BURNOUT
The arcade racer's continuing legacy

BACK TO BASICS
The power of abstract art in video games

TALE SPIN
A beginner's guide to branching narratives

Issue 29 £3
wfmag.cc

CYBERPUNK 2077

HACKING INTO 2020'S BIGGEST RPG

9 772631 672000

Video games are basically all about tidying up

The video game industry spends just the most extraordinary amount of its time and energy declaring itself to be equivalent to other major media formats. We're endlessly barraged by the information that games are as big as movies, how they deserve to be taken equally seriously, how it's an art form as high as books and theatre and, I dunno, expressive dance. And yet, in no other medium will you ever find as many of its projects so absolutely obsessed with tidying up.

The mighty Ian Bogost, in a recent Atlantic article (**wfmag.cc/tidying**), stated: "Playing a game is a chore." His argument is that games are "broken machines," and "the player's job is to make them work again." And he's right. I mean, obviously he's right. But I'm not sure he realises quite how literally right he is about the "chore" part.

Actually, once you venture down this line of thought, it's hard to think of games that aren't about completing chores.

A first-person shooter – the industry's consistently biggest-selling and highest budget games – is about cleaning up an area of its enemy soldiers. The levels begin cluttered, messy with foes, and through the cleansing work of your arsenal of guns, you clean it all up. Turn around, look behind you, and you'll see empty streets, clutter-free fields, soldier-free research laboratories. There may be pools of blood to mop up, but chances are they're already fading to save memory.

A role-playing game is almost literally a to-do list of household chores. "Visit the guy about the broken fridge" levels of mundane things you have to get around to. Crossing off tasks as you get them done, and, of course, tidying up messy enemies along

JOHN WALKER

John Walker is a lovely man who has some opinions. He's been expressing them about games for the last 20-something years.

#29

the way. Platform games! Platform games may as well equip you with a broom for how thinly disguised the motives are. Sweep, sweep instead of slash, slash, it would all end up being the same. Still not convinced? Think I'm being a little bit semantic? Look at some of 2019's most popular games:

Untitled Goose Game: a literal tick-list of chores to complete, which suggests a game of causing chaos, of making a mess, but ultimately has you do quite the opposite – you create order, albeit clumsy, malevolent order.

Spider-Man: Not only do you tidy away all the villainous gangs littering up the back-alleys of New York, but you also tick off an enormous to-do list, including tidying up all those backpacks you mysteriously left lying around. And, like so, so many games, this is all communicated to the player by tidying up the icons on a map. Clean the map, finish the game.

Luigi's Mansion 3: *This game is all about vacuuming.*

And this is before we get to the peculiar popularity of literal tidying games, like *House Flipper*, *Viscera Cleanup Detail*, and I would argue fervently, *Farming Simulator*. Heck, if you want to see a terrifying sight, Google "games about tidying up" to discover a whole other world of grim, ad-funded shovelware on the topic.

The rest of popular entertainment doesn't feel the need to focus on this. Cinema rarely involves watching the film's lead character tidying her desk drawers. The most popular novels don't often feature lengthy descriptions of how much neater things looked after the murderer was caught. In fact, they tend far more toward the *creation of disorder*, of things getting messier, more wrong.

Games are stuck in this mad place of requiring the player to not only fix their broken machines, but clean up after themselves as well. Ⓦ

Contents

Contents

6

Contents

18

24

60

WELCOME

It's nearly Christmas, and to get ourselves in the spirit, we've been revisiting a few of our favourite festive moments from the history of video games – you can find a stocking-load of these over on page 48. One game we didn't find room to squeeze on the list, though, was a Yuletide gem named *Moley Christmas* for the ZX Spectrum. Given away on the cover of the January 1988 edition of Your Sinclair, it was essentially a cut-down spin-off from Gremlin's then-popular series of *Monty Mole* platformers.

Aside from the usual jumping around and collecting stuff, *Moley Christmas* had a likeably meta backstory: as Monty, you had to shepherd the game's code from Gremlin's headquarters, to the duplication plant where the games could be mass-produced as audio cassettes, and finally onto the cover of the magazine, ready to be delivered to newsagents in time for Christmas. Little more than a glorified demo, *Moley Christmas* was a curious snapshot of the early British games industry, and also intended as Monty Mole's last-ever game, which would've made it a decidedly muted swansong: its last scene sees the hapless mammal running back and forth between a parked van and a shop, trying to avoid being hit by speeding cars.

If you want an idea of how far games have come in 30 years, just imagine a *Tomb Raider* finale where Lara Croft ends her career unloading copies of Wireframe from the back of a Leyland DAF.

Have a magnificent Christmas, readers.

Ryan Lambie
Editor

HARDWIRED

The distant dystopia of Cyberpunk 2077 is much closer than you might think

t stretches the definition a bit, admittedly, but *Cyberpunk 2077* is arguably the biggest independently made game of 2020, if not ever. Developer CD Projekt Red is publicly listed, so is in no way a true indie, but this is a studio that makes and publishes its own games without outside help from other publishers. As such, it's something we felt utterly compelled to cover – helpfully, it's also looking great.

The original Cyberpunk, set in the futuristic and distant year of 2013 (its sequel jumping forward seven years in Cyberpunk 2020), made its way to us as a pen-and-paper RPG. It presented a neo-noir world of battling corporations,

cybernetic enhancements, and lashings of grit; the underlying ethos for players of the game went as such: style over substance, attitude is everything, and live on the edge.

For some reason, it's taken until 2020 – in the real world, not the game – for a proper, big-budget adaptation of the influential original tabletop game to come to fruition. When word came out that CD Projekt Red, the studio behind *The Witcher* series, was at the helm for *Cyberpunk 2077*, pulses began racing: this would be a proper RPG, and it would most definitely not be a case of style over substance.

So far, the signs are good. The substance is joined by a considerable amount of freedom, with players able to tackle quests in this first-person open

world of Night City as they see fit. Want to go in and cyber-batter everyone? Go for it. Prefer a subtle approach of silent hacking? Go (quietly) wild. Look good while you're doing whatever you're doing, however it is you're doing it? Naturally.

We caught up with Richard Borzymowski, producer on *Cyberpunk 2077*, to pick his brain about the much-hyped game – there are few better to ask when you want to know just how a project so vast came to be.

It's been a long time coming, but you're almost there. How are things feeling in the studio as launch day approaches?
Richard Borzymowski: We're excited. We're really excited. We've been working on this game for a long time. We wanted to not only make a well-playing game, but we also wanted to put on top of that a unique style. When Mike Pondsmith

The world of *Cyberpunk 2077*, brought vividly to life by artist Josan Gonzalez.

An open world of possibilities. And increasingly dark quests.

created the pen-and-paper RPG in the eighties, one of the mottos [was] style over substance; that the players were supposed to dress in order to express what they represent, and they should always overdress. We know that if we want to do the pen-and-paper game justice we have to develop a good game, but on top of that, we have to show a unique world. We put a lot of energy and effort into that.

It's hard to imagine how much work goes into it. Is there any way you can describe the efforts required to design an area of the world, the look, and so on?

RB: I can present the process. If you think about specific little things like [designing] a building – if you think from the smallest detail first, you can't imagine. If you turn it around and start with a vision to build on, set 57 years after Mike Pondsmith's [existing world], then you more or less

know what is going to happen. The plot line is written, and later on, you're deriving quests from that. At this stage, you should have a good idea of what your design principles should be.

In our case, this would be providing as much freedom to the player as possible, open-ended gameplay opportunities, customising your character, and so on. When you're designing quests, you're making sure that your design principles are in line with those quests so they can be completed in the different playstyles, and so they branch – in our case, it's a standard we're known for. It's complex – choices really matter. You start to introduce characters along the way that

you might not flesh out in the main game. You might develop side quests which have side quests.

And then there's making the world while designing all of this...

RB: You should have already defined what environment your game is taking place in. In our case it was a no-brainer, because Mike Pondsmith's RPG was set in... well, you could play it anywhere, but the main ➡

Night City: like Disneyland, but without the queues.

area to play in was Night City. We took this over. Our main environment in which we are playing is Night City as well. While the quests are being designed and you know what the quests need from the city, like what kind of exact environment, what kind of locations – these are going to be shaping the city.

Actually, the first thing I suppose we had to do was to work out the map. Mike already stated in the original game that Night City is on the West Coast, so we started to gather references from Los Angeles, San Francisco – but also all the other mega-metropolises, the mega-cities in the world. There's a lot of Japanese influence in Night City. We were looking at Tokyo, we were taking references. We had so many references, oh my god. We started to sort out those things that would make Night City feel unique.

> ## "FOR ALL THOSE HARDCORE CYBERPUNK FANS THAT PLAY THE PEN-AND-PAPER RPG, THEY'LL FIND A LOT THEY'RE FAMILIAR WITH ALREADY

Mike once said when we were in a meeting with him that when he was thinking about Night City, about the districts, he imagined it to be a bit like Disneyland. If you walk around Disneyland, you have individual areas. Everywhere you go, it is completely different – but it's still Disneyland. So we made sure our districts are very distinguishable.

So, Tomorrowland writ large, then?
RB: We had our overall references for the city, but then we had to find references for those individual districts. You're gathering those; you're matching them with the overarching idea for the city… Then we start developing concept art. When the concept art's created, you're actually able to define more or less how big the city is going to be. You have to define something in the beginning. But later on – most of the

time, really – it's getting bigger and bigger because quests are important. It's the most important part of our game, so if the quest design needs something, we probably, most of the time, do it.

I talked about a lot of things… but essentially you have a thousand tasks to do, but they're somewhat unified, and you can actually see how you're progressing [as you go along]. You can calculate velocity and see if you can make it on time – or, before we said the release date publicly, we were able to actually define when that date was going to be. That's production 101.

Is there a risk of it falling back on a formula, when you're designing missions that are handled in a sort of unified fashion?
RB: From the production point of view, it would probably be easier if things were more streamlined and unified. The thing is, we have 13 quest designers. They talk with each other about the quests – I know that, but I don't know what exact puzzles or challenges they're making; for all of those quests, you're developing unique locations tailored to [each one]. The first prototypes of those locations are done by another design team, which again has more than just one person. Everyone is developing [their section] a bit different. It's really a very ferocious mix of minds in each
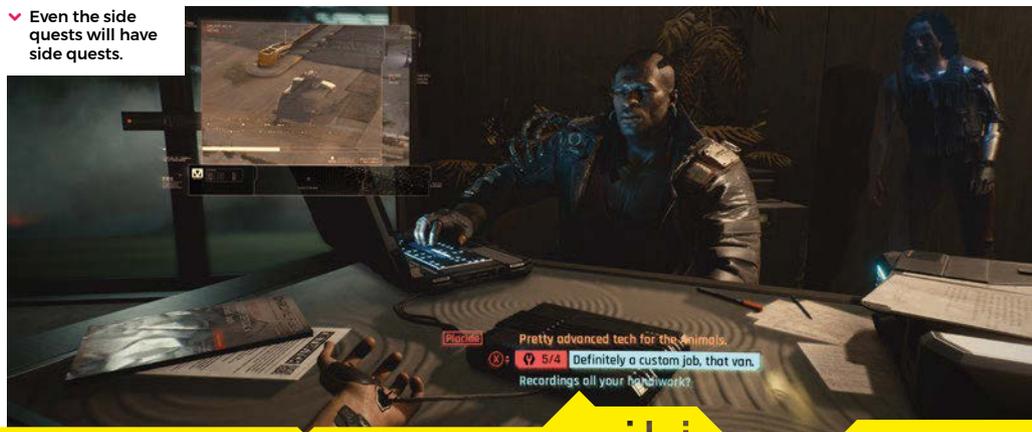
individual quest and location, which luckily is very good. It provides a unique feel and experience anywhere you go in the game.

The sheer logistical effort involved to make something so big and over such an extended period of time – there has to be a huge amount of satisfaction, seeing it all come together.
RB: Yes, especially if the numbers are good! Nah, I'm kidding – people tend to think producers are those guys who are only sitting at the table and [are hands-off]. It's not like that. We're very involved with the game. We're constantly on the move, facilitating communication between designers in order to find hotspots or problems along the way. We're actually, very often, used as communicators with the other teams. It's our job.

A team of artists might not talk to others because their purpose is to focus on the work. They're obviously talking with all the relevant parties, but they might not know about this one tiny detail from another totally different team. *You* might

Even the side quests will have side quests.

▲ **The action will have a certain level of grit, as we'd expect.**

▲ **The urban decay may be off the charts, but just look at that lighting.**

▲ **The Yaiba Kusanagi motorbike is just one of** *Cyberpunk 2077*'s **svelte vehicles.**

know, though, so you're there to catch those things and to adjust *before* they build something and then have to redo it; that's the worst thing that could happen.

You mentioned Mike Pondsmith a few times. Was he on-board from day one, or was it a more hands-off approach?
RB: The way I perceive Mike's involvement is that he trusts us. We're developing the game. We're showing him things and consulting, asking 'What does he think?'. He's not a guy who just says yes or no. He's a guy who very often says, 'Yes, this is very good,' [and explains why]. I really like that. Sometimes he points us in a different way, then it comes to a discussion, and the discussion might end up with either one of the sides realising one particular solution suits our game better than the other.

Cyberpunk is obviously a known property, but it's not something that everybody knows. You're going to have a lot of beginners coming into it. How are you introducing them to this world?
RB: Well, this is exactly what I wanted to say. Take books; I read a lot of books. Some of them tend to have those info dumps in the first pages, like a king and a servant speak about the situation in the kingdom and the king tells us over two pages all about it. Those two people, they know the situation in the kingdom:

they wouldn't describe it out loud. This is exactly what we're not doing in *Cyberpunk 2077*. We're not doing info dumps. So newcomers will get eased in.

On the other hand, for all those hardcore Cyberpunk fans that play the pen-and-paper RPG, they will find a lot they're familiar with already.

We really took it to our hearts to take what Mike Pondsmith created. It's not like we're exploiting a name. We built the map, we co-operated strongly with him [throughout the process]. He's creating Cyberpunk Red right now, which is bridging the tabletop RPG and the game. So both sides, the newcomers and the hardcore fans, should feel very welcome.

You're not using a brand new engine – it's REDengine 4, but upgraded, right? How does this factor in to *Cyberpunk 2077*'s **design?**
RB: It was developed… well, built upon. There are a lot of new things. If you look at one game and the other, the first major difference is *The Witcher* is third person, *Cyperpunk 2077* is first-person. Then you have the streaming issues. You have this big city. Then there [are] things like global illumination that we're using in order to provide this really immersive feeling – and there are *so many* lights in *Cyperpunk 2077*. *The Witcher* didn't have that many lights… Well, you have fire, the moon, the sun; don't

get me wrong, but this is just how fantasy stuff plays out. But these are [the sort of] things that we had to develop.

It sounds like there was a lot of work that still needed to be done.
RB: There was a lot that our programmers did, the tech artists, the people on the back end of the game. It's actually pretty funny: we just mentioned that people tend to forget the logistics guys, the producers, but actually I think people are often forgetting about the coders, the tech artists. Essentially, without them, there would be no game, right? After the game releases, everybody's praising the art, the artists, the writers. Well, somebody allowed them to build those things.

The ones locked in the basement.
RB: They're not in the basement! They have a very nice room. With lots of flowers. ⓦ

Cyberpunk 2077 **releases 16 April 2020 on PC, PS4, XBO, and Stadia.**

RED DAWN

CD Projekt Red's growth over the past 25 years has been steady without being sudden. All the same, there's a larger team working on *Cyberpunk 2077* than was on *The Witcher 3*. So how does the team manage these growing pains? "The key thing," Borzymowski explains, "is that many of those people from *The Witcher*, the key figures, are still a part of our team. Those people are bringing their expertise. They're battle-hardened. They know what it means to do a good game. They know what they should focus on. They're basically passing this down to everybody who joins the team, which is very valuable." So the advice is: grow, but remember where you came from.

Armed to the teeth

Clockwork Giant Games are working on a survival adventure that's red in tooth and claw

⌄ Giant spiders and a surprisingly athletic pangolin are among the bosses you'll fight in *Vulpine*.

The games industry's much like the animal kingdom: it takes tenacity and resilience to survive. Take *Vulpine* for example: in 2016, indie developer Clockwork Giant put their action-adventure on Kickstarter, only to see it fall short of its minimum goal. But rather than give up, the team learned from the experience, waited two years, and tried again.

"We were working unhealthy hours for that one," programmer and studio co-founder Isaac Goodin says of that first crowdfunding attempt. "We were making changes up until an hour before we launched. For our successful campaign in 2018, we spent three months preparing everything at a healthy pace. We actually had the whole thing finished a month before we started the campaign."

Having garnered a shade over $26,000, the studio has spent the past 18 months or so crafting their open-world game: a mu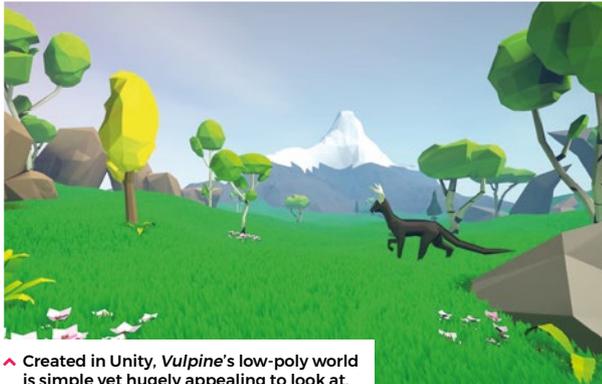ltiplayer fantasy positively stuffed with animals of varying shapes and sizes. In fact, it's refreshing to see a game without a single humanoid character in sight; instead, *Vulpine*'s most arresting visual is its furry protagonists' habit of carrying weapons in their teeth: foxes wield swords, bears wave hammers around. So what's that all about?

"The first plan for *Vulpine* was to just have normal animals doing ridiculous things," Goodin says, "but that changed early on. At some point, one of us joked about them having a sword, and that was it. No debating on the topic, just, 'Well, of course the animals have swords, how else would they protect themselves?'"

It's a fair point, particularly when you consider that *Vulpine*'s world is full of even larger creatures intent on killing you – expect to find colossal pangolins with lashing tails, deer-like beasts with fangs, and giant spiders that can cover great distances with their chunky legs. To help players out, there are friendly animals dotted around the map who'll provide supplies and weaponry. Our favourite so far? A one-eyed canine weapons expert called Barksmith.

Like most of the other animals in *Vulpine*, BarkSmith doesn't let his lack of opposable thumbs stop him from plucking a hammer from his tool bag and working pieces of metal on a miniature anvil – a process brought to life with some charming animation. "I use real animals for reference all the time," Goodin tells us. "We have a development chat filled with GIFs and videos of dogs running, jumping, doing backflips. Animals don't really swing weapons around, so I have to do some guesswork as to how they would do that. As for designing a monster, there's a

^ There are three classes of animals, based on their weight and agility, ranging from a nimble rabbit to a lumbering yet powerful bear.

VULPINE

lot of thought put into how it will move and interact with the player. They're all based on real animals, and I take the time to study how those animals move. Even if they're ten feet tall and doing backflips in our game."

Although there'll also be a single-player mode, *Vulpine*'s main draw will be its multiplayer campaign, which will see up to 32 players teaming up to explore and hunt down monsters. And while Clockwork Giant aren't planning to make the difficulty level too brutal, diligent resource gathering – and co-operating with other players – will be vital for survival, Goodin says. "We've made it so multiplayer is difficult by default, but players who want less of a challenge or need assistance can ease it by preparing items and weapons beforehand that

> ## "Of course animals have swords, how else would they protect themselves?"

will make a huge difference. We also encourage them to hunt in groups. We want *Vulpine* to be challenging, but not frustrating."

That *Vulpine* is largely the work of just two developers – Isaac does the programming, while his brother Josiah handles the artwork – makes its scale all the more impressive. Opting for that flat-shaded, low-poly look has helped keep the workload down, while the open world comprises a mixture of procedurally generated areas and hand-crafted sections, Goodin explains. "It's so important to constantly take scope into consideration, especially with a single programmer and artist," he says. "We're not a dev team of 1000 people; we can't make a game as filled to the brim as a large studio. We mitigate this with things like procedural terrain, custom tools for adding content, and reuse of art assets to get the most out of the work we do. Having a single artist make an entire world would be years of work otherwise."

Not that procedural generation is necessarily a short cut, Goodin's quick to add. "Procedural terrain is especially hard to develop. It needs to perform well enough to support up to 32 players running around the world, while also computing pathfinding for NPCs, and managing events/content loading."

Although there's still more work to be done on *Vulpine* before it hits Early Access in 2020, the duo are currently putting together a demo that will show off the game's combat, which they plan to release within the next few months. We're looking forward to finding out just how deadly a rabbit brandishing a hammer can be. ⓦ

WISDOM OF CROWDS

"Something we'd tell other people looking to crowdfund their game is to market your game early," Goodin says. "We'd been doing Twitter posts of *Vulpine* every Saturday for nearly a year before our campaign, and we announced that we'd be crowdfunding a month in advance. The absolute biggest recommendation we have is to read 'A Lobster's Guide for Video Game Projects on Kickstarter.' Regardless of your platform, the guide is one of the most helpful resources for video game crowdfunding."

Total War Saga: Troy

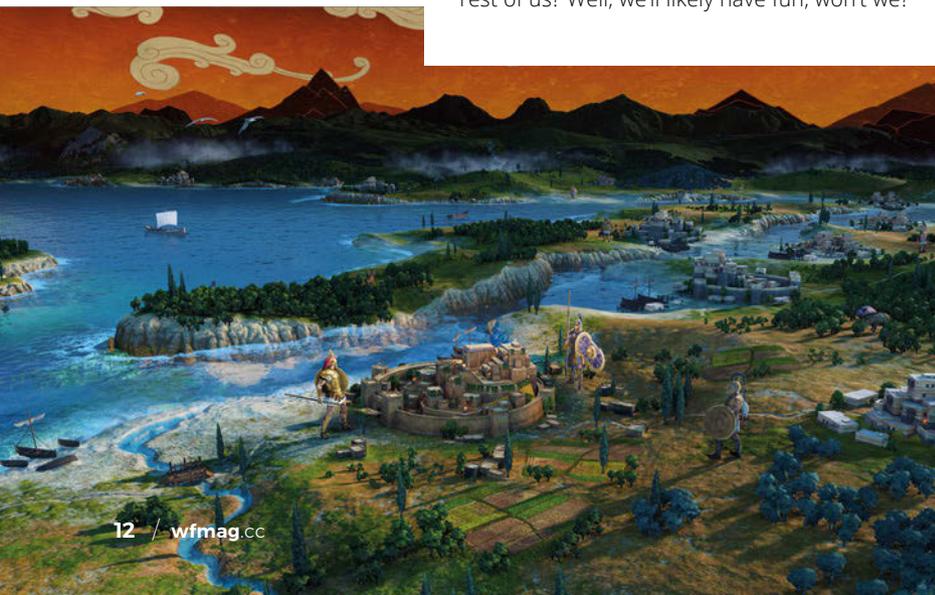Zap, pow, kersplat, die in bed you Trojan pigdog, gnyarg, kerpow

T he Trojan War hasn't been touched by historical strategy series *Total War*. Guess what's changing with *Total War Saga: Troy*? Yep, we step back to the bronze age in the middle of the Mediterranean to see what life (and death) might have been like all those many years ago, before plonking you right in the middle of some massive battles and hoping you were listening at RTS school.

While most of Creative Assembly's series has been a stickler for (relative) historical accuracy, the setting and story of *Troy* – in no small part because of the few historical records from the era – takes its inspiration instead from Homer's *Iliad*, as well as the myths and tales of the era that have survived the centuries. It's not as fantastical as the *Total War: Warhammer* tie-ins have been, of course, but those looking for pure historical fact may want to keep on walking. The rest of us? Well, we'll likely have fun, won't we?

To figure out where *Troy* sits in the *Total War* pantheon, we spoke with Maya Georgieva, game director on the project. "We actually do have enough sources regarding armour, weapons, and architecture," Georgieva says of historical accuracy. "This gives us the foundation of what life would have been like, so we can offer players a high level of authenticity when they load into a campaign and first lay eyes on Aegean civilisation." Acknowledging *The Iliad* doesn't offer a true historical document from which to take reference points, she does add that using Homer's odyssey "does add the depth and colour that we need to bring the backdrop to life."

One thing *Total War Saga: Troy* does feature – historical accuracy fans may want to sit down – is mythical creatures. Incorporated to offset the inherent disadvantage of the Bronze Age and its lack of unit variety, according to Georgieva, these beasties have been introduced as a way to spice things up a bit. But it's not like you're just going to see a Minotaur plopped into the middle of a fight – there are efforts made to make these creatures… well, let's say 'realistic', at least to a certain degree; so they're useful in the game, but also don't significantly alter its tone.

"Of course, as with all of the content in *Troy*, they are also subject to the 'truth behind the myth' approach," adds Georgieva. "So we've had a lot of fun researching ways to implement them within this concept. Some lent themselves better than others, and the Minotaur is a good example of this. In Greek mythology, the Minotaur was a monstrous, man-eating beast on the island of Crete. This iconic monster was

⌄ These lads aren't as big as they might first seem. Unless they are, in which case we're on course for a hell of a barney.

^ As ever, *Troy* offers some great battlefield views.

^ The game isn't a documentary, but it's not a fairy tale either – the truth is somewhere in the middle.

^ The Minotaur's really just a power-hungry chap in a mask, but he packs a wallop.

first created when Poseidon presented King Minos with a sacrificial bull which he refused to slaughter, forcing the Greek god to repay this act of sacrilege by cursing the king's wife to bear a child that was half-bull, half-man." Mythology is incredible. "According to the myth, Athenian youths were sent as tribute to Minos, to be eaten by the monster in its lair – a maze called the Labyrinth, built by Daedalus to house the Minotaur. Ultimately, the monster was slain by Theseus – roughly one generation prior to the Trojan War in the timeline of Greek mythology."

So how do you make that even remotely 'real'? Well, the team has it covered: "Scientists speculate that the basis for the Labyrinth may be the complex architecture of the Minoan palace in Knossos," Georgieva explains. "The name 'labyrinth' may be related to the sacred double-bitted axe of the Minoans, called 'labrys'. In *Troy*, we've created a backstory for our Minotaur that reconciles the timelines and the fact that Homeric Crete is dominated by the Mycenaeans and not the Minoans for at least two centuries since the fall of the latter. We think of our Minotaur as a rebel or bandit-king who invokes the symbols of the past to stake a claim for power – he uses the bull mask and the double-axe as means to connect to the Minoan heritage and incite followers." And that, friends, is how a mythical creature becomes a more realistic, heavy-hitting special unit in a real-time strategy game.

The core game is, of course, similar to what has played out before – it's a winning formula, there's not going to be a huge amount of work done under the bonnet. There do have to be tweaks though, to factor in – for example – that combat is much more infantry/melee-focused than in previous *Total War* titles, without even

"We think of our Minotaur as a rebel or a bandit-king"

cavalry featuring in *Troy*. "That is why we have focused on improving what we already have, like the infantry battles," Georgieva says, "making the difference between light, medium, and heavy troops really stand out, while also trying to increase the focus on tactical troop movement around the battlefield by increasing the impact of flanking or exhaustion, as well as introducing new terrain types. All this has also impacted our battle maps, making them more vibrant and tactical, allowing experienced commanders to have more options for outmanoeuvring and outsmarting their enemies."

On the other hand, the winning formula being tweaked into a 'cut back' version of the core *Total War* through the *Saga* spin-offs has seen some of the series' dedicated fan base voice their displeasure. Georgieva, though, doesn't see the sub-series as a distraction from the core – more a complementing factor that improves the series as a whole: "I don't see the *Saga*s as a factor for division in the series," she says, "but rather as a welcome extension and also a vehicle for exploration – more *Total War* for the fans who can't get enough, and new eras, new ideas, and new mechanics to try and play with." Ⓦ

SKELETON SOLDIERS?

There must have been a temptation to go all-out with the fantastical elements in *Troy*, so we put it to Georgieva: is there a chance we'll see Ray Harryhausen-style stop-motion skeleton warriors at all? "Ah, the temptation of the limitless fantasy setting!" she says. "It's the abyss that draws on every designer's soul! Of course, it has dogged us throughout the development, but frankly, I don't believe we could've done justice to a mythology free-for-all setting in this scope and format – in my mind, this is bigger than a saga-sized title and thus, an idea better saved for later.

"For now, we take comfort in the less than modest challenge of setting up a foothold in a historical era the big games of the series have never attempted. And if we overcome its natural hostility, maybe our expeditionary force can pave the way for a bigger incursion." So no, then.

Headlines
from the virtual front

01

02

03

01. Holy miner

Rust, *ARK*, and *Team Fortress 2* all lost out on the holiest of multiplayer gaming positions: a server at the Vatican. After it was put to the vote, *Minecraft* came out on top with 64% – which means we now have to think of more puns and jokes relating the Catholic Church to *Minecraft*, beyond the above poorly constructed reference to Dio's *Holy Diver*. Yes, I have just explained the joke there.

Father Robert Ballecer, a tech blogger turned priest, decided to set up a gaming server in the Vatican so there could be a dedicated, positive, and wholesome server for people to make their way to. "You can invite people who want to be creative, who don't want to be toxic, and you create an environment in which people can express themselves and build up a relationship," he told Rome Reports. "And the relationship thing is the most important part. That's ultimately what I want to do with the server."

The server itself can be accessed here, if you're so inclined:
minecraft.digitaljesuit.com

02. Shouldering the burden

EA's streaming service Project Atlas might still be in the testing phase, but the company's brass is high on the potential the service could bring to the fore. While EA isn't positioning the service as a competitor to the likes of Google's Stadia, Atlas will play a big part in EA's future plans – all things going well.

EA's chief technology officer Ken Moss, though, brought up some *bold* predictions when speaking with GI.biz: "How cloud gaming evolves is uncertain right now, but it's going to bring another billion players into the gaming world. We say we're at 2.6 billion or so right now. We want to make sure we're at the forefront, but also get the early learnings so we know how to change how we build our games in that world."

Another *billion* players? That's a lot of potential microtransactions. Anyway, if and when this does launch properly, bagsy having the headline 'Atlas! ("At Last")'.

03. Valve time: engaged

Campo Santo was brought into Valve's fold early in 2018, and already we're seeing a big impact on the studio: it has adopted Valve Time, in a way. It's that *Twilight Zone*-style place of development where games simultaneously exist and don't, and are finished and released to the public 'when they're done'. Basically, Campo Santo's *In the Valley of Gods* has been placed on hold while the team aids with the development of *Half-Life: Alyx* and other projects.

Co-founder Jake Rodkin explained to Polygon: "As we integrated ourselves into Valve it became clear there was a lot of valuable work to be done on *Half-Life: Alyx*. Some of us started lending a hand, and have since become full-time on the project as it approaches launch… As of today, *In the Valley of Gods* development is on hold – but it certainly feels like a project people can and may return to. And when that happens, we'll find an exciting way to let fans know."

Analysts: Switch will have longer life cycle than regular consoles. Us: hurray!

Silent Hills would have sent you emails/ texts while you weren't playi-NO THANKS

04

05

06

04. The Human Head saga

In short: Human Head Studios finally managed to get its long-planned action RPG *Rune II* released on the Epic Games Store on 12 November, with Ragnarok Game acting as publisher. Almost immediately after its release, Human Head closed down and a new studio, called Roundhouse Studios and owned by Bethesda, opened up. Ragnarok was... confused, it's fair to say.

While the right noises were made regarding ongoing support of *Rune II*, things have since taken a few turns for the worse – and an inevitable lawsuit has followed. The major claims are that no source code has been provided, assets are also not showing up, and that the publisher didn't actually know Human Head and Bethesda was planning the change before it happened, with Ragnarok learning about the move after it was reported by the press.

What a world.

05. Slightly Mad news

Slightly Mad Studios, developer of the *Project CARS* series, has been acquired by Codemasters for a £23 million up-front fee. This may rise to around £52 million (or even as high as £129 million) should the studio go on to perform well over the next three years. It seems an obvious move for Codies, with the developer-publisher taking the mantle of being one of the last *real* driving game studios putting the time in.

Codemasters CEO Frank Sagnier said of the acquisition: "[Slightly Mad Studios'] focus on triple-A quality, and the passion that they put into everything they create mirrors our own. Both companies have a number of world-renowned, successful franchises along with exciting product development pipelines, supported by leading IP and some of the best talent in the gaming industry."

06. And finally...

Cows wearing VR helmets. This is proper end of the local news bulletin stuff, but it seems some Russian dairy farmers have been running an experiment to try to improve their livestock's welfare, by placing VR headsets on cows and letting them live in virtual, grassy lands where they can idle and chew in less stressful conditions. Early reports say the experiment 'improved the mood of herds'. Yep.

We could argue there are better ways of improving the living conditions of livestock, but we don't want to get into a politicised rant here. Cows wearing VR helmets look cool, though, right?

Rejoice! *Vanquish/Bayonetta* 10th anniversary pack to hit consoles in February

YouTube relaxes violent gaming content restrictions; outpouring of content (and blood) follows

Incoming

Grounded ⬆

Taking the first-player multiplayer aspect of something like *Sea of Thieves* and bringing in the survival genre, *then* watching a few too many Rick Moranis movies and we get… *Grounded*. Obsidian's upcoming co-operative title sees its characters shrunken to the size of ants and tasks them with making their way through a regular suburban backyard. At this size, the garden naturally becomes a much more challenging, wilder environment to make your way and survive in. With a robust ecosystem behind the *Honey, I Shrunk the Kids* facade, players will encounter (giant) insects and (giant) everyday objects to tackle and traverse, bringing a recognisable, relatable element to what the studio is hoping can bring in veteran players and newcomers alike.

Shrunken size certainly doesn't equate to shrunken ambition, and with Obsidian's output in recent years there are high hopes for *Grounded*. There are additional expectations on top of all this, too: *Grounded* is the first game Obsidian's announced since its acquisition by Microsoft. Short in stature, and high in hopes.
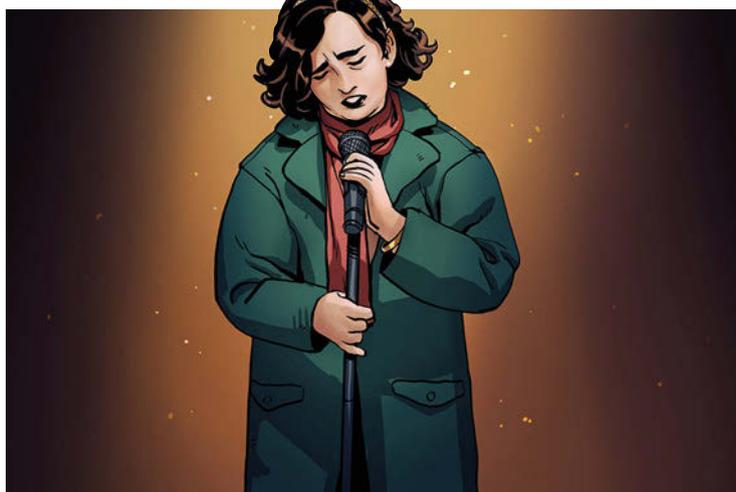
Creature Keeper ⬇

There's naturally a *Pokémon* comparison for this top-down action-RPG, but we shouldn't forget to namecheck the likes of *Monster Rancher* too. *Creature Keeper* showed through its successful Kickstarter campaign there's an appetite for games in the befriend-'em-up genre, and one-person dev team Fevir is keen to bring more than just weaponised pets to the table. As well as feeding creatures their favourite foods to make them love and battle alongside you, there are also elements such as farming and cooking to pass the time with. It already looks like a robust package, and there's that sheen on it that comes from a game you can tell is a labour of love.
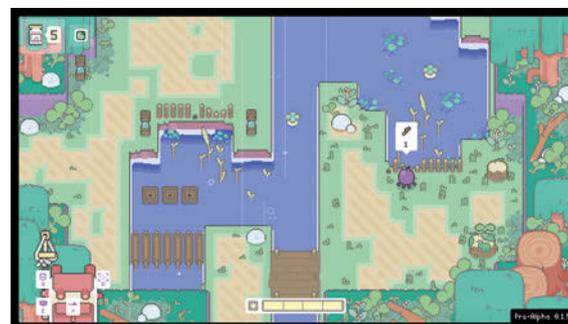

↰ Bite the Bullet

A shooter RPG/rogue-lite is honestly enough to tickle our collective interest gland, but *Bite the Bullet* adds into the mix a whole lot of eating. See, you have to eat to power up not just your character, but their weapons and abilities, too. With classes based on diet, this may well be a first for gaming in allowing you to literally be a vegan warrior, which is nifty. Also: napalm vomit. Huzzah!
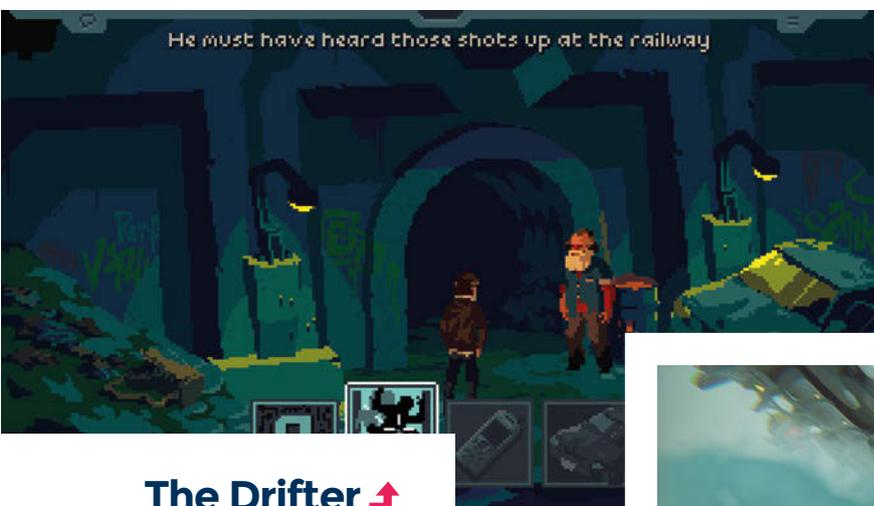
Chorus: An Adventure Musical

Fairly recently exceeding its funding goal on Fig, *Chorus* looks like it could actually be a first for gaming: a musical. We've had songs – even musical numbers – in games before, but *Chorus* is an actual, bona fide musical game. Written by *BioWare*-alum David Gaider and with the likes of Troy Baker and Laura Bailey on voice acting duties (Baker is also voice director), there's a fair bit of talent behind this one. We're keeping a close eye on it, that's for certain.

Garden Story

Playing as a little village guardian (who's a grape named Concord, it's important to point out), players will work to restore the fortunes of their island home, while making friends with toadstools, frogs, and fellow berries, among others. Basically, it looks a bit *Stardew Valley*-ish, it's a game to be played at a slow pace, and they're good enough reasons for us to be interested in this one.

The Falconeer

A mix of RPG, fantastical designs, and birds of prey, *The Falconeer* looks to offer an engaging twist on traditional themes. What this means in practice is you'll be engaging in aerial battles against manta rays and beetles, as well as 'dragon-like weavers'. Oh, and airships. Because a falcon fighting an airship is something we've always expected to see in games.

He must have heard those shots up at the railway

The Drifter

A dark, brooding adventure telling the tale of the titular drifter who witnesses a murder and is then framed for it, before having to clear his name. There's also a dash of *Groundhog Day* in there – said drifter is murdered himself, but brought back to life seconds before his demise. It certainly sounds like an intriguing concept on paper, and we look forward to getting some proper time with the game, to see how it all comes together and weaves a drifting tapestry.

BURNING RUBBER

The race to recreate Burnout

FROM DANGEROUS DRIVING TO FORZA HORIZON – HOW OTHER ARCADE RACERS ARE EXPANDING ON BURNOUT'S EXHILARATING LEGACY

WRITTEN BY | **AARON POTTER**

Not so long ago, the industry was awash with great arcade driving games. The *Need for Speed* series, *Blur*, *Driver*, and *Split/Second: Velocity* all offered a jolt of adrenaline between the late 1990s and the 2010s. One arcade racing franchise enthusiasts could always fall back on during this time, however, was the fabled *Burnout* series, which began in 2001. But ten years since the release of *Paradise*, and a new entry in Criterion's series is still nowhere to be seen.

Thankfully, a small subset of indie and triple-A developers are trying to fill the gap.

Not all are explicitly attempting to recreate *Burnout* like for like, but they're all trying to find their own way of recapturing the series' sensory delights: hurtling through the open road against a scenic cityscape, among heavy traffic, often with the cops hot on your tail.

Released in April 2019, *Dangerous Driving* was an arcade racer that aimed to revive the thrill of early *Burnout* titles. It hopes to put the aggression back into the racing genre and – as developer Three Fields Entertainment itself puts it – "recapture the spirit of the past and take it to a new place." The studio was formed by the original mind behind the series,

⌃ *Burnout Paradise* has the same sense of anarchy, despite making the move to open world.

Alex Ward, who, alongside his fellow Criterion alumni, are enthusiastic about continuing the *Burnout* legacy.

"Driving games have been a lifelong passion and interest for me going back to the mid-eighties," explains Ward, Three Fields Entertainment's co-founder. "Driving at high speed, weaving in and out of traffic, and having accidents… Arcade driving games are 100 per cent pure gameplay. You have to entertain the player as quickly as possible and then build on it. It requires concentration and focus every step of the way."

That arcade focus was a key part of the *Burnout* franchise from its PS2 debut, which

⌄ Matt Webster, VP and general manager at Ghost Games and Criterion.

introduced such trademark features as the boost meter, driving through oncoming traffic, and rewards for narrowly avoiding other vehicles. The original *Burnout* may have featured only a small collection of cars, but it didn't matter when driving them felt so exciting.

Simon Phillips, designer and artist at Three Fields Entertainment, says this rebellious attitude to driving was something the team pay direct homage to in *Dangerous Driving*. "In my work, it's all about helping to evolve and advance that spirit," he says. "I loved the irreverent humour and anarchic, non-stop, seat-of-your-pants action in *Burnout 3: Takedown* – it changed my view on what a driving game could be."

CRASH AND LEARN

Dangerous Driving borrows many familiar mechanics fans of *Burnout* will recognise, and offers them up with a modern spin. The boost bar, for example, gives players an extra thrust when edging past rivals, while slamming into other cars delivers the same satisfying crunch and slow-motion view of the resulting destruction. These crash and takedown elements are what put the original *Burnout* games on the map, and *Dangerous Driving* offers some new but similarly anarchic modes.

Boosts and crashes aside, Ward believes that cutting out unnecessary noise is equally important to making a *Burnout*-style game. "Smashing cars up is just great fun," he says.

⌄ *Dangerous Driving* offers ample opportunity to re-enact cops and robbers.

^ *Hot Pursuit* placed emphasis on playing the part of the police more so than any other *Need for Speed* entry.

"No storylines, no cutscenes, no complicated controls, and not much to explain to anyone playing with you. Just pick up the pad, step on the gas, and away you go." Three Fields Entertainment has proved this numerous times now, first building *Danger Zone* and its 2018 sequel entirely around *Burnout*'s legendary Crash mode, before eventually capitalising on this further with *Dangerous Driving*.

While the *Burnout* brand might not be high on EA's list of priorities right now, *Need for Speed* most definitely is. Both arcade racers shared fierce competition right up until the former was retired in 2008 with *Burnout Paradise* – at which point Criterion Games moved over to work on the *Need for Speed* series. *Need for Speed: Hot Pursuit*, released in 2010, saw the developer merge elements of both franchises, with a notable emphasis on what Criterion producer and senior designer Paul Glancey calls "heroic driving."

"The unfortunate truth is that most of us are average drivers," Glancey says, "but the average driver doesn't think they're average. In our heads, we all have incredible driving capability, and that's why our games should fulfil those fantasies."

To this end, Criterion's *Need for Speed: Hot Pursuit* could be easily picked up and played, just like *Burnout*, while its cars still handled with depth. "When we created our *Hot Pursuit*, it was the first time we really had an authentic simulation running under the cars," Glancey tells me. "Layering on the handling that you expect from a Criterion game took a ton of hard work and talent."

The first Criterion game not directed by *Burnout* creator Alex Ward, *Hot Pursuit* saw the *Need for Speed* series edge further than ever into arcade racing territory. Another element *Hot Pursuit* lifted from *Burnout* was its open world, an idea first introduced in *Burnout Paradise*. While *Test Drive Unlimited* toyed with the concept only a year before *Paradise*'s release, Ward cites games like Pandemic's *Mercenaries* ➡

> **"The unfortunate truth is that most of us are average drivers"**

^ **Mike Brown, principal game designer at Playground Games.**

BURNOUT ORIGINS

Despite going on to achieve massive success, the *Burnout* series initially struggled to gain the attention of publishers. Criterion's Paul Glancey recalls how it overcame this challenge: "Alex [Ward] kicked off a small team to work on a prototype known as 'Shiny Red Car', which had a stretch of city streets with trucks and cars driving through, and a small red sports coupé that we could drive between them. I don't even think we had any collision on the vehicles at that point. This became a demo that was shopped around various publishers, but it wasn't initially successful.

"The game that publishers were really looking for was something like *Gran Turismo*, which was getting all the driving game attention at the time, and Criterion's reputation as a creator of triple-A games hadn't really kicked in. We'd had some dealings with Acclaim Entertainment, most recently with a hoverboard racing game called *TrickStyle* that had done well on the Dreamcast, and Acclaim agreed to bring the game out on PlayStation 2."

^ The original *Burnout* began as an early 'Shiny Red Car' concept.

and Realtime Worlds' original *Crackdown* as the inspiration for *Burnout*'s jump from linear racing to full-scale sandbox. "My mantra for the game became 'not playing the game is the game' – and I wanted to give the player the power to do whatever they wanted to do, whenever they wanted to do it."

Despite Ward's departure, Criterion quickly adopted a similar set-up to *Paradise* in *Hot Pursuit*, letting players complete challenges, trials, and objectives inside the game world rather than constantly kicking them back to a menu screen. "We loved making *Paradise*," says Matt Webster, VP and general manager for Criterion and Ghost Games. "Well, actually, [we enjoyed] the first year of *Paradise*'s launch. It taught us a huge amount about how players interact with an open world and how we could extend and enhance games post-launch with game-changing content – a precursor to what we call 'live service' in games today."

Those lessons eventually went on to inform *Hot Pursuit*'s successor, 2012's *Need for Speed: Most Wanted*, and fed into the way its online component gave players the feeling of driving in a persistent open world. "With *Most Wanted*, we wanted to couple [racing] with the joy of exploration and discovery," says Webster, "hence the controversial move to make the car discoverable rather than the tradition of unlocked through progress."

BRING US THAT HORIZON

The *Burnout* legacy is still very much alive, then, with the developers who had a hand in the series, whether it's via the original creator's new studio Three Fields Entertainment and *Dangerous Driving*, or Criterion's continued influence on modern *Need for Speed* games. If there's one other developer that springs to mind

▲ **Paul Glancey, producer and senior designer at Criterion Games.**

"*Burnout* was spectacularly misunderstood all through its development, promotion, and release"

when it comes to great arcade racers, though, it has to be Playground Games, the studio behind *Forza Horizon*.

After its first game made its debut on the Xbox 360 in 2012, the Microsoft-owned Playground Games quickly built a name for itself as a developer of exceptional open-world racing games. The series might not explicitly be tied to *Burnout*, but *Horizon*'s unbridled sense of freedom has helped fill the void left in the wake of *Paradise*.

Principal designer Mike Brown says the series' success is thanks to an evolving ethos supported by four pillars: fun, freedom, beauty, and community. "*Horizon* is fun, carefree, and energising," he says. "Its freedom is about creating a feeling of discovery and adventure; its beauty doesn't simply mean having good graphics – it's about creating a world that's scenic and vibrant. And finally, *Horizon*'s community doesn't just mean 'multiplayer'; it means creating a game that is welcoming and encourages friendly interactions between players."

Where Turn 10 Studios' mainline *Forza Motorsport* series is a more pure simulation, *Horizon* continues to act more like an open-world amusement park, with each game revolving around its own event – the *Horizon* festival of the title. If *Burnout Paradise* had you crashing through billboards between races, *Forza Horizon* sees you outrunning fighter jets, competing in multi-seasonal events, and making friends with other racers along the way.

Every *Forza Horizon* entry is defined by the location they're based in – *Forza Horizon 4*

OPEN WORLD OR STRAIGHT ROAD?

While setting your racer in an open world was a sheer impossibility when *Burnout, Need for Speed*, and others were first conceived, 2019 marks a time where single-lane racers are now the exception. For Playground Games' Mike Brown, the benefits of an open world are tenfold. "Traditional racers tend to be very

'lean-in' and intense. As soon as you're behind the wheel you have a clear objective: win," he says. "In open-world driving games, we also benefit from the relaxing freedom of the open road. I always feel *Horizon* is at its most intoxicating when you just press down on the accelerator and let the road guide you."

◀ Set in the English countryside, *Forza Horizon* 4 looks stunning, especially in the snow (see right).

⌄ Alex Ward, creator of *Burnout* and Three Fields Entertainment co-founder.

⌃ Simon Phillips, designer and artist at Three Fields Entertainment.

was set in England, for example – so how does its developer decide where to set each new instalment? "We treat choosing the host nation of the Horizon Festival as the single most important decision we will make during development of a *Horizon* game," Brown says. "That means we spend months researching and deliberating over the choice. When we make the decision, it's going to define what our artists, level designers, and world-builders will be working on for the next two years, so we owe it to them to make sure we've shown our working out."

LIFE IS A HIGHWAY

Away from the heavy hitters covered so far, arcade racers are comparatively few and far between – we can only wonder where the *Burnout* series might have gone had it continued past *Paradise*. Criterion may have been able to turn their talents to EA's *Need for Speed* series, and Playground might be doing great work with *Forza Horizon*, but you don't need to look far to find people who are eagerly awaiting the franchise's return. Evidence of this hunger surfaced in early 2018, when the PS4, Xbox One, and PC remaster of *Burnout Paradise* raced to the top of the UK sales charts.

"It's great to see *Paradise*'s influence on modern racing games," says Criterion's Paul Glancey. "It was so much fun to see the reception to the remaster. In many ways, it showed how revolutionary that game was; that a decade on, it still feels fresh and exciting. We get to work with our friends at Ghost Games creating *Need for Speed*, so it's cool to be able to stay a part of the games that way, if indirectly."

Glancey cites the variety offered in open-world driving games as one of the genre's key appeals. "I love racing, but I also love to do other things with a car, too. So having a break from racing, to do something different, is fun and exciting."

Reflecting on his time working on the *Burnout* series, and the current dearth of competition found in the arcade racing genre, Alex Ward

cites the lack of creative freedom as the challenge most developers working in the genre need to overcome. "While I still love open-world games today," he says, "I don't think there are other game designers who are empowered enough to be able to do whatever they want with their games in the same way that EA bosses at the time let me. It all feels a bit safe and similar to me at the moment."

Before its release, *Burnout*'s success was far from assured, Ward recalls. "*Burnout* was spectacularly misunderstood all through its development, promotion, and release, like all classics are. I remember being truly heartbroken taking the game to the annual E3 show and no one being interested in seeing it whatsoever."

In *Dangerous Driving*, however, Ward recaptured *Burnout*'s sense of danger – albeit on a slightly smaller scale. Criterion, meanwhile, hasn't led the development of a *Need for Speed* game in six years; instead, the studio's helped out on other high-profile EA releases like *Star Wars: Battlefront* and *Battlefield*. But when asked whether the team would ever consider returning to *Need for Speed* should the opportunity present itself, Matt Webster simply says: "We never say never." ⓦ

⌄ The sparks fly in *Dangerous Driving*.

Interactive

Tobin's Tale

Developer Pete Brisbourne introduces his
one-of-a-kind verb-'em-up concept

You can find Brisbourne's early Ludum Dare prototype, *Point & Shoot*, at **wfmag.cc/point-shoot**.

In May 2019, British developer Pete Brisbourne quietly introduced his new project, *Tobin's Tale*, on Twitter. Retweeted dozens of times and showered with complimentary replies, Brisbourne's 23-second video made his idea immediately understandable: a first-person adventure game where the player can 'throw' verbs at objects and non-player characters to interact with them. Lob the word 'use' at a window, for example, and it'll magically swing open. Phrases such as 'look at' and 'talk to' can also be used to progress through the game, much like the verbs you could select to interact with the 2D worlds of, say, *Monkey Island* or *Day of the Tentacle*.

"I honestly had no idea that my little idea would gain so much interest," Brisbourne says of the Twitter reaction to his video. "I ended up feeling humbled and grateful that thousands of strangers took a moment to say, 'Hey, this is cool.' It was an amazing injection of support, and since then I've printed off more than a few of the responses to remind me, whenever I need to be, that this idea is definitely worth the effort, and to keep going."

Before *Tobin's Tale*, there was *Point & Shoot*, a 2018 game jam project that owes its existence to

> **"There are more than enough games in the world about shooting and violence"**

a random incident involving, as Brisbourne puts it, "Post-it notes and kitchen appliances."

"In 2018, the theme for Ludum Dare 41 was 'Combine Two Incompatible Genres'," Brisbourne explains. "So far, I'd only made 2D entries, and I knew I wanted to try something in 3D this time around, so I settled on an FPS. All that was left to decide was what the second genre should be. I figured point-and-click adventures, traditionally done in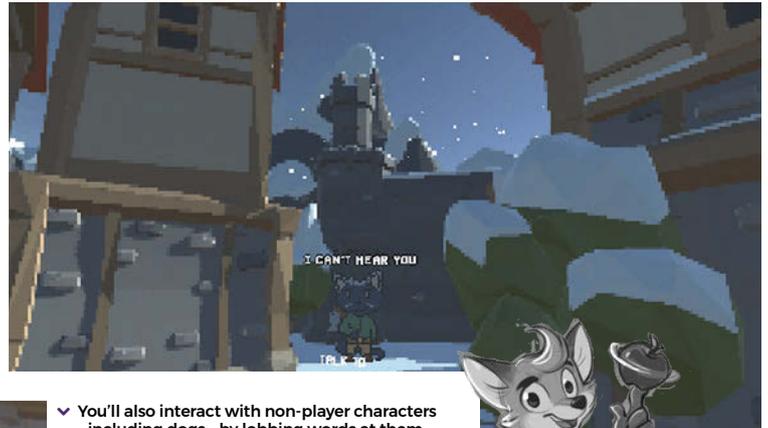 2D, would make for an interesting challenge to combine. I spent the morning doing the typical start to a game jam; scribbling ideas, drinking lots of coffee, talking to myself while gesturing wildly, and panicking. After a whole morning of still not settling on an idea, I ended up throwing a Post-it note at my kitchen kettle. It just so happened the Post-it note had some of the typical adventure games verbs written on it, and that was the start of the idea."
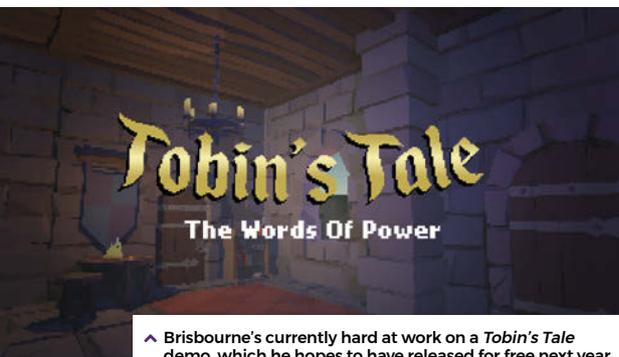
WAR OF WORDS

Since then, Brisbourne's been expanding the concept into a larger demo, with *Point & Shoot*'s detective theme replaced by a medieval-looking fantasy world, while a verb-firing gun is ejected in favour of a crafty fox that can magically conjure words into existence. "As I kept exploring

There's a pleasing physicality to throwing verbs around. Here, the word 'use' has just bounced off a wall and caused a door to swing open.

You'll also interact with non-player characters – including dogs – by lobbing words at them.

Brisbourne's currently hard at work on a *Tobin's Tale* demo, which he hopes to have released for free next year.

the idea, I felt increasingly uncomfortable with the description 'point-and-shoot', and these days I prefer 'point-and-throw' as a mechanical description," Brisbourne says. "There are more than enough games in the world about shooting and violence. I want to make a game which is charming, friendly, uplifting, and funny."

Although Brisbourne's demo will have just three verbs to choose and throw – "You can do pretty much anything with those three things," he says – he also has an idea of how he could expand the vocabulary in the future. "I've constructed the game so verbs can be easily added and taken away," he explains. "For example, a few months ago, I was playing around and had it so a new verb, 'pet', became available when you were near a dog. It felt normal that if you're near a dog, a new type of interaction could become available. But then you realise you can throw the 'pet' verb at other nearby characters, and that unlocks a whole new world of awkward responses. It made me laugh so much."

As *Tobin's Tale* develops from rough concept to fully formed fantasy adventure, Brisbourne's been aided on his journey by artists Erin Middendorf and Jean Walter, whose work has helped crystallise the game's warm, friendly tone – not to mention the look of Tobin, "the loveable, carefree, and crafty thief" obsessed with collecting magical gems. "At the start, I was in the frame of mind that I'd do everything myself, like some sort of indie

god machine with 14 hands," Brisbourne says. "As time's gone by, I've realised how foolish that can be. What I came to realise is, I want to work on something I feel attached to, but also I want to release it."

HEART AND SOUL

A veteran of studios including Gizmondo and Traveller's Tales, Brisbourne's earlier work on games like *Lego Batman* and *Lego Indiana Jones* have helped hone his design skills, while also encouraging him to "pour his heart and soul" into a project of his own devising. Like so many other solo developers, though, Brisbourne also faces the challenge of fitting *Tobin's Tale* around his full-time role at *RuneScape* studio, Jagex. "Since January, my life has been making games during the day and then coming home and making *Tobin's Tale* during the evening and weekends," Brisbourne says. "Just that loop, repeated for almost a year. I didn't think it was a problem until the start of October where I think it caught up with me and resulted in some health problems."

Thankfully, Brisbourne's still working on *Tobin's Tale* after a well-earned rest. It's clearly a labour of love for him, and it's easy to see why: done right, its verb-throwing concept could prove as irresistible as the classic LucasArts adventures that inspired it. "There's still a lot to do, but I'm determined to take everything at a sensible pace," Brisbourne says. "I'm a big believer that fun and joy can't come from pressure and stress. It's important to me that *Tobin's Tale* never feels like a burden. It's a game that will be made with a joyous heart." ⓦ

ACHIEVING THE LOOK

One of the immediately striking things about *Tobin's Tale* is its likeably low-res aesthetic, which makes it look akin to an early 3D game on, say, the Commodore Amiga. "I knew I wanted to try and create a lo-fi look, but I had no idea how to do it," Brisbourne says. "So I did what I always do when I don't know something: I started to search Google. Starting that journey taught me about render textures, which I'd never touched before. Basically, I learnt you could configure your camera in Unity to output to a render texture, but the trick is the render texture is small – maybe 256×256 – so then in C# you stretch that to the size of the screen. Suddenly – ta-da! – you've got nice chunky 3D pixely goodness."

Those chunky pixels did have an unwanted side-effect, however: it made the in-game text – such as dialogue uttered by NPCs – almost impossible to read. "At that point, I had to abandon the render texture approach and use multiple cameras," says Brisbourne. "The setup I've got now is probably massively inefficient but it seems to do the trick. There's probably a much better way of doing it, I just don't know what that is yet!"

Let's Talk About Text

LOTTIE BEVAN

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

Story in games is a hot topic. But what about structure? How does the narrative form of a game influence its player's experience? What does the structure of a story tell us, and what does it reveal about a game's themes? I have only the vaguest understanding of how this works when it comes to the visual arts – I can gesture confusedly about the golden ratio, and how the Parthenon has no straight lines – but I can talk usefully about text.

Take, for example, Anthony Burgess's *A Clockwork Orange*. The novella is a Bildungsroman – a story of growing up – following its anti-hero from violent immaturity to adulthood. Its structure reflects this with three sections of seven chapters each: each section is believed to reference Shakespeare's seven ages of man, while its 21 chapters are a deliberate nod to the milestone age of 21 years old.

The theme of growth stemmed in part from the violent sexual assault of Burgess's pregnant wife at the hands of US soldiers which caused her to miscarry their child. Left with a lifelong void where they should have watched their real child grow up, Burgess developed a fictional one. The assault is believed to be the 'inspiration' behind a very similar attack perpetrated by the main character in *A Clockwork Orange*. Dark stuff, yes, but illustrative of form and structure working to reinforce its author's focus and its story's central theme.

So what narrative structure do we see in games? Honestly, not as much as you'd expect. You hear narrative games described in terms of plot, but games don't yet have established formal constructs like chapters or poetic metre. We borrow structures like Aristotle's five-part narrative arc – exposition, an inciting incident, a crisis and climax, falling action, and a dénouement – but we haven't yet developed narrative forms specific to games.

There are some interesting examples, though. From its second game, the *Diablo* series has traditionally served up four acts each with its own narrative subplot and ultimate boss battle. This is an overt use of traditional narrative structure, but it doesn't really reinforce any of *Diablo*'s themes (to wit: good versus evil, Christian-inflected moral and bodily corruption, and lots of jazzy loot). Here, content and structure don't actually work together.

But here comes *Alan Wake*. This seminal sort-of-narrative, sort-of-survival-horror game is organised into six or eight episodes depending on whether you bought the DLC. They end with cinematic cliffhangers and are recapped with a 'Previously, on *Alan Wake*...' summary at the start of the following section. Heavily influenced by TV serials like *Twin Peaks* and *Lost*, Remedy said they felt an episodic structure was best to maintain their high-quality mystery narrative throughout the whole game. This isn't intricate Burgessian formalism, but it is definitely structure supporting content.

I look forward to more and more examples of structure being deliberately used in games. Because games is writing its own Bildungsroman. Games is growing up. There are lots of good reasons why structure and form might not be relevant for every game, but our stories are getting better, and our narratives more complex. Structure is a tool we've yet to master, but it's just waiting to be picked up. ⓦ

^ *Alan Wake*: a rare example of a video game's structure supporting its content.

Toolbox

The art, theory, and production of video games

▲ Recreate the flying action of the addictive mobile sensation, *Flappy Bird*. See page 40.

▼ Use the narrative scripting language behind *Heaven's Vault* in your own games. Find out how on page 32.

ALIYA! THERE YOU ARE.

COME IN.

① "I came as soon as I got your message."

② "You want this robot to wait outside?"

③ "Tell me what you want."

The principles of game design

There are many ways to come up with new ideas, but Atari's brainstorming sessions offered mixed results

AUTHOR
HOWARD SCOTT WARSHAW

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

Brainstorms are the cornerstone of good design. If you accept the hypothesis that design is about ideas, then you must also accept that those ideas have to come from some place, and that place is a brainstorm.

Sometimes brainstorms are incidental, like those 'a-ha' moments in the shower, or flashes of insight which strike while I'm stuck in traffic. These are wonderful moments, full of excitement and relief. But they're hard to plan or count on. Other times, we attempt to transform 'brainstorm' from a noun into a verb. We put on our best thinking clothes, grab our idea bags, and go brainstorming. At least, that's the goal. When we plan to have new ideas, our reservations aren't guaranteed,

but brainstorming sure seems to increase the probability, right? Lots of managers agree, especially non-creative managers in charge of creative product developments. "Hey people, let's get together and be creative. You spout great ideas, and I'll write them down. Ready? Go!"

At Atari, we had a variety of brainstorming activities. There were the informal spontaneous types which took place around the office, in a bar, or at a party. Then there were the formally sponsored and scheduled brainstorms, where large groups would meet off-site somewhere nice for multiple days.

You might have two questions at this point. One, what's it like to have someone pay to send you to a beachside resort, cover all your expenses, and the only requirement is coming up with some ideas which might help create products to entertain people with new technology in fun ways that will generate profit? And two, what's it like to hear a run-on question?

MEETING OF MINDS

These formal brainstorms were typically held in giant conference rooms. The seating was arranged in a huge circle to make it more 'interactive', and ideas were supposed to be presented. These weren't quite as productive as the small spontaneous get-togethers. Not that ideas weren't generated, but the atmosphere wasn't terribly conducive. We were expected to tell everyone our idea while people who have little understanding of our product (and no vocabulary for the technology) sat in judgement. This would go on for a few hours each day, and the rest of the time was allocated to small group

Inspiration can strike at any time – but not necessarily in the midst of formal brainstorming sessions. Photo by Dave Staugas.

break-out sessions (code for goof-off time). I could never tell if these off-sites were seriously aimed at finding new ideas or if it was more of a boondoggle-type fringe benefit of the job, because they didn't seem to produce a bounty of useful product ideas.

I attended my first official Atari brainstorm when I was only two months old (in Atari years). It was held at a beautiful seaside resort in Monterey, California. Most of my elder colleagues were used to this setup and less eager to contribute, but I was bubbling with enthusiasm and itching to make a mark, so I popped with a couple of ideas. I'm not sure they were well-suited to either 1982 technology or the tender sensibilities of upper management, but what the hell? I tried.

One idea I proposed was a thing I called the Video Vignette. I liked the idea of being able to set personality traits in various characters and then turn them loose to interact with each other and see how it plays out. Though not a breakthrough concept today, in 1982, with the graphic capabilities of the Atari 2600 console, it was most likely a bridge too far. But that's where my head was back then. I liked the idea of setting up scenarios and watching the drama unfold. Honestly, if anyone would have said, "Great idea, run with it," I wouldn't have had the slightest notion how to proceed.

My next idea, which was proposed half tongue-in-cheek and half tongue elsewhere, was based on the directive that we should try to incorporate other aspects of the Atari universe in our product development plans. Here's a little-known fact: in the early eighties, Atari had the most advanced holography lab in the world. Holograms were the coming killer app, and although we could make 'em, we had no idea what to do with 'em. Well, almost no idea (see boxout). My proposal was to make full-size human holograms on Mylar, a material that might easily adhere to glass or tile. If we could get popular women and men to pose (preferably naked), then we could market 'Shower with the Stars' holograms. Or at least get unknown men and women (preferably attractive and naked), and we could replace the word 'Stars' with something else.

They rejected this idea as too unsavoury, even if we used a front company to shield Atari

"My proposal was to make full-size human holograms on Mylar"

or Warner from seepage. I think they were forgetting one of the fundamental rules of media: pornography is frequently among the first profitable applications in any new medium. At least my concept fell squarely under the heading of 'interactive entertainment', which was what they were seeking. After all, I am first and foremost a team player.

RAW MATERIALS

There are many books on how to make brainstorming more effective. Search YouTube for 'brainstorming', and you'll see titles ranging from *Brainstorming Done Right*, to *Brainstorming is bullshit* (actually, this latter one is excellent). I've researched and practised generating ideas my entire career, both good and bad, and I can save you some time by summing it up for you this way: there are lots of techniques people will share about how to map ideas, collate ideas, avoid discounting or criticising ideas, and coaxing brilliance from the masses, but these are just techniques. I believe the real answer lies in the raw materials. If you want to have a successful brainstorming session, try to make sure you have at least one or two authentically creative people. Then harvest the ideas however you like, secure in the knowledge you've planted the proper seeds. Ⓦ

Holo World

Aside from Howard's 'Shower with the Stars' suggestion, Atari had a fairly major holographic project in the works during the late seventies and early eighties. Headed up by Roger Hector and Allan Alcorn (respectively, the designers of the hits *Battlezone* and *Pong*), the Atari Cosmos was planned as a tabletop console with a simple LED display and eight built-in games. Although the games themselves – riffs on popular arcade machines of the time, like *Asteroids* and *Space Invaders* – were in 2D, plug-in holographic images would have provided the illusion of depth. Although the press reaction to the Cosmos was somewhat mixed (those holograms were just a gimmick, they said, not unfairly), interest was such that around 8000 units were pre-ordered when it was shown off at the New York Toy Fair in 1981. According to Alcorn, however, Atari boss Ray Kassar remained unconvinced of the Cosmos' prospects, and the plug was pulled later in 1981.

Telling stories through cities

A brief guide to telling tales through the lens of a city

AUTHOR
KONSTANTINOS DIMOPOULOS

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

Ambrosius Holbein's woodcut depicting the urbanised island of Sir Thomas More's Utopia.

Urbanism and narrative have long been intertwined. Going as far back as the legendary Ur and Eridu, cities tell stories about themselves and their inhabitants, and serve as a backdrop for personal and societal drama. Stories about glorious, far-away metropolises intrigued us even before Marco Polo's tall tales, while authors as diverse as Tolkien and Italo Calvino dreamed up unforgettable imaginary cities. Sometimes, merely describing the spectacle of a majestic city can be a gripping story by itself: we imagine ourselves on its urban stage, a stage bound to change and filled with secrets.

Cities provide almost infinite possibilities for storytelling in video games. Game narratives can be about cities, just as easily as they can take place in cities and be enriched by them; the dialectics of reality being what they are, personal, societal, and civic stories are bound to inform and influence each other.

STORIES IN CITIES

The complexity, size, and speed of 19th-century metropolitan London gave birth to Sherlock Holmes – a character who could make sense of this confusing and overpoweringly huge new type of urban centre. Sherlock, the archetypal modern detective and a figure shaped by his native metropolis, could scientifically understand the complexity of the systems surrounding him, and even leverage them against his opponents. He was London's creation, and his stories would, for the most part, be London's.

Twentieth-century Los Angeles and Chicago, on the other hand, defined noir literature and cinema, which in turn loved to lavishly present their cityscapes and architecture while shaping mainstream conceptions of the city itself. Then again, stories don't have to take place in real-world cities. Carefully developing an imaginary city can help you come up with intricate plots that believably fit within it. Even urban functions – the things cities do – can help with your storytelling. Access to water – a fundamental urban function – and the need for liveable environments in the hot desert, inspired Nintendo to design Gerudo Town with its cool plumbing systems, networks of rooftop pools, and magical waterfall, for *The Legend of Zelda: Breath of the Wild*.

A fleshed-out city can serve as a fertile encyclopedia of possible tales, environments, and plot hooks, that also provides opportunities for environmental storytelling on a grand scale. H.P. Lovecraft's fictional American town,

The abstracted cities of the *Civilization* franchise allow for world-changing stories to be told, and always function as important gameplay elements.

▲ The vast Hive City of the *Warhammer 40,000* universe will be the star and setting of the forthcoming *Necromunda: Underhive Wars*.

Innsmouth, for example, looked normal thanks to its traditional New England architecture; beneath the surface, it was a place filled with horrible secrets. The nightmarish Hive Cities of the *Warhammer 40,000* universe, meanwhile, could only exist on the toxic, strip-mined planets of an impossible empire.

Natural and political geography also influence cities and their stories. Mountains can provide outposts and ancient legends, rivers can divide secular easts from religious wests, a region's climate and available materials define its architecture, nations impose ideologies, and geopolitics can lead to sieges.

"Cities provide almost infinite possibilities for storytelling in games"

Obviously, the unravelling of any narrative can be more impactful in a memorable, convincing city; a place with character and an interesting skyline, like *Final Fantasy*'s Midgar or *The Witcher*'s Novigrad. They're two cities that are more than their built environments and infrastructure, as their designers strived to provide local societies with customs, vibrant public spaces, spectacle, political struggles, economies, fashions, and beliefs.

OF AND ABOUT CITIES

From Plato to Thomas More, and from George Orwell to filmmaker John Carpenter, utopias and dystopias are almost exclusively urban. These political stories of ideal or terrifying cities have captured imaginations for centuries, and inspired storytellers and academics alike. What's more, reading about the history of a place like Chicago or Rome can be as exciting as an action-packed fantasy novel. It's no accident that many of these stories are as much about the cities themselves as the characters that live within them. The recently released narrative game *A Place for the Unwilling*, for instance (full disclosure: I consulted on it), was all about its setting: The City.

Cities can be approached and fleshed out as protagonists with their own character and idiosyncrasies; they can be dangerous and mysterious, or welcoming and warm. Besides, sharing a story about a place can be a unique narrative exercise; Sid Meier's *Civilization* games told global stories of growing nations, but the cities themselves remained at their core.

The stories of cities take place mostly, though not exclusively, on a historical scale, and their changes are often dramatic. Civic history is best imagined in layers of often violent succession, while each urban centre should be perceived as a dynamic work in progress being built on a pre-existing reality. Cities are constantly changing and being fought over. From contemporary gentrification and building booms, to the centuries-long building of medieval cathedrals, cities never stand still, are always contested, and use their most prominent buildings to showcase their dominant ideologies.

Any virtual city with a story worth telling should come with its own rich history. To craft such histories, you'll need to imagine its process of development, and showcase its most interesting parts via monuments, structures, popular tales, and landmarks. There are geographic rules that guide civic evolution, as a settlement grows from an ancient village to a medieval town to an industrial city, and, finally, to a metropolis. Such growth is guided by political, economic, and technological changes. Remember, too, that not all cities grow for ever; devolution, urban decay, and decline, are also a possibility. ⓦ

Diegetic Densities

Deciding on urban densities and creating, for example, a super-dense worker's suburb or a sparsely populated, affluent downtown area, provides further storytelling opportunities. Packing people together increases interactions as well as the chances of interesting things happening, whereas the physical aspect of density itself can tell tales. Does higher density always imply a poor area, or are rich people occasionally lured into cramped but expensive places like Monaco? Does density change during the average day, showcasing the flow of people, and how much of the intrigue in Hong Kong's old Kowloon City is owed to its extreme density?

⌄ The bourgeoisie of 19th-century Paris liked to tour the city's sewers and make sure dangerous communists weren't lurking there.

Weaving branching narratives in ink: a beginner's guide

It's the open–source narrative scripting language behind 80 Days and Heaven's Vault. Here's how to get started in ink

AUTHOR
JON INGOLD

Jon Ingold is the co-founder of inkle and co-designer of ink, alongside Joseph Humfrey. Jon wrote *Heaven's Vault*, Steve Jackson's *Sorcery!*, and co-wrote *80 Days* with Meg Jayanth. **inklestudios.com**

nk is a scripting language, but it's a bit different from other narrative engines. It's not graph-based, like Twine; there are no nodes and boxes to wire up. And it's not code-based, like writing a game in JavaScript. The simplest ink story looks, well, like this:

```
Hello world!
```

And adding a choice is as easy as putting in a bullet-pointed list:

```
Hello world!
*       "Hello computer!"
        It's nice to meet you.
Let's get started!
```

Ink aims to give writers a way to write quickly, read back quickly, and best of all, edit quickly.

Here, I'll show you how ink works, and how you can use it to easily create a complex branching narrative. All the resources you'll need for this guide are available over at **inklestudios.com/ink**, along with more tutorial material, full documentation, Unity integration code, examples, and places to get support.

GETTING STARTED

Ink can be written in any text editor, but it's simplest to use the editing tool, inky. You can get inky from the ink page, or directly from GitHub: **wfmag.cc/inky**.

Inky has two panes: one on the left where you write, and one on the right where you play. If we type up the short ink story opposite, it'll look like **Figure 1**. Inky has started playing the story on the right-hand side, and presented us with the first choice. If we click the choice in the right-hand pane, it'll play that choice (see **Figure 2**).

By default, ink will repeat the text of the choice into the flow of the story, but that – like most things – can be changed with a bit more markup. For now, let's expand our story to include some choices for the player by using ink's core construction: the weave. All the main elements of ink use weaving metaphors: label lines are called 'gathers'; blocks of content are

⌄ **Figure 1: A short ink script in the inky editor.**

called 'knots' and 'stitches'; and an 'inkle' itself is a kind of loom for creating long, narrow, woven straps. The idea of a weave is that it starts at the top, and gets to the bottom, but maybe branches along the way. Something like this:

```
Hello world!
*       "Hello computer!"
        It's nice to meet you.
        Let's get started!
*   "I'm not the world. I'm just one person."
    Ah! A pedant, I see!
    This is going to be fun.
-   Now, what should we talk about?
*   "I'm here to learn about ink."
    Ink? Sounds messy. Let's do it!
```

The weave starts at the top, and branches with two possible responses. Those choices both gather together again (at the '-' sign), and then we offer another choice. You can see how it plays in **Figure 3**.

USING CONDITIONALS

The beauty of a weave format is that things can get branchy, fast. Let's throw a bit more detail into our example by labelling one of the lines and then using it to make a conditional choice later on. We're also going to add some sub-choices – these are nested bullet points that sit under the choice that triggers them.

```
Hello world!
*       "Hello computer!"
        It's nice to meet you.
        Let's get started!
*   (pedantic) "I'm not the world. I'm just
one person."
    Ah! A pedant, I see!
    This is going to be fun.
-   Now, what should we talk about?
*   "I'm here to learn about ink."
    Ink? Sounds messy. Let's do it!
*   {pedantic} "Technically we aren't
talking."
    And yet, you can hear my voice in your
strange meat-filled head, can't you? What's
with that?
    * *     "It's called reading. It's no big
deal."
```
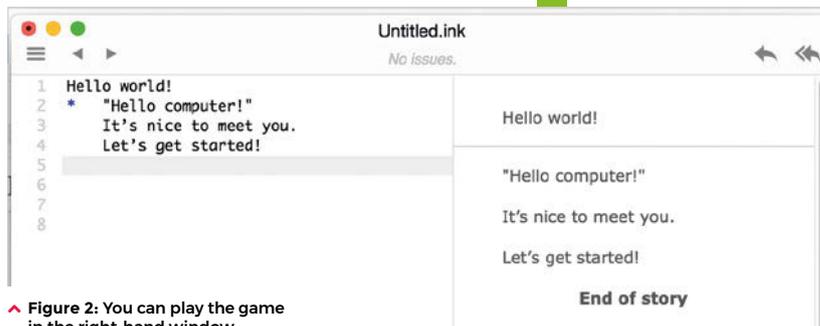
▲ **Figure 2:** You can play the game in the right-hand window.
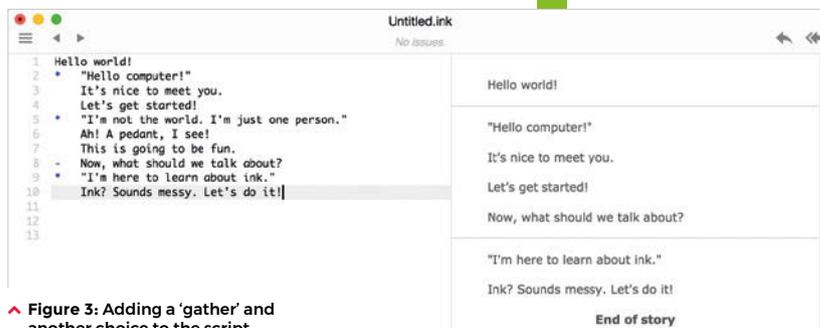
▲ **Figure 3:** Adding a 'gather' and another choice to the script.

```
        You say that, but I can't read.
    * *     "I'd never thought about it like
that before."
        Happy to expand your mind a
little, human.
*   {not pedantic} "I want to learn ink, but
what do you want to talk about?"
    Do you know, no one has ever asked that
before?
    So I don't know the answer.
-   Anyway, let's talk about ink.
```

> ## "The beauty of a weave format is that things can get branchy, fast"

One possible playthrough is shown in **Figure 4** (overleaf), but there's already a lot of different ways it could go. And our decisions are causing consequences into the future, with new options opening up and closing off.

DIVERTS AND KNOTS

We can take this much, much further by introducing blocks of content (called 'knots') and the ability to jump out of one and into another – what ink calls a divert, written as "->" (we came up with this name because we couldn't think of anything weaving-related where you ➡

STATE TRACKING

The examples here use labelled content to track what you've done in your story, but ink offers a wide range of ways to track state. There are variables: numbers, strings, boolean true/false values, and an exotic type called a LIST which works like a rack of numbered flip-switches, which can be used for things like inventories or tracking which characters are present. And you can do complex decision-making – there's full logic, bracketing, and the ability to author functions.

Figure 4: A longer example with conditionals that turn options on and off, based on past choices.

LOW FLOOR, HIGH CEILING

Inky allows you to export your ink stories for the web directly, so turning your story into something playable requires no coding at all. But it's also designed to integrate with game engines via a Unity plug-in, and the open-source community is working on integrations for other engines, such as Unreal and Godot. Here at inkle, we've used ink inside a 3D world in *Heaven's Vault*, but we're not the only ones: ink runs the narrative in PSVR title *Falcon Age* and upcoming indie titles *Sable* and *Over the Alps*. Other games, such as Valve's *In the Valley of Gods*, *The Banner Saga 3*, *Dream Daddy*, and Rare's *Sea of Thieves* all use ink as part of their writing pipeline.

jump off one loom and onto another). Mixing all this together gives us the quick-and-messy interactivity of the weave alongside the structure

"Anything that happens along the way could become important later on"

of a classic gamebook, while still altering the text on the fly, based on what the player's done so far. Check this example out:

```
I walked into the saloon of the Dusty Gulch
Bar.
*   My six-shooter was holstered. I didn't
want no trouble.
    -> peaceful_like
*   I had my Colt in my hand. I knew Billy was
in there.
    -> shooty_like

=== peaceful_like
    The piano was playing. The barman was
mixing rye and whiskey and calling it a
Mudslinger. A lady by the bar was telling
fortunes for a silver coin, while her little
boy picked the pocket of whoever was listening
to her.
    -> sit_by_bar

=== shooty_like
    The piano music stopped dead as I came
in. Every head turned. The barman dropped a
bottle and didn't stoop to sweep it up. A lady
telling fortunes by the bar grabbed her purse
and ran out the door.
    *   "Is Billy here?"
        "Billy? Billy who?" the barman
stuttered back.
    * *     "Billy the Kid," I explained.
            "We don't serve kids, Mister,
this is a bar."
    * *     I ignored him and scanned the
room. "Billy? Where are you?"
            There was no sign of him and
for a moment I thought I was in the wrong
town.
            -> then_the_door_flew_back

    *   (no_trouble) "I don't want no
trouble..." I began.
        "Mister," the barman replied. "If you
don't want no trouble, why don't you put those
six-pins away?"
    -   -> sit_by_bar

=== sit_by_bar
    *   I took a seat by the bar.
        The barman served me a glass of his
curious concoction  {shooty_like: and I laid
my weapon down on the counter}.
    *   {shooty_like.no_trouble}
        "I like to keep my guns close."
        "They'll be closer at your hip," the
barman grumbled, but he served me a drink
anyway.
    *   {peaceful_like}
        I went over to the fortune-teller and
asked my fortune.
        She looked me up and down.
        "It's not looking good, I'll tell you
that for free."
```
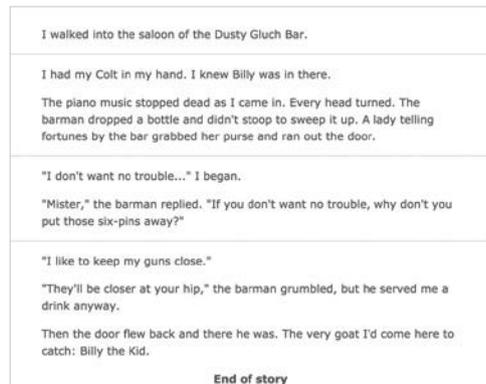
Figure 5: One playthrough of the Dusty Gulch scene.

```
1   -  I looked at Monsieur Fogg
2   *     ... and I could contain myself no longer.
3         'What is the purpose of our journey, Monsieur?'
4         'A wager,' he replied.
5     * *      'A wager!'[] I returned.
6              He nodded.
7        * * *    'But surely that is foolishness!'
8        * * *    'A most serious matter then!'
9        - - -    He nodded again.
10       * * *    'But can we win?'
11                'That is what we will endeavour to find
                  out,' he answered.
12       * * *    'A modest wager, I trust?'
13                'Twenty thousand pounds,' he replied,
                  quite flatly.
14       * * *    I asked nothing further of him then[.],
                  and after a final, polite cough, he offered
                  nothing more to me. ◇
15    * *      'Ah[.'],' I replied, uncertain what I thought.
16    - -      After that, ◇
17  *     ... but I said nothing[] and ◇
18  -  we passed the day in silence.
19  -  -> END
```

▲ **Figure 6:** The first scene of *80 Days*, written in ink.

```
     *    "I'll be on my way," I told the room
at large.
     -    -> then_the_door_flew_back

=== then_the_door_flew_back
     Then the door flew back and there he was.
The very goat I'd come here to catch: Billy
the Kid.
     -    -> END
```

Figure 5 shows one way through this scene – and of course, we could spin the story off in different directions if we wanted to, instead of bringing them back together, and anything that happens along the way could become important later on.
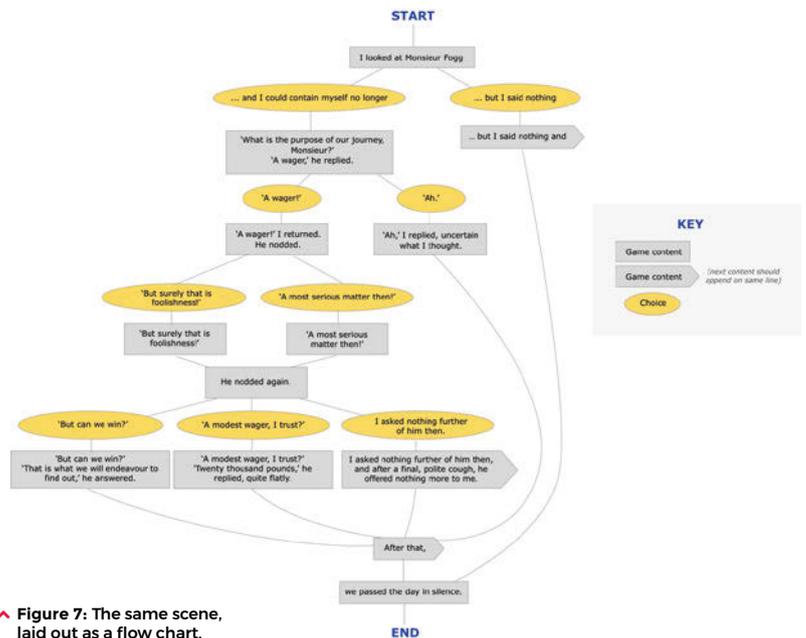
WHY NO FLOW CHART?

One thing that always strikes people as strange when they first come to ink is that there's no flow chart. Ink doesn't use them, and generating them can be hard, too, once you start taking advantage of the full feature set. So why is that?

To illustrate the answer, let's look at a real-world example. **Figure 6** shows the first scene of *80 Days* (somewhat simplified), written in ink. It's a classic weave: it starts at the top, there are longer or shorter ways the conversation could play out, but they all end in the same place.

Now compare that to the same scene as laid out as a chart in **Figure 7**.

The flow chart isn't unreadably complex: and it demonstrates the structure of the scene well. But it is big. For one minute of gameplay, we need a whole screen's worth of diagram. And if you want to edit this scene – say, to add another choice in the middle of a branch – you have to take the whole graph apart and move it around, just to insert a few extra nodes.

The ink version, on the other hand, is compact: it's quick to read through, the structure is clear, and best of all, if you want to redraft it,
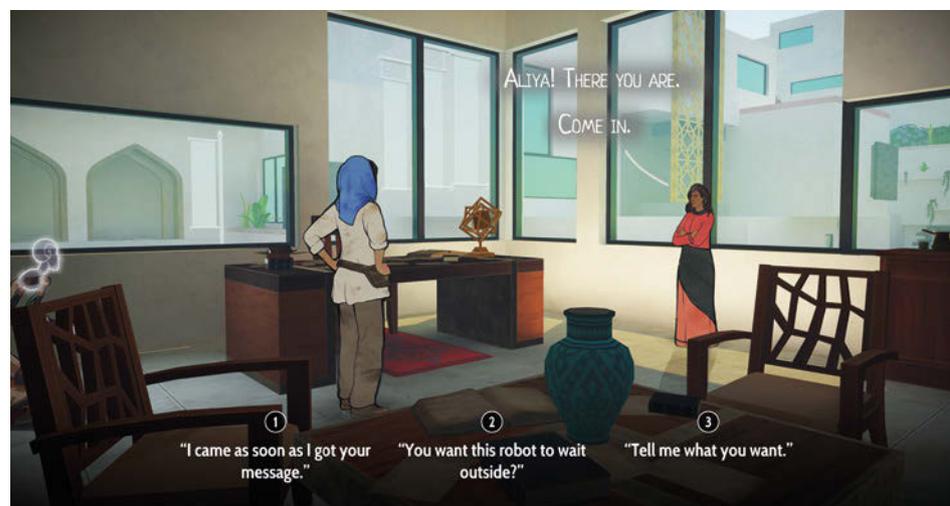

▲ **Figure 7:** The same scene, laid out as a flow chart.

maybe adding in a few sub-choices on one branch, or simply cutting a line, it's extremely quick and safe to do it.

In short: ink scales up. *80 Days*' script stands at over 600,000 words and 12,000 'nodes' of content. As a flow chart, it'd be impressive – but not much use.

So the ink manifesto is: ditch the flow charts. If you want to see how your story is structured, then play it. If you want to plan it using a flow chart, use paper! But when it comes to getting it out of your head and onto the computer, we say: take a leaf from the coder's handbook. Coders don't use visual interfaces for their code, and neither should writers. ⓦ

∨ **ink is used to drive all the dialogue, camera positions, and character movement in *Heaven's Vault*.**

Choosing the best way to make a game

When it comes to choosing the right game engine, there's no one right answer, Nick writes

AUTHOR
NICK WALTON

Gidday, I'm Nick Walton, an indie game developer from New Zealand. **croakingkero.com**

Perhaps the most common question new game developers ask themselves is, "Which engine should I use?" It's a decision that often prevents aspiring developers from even starting, so I'm here to give you an answer: try them all.

It's really that simple. If you've been wanting to try game development and you aren't sure where to start, just pick any game development method and try it out. If you're unable to decide which one to try, roll a die. But what if you make the wrong decision? Well, here's the secret to all those Unity vs Unreal vs GameMaker vs Custom Engine debates: there's no single best way for everyone to make games.

Just as some artists like to paint with oils and others with watercolour, some developers have an affinity for full-featured 3D engines and others for low-level programming.
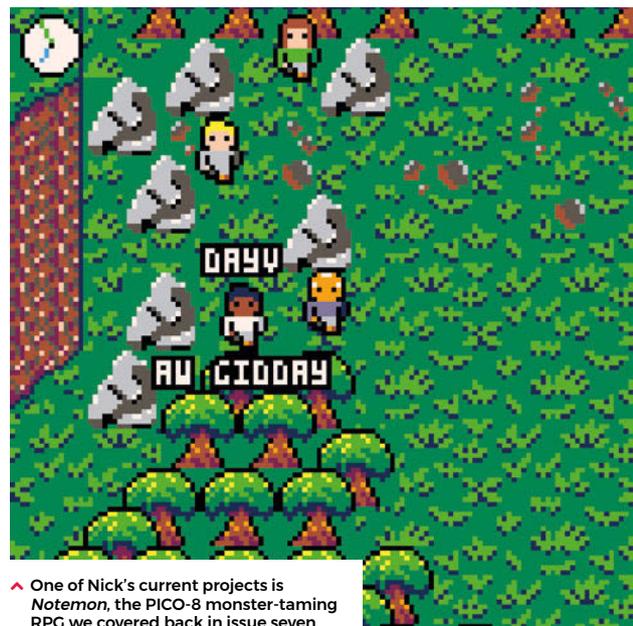
TRY ANOTHER WAY
You probably want to get started on your dream game right now and not waste any time on the wrong game development method. But in order to make good games, we all need practice. Every time you discover that an engine, programming language, or framework isn't right for you, you'll gain experience which will level you up as a game developer.

I've been developing games as a hobby for about 14 years. This question of where to start has rolled around in my head since I learned there were more ways than one to make games. Many a time I had a game idea and wanted to get started on it, only to get stuck

deciding what to make it with. All those false starts wasted far more time than just trying out the next engine or language would have, and gained me far less development expertise.

Over the last few years, I decided to just try out different ways of developing games without committing to any method for good. I tried Unity, Unreal, Godot, PICO-8, GameMaker, multiple programming languages like Python, Lua, C++, Java, and more. Each one has its own merits and will suit different people, but none of them were right for me. So at the beginning of this year, I decided to go back to the grandfather

⌃ One of Nick's current projects is *Notemon*, the PICO-8 monster-taming RPG we covered back in issue seven.

⌄ Since finding my groove, I've made many small libraries to speed up the process of game development.

📄 kero_3d.h	📄 kero_menu.h
📄 kero_color.h	📄 kero_platform.h
📄 kero_font.h	📄 kero_sound.h
📄 kero_image.h	📄 kero_sprite.h
📄 kero_math.h	📄 kero_std.h
📄 kero_matrix.h	📄 kero_vec2.h
📄 kero_maze.h	📄 kero_vec3.h

of most modern programming languages and try C (not to be confused with C++).

This has been the most enjoyable year of game development I've ever had. I've been getting right near the bottom of the tech stack, manually allocating memory and creating my own data structures and sorting algorithms. Most people say, "Just use (whatever) library" or "Just use (whatever) engine", but I would never have found my groove if I simply developed games according to other people's opinions.

Programming at this low level has given me a much greater understanding of how my programs actually work. When using other engines, I'd often use an object or function, and be surprised and confused when it didn't do what I expected. These black boxes were frustrating and felt insurmountable, but now I've got my hands on every byte, I'm able to figure out exactly what's happening and fix it.
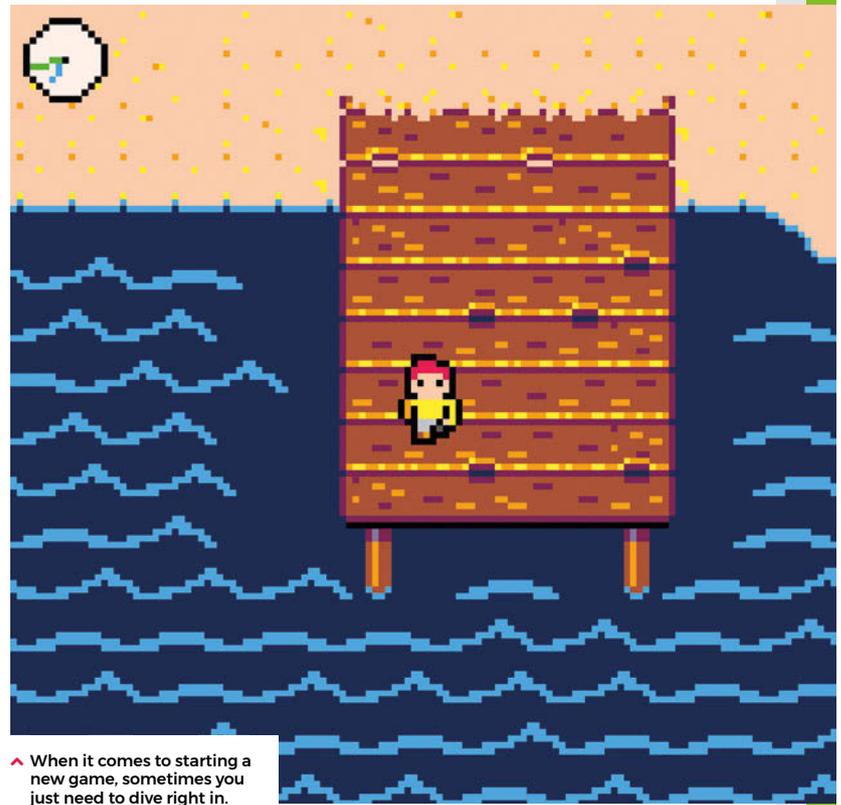
FIND YOUR PHILOSOPHY

This experience has awakened me to a philosophy of development I've come to call 'touching every byte'. In my old approach to game development, I held the game idea to be of greatest importance. The implementation details were secondary, and I cared most about finding the easiest way to implement the idea. Now I believe that the implementation of the idea is at least as important as the idea itself, particularly given how easy it is to form great ideas and how hard it is to bring them to fruition.

Every byte affects the player's experience, so to deliver the game as intended, every byte should be treated with care. Ensuring your game doesn't take ten seconds to start up, glitch and lose save data, crash, or perform inconsistently, are all as vital to development as your characters and story.

Since my foray into C, I've programmed a platform layer for Linux, a direct audio interface (mixing samples and sending bytes to the sound card), 2D sprite rendering in software (so it doesn't use a graphics card) with rotations and scaling, maze generators, 2D light-casting, and even a 3D software rendered maze game. Before this year, I couldn't imagine being this productive, but I've made more things and grown more as

▲ When it comes to starting a new game, sometimes you just need to dive right in.

a game developer in the last seven months than I have in any other period of my 14 years in this hobby.

WRONG DECISIONS

I'm not saying you should develop games as I am, by programming everything myself at a low level. This is simply the game development method which works best for me. I shared all that with you to give you an idea of the productivity, joy, and even changes of philosophical opinion that I've experienced since I've found my groove. All these things are available to you too, and all you have to do is keep trying new ways to make games until you find the one that meshes best with you.

If you haven't found your ideal way to make games yet, and are wondering what to do, just try one avenue. And if that one doesn't work out, try another. When you find the right way to make games, stick with it and master it, whatever other developers think of your approach. Because players don't really care which engine you used, as long as the resulting game is good. ⓦ

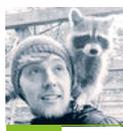> **"Now I believe the implementation of the idea is at least as important"**

CHOICES, CHOICES

If you still feel unable to decide which one to try first, here are six game development methods I think are worth trying. Roll a die and try one:

1. Unity engine

2. GameMaker Studio

3. PICO-8 fantasy console

4. C programming language

5. LÖVE: 2D game framework for Lua

6. Godot open-source game engine

Networking: necessary, but not always evil

It's considered by some to be the dark art of the bloodsucking corporate climber. Here's why networking's the opposite

AUTHOR
TONY JEFFREE

Tony is creative director of Far Few Giants. He also works as a freelance game writer/narrative designer – you can find his work via **tonyjeffree.co.uk** or **@tonyjeffree** on Twitter.

Networking, in the context of making professional connections, is a dirty word. It's one I often hear developers use semi-ironically to indicate that it's ridiculous, even though they engage in it. We associate certain images with the word: preened men and women in tailored suits roaming an expensive hotel function area, feverishly shaking hands with anything that moves. They have *American Psycho*-style business cards and a 2:1 in Social Exploitation.

We're primarily given this idea because, I think, the corporate sharks we see on TV and film are the only ones who usually own the term and use it straight-facedly. But we also get it reinforced by educators. You'll probably be familiar with the myth of the elevator pitch: for whatever reason, you find yourself in a lift with a studio executive, CEO, or financier. You're a nobody. You have 30 to 90 seconds with this person as your captive audience in which to convince them of your game, movie, book, or other incredible ideas.

Even less evil characters in films like *La La Land* still espouse this high-pressure, important-person-hunting version of networking; the lyrics from *Someone in the Crowd* read: "You make the right impression, then everybody knows your name, […] someone in the crowd could be the one you need to know, the one to finally lift you off the ground."

> ### "Everyone drinks a little too much and bonds"

Naturally, most game developers take one look at this intimidating, high-stakes, charisma-requiring prospect and think, "Nah, I'll just stay home and make the damn game."

DON'T BE A SHARK

Here's the thing: the ideas presented above are unrealistic, pig-headed, and, most importantly, *not networking*. Networking is about creating a web of connections to people in your chosen industry who are looking out for you, and who you look out for in return. In other words, it's just making industry-specific friends.

Let's imagine a fresh game design student. She's graduated with a first but was too stressed out during her dissertation to apply to graduate programmes – not that there were enough available for all the people with firsts anyway. She needs a games job, so she has a look at **indeed.com** and maybe contacts a few local studios with her portfolio. No dice.

Where does she turn now? Most of her uni friends are working retail jobs while they're looking, so she figures that's not a bad thing to do. She gets financially comfortable living at her parents, and nothing promising comes up on the generic job sites she checks. Eventually, she stops checking them.

The problem with this story isn't the student's ability. The problem is there's no longer anyone telling her what to do next,

In my second year at university, I asked my lecturer, "I'm serious about this, what should I do?" She sent me to my first-ever event, below.

^ **Feral Vector is the go-to event for making new friends. Silliness, woods, diversity. What more could you ask for?**

advising her on which opportunities to go for, or exposing her to new influences.

IT'S JUST MAKING PALS

These are gaps which a friendly little professional network will fill. Consider this alternate series of events:

The student goes to a game jam alone during the second year of her course and works with a slightly older developer making a niche game in their spare time as a hobby. They bond over a shared love of the *Yakuza* games, a friendship begins, and a month or two down the line the student playtests the older developer's game.

The student decides to go to EGX in her third year, where she meets up with her hobbyist friend. They play some small-time games and get chatting to the people making them about the similarities between the hobbyist's game and the ones being shown. The people making the small games ask if they're going to the get-together later that night. Where is it, she asks. Everyone drinks a little too much and bonds.

This repeats a few times, and when our student ends up graduating with a 2:1 instead, she doesn't know what to do with herself; **indeed.com** fails her again. But in this reality, she asks her developer friends how to get her career started. They critique her portfolio and send her jobs they spot on Twitter or through invite-only industry backchannels. They take her with them to other events, to talks, and introduce her to people who might hire her. Maybe she gets a job; maybe she creates her own, or maybe she goes freelance. But whatever she does, there are friends on her side, in her industry, to give her well-informed direction.

ACCESS TO SUCCESS

Recently, I needed to know which localisation languages to target for our game, *Ring of Fire*. So what did I do? I used an industry backchannel (the UKGI Slack) to ask a more experienced developer what she did with her game, and she gave me great advice. I'd never met this person, but both being in the 'inner circle' meant we

were on each other's side. And when I spent a year horribly depressed as an English teacher, to make money so my wife could transition careers, it was my network of industry friends who pulled me out of it and brought me the opportunities I needed.

Hopefully, it's clear that having this network of pals is an advantage at all stages of a career. Networking isn't pouncing on some suited exec and selling them a golden idea; it's caring, communal, and inclusive. Through sharing your own skills and knowledge with your network, you in return gain the benefit of everyone else's.

And this is why networking is such a vital thing to do. You know the proverb that says teaching a person to fish will feed them for life? Think of networking like this: teach a dev to do a task, and you prepare them for a day. Teach a dev to network, and you prepare them for life.

So, if you haven't already got many industry friends, do it now. Book into a game jam, or a talks evening. Go to a non-corporate event like Feral Vector, a Women In Games evening, or a BAME meet-up. Oh, and if you're an educator, show this to your damn students. ⓦ
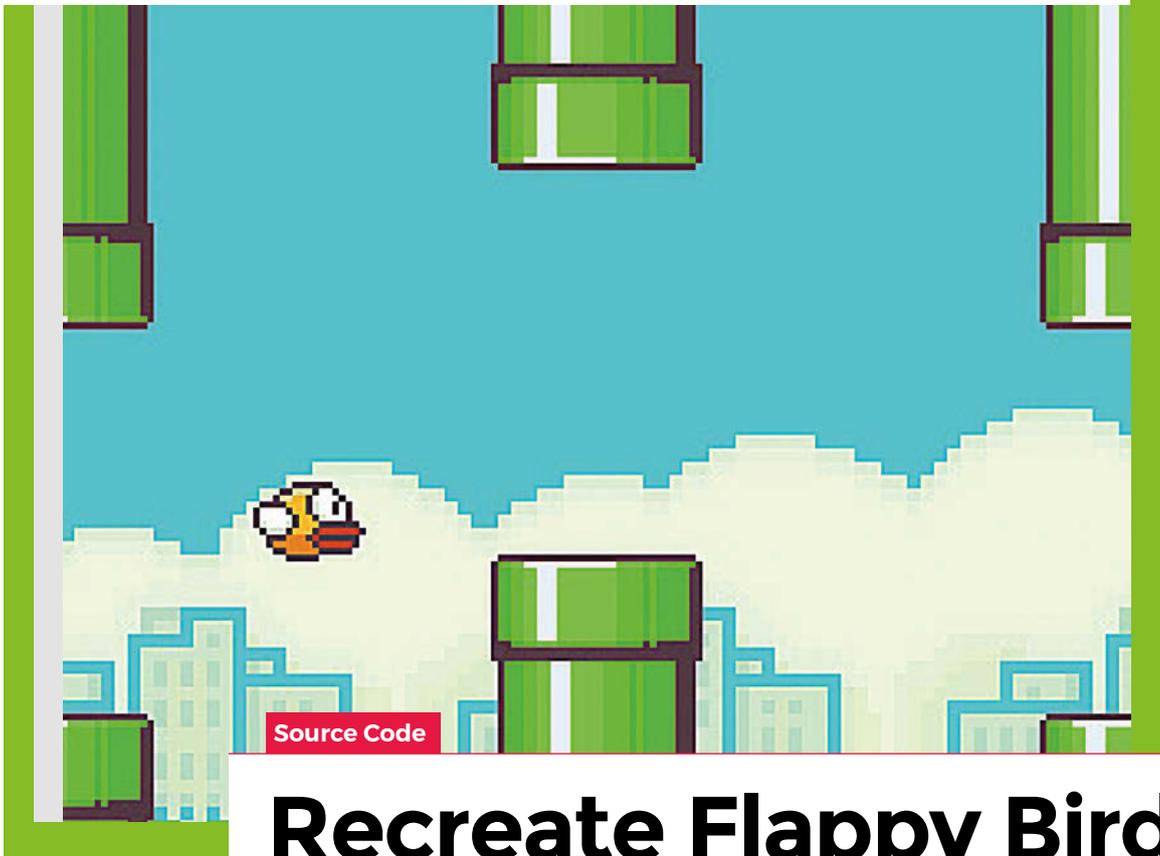
Speaking out

One of the best pieces of advice I received was to speak at an event. As soon as you have something you feel you could share, even the smallest specialism, offer to speak about it at a small talks night or other events. Once you do this, people will remember you as having something to say, and some will come and speak to you directly about your topic. I made some of my best industry buddies this way.

v **Jamming can be a great way to build camaraderie with new people. I'm pictured here doing my best Steve Jobs.**

^ **This is networking. It's not suits in elevators; it's nerds playing games in old churches, and making each other illustrated cardboard certificates.**

Flappy Bird:
ridiculously big
in 2014, at least
for a while.

Source Code

Recreate Flappy Bird's
flight mechanic

Learn how to create your own version of the
simple-yet-addictive side-scroller

AUTHOR
RIK CROSS

Flappy Bird was released by programmer Dong Nguyen in 2013, and made use of a straightforward game mechanic to create an addictive hit. Tapping the screen provided 'lift' to the main character, which is used strategically to navigate through a series of moving pipes. A point is scored for each pipe successfully passed. The idea proved so addictive that Nguyen eventually regretted his creation and removed it from the Google and Apple app stores. In this article, I'll show you how to recreate this simple yet time-consuming game, using Python and Pygame Zero.

The player's motion is very similar to that employed in a standard platformer: falling down towards the bottom of the screen under gravity. See the article, *Super Mario-style jumping physics* in Wireframe #7 for more on creating this type of movement. Pressing a button (in our case, the **SPACE**

bar) gives the player some upward thrust by setting its velocity to a negative value (i.e. upwards) larger than the value of gravity acting downwards. I've adapted and used two different images for the sprite (made by Imaginary Perception and available on **opengameart.org**), so that it looks like it's flapping its wings to generate lift and move upwards.

Sets of pipes are set equally spaced apart horizontally, and move towards the player slowly each frame of the game. These pipes are stored as two lists of rectangles, **top_pipes** and **bottom_pipes**, so that the player can attempt to fly through gaps between the top and bottom pipes. Once a pipe in the **top_pipes** list reaches the left side of the screen past the player's position, a **score** is incremented and the top and corresponding bottom pipes are removed from their respective lists. A new set of pipes is created at the right edge of the screen, creating a continuous challenge

for the player. The y-position of the gap between each newly created pair of pipes is decided randomly (between minimum and maximum limits), which is used to calculate the position and height of the new pipes.

The game stops and a Game Over message appears if the player collides with either a pipe or the ground. The collision detection in the game uses the **player.colliderect()** method, which checks whether two rectangles overlap. As the player sprite isn't exactly rectangular, it means that the collision detection isn't pixel-perfect, and improvements could be made by using a different approach. Changing the values for **GRAVITY**, **PIPE_GAP**, **PIPE_SPEED**, and **player.flap_velocity** through a process of trial and error will result in a game that has just the right amount of frustration! You could even change these values as the player's score increases, to add another layer of challenge. ⓦ

A flapping bird in Python

Here's Rik's code, which recreates *Flappy Bird*'s avian mayhem in Python. To get it running on your system, you'll need to install Pygame Zero – you can find instructions at **wfmag.cc/pgzero**

Download the code from GitHub: **wfmag.cc/ wfmag29**

```python
from random import randint


WIDTH = 1000
HEIGHT = 600

# pipes are dark green, move 2 pixels per frame and
# have a gap of 150 pixels between top and bottom pipes
PIPE_COLOUR = (38,155,29)
PIPE_SPEED = 2
PIPE_GAP = 150

GRAVITY = 0.2

# create top and bottom pipes, with a gap in between
top_pipes = [
    Rect((500,0),(50,200)),
    Rect((1000,0),(50,300))
]

bottom_pipes = [
    Rect((500,200 + PIPE_GAP), (50,HEIGHT - 200 - PIPE_GAP)),
    Rect((1000,300 + PIPE_GAP), (50,HEIGHT - 300 - PIPE_GAP))
]

player = Actor('player-down',(100,400))
# define initial and flap velocities
player.y_velocity = 0
player.flap_velocity = -5
player.score = 0

playing = True

def update():

    global playing
    if playing:

        # space key to flap
        if keyboard.space and player.y_velocity > 0:
            player.y_velocity = player.flap_velocity

        # acceleration is rate of change of velocity
        player.y_velocity += GRAVITY
        # velocity is rate of change of position
        player.y += player.y_velocity

        # player image depends on velocity
        if player.y_velocity > 0:
            player.image = 'player-down'
        else:
            player.image = 'player-up'
        for pipe_list in top_pipes, bottom_pipes:
            for pipe in pipe_list:
                pipe.x -= PIPE_SPEED
                if pipe.x < -50:
                    pipe_list.remove(pipe)

        # create new pipes
        if len(top_pipes) < 2:
            player.score += 1
            h = randint(150,350)
            top_pipes.append(Rect((1000,0),(50,h)))
            bottom_pipes.append(Rect((1000,h + PIPE_GAP),(50,
HEIGHT - h - PIPE_GAP)))

        # game over if player collides with a pipe...
        for p in top_pipes + bottom_pipes:
            if player.colliderect(p):
                playing = False

        # ...or touches the ground
        if player.y > (HEIGHT - 20):
            playing = False

def draw():

    if playing:

        screen.clear()

        screen.blit('background', (0,0))

        for pipe in top_pipes + bottom_pipes:
            screen.draw.filled_rect(pipe, PIPE_COLOUR)

        screen.draw.text(str(player.score), (20, 20),
fontsize=40, color="white")

        player.draw()

    else:

        screen.draw.text('Game Over!', (420, 200),
fontsize=40, color="white")
```
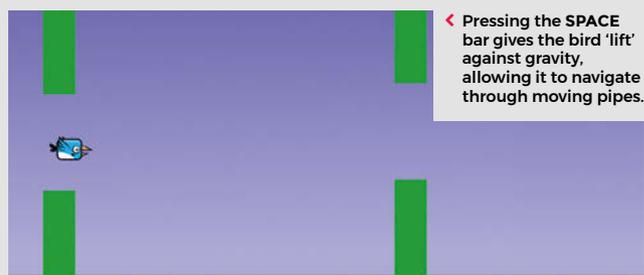

Pressing the **SPACE** bar gives the bird 'lift' against gravity, allowing it to navigate through moving pipes.

Upcoming events for game developers

Courtesy of Ukie, here's a selection of game dev events coming up in 2020

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**

> ❯ **20–21 January**
> **Pocket Game Connects London**
> This year's Pocket Gamer Connects will offer three conferences at once, covering critical industry issues, the latest trends, technical insights, and future growth opportunities.
> **wfmag.cc/pg-connects**

> ❯ **30 January**
> **Visionaries: Pitches & Networking, London**
> A free educational event for aspiring female students aged 11 to 13 years, which aims to develop business and technical skills in a pitch and presentation challenge.
> **wfmag.cc/visionaries**

> ❯ **5–9 February**
> **Yorkshire Games Festival**
> A five-day extravaganza celebrating games culture, design, and production, with special guests, workshops, master classes, and lots more besides.
> **wfmag.cc/yorkshire**

> ❯ **11–13 February**
> **D.I.C.E 2020 Summit, Las Vegas**
> Looking to the future, game makers will explore where the medium's headed, and what it all means for creators, players, and fans.
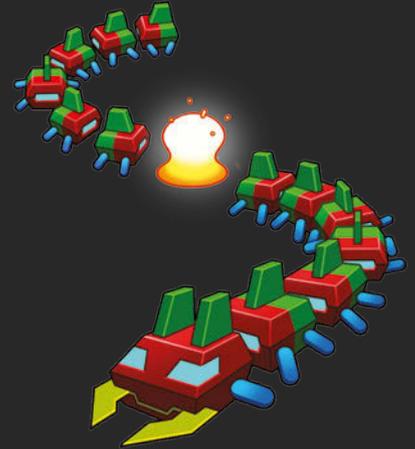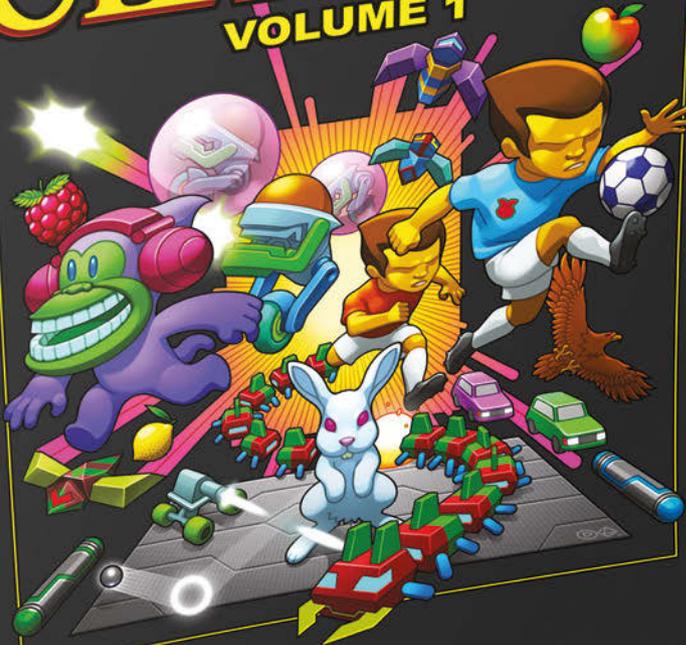> **wfmag.cc/dice-summit**

> ❯ **16–20 March**
> **GDC 2020, San Francisco**
> Learn about the wildlife of *Red Dead Redemption 2*, the making of *Apex Legends*, and lots more at San Francisco's ever-growing Game Developers Conference.
> **wfmag.cc/GDC2020**

> ❯ **26 March – 6 April**
> **London Games Festival**
> There'll be choice of 40 or so events at 2020's London Games Festival, including EGX Rezzed, the BAFTA Games Awards, and Ensemble, an exhibition of top BAME game design talent.
> **wfmag.cc/londonfest**

❯ **Rockstar animation director Alex O'Dwyer will reveal the secrets of *Red Dead Redemption 2*'s virtual ecosystem at GDC 2020.**
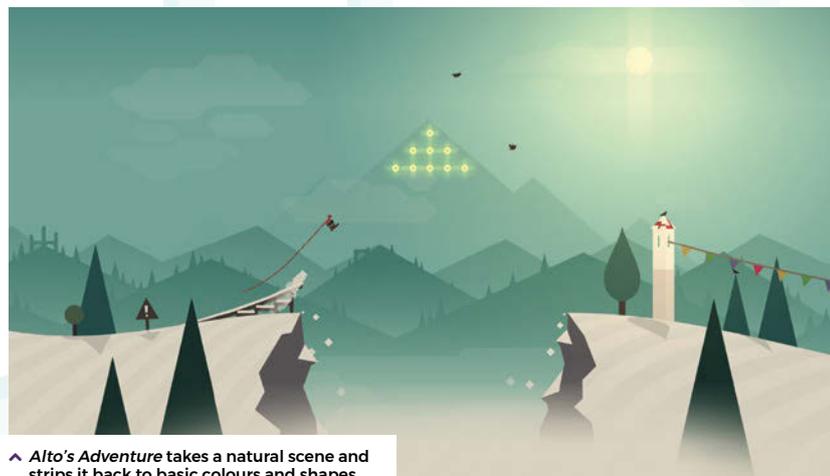
Indie games and the
Art of Abstraction

The creators of Flower, Alto's Adventure, and more share their thoughts on the power of abstract art in video games

WRITTEN BY
TABITHA BAKER

⌄ Jenova Chen's *flOw* encapsulated Mihály Csíkszentmihályi's Flow theory, in which players enter a Zen-like state when skill and challenge are perfectly matched.

Early games like *Space Invaders* and *Pac-Man* were abstract by necessity; the computing power of the seventies and early eighties forced developers to rely on conceptual representation – aliens depicted with a handful of blocky pixels, say, or movement restricted to a 2D plane. In the decades since, video games have increasingly pushed for realism, with lifelike textures and ever-more detailed 3D environments. But what happens if we go back to the abstraction the industry was built on – design that prioritises basic fundamentals over realism? What happens if we give the power of interpretation back to the player? Some indie developers are uncovering the answers to those questions.

⌃ In *That Dragon, Cancer*, each location sits in isolation. None is more heartbreaking than the penultimate 'level' set in a church dappled with light.

For Harry Nesbitt, lead artist and developer of the platformer *Alto's Adventure*, the game's abstract look was informed by both budget and the platform it was developed for. "There are many technical limitations to working on mobile to keep in mind," Nesbitt explains. "Things like texture memory, polygon count, and shader performance… It's very hard to compete with bigger, more experienced teams in this regard, so I knew from the beginning that we needed to avoid as many of these pitfalls as possible."

While abstract visuals may stem from technical restrictions, it's an approach that can also make games more absorbing, as Nesbitt points out. "By stripping away the noise and reducing elements down to their simplest components," he says, "you can actually build towards a more immersive experience overall – you're essentially asking the viewer to engage and fill in the blanks, leading to a deeper, more personal connection with the world."

Alto's Adventure sees players take on the snowy peaks of procedurally generated landscapes in an endless snowboarding experience.

⌃ *Alto's Adventure* takes a natural scene and strips it back to basic colours and shapes.

Simple touch controls allow players to hurtle down mountains, pulling off high-wire tricks along the way; meanwhile, background details, such as the twilight serenity of a small town, create the illusion of a much larger world. Such details not only welcome the player into the game, but also ensure they aren't "being distracted by unnecessary details that might make the game more difficult to play during more intense moments," Nesbitt says.

CONNECTIONS

In the case of a game like thatgamecompany's *Flower*, abstraction can help the player connect more deeply to the game's ideas. "The connection between game and player is so personal, and for me as a musician, playing through *Flower* felt akin to playing a high-tech musical instrument," says its composer, Vincent Diamante. First released in 2009, *Flower* has players reinvigorating the environment around them by acting as the wind and the titular petals carried on it, using motion controls to spread life across vast landscapes. "While a lot of games

LOOK SHARP

Saving memory became so vital during the development of *Alto's Adventure* that the team created most assets using 3D geometry rather than 2D sprites. "This ultimately helped us to save hugely on texture memory, avoid nasty compression artefacts, and allow the game to scale infinitely to any resolution," Nesbitt says. "A testament to this decision is how the game looks just as clean and sharp on the new 4K Apple TV as it does on the iPhone it was originally designed for."

feature a simple player action manifesting as a direct action on screen," says Diamante, "seeing and feeling my sometimes shaky, sometimes nuanced motion translate into movement on-screen is both satisfying and empowering."

Although *Flower* looks beautiful, even in still images, it's only through playing the game that its story of humanity's impact on the natural world truly becomes apparent. The feeling Diamante describes is one of unity with the game world, a connection between player and game that's rarely found in the medium; by reducing the player's inputs, *Flower* abstracts the controls themselves in order to impart its message.

Abstraction encourages a player to approach the game in a more personal way. As *Flower* director Jenova Chen says, "Abstract style, like poetry and abstract painting, allows audiences with different cultural, age, and gender backgrounds to perceive the art in their own way." Everyone playing *Flower* will play it differently, and crucially, take different messages from it. Without the defined context ➡

of a character's back story, world-view, or abilities, players are instead free to place themselves inside the game world.

IMAGINATION

Abstraction can also appeal more directly to a player's emotions than in most representational games. Portraying emotion in a game often relies on character development, narrative, and sound design to generate desired feelings in a player. 'Realistic' video games can certainly accomplish this – we can all feel sad for Ellie in *The Last of Us*, or acknowledge the pathos of B.J. Blazkowicz's journey in *Wolfenstein*'s modern entries. But that reliance on realism often fails to take us past these simple call-and-response emotional reactions: in the case of realistic video games, we're generally being *told* what to feel.

Chen explains, for example, how *Flower*'s design sprang from a desire to convey subtle emotions – like the sensation he felt when, after a lifetime spent living in a city, he went to study in America and first set eyes on the lush Californian countryside. "*Flower* started from my own emotional experiences, when I was moved by seeing endless fields of grass for the first time," he says. "The smell of the grass and flowers overwhelmed me. But videos and audio experiences of grass fields do not capture the smell or the overwhelming sensations. To capture that experience, I think you have to use some kind of artistic exaggeration."

This, in short, is the basis of abstraction: taking an otherwise indescribable experience, distilling it to its core sensory components, and presenting it to an audience for them to rebuild it through their own understanding. As Alphyna
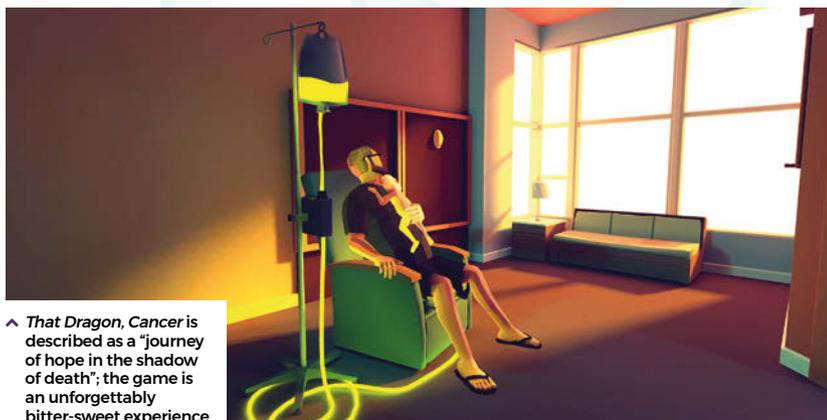
HIATUS

After releasing *That Dragon, Cancer* in 2016, Numinous Games began work on *Untethered*. The episodic VR adventure enabled players to interact with characters using their own voice. Unfortunately, it's been on hiatus since October 2018 due to a lack of financial investment. It's a shame, because it had the potential to offer an amazingly deep experience; here's hoping the studio finds a means to continue the series soon.

Golubeva of Russian developer Ice-Pick Lodge puts it, "If a message can be summed up with words, with no meaning or undertones lost, then it makes sense to just say it. We use art as a way to convey ideas that can't be retold in words, because they're non-verbal."

Having made surreal adventure game *The Void* in 2008, Golubeva and Ice-Pick Lodge know a thing or two about conveying ideas without words. *The Void* sees players traverse a purgatorial landscape, spreading colour around their drab surroundings in an effort to keep monsters at bay and, eventually, ascend to a higher plane. It's an eerie experience that leaves its imagery up to the player to interpret – an approach Golubeva compares to the cult movies of filmmaker David Lynch. "You can't really sum up what *Eraserhead* is about, you can only experience it," Golubeva says. "You can't sum up Van Gogh. And, yeah, I guess *The Void* tries to achieve the same – to be an indescribable experience that can't be boiled down to a single message, but instead conveys its ideas through every pore."

The Void's fantastical landscapes are key to conveying these ideas, with one underlying concept bringing it all together. "It's a game about a cell, about metabolism," Golubeva explains. "It has all these vastly different compartments; locations that are unlike one another; odd characters with their own desires and rules. But in the end, all that diversity is just the manifestation of colour, the one resource the [game's] world is made of."

Rather than try to describe the complexity of the human condition through dialogue or conventional storytelling, games like *The Void* and *Flower* create emotions through various abstract sounds, images, and organic discovery.

∧ *That Dragon, Cancer* is described as a "journey of hope in the shadow of death"; the game is an unforgettably bitter-sweet experience.

▲ *Flower* was originally released in 2009 for the PS3, but the lasting appeal of the title has endured.

▲ Each element in a scene contributes to *The Void*'s atmosphere, with looming structures and splashes of light.

◄ Different environments offer new insights into the world of *Alto's Adventure*, while maintaining focus on gameplay mechanics.

When *Flower* introduces man-made structures into its once-pure Eden of life and growth, the game's tone is altered forever. The meditative music grinds to a halt, darkness shrouds the scene, and shocks reverberate every time the player interacts with one of those structures. It's a sequence full of dread and vulnerability; what was once a world of wonder and colour is suddenly something very different. It's not someone else's emotion we're experiencing second-hand – it's our own.

IDENTITY VACUUM

As well as capturing a player's imagination, abstract games can also evoke feelings of empathy. Numinous Games comprises Amy Green, her husband Ryan, and developer Josh Larson; their first game, *That Dragon, Cancer*, tells the story of the couple's son Joel and his cancer diagnosis at 12 months old. Following such an intense and deeply personal story of a child's short life is overwhelmingly emotional; had the game been presented more realistically, its impact would undoubtedly have been weakened.

That Dragon, Cancer's characters are featureless and often placed in isolated, surreal locations, allowing the player to focus entirely on the imagery without the distraction of context. As Golubeva says: "Video games are, first and foremost, the art of creating [landscapes]. Many games that shed their realism allow the player to just enjoy the [landscapes] with no bounds and limits."

"The power comes from the empty space we create for the audience to fill in with a part of

"We use art as a way to convey ideas that can't be retold in words, because they're non-verbal"

their own life experiences," adds Chen, "thus making it more relevant." Without a prescribed notion of realism, players are free to make their own connections with the game world, to explore its ideas and messages, and to engage with their own emotions in a way that's rare in other forms of storytelling. Players don't have to decode what *That Dragon, Cancer*'s visuals are telling them. They simply feel a sense of desperation on seeing the winding black masses lining their route through an empty church, or experience sadness on seeing Joel's mother sitting in a small rowing boat with her son. There's no wider explanation for these images – just a simple, powerful jolt of emotion achieved through abstraction.

It's perhaps Golubeva who best sums up the video game medium's latent power. "Games that go for more surreal worlds and storytelling are closer to poetry than prose," she says. "Honestly, I think video games as a medium are better suited to visual poetry than classical storytelling." ⓦ

▼ *The Void*'s dark, broody surroundings are changed forever once the player provides the colour required to bring it back to life.

A very Wireframe-y Christmas

We've gathered together a list of festive treats, categorised them, and written about them, too. It's a Christmas miracle!

THE FOCUS

There have been a few games themed around, or centred on, that time of year some of us abbreviate to Xmas when we want to save space in a magazine. Like, for example, the PlayStation 2 and Xbox title *The Nightmare Before Christmas: Oogie's Revenge* (right): it was a middling action-adventure romp from Capcom, surprisingly riffing on the *Devil May Cry* formula that resulted in a decent, if forgettable festive distraction. Funcom's *Daze Before Christmas*, meanwhile, is something of an obscure gem for SNES and Mega Drive. Releasing only in Europe and Australia in 1994, it's a fun platformer where you take control of Santa – and his evil alter ego, Anti-Claus – collecting presents and distributing them around the world, like the Yuletide Communist he is.

A few years earlier, we saw *James Pond 2: Codename: Robocod* – in which our robotic fish had to free Santa's workers from the clutches of the nefarious Doctor Maybe – appear on multiple platforms. More recently, Capcom returned to the Christmas realm with *Dead Rising 4*, which included festive weapons and an unexpected (and subtle) commentary on consumerism at this, the most wonderful time of the year.

THE DEMO VERSIONS

Christmas Nights (left) wasn't the only demo based on Xmas – *Lemmings* got one, as did *Cannon Fodder* and *Sensible Soccer* in the classic mash-up, *Cannon Soccer* – but it was Sega's game that really stuck in the memory. A festive-themed taster offering a couple of levels of the Saturn's classic float-'em-up action, *Christmas Nights* was so beloved it actually arrived as a part of the 2012 HD re-release.

THE LEVELS

Sometimes, a game's festive cheer is confined exclusively to a single level or area, and we've had a couple of those in recent years. *Super Mario Odyssey* was a) one of the best games ever released, and b) featured a Snow Kingdom region, in which most of the characters wore dinky Santa hats.

Speaking of adorable and brilliant things, *Hitman*'s Holiday Hoarders event (right), added to the game in 2016, offered players the chance to dress Agent 47 as Kris Kringle himself while on the prowl for two international toy thieves: Harry and Marv. Yes friends, IO made a grown-up *Home Alone,* of sorts. Special mention to

Hitman: Blood Money's You Better Watch Out level, too, which was the first time IO gave 47 the chance to dress as the bringer of presents.

THE CHANGING TIMES

The seasons changed as you progressed through Rockstar's *Canis Canem Edit* (below), resulting in a lovely little Christmassy section. But what we're talking about here is the sort of thing that only comes around once a year (unless you change your device's clock, which is definitely naughty). *Christmas Nights*, again, saw some changes depending on your Saturn's date and time, but we've gone over that.

Instead, there's that other nineties Sega legend, *Shenmue*, which, if you played on Christmas Day, you could encounter Santa roaming through those twee eighties Japanese streets. Controversially, we'd say his beard wasn't big enough.

Animal Crossing's Toy Day featured very few beards, meanwhile, but the event – 23 or 24 December, depending on the version being played – still saw the visit of Jingle (above), a beardless reindeer bringing toys to all the residents of Nintendo's quaint little world of tranquillity. How lovely.

THE ADD-ONS

One of the best of the festive tie-ins came via our old misogynistic friend, Duke Nukem. A standalone expansion for *Duke Nukem 3D*, *Nuclear Winter* (above), threw the flat-topped musclehead into a world where Santa had been brainwashed by aliens and… well, we'll ignore the story bit from there, as it's all a bit nineties-icky. Anyway, the *game* bit is really good, as well as being full of trees and snow and other Christmas paraphernalia. Which is nice.

You might wonder how *The Escapists* – a game about being in prison and plotting to leave said facility sans permission – would incorporate Christmas into its DLC, but it did. Santa's Sweatshop (the title tells the story) turns prison into an elf-riddled production line, and tasks you with decorating a Christmas tree in order to escape. Via sleigh. Of course. It's pretty good, truth be told.

Saints Row IV brought its brand of… daftness to the festive season, too, with DLC pack How the Saints Save Christmas. Honestly, there's not much to it and it's forgettable, but the promo material was on point. So, well done, Volition, sort of.

THE CHEAT

Donkey Kong Country 3: Dixie Kong's Double Trouble! (above) isn't just a needlessly long title: it's also a game featuring a festive-themed cheat code. Bringing up the cheat menu and entering MERRY would result in all bonus levels in the game being infiltrated by bells and presents, soundtracked by a piece of music that wouldn't be out of place in a department store from 1 November onwards.

THE VAGUE SETTINGS

Sometimes, the Christmas theme just sort of *exists*, rather than having any particular impact on a game's concept. A couple of Caped Crusader games – *Batman Returns* from 1992 and 2013's *Batman: Arkham Origins* – both take place in front of a thoroughly merry background, even if their actual content ignores it completely.

Parasite Eve and its belated follow-up, *The 3rd Birthday*, both had a Christmas Eve setting, too, but again it was little more than window dressing for a less than festive story that involved melting people. Top marks for vague Xmas settings has to go to *Bayonetta 2* (above), though, which starts out with our witchy hero doing her Christmas shopping, before being interrupted by a marauding band of angels, surfing on fighter jets and repeatedly smashing a demon's head into the side of a skyscraper. Joy to the world!

THE ONLINE EVENTS

Overwatch's Winter Wonderland, *World Of Warcraft*'s Winter Veil, *Destiny 2*'s The Dawning, *GTA Online*'s Festive Surprise (above), *DOTA 2*'s Frostivus, *League of Legends*' Snowdown Showdown, and many more. It's almost like these always-online, ever-evolving packages are ideal territory for time-limited, festive-themed updates, isn't it?

THE TIRED JOKE

Yeah, but *Die Hard* is a Christmas film, so *Die Hard Trilogy* (above) counts…

Taito's arcade golden age

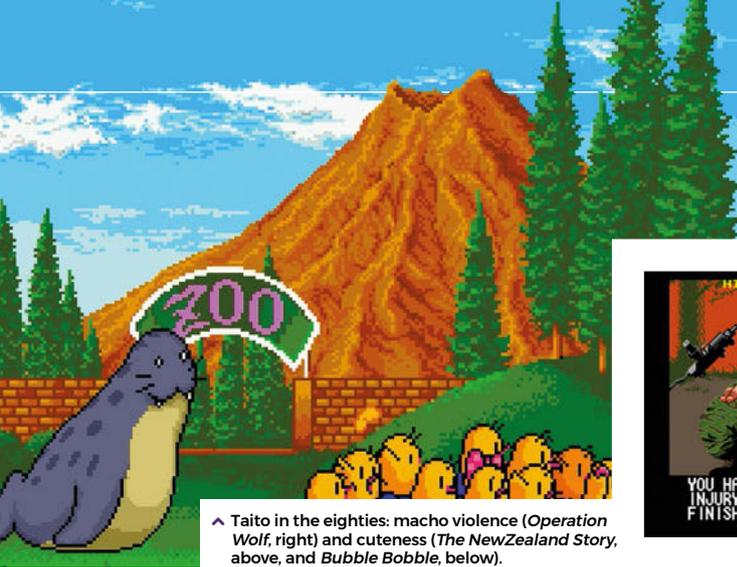The Japanese firm that gave us
Space Invaders and so much more

N ame a company that altered the course of video game history, and the ones that probably spring to mind are such stalwarts as Atari, Nintendo, Sony, or Sega. But while Taito are far from a household name in the 21st century, their contribution to gaming is indisputable: had it put out *Space Invaders* in 1978 and simply vanished from the face of the earth, its impact on the medium would still have been huge. But for more than a decade, Taito enjoyed an arcade golden age: a period that saw it produce some of the finest coin-guzzling machines of the seventies and eighties. Few of Taito's games had quite the seismic impact of *Space Invaders*, but plenty of them were innovative; lots of them were fun; more than a handful were out-and-out classics.

Before Taito got into the arcade business, it plied its trade with big, heavy machines of another sort. Founded in 1953 by Ukrainian businessman Michael Kogan as the Taito Trading Company, the firm first began importing vending machines and juke-boxes to post-war Japan, before turning to the manufacture of its own machines later in the decade. (Curiously, Taito also distilled and sold vodka in its early history.) By the seventies, Taito Corporation – as it was now called – had made tentative steps into the nascent arcade game business; its first game was *Astro Race*, a shameless clone of Atari's less-than-successful follow up to its mega-hit, *Pong*. Like so many companies in the seventies, Taito was at first content to ride in Atari's slipstream; games like *Davis Cup*, *Soccer*, and *Elepong* were all riffs on *Pong*'s bat-and-ball format.

In retrospect, those early Taito arcade games were the first sketches from a design genius just beginning to come into his own. Designer Tomohiro Nishikado was still in his twenties when he joined Taito, and was responsible for a number of games industry firsts: the unassuming-looking *Elepong* was one of Japan's earliest home-produced arcade machines; 1974's *Speed Race* was, at

^ Taito in the eighties: macho violence (*Operation Wolf*, right) and cuteness (*The NewZealand Story*, above, and *Bubble Bobble*, below).

^ One of the few images of the Taito WoWoW, a console that would've piped arcade games into homes for a monthly subscription fee.

^ Tomohiro Nishikado kicked against available technology to create the global smash, *Space Invaders*.

least by Nishikado's estimation, among the first Japanese arcade games released in America.

What happened later in the seventies is now the stuff of video game legend: Nishikado looked at Atari's arcade hit, *Breakout*, and wondered: what if the player could fire directly at the bricks at the top of the screen, rather than destroying them indirectly with a bouncing ball? And, what if those bricks could move around and fire back?

Those ideas formed the basis for *Space Invaders* – what would become the first arcade shoot-'em-up. But while *Space Invaders* was a product of its time – a collision of ideas borrowed from

Atari and seventies phenomenon *Star Wars*, to name but two reference points – the game also actively pushed against the technical boundaries of its day. It's worth remembering that, in the early games industry, there were no dev kits or dedicated pieces of game hardware to fall back on; as a result, Nishikado spent almost as much time sourcing components and creating development tools as he did designing the game itself.

Released in 1978, *Space Invaders* was, of course, a phenomenon: a hit that sold millions of arcade cabinets across the world, and clawed in millions of pounds in revenue. But what was noteworthy about *Space Invaders* wasn't the figures behind its success, but the ingenuity of its design: the gradually building thud-thud as the aliens marched down the screen; the strategy element that sprang up around its disintegrating shields; the pulse-pounding battle against that last alien as it hurtled left and right. Here was a game that wasn't merely diverting – *Space Invaders* had *drama*.

EIGHTIES AVALANCHE

The avalanche of profits from *Space Invaders* allowed Taito to rapidly expand in the late seventies, and its output at this point was staggering: 1980 alone saw the release of dozens of arcade games, which varied wildly from fondly remembered successes (*Phoenix*, *Space Invaders II*) to largely forgotten oddities (*Safari Rally*, anyone?). Taito's growth also saw them turn to publishing, with games from such developers as Toaplan and Technōs Japan appearing under the company banner through the eighties. All of this meant that, while the Taito

> **"For more than a decade, Taito enjoyed an arcade golden age"**

Console concepts

As the arcade epoch ebbed in the nineties, Taito briefly toyed with the idea of releasing its own console. The awkwardly titled Taito WoWoW would've competed with Sega and Nintendo's systems by offering a unique service: it could stream games via a built-in satellite receiver. Headed up by Taito's Yukiharu Sambe (who'd directed the shooter, *Darius*), the WoWoW would've played host to a number of the company's biggest arcade hits, including *Rastan*, *Bubble Bobble*, and Sambe's own *Darius*, available for a monthly subscription fee. Unfortunately, technical problems scuttled the WoWoW long before launch; the data transfer speed was simply too slow and unreliable to make the console viable, and after a brief appearance at the 1992 Tokyo Toys Show, the WoWoW quietly vanished. Nintendo successfully launched a satellite-linked peripheral of its own in 1995 – the Satellaview – but the device was never released outside Japan.

logo became ubiquitous in the golden age of arcades, the style of their games varied wildly, from the ultra-cute *Bubble Bobble* to the white-knuckle driving of *Chase H.Q.* and the brutal urban malaise of Technōs' *Renegade*.

But if there was one thing that linked Taito's best coin-op games of the era, it was how well they stood out against the shrieking noise and flickering screens of a typical amusement arcade. Taito's games could be understood within seconds, and offered the kind of quick-fix thrills that were vital to turn a profit in a fiercely competitive arcade scene. The mid-nineties saw that scene wane, and Taito, like so many other companies, increasingly turned their gaze to consoles. Looking back, though, it's possible to pick out some true gaming gems from their flurry of activity: turn the page, and you'll get an idea of how glittering that stretch of arcade games was. ⓦ

Taito Legends
10 coin-op corkers

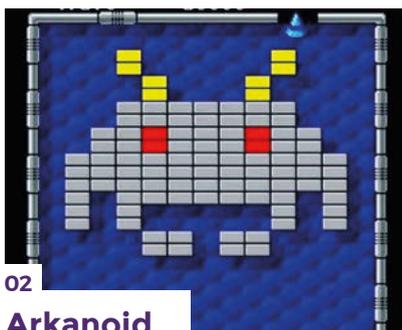A selection of post–Space Invaders arcade classics

01
Phoenix
Arcade – 1980

Despite some truly frightening sound effects, *Phoenix* offered a satisfying evolution on the *Space Invaders* theme. Sure, it was less polished than rival Namco's *Galaxian* (1979) and 1981's *Galaga*, but it offered a new twist of its own: the alien mothership, with its armoured shield and weak spot, was perhaps gaming's first-ever boss battle.

02
Arkanoid
Arcade – 1986

Again, Taito offered a polished riff on an existing theme with *Arkanoid*, a reworking of *Breakout* made on slick mid-eighties hardware. But the addition of shooter-style power-ups and varied stage layouts did much to freshen up the standard loop of breaking bricks with a bouncing ball. Ironically, *Arkanoid* was repeatedly cloned for years after.

03
Bubble Bobble
Arcade – 1986

One of the greatest co-op arcade games ever invented? Quite possibly. There's something oddly compelling about its concept, which involves shooting bubbles at enemies to trap them, and then jumping on said bubbles to burst them and send those enemies swirling off the screen. With two players in the mix, it's a timelessly entertaining experience.

04
Darius
Arcade – 1986

A side-scrolling shoot-'em-up in the mould of Konami's *Gradius*, *Darius* offered two points of difference over its rival: a nautical sci-fi theme (the enemies are all cyborg fish of one sort or another) and an arcade cabinet with three screens laid out in a row to create an ultra-wide play area. For the time, it was eye-popping, immersive stuff.

05
Operation Wolf
Arcade – 1987

The Reagan era distilled into one game, *Operation Wolf* was about as subtle as the massive replica Uzi strapped to the front of its arcade cabinet. In essence, it's a rail shooter, and not much more complex than *Duck Hunt*. As an arcade experience, though – all deafening explosions, screams, and military ultra-violence – it was hard to beat.
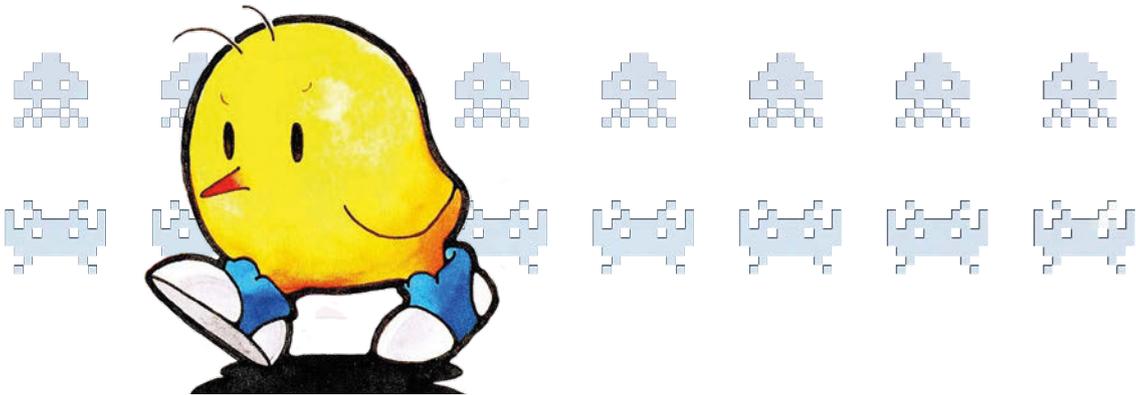

06
Rainbow Islands
Arcade – 1987

Designer Fukio Mitsuji's sequel to *Bubble Bobble*, this one bravely heads off in a very different direction, with new mechanics (its rainbows are both temporary platforms and murder weapons) and up-the-screen scrolling. The first game's co-op mode's sadly gone, but this one remains a cutesy platform classic. The Mega Drive port is among the very best.

07
Chase H.Q.
Arcade – 1988

In eighties arcades, this was the closest you could get to enjoying your own Hollywood car chase. At the wheel of a Porsche, your job was to intercept escaping criminals and repeatedly ram their car into submission. It's an idea borrowed by other developers (including the *Burnout* series – see page 18), but one strangely ignored by Taito since the nineties.

08
The NewZealand Story
Arcade – 1988

Like *Contra* with feathers, this little gem was as difficult as it was inventive. Its flightless hero, Tiki the kiwi, could arm himself with all kinds of weapons, from a default bow-and-arrow to a laser gun, and take to the skies by stealing helium balloons and other conveyances from slaughtered enemies. This was basically the cutest spin on *Grand Theft Auto* ever.

09
Volfied
Arcade – 1989

A sequel to Taito's own *Qix*, *Volfied* takes an austere puzzler (complete stages by sectioning off areas and avoiding enemies) and transforms it with a sci-fi theme and more varied challenges. It's another game by *Bubble Bobble*'s Fukio Mitsuji, who was arguably Taito's most talented – and oft-overlooked – designer of the eighties arcade era.

10
Puzzle Bobble
Arcade – 1994

For many, this bubble-bursting action-puzzler's more famous than its forebear, *Bubble Bobble*. Sequels have flowed since the mid-nineties, and it remains as addictive and accessible as ever. It's probably better known in the west as *Bust-a-Move*, with its marketing ignoring those cute bubble dinosaurs. Remember the PS2 sequel with the baby on the cover? Sacrilege.

Subscribe today

wfmag.cc/**subscribe**

13 issues
for just £20

Subscriber benefits

> **Free delivery**
> Get it fast and for free

> **Exclusive offers**
> Great gifts, offers, and discounts

> **Great savings**
> Save up to 49% compared to stores

Introductory offer
Rolling monthly sub

> **Low initial cost** (from £4)

> **Cancel at any time**

> **Free delivery to your door**

> **Available worldwide**

Subscribe for 12 months
Receive all 26 issues

£40 (UK)   **£75** (USA)

£65 (EU)   **£75** (RoW)

Offers and prices are subject to change at any time

Digital subscriptions from
£1.99

Visit **wfmag.cc/subscribe** or call **01293 312192** to order
Subscription queries: **wireframe@subscriptionhelpline.co.uk**

Pokémon
Sword and Shield

Tally ho, bag the lot of them what?

HIGHLIGHT

Sword and Shield's most publicised addition to the battle formula is Dynamaxing – unleashing gigantic mega-versions of Pokémon in the middle of battles. Though not an automatic press-to-win feature, it's all a bit of a gimmick that only crops up in raids and climactic gym battles. Still, at least it looks awesome.

˅ **XP from battles is automatically shared around all the Pokémon in your team, taking the pain out of training up useless bugs until they evolve into something better.**

Over the years, *Pokémon* has come to feel more and more like inhabiting a living technicolour cartoon in which you are the child hero, and less like playing a weird, maths-y RPG where you have to study type matchup charts and perform feats of imagination to turn clumps of pixels into lovable creatures in your head. *Pokémon* is now a gorgeously colourful and enthralling world, which lets you pet and play with your critters, dress up your trainer, and battle in massive sports-style stadiums with flashy effects. I'm actually jealous of the kids who get to experience *Pokémon* for the first time right now. It's just so enticing and full of character.

For all that's changed, however, there's a lot that's stayed the same. Changes to the type matchups and broad strategies of *Pokémon* play are extremely rare, and any true adjustments to the 20-year-old *Pokémon* play formula are usually in the details. This is great for the new generations of *Pokémon* fans that arrive with every iteration, but it's also entirely natural that it has caused adults' interest in the series to wax and wane.

Sword and Shield, however, has endeared itself to me more than any *Pokémon* game in years. It's still the same tale – young trainer picks a Pokémon buddy and heads out on the road to prove themselves the best trainer in the world, capturing and battling hundreds of other cute and kooky creatures on the way – and it's still a gentle learning curve for new players. But new free-roaming wild areas now let you see and battle Pokémon in their natural habitat, and offer a welcome break from the grind of the gym circuit. It adds enough novelty to make the whole journey feel new again, and full of wonder.

The Wild Areas (there are two, both large but comfortably explorable) really do feel transformational. Pokémon wander around in full view rather than hiding in tall grass, making it easier both to avoid battling the same boring Pokémon over and over again, and to chase down a creature you haven't seen before. You can take part in *Pokémon Go*-inspired raids

^ Conveniently, you can now access your *Pokémon* box from anywhere instead of needing to visit a Pokémon Center to change your line-up.

on super-powerful creatures with other players, camp with your team, cook up a curry for your Bewear from foraged ingredients. Rain and hail sweep across the countryside and affect battle conditions, and the stronger you and your team become, the more exciting the Wild Areas are.

How long has it been since your entire team was knocked out in a *Pokémon* game, or since your heart was genuinely in your mouth as you threw your last Poké Ball at a creature you'd been whittling away at for ten minutes? By giving you the option to take on creatures that are too strong for you, to go hunting for a challenge, *Sword and Shield* lets you break out of the usual gentle, guided *Pokémon* progression whenever you like and have what feels like a real adventure with your team of companions for the first time in many years. It makes me wish that the whole game were like this, but I can see why it's not: like every *Pokémon* release, this will be the very first *Pokémon* game for millions of kids who will still need that guiding hand that the rigid story path provides.

It feels serendipitous that the first 3D open-world *Pokémon* – something I have been anticipating with no small amount of excitement since childhood – also happens to be a British-flavoured one (or English-flavoured, more accurately). Visually, *Sword and Shield*'s Galar recalls industrial revolution England, charming village England, wild rolling fields England, not the imaginary medieval version of England that's often boringly rolled out in fantasy media. It's actually such a familiar, detailed, and accurate tribute that it took me by surprise. Visual details like the quaint signage and London-reminiscent underground train designs betray a familiarity with the largest part of the UK; this only made sense when I discovered that Game Freak had actually appointed a Brit, James Turner, as the game's art director.

It's also written with gentle reference to our islands' varied vernacular, with characters dropping the odd 'Bob's yer uncle' or liberal use

of the word 'mate'. This doesn't always work – "What could be better than a battle in a lovely hotel lobby?" is just a weird thing to say, and the presumably American translators let the odd "real" instead of "really" slip through the net – but it made me smile, nonetheless.

That's the thing about *Sword and Shield*: it makes me smile. For every moment when it felt over-familiar, over-simplified, or just a bit of a slog, there were many where I was happily lost in an open-world *Pokémon* adventure set in a beautiful cartoon realisation of England. Like the vast majority of *Pokémon* players, I'm here to meet and battle some new creatures, climb to the top of the gym ladder, and get to know a fun new region. Perhaps if I were invested in the competitive *Pokémon* scene I might find the energy to care about the slightly shrunken Pokédex, which cuts the total number of creatures in the game to 400, down from the ludicrous 807 that have massed over the series' 20-year history. Let's be honest: how many of those 807 were truly memorable? Does it really matter if one of your favourites didn't make the cut? Even more than usual for a new *Pokémon* game, *Sword and Shield* is a chance for a fresh start with a team of sheep, foxes, and electric corgi. Why wouldn't you take advantage? ⓦ

"Adds enough novelty to make the journey feel new"

VERDICT

The most novel *Pokémon* games in years, *Sword and Shield* offers a colourful, thrilling adventure for trainers old and new.

83%

^ There's a whole cast of young Pokémon trainers who crop up as opponents – one is followed around by a coterie of punk fans.

> The lack of touchpad control for painting speaks volumes about its redundancy, but the DualShock's motion sensors do a good job in its place.

Review

Concrete Genie

Where there's a wall, there's a way

Info

GENRE
Action adventure

FORMAT
PS4

DEVELOPER
Pixelopus

PUBLISHER
Sony Interactive Entertainment

PRICE
£24.99

RELEASE
Out now

REVIEWED BY
Jon Bailes

VERDICT

Concrete Genie is charming and visually dazzling, but ends with unexplored potential.

68%

There aren't many game locations as drab and lifeless as Denska. Aside from the lighthouse that overlooks from across the bay, this abandoned fishing town is little more than a maze of brown brick and rusty iron roofs. It's empty, cold, and dark. And that makes it the perfect artist's canvas.

As Ash, a creatively inclined teenage boy who likes to hang out in old Denska, you find yourself armed with a magic paintbrush. With it, you daub fluorescent landscapes on the town's vertical surfaces, with trees, butterflies, camp-fires, and those titular genies all twinkling into two-dimensional life. The more you paint the town red – and green, and yellow – the more the oily gunk that's infected Denska retreats, until perhaps you can make the whole place shine again.

To paint each area, you'll need the genies' help. Summon one with a few swishes of your brush, and they'll run along the walls around you, removing obstructions with elemental powers or giving you 'super paint' to clear the grime that stops their progress. To motivate them, you'll need to cheer them up by painting their requests. But since you can only paint what's in your sketchbook, and that's been torn up and scattered by a gang of bullies, you first have to track down the relevant pages.

It's a simple cycle. Jump and climb to gather sketches, then unblock the way for your genies

> **"Denska is empty, cold, and dark. And that makes it the perfect artist's canvas"**

so they can unblock the way for you. It works because it drives your creative whims, and pays off because it looks so impressive. The way your fantasy drawings pop with colour, superimposed on reality, never fails to delight. And the more pages you find, the more imaginative your works become. Any blank wall is hard to resist. As for the genies, your ability to draw different body shapes and appendages before they sprout limbs and come alive gives each one individual identity, while the many ways they interact with your painted scenes – munching apples, lounging on logs – further bolsters their personalities. Watching and interacting with them is often a pleasure in itself.

But outside the painting, *Concrete Genie* feels somewhat sparse. Many systems are present – platforming, puzzles, stealth – but stall in their development. A few neat ideas, such as using an electric genie to complete a circuit, or combining multiple genie powers to remove an obstacle, set precedents for greater intricacy that are never met. Then a late game twist switches the playstyle in a way that's thematically coherent but dismissive of structures built to that point.

Concrete Genie thus succeeds as an intimate tale, and a visually arresting experience about the potential for creative expression to bring people together. But it leaves behind the aura of a bigger idea, and might just inspire you to imagine what more could have been. ⓦ

Abdominal Press & Twist

∧ Unlock new exercises and modes of transport as you progress through the game.

Review

Ring Fit Adventure

No pain, no game

I'm that guy who always says he'll take up running but never does. I'll always choose a Nintendo Online Subscription or Xbox Game Pass over a gym membership, but could a gains-obsessed demon clad in Spandex change that? With one joy-con strapped to my leg and the other clipped onto the flexible, squeezable Ring-Con, there's only one way to find out.

The controls for *Ring Fit Adventure* are simple; jogging on the spot makes your character run forwards – the faster you jog, the faster your character runs. Collect items and battle a range of anthropomorphised gym equipment to eventually defeat the evil dragon-in-Spandex Dragaux. It's a fitness game masquerading as an RPG, but it's in combat where the real exercise starts.

The power of your attacks is calculated by mirroring your trainer, Tipp, as he squats, bow-pulls, or shoulder presses. You can use smoothies and yoga poses to catch your breath and restore your in-game health.

∨ The enemies have their own classes: kennelbells (kettlebells) are tanks, scuttlebells (dumb-bells) are offensive beasts, and matta rays (yoga mats) are clerics.

There are a wide range of exercise-based attacks, each with their own unique effects. The plank, for example, does a massive 50 damage to three enemies with each hip thrust, making it well worth being left in a crumpled, sweaty heap on the floor afterwards. Years of RPG experience make you aware that these 30 reps are an invaluable exercise in your arsenal, and you're not going to let a lack of fitness get in the way of some big damage.

It's a testament to the game that you're actually eager to do this much exercise, but it's even more incredible that you'll be prepared to do it all again if the gaggle of angry kettlebells weren't blown away the first time around.

However, no matter how much my capability to exercise improved over the six weeks playing *Ring Fit Adventure*, you still wouldn't find me doing this in a gym, surrounded by posters saying "Sweat is weakness leaving your body." *Ring Fit Adventure* can be as hard a workout – or as laid-back – as you want it to be, but the most important thing is that it's private. You can push yourself in the privacy of your own home. No awkward nods to passing runners, or nervous looks to regular gym-goers who somehow all look like The Rock. It's just you and Tipp against the world.

And, despite its strengths, towards the end of my six-week exercise regime, I found what had started as a daily routine had become a once-a-week effort. I'm going to try and start regularly playing again, but for now, it seems I've come full circle. I'm no longer that guy who says he'll take up running, I'm the guy who says he'll start using *Ring Fit* again. ⓦ
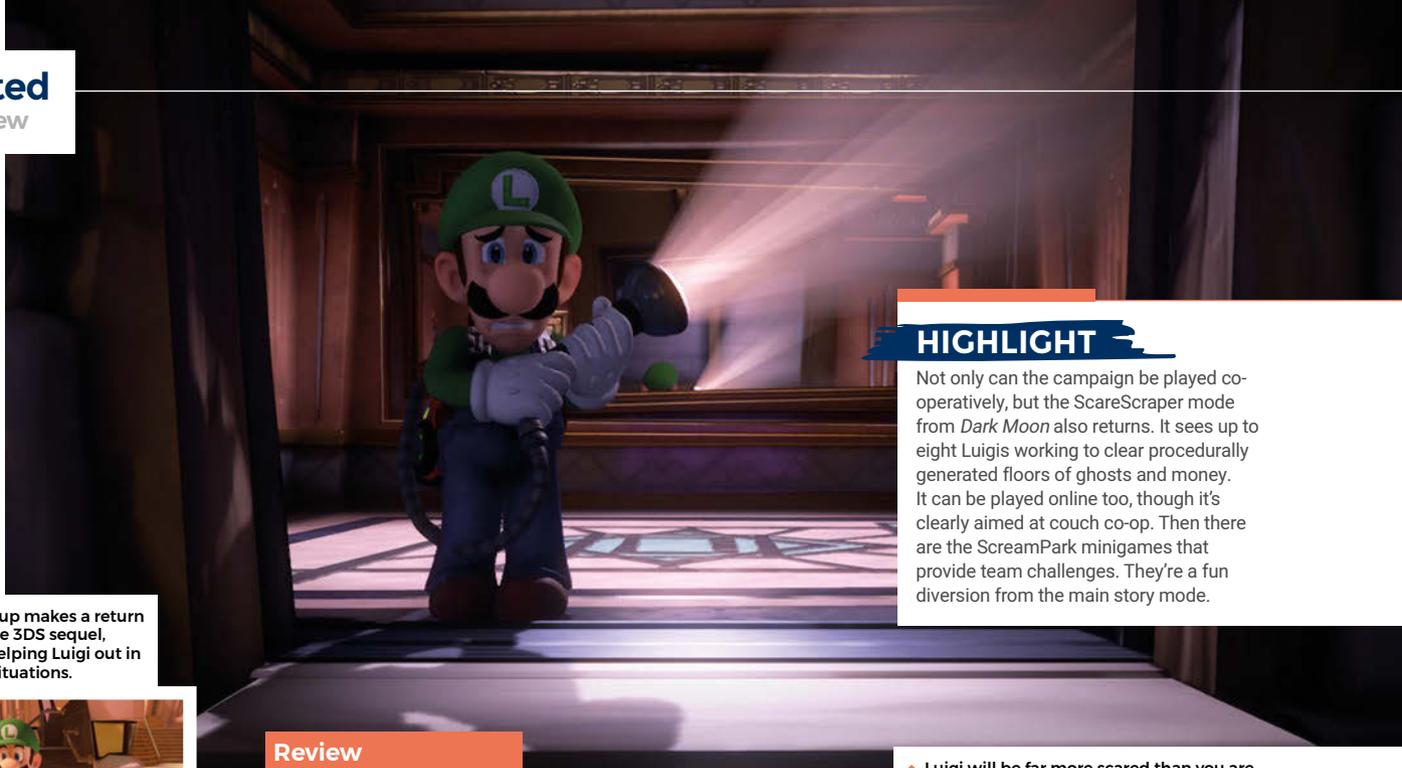
VERDICT

A great motivator for gamers who want to introduce some exercise into their life.

77%

Polterpup makes a return from the 3DS sequel, often helping Luigi out in sticky situations.

Luigi will be far more scared than you are.

Review

Luigi's Mansion 3

The cutest horror you'll ever play

Info

GENRE
Adventure

FORMAT
Switch

DEVELOPER
Next Level

PUBLISHER
Nintendo

PRICE
£49.99

RELEASE
Out now

REVIEWED BY
Ed Nightingale

VERDICT

A creepy, interactive cartoon that's boo-tifully animated and hugely fun.

88%

Only Nintendo could've made this. Only Nintendo could come up with vacuuming ghosts, a pet ghost dog, and a sidekick called Gooigi, who's made out of goo. Only Nintendo could make a game overflowing with such charm. Its opening is almost entirely wordless, yet it's a masterful piece of storytelling that depicts Luigi and the gang travelling to the seemingly innocent Last Resort Hotel, only to later discover it's haunted by ghosts. Between a snoozing Luigi, a sprightly little Polterpup, and a Toad driving their bus (how does he reach the pedals?), this is adorable stuff.

With Luigi himself, Nintendo have excelled themselves in the animation department. The way he shivers with fear, waddles around, and cheers his own name in celebration – it all makes for a protagonist it's hard not to fall in love with, let alone his pleasingly sticky, gooey sidekick. Throw in some amusing and colourful ghosts, and *Luigi's Mansion 3* is a theme park ride of silly horror filled with genuinely funny slapstick moments. You won't be scared, but hopefully, Luigi packed more than one pair of dungarees.

It's good enough to be a Pixar short, but compared to the GameCube original, this is feature-length. This time around, the action takes place in a hotel rather than a mansion, but the plot's essentially the same: foil King Boo and save your friends who are trapped in paintings.

It makes you wonder why the Mario Bros. keep falling for the same trick.

The setting, though, allows for far more creativity than before. What begins as a typical art deco hotel slowly unravels floor by floor into a fantastical and delightfully weird adventure, through medieval castles, pirate ships, haunted museums, and more. Each is haunted by a boss ghost with tons of personality, each a joy to outsmart and suck into your vacuum.

Every room is a detailed and eerie puzzle box, with secrets to uncover and fluttering cash to grab. It's never overly taxing, but the puzzles

"Every room is a detailed and eerie puzzle box"

make creative use of Luigi (and Gooigi's) limited moveset, gradually increasing in difficulty and imagination. One particular level based on a film set is a real highlight, with its multi-room puzzles and movie references. Each floor also has five hidden gems and, later, Boos to discover which all add to your final score – and the game's longevity.

It's a mostly linear adventure, and there are some annoying moments that pad out the story – I swear, if I see Polterkitty one more time – but it's hard to be frustrated when they provide an excuse to revisit such inventive level design, especially when sucking up junk and detritus is so satisfying.

Luigi's Mansion 3 is Nintendo at their most playful and whimsical – one of the Switch's very best games that fully realises the potential of the 18-year-old original. ⓦ

⌃ Running water and your ability to manipulate its course is introduced later on in the game.

Review

Manifold Garden

A matter of perspective

Manifold Garden is a game in love with space and architecture. It's a game about playing with those things, but also one that wants you to share its love by enjoying the aesthetic pleasure of simply existing within it. And you will.

Each of the game's intricately designed spaces are infinite. Gaze over a ledge, and you'll see the spot you're occupying repeated ad infinitum into the distance. Walk off a ledge, and you'll fall through that space over and over again until you pick a spot to land on. The very idea of falling off a ledge is complicated by the fact that Manifold Garden allows you to change which way is down, providing the basis for some complex multidimensional puzzling and a spatial philosophy reminiscent of M.C. Escher (forgive us the obvious reference, but it's too apt to let lie).

Within these physics-defying spaces, Manifold Garden creates awe-inspiring pieces of architecture that reference, but never quite replicate, a host of styles. Clean brutalist megastructures, futuristic temples, and Zen-like gardens collide to create a coherent vision which can best be described as a kind of sci-fi-modernism. These places are an aesthetic joy, both beautiful and, occasionally, even a little unsettling in the incredible sense of scale they are able to evoke.

Manifold Garden's world is evocative and impressionistic, shying away from any overt explanation about what this space is or how it operates, and that extends to its puzzling. Save for

> **"The game creates awe-inspiring pieces of architecture"**

a couple of very basic control prompts, the game doesn't tell you how its puzzles work. It doesn't need to, because it's well-designed enough to let you learn by doing. The foundation of its puzzle system is that objects can only be interacted with while you occupy the same plane. When you switch gravity to change which way is down, the floor changes colour as a kind of key-code to orientate you. Blue switches can only be pressed to open the corresponding door when you are standing on a blue floor – in other words in the 'blue' dimension or plane. Coloured cubes are quickly introduced that can only be picked up when you are standing in that dimension, and the interactions between your dimension switching and these differently coloured cubes get gradually more complex as new ideas are layered on top.

Difficulty is exceptionally well-balanced. The permutations that the game's multidimensional nature allows for could easily have made it overwhelming and frustrating, but that's not the case. When walking into a new area, you might often feel like what you've been confronted with is impossibly complex, but a few minutes of playing around and you realise the game has subtly armed you with the knowledge you need to get a handle on it, while also stretching you far enough to keep you feeling challenged and engaged.

Manifold Garden is a very good puzzle game. As an aesthetic object, however, it's exceptional. I enjoyed its intellectual challenge, but it's that artistic vision that sticks with you and makes it into something special. ⓦ
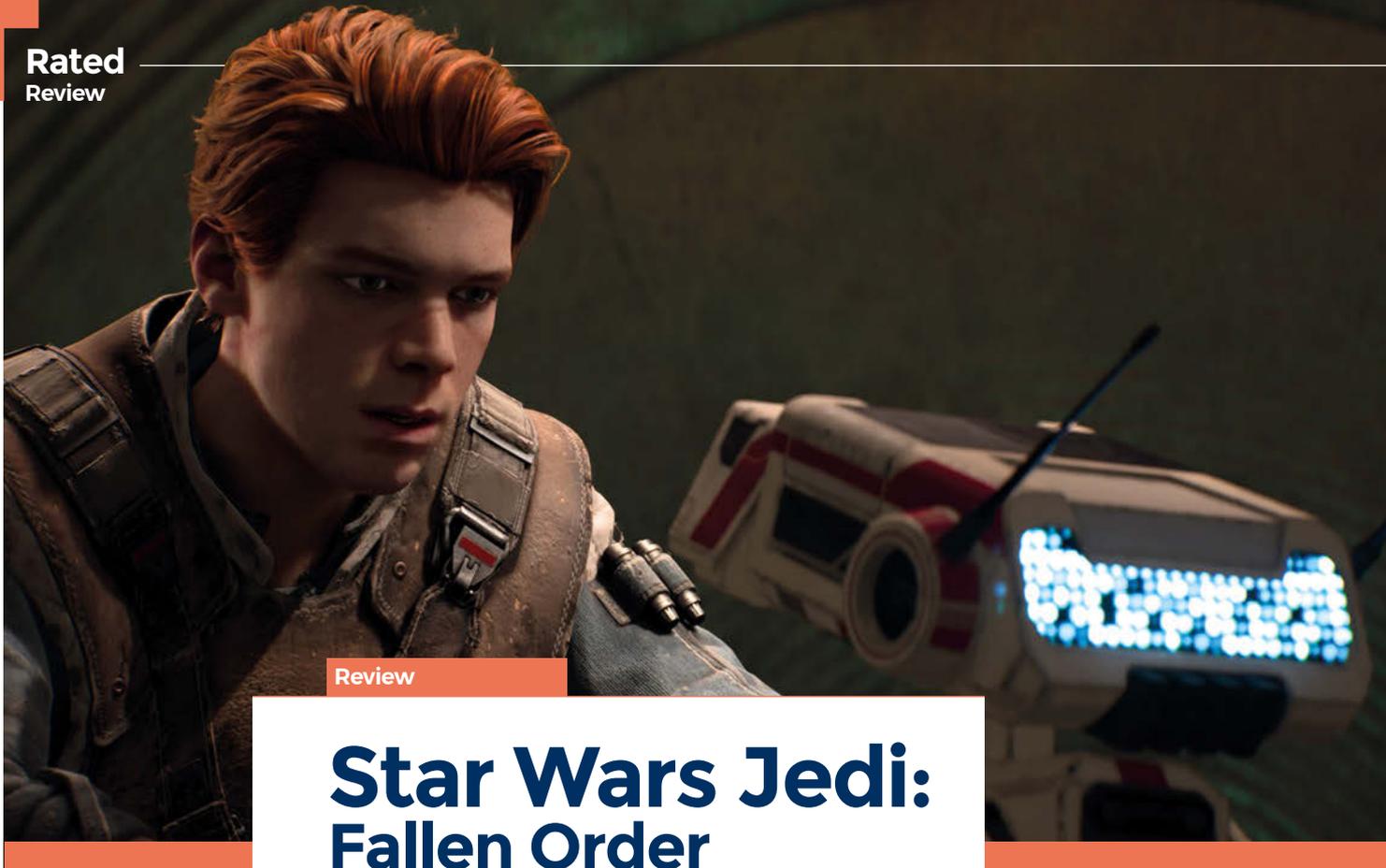
VERDICT

Stunning architectural marvels take Manifold Garden's cleverly designed puzzling into another dimension.

80%

Review

Star Wars Jedi:
Fallen Order

A well-timed tap of block deflects blaster fire. One tap, a lifetime of satisfaction. It's so good.

Respawn makes excellent robot sidekicks, apparently

What's a Jedi's favourite pastime? Why, sliding endlessly down hills, if *Star Wars Jedi: Fallen Order* is anything to go by. Respawn's single-player take on the adventures of a young Jedi and his cohorts sees you tackling an escalating Empire, hunting hidden Jedi, engaging in some classic *Star Wars* stuff, and… sliding down a lot of hills. Seriously, it's actually quite silly just how many hills you slide down in this game.

When you're not sliding, you're in full control of one Cal Kestis, ably played by Cameron Monaghan. This unassuming scrapper has been keeping his head down and drawing his pay cheque like any other schlub would, except… well, you've seen the game's art and the screens here, so it's not a spoiler: *he's a Jedi in hiding*.

This being the galaxy far, far away post-*Episode III*, the Empire has a bit of a thing for murdering every Jedi it can find, so making his presence felt isn't something our hero wants to do. What follows is: a thing that makes Cal reveal himself, a tragedy, an escape, and an adventure with far-reaching consequences. Safe to say it's a very entertaining story, and a very *Star Wars* one. There are few surprises or risks, of course, but that's not what people want in these things. We want lightsabers, treachery, light and dark dalliances, cameos, and Wookiees. *Fallen Order*

provides all of this, along with the extra of BD-1 – a fantastic droid accomplice who, it's fair to say, I want to be friends with.

*Fallen Order'*s a third-person action-adventure in a vein similar to *Uncharted* and plenty of others (more on that in a minute); you explore large, intertwined worlds, battle ludicrous amounts of hostile fauna, and generally have a decent time of it all. And you slide. A lot. You climb a bit less than you slide, while you swing on ropes a bit less than you climb. But good golly gosh, do you ever slide down a lot of hills – it really does bear repeating this much.

After you pass the jarring realisation that *Fallen Order* takes more than a few cues from, of all things, *Dark Souls*, things settle in, and the real fun begins. Being a Jedi, when done well, is great. You have magical powers, you're great in fights against regular troops and beasties, and you're good enough to take on things much more powerful than you, so long as you're smart about it. All of this is present and accounted for here, though there is a small complaint (more on that also, in a minute). Force-pushing your way through walls is inherently satisfying, while the handling of your laser sword verges on an all-time great in the world of game mechanics. The satisfaction in deflecting incoming blaster fire with timed button presses borders on transcendental at times. It doesn't last, sadly.

What really has been holding *Fallen Order* back for me, though, is that it draws from so many other games. It's not that the Metroidvania setup works against Cal's adventure – visiting and revisiting a selection of planets, being able to explore previously unreachable areas: that's good. It's fun. It makes you want to go back to places even before the story *makes* you go back there. It's not that the *Dark Souls* elements play out wrong; it's actually rather fitting that you have to meditate at set spots to save and that's where you come back after respawning. It's not that *Prince of Persia: The Sands of Time*'s wall-running was ever a bad feature, nor that the climbing and swinging from *Uncharted* is something another triple-A studio shouldn't borrow for its own release. None of this is wrong.

But it's not as integrated, flowing, or natural as it needs to be to rise above just being a series of borrowed elements from other games. It's jarring: these aspects don't blend into the background as you play – you feel each and every one of them, every time they come up, and you notice them. *Fallen Order* lacks that integration, and as such, these derived elements – as much as they work well taken in isolation – collectively stand out, like Greedo shooting first.

> **"*Fallen Order*'s derived elements stand out like Greedo shooting first"**

There's also a bit of rot under the surface. A game that leans so heavily on tactical, thoughtful combat also needs to provide a smooth and gratifying experience. You need to avoid clunk. Sadly, *Fallen Order* does at times wail on you while you're trapped in a corner, metaphorically and literally, as a result of *some* clunk. Cal can be slow to react to an input, say, or an enemy's inability to be staggered before sticking the nut on you three times in a row can be… galling, I'll go with. There's a very clear line between the person with the pad flailing like an idiot and the game itself not actually playing particularly well, or fairly.

Finally, in the triumvirate of grumbles: it's all a bit underbaked. Glitching textures, enemies not triggering when you enter an area, strange animations popping up – it all smacks of a game emerging a bit too soon.

There is a new *Star Wars* film out this autumn, so it's pretty obvious that EA had a timetable to hit, but it seems that even with multiple years in development, *Fallen Order* still needed more time spent on it.

Rubbish, then? No, not at all. *Fallen Order* isn't going to sit alongside the likes of *Knights of the Old Republic* and the *Dark Forces* series in the hall of greats. But it's a solid, *generally* well-made adventure with enough going on to keep you ploughing and sliding through its couple-dozen hour story. The Force is… yeah, alright I guess, in this one. ⓦ

▲ Cal's planet-hopping adventure uncovers all manner of hitherto lost relics of the pre-Empire universe.

HIGHLIGHT

When you've unlocked a few of Cal's latent Force powers, it begins to settle into a rhythm: jog along, push that, pull that, run along that wall, and so on. Soon enough, you realise you're playing and acting just as an actual Jedi, and it's all happened *so naturally*.

VERDICT

Sometimes great; sometimes rough around the edges; usually fun.

69%

You can change the background colour if you're having trouble seeing the challenges clearly.

You're always trying to make a path to the black exit.

HIGHLIGHT

The way the game introduces its new ideas is always strong. They'll come in slowly towards the end of a set of tricky puzzles, before growing into the heart of the next chunk of the game. When you're experimenting, you rarely feel lost, and that's thanks to the skill that's gone into the mechanical layering.

Reky

It doesn't quite come in like a reky ball, sadly

The vast majority of video games are about getting from A to B. The route might be circuitous, and you might be left to your own devices for a lot of the time, but traversal has almost always been a core gaming concept. It's an effective way to fool the brain into thinking progress is happening – a way of explaining the abstracted actions you're taking as a form of movement.

Reky follows this well-worn path – it's a puzzler about moving a black blob from one end of a series of Escher-esque constructions to the other, manipulating the scenery to create your path. That might make it sound like another *Monument Valley*-inspired addition to the App Store, but it's both more and less than that. There's a puzzling purity here that avoids the emotional pulls of ustwo's creation. A focus on logically working out what you need to do might make for a more mechanically intriguing game, but it leaves *Reky* lacking in other important areas.

The key to your progress here is coloured blocks. Swipe on these, and they'll move in a set direction. Tap on the path, and your blob will move to that place if it can. Things get interesting when you have to start leeching the colour from blocks. Tap when you're on a coloured square, and your ball becomes that hue, tap again when you've moved onto a blank square, and you can

deposit the colour, which means you can move a new block. There's a neat learning curve that you always feel a short step ahead of, and while there isn't much room for experimentation, there also isn't any punishment for taking your time and figuring things out.

Sometimes that's a blessing, other times you feel like you've bodged a solution when a more elegant one is available. You can head back to levels at any point, but unless *Reky* has really got under your skin, it's unlikely that you're going to. Where in other games the puzzling is pushed along by atmospheric and aesthetic changes, here everything looks very similar, and when new ideas do come in it's a little too late.

> **"There isn't any punishment for taking your time"**

None of which is to say that *Reky* is a bad game. It's an incredibly intelligent puzzler that's going to spark off all of the right triggers in players who love its combination of space to think and simple presentation. What it's lacking is that special spark, that heart that the finest games deliver in ways you can never quite pin down. *Reky* instead slides over you, entertaining when you're involved but forgotten once you've put it down. At its heart, it's about getting from A to B, but the overarching push from starting point to bitter end isn't there like it is in the very best games. *Reky* might be a masterclass in designing logical challenges, but it never captures your imagination enough to ensure you're compelled to see everything it has to offer. ⓦ

VERDICT

Reky traverses some interesting ground, but it doesn't manage to pull you along for the whole ride.

65%

I'm looking for sailors.

I see

The never-ending search for sailors might come to an end if I get through Shenmue

t's been a long time coming. Years – decades – have passed, but finally we're at the point we all hoped we would get to: I'm going to play *Shenmue* through properly. Oh, also *Shenmue III* is a thing and is out and so on and so forth. The excitement about this fact was tempered somewhat, in the harsh reality of the morning after pitching in for the Kickstarter campaign all those years ago, when I remembered I'd never actually got beyond the part of the original entry to the series where you have to go to work every day and do some fork-lift racing. It's been 20 or so years; I genuinely just forgot I'd never finished it.

So the task became something on the to-do list of gaming life: go back to Yu Suzuki's magnum opus, drag yourself through the pottering pace and – sorry – garbage voice acting, and finally make your way beyond going to work every day (in the game) on an endless quest to find some sailors. I would do it. It would be done. And there was time to get cracking, because *Shenmue III*, the reason this task had appeared on the to-do list of gaming life, wouldn't be out for ages.

The thing about time, right – the thing we all forget to notice about the abstract concept of young becoming old, smooth becoming wrinkly, rock becoming dust – is that it sneaks up on you. It feels like just the other week I was in the living room of a friend and colleague helping to cover E3 live for an internet website like those you get

on computers, being utterly blindsided by the *Shenmue III* announcement, and quickly backing the project on its crowdfunding drive. That was four years ago – almost five – in June of 2015. 'Oopsie' seems appropriate.

Were this any other series, I'd move on and ignore it, safe in the knowledge there'd be other things to pass my time with.

But aside from some vague similarities to the *Yakuza* series, *Shenmue* is absolutely its own thing. It is unique in the true sense of the word; a game unlike any other apart from its own sequels. And beyond that, it's a brave game – made by a Sega legend who had cut his teeth crafting arcade classics, this Dreamcast title is a test of a creative mind's mettle. Could Suzuki make something that wasn't *Out Run*, or *After Burner*, or *Virtua Fighter*? What the hell was Sega even thinking, giving him close to a 100 million dollars to put this massive risk of a project together?

Shenmue just shouldn't have happened to begin with. It's a miracle it ever came to be, more of a miracle it got a sequel, and the sort of thing that would make me weep at the glory of it all that it somehow managed to eke out a third game nearly two decades later. I might still laugh at Ryo's obsession with sailors and his utterances of "I SEE." I still think it's clunky, slow, and sometimes doesn't make much sense. But it's a true original, and for that, it deserves to be played properly. Ⓦ

> **"*Shenmue* shouldn't have happened to begin with"**

Wireframe Recommends

Shenmue II
DC, XBOX, PC, PS4, XBO
And once done with the first, why not move on to the second? This time, safe in the knowledge you don't have to wait almost 20 years for the third part, because…

Shenmue III
PC, PS4
Shenmue III actually released in 2019! What?! Ridiculous, I know, but it happened, it's real, you can play it yourself, and… well, I need to get through the first two games before jumping into this one.

Hang-On
ARCADE, MULTI
A sideways jump to the *Yakuza* series might be expected here, but no – straight to one of Sega's arcade classics. See, you can play *Hang-On* in *Shenmue* – there's your link – and it's still brilliant.

Half-Life 2

Appreciating the gravity (gun) of the situation

VALVE / **2004** / **PC, MULTI**

At first, it sounded like a gimmick to show off *Half-Life 2*'s then-revolutionary physics engine: a gun-shaped object capable of lifting, dropping, or firing objects many times heavier than an individual could lift by themselves. Thanks to Valve's intelligent design, though, the gravity gun ended up being an absolute legend in the world of not just first-person shooters, but gaming in general.

To oversimplify, it's because *Half-Life 2* was designed around the gravity gun – at least from when you were handed it, a third or so into the game – with puzzles and progression intrinsically tied to use of the Zero-Point Energy Field Manipulator, to give the device its proper name. It wasn't one thing with the other added on top of it: it was synergistic; a symbiotic existence between level and weapon design that, frankly, you just don't see much outside of… fixed gun emplacements, maybe? Those sections where you have to use a sniper rifle? It was, as is so often the case in Killer Feature, an elegant implementation of a new mechanic.

This became increasingly evident in the wake of *Half-Life 2*'s release, when the pretenders and hangers-on arrived with their own takes on physics-manipulating weaponry. It's not that they didn't work, or weren't fun – it was just that these games weren't designed hand-in-hand with the devices, and it showed. A level

> **"Maybe it was the perfect storm: we were still *being impressed* by physics, and not just expecting it as a given"**

might have a lone barrel you had to move in order to progress, maybe, but it really didn't push players into using – and, importantly, playing – with their own takes on the gravity gun.

Maybe it was the perfect storm: Havok had recently got to the point where it was offering realistic physics simulations that were viable to use in games without significant performance impact, and Valve's Source engine leveraged that tech heavily. We were still *being impressed by* physics, and not just expecting it as a given – so to design fundamental aspects of a game around this draw may well have been a lightning in a bottle situation that Valve took fantastic advantage of. Maybe. Or maybe the gravity gun was just brilliant, and fun, and satisfied you, and made you feel smart for using it, and developed into something *so much more* at the end of *Half-Life 2*'s story. Maybe.

Valve's announcement of *Half-Life: Alyx* is the natural prompt for thinking about this feature, and the VR-specific game is bringing with it a reinvention for the gravity gun tech: gravity gloves. They're basically the gun but in glove form, which suits the setup of VR much better than the point-and-shoot tech of the previous game. Given the gravity gun is something we're still talking about to this day, it's fair to say there's *anticipation* to get into the boots – and gloves – of Alyx come March 2020. ⓦ

Next Issue

ON SALE 16 JAN

OMNO

A sprawling fantasy adventure created by just one designer

Don't miss out! Subscribe PG **54**

Also

> Our epic review of the decade when indie took over

> The makers of Conker's Bad Fur Day on life after Rare

> Parkour and post-apocalyptic ninja robots in Kunai

> A practical guide to latency, and how to minimise it