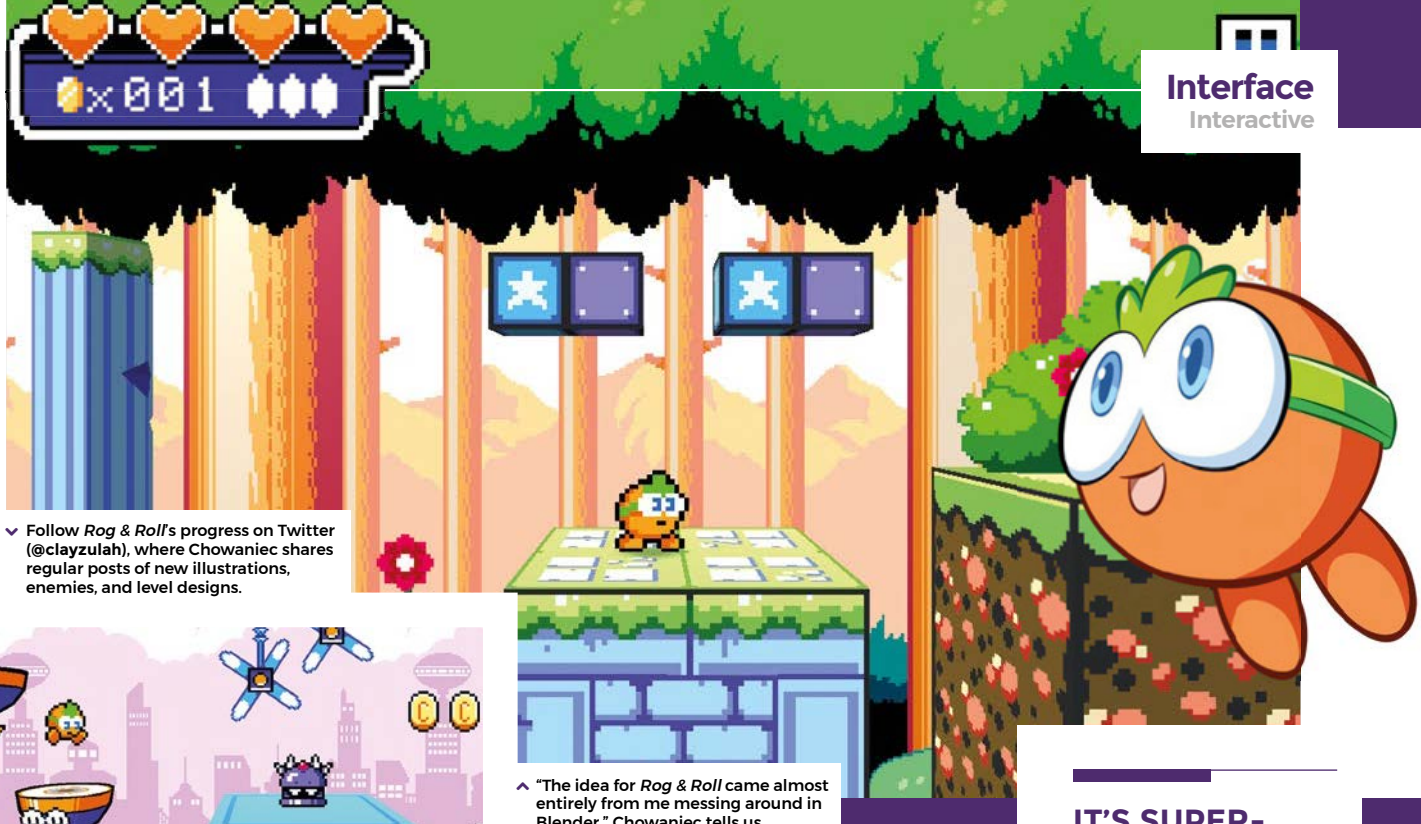
bosses and player characters," Chowaniec explains. "I never really thought much about making it into an actual game – but then I had this idea for a 2.5D pixel art platformer, and I

realised the characters and the world I built for the comic fit with it perfectly. Like the comic, I hope this game feels like you're kind of diving through the screen into an old 8-bit game and experiencing that world from a new perspective."

With an aesthetic that recalls a multitude of games from the NES and SNES era, *Rog & Roll* is being developed with a mixture of Unity and Blender; in fact, Chowaniec recalls that the game was originally born while he was using Blender to make 3D scenes using 2D pixel art, and began thinking that the resulting dioramas would look perfect as the levels in a video game.

"In any other game, Rog would get stomped on within the first 30 seconds – but not in this one"





▼ Follow *Rog & Roll*'s progress on Twitter (@clayzulah), where Chowaniec shares regular posts of new illustrations, enemies, and level designs.



▲ "The idea for *Rog & Roll* came almost entirely from me messing around in Blender," Chowaniec tells us.

ROLL WITH IT

"It's built around a really simple set of mechanics: jumping and rolling," Chowaniec says of *Rog & Roll*'s platforming action. "But there's a lot you can do by combining those abilities – you can chain rolls and jumps to cross gaps, or roll into walls to ricochet off and reach new areas. It's a really movement-driven game, and I wanted Rog's moveset to be an extension of that."

Although *Rog & Roll* is influenced by console games from the eighties and nineties, don't expect the same harsh level of difficulty that marked out NES staples like *Mega Man* or the infamously tough *Mr Gimmick* – instead, Chowaniec describes the game as closer to a friendly romp like *Yoshi's Island*.

"I'm hoping it'll be accessible to everyone," he says, "but I definitely want to reward people who like hunting for secrets and testing themselves against ultra-challenging secret levels."

Chowaniec describes himself as an artist first and a programmer second, and while his other games prove that he's an adept programmer (see boxout), the process of developing every element of a game – from graphics to sound to level design – hasn't been without its challenges.

"For months after I started working on the game, I was still focused on bouncing Rog off untextured cubes and trying to get him to walk up slopes correctly," Chowaniec tells us. "And of course, you never really know if you've got

it 'right' until you've watched other people play your game. Music and sound design have been a big new skill for me over the past few years. It's probably a case of me biting off more than I can chew, but it's something I have a lot of fun doing, and I want to see if I have it in me to score a whole game."

While Chowaniec's keen to handle as many aspects of *Rog & Roll*'s production as he can, he adds that it's not necessarily the right path for every indie developer. "I'm not sure it is important for a dev to be multidisciplinary, or if it's even the best path to go down. I admit I have kind of a romanticism about the *Cave Story* model of doing things, where the whole game is the product of one person's vision – but most of the time I think devs are better off figuring out the areas they're really passionate about, and seeking out a team that can help them with the rest."

All the same, Chowaniec hasn't been entirely alone on his *Rog & Roll* journey: Crescent Moon Games has lent assistance in porting the game to iOS and Android, while other friends and fellow developers have lent their support. And although the game's still deep in development, Chowaniec's hoping that once the PC and mobile versions are ready, he'll be able to figure out which other systems he can port his underdog platformer to – not least that most in-demand of systems, the Switch.

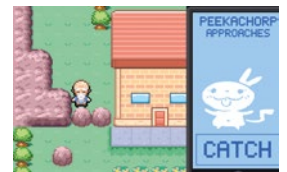
"Hopefully, lots of people will check the game out when it's released, and I'll have the hard data I need to justify bringing *Rog & Roll* to the Switch," Chowaniec says. "And then people can stop badgering me about that on Twitter!" 🐦

IT'S SUPER-EFFECTIVE

Although it's his first commercial release, *Rog & Roll* is far from the only game Chowaniec's created; visit his website (claedalus.com), and you'll find a wealth of miniature experiences to try out, many of them created for game jams like Ludum Dare. Our favourite is *That Pokemon Thing Your Grandkids Are Into* – an affectionate parody of *Pokémon Go* told from the perspective of a grandfather with no understanding of what the game itself entails.

"I wound up cobbling that together in two weeks for a game jam," Chowaniec explains. "This was during the height of the *Pokémon Go* craze, which gave me a lot of material to work with."

"I remember having to write the entire script and design all the maps in the last 24 hours of the jam, which is kind of astounding to me now. I guess that's the power of having a hard deadline hanging over your head."



▲ *That Pokemon Thing*: a fond parody of *Pokémon*, and a disarming little 2D adventure, to boot.

Why aren't games on TV more?



STEVE MCNEIL

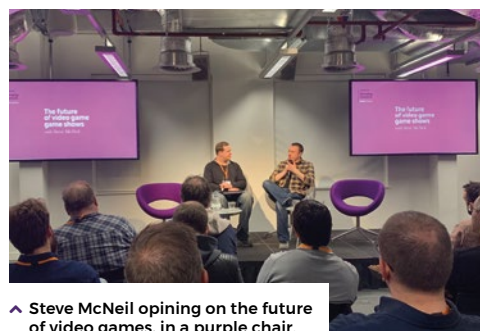
Steve is that bloke off of that thing. No, not that one. The other one.

“The music and film industries are spoiled for choice when it comes to content, yet games are woefully under-represented”

I've just come off stage at a conference entitled *Changing Channels*, organised by BBC Studios and GamesIndustry.biz to explore the convergence between the games and TV industries. Alongside representatives from places like Amazon Games Studios, Lego, and the aforementioned BBC, I'm clearly the odd one out. They're all grown-ups with PowerPoint slides, whereas I'm just a clown that likes Mario.

Having been one of the people behind the creation of the video gaming comedy show *Go 8 Bit*, I frequently get asked why there aren't more shows about gaming on TV, and so it was today. I appreciate I'm preaching to the converted here but, obviously, there should be far more content created for gamers. The music and film industries are spoiled for choice when it comes to content: everything from live concerts, to documentaries, to panel shows and myriad other formats celebrating those art forms. Yet games are woefully under-represented.

It's doubly strange when you consider that, more broadly, 'nerds' are exceptional at consuming 'content'. Statistics provided at today's event illustrated the high correlation between gamers and their binge watching of iconic franchises such as *Game Of Thrones*, the Marvel Cinematic Universe, and so on. Surely a nice chunky series about the history of games, or a competitive gaming show would be devoured by an eager audience?



^ Steve McNeil opining on the future of video games, in a purple chair.



^ It shouldn't have worked, according to execs, but for three series, *Go 8 Bit* did.

And yet, in my experience, TV still doesn't trust games. Of course, there are exceptions. *Go 8 Bit* only exists thanks to the core group of people at UKTV who were willing to take a punt on something received wisdom told us "wouldn't work". Broadly speaking, however, the frequent blockage I come up against when trying to develop new projects is a feeling by non-gaming gatekeepers at channels and production companies that the inherent entertainment value of video games is insufficient to hold the viewer's attention.

Were this true, it would make the existence of Twitch truly baffling. Thousands of Twitch streamers regularly entertain their communities with the simple pleasure of passively watching others play games while having a bit of a chat. Television has plenty of devices available to it which could inject even this most simple of pleasures with additional things to enjoy. In *Go 8 Bit's* case, for example, it was comedians being funny on a massive – and totally unnecessary – rotating stage that added the extra *bit*.

I've also had far too many conversations where TV feels like it would be doing games a service to give them coverage, and "raise their profile". All too often, television simply doesn't understand that it needs gaming far more than gaming needs TV. Furthermore, gaming's got the internet, and that's where Netflix and YouTube live too. If TV continues to ignore games, it does so at its peril. 🙄

Toolbox

The art, theory, and production of video games

28. CityCraft

Studying the designs of two game cities

30. Game dev advice

The power of a positive team culture

32. Commercial development

How to make creative games that sell

36. SIN made simple

Moving objects with the SIN function

40. Source Code

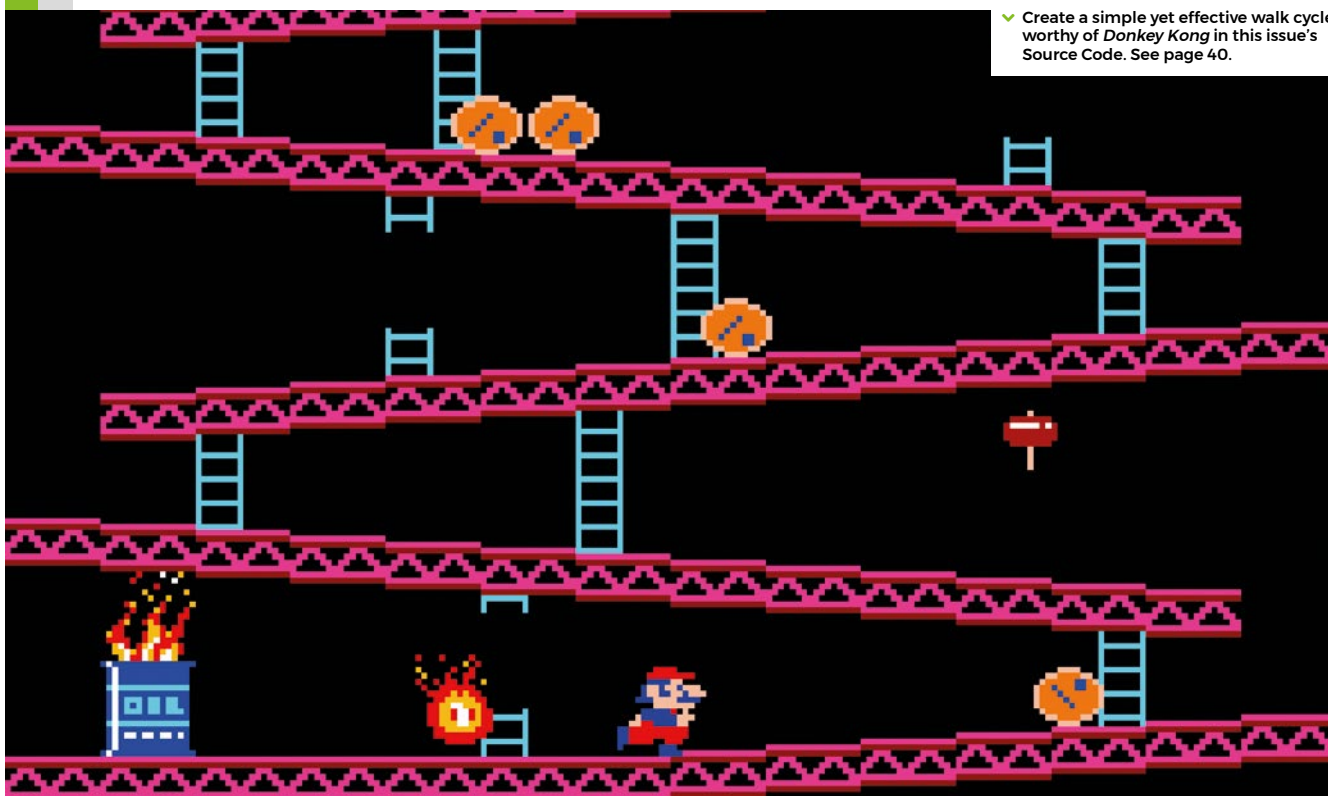
Make a Donkey Kong-style walk cycle

42. Directory

The 30 Years of Play podcast



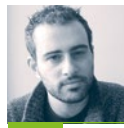
Learn from the design brilliance of existing video game cities like *Half-Life 2*'s City 17 on page 28.



Create a simple yet effective walk cycle worthy of *Donkey Kong* in this issue's Source Code. See page 40.

CityCraft: Studying two game cities

Both New Vegas and City 17 are virtual environments well worth studying, as Konstantinos explains



AUTHOR
KONSTANTINOS DIMOPOULOS

Konstantinos Dimopoulos is a game urbanist and designer, currently working on the *Virtual Cities* atlas, and consulting on several games. game-cities.com

Studying cities always required dabbling in far too many disciplines. Engineering, sociology, geography, art, literature, statistics, topography, architecture, and history are all required to understand and plan settlements, and thus a touch of dilettantism has always been integral to urbanism. Add the equally wide fields of game and level design into the equation, and things can get really daunting really fast, as the intersection of urbanism and gaming allows for (and occasionally demands) far too many approaches.

The best way to begin to understand how to construct a great game city is to look at existing examples. Play in some of the medium's better cities, explore them, see what makes them tick, and try and recognise what they got right, where they failed, and how they managed to hide their shortcomings. You'll be amazed at how much you'll notice when playing with city planning and design in your mind, and how much well-made game cities can teach you.

What follows are some of my observations and notes from the urban centres of *Half-Life 2* and *Fallout: New Vegas*.

EXPLORING CITY 17

Half-Life 2 redefined narrative shooters. Through it, conceptual artist and art director Viktor Antonov and his team demonstrated how urban environments could be so much more intriguing and immersive than corridors when it came to FPS level design and storytelling.

City 17, *Half-Life 2*'s setting, remains to this day a brilliant piece of game design. Its asset usage is modest but clever, and it feels huge, oppressive, and lived-in. Not much of it is actually shown – creating a metropolis of City 17's implied scale would have been impossible back in 2004, and probably even today – and players only get to glimpse it at the game's beginning, and during short breaks that allow them to exit tunnels, sewers, or canals. Yet the sense of a crumbling, once-vibrant city is always present, with carefully selected, richly detailed views reminding players of their metropolitan surroundings.

City 17 is memorable and cleverly laid out. The imposing alien Citadel at its core is a landmark

✓ City 17 as seen by visual artist Maria Kallikaki (from the forthcoming *Virtual Cities* book).





VIVA NEW VEGAS

Unlike City 17, which comprises a succession of levels that create the illusion of a seamless map, New Vegas from *Fallout: New Vegas* actually *is* an open world. New Vegas isn't an amalgamation of several real-world cities, but an abstraction of Las Vegas projected into an alternate post-apocalyptic future. It wears its pop culture Vegas stereotypes, and *Fallout's* signature sense of violent irony, on its sleeve, while finally putting the luck statistic of RPGs to good use. The city embraces Vegas weirdness, with robots policing the strip, Elvis-impersonating gangs, gourmet cannibals, the mob-like Omertas family, and countless gambling opportunities.

The New Vegas Strip – the game's colourful, urban centrepiece that avoided the nukes – is a resettled town of flashy buildings inspired by historical reality. Obsidian based the Lucky 38 casino on the Space Needle-inspired

Stratosphere tower, and the Ultra-Luxe was obviously influenced by Caesars Palace. Using the geography of an actual place, and taking advantage of the liberty

afforded by the post-apocalypse, New Vegas imaginatively recreates a stylised 1950s version of Las Vegas as a walled outpost of civilisation. The retro-futuristic aesthetic of the *Fallout* series is perfectly served by the Googie and Streamline Moderne architecture of the era, and late 1940s and 1950s music, as well as some emblematic 1950s cars. The city's character was constructed around the specialised land uses of gambling and entertainment, and an abundance of blinking lights and signs help to hide its simple design – and the odd missing element here and there.

For added authenticity, several locations in and around Las Vegas, such as Lake Las Vegas, and Searchlight, were rather faithfully recreated, alongside versions of the car Bonnie and Clyde died in, and the famous 'Welcome to Fabulous Las Vegas' sign from 1959. Surrounded by an equally dense Mojave Desert, New Vegas feels convincing and exciting, while hopefully reminding people that imaginary cities cannot believably exist without a believable hinterland. 🗺

that instantly sets the game's tone, and attracts player focus. Its sheer size, and alien-ness, act as a point of reference, as well as an obvious gameplay goal. The tower defines the city, encapsulates its recent history, and provides a landmark that makes City 17 easier to mentally map, and its spatial relations much easier to understand.

That the game's environments closely follow the design of real-life neighbourhoods, and thus contain and express decisions made by real architects and real planners, adds to the sense of realism. We know that what we see isn't real, and yet it feels realistic enough to help suspend our disbelief and immerse us in a dystopian world made of environments based on cities in Bulgaria, Russia, Romania, and Serbia. Valve mixed and matched diverse elements from a variety of settlements, seamlessly combining Budapest's Western Railway Station and the Serbian Parliament in a cohesive place dominated by the yards of Sofia.

City 17 also inherited another quality that was subtle but crucial to its realism: a sense of history. Different technologies and architectural styles coexist in buildings from different eras and political systems. Baroque, Soviet modernism, postmodernism, and eclecticism stand next to each other just as they do in many parts of Europe, only with the subtle addition of the superimposed alien architecture emphasising the new normality of urban life. Like everything else in the city, these combined edifices seem to also be fulfilling very particular civic functions in space (mostly surveillance, and policing).

“City 17 remains to this day a brilliant piece of game design”

◀ New Vegas remains one of the most distinctive – and civilised – settlements in the *Fallout* universe.

▼ *Half-Life 2* made sure to constantly show off its infrastructure, and meticulously researched architecture.



Civic Research Opportunities

Exploring game cities is useful research, since it can provide all kinds of design solutions for your own work. To cover a breadth of genres and city types across various settings, I'd recommend you take a look at the following: Anor Londo (*Dark Souls*), Novigrad (*The Witcher 3*), Kamurocho (*Yakuza* series), Silent Hill (*Silent Hill*), Propast (*Dreamfall Chapters*), New York City (Marvel's *Spider-Man*), Rubacava (*Grim Fandango*), City of Glass (*Mirror's Edge*), Arkham City (*Batman: Arkham City*), and New Bordeaux (*Mafia III*).

The power of team culture

A team with a great culture can move mountains, while a toxic culture can soon lead to trouble, Reid writes



AUTHOR
REID SCHNEIDER

Reid is the producer of *Splinter Cell*, *Battlefield Vietnam*, *Army of Two*, *Batman: Arkham Origins*, and *Batman: Arkham Knight*. Follow him on Twitter: [@rws360](#)

Game development is a team sport. Every day, there are both positive and negative interactions between people making the game – in a positive team environment, people challenge each other to get the best results. This is why culture is so powerful: a team with a great culture can move mountains, and achieve the seemingly impossible. When the environment is strained or negative, however, these interactions can quickly become toxic. I've had the experience of working in both – so you don't have to...

In 2005, I moved back to Montreal after a stint at EA's headquarters in Redwood Shores. EA was happy with my work, and offered me the opportunity to transfer back to their newly opened Montreal Studio, where they were about to work on a new IP – what would become *Army of Two*. I was fortunate to know many of the key players there, since we'd all worked together at Ubisoft on the original *Splinter Cell*.

EA had wanted to establish a presence in Montreal for some time, and when the opportunity to acquire a core team from Ubisoft came up, they jumped on it. There was, however, a problem: Ubisoft was protective of its talent pool, and filed a legal injunction almost as soon as they resigned. Thanks to a non-compete agreement signed by Ubi employees, the team was prevented from working for almost a year. (In hindsight, Ubi was justified; core teams resigning isn't good for business.)

EA, not wanting to back down easily, decided to battle Ubisoft in the courts and press, while it continued the process of building its Montreal studio. Though the *Splinter Cell* team had all

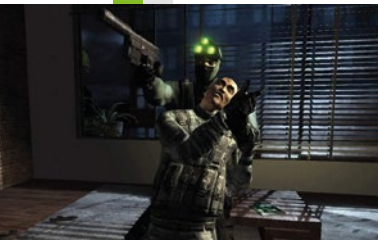
been hired to build a new IP, the studio would also focus on supporting projects from other studios. The DNA of incoming EA Montreal staff therefore changed drastically as well. Recruiting was focused on hiring people to build content, and provide engineering support for other teams. It's important to realise that, generally, a development talent interested in one of these isn't interested in the other; the risk profile of building a new IP (especially at EA) is very different to porting or development support. The net result was a studio without a real identity, and worse, in conflict with itself.

CULTURE AND CLARITY

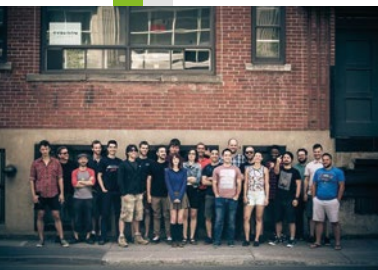
When the *Splinter Cell* core team resumed work after a year of paid holiday (thanks, EA), they entered a studio whose mandate had shifted significantly. They'd left their jobs at Ubisoft to create a studio that would build a new franchise for EA, but now it was a development support house. This 'new' version of the studio also came with some new senior management.

The port/content development team was led by a toxic and power-hungry individual whose goal was seemingly to replace the general manager. The *Splinter* team believed the studio was created to support them building a new IP, and resources should be allocated as such. My mandate, in joining the studio, was to work as the producer on the new IP. To say that put the team – and myself – in conflict with the toxic leader of the support team would be an understatement.

To be fair, the *Splinter Cell* team also had its own share of internal challenges. We had a reputation inside Ubisoft as a group that got



▲ *Splinter Cell* was one of the first games to use a real-time dynamic lighting solution.



▲ To build a culture, it's essential to have a clear goal. If the leadership can't provide clarity of vision and cohesive goals, then you're in for a bumpy ride.



▲ Despite its difficult production, and some mixed reviews, co-op shooter *Army of Two* was successful enough to spawn two sequels.

great results, but were tough to work with. In one case, a Ubisoft executive tried to give the team editorial feedback on a build of the game, but he was literally chased out by the technical director. In retrospect, I probably should have told him not to do that, but *Splinter* was a highly technical project, and we needed the tech director firing on all cylinders.

Now that the *Splinter Cell* team was back in full development mode on *Army of Two*, and the toxic leader was supporting other EA titles, the studio was in the midst of an identity crisis. We lacked a cohesive strategy at EA Montreal, and the teams could feel it. Two distinct cultures began to develop, and there was a frequent ‘us versus them’ mentality. The studio manager was torn between incoming revenue (the porting and support team) and future potential (the *Army of Two* team), and the culture in the studio suffered drastically.

“The *Splinter Cell* team faced weekly poking from the toxic leader”

This really became problematic when people needed to move between teams. It goes without saying that game development is all about team culture and cohesion – it’s this level of trust and support which yield great results. This is the main reason why we frequently see teams who’ve worked well together put out higher quality games: they have a strong culture.


As the culture inside the studio suffered, it became harder for people to work together, and both projects suffered, too. The *Splinter Cell* team faced weekly poking from the toxic leader, who belittled their work to anyone who would listen. In a competitive environment, such as EA, this kind of bad-mouthing took its toll on everyone.

In the end, both teams suffered from a weak studio culture. While the strategy of having a ‘support team’ and a ‘new IP team’ sounds great on paper, it simply didn’t work in this instance.

The studio had been created with a very specific mandate (new IP), and the shift to support and porting (while the founding team was sidelined) was simply too great.

When we started Typhoon Studios, one of our mandates was to always focus on a common goal: one game. Our thesis is that this will drive our culture, and people will feel that we’re all in this together. Though not without its challenges

(and there have been many since we started), we’ve always placed a premium on building a culture inside the studio where people are supported and trusted to do their best work. We also place emphasis on ‘job crafting’ – letting people figure out the best way to do a specific job without micromanaging them. The leads and directors on the team provide guidance, but we also make sure to give people room to do their work in the way they see fit.

This doesn’t mean that people don’t have conflicts or challenge each other – that happens daily. The key difference is that we encourage people to seek out resolutions between each other. It’s often said that culture takes years to build, and only seconds to destroy. Nothing could be more true: positive culture in game development teams needs to be actively cultivated and developed. We’re always watchful of it, and it’s never ‘done’. We need to work on it daily if we want to get the best results out of our teams. 

Engine Trouble

Outside Montreal, EA was also embroiled in a technical crisis of its own: the firm had recently purchased RenderWare to use as a game engine for PS3 and Xbox 360. Unfortunately, the technology was drastically falling short. *Army of Two* had originally been intended to run on RenderWare (like all EA titles at the time), but this quickly fell apart, and the game began development on LithTech – the same engine used for *Medal of Honor: Pacific Assault*. This was a patch, and the team knew it wasn’t shippable. It did, however, buy the team time to make prototypes which showed the game’s promise. Ultimately, the decision was made to move both *Army of Two* and *Medal of Honor: Airborne* to Unreal 3.

Navigating commercial game development

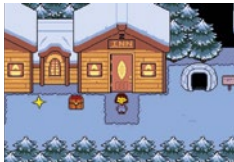
Yes, it's possible to make games that are creative, fun, and commercially successful. Matthew explains how



AUTHOR
MATTHEW TAYLOR

Matthew Taylor is the creative director and co-founder of indie game studio Catch & Release, LLC. catchandrelea.se

✓ We stand on the shoulders of giants. *Stardew Valley* (inspired by *Harvest Moon*) and *Undertale* (inspired by *EarthBound*) were instantly appealing because of their familiar formats.



Everyone in this industry is united by one thing: passion. Publishers show their passion by risking thousands on unknown quantities, developers too often show their passion with late nights and lost weekends, and fans show their passion with their money and time. In the midst of all this passion, it can be easy to forget that we all still have to make a living. That doesn't mean that

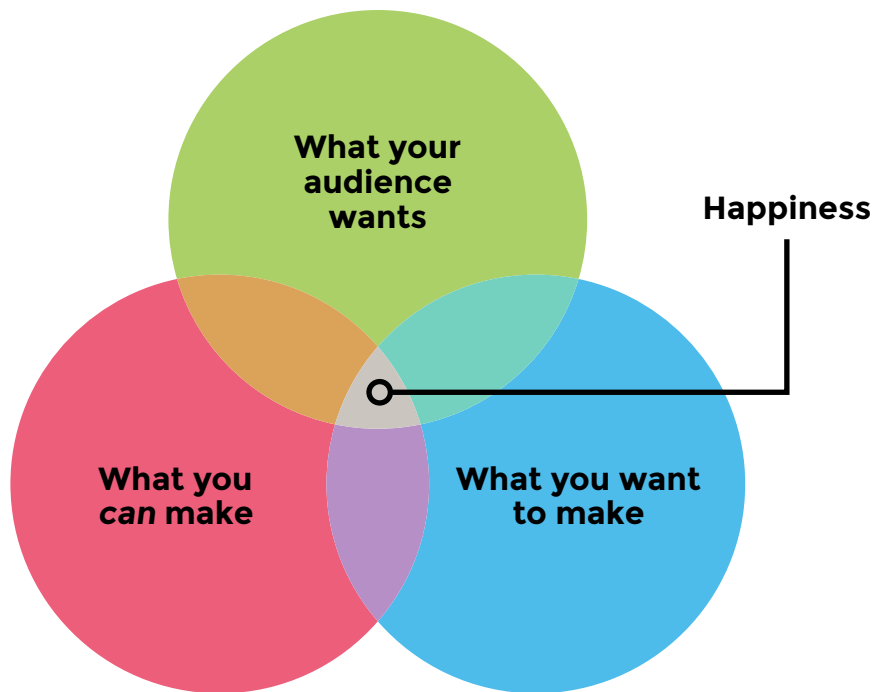
money should outweigh our creative bliss, but it does mean that the pursuit of a comfortable life is nothing to be ashamed of. Making something you love and something that will find an audience should never be considered mutually exclusive. I'd like to offer some advice based on what I've learned about commercial game development in the hopes of turning your indie dreams into a steady(ish) living.

EXACTLY WHAT IS A COMMERCIAL GAME?

I define commercial game development as making games with an audience in mind. For the sake of this article, I'm going to assume that you will achieve your creative goals along the way, but I won't lie that the balancing act of managing our desires alongside what an audience will accept and find appealing is part of the job. Our goal is to break new ground without digging ourselves into a hole that no paying customer will ever see the bottom of.

There's a deceptively simple shortcut to success that I'm sure you've already noticed: make things for an audience that you're already a part of. A ton of famous indie developers have followed this advice because it's an easy way to find an audience, and because you are part of that audience, you'll already know what they're looking for.





◀ **Figure 1:** Making commercial games is a balancing act. Going too far in one direction without considering the others is a recipe for heartache.

THE VENN DIAGRAM THAT RUNS YOUR LIFE

I want to help you visualise the three qualifying factors at play when vetting your next game idea for commercial potential. Take a look at **Figure 1**.

The blue circle represents all the things you want to make. This is where your science-based, 100% dragon MMO lives. The yellow circle is all the things you can make right now, with your skills, your budget, and so on. Finally, the green circle represents the game your audience wants to play. The intersection where you're happiest: making something you can accomplish, something that you are excited to make, and something that – based on your research, experiences, and conversations – a significant number of people want to play.

To help reinforce this idea, let's see where the games my studio has created fall on the diagram, for better and for worse.

Star Billions was our first game, and creatively, it was fun to make. It's a visual novel with cute characters and unique features. We made it on a minuscule budget, but we got a surprising amount of press, including a front-page article on Polygon. Unfortunately, that didn't translate to sales. This was a blessing in disguise: if you release a game and no-one knows about it, you just blame your lack of marketing skills and move on. If you release a game that gets

press and still can't find an audience, it's safe to assume that no-one was asking for that game.

That was the challenge with *Star Billions* as a commercial product. Hardcore sci-fi with deep philosophical implications paired with cute *Animal Crossing* characters is interesting, but I have to forgive every prospective player who asked themselves before pressing the buy button: "Why?"

Our next game was *Cold Iron*. We made more technical progress this time, like jumping to 3D, VR, and a new engine all at once, which meant

that the 'what we can make' bubble inched a little closer to the centre. Unfortunately, we still hadn't caught on to the audience portion

"Everyone in this industry is united by one thing: passion"

of the Venn diagram. We were developing for a platform (VR) instead of a particular audience. This meant that the conversation began and ended with one question: "What's the coolest VR game we can make?" We got lucky that *Cold Iron's* Weird West aesthetic and challenging gameplay appealed to a hardcore VR market, but that's all it was: luck.

Rolling Hills is our current game in development. It's inspired by games that we (and many others) love, like *Animal Crossing* and *Fantasy Life*. It also looks and feels like the kind of game we've always wanted to make. That's a major milestone for us as a company, and for me personally as a creator. (Note: If *Rolling* ▶

HITMAKERS

For more on the MAYA principle (see page 35), familiarity, and what unites 'hits' across all mediums and genres, check out *Hit Makers: The Science of Popularity in an Age of Distraction* by Derek Thompson.

▼ *Cold Iron* performed well, but it's still important to consider which elements were your own doing and which were luck. Otherwise, there's nothing to learn.





▲ For *Rolling Hills*, knowing our intended audience is important for many reasons. Perhaps most importantly, it allows us to craft an aesthetic that piques their interest.

YOU HAVE TO LOVE IT

Never forget that your passion is an asset. Players love games that pack an emotional punch. If you need proof of that, read user reviews for games like *Night In The Woods* and *Wandersong*. Word-of-mouth is an important part of marketability, and audiences are more likely to talk about games that made a heartfelt impression.

Hills bombs, feel free to shove this article in my face.) For now, my only proof is that I'm happy to come to work every day, and even though we're still a couple of years from release, *Rolling Hills* has already elicited a more positive and enthusiastic response than any of our previous games. Most importantly, that response is coming from my intended audience which – you guessed it – includes me.

As you can see, the Venn Diagram That Runs Your Life is not something I pulled out of thin air; it's the result of both failure and success as an indie developer. The goal of creative life is to move these three circles closer to one another with every project. If you can do that, you'll find yourself making cooler and cooler things, and that's why we become indie developers in the first place.

THE IDEA IS JUST THE START

You've done your research, you've examined what you can make, what you want to make, and what your audience wants to play. You've got the perfect idea. Now it's time to look at the most common problems in commercial development. In doing so, we'll make sure our idea isn't going to make these hurdles even harder to jump.

MONEY

Money is at the heart of commercial game development because we not only hope to recoup what we put in, but to make a reasonable profit as well. This is why breaking the bank in pursuit of your first idea is such a risky proposition. You will make mistakes regardless of how smart and talented you are,

and those mistakes may mean you never get your money back.

Saying that your current game should fund your next one is obvious. I mean, that's what a business is, right? Despite this, developers convince themselves that swinging for the fences is the only way to make something worthwhile. This couldn't be further from the truth. Start small, think clearly about the 'what you can make' portion of the Venn diagram, and work from there. If it sells, rinse and repeat. Invest more in the next game, and make sure you put what you learned from the first game into the second one. If it doesn't sell, be honest with yourself about why, then get back on your horse.

The internet is full of angry indie developers who swear that we're all living through the indie apocalypse. In my experience, these tend to be people who spent years on their first game and feel cheated that it wasn't a hit. Don't expect to hit a home run the first time you swing the bat – just keep swinging.

TIME

Even young developers feel the time ticking away. There are moments when everyone else seems more successful than you, and you're rushing to figure out how and why. In the midst of that doubt, remember to trust yourself and your process. Commercial game development is a journey, not a vacation. You don't climb to the top of the mountain, become enlightened, and come back down as a game developer. If you tell yourself that you're going to give it one shot and that's it, you're setting yourself up for failure. This industry is full of creators who started small, made mistakes, and learned from them. I hope you'll be one of them, no matter how much time it takes.

TALENT

Game development demands a lot of different skills. Between designing, writing, programming, and animating a game – to name only a few of the fields involved – it can feel like you'll never be ready to get started. Many devs just need a nudge to get started: when we first broke ground on *Star Billions*, my partner had a few years of programming experience, and I'd studied music and writing. But what if we'd decided to make a different game, one with sprawling worlds full of highly-detailed 3D models?

You may not be happy to hear this, but if you need to hire someone to make your game and you can't afford it, then you're making the wrong game. Constraints encourage creativity, so design a game that revolves around the strengths you have today. You can always revisit your more ambitious ideas later once the 'what you can make' portion of the Venn diagram inches a little closer to 'what you want to make', whether by hiring someone with those skills or mastering them yourself.

The important part is figuring out what you can make today. Don't get stuck honing your skills. Finishing a project is a skill worth honing. A buggy game will always be more fun than an unreleased one. If you need inspiration, look to *Celeste*, a game that won every award under the sun. It's powered by an ugly player script with over 5000 lines of code. It breaks every clean coding principle you can think of. And it's perfect.

Think of an audience that you're a part of, design a game that they want to play, and make it as fast and as fearlessly as you can.

IT'S A HIT... I THINK

I want to conclude by asking a simple question. It's in the back of everyone's mind when they make a game with commercial intent: "Is this a hit?" If I knew the answer, I probably wouldn't have to introduce myself when I write an article like this one. But I can tell you one thing that unites everything I've told you about making games with an audience in mind: MAYA.

The industrial designer Raymond Loewy spent a 50-year career leaving his mark on architectural, interior, product, and graphic

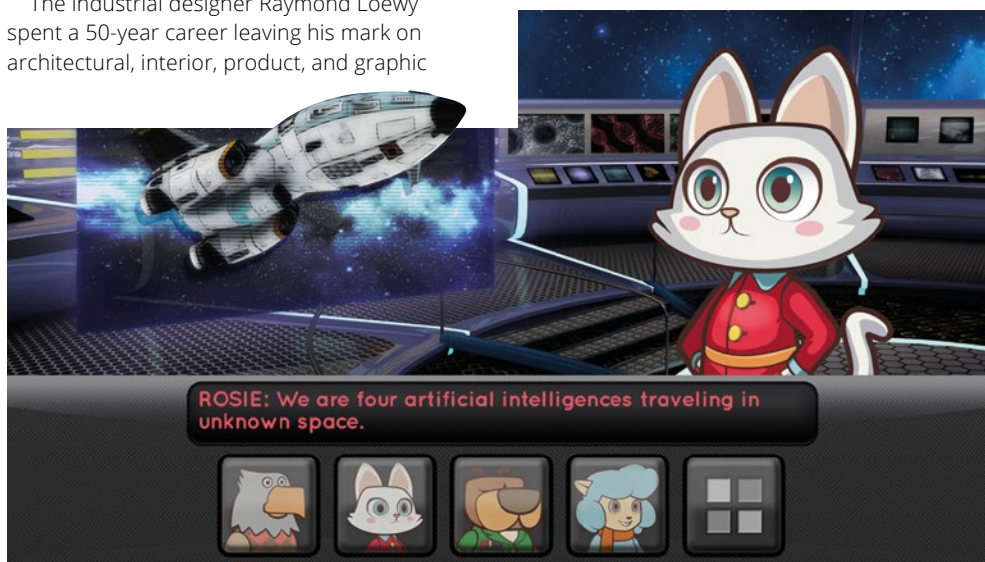
design. In all of that success, he had one guiding principle: Most Advanced Yet Acceptable (MAYA). The idea is that there's a sweet spot between total familiarity and total innovation where comfort and surprise converge to make something exciting but approachable. This concept pairs exquisitely with the Venn Diagram That Runs Your Life, because we want to make something wildly innovative that still rises to meet the expectations of a demanding audience. MAYA is an excellent tool when thinking about commercial game development. It's why a game like *Stardew Valley* rockets into the gaming stratosphere. Its creator took an acceptable concept and advanced it in brilliant ways.

CONCLUSION

Some readers might consider me a cynic. Commercial interests are often at odds with creative ones, but it isn't my intention to tell you to trade in your dreams for more profitable ones. Instead, I want to help you forge a path toward making your most ambitious ideas, and I want to show you how to turn the spotlight on them. The life of an indie developer is hard. It takes hard work just to finish a game, and harder work still to sell it. Whether you want to climb a hill or Mount Everest, it all starts with one step. You have to take the first step, but by being a part of your own audience, building on smaller successes, and mastering MAYA, you can reach the top. ☺



^ *Celeste* from Matt Thorson and Noel Berry may be backed by imperfect code, but it's a triumph in every category that matters.



ROSIE: We are four artificial intelligences traveling in unknown space.



< A big component of success in the Twitter age is making players understand how they'll interact just from a screenshot. *Star Billions* failed this test.

SIN made simple

If a fear of maths is holding you back, here's a guide to using the SIN function



AUTHOR
CLIVE TOWNSEND

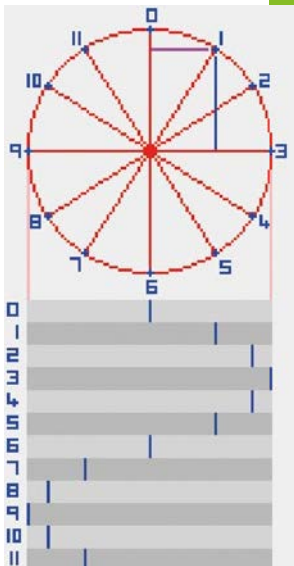
Clive Townsend is an industry veteran best known for the 8-bit *Saboteur* games, which he's now bringing to modern platforms.

I hate doing maths. Not just square roots, and sines and cosines, but also division. Having grown up with underpowered computers with limited instructions, I prefer to avoid doing anything too complicated if I can avoid it. Sometimes the best way to avoid actually doing maths is to figure out the bare minimum that needs to be done, and do it without using obvious solutions. In this little guide, we'll take a look at a bit of trigonometry, and how we can use the SIN function to move an object around on the screen. By breaking things down, we can make a complicated-sounding process quite simple.

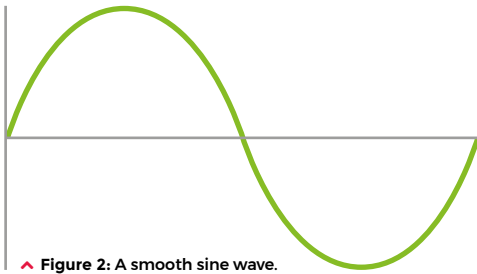
To start, imagine an old clock. Twelve is at the top, and the numbers one to eleven go round the outside. Now let's turn it into a programmer's clock, with zero at the top instead of the number twelve (see **Figure 1**). Far more sensible. As one of the hands rotates around the clock, we can make a list of the hour, the angle of the hand, and the position of the end of the hand compared to the middle of the clock.

The purple line shows the distance across to 1 o'clock. From here, we drop a line down and mark its position in the 1 section of the chart. Viewing it this way, it's easy to make a table of the across percentages. We can also do the same for the up/down percentages.

✓ **Figure 1: A programmer's clock, showing sine and cosine values.**



0 o'clock	0 degrees	0 percent across	100 percent up
1 o'clock	30 degrees	50 percent across	87 percent up
2 o'clock	60 degrees	87 percent across	50 percent up
3 o'clock	90 degrees	100 percent across	0 percent up
4 o'clock	120 degrees	87 percent across	50 percent down
5 o'clock	150 degrees	50 percent across	87 percent down
6 o'clock	180 degrees	0 percent across	100 percent down
7 o'clock	210 degrees	50 percent backwards	87 percent down
8 o'clock	240 degrees	87 percent backwards	50 percent down
9 o'clock	270 degrees	100 percent backwards	0 percent up
10 o'clock	300 degrees	87 percent backwards	50 percent up
11 o'clock	330 degrees	50 percent left	87 percent up



▲ **Figure 2:** A smooth sine wave.

And you're back to zero again.

It turns out that the across value traces out a neat (but chunky) sine wave, getting big quickly, slowing down, then heading back to zero, then repeating this pattern to the left. Imagine a shipwrecked sea captain bobbing up and down on a wave (see **Figure 2**).

Ignoring the o'clock and degrees, because we know we're doing a full circle, we can make a more geeky version of the last two columns.

Column 3:

0, 50, 87, 100, 87, 50, 0, -50, -87, -100, -87, -50

Column 4:

100, 87, 50, 0, -50, -87, -100, -87, -50, 0, 50, 87

Column 3 is actually a list of the sine (SIN) values corresponding to the angle of the hand as it moves around the clock. Column 4 is a list of the cosine (COS) values for the same angles. Combined together, the SIN and COS values for each hour give us the x and y position of the tip of the hand.

As you see, the COS values are actually an identical copy of the SIN values – just shifted along three 'hours'.

There's little point keeping two copies of the same thing, so I'm going to ignore column 4 from now on.

So we're left with column 3, our sine table. I'll rename it to SinTab for clarity.

SinTab:

0, 50, 87, 100, 87, 50, 0, -50, -87, -100, -87, -50

Actually, the second half of this table is the same as the first – but negative – so if we were really short of memory we could just store the first half and have a slightly more complicated way to access it.

(In fact, the second quarter is a reflection of the first, so if we were really, really short of memory, we could do a similar thing with that, too.)

Time to draw our unlucky sailor, Bob, on the screen. We'll give him an X and Y position, and a 'clock' value to remember how far through his bobbing animation he is.

```
bob_x_position = 100
bob_y_position = 100
clock_rotation = 0
```

And then in the main loop of our game, we'll draw him like this:

```
y_offset = SinTab[clock_rotation]
drawbob(bob_x_position, bob_y_position + y_offset)
clock_rotation = clock_rotation + 1
if clock_rotation = 12 then clock_rotation = 0
```

Each time Bob is drawn, he gets a different vertical offset from our list of twelve entries (see **Figure 3**).

Note that we don't move Bob based on his current graphical position. We always recalculate his graphical position based on the clock value and his centre point. This is important, and we'll see it again later.

A MULTITUDE OF SINS

Hey – Bob's been rescued! By, er, an alien. He's now in orbit around the Earth (**Figure 4** overleaf).

We'll need both the SIN (the distance from the centre of Earth to the blue line) and the ➔

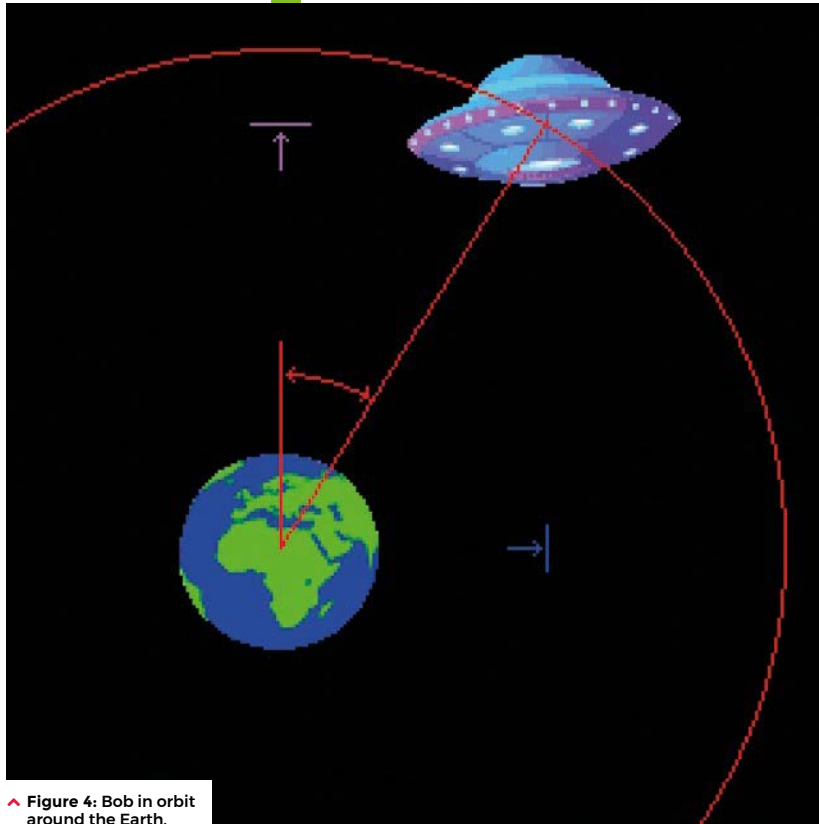
NOTES

The code shown here isn't any particular language – it's pseudocode to convey the general idea.

Likewise, I've used values like 100,100 as an example. Depending on your platform, some ideas may work better than others. Perhaps your Floats are quicker than Ints, or you break your cache. Try a different algorithm before you optimise your code. Feel free to experiment and find the best solution for your particular situation.



▼ **Figure 3:** Each time Bob is drawn, he gets a different vertical offset.



^ Figure 4: Bob in orbit around the Earth.

> Figure 5: See that pixel in the middle of the curve? We can avoid this - and draw a smoother curve - by clipping our maximum and minimum SIN values.



RADIANS

Radians are actually the SI unit for measuring how far round a circle you've gone. One radian is about 57.3 degrees, making them quite chunky. To measure a complete circle, you'd only count up to six in radians, so you'd need to use something instead of an Int to store your rotation value in. If you need to do any maths with radians, just remember this: π radians = 180 degrees.

COS (the distance from the centre of Earth to the purple line) of the 'hour' angle to work out where to draw the spaceship.

Remember how the COS table was the same as the SIN table - just offset slightly? The tables are offset by three table entries, because in our system three hours represents a 90-degree rotation - just like on the original clock. So we can get the cosine value by adding three to our angle then looking it up in our sine table. Our table has only twelve entries (0 to 11), so if adding three to our angle will push us over eleven, we'll get an error. But now we are aware of that, we can allow for it.

Our code starts the same as before:

```
bob_x_position=100
bob_y_position = 100
clock_rotation = 0
```

And in the main loop:

```
y_offset = SinTab[clock_rotation]
cos_rotation = clock_rotation+3
if cos_rotation>11 then cos_rotation=cos_
rotation-12
x_offset = SinTab[cos_rotation]
```

```
drawbob(bob_x_position+x_offset,bob_y_
position+y_offset)
clock_rotation=clock_rotation+1
if clock_rotation=12 then clock_rotation=0
```

Now Bob should be spinning around the 100,100 centre point. But he's not happy about it - he's completing one whole rotation every twelve frames. Wouldn't it be nice if he could rotate more slowly and smoothly? Well, for that we'll need a bigger and more detailed table of SIN values. And what if we wanted a different size orbit for Bob? We need to add a scale value to our calculations.

SIN CITY

We've been using our own system of angles so far, where every hour is 30 degrees. So 60 degrees is 2 o'clock, and the value at position two in our list is the SIN of 60 degrees, 87%. But actual sine values range from minus one to plus one, not minus 100% to plus 100% like our list. And normal folk use 360 degrees to represent a circle - not twelve 'hours'.

So we're going to make a bigger table and pick some nice numbers for the size of the table and the sine values themselves. In the olden days, I'd draw an ellipse with Deluxe Paint and count the number of pixels on each row - but that's only handy for small, one-off tables.

"We need to add a scale value to our calculations"

Using a high-level language, we're going to create a table that is 256 entries long, with values ranging from -127 to +127. We'll use the high-level SIN function, then store the results as a binary file (or a text file to cut and paste into our source code) for use in our game.

```
for d = 0 to 255 // our new system has 256
degrees in a circle
    nd = d*360/256
    // get the angle in normal degrees
    sin = SIN(nd) // use high-level
SIN function to get a value -1 to +1
    sin = sin*128
    // scale up the sine value
```

```
SinTab[d]=sin
// store it in our table
next d
save_array(SinTab)
```

This looks like it should work – but it has two problems. Most of the values close to the 3 o'clock position will be just under 128 – for example, 127. At three exactly, the value will be 128, making the table have a tiny ‘bobble’, or errant pixel – see **Figure 5**. For this reason, we detect and clip any values over 127 or under minus 127 to give a much smoother curve. Also, computers prefer to work in Radians (see boxout) instead of degrees, so we have to tweak the maths a bit. The new version looks like this:

```
pi = 3.14159
for d = 0 to 255 // 256 degrees in a circle
  nd = d*360/256
  // get the angle in normal degrees
  nd = nd*pi/180
  // convert to radians
  sin = SIN(nd) // use high-level
SIN function to get a value -1 to +1
  sin = sin*128 // scale up the
sine value
  if(sin>127) sin=127;
  // clip the maximum value
  if(sin<-127) sin=-127;
  // clip the minimum value
  SinTab[d]=sin
  // store it in our table
next d
save_array(SinTab)
```

Perfect! Now your table is ready to be used.

THE WAGES OF SIN

We’re all set to give Bob a smooth, luxury tour around Earth. Here’s our new code:

```
bob_x_position = 100
bob_y_position = 100
radius = 100 // size of Bob’s orbit
clock_rotation = 0 // our new ‘clock’ counts
from 0 to 255 instead of 0 to 11
```

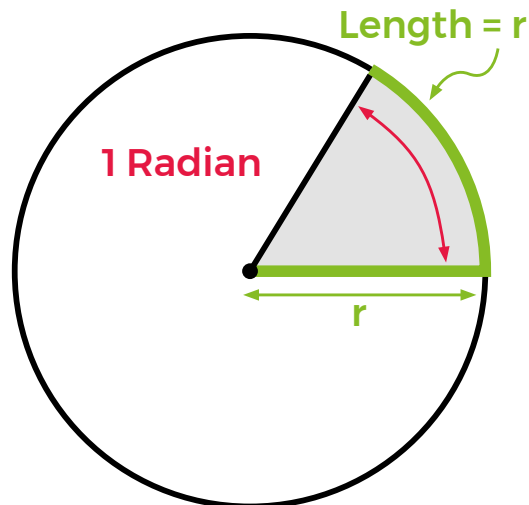
And in the main loop:

```
y_offset = SinTab[clock_rotation]
y_offset = y_offset*radius/128
```

```
// Scale the size of the orbit
cos_rotation = clock_rotation+64
// 64 is a quarter turn in our new system
cos_rotation = cos_rotation & 255
// Make sure cosine value is in the range
0-255. Not needed if value is a BYTE
x_offset = SinTab[cos_rotation]
x_offset = x_offset*radius/128
// Scale the size of the orbit
drawbob(bob_x_position+x_offset,bob_y_
position+y_offset)
clock_rotation=clock_rotation+1
clock_rotation = clock_rotation & 255
// Make sure master rotation value is in the
range 0-255. Not needed if value is a BYTE
```

We’ve used an AND operation as a quick (or sometimes absent) and non-branching way to keep our values in check, which is possible because of the sine table’s size. And although we’ve used two multiply instructions in our loop, note that we haven’t used a divide. If your compiler doesn’t do it for you, you can replace the /128 with a quick bitwise shift – made possible by having our sine values as a nice power of two. And there you go! Happy Bob.

So next time you find yourself working with no memory, processing power, or advanced trigonometrical functions, you won’t worry about the lack of SIN or COS. You can make your own! And if you hated trigonometry at school, perhaps you’ll prefer this way of looking at how SIN and COS values are calculated. 🌐

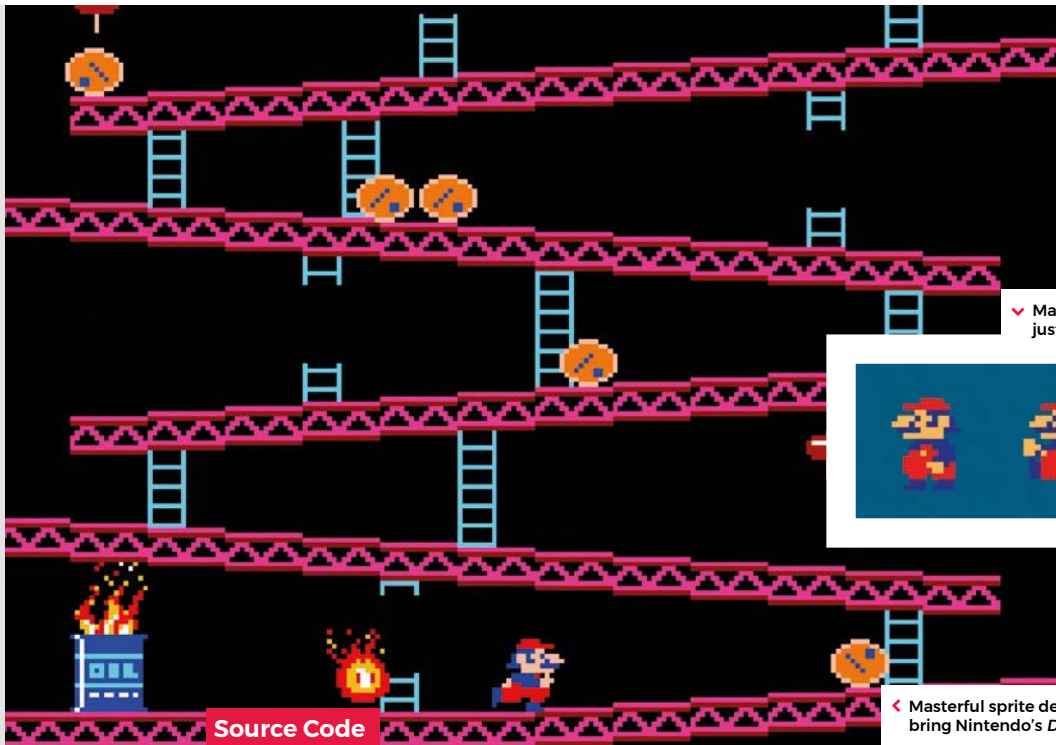


TRICKS

Sometimes, things which are right mathematically don’t look right when they’re up and running in your game. And sometimes in games, it’s better for things to *look* correct and be fast, than be correct but slow.

If, of course, you need to do something accurately, then do it properly. But even with faster processors, using tricks can free them up for other, better things.

◀ **Figure 6:** One radian is about 57.3 degrees.



✓ Mario's walk cycle comprised just three frames of animation.



◀ Masterful sprite design and animation helped bring Nintendo's *Donkey Kong* to life in 1981.

A Donkey Kong-style walk cycle



AUTHOR
RIK CROSS

Effective animation gave Donkey Kong barrels of personality. Rik explains how to create a similar walk cycle

Donkey Kong wasn't the first game to feature an animated character who could walk and jump, but on its release in 1981, it certainly had more personality than those that came before it. You only have to compare *Donkey Kong* to another Nintendo arcade game that came out just two years earlier – the half-forgotten top-down shooter *Sheriff* – to see how quickly both technology and pixel art moved on in that brief period. Although still simple by modern standards, *Donkey Kong*'s hero Jumpman (later known as Mario) packed movement and personality into just a few frames of animation.

In this article, I'll show you how to use Python and Pygame to create a player with a simple walk cycle animation like Jumpman's in *Donkey Kong*. The code can, however, be adapted for any game object that requires animation, and even for multiple game object animations, as I'll explain later.

Firstly, we'll need some images to animate. As this article is focused on the animation code and not the theory behind creating walk cycle images, I grabbed some suitable images created by Kenney Vleugels and available at opengameart.org.

Let's start by animating the player with a simple walk cycle. The two images to be used in the animation are stored in an `images` list, and an `animationindex` variable keeps track of the index of the current image in the list to display. So, for a very simple animation with just two different frames, the `images` list will contain two different images:

```
images = ['walkleft1', 'walkleft2']
```

To achieve a looping animation, the `animationindex` is repeatedly incremented, and is reset to 0 once the end of the image list is reached. Displaying the current image can then be achieved by using the `animationindex` to reference and draw the appropriate image in the animation cycle:

```
self.image = self.images[self.state][self.animationindex]
```

The problem with the code described so far is that the `animationindex` is incremented once per frame, and so the walk cycle will happen way too quickly, and won't look natural. To solve this problem, we need to tell the player to update its animation every few frames, rather than every frame. To achieve this, we need another couple of variables; I'll use `animationdelay` to store the number of frames to 'skip' between displayed images, and `animationtimer` to store the number of frames since the last image change.

Therefore, the code needed to animate the player becomes:

```
self.animationtimer += 1
if self.animationtimer >= self.animationdelay:
    self.animationtimer = 0
    self.animationindex += 1
```




An animated walk cycle in Python

To get Rik's code running on your system, you'll need to install Pygame Zero – you can find instructions at wfmag.cc/pgzero

```
# the Player() class is a subclass of Actor()
class Player(Actor):
    def __init__(self, **kwargs):
        super().__init__(pos = (200,100), image='stand1',
        **kwargs)
        self.state = 'stand'
        self.animationdelay = 10
        self.animationtimer = 0
        # a list of image for each player state
        self.images = { 'stand'      : ['stand1'],
                       'walkleft'   :
        ['walkleft1', 'walkleft2'],
                       'walkright'  :
        ['walkright1', 'walkright2']
        }
        # the index of the current image in the image list
        self.animationindex = 0

    def update(self):

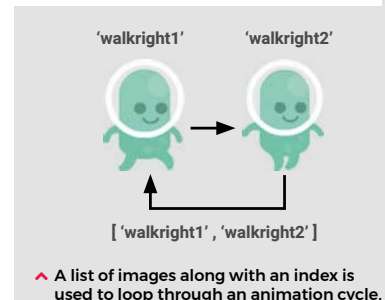
        # update position and state based on keyboard input
        if keyboard.left:
            self.x -= 1
            self.state = 'walkleft'
        elif keyboard.right:
            self.x += 1
            self.state = 'walkright'
        else:
            self.state = 'stand'
```

```
# update animation by incrementing timer
# and updating sprite image if timer limit reached
self.animationtimer += 1
if self.animationtimer >= self.animationdelay:
    self.animationtimer = 0
    self.animationindex += 1
    if self.animationindex > len(self.images[self.
state]) - 1:
        self.animationindex = 0
        self.image = self.images[self.state][self.
animationindex]

# create a new player
p = Player()

def update():
    p.update()

def draw():
    screen.clear()
    p.draw()
```



State	First image (List element 0)	Second image (List element 1)
'stand'	'stand1'	
'walkright'	'walkright1'	'walkright2'

◀ Animation cycles can be linked to player 'states'.

```
if self.animationindex > len(self.
images) - 1:
    self.animationindex = 0
    self.image = self.images[self.
animationindex]
```

So we have a player that appears to be walking, but now the problem is that the player walks constantly, and always in the same direction! The rest of this article will show how to solve these two related problems.

There are a few different ways to approach this problem, but the method I'll use is to make use of game object states, and then have different animations for each state. This method is a little more complicated, but is very adaptable.

The first thing to do is to decide on what the player's 'states' might be – **stand**, **walkleft**, and **walkright** will do as a start.

Just as we did with our previous single animation, we can now define a list of images for each of the possible player's states. Again, there are lots of ways of structuring this data, but I've opted for a Python dictionary linking states and image lists:

```
self.images = { 'stand'      : ['stand1'],
                'walkleft'   :
        ['walkleft1', 'walkleft2'],
                'walkright'  :
        ['walkright1', 'walkright2']
        }
```

The player's **state** can then be stored, and the correct image obtained by using the value of **state** along with the **animationindex**:

```
self.image = self.images[self.state][self.
animationindex]
```

The correct player state can then be set by getting the keyboard input, setting the player to **walkleft** if the left arrow key is pressed or **walkright** if the right arrow key is pressed. If neither key is pressed, the player can be set to a **stand** state; the image list for which contains a single image of the player facing the camera. For simplicity, a maximum of two images are used for each animation cycle, and adding more images would create a smoother or more realistic animation.

Using the code above, it would also be possible to easily add additional states for, say, jumping or fighting enemies. You could even take things further by defining an **Animation()** object for each player state. This way, you could specify the speed and other properties (such as whether or not to loop) for each animation separately, giving you greater flexibility. 🐹

Directory

The 30 Years of Play podcast

Hear the stories behind the biggest British video games from the people who made them

GET INVOLVED

Do you have an online tutorial you'd like to share with readers? Have you created an online resource that other game developers might find useful? Maybe you have a local code club you're keen to promote? If you have something you'd like to see featured in the Directory, get in touch with us at wfmag.cc/hello

Are you a podcast fan? Are you interested in hearing a host of lively inside stories from around the games industry? Then look no further than the *30 Years of Play* podcast from Ukie.

Hosted by video games writer George Osborn and dropping once a fortnight, the show aims to tell the stories behind the making of some of the biggest video games to emerge



from the UK by interviewing leading creators and critics. And since it started, the show has gleaned some juicy tidbits from leading figures in the industry about the making of numerous big-name titles.

Did you know, for example, that *Shogun: Total War* was part-inspired by the slightly naff 1970s Japanese TV show, *Monkey*? Have you heard about how future *Monument Valley* producer Dan Gray spent weeks on end phoning Lionhead to get his first work experience placement? And were you aware that *Beneath a Steel Sky* and *Broken Sword* creator Charles Cecil's video game career could have been abruptly ended if one car thief in the 1980s had been just a bit more thorough?

To hear all these engaging stories and more, subscribe to the *30 Years of Play* podcast on your favourite podcasting platform.

You can find us on iTunes, Spotify, Acast, and SoundCloud by searching for *30 Years of Play*, where you'll discover even more episodes about games such as *RuneScape*, *Overcooked*, and *Thomas Was Alone*. 🎧

You can read more about each episode at 30yearsofplay.uk



^ You'll find the creators of *Overcooked*, *Thomas Was Alone*, and *RuneScape* among the talkative voices on the *30 Years of Play* podcast.

Wireframe

LIFTING THE LID ON VIDEO GAMES

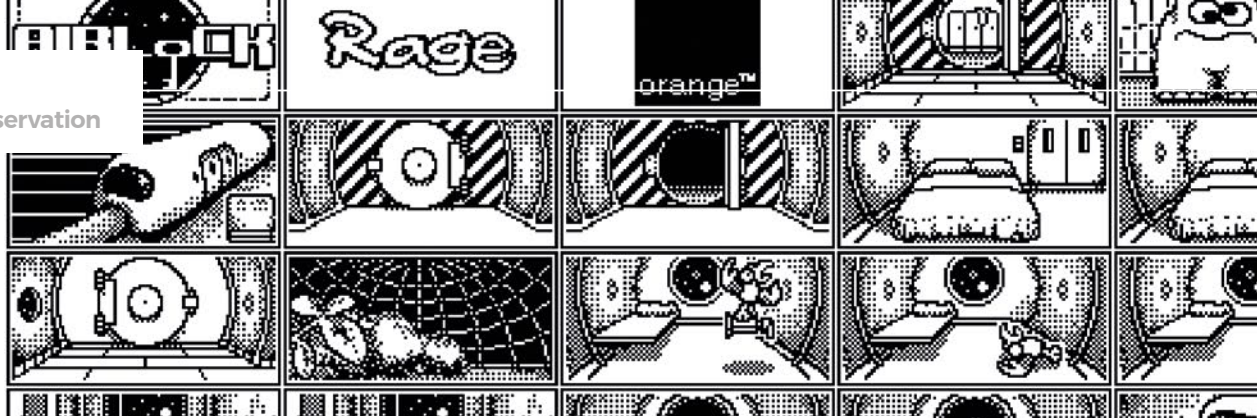
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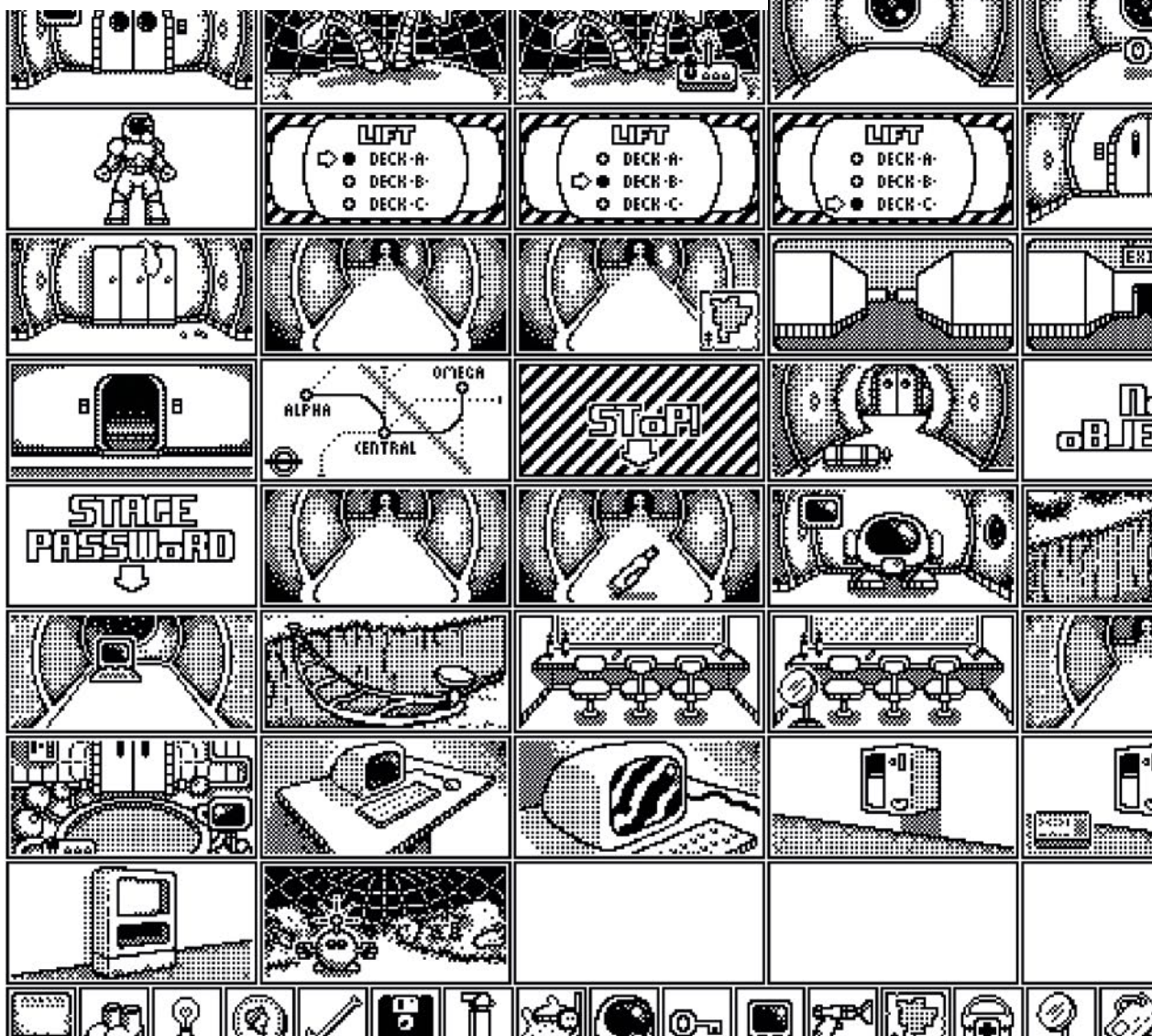
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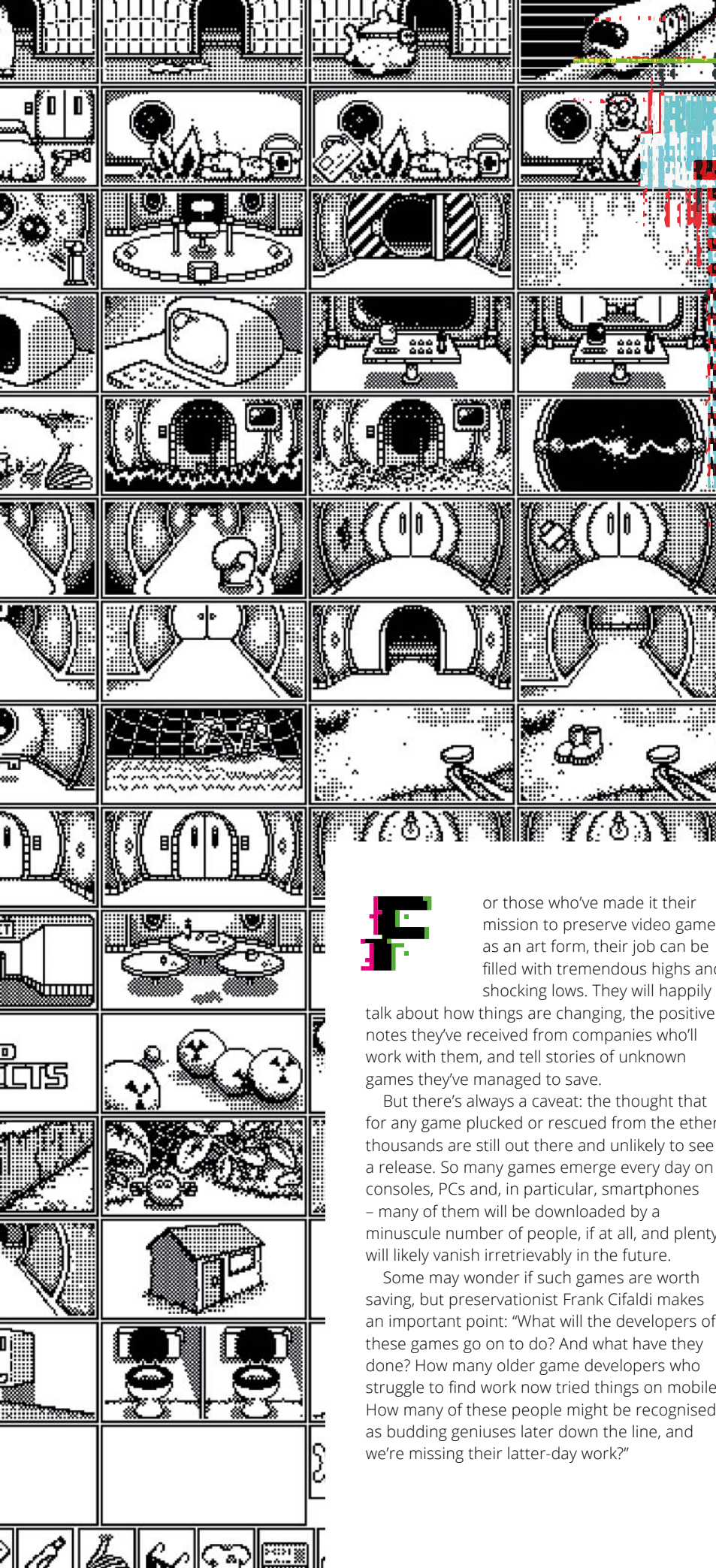
VIDEO GAME PRESERVATION

The act of preserving the history of our medium has mostly been undertaken by fans. As preservation builds momentum, we get the perspective of those who've taken the mantle

WRITTEN BY
KIM JUSTICE

> Maps like this are all we have remaining of *Airlock*, an adventure game made by Joffa Smith for WAP phones in the early 2000s.





F

or those who've made it their mission to preserve video games as an art form, their job can be filled with tremendous highs and shocking lows. They will happily talk about how things are changing, the positive notes they've received from companies who'll work with them, and tell stories of unknown games they've managed to save.

But there's always a caveat: the thought that for any game plucked or rescued from the ether, thousands are still out there and unlikely to see a release. So many games emerge every day on consoles, PCs and, in particular, smartphones – many of them will be downloaded by a minuscule number of people, if at all, and plenty will likely vanish irretrievably in the future.

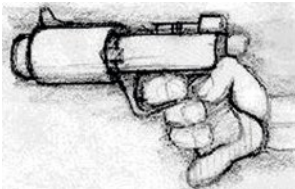
Some may wonder if such games are worth saving, but preservationist Frank Cifaldi makes an important point: "What will the developers of these games go on to do? And what have they done? How many older game developers who struggle to find work now tried things on mobile? How many of these people might be recognised as budding geniuses later down the line, and we're missing their latter-day work?"

It's a reminder, in turn, of how certain games by legendary UK coder Jonathan 'Joffa' Smith, that he created for WAP phones – such as *Airlock* – are now essentially lost forever, as is any mobile game that didn't end up on a file-sharing website back in the 2000s.

NOT VERY SMART

For Cifaldi, founder of the Video Game History Foundation in Oakland, California, those file-sharing websites were the start of his own interest in preservation, and they do indeed still hold some keys now – especially when it comes to the big problem of the day, which is saving Android or iOS games. Recent events such as the closure of Nintendo's Wii Shop Channel may have caused concern for people, but the truth is that almost everything on the channel has already been archived; it's relatively easy to get old Wiis and transfer the programs from their hard drives into a safe place.

But how do you do this with smartphones where games are tied to a person's account that they'll use over not just one phone, but multiple phones? Once the user switches to a new device, the old phone will most likely be wiped →



▲ An example of artwork for an unreleased game: *Blimp*, at one point set to be made by Rage Software for the Game Boy.

of all games, with no way to access them. As Cifaldi succinctly puts it, “You’re not going to find a smartphone with a haul of games at a Goodwill [charity shop] – it’s not a thing.” Even the legal issues involved in extracting these titles pale in comparison to the technical difficulties of actually doing it. Bluntly put, there is currently no real solution to this problem.

UNEARTHING THE UNWANTED

People like Cifaldi have limited resources as it is, and it would be impossible for him to save everything – and so there’s more of a focus on what can be done.

The Digital Library (as intangible a thing as that may be) that Cifaldi and partners are creating, as well as the website Lost Levels for unreleased titles, both grow at a rapid pace. It’s not just fans and pirates, but coders and companies that are warming to the idea of saving their past highs and, indeed, lows for eternity.

“I’ve never experienced hostility from a company... No-one cares about this game they

“BLUNTLY PUT, THERE IS CURRENTLY NO SOLUTION TO THIS PROBLEM”

made but never shipped,” Cifaldi says. “In fact, we’ve had the opposite reaction. People are often pleased, if a little confused, that anyone would be interested!”

Then there are human stories, such as when Cifaldi received an email from a woman whose brother worked on an unreleased NES game about the California Raisins and later died without working on any other projects – a Lost Levels article about the game gave her a chance to actually hear her brother’s music for the first time. These stories are at the heart of video game preservation, something that

makes the job utterly worthwhile – even if they only represent a small sliver of the work that people like Cifaldi do, and what

else still needs to be done to keep a fuller digital record of our history.

THE LIVING SPACE

Such a record, of course, isn’t purely limited to the individual game itself – there’s plenty more to be digitised, such as magazines and periodicals (of which Cifaldi has an extensive collection), source codes, any other making-of material, and – of course – any and all physical material that might be available. Cifaldi’s work is still very much digital, but others in the field use the physical elements to create something that’s more than just a library; rather, a space where games and computers are preserved for people to experience.

The Centre for Computing History in Cambridge is a museum running out of an old set of warehouses that, through time and patience, has become a place not just for the older generation to reminisce, but one where younger people can discover what came before. The museum’s curator, Jason Fitzpatrick, is quite proud of this. “For the generation used to playing games on modern consoles, they have no clue these games existed before, yet they really enjoy them, and then they start asking questions,” he says. “It has a knock-on effect with kids who want to get into programming and writing games, because although they think there’s no way they could do a modern triple-A game, they think that making the old retro game could be achieved in Python or something similar.”

PRESERVING FOR TELEVISION

The Centre for Computing History has often worked closely on programs for both conventional television channels and digital streaming services, using their considerable assets in order to provide technical props for productions such as *Brits Who Made The Modern World*, *The Little Drummer Girl*, and, most recently, *Black Mirror: Bandersnatch* for Netflix (below). Jason Fitzpatrick even once made an appearance in front of the camera, playing the role of David Johnson-Davies in the BBC docudrama *Micro Men*.





- ^ The Memotech MTX500, a UK made MSX-esque machine, is one example of the rare micros that exist in the Centre's archive.
- ^ The unreleased *Penn and Teller's Smoke and Mirrors* for the Mega-CD achieved such notoriety that playing *Desert Bus* became an annual charity event.

PRESERVING THE HEART

Since its founding in 2007, the museum has expanded from a private collection to a public one, and is now very close to obtaining full accreditation. This is an important part of the process that, in Fitzpatrick's words, will officially put their practices on the same level as institutions like the Science Museum and "allows our subject matter to be taken more seriously," something that the relatively new video game medium has historically struggled with.

Much like Cifaldi's endeavours, preserving the actual game itself is just the tip of the iceberg for the museum – the physical copies and stories of the games and machines themselves must also be told. Having something for people to play is vital. As Fitzpatrick puts it, "If we just did a very dry preservation job, taking a piece of software, maybe digitising it, making sure it's protected in the normal ways and putting it in a box that no-one gets to see... well, what's the point?"

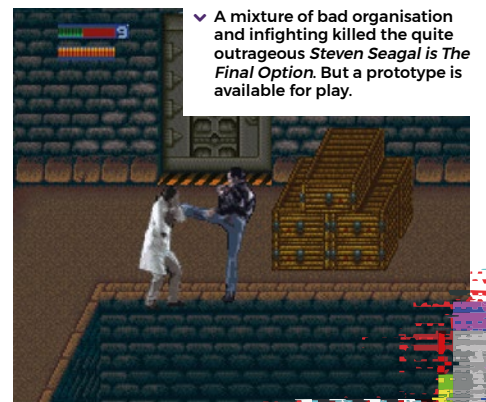
Games are meant to be played, and when hearing Fitzpatrick talk, one can't help but think that collectors who take already unopened games and seal them up in acrylic containers are missing something fundamental about how they're supposed to be experienced.

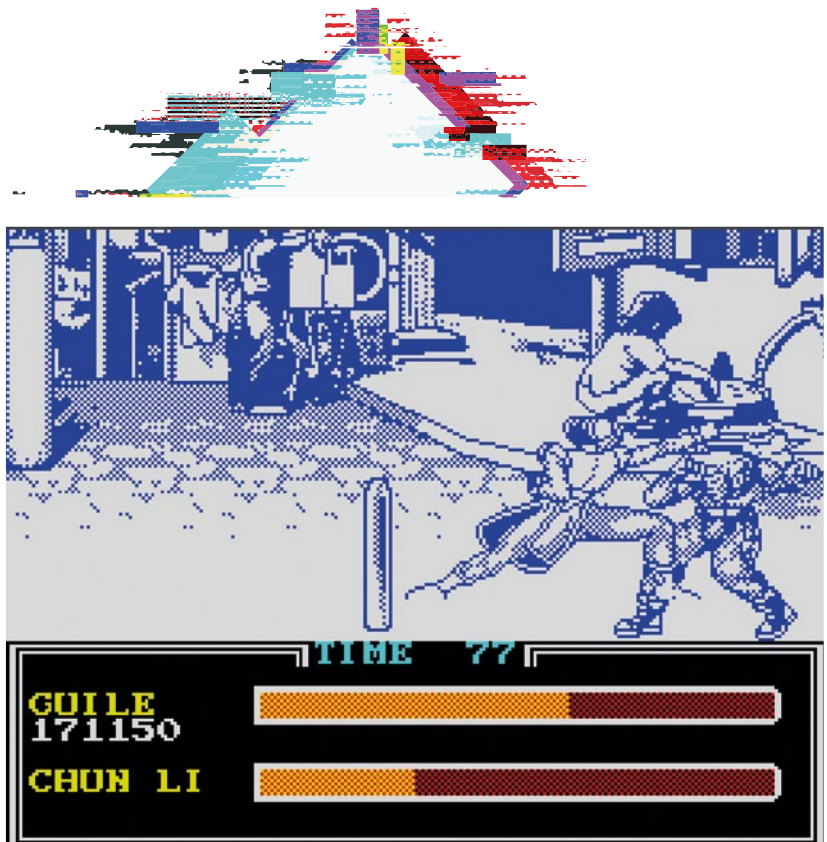
THE COMMERCIAL SIDE

There's also an argument to be made that, in creating a public space, the Centre for Computing History has to focus on commercially popular elements in order to attract customers, with well-known names such as *Space* →

ABOUT THE FOUNDATION

The Video Game History Foundation was founded in Oakland, CA in 2017 by Frank Cifaldi and other fellows who have worked with institutions such as the Library of Congress, The Smithsonian American Art Museum, and Frisco, TX's National Videogame Museum. Their main goal is to create a "digital library" that collects all of their many assets together, a task that Frank estimates will take several years. They are currently on the verge of opening a physical space for the benefit of video game researchers.





Invasors taking prime spots over things that are more obscure. Fitzpatrick concedes this as a simple fact of running the business, but behind the eye-catching displays lies a monumental archive of physical titles, long-forgotten micros, and important development material.

Others might fear there's a risk of damaging rare machines by letting the public get their hands on them – but the chance of cola or beer getting spilt over a strikingly expensive BBC Domesday machine is reduced by using duplicates on the floor while the original is preserved in storage. Meanwhile, the entire premises are covered in order to protect the machines from harmful UV rays.

"We take preservation very seriously," Fitzpatrick says happily. "The machines we display in the main gallery are ones that can be repaired or replaced, because we want to make sure it stays interactive – that's really important for us."

MARKING OUR TRACKS

Because gaming is a relatively young medium, we've yet to obtain the same level of archiving that, for example, film has, where cinema's continuing history is preserved as a matter of course through multiple means. Cifaldi and Fitzpatrick both say more has to be done in this regard, both on the side of companies and on that of the consumers.

The preservation efforts of both the Centre and the Foundation are largely undertaken by passionate volunteers, which, of course, can only do so much – and while neither has run into hostility from companies, there can be a certain

^ It would amaze people to think that not all versions of *Street Fighter II* are available. However, the almighty ZX Spectrum version most certainly is.

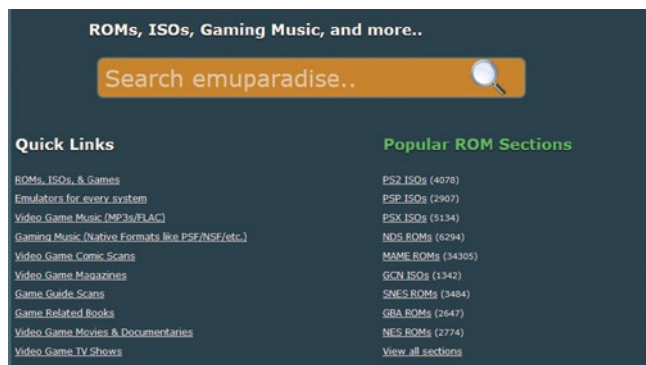
apathy or lack of any real movement from licence holders when it comes to making sure its history is retained.

Cifaldi relates a story of how, when commissioned by Capcom to work on a timeline of *Street Fighter*, he was quite shocked to find that a sizeable chunk of games in the series – largely mobile releases – were essentially lost forever, which acted as a personal wake-up call. If a major series such as *Street Fighter* has lost some of its games, what chance do more obscure titles have?

THE FUTURE, BABY

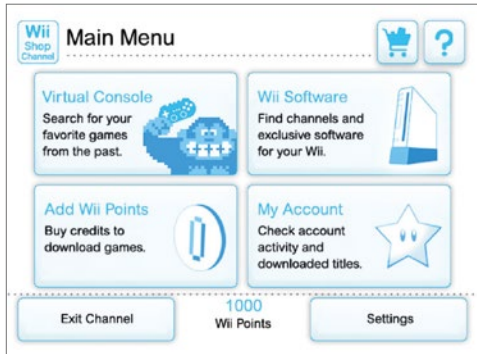
Both Cifaldi and Fitzpatrick take slightly different approaches towards a very similar goal: one focused more on the digital side of preservation, the other gravitating towards physicality. But the end goal is the same: to ensure these games, machines, and the actual history of the titles is not just preserved and locked away, but is able to be freely enjoyed by everyone for generations to come, exactly as they were enjoyed by people

▼ Emuparadise, one of the Internet's most popular ROM sites, was recently subject to a takedown notice, courtesy of Nintendo.



BEING FRANK ABOUT ROMS

As legally grey as they are, ROM sites have had a large part to play in popularising preservation. As a veteran of the scene, Cifaldi takes a measured view on how companies see these pages. "People have this weird perception that video game companies are these cigar-chomping dudes on the 80th floor... but the reality is more like, when Nintendo shuts down a ROM site, it's not because they're "mean" – it's because a lawyer has determined that if they allow this practice to continue, with people profiting from ad dollars through distributing their property, that could set a bad precedent."



^ A picture of the now closed Wii Shop Channel will surely send peppy music through some folks' heads. But all of its games are safe.

when they were first released. While both worry about swathes of games continuing to slip through the cracks, particularly in a world that's moving closer to software tied to a user as opposed to a platform, they're optimistic for the future of video game preservation and believe that, while there is a long way to go, things are certainly a great deal better now than when they started.

"The future is tricky, as we're moving away from any kind of physical media, which makes our job harder," Fitzpatrick says. "There's no packaging now for certain games, no media to preserve... we are talking to a couple of companies about making sure their games, which are currently completely online, can still be preserved through binaries and information about how those games are configured to run on a server.

"But in terms of the interest, the future is looking very bright – lots of people are taking more interest in the history of video games, especially the next generation. It's a bit of a double-edged sword, really."

HELPING OUT

Is there anything we can do to help with a project so massive and endless in scope? There are, of course, various degrees of assistance we can provide – anything from getting involved with the groups that digitise material on the internet or volunteering with your nearest museum-esque setup, to sending anything

“THE FUTURE IS TRICKY,
AS WE'RE MOVING
AWAY FROM ANY KIND
OF PHYSICAL MEDIA”

interesting you might have along to be digitised. You can even, as Cifaldi points out, install a browser plugin allowing the Internet Archive to automatically scrape a page that you might find obscure info on with the push of a button.

But still, the lion's share of work will have to be done by the companies themselves – a process that, while not without reward, can be slow

and vaguely defined. Cifaldi sums up with some good advice. "My goal is that source code becomes an educational resource," he says. "And I don't know

what the answer to that is yet, because I feel like there's almost a time limit somewhere, where companies are unofficially comfortable with people seeing it, and I don't know where that time limit is! I'm also worried that people aren't archiving things while they're happening in order to let them be seen, when that comfort level hits a point when they're not going to freak out.

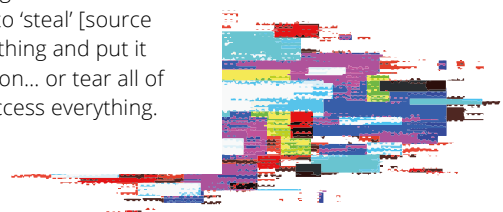
"Right now, the solution is to 'steal' [source code] from work – take everything and put it up later, that's the best solution... or tear all of capitalism down so we can access everything. I don't know!"

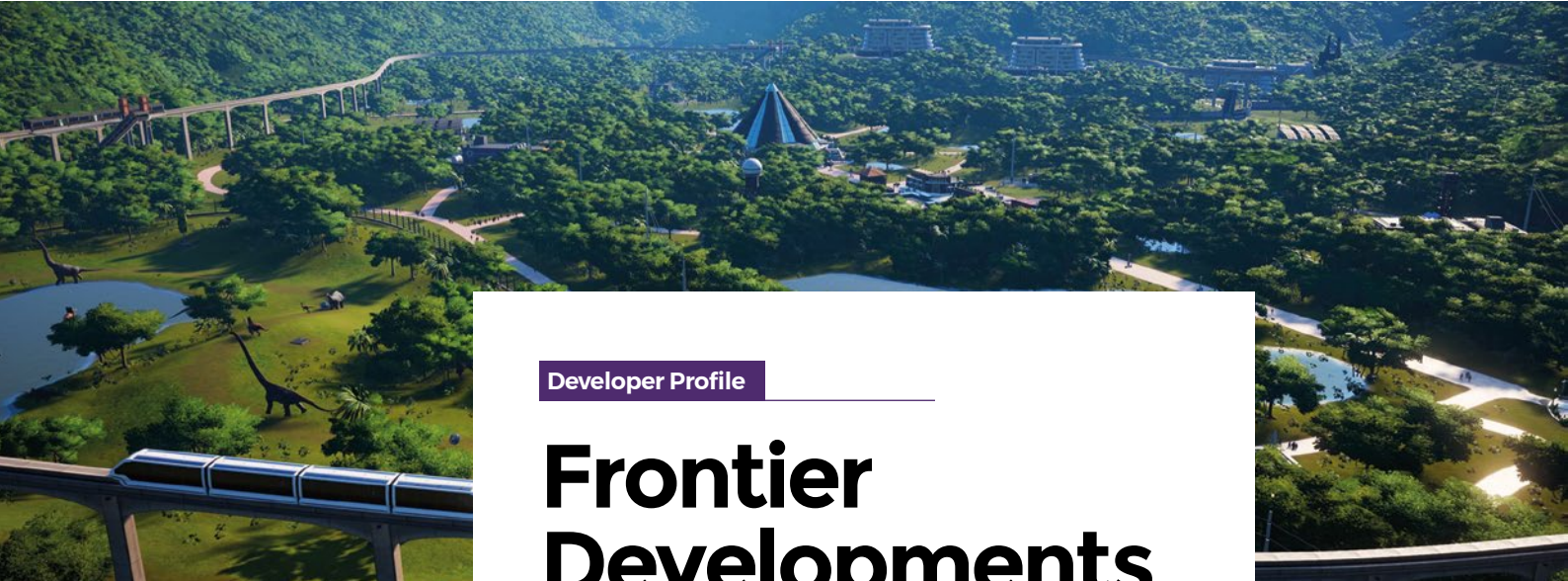


^ *The California Raisins: The Grape Escape* was all set for an NES release, but shrivelling sales of the raisins themselves killed it.

ABOUT THE CENTRE

Currently located in Cambridge, UK and founded in 2007, the Centre for Computing History is a public museum that aims to "tell the story of the Information Age", and they are currently in possession of over 24,000 unique items, including 800 computers. More than just computers and games, this archive includes a great deal of interviews with creators and coders, saving their stories for posterity. In the future, they are looking to expand to a second location.





Developer Profile

Frontier Developments

25 years of park management – oh, and some space exploration too

Full disclosure: David Braben, founder and CEO of Frontier Developments, is co-founder and a trustee of the Raspberry Pi Foundation, the parent company of RPi Trading, which runs Wireframe.

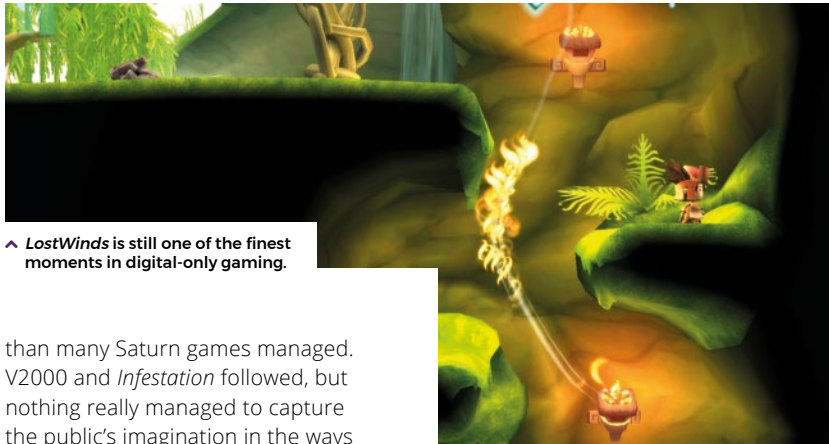
But this isn't specifically about David Braben, otherwise we'd spend a few hundred words talking specifically about the original *Elite* and how it changed games forever. No, we want to focus on Braben's company set up in 1994, one which celebrated its 25th birthday back in January – Frontier Developments. Because, quite frankly, it's been a bit of a *ride* for the developer. You'll see what we did there in a bit.

Frontier's first released title was actually a port of *Frontier: Elite II* for the CD32. It may well have been (arguably) the best version of the superb sequel to *Elite*, but it does tend to be a bit lost to the ether given the *big* first release the studio tends to be remembered for... well, didn't go incredibly well. *Frontier: First Encounters – Elite 3* in the common tongue – was released unfinished, without the dev team's go-ahead, by publisher GameTek, itself in dire financial straits.

And so Frontier's first major release, its namesake, ended up as a game riddled with so many bugs as to render it a mid-nineties laughing stock. Like *B*Witched*, or *Eiffel 65*. You only pretend to like them now because it's ironic, admit it. *Frontier: First Encounters* was patched up and fixed to a playable standard, but the space-horse had bolted, and the studio's reputation took an early hit.

What followed were a few years of space and shooting, as well as more lashings of technical nous with the likes of *Darxide*; a rather simple *Asteroids*-alike, but one that pushed Sega's 32X much further than anything else on the format, arguably further



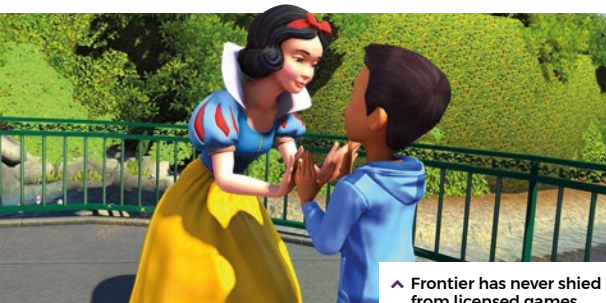


▲ *LostWinds* is still one of the finest moments in digital-only gaming.

than many Saturn games managed. *V2000* and *Infestation* followed, but nothing really managed to capture the public's imagination in the ways *Elite* – and Braben – had before Frontier's formation.

Enter the pivot. In 2003 – naturally one can assume the decision came earlier than that – Frontier's output moved to one much more terrestrial in nature, with the team contracted to work on the Xbox port of Chris Sawyer's superb *RollerCoaster Tycoon* and picking up work on the *Wallace and Gromit* license in the shape of *Project Zoo*. The former was well received, the latter more a case of classic licensed platformer fare – 'classic' used there in the sense you might expect.

It must have been the smell of... vomit? that opened Frontier up to a whole new world: the rollercoaster bug bit hard with the *Tycoon* port, and morphed the studio from one that had made four space-shooty titles (and two ports) by 2003 into one that had made 15 theme park/management titles by 2018 (with another coming in 2019). Frontier was born for *Elite*, sure, but it actually ended up a studio that's done far more work in the park management genre.



▲ Frontier has never shied from licensed games.

SNIFFING SUCCESS

But that's skipping ahead of one very important title – often overlooked, always enjoyed: *Dog's Life*. A bizarre (yet completely understandable from a British perspective) PS2 exclusive, *Dog's Life* had you playing as a dog, doing dog things – digging bones, navigating by smell, farting, peeing on things, and so on – in pursuit of your kidnapped (dog) love who was going to be turned into cat

food by an evil cat food mogul. Don't worry – spoiler – you manage to rescue your love, and fart said mogul

into her own machinery, thus turning her into cat food and... look, *Dog's Life* was and is bizarre, and it's just so utterly jarring, proudly sitting there in the middle of Frontier's gameography.

Frontier's successes on a smaller scale continued, with forays into Microsoft's Kinect tech showing off great ideas and brilliant family experiences – like the adorable *Kinectimals*, or *Disneyland Adventures*. Then there was the Wii's Peak Indie title, *LostWinds*, which displayed a perfect understanding of both what the console could offer in terms of its controls, and what smaller downloadable games could be in a nascent market.

From a shaky start, Frontier regained its composure over a couple of decades and eventually decided to return to *Elite* in earnest, after a few slow-paced, aborted attempts behind the scenes. With the backing of £1.5m on Kickstarter,

Rank Outsider

It wasn't all sunshine and lollipops at Frontier HQ in the park life years; the team was working – largely in secret – on an ambitious title known as *The Outsider* for almost six years, from 2005 to 2011. The open-world game would have seen players taking the role of a wrongly accused CIA intelligence officer trying to clear his name, and promised plenty of bleeding-edge features – not least of which a massively non-linear story the player would have huge control over. Sadly, it never became more than these promises and a handful of public appearances, and quietly disappeared as Frontier veered back towards space and shooting.



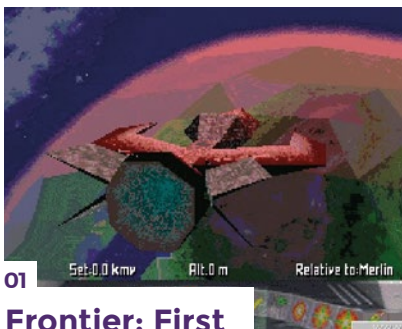
Elite Dangerous – *Elite 4* in the common tongue – released in 2014 and brought the studio back to where it had always wanted to be: space, and shooting things (and trading precious metals, obviously). It had its issues, but in the modern era it was much easier for the team to fix and improve – and with Frontier exercising full control over its product, there was no room for naughty publishers looking for a quick buck to ruin the party.

Expansions have followed and the game is still supported, a flagship of the studio no doubt. Frontier has continued with its park management and licensed titles, too, even combining the two in 2018's *Jurassic World Evolution*; while going public in 2013 reinforced the company financially (investment from China's Tencent in 2017 helped, too). It wasn't the strongest of starts with Frontier's first encounter in the games industry, but it's been a hell of a ride for the 25 years that followed. ☺

Finest Frontier

10 titles from the last 25 years

Troubled beginnings, a weird middle, a solid current day, basically



01 Set: 0.0 kmv Alt: 0 m Relative to: Merlin

Frontier: First Encounters

PC – 1995

Released unfinished by its publisher, *Elite 3* was never a legend as a result. It's a shame, as this ambitious sequel added story to an otherwise freeform, unfocused series, as well as procedural planetary generation and other such tech highlights. Find reverse-engineered versions online, like the lovely *GLFFE*.



02 BIG ASTEROID 150 160 170 180

Darxide

32X – 1995

The argument goes that *Darxide* did more on the 32X than was ever managed on the Saturn. We can't know for sure there, but it definitely pushed the Mega Drive add-on much harder than any other game in its (limited) library. The game itself was *Asteroids* in a newer setting, so nothing mind-blowing, but the tech behind it makes us sad for the lost opportunities on 32X.



03

RollerCoaster Tycoon

Xbox – 2003

A pivot to parks saw Frontier's first efforts in Chris Sawyer's *Tycoon* series: a port to the Xbox. It was solid enough to earn the studio more work on the core PC version, making expansion packs, before Frontier took over the series as a whole for *RollerCoaster Tycoon 3* and a couple of add-ons. While the franchise went elsewhere later on, the park life bug had bit *hard*.



04

Dog's Life

PS2 – 2003

Bewilderingly weird in an utterly banal way, *Dog's Life* is one of those games you tell people about, and they both don't believe you, yet entirely believe it's possible. You're a dog, you do dog things, there's an overarching story to follow, but really we all just got a bit caught up activating smell-o-vision and weeing on things, or staring at Pedigree vending machines.



05

Thrillville

PS2 / Xbox / PSP – 2006

Frontier's first stab at coasters of its own creation came in this LucasArts-published number which, naturally given its target formats, saw a more diluted take on park management than we were used to over on PC. *Thrillville* isn't exactly top of anyone's list when it comes to classics of the era, but it was an important step for Frontier in its coaster ambitions.



06

LostWinds

Wii / PC / iOS – 2008

One of the best games on WiiWare – one of the best on the Wii as a whole – and arguably one of the best indie games ever released, *LostWinds* was a gorgeous and inventive puzzle-platformer that took full advantage of its home platform. A sequel followed and was just as good, to be honest. This is a series we'd love to see revisited on modern hardware.



07

Kinectimals

X360 / mobile – 2010

Cries of 'PSHAW' were loud on *Kinectimals'* announcement, but there's no denying Frontier handled its Microsoft contract admirably, bringing an inventive and fun take on fuzzy creature interaction. Other Kinect projects like *Disneyland Adventures* were dismissed by the *hardcore* community and embraced by their *actual* audience: children and families.



08

Elite Dangerous

PC / PS4 / XBO – 2014

In and out of development behind the scenes for a long time, it wasn't until 2012 that we saw what Frontier had in mind for the next chapter of *Elite's* smuggling and shooting (in space). An efficient development schedule saw the Kickstarter-funded title release in 2014, and the updates have been coming in ever since. And, dare we say it, it does the series proud.



09

Planet Coaster

PC – 2016

All that came before led to this: peak park life. *Planet Coaster* showcased Frontier at its management-and-rollercoaster best, offering up a fantastic spiritual sequel to the likes of *Theme Park* and *RollerCoaster Tycoon*. And to think, many of us wondered why Frontier moved to park sims in 2003 – if we'd have known it would lead to this, we'd have been more supportive.



10

Jurassic World Evolution

PC / PS4 / XBO – 2018

Frontier mashed together its *Planet Coaster* (et al) experience with Universal's dino blockbuster franchise to surprisingly good effect. It wasn't perfect, but *Jurassic World Evolution* allowed us all to live out our fantasies of making a successful dinosaur park, then 'accidentally' seeing it break down and watching our exhibits feast on the previously gawking masses.

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Info

GENRE
Action /
Adventure

FORMAT
PS4 (tested) /
XBO / PC

DEVELOPER
Asobo

PUBLISHER
Focus Home
Interactive

PRICE
£44.99

RELEASE
Out now

REVIEWED BY
Jon Bailes

HIGHLIGHT

Occasionally you're faced with a larger puzzle that requires coordination between multiple team members, with Amicia directing each character to do their part. It's here that the camaraderie develops, as the group exchange good-humoured banter and spur each other on. When you finally succeed, you really feel you've achieved something together.

▼ The world is dark and uninviting, albeit intentionally so.



A Plague Tale: Innocence

The walls are alive with the sound of rodents

One of the most remarkable things you can find in *A Plague Tale* is a flower. When you do, it's nothing more than an optional collectable, but in a world full of despair, each bloom amongst the mud and corpses feels important. A speck of beauty in the heart of unrelenting ugliness.

It's a theme that runs throughout Asobo's game. Its visual representation of 14th-century France is a picture of decay, yet also consistently evocative. Abandoned villages feel like they were once full of life. A haunting mist floats over a battlefield as you pick your way through piles of bodies. The light of the full moon shines over an old ruin. Even when the sights are repulsive, there's an attractive quality in the detail.

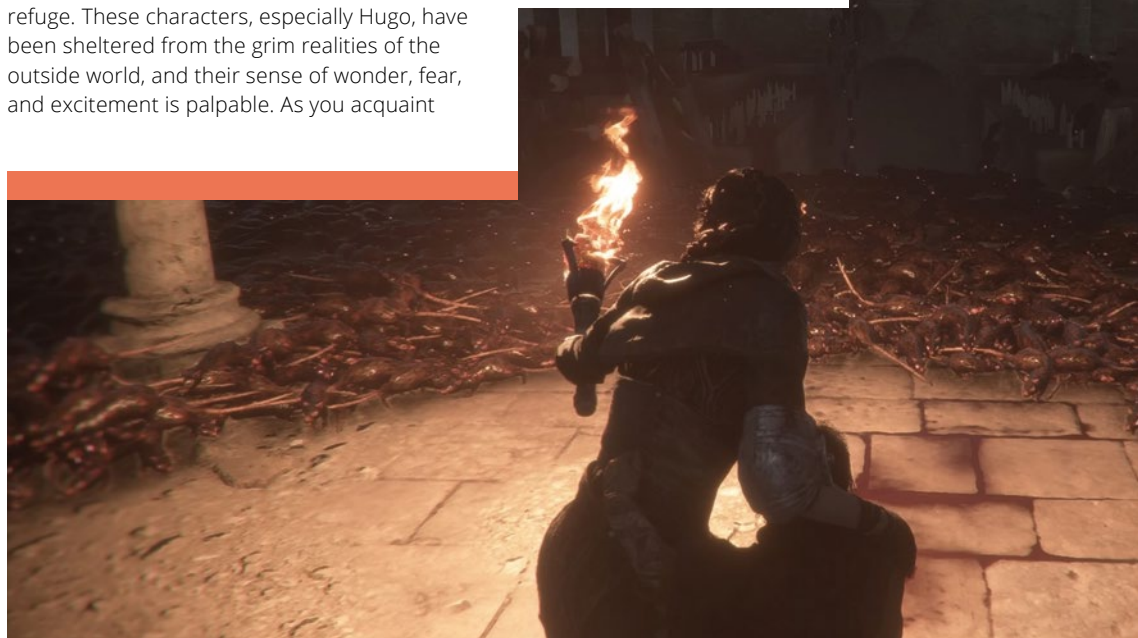
Then there's that 'innocence', embodied in the game's young protagonists, Amicia and Hugo. The pair are forced to flee the comfort of their family estate when the dreaded Inquisition comes knocking, and it falls to Amicia, the older sibling, to protect her sick brother and find refuge. These characters, especially Hugo, have been sheltered from the grim realities of the outside world, and their sense of wonder, fear, and excitement is palpable. As you acquaint

yourself with the rules, so do they, bouncing dialogue back and forth about what they see and what they should do.

Most of the time what they need to do is solve environmental puzzles and avoid capture. It's mostly familiar stuff. There are boxes to push and levers to pull, Hugo can squeeze through small spaces, and Amicia's slingshot can break locks from distance. When dealing with enemies, the focus is on stealth, with low walls and long grass providing cover, and rocks to throw to create distractions. As you go on, the slingshot becomes essential here too, not least allowing you to outright kill guards with clinical headshots.

But not all enemies are human, and soon you have to face the cause of the plague: rats. These are no ordinary rodents but a possessed mass that bursts forth from floors and walls,

▼ *A Plague Tale* is dark and gruesome, but rarely scary. Unless you're a musophobe, of course.





▲ The high-quality character models and absence of a constant HUD really help build immersion.

carpeting the ground in teeming, squeaking swarms, devouring anything in their path. Fortunately, they're afraid of light, so you're safe as long as you stay near a flame. Navigating rat-infested areas thus becomes another kind of puzzle, as you figure out how to move around them or move them around. Often it's a case of manipulating light sources. Sometimes you need some fresh meat.

Whatever you find yourself doing, it's usually quite straightforward. You never have to think too hard or do too much to reach the next checkpoint, and any tools you need will be close to hand. Also, while you sometimes get to poke around and explore areas, actual progress is strictly linear. Every scene is carefully contrived to set up that one path for you to advance. Enemies are predictable and limited, artificial borders keep you from wandering off track, torches last just long enough to reach a safe area, and so on.

It can feel overly mechanical and prescriptive at times, but this approach has its advantages. For one, it allows the game to maintain its dramatic pacing, as it switches between downtime, taut stealth, and panicked escapes. Some sequences take a few attempts, but *A Plague Tale* is mostly interested in building momentum. And it works, with each episode providing a gripping narrative arc and unique situations. As you progress, you're joined by other characters with their own helpful abilities, and you learn to craft different types of ammo.


Every section focuses on a new skill in a new context, until you have an extensive repertoire to exploit. First, you're making noises with rocks and pots, then you're lighting torches to clear rats. Next, you're dousing the torches to turn the rats on the guards. Finally, you're using all these tricks and more in increasingly creative ways.

At times, it doesn't flow as smoothly as it might. Controls can be fiddly and movement imprecise, and occasional AI quirks can lead to abrupt deaths. It's also irritating when

checkpoints, as frequent as they are, aren't updated after you've looted a secret area. Even so, *A Plague Tale* seems aware of its limitations and tries to work within them. It doesn't expect lightning reactions, keeps the rules of stealth simple, and offers a generous auto-aim feature. It certainly gets more testing towards the end – switching between ammo types under pressure can get awkward, and one late-stage ability is rather erratic – but never feels unnecessarily punishing.

So, despite its rigidity and lack of polish in some respects, *A Plague Tale* is a successful narrative-led adventure. It shines as a personal

story, with Amicia, Hugo, and the gang providing highly sympathetic characters whose relationships feel honest and believable. It's also an

effective portrayal of a society stricken by war, poverty, and religious zealotry, heightened by the symbolic contrast between the rats and the children. One question, perhaps, is whether the themes gel with the amount of killing you end up doing. But even here there's enough context to suggest some ambiguity. After all, if there's beauty in ugliness, why not something dark in the heart of innocence? 

“A Plague Tale is mostly interested in building momentum”



▲ Distraction skills quickly graduate into headshot kills.

VERDICT

Simple structures are elevated by great art design and characters. A tale well told.

75%



▲ Guards are wonderfully slow and stupid, giving you plenty of time to slip by.

HIGHLIGHT

The way the puzzles weave in story beats, change your controls, or add new elements is amazing. They sneakily mimic the story in a plethora of ways, and in a manner few puzzle games manage. It makes the game feel much more intriguing.

Review

Photographs

A snapshot of smart design and heartbreaking storytelling

✓ The pixel art is consistently lovely.



^ Surreal in isolation, *Photographs'* imagery makes perfect sense in context.

Info

GENRE

Puzzle

FORMAT

PC (tested) /
Mobile

DEVELOPER

EightyEight
Games

PUBLISHER

EightyEight
Games

PRICE

£9.29

RELEASE

Out now

REVIEWED BY

Jason Coles

VERDICT

Photographs is tear-jerking and intelligent, and quite possibly one of the best games of the year.

80%

There's something disarming about a game telling you upfront how long it will be. *Photographs* opens by stating it's a collection of five short stories that should take around 30 minutes each to finish. These stories all follow a different person through a defining moment in their lives, and every story presents a harrowing tale of 'what-ifs' and regret.

You follow The Alchemist, The Athlete, The Jailer, The Journalist, and The Preventer, one after the other, each of them introducing their own puzzle mechanic. For a basic example, The Alchemist has you manoeuvring he and his granddaughter around a board to slot them into certain tiles. It doesn't remain basic for long, though, and as the story progresses, you have to deal with new hazards and mechanics, with puzzles becoming harder and mimicking events in the tale as it gradually unfolds. This latter aspect is one of *Photographs'* most intriguing ideas, and works well in all five of the stories by keeping the puzzles closely tethered to the narrative.

Photographs is presented in a lovely pixel art style that has you looking over dioramas through a camera lens in order to find the next puzzle. It's a case of tracking around and focusing on specific elements in order to move on to the next part; a direct and effective system that makes sure you're really taking in what you see around the game world.

While the puzzles are clever (some are also infuriatingly challenging, though in a good way) they're not the focus in this particular picture: the stories *Photographs* tells are gripping in a

way that demands you play through them all in one sitting. At the same time, they're so heart-wrenching that you'll probably need to take a few breaks now and again.

It's impossible to discuss any of these mini-narratives without going into spoilers, but it's enough to say that each one is both affecting and engaging. The narratives all tie in to the final chapter – the chapter that dictates which ending you get, and the chapter that's the hardest to complete. The tonal, mechanical shift in this final section is perfectly executed, and punctuates the experience in a way that makes *Photographs* unforgettable.

Photographs somehow manages to be both intellectually and emotionally powerful, and its designers handle potentially difficult subject matters with a sensitivity that's vanishingly rare in video games.

Focusing on a single character in each of its tales creates a relatable whole; the weaving of mechanics and puzzles into each of those stories is masterful. Truly, *Photographs* is a picture that speaks far more than a thousand words. 📷



◀ Kick, punch, it's all in the mind. Along with plenty of stabbing weapons.



Review

HIGHLIGHT

New character Geras has some brilliant time-manipulating abilities: he can freeze opponents in time, meaning damage inflicted registers when they're unfrozen; he can rewind time after a KO to come back to life; and he's able to add or remove seconds from the round timer. If mastered, he could be very dangerous.

Mortal Kombat 11

Down, up, left, left, A, right, down

It's been 27 years, and we're still trying to make people coo with shocked delight as someone gets their head smashed in, then chopped off, then thrown across the room, then stabbed again. Oh, *Mortal Kombat 11*, you're silly, but you really don't seem to know it. Because yes, this is a return to the arena of K's and kills – a one-on-one fighting game for the (more than) eleventh time, featuring a cast of characters straight out of both Todd McFarlane's rejects pile and terriblissant kung-fu movies from the 1970s. It's... it's just *Mortal Kombat*. That's how it's always been.

So your mileage may vary, but where there's definitely going to be bumps in the road is in the story mode. It tells a tale of time travel, the past and present colliding, palette swapping ninjas not having masks, all that sort of stuff. And it is, it's fair to say, absolute nonsense. Far too po-faced for us to be in on the joke, way off the mark when actually trying to make you laugh (aside from one where a young Johnny Cage makes a sexist remark and is called out on it), and full of more exposition-laden lore than an *Elder Scrolls* book shop. It's not going to be the main draw for most players – they'll go online and batter each other to death there – but those of us drawn in by the fine production values of the campaign will be left utterly confused by just how unwittingly bad it is. Plus, why do these superpowered fighters who can shoot energy beams from their hands use guns so much? Kids these days, and so on and so forth.

“Oddly, there’s a warmth running through *Mortal Kombat 11*”

But the fighting! Yes, the fighting. I'm by no means an expert, but the actual fights seem to play out pretty well. Combos feel less *sticky* than they did in *MKX*, but there's still a bit of Marmite in the way it plays out, with a slower pace favouring said combos – especially of the juggle variety. I don't like being battered relentlessly and not being able to do anything about it, but really it's hard to say that's a failing of the game itself – especially with the flawless blocking mechanic allowing skilled players a chance to shift the momentum – more just that I should stick to *Tekken*.

Oddly, there's a *warmth* running through *Mortal Kombat 11*. For a game so obsessed with teenager-baiting hypergore and sassy, throwaway (*terrible*) one-liners, it's still a 27-year-old series with a lot of nostalgia behind it. It's no surprise the story jumps back into the past as much as it does and sometimes, every now and then, there's even a bit of pathos. Which is a surprise.

It's not something I'm going to go back to once this review is over – 1993's *Mortal Kombat II* is my bread and butter – but if the *MK* series continues down this path of nostalgia-laden warmth and reflection, maybe it'll end up as something with a broader appeal in a few iterations' time. I mean, it categorically *won't*. It'll remain as idiotically violent as ever with a storyline that's just so the wrong side of *earnest*. I just need to convince myself of some reason to bother paying attention to the series' continued existence which, quite frankly, bewilders me these days. ☹

Info

GENRE
Exsanguination sim

FORMAT
PS4 (tested) / XBO / PC / Switch

DEVELOPER
NetherRealm Studios

PUBLISHER
Warner Bros. Interactive

PRICE
£54.99

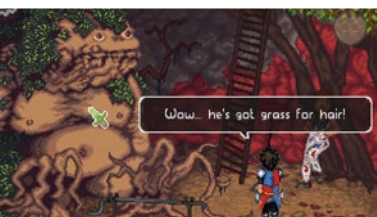
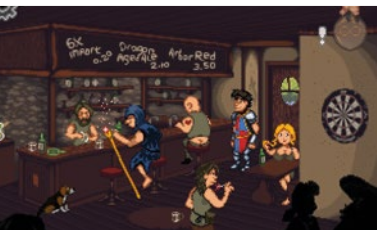
RELEASE
Out now

REVIEWED BY
Ian Dransfield

VERDICT

I've no idea why it's still a thing. At the same time, *MK11* is fun... so maybe that's why.

70%



▲ Tondie has something to say about pretty much everything.



Review

HIGHLIGHT

The game unfolds a single click at a time; one for doin' stuff, and another for explorin'. While there's not much else to it and it's unlikely you'll overlook anything of significance, it's always worth spending an extra moment or two on each screen to ensure you've interacted with everything at least once, if only to hear all of Tondie's excellent exclamations.

▲ Immediately after this, Tondie's face swells like a meringue, and there's not a single moment of his discomfort that isn't fun to watch.

Guard Duty

More British than the Queen eating toad-in-the-hole

Info

GENRE
Adventure

FORMAT
PC (tested) /
Mac

DEVELOPER
Sick Chicken
Studios

PUBLISHER
Digital Tribe

PRICE
£7.19

RELEASE
Out now

REVIEWED BY
Vikki Blake

VERDICT

An accomplished, if brief, pixel adventure stuffed with colour and charm.

69%

Yes, *Guard Duty* describes itself as a 'comedy adventure', and yes, I've been burned by those same broken promises of hilarity, too.

But while *Guard Duty* may not be laugh-out-loud hilarious, admittedly, this little point-and-click just might be cheeky enough to pull off its lofty claims... just.

It's unapologetically British – enough that I wonder how broadly it'll appeal beyond this narrow, rainswept isle of ours – and stuffed with a wealth of colloquial humour that wouldn't look out of place on the front page of *The Sun*. Ostensibly set in Ye Olde Tymes, *Guard Duty* follows the life of the hapless Tondbert, a guard in the castle of Wrinklewood with an overdeveloped adoration for both ale and the princess. When the former leads to the kidnapping of the latter – whoops – Tondie takes it upon himself to do what all the King's knights seemingly can't and sets off to rescue the princess himself.

When you boot up *Guard Duty*, though, Tondbert's nowhere to be seen. You kick off in a puff of pixelated neon as Agent Starbound, a thousand years on from the princess' kidnapping. Starbound's mission – a last-ditch attempt to reclaim Earth and save humanity from extinction – makes it painfully apparent that Tondbert's drunken mishap has somehow butterfly effect-ed its way into an apocalypse. Whoops again, Tondie.

I didn't play a lot of point-and-clicks the first time around, which immediately dampened expectations. There's been a surge of nostalgia-laden games of late, but I can't shake the feeling that if you hadn't been into this kind of game back then, you probably wouldn't dig 'em now, either.

It's a testament to developers Sick Chicken, however, that while *Guard Duty* is neither visually stunning nor a cerebral masterpiece – it's a traditional pixel adventure right down to the customary resolution – it's stuffed with enough

charm via its eclectic cast and creative voice work to hold your attention until the credits roll (which won't take long).

There's a lot of gaming in-jokes – a sneaky dig at

DLC, achievements named loosely after triple-A franchises, and a not-so-subtle nod to *Metal Gear Solid* – but they fall just on the right side of amusing most of the time. And while I didn't much enjoy the backtracking or the mazes (video game mazes go into my Room 101, along with the feckin' spider the maze led me to), *Guard Duty's* simple premise makes it a surprisingly effective palate cleanser compared to some of its more complex contemporaries.

Yes, the characters are a little two-dimensional, and no, the story's not particularly original, either, but *Guard Duty* is an inexpensive and enjoyable single-shot, single-player experience that'll keep you busy – and maybe even smiling – for an evening or two. 🍷

“It's stuffed with a wealth of colloquial humour”

HIGHLIGHT

The praise could be aimed at any of its predecessors, but *Yoshi's Crafted World* really is gorgeous to the point of being quite ridiculous. Sure, the impact wears off the more you play, but it never really stops looking lovely.

Review

Yoshi's Crafted World

Yoshi's craft-centric platformer is cute, but all too familiar

▲ When you complete a level, you can 'flip it' around and search for Poochy Pups.

Yoshi may be the cutest Nintendo character there is. Following nanny state adventures with Baby Mario, he came into his own with a series of impossibly adorable platforming games. *Yoshi's Crafted World* is the latest in that collection of family-friendly adventures.

After spending some time as a small woollen doll in *Yoshi's Woolly World*, the green dino's back in a whole new universe, this time made out of crafting materials – cardboard, paper towel tubes, aluminium cans, that sort of thing. It's the macaroni art of the Nintendo world – but while the style's endearing, it doesn't hold your attention for long.

After Kamek and Baby Bowser destroy the Yoshis' Sundream Stone – because there has to be a story – you embark on a quest to piece it back together. Said quest involves exploring a map of themed worlds: pirates, trains, caves, and more. But if you've played one Yoshi game, you've played them all, and the core experience here is exactly what you might expect: swallowing enemies whole, turning them into eggs, and spitting said eggs at switches to progress. While out of context that's just thoroughly weird, it's a familiar Yoshi staple to the point of being rote.

There are a few branching paths taking you into each level's background to explore different planes, which does mix things up, and you'll sometimes need to toss eggs at items to uncover new paths. This does add variety – handy when you realise all you're doing otherwise is trudging

down a linear path – and it does at least add a hint of challenge to a near insultingly easy game.

When you complete a level, you can also return to it from the world map to replay the 'flip side' of it (i.e. in reverse) while looking for Poochy Pups. These levels are timed and require you to search high and low for the little dogs, and if you find them all, you'll (usually, not always) be rewarded with a flower required to unlock additional stages. This highlights a frustration: new sections are gated behind these flower-locks, and it can be deeply frustrating to have to replay levels to find all the collectables just to progress.

There's also a bewilderingly frustrating co-op mode, in which players can swallow the other Yoshi, steal their eggs, and ride on their back.

Obviously, that's hilarious, but

if you're near your partner, you'll end up doing these things by accident, which makes it difficult to progress smoothly. Inevitably, one person will be stuck with the other player swallowing them every five minutes or riding on their back, which doesn't make for rewarding co-op play at all. In fact, it's better to take turns playing through levels just because of this factor.

Yoshi's Crafted World does one thing perfectly: it gives Yoshi fans a new world to explore that's so cute it'll make you want to throw up. But it's ridiculously simple, relies on loops that we've seen many times before, and absolutely butchers its co-op play. It's fine if you're looking for more Yoshi, but don't expect anything groundbreaking. 🐣

“The core experience here is exactly what you might expect”

Info

- GENRE**
Platformer
- FORMAT**
Switch (tested)
- DEVELOPER**
Good-Feel
- PUBLISHER**
Nintendo
- PRICE**
£49.99
- RELEASE**
Out now

REVIEWED BY
Brittany Vincent

VERDICT

An adorable platformer with familiar mechanics that doesn't attempt to break any new ground.

61%

Rated
Review

Looks can be deceiving. He's nothing but vicious toward stains, dust, and all of their ilk!



Review

Relaxed

Whispers of a Machine

Valhalla 9000

Info

GENRE
Adventure
FORMAT
PC (tested)
DEVELOPER
Clifftop
Games, Faravid
Interactive
PUBLISHER
Raw Fury
PRICE
£11.39
RELEASE
Out now

REVIEWED BY
Nic Reuben



▲ Vera's dialogue responses alter her personality, leading to new ways to solve puzzles.

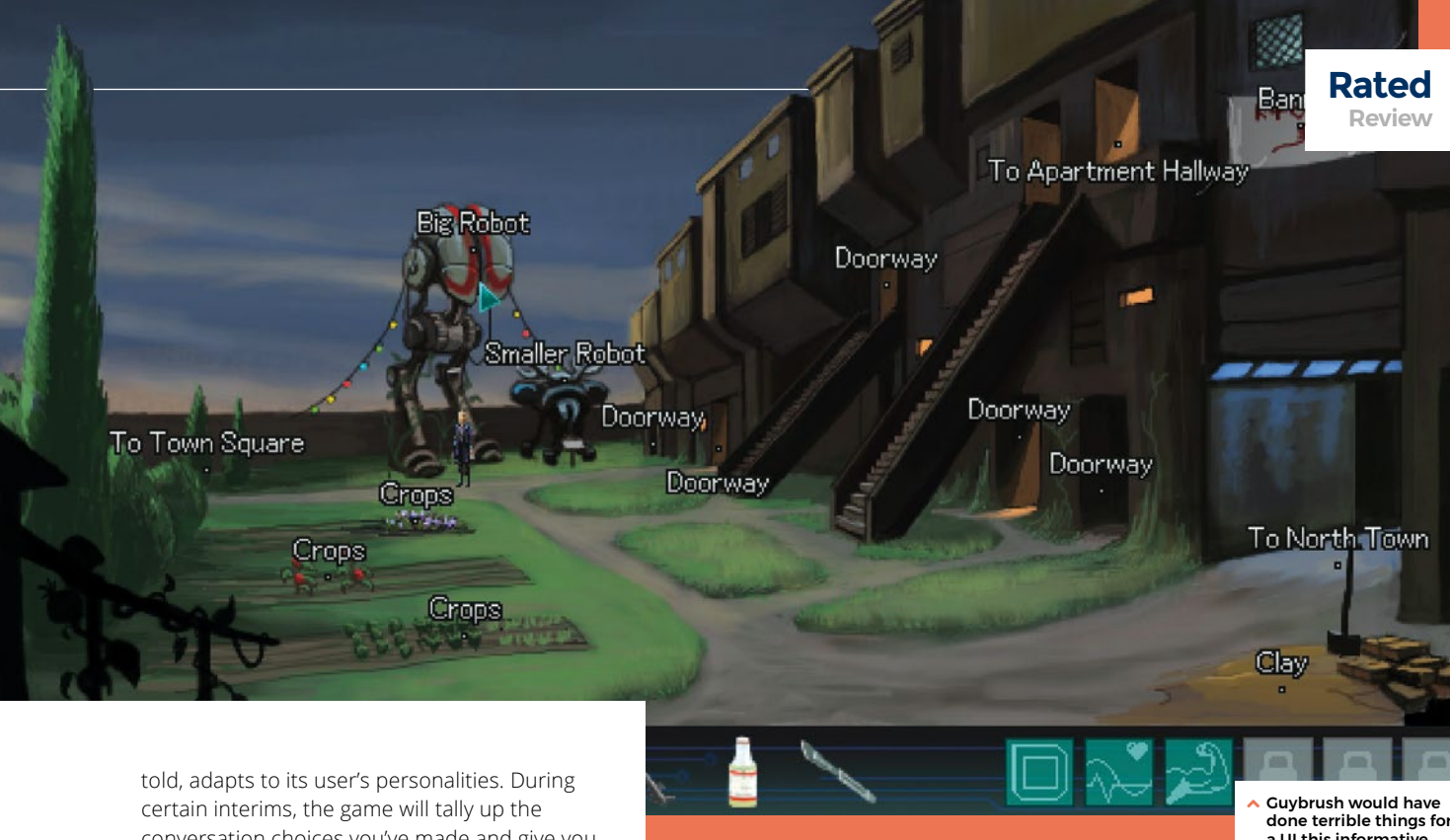
Whispers of a Machine's greatest strength, as a story, is how it explores grand speculative science fiction questions while staying focused on the personal. Parenthood, romance, grief, faith, work, and small-town paranoia all take centre stage here. A disjointed background static of conspiratorial murmurings phase in and out, while crackling electrical storm clouds threaten a technological Ragnarok. Skillfully, these creeping threats never overshadow the fundamentally human conflicts at the core of this clever, engrossing adventure game.

You'll be verbing your way through the city of Nordsund as Agent Vera Englund, who you'll meet as her train pulls into a station below the towering structure holding the city above. A lone photograph in Vera's inventory hints at past tragedy, but *Whispers of a Machine* wastes no time throwing you into a murder scene so fresh, the blood has barely had time to dry.

Not that that would be much hindrance to the technologically enhanced Vera, whose cybernetic abilities augment well-worn genre conventions by providing opportunities for novel puzzle design. A pulse scanner detects anomalies in speech patterns, transforming conversation into a more explicitly methodical tactic for extracting information.

If you've played enough adventure games to know your rubber chickens from your goat distractions, it's habitual to try and discern clues by exhausting every conversation path on each character you meet. Vera can be empathetic, dry, and funny while talking to people, but her hidden scanner introduces a calculated duality and wariness to her character that plays into the noirish distrust permeating the setting. The option to use the scanner in every conversation, not just ones predetermined to yield results, mean you always feel like a detective in *Whispers of a Machine*. The simple choice of when to use it frequently made me consider whether I trusted the person I was speaking to, and whether using it anyway counted as an unspoken betrayal of Vera's better nature.

This and other abilities are all thanks to a magical blue cyberpunk juice, helpfully called 'Blue'. A strength of the writing throughout is how science fiction elements are well-defined enough to be believable without subjecting the player to huge lore dumps, and Blue is no different. Techsplanations never give way to weary technobabble, and the history of this world is sprinkled throughout for the player to discover and dwell on in their own time. Vera's own history with her augmentations casts uncertainty on some later plot revelations, but it also serves a more practical purpose. Blue, we're



told, adapts to its user's personalities. During certain interims, the game will tally up the conversation choices you've made and give you one of three nifty augmentations as a result.

This means there are plenty of puzzles with multiple solutions. It can lead to a few red herrings and non-essential items, but there are some instances where, if you speak to the wrong character as part of a puzzle, but there's a fairly strong logical reason why they should be able to help you, they'll often give you some extra dialogue and a hint in the right direction.

Additionally, Vera will often refuse to enter areas she has no reason to visit. It means that not only do you have to do the detective work first – before Vera goes charging into people's homes while they're eating, turning over their valuables for shiny clues like she's 90 percent of RPG heroes ever – but the story maintains a consistent pace throughout. It's a rare and praiseworthy accomplishment in a genre where you can conceivably spend hours dragging inventory items onto random bits of foliage.

Sound design is great throughout. Ivy Dupler is immediately fantastic as Vera; at once sharp, world-weary, and just that tiny bit aware she's a character in an adventure game when the player attempts a redundant puzzle solution. Other standouts include Andy Mack as eccentric roboticist Valter, and Andy Manjuck as crotchety janitor Rolf, but there's no real weak links here. Developer Clifftop Games describes *Whispers* as 'Nordic noir', and nowhere is this more apparent than the soundtrack. Instrumental folk, driven but melancholy, gives way to bubbling, evasive synths and spacy ambience as the conspiracies

“Parenthood, romance, grief, faith, work, and small-town paranoia all take centre stage”

at the heart of the urban village of Nordsund make themselves known.

Occasional obtuse puzzles come with the territory, but even *Whispers'* head-scratchers are never illogical; just sometimes reliant on responses to the functional-but-limited animation. Having spent a few hours solving puzzles in motionless environs, encountering one that required me to consider reaction, rather than just action, stumped me for a good while. Once I'd solved one or two, though, I found I was thinking about things the way the game wanted me to, and made steady progress. A few later puzzles veer towards simplicity, but with the narrative stakes growing higher, it was a relief not to suddenly hit a wall. I'd estimate four to six hours for a first runthrough, with dialogue choices, additional augmentations, and puzzle solutions, and multiple endings inviting a second or even third playthrough. *Whispers* is paced so well that I'm thankful it wasn't padded out for the sake of it.

I still can't work out whether the classic adventure game formula is so solid to make it timeless, or whether *Whispers* is designed so smartly, and written, acted, and scored so engagingly that it brings reality in line with my personal nostalgia.

Either way, it's made me fall in love with an entire genre again. Like 'walking simulator' – a term I loathe – 'point-and-click' is selling this one woefully short. 🗨

HIGHLIGHT

Despite dealing with some very big sci-fi questions, *Whispers of a Machine* remains, at its core, a story about human relationships and anxieties. Even when the stakes of the plot threaten to engulf the concerns of the individual players, the sky city of Nordsund remains remarkably grounded.

VERDICT

Smart and engaging, *Whispers* sets a story of love and loss against an intriguing, high-stakes science fiction backdrop. Highly recommended.

85%

Rated
Review



▼ *Vasilis* may be an old woman, but sometimes the elderly need to be the ones to drive a cement truck into a factory à la battering ram.



Review

HIGHLIGHT

Vasilis' best quality is surely its aesthetic. The hand-drawn world resembles an uncanny fever dream, and fills you with a profound sense of unease as you traverse its illustrated environments. Even when other parts of *Vasilis* fail, its visual integrity remains intact throughout the entire experience.

▲ Faceless people everywhere, all spouting nonsense that nobody else is listening to. Kind of like Twitter.

Vasilis

A fever dream you'd find interesting on a night without cheese

Consider a fever dream in monochrome, where white flames engulf charcoal edifices and riots erupt in explosions of grey. *Vasilis*' colour palette is simplistic, and yet its tones are anarchic, with each hue attempting to arrest its opposite into submission as the world's hand-drawn structures shake violently and unassuredly in a Hunter S. Thompson-esque trip.

Marginal act is an enigmatic developer. Although it has started to attract a minor cult following over the past few years, its games are consistently met with polarisation, and *Vasilis* is no different. The game is visually astounding, but deeply flawed. The synths in its score complement its uncanny mood, but grammatical errors litter the dialogue boxes. On more than one occasion, I had to reboot it because of a game-breaking glitch trapping me in an isolated area.

And yet I can't stop thinking about *Vasilis*. In a strange way, its errors and issues make it far more eerily arresting. It's a game utterly derived from the weird, centring on ordinary townsfolk and the naive pursuit of immortality. Mutilation is commonplace, people have started to get high on cow's milk, and the entire population lives in perpetual fear of some unseen other that is ambiguously 'growing'.

As people walk the streets, they throw themselves into inversely hunched positions and let out almighty groaning bellows before

resuming their course as if nothing had happened. For a game that you can complete in an hour or two, it's teeming with idiosyncratic details commanding your undivided attention.

That's why it's such a shame that *Vasilis* is as broken as it is. While its ambiguous narrative and outlandish structure do accentuate the game's uncanniness, it's still flawed. These features succeed in making the game weirder – and *Vasilis* thrives on its inherent weirdness – but walking around slowly as an elderly woman performing rudimentary fetch quests isn't particularly exhilarating, especially when the game glitches out and you've got to reload it just to leave an area.

Vasilis' art style is both chilling and charming, which makes for a spectacular juxtaposition of contrasting moods. Its use of music is subtle, but it works well. In fact, the sound design is particularly affecting – when characters speak, all you can hear is static crackling, wrenching language into a scarily unintelligible cacophony.

However, the actual game itself is boring, the narrative is lacklustre, and the whole experience is riddled with bugs. As with Marginal act's previous games, *Vasilis* is polarising. For me, games like this are worth playing – they're experimental and that should be celebrated. But despite how ambitious *Vasilis* is, it's both basic and broken, which stunts its potential and unfortunately detracts from a unique art style and absorbing structure. 🗿

Info

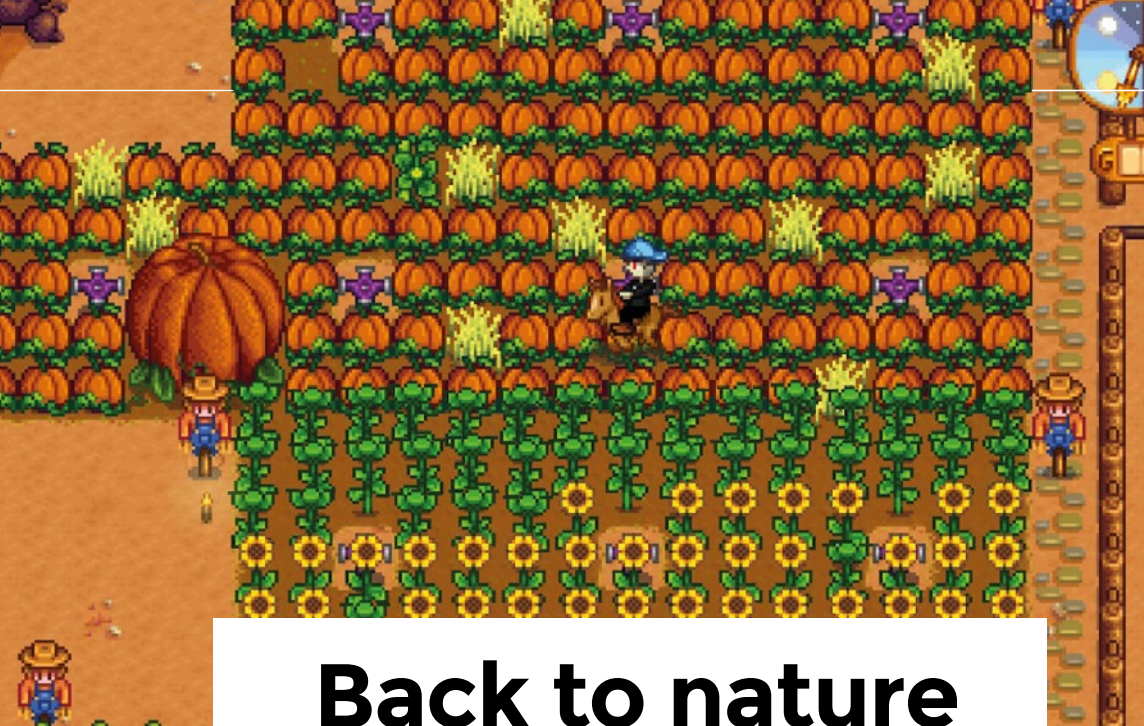
GENRE
Adventure
FORMAT
PC (tested)
DEVELOPER
Marginal act
PUBLISHER
Marginal act
PRICE
£6.19
RELEASE
Out now

REVIEWED BY
Cian Maher

VERDICT

Unfortunately, *Vasilis*' arresting art style is outweighed by its broken systems and substandard narrative.

47%



Back to nature

Now playing, still playing, forever and always playing *Stardew Valley*

I have been playing *Stardew Valley* pretty consistently since its release in February of 2016. That's over three years of dipping in and out, ten minutes here, five hours there, managing my little slice of the planet, overwatering blueberries and frightening crows, and courting people by literally giving them a gold bar twice a week, every week, until they fell in love with me. To say I am 'now playing' *Stardew Valley* is to say I am now breathing, I am now thinking, I am now existing. It has become a second home; a part of the routine. And it's not changing any time soon.

But why? It's just a farming game. It riffs very heavily on the previous golden child of farming *Harvest Moon: Friends of Mineral Town*. There's a lot to do, but it's not unlimited – or quick to change – in the experiences it offers. There's very little about *Stardew* that really explains why it's so popular and enduring, why those who play it do so for a very long time, or why my Switch has just become a *Stardew Valley* machine and I don't regret that fact.

It's endearing without being saccharine; characters suffer through harmful conditions like alcoholism or PTSD. It comments on genuine, real-life concerns relating to a life slaving away for someone else, somewhere else, in the vast capitalist machine. It offers quick feedback and regular rewards – it's manageable, and only ever as stressful as you let it be. *Stardew Valley*

is, to me, a superb mix of captivating game and psychological crutch, there to focus my mind on Something Else when the rest of the world makes my brain want to scream. Also, it lets me grow loads of melons, and I've never been able to grow a melon in real life.

The point where I realised the *Stardew* obsession might have taken over a little, though, was when I sat down and really thought about the changes and events in my life that have taken place since I first played the game back in 2016. I moved to the country where I now quite literally live on a farm. I got a dog. I started growing my own produce. I made jam from foraged blackberries. I went through a series of time-consuming, expensive upgrades to my tools (never buy a £5 garden

fork, kids). I married a dungaree-and-spectacle wearing mixed-race genius with a vested interest in science, my very own real-world Maru. I tired myself out to near-unconsciousness through the act of pulling weeds from the ground.

I'd be genuinely worried I'm living in some kind of *Truman Show* (except with farming video games), were it not for the fact that a) I'm terrible at keeping plants alive, unlike in the game, b) I make £0 from any of these endeavours, while my character in the game is a millionaire, and c) there is no way in hell I am ever starting every day at 6am, like my silly bugger digital farmer does. And seeing as it's clearly not *entirely* taken over my life, yet, I think I'll be happy to keep on going with *Stardew Valley* forever, and ever, and ever... 🐦

"It has become a second home; a part of the routine. And it's not changing any time soon"

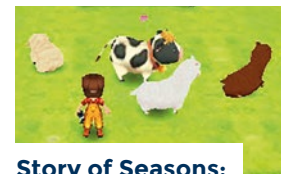
Now playing
Stardew Valley

Wireframe Recommends



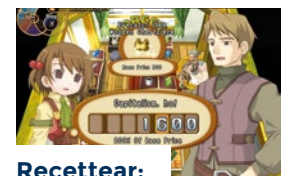
Harvest Moon: Friends of Mineral Town
GBA

A stone-cold classic and massive influence on *Stardew Valley*, *Friends of Mineral Town* has some clunky elements by modern standards, but little beats reaping the rewards of sweet potato season.



Story of Seasons: Trio of Towns
3DS

This is what the Harvest Moon series has become, and it's brilliant for it. Ignore the modern titles with the *HM* name and go for *Trio of Towns* instead for your farming fix.



Recettear: An Item Shop's Tale
PC

A bit different, but ticking the same boxes, *Recettear* sees you running an RPG's item shop. It's captivating and – importantly – funny, featuring the rallying cry of 'Capitalism, ho!'



Ghosts 'n Goblins

Vanishing armour and a pair of undies made this brutally hard game feel friendlier than it was

CAPCOM / 1985 / ARCADE, VARIOUS

In one of gaming's early meaningful coincidences, Capcom's *Ghosts 'n Goblins* was initially released in September 1985 – mere days after the Japanese launch of Nintendo's genre-defining *Super Mario Bros.* It's meaningful because, in many ways, *Ghosts 'n Goblins* is *Super Mario Bros.*' evil twin – both are platformers, yet *Ghosts 'n Goblins* is full of monsters and demons where *Super Mario Bros.* is all blue skies and magic mushrooms. *Super Mario Bros.* is challenging yet fair; *Ghosts 'n Goblins* exists to punish you at every turn, with randomly spawning enemies emerging from the ground and a quest that asked the player to run through the entire ordeal twice. Even the jumping mechanics spoke to each game's differing philosophies: *Super Mario*'s jump felt free and liberating, since the player could control the hero's trajectory in mid-air; in *Ghosts 'n Goblins*, the hero's path through the sky was set the second his feet left the ground. If one of those randomly spawning enemies decided to materialise in your path at just the wrong moment – well, tough. There was nothing you could do but watch Arthur – the game's scampering, lance-throwing hero – descend onto a potentially deadly obstacle. Even compared to other arcade games of its era, *Ghosts 'n Goblins* felt cruelly unfair at times. But via designer Tokuro Fujiwara, a hint of black comedy shone through.

Arthur initially came equipped with a suit of armour which proved far less protective than it looked: a single touch from an enemy or projectile sent it splintering into pieces, leaving Arthur to run through the level in his white underpants. A second hit from an enemy would prove fatal, and leave Arthur in a heap of bones.

This single element managed to serve multiple purposes at once: it was an efficient energy counter, since it told the player at a glance whether or not they could take another hit before they lost a life. It was a gimmick that ensured plenty of word-of-mouth – because, let's face it, whether you found it amusing or not, nothing quite like it had appeared in an arcade game before.

“This single element managed to serve multiple purposes at once”

Finally, it served to make an incredibly tough – and at times overly punitive – game feel far more friendly and approachable than it actually was. *Ghosts 'n Goblins* became one of Capcom's big pre-*Street Fighter II* hits, appearing on multiple computers and consoles, and receiving a few similarly popular sequels and spin-offs – most notably 1989's *Ghouls 'n Ghosts*. Unsurprisingly, Arthur's vanishing armour and undergarments remained a constant in all of them, even as – in the case of *Super Ghouls 'n Ghosts* – Capcom moved with the times by adding a much-needed double-jump. *Ghosts 'n Goblins* owes a fair bit of its success, we'd say, to that pair of underpants. 🍌

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This magazine is printed on paper sourced from sustainable forests and the printer operates an environmental management system which has been assessed as conforming to ISO 14001.

Wireframe magazine is published by Rasperry Pi (Trading) Ltd, Maurice Wilkes Building, St. John's Innovation Park, Cowley Road, Cambridge, CB4 0DS. The publisher, editor, and contributors accept no responsibility in respect of any omissions or errors relating to goods, products or services referred to or advertised in the magazine. Except where otherwise noted, content in this magazine is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported (CC BY-NC-SA 3.0).



ISSN: 2631-6722 (print), 2631-6730 (online).



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