Wireframe

LIFTING THE LID ON VIDEO GAMES

ENTER THE MATRIX

The inside story of a flawed, ambitious movie tie-in

BUILD A CITY

...using the engine behind Heaven's Vault

Baldur's Gate

## LARIAN STUDIOS REVIVE A STONE-COLD CLASSIC
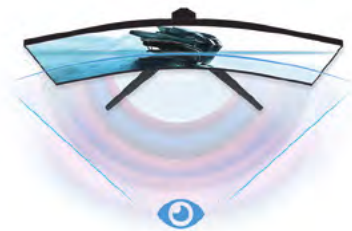
Second Life's dream lives on in Fortnite

Welcome to Build Back Better Island, official home of the Joe Biden presidential campaign in *Fortnite*! Disembark at No Malarkey Station, roll up your sleeves, and get to work on completing Biden-inspired challenges like activating 5G broadband towers, installing high-efficiency air conditioners at a car factory, and finding Kamala Harris's missing trainers.

Sure, it's a baffling ordeal to *find* Biden Island tucked away behind a password-protected portal in *Fortnite*'s Creative Mode, and the gameplay is decidedly janky, but American electoral politics is pretty inaccessible and janky right now, too.

Fortnite and the Biden campaign make strange bedfellows. Why would a presidential candidate spend money on an elaborate get-out-the-vote pitch in a battle royale shooter aimed squarely at an audience that's too young to vote? The answer, of course, is that *Fortnite* is a certified cultural phenomenon that has crossed over into the mainstream in a way that few video games ever do. Here in the strange world of 2020, it's possible that Biden's path to election day Victory Royale ran through *Fortnite*.

Long before *Fortnite* began blurring the lines between our real and virtual lives, Linden Lab's *Second Life* set out to do much the same. Launched in 2003, *Second Life* was an early example of an online world where users could create avatars, socialise, generate content, and buy and sell goods with a virtual currency known as Linden dollars. *Second Life* also actively sought crossover appeal, luring brands like Disney, Pepsi, and Adidas to the platform to establish in-game presences. In 2006, Nissan went so far as to build a multi-storey vending machine in *Second Life* to dispense virtual cars. Meanwhile, musicians such as Ben Folds and Suzanne Vega performed live concerts on the platform, angling for new fans among *Second Life*'s residents.
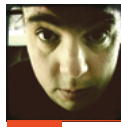
JESS MORRISSETTE

Jess Morrissette is a professor of Political Science at Marshall University, where he studies games and the politics of popular culture.

#45

Yet *Second Life* failed to break into the mainstream. By the late 2000s, companies were abandoning their virtual storefronts. Product placements were drying up, and celebrities stopped flocking to the online playground. Where did *Second Life* go wrong? It was an online platform built with exactly this kind of real-world crossover in mind, yet *Fortnite* – a game where you might witness an anthropomorphic banana man running around with an assault rifle – has somehow succeeded where *Second Life* ultimately failed.

The answer lies in the numbers; it turns out that you can do almost anything with a video game if enough people are playing it. At its peak, *Second Life* claimed a million registered users. According to Epic Games, *Fortnite* boasts more than 25 million daily players. When electronic artist Marshmello performed a live *Fortnite* concert in 2019, 10.7 million players watched along. More than 12 million players logged on to see rapper Travis Scott perform in 2020. *Fortnite* has also successfully courted media tie-ins ranging from *Star Wars* to *John Wick* to popular streamer Ninja. So, if you ever wanted to see Harley Quinn use Wolverine's adamantium claws to slice up an opponent wearing a licensed NFL uniform and dancing to Doja Cat's hit single '*Say So*', *Fortnite* is the place to be.

Of course, with this level of cultural ubiquity comes political influence. Before players ever had a chance to visit Biden Island, *Fortnite* had already hosted a series of in-game conversations about race in America, featuring prominent BIPOC voices from the worlds of media, business, sports, and entertainment. It's an ambitious pivot toward real-world political relevance for a platform built to deliver rated-T-for-teen battle royale action.

Did Biden Island meaningfully impact the outcome of the 2020 election? No, almost certainly not. Nevertheless, with its massive player base and zeitgeisty cultural cachet, *Fortnite* remains poised, against all odds, to influence our first lives in ways *Second Life* could have only imagined. Ⓦ
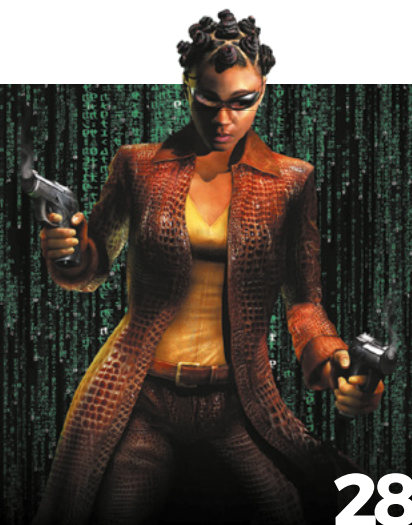
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WIN
A BUNDLE OF
2K GAMES!
See page 35

The dawning of a new console generation is exciting, alright, but it can also be a painful one for those who want to join in the fun, but can't afford to splash £450 on their hobby just before Christmas. So while the Xbox Series X may be Microsoft's full-fat current-gen offering, I've found myself unexpectedly smitten by the Xbox Series S. Sure, its spec isn't as mouth-watering as its bigger brother, but it still has plenty going for it. First, it looks absolutely lovely under a television: its compact form factor is visually appealing, and brings it in line with the more svelte consoles of generations past. But more than that, it brings current-gen gaming to people who might otherwise find themselves priced out of the market. Coupled with Xbox Game Pass, the Series S opens up a whole library of triple-A titles and indie games to a broader audience.

The teenage version of myself would no doubt have lusted after the Series X, but its price tag would've placed it far out of my reach; at £200 cheaper, the Series S would've been a more realistic proposition. This contrasts sharply with my memories of the Sega Saturn's announcement in the mid-nineties; as a Sega fan, it was harrowing to learn of its price at launch: £399.99 – or about £775 adjusted for inflation. Gaming may still be an expensive hobby, but it's at least more approachable than it was a few decades ago.

Enjoy the new issue.

Ryan Lambie
Editor

DIVINING
D & D

Working on the series it was always meant to handle, we catch up with Larian Studios to talk *Baldur's Gate III*

he pressure might have been on – it still is, it's fair to say – but *Baldur's Gate III* released into Early Access and has been well-received in general. It still needs work on a technical level, there's balancing to be done, and other changes will be coming in the year or so the game will remain in pre-final form (also: the rest of the game needs to be finished), but it's been a positive start. And it must have been a relief to the 300-or-so employees of Larian Studios, the Belgian team behind the long-awaited sequel to what was once the stomping ground of BioWare.

It does feel a smidge like this should all come naturally to Larian, though: this is a company that has made almost nothing but RPGs since

it was formed in 1996, with the majority of its releases landing under the *Divinity* banner – a series created in-house. Recent years have seen the launches of *Divinity: Original Sin* and its sequel, both of which really hammered home the studio's computer RPG-making chops. So when it was announced in 2019 that Larian had been handed the keys to Wizards of the Coast's Forgotten Realms and would be bringing *Baldur's Gate* back for the first time in 20 years… well, it just seemed to make sense.

Keen to find out *just how giddy* everyone at Larian Studios has been throughout the creation of this potential *D&D* legend, we sat down with David Walgrave, executive producer, to talk all things role, playing, and games. ➤

Sometimes in life, you just have to thwack a spider with a critical hit. It's the way we all roll.
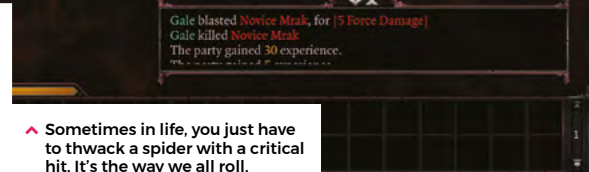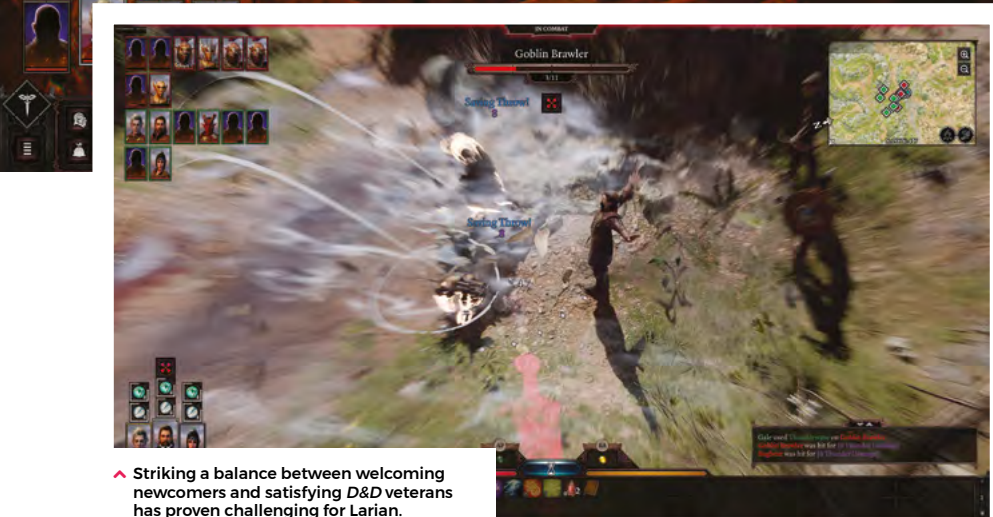
Striking a balance between welcoming newcomers and satisfying *D&D* veterans has proven challenging for Larian.

How did *Baldur's Gate III* end up with Larian?

Our CEO Swen Vincke actually visited Wizards of the Coast – I think when we were working on the first *Original Sin* – and he said to them, 'Look at what we're making, I think we could make *Baldur's Gate III* with this engine'. And they laughed at this silly person from Belgium who was making a small-time RPG with 30 people. Hilarious. They slammed the door in his face, but four or five years later they actually contacted us, if I remember correctly, because we had gone on to make *Original Sin*, then the sequel, and both were big successes – *Original Sin II* was tenfold the success of the first game. Everyone in the Wizards of the Coast building by then was playing *Original Sin II* and saying, 'This feels very much like a *D&D* game, but on a computer – does anyone happen to know these Belgians?'

So then, with a very small team, we started talking to people at Wizards of the Coast and started pitching our idea for *Baldur's Gate III*. We went there with three or four people, coming up with stories, talking to their systems and game design people, making sure they all understood what we wanted to do and making sure that we understood what they expected us to do. We hit it off immediately because we all understood we were just in the RPG-making business. We have a lot of very creative people – we immediately came up with the mind flayer story, which they thought was crazy, because who would do a whole campaign about mind flayers? Everyone's going to die immediately [laughs]. So they thought that was unique. They loved our storytelling and the way we could come up with a dozen different ideas as soon as they shot something down for some reason. We loved them for having this entire world of Forgotten Realms and all the lore and possibilities in there. They trusted us with

their fifth edition – I thought we would have some problem with getting certain things through their lore or story police, or through their systems people, but they were kind of giving us carte blanche, telling us we were the specialists when it came to computer RPGs – we'd proven that – while they were there as a big lore book, and we could do what we wanted.

What was the reaction at the studio?

I was probably the third or fourth person Swen told. He asked me to come over to his desk, said 'Sit down', and I just thought I was getting fired. I really thought I was going to get fired, or we were going bankrupt or something really bad. Then he said, 'Don't tell anyone yet, but we're very probably 99 percent going to work on *Baldur's Gate III*', and at that moment I was really happy that I was sitting down. A lot of people at Larian Studios, especially the really senior people, we all joined Larian because we wanted to make RPGs and we're big RPG fans ourselves, and – especially if you're 40-plus – you remember *Baldur's Gate* and what an impact it had on computer games and on RPGs, because at that time, for a very long time, no really good *D&D* game had come out for eight or nine years.

I also never thought that anyone or any studio would ever think of making *Baldur's Gate III* – at least not us, even to this day. I've been working on this for two or three

years, and now we've released in Early Access, and sometimes when you're playing it and trying to forget that you're working for Larian Studios or that you've been in the games industry for 15 years, if you realise what you're playing, and then you realise that you're a part of it – even if it is just a small part of it – it's very unreal. Everyone that we talked to immediately had a million ideas of what to do and a million what not to do. Everyone freaked out. Everyone was obviously very happy – but also very afraid.

I think a studio in its lifetime, if you look at where we were at that moment, we needed something like this to give us another jump, a stepping-stone to the next level.

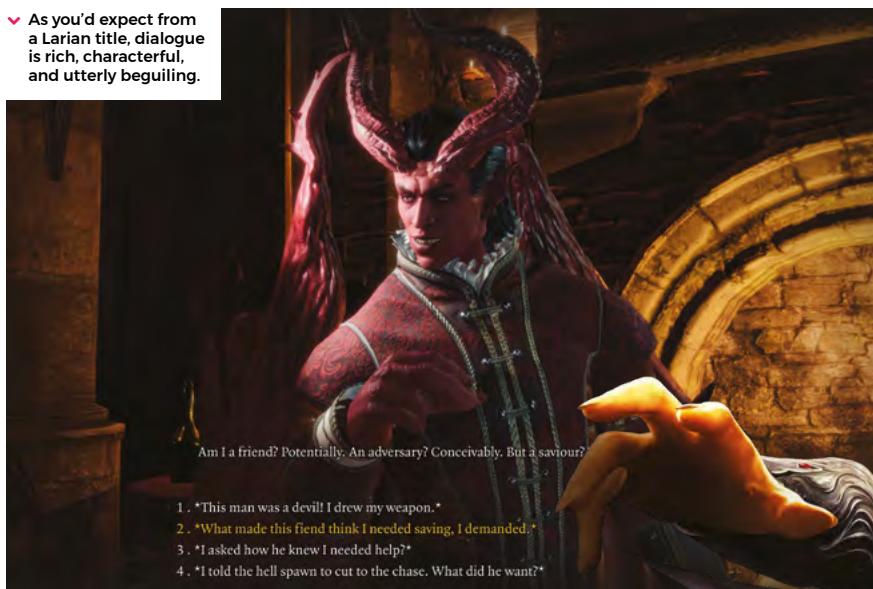**You've opted for Early Access, which has served you well in the past – what's EA's appeal?**
There are several. The feedback is super-important – we learned that when we released the first *Original Sin*. We released via Early Access on that partially to get

"I really thought I was going to get fired, or we were going bankrupt, or something really bad"

What if we do it all wrong? What if people don't like it? Should *anyone* be making *Baldur's Gate III*? So it was a bit of a scary time, and a very happy time. But we also realised if you look at what we did with the *Original Sin* games, Larian was constantly growing, and we needed something like this – we couldn't have just gone on to build another *Divinity* game. If we'd not have been successful in signing *Baldur's Gate*, we would have done something else, but

money right in the middle of production. [And it's not even like] we *didn't* say this in public. You do Early Access to get another boost of money – it's not a lot, but it will help. Then, instead of your QA team and designers, you have thousands of people playing your game and they have a lot of opinions. If two people give you a certain opinion, that's OK, but if thousands of people have the same opinion then you probably need to listen to them and ➡

THE STADIUM APPROACH

With *Baldur's Gate III* also available in Early Access on Google Stadia, it's fair to question if that impacted development of the game at all – were there any different approaches necessary for the streaming platform? "No," Walgrave replies. "We're used to porting stuff, the only difference right now is that we were porting to Stadia *while* building the game. Stadia actually didn't limit us in any way, so we could still go on building the game and another team made sure it kept on working on Stadia, and that was really it.

"What I think is really cool about Stadia is the features they wanted us to implement in that build, that I think will benefit everyone," he continues. "One thing we also do normally is implement a controller-specific UI – we build it from scratch – but this usually comes after we've built the entire game with keyboard and mouse. For Stadia, we had to do it immediately. But that was not a bad thing, because it forced us to think immediately about [how things would work on controller]. If you think about those things while you're designing the game, you're going to have a lot less iteration in the future, because you already took care of it. Another thing I found very interesting was the interaction with the audience if you're streaming, which made us do Twitch integration, where we can ask [the audience] what option they'd choose in a dialogue – if we're going to implement that for Stadia we can do it for anything, really."

⌄ **As you'd expect from a Larian title, dialogue is rich, characterful, and utterly beguiling.**

> ## "I think that people play games for fun, so I don't see any problem with us being funny once in a while"

you probably need to change it around. During Early Access, we also get a lot of anonymous data – it tells us where people are dying, or where they're levelling up, or what weapon they picked up and equipped, and so on, so we gain a lot of insight into what people are experiencing, and we learn from that and change the game, the rules, the balancing. It allows us to make the game a lot better by the time it releases because you have thousands of people playing it, and that gives you a lot of statistics to work with.

This also goes back to when we first worked on *Divine Divinity* and *Beyond Divinity* – we had a very active forum on Larian.com, and we had a small, vocal fan base. They were constantly giving us feedback and ideas, and when I think back on those days, what we're now doing in Early Access is similar, only a thousand times bigger. We're getting *a lot* of feedback and *a lot* of ideas now. One thing that we learned from the statistics is that people are completely uninterested in a lot of buffing and debuffing spells – we have stats where you can see how many people are using what spell and how often they're using it, and that made us realise every magic spell that we put in an RPG

needs to have this 'oomph' factor. You have to want to click it, or you'll never click it. You cannot sell a bless spell to people. It's boring. They don't care – they want to see fireworks, they want to see damage. If you talk to someone about balancing in the *Original Sin* games, they'll say the buffing and debuffing is overpowered, but we make it overpowered on purpose because otherwise people are not going to click it. We make them *want* to click it. We keep on changing the description and the balance until we see in the statistics that usage of that particular spell is going up. So yeah, we really learn a lot of our own game by putting it in Early Access.

Does this feedback change things significantly, or is development largely set in stone?
In *Original Sin 2*, the opening island, Fort Joy, we rewrote it three times, because of feedback about the story, the flow, the logic behind the story. I know this because I was working with translating teams that were working on the game, and after translating Fort Joy three times, they were asking when they were going to see the rest of the game. We're not afraid to drastically change things around. Even right now we're thinking about changes to *Baldur's Gate III* that would be pretty drastic for any other game development company, but we've always revolved around iteration. We've made sure that our systems, our pipelines, our workflows, and our teams are very much aware of the fact that we iterate. Everything that we build needs to be flexible because it can change. We should be able to react to a good idea; we should

⌄ Much as it might be fun to make friends with an intellect devourer, there's something in our bones that says it's probably not the best of ideas.

⌃ It's impossible to see some parts of the game and not think of *Original Sin II*, but that's in no way a true criticism of *Baldur's Gate III*. You may as well take after the best.

be able to react to Early Access. We invited playtesters over to the studios – which was very difficult with Covid, but we managed to – a month before releasing into Early Access, and what we learned from those people was also implemented during that one month we had.

Baldur's Gate III is a lot bigger than anything we've built before, with a lot more dependencies; tweaking something or changing something is just one drop of water. For instance, if you change one word in the dialogue it needs to be retranslated, but it also has to be voiced again, then also the cinematics team needs to take it into account again – all of these small changes we used to be able to do on the fly. Our company is now four or five times bigger and so is everything about the game, so it's become more difficult to do, but we identified it as one of the core reasons why Larian Studios' games are different and why they are successful. Because we're not afraid to actually do something completely different or make a drastic change or listen to people saying 'This doesn't work', or 'This is unclear'.

You're a studio notable for having an actual sense of humour, but *Baldur's Gate* is serious business. How do you marry these two concepts?
Even with *Original Sin II*, when we went on the first press tour we were telling people it was a much more serious game, it was gritty and dark. I really think we tried to tell a really dark story in the game – it *was* a really dark story – but people still laugh out loud at the dialogue we write. It doesn't mean that because the world is serious and there's serious stuff going on that you can't write a funny skeleton or a rat prince who is so stuck up that he's funny in everything he says. For *Baldur's Gate III*, we also have characters that… I don't think that they're 'funny', but the way they react to the world or the way that they are makes them funny without them *being* funny.

I also think that people play games for fun, so I don't see any problem with us being funny once in a while. We're not the type of company that's going to change this into a horror game where everything is dark and serious all the time. We tried, but then all the writers were hiding little jokes here and there until we realised it's just not us. We have to [have a sense of humour].

Larian has been highlighting things to the community, like how the average created character in *Baldur's Gate III* is as generic as a Gap model. It's done in good fun, but is there any genuine frustration behind it?
We're the type of company that can get away with it because people expect us to do that kind of stuff. I don't think anyone is frustrated, because you know – especially if you gather statistics like we do – that 70 percent of the people are going to follow the main path. But one of the reasons why people like our games and why they sell by word of mouth is because everyone that tells their story about how they finished *Original Sin* or the sequel, even *Baldur's Gate III*, everyone tells a different story. Whether 70 percent of you follow the main path or not, even the main path is going to give you a different story because you chose a different character, a different class, a different race, a couple of different dialogue options, you forgot to raid that dungeon completely so have no clue who that guy is… all of these little choices matter as well. So we know we need to keep implementing them because we want to satisfy people that think about certain things like 'What if I don't fight the jailer, but I try to pickpocket them for the key' – if we were to start saying now we weren't going to do that anymore because only four percent of people do that, we would not be Larian Studios, we would not be making RPGs anymore. We'd be making a point-and-click adventure or something, I don't know. So we will keep on doing it.

Sharing statistics with people is fun, but other companies can learn from it. ➡
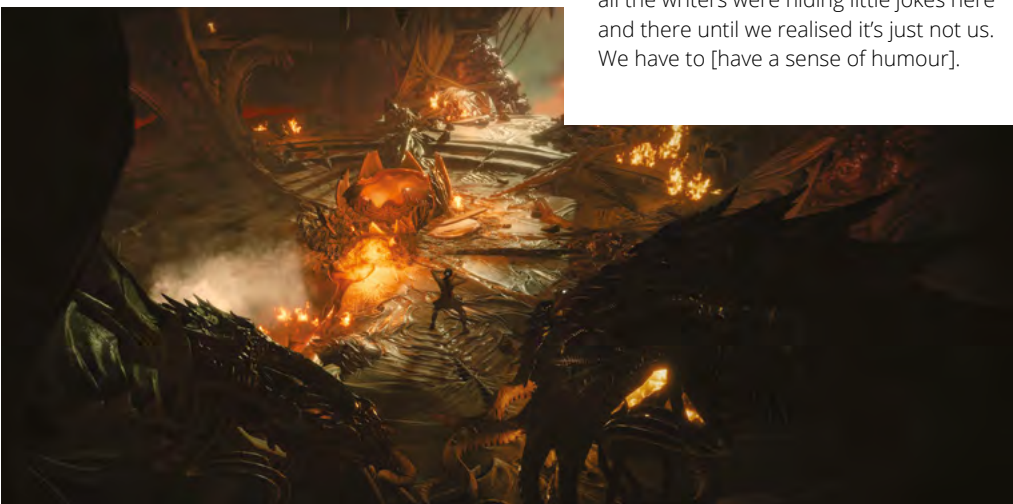
FINISHING TOUCHES

There comes a time when you have to admit to someone who worked on a stellar, world-beating game like *Divinity: Original Sin II* that, much as you love it, you've never *actually* finished it. Fortunately, when that time came with Walgrave, he had an admission of his own to add in. "Neither have I, officially," he says, somewhat sheepishly. "As a developer, you obviously finish your game a hundred times, but then you have to leave it there to sit for a while, and then I try to play them like a normal person. But for *Original Sin II*, that still has to happen."


Everyone's always asking what kind of statistics we have, and we don't mind sharing. Then when it comes to the generic *Fallout* guy – he reminds me of the *Fallout 4* character, but anyway – it's not that people were building this guy, this is the character you get when you combine all the most popular settings. Maybe it's normal that you get Mr Generic if you do that. But the designer who made that picture was sitting right next to me and he said, 'Look what happens when I put all of those most popular characteristics into our character designer – this is who you get'. I had to show it to the publishing team: 'This is what you get when you can build an orange lizard with red hair, or a woman with a beard', and they thought it was funny. I even think we should do that sort of stuff more often; when you look at social media, it used to be something we did for fun, and now it's a marketing tool where you need to think whether you should post something, like it, retweet it, question if you should post a funny picture of your cat – as soon as you start thinking like that... it's also the thing I like about Larian, sometimes we just don't care. That's who we should keep on being.

Larian has mainly been about *Divinity*, itself clearly influenced by *D&D* and *Baldur's Gate*. Now you've got the big game, where do you go? Have you peaked? Or will it be *LED Wars 2*?

I have no idea! I don't think anyone from *LED Wars* is still at Larian apart from Swen [laughs]. He could probably write it himself... I honestly have no idea. There are ideas we had that are public, like we wanted to make a tactics game. We postponed it, but it is something we'd still like to do. In order to do that, we need to build a company that can work on two projects at the same time. Last time it didn't work out because there were certain key people we needed on our game that you cannot share between games. This was a couple of years ago, so I think if this is something we wanted to do we'd first have to try and build the type of company that can support more than one game at the same time. I don't know if that's something Larian
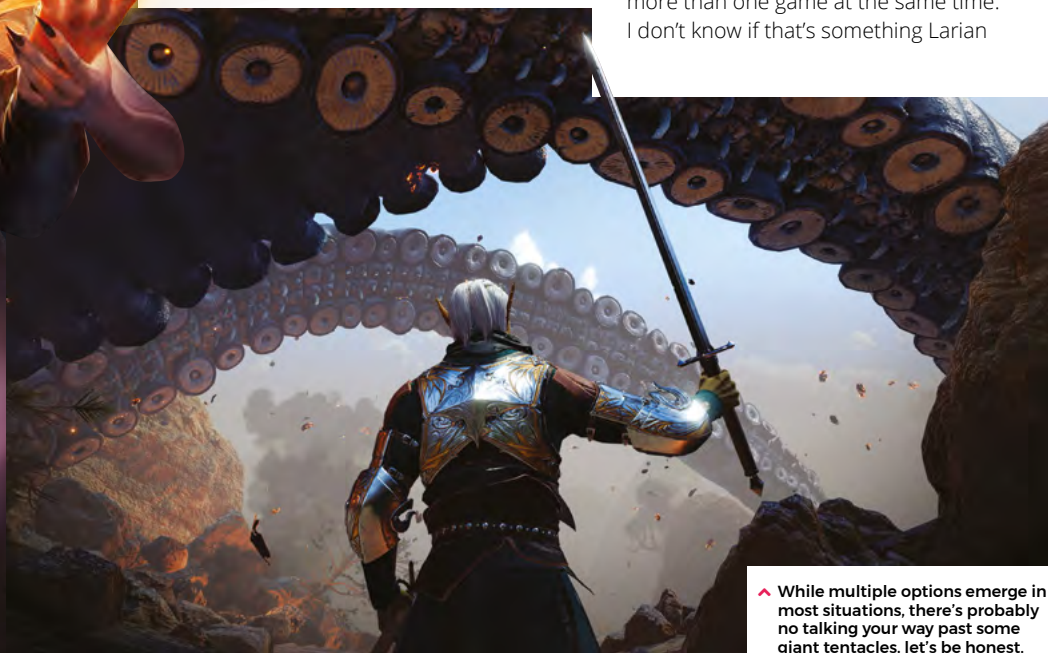
▲ While multiple options emerge in most situations, there's probably no talking your way past some giant tentacles, let's be honest.

▲ Every spell in *Baldur's Gate III* has to have 'oomph', according to Larian – people don't want boring fingerblasts, after all.

Studios wants to do, I also don't make these decisions. Personally, it's something I would like, having different teams working on different things, because having that variation and possibilities for team members would be very motivating.

I don't think the *Divinity* saga is finished yet – there have always been things we wanted to do with *Divinity*, one of them is probably closure [laughs]. There is something Swen calls 'the RPG that dwarfs them all [it's not *Baldur's Gate III*]' – I don't think this is dwarfing them all. I know what he means by that, what his definition of dwarfing is, and we're not there yet. It's something we want to be able to build, and to be able to build that we need not just technology but also a lot of insight. Even after all this time, we're not 100 percent there. There are certain things that we want to be able to do in an easier manner than what we're doing right now – right now, building games is still a very manually scripted job, and we're trying to

▼ Mind flayers – "tyrants, slavers, and planar voyagers." So... not your best mates, then.

put in a lot of generics and systemics, and we really want to put more of that stuff in because it gives you more of a sandbox. We're succeeding in making that stuff, but we want to keep improving on it – so the future of Larian... I think there's still a pretty big RPG that's going to put the others to shame, probably because of all the non-scripted stuff going on in it.

"I don't think the *Divinity* saga is finished yet – there have always been things we wanted to do with it"

What about pivoting to sci-fi?
If you asked around at Larian who wants to work on a sci-fi game, you can imagine how many people would want to stop working on making their 143rd dungeon [laughs].

But there's still the love, isn't there? Larian is a studio with a lot of soul behind its games, after all...
When we were growing very fast all of a sudden, when *Original Sin II* was a really big success, we saw money coming in, and you need to do something with that money or Belgium takes everything [laughs]. So you need to grow your company. Then you need to start thinking [whether] it's something you actually want to do, because it's a lot of fun building a

game like this with 100 people – but will it still be a lot of fun when you build it with 300 people? You know it will be very challenging, and we had to hire a lot of people all of a sudden that we never had before, people who had to think about this stuff – accountants and lawyers and COOs and all that. We used to just be game developers, so all of a sudden you become

a serious business – and *then* you start thinking, 'I hope we don't become a serious business, because that's just boring'.

So we started thinking about the idea of what it is to be Larian – what we needed to change, on one hand, so we didn't explode or implode, but also what the values, ideas, philosophies, and directions are that we should never change, no matter how big we are. I think that's the soul and fun and humour and all of that stuff. As soon as that goes out of a Larian game, it's not a Larian game anymore... and someone probably bought us [laughs]. ⓦ

Baldur's Gate III **is out now in Early Access for PC, Mac, and Stadia. A full release is tentatively planned for late 2021.**

Berserk **Boy**

Artist and developer Zu Ehtisham revives the frenetic action of Mega Man Zero

Info

GENRE
Action-platformer

FORMAT
Switch / PC /
XBOX / PS4

DEVELOPER
Z2team

PUBLISHER
TBA

RELEASE
2021/22

⌃ *Berserk Boy*'s action is fast
and frenetic, just like the
Mega Man ZX series.

⌄ *Berserk Boy* uses GameMaker
Studio 2 as its engine, while
assets are drawn and
animated in Aseprite.

Capcom hasn't made a new entry in the *Mega Man Zero* series for about 15 years, but its vibrant run-'n'-gun action lives on in other forms. *Mega Man Zero* developer Inti Creates channels more than a hint of its spirit with its *Azure Striker Gunvolt* games, for example; meanwhile, indie developer Zu Ehtisham and his team are working away on *Berserk Boy*. It's a side-scrolling action game firmly in the *Zero* mould, albeit with a hint of *Sonic the Hedgehog* thrown in for good measure; you play an athletic young hero named Kei (he's the Berserk Boy of the title) who's capable of jumping, dashing, and sliding his way out of tight situations. This is just as well, since Kei's world is under threat from a group of once-benign protectors called Mythical Guardians; once each is defeated, though, Kei will be granted a new form, which he can switch between with a nifty 'form ring' system inspired by *Mega Man ZX*.

Berserk Boy began life as a much smaller – and grittier – solo project called *Death Dust*. Over time, however, the tone began to shift, as Ehtisham explains. "Originally, *Berserk Boy* was going to be a lot darker, based more around telekinesis and precision platforming and be way more unforgiving. As time went on, I redesigned the main character a lot, and found myself naturally going towards a more light-hearted hero with a cheeky personality every time."

With that shifting tone came a growing team: Ehtisham started working full-time on *Berserk Boy* after a year of fitting development around other work, including teaching and freelance art projects. Today, there are five other people working away on *Berserk Boy*, among them pixel artist Kevin Ramaputra, *Sonic Mania*'s Tee Lopes on music and sound effects, and Rob 'SketchCraft' Duenas providing illustrations (see page 36 for more on that front). "For over a year I was juggling it with my full-time job and part-time freelancing," Ehtisham says. "It's definitely nice to be able to knuckle down and spend more time on it."

Although originally from the UK, Ehtisham is based in Japan, while his collaborators are scattered across other parts of the globe – so co-ordination is one of the bigger challenges *Berserk Boy* currently faces, he says. "We all live in different time zones, so co-ordinating can sometimes be a nightmare. That, and trying to not add new features every time you think of something cool, so I'd say staying within a reasonable scope is something you've got to pretty much gauge and learn along the way."

⌄ Before his call to action, Kei worked
as a 'teleporter'. "His job is basically
to help people relocate safely from
sector to sector," Ehtisham says.
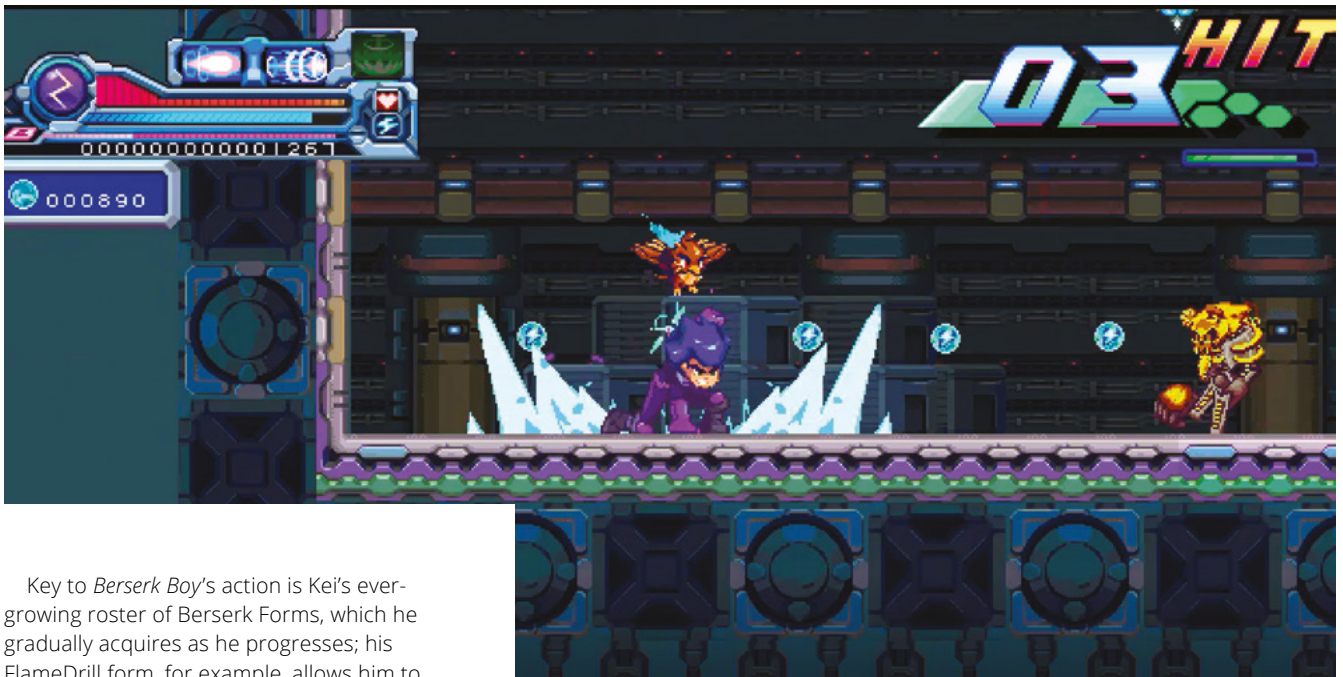
Key to *Berserk Boy*'s action is Kei's ever-growing roster of Berserk Forms, which he gradually acquires as he progresses; his FlameDrill form, for example, allows him to perform a deadly spin attack, Tasmanian devil style. Players will be able to switch between all these abilities via the ring select system mentioned above – a mechanic added to the game following feedback from Twitter followers. "Originally, the form ring wasn't a ring at all – you would need to stand at a transform point and then you could swap forms," says Ehtisham. "I did a poll on Twitter and the majority vote was for changing forms on the fly, so we went in that direction. Originally it was going to be selected by flicking through the analogue stick up or down, but with the nature of the game, you'd need to know what form you were changing to and when. Naturally, we found how *Mega Man ZX* tackled it and got inspiration from that."

Kei's also joined by a feathered sidekick named Flore – a friendly Mythical Guardian who aids you on your quest. "While he isn't fully playable or
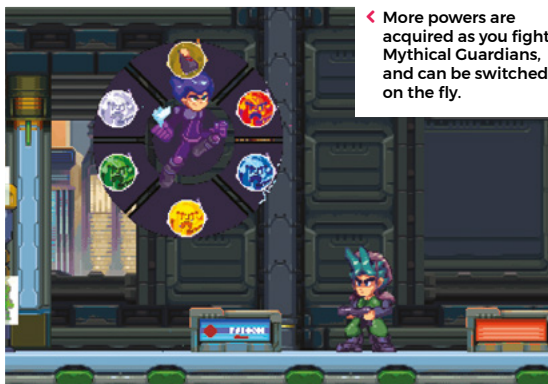
upgradeable, unlike Kei and his Berserk Forms, he does have his chance to shine," Ehtisham explains. "He also makes having dialogue and building the story in the game a lot more natural, as Kei can have a back and forth with someone during missions."

Those missions may be inspired by the colourful sci-fi trappings of the *Mega Man* series, but don't expect the difficulty level to be too punishingly old-school: although Ehtisham's thinking about adding a harder mode for veteran players, it won't be "ultra-tough", he says. "The main thing I want is for the player to actually be able to finish the game, and so I'll be moving away from those instant kill spikes. While it does have its challenges, it'll have frequent save points and checkpoints so you can keep trying without getting too frustrated, making it much more forgiving than an early *Mega Man* game. I'd say it's like a more modern *Mega Man* game, but with some light Metroidvania elements that encourage you to explore the stages."

There's a way to go on *Berserk Boy*'s development, with its release pegged at 2021 or 2022. Until then, one of the main tasks is ensuring controls and abilities handle just right. "Sometimes I can spend days testing an ability and finding things that need a bit of tweaking," Ehtisham tells us. "It makes it even more time-consuming because each form has a unique method of traversal and attacking, so they have to feel equally as good as the original form." ⓦ

"Co-ordination is one of the bigger challenges *Berserk Boy* faces"

‹ More powers are acquired as you fight Mythical Guardians, and can be switched on the fly.

FINDING THE PULSE

We've a bit of a soft spot for *Pulseman*, the *Mega Man*-like action-platformer developed by Game Freak in 1994 – it was one of a handful of games the studio made before it went off and started the Pokémon franchise later in the decade. Only released physically in Japan, *Pulseman*'s somewhat obscure these days (see page 89 for more on that front), but its turn of speed and colourful imagery certainly recall *Berserk Boy*. So was it an influence on Ehtisham? "People don't normally get *Pulseman*, so I'm glad you brought it up," he says. "I'd say *Mega Man Zero*, *Sonic*, and *Pulseman* really helped shaped my love for 2D platforming games. So, whether I like it or not, they always end up inspiring me in some way."

White Shadows

Daniel Wagner tells us about his German studio's expressionistic, dystopian debut

"In games, you expect to be powerful," Wagner says. **"But this game isn't that – it's more about, 'We can't beat this world'."**

T here's a certain allure to games that just plonk you down in the middle of a game world. No vast opening cutscene, no tutorial, no slabs of text to guide you. *Limbo* did this brilliantly way back in 2010, and while developer Daniel Wagner doesn't want to be drawn too much on the specifics of *White Shadows*' plot, he's quite clear that it's another game that lets players discover the world and its story for themselves. "It's about this little raven girl, our heroine," Wagner explains. "She's this tiny little creature in a big, powerful world that really doesn't care for her, and actually has it in for her in some ways. And you don't have superpowers."
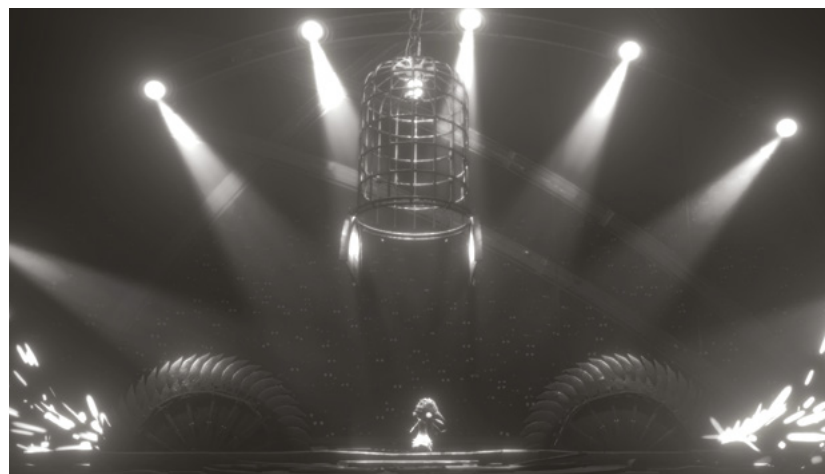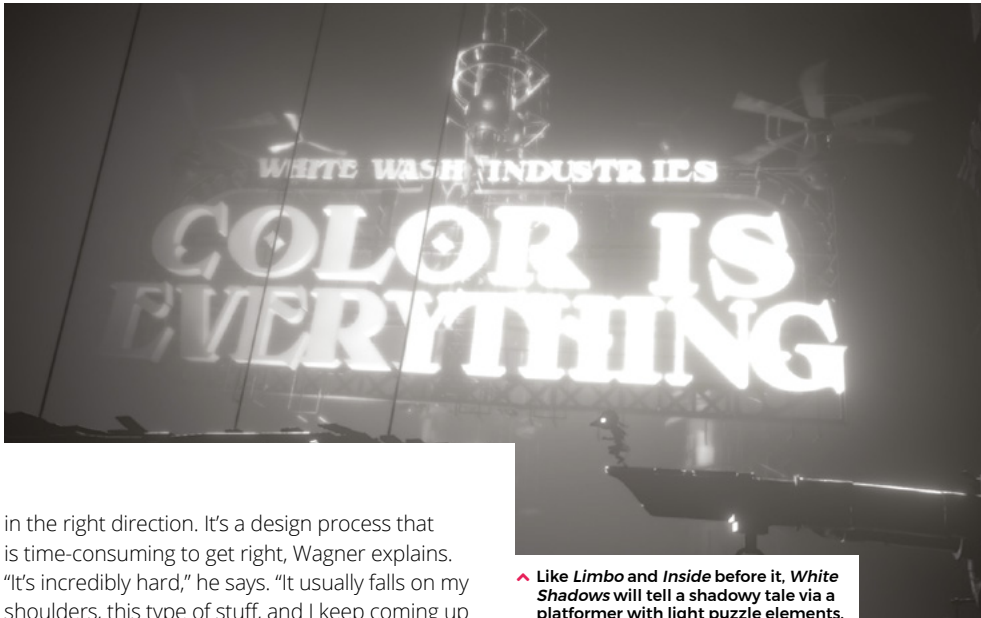
That big, powerful world is a starkly dystopian one: *White Shadows*' monochrome city has a bleak, industrial look that recalls *BioShock* and another Playdead hit, *Inside*. It's a topsy-turvy place where populations of pigs, sheep, birds, rats, and wolves coexist uneasily, and where birds are vilified for the plague that struck years before.

For Wagner, the seed for what would become *White Shadows* was first planted when he was studying philosophy at college. "The idea of making something about a black and white world was really interesting to us," he says. "Like, literally everything is black and white; it's this metaphor, this symbol of contrast. Of highs, lows, good and evil, light and darkness. It's one of these metaphors that's hard to question, even though there are lots of ugly connotations to that – why white is automatically good and black is automatically bad. I feel a bit self-conscious talking about it, being a middle-aged white guy making a game about racism, but we always thought it would be an interesting thing to work on."

At its core, *White Shadows* is a side-scrolling action puzzler, though Wagner's also reluctant to pigeonhole it in terms of genre. "I always thought it was kind of sad that games define themselves not through what they are – the experience that they are, whether it's a horror story, or something about love or something about beauty, awe, and wonder – but by their mechanics."

White Shadows is also one of a growing number of games that eschews colour, and instead relies on contrasts and movement to guide the player

▲ Like *Limbo* and *Inside* before it, *White Shadows* will tell a shadowy tale via a platformer with light puzzle elements.

in the right direction. It's a design process that is time-consuming to get right, Wagner explains. "It's incredibly hard," he says. "It usually falls on my shoulders, this type of stuff, and I keep coming up with nothing – I have to search and dig deeper for ways of directing player attention. All you have is contrasts, so you have to have subtle things, where you have highlights and lowlights. It's annoying that I can't use red for danger, or a greenish-grey for a swamp. All these kinds of things we have to do differently, where it's the shapes that direct your attention, or movement... I would love to have a concept of how this works in general, but it's really [designing] piece by piece and then examining the pieces around it."

One of *White Shadows*' chief draws is its surreal, sometimes comical yet often eerie landscape: one drawn, Wagner says, partly from the works of George Orwell, Ridley Scott's seminal *Blade Runner*, and German expressionist cinema. "We use all these stories that people might have seen – *Animal Farm*, *1984*, *Blade Runner* – and there are so many things in there that you could find parallels to. We kind of use them as a cultural tool-box to tell a story in a way that's entertaining. There's nothing more beautiful, for any kind of creator, than to take stuff you always liked, and try to give it a spin – take something that was in a movie before and make a puzzle out of it."

"*White Shadows*' monochrome city has a bleak, industrial look"

But while Wagner wants to keep his animal-filled world under wraps for now, he eagerly responds to the question of whether *White Shadows* is a reflection of an increasingly polarised, modern, always-online world. "I completely agree," he says. "I think we talk less. I do think we fight more. I think disagreeing has become an art form. I think yes, you can see polarisation, the black and white hierarchical structures... you can see rich and poor, you can see racism. I think there are many ways of seeing this. And I think that's why *White Shadows* is interesting. That's also why I want to tell myself to shut up now, because basically, all the game's about is showing this!" ⓦ

▼ If the retro-industrial look on display here reminds you of *BioShock*, Wagner acknowledges that game as one of many influences on *White Shadows*.

MAKING SHADOWS

Based in Cologne, Monokel was set up in 2015 as a transmedia company. So how has it adapted to making *White Shadows*, its first video game? "We're seven people, so people do whatever needs to be done. It's really as simple as that," Wagner explains. "We're too small to have classical roles, so everybody has more than one job; we're all designers, in a way. We're not all programmers, but we all have technical jobs. Nobody can be the director and tell people what to do. People define for themselves what they want to do, it has to be a democratic process, where it's everybody's job to remind each other to stay on point, which is hard when you're experimenting. And we have to experiment a lot to figure out what the game is in every little detail. But we have an artist, we have two coders, we have a designer, we have my partner who studied philosophy, but is also our sound guy. So it's a group of cool weirdos and misfits who are passionate about what they do and want to learn things they haven't seen before. I think that's really romantic."
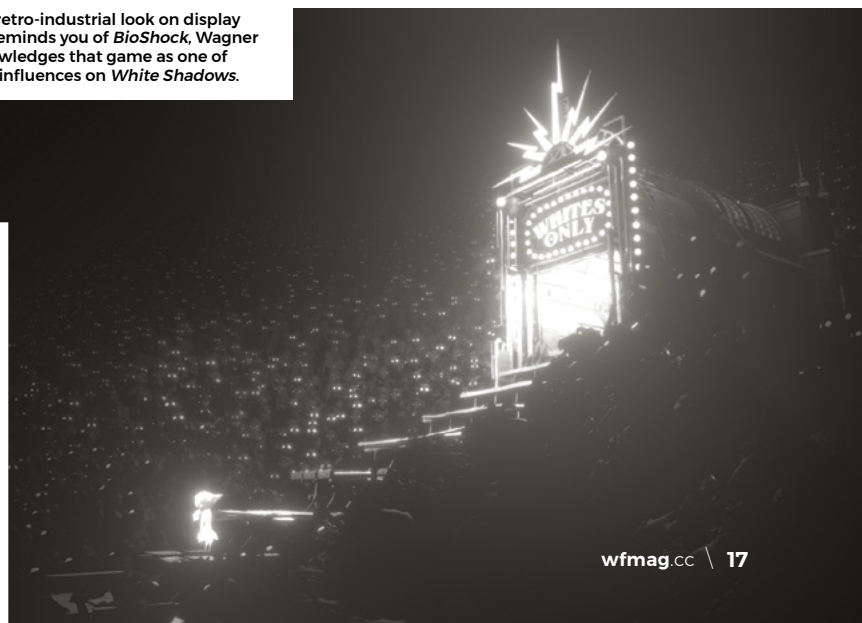
Monochrome and mountainous

An unsettling Swiss landscape looms large throughout **Mundaun**

ᴧ There's something ominous about mountains in the distance, as well as goats in general.

ᴠ Bars: classically there to keep things inside... or *are* they?

S ubverting the idyllic is an approach that just *works*. Taking something gorgeous, serene, and innocent, and making it into something that's plainly unsettling always manages to trigger a part of the brain – that which hopes for, even expects, safety. Piz Mundaun, a mountain in Switzerland, is the general setting of *Mundaun*. In real life, it's in the region of a small Swiss municipality, the sort of place not many live, some have holiday homes in, and others visit in season for skiing and other snow-based frolics. It is, in every sense of the word, idyllic. In the game version of *Mundaun*, it's a mysterious and eminently creepy world of sepia-tinted, hand-drawn landscapes and characters. It is, in every sense of the word(s), the idyllic subverted.

"My family has a tiny holiday flat in the alpine valley where the real Mundaun mountain is," explains Michel Ziegler, creator of the game. "I've been spending time there since I was born, winter, spring, summer, and fall. The open nature and steep landscapes were perfect for exploration and dreaming up little scenarios set in that world. After finishing my studies in illustration with the little game prototype called

The Colony, I settled very quickly on Mundaun as the subject for my next project."

While the expansiveness of *Mundaun* was unintended – something that likely comes as a happy by-product of having worked on the game for around six years – Ziegler never intended the game to be an outright horror, instead taking a different aim: "My primary goal isn't necessarily to scare people, but to create an unsettling atmosphere. A place where beauty and dark undertones contrast each other," he says.

> **"My primary goal isn't to scare people, but to create an unsettling atmosphere"**

Gauging how unsettling something is isn't easy, so the process has involved getting people to play the game and listening to them talk about the experience afterwards. But one big factor that makes *Mundaun* unsettling is definitely its visual style, from its monochrome tint, through to the ever-so-slightly *off* people of the region, and the general hand-drawn aesthetic – it all combines to make something with an immediate impact.

And those hand-drawn looks? Yep, it's all literally drawn by hand. "I create the 3D model on the computer as usual and UV unwrap it, as you do," says Ziegler. "But then instead of working digitally, I print out the UV maps and trace their broad outlines on a light table, onto

^ There's a mystery to unfold throughout *Mundaun*, and it's anything but mundane.

a fresh sheet of paper. Starting from that, I then pencil the actual texture. The traced outline slowly vanishes as the drawing takes shape." The drawings were then scanned back in and the texture applied to the 3D model. "Seeing the drawing for the first time wrapped around the 3D model is my favourite part," Ziegler continues. "You never quite know how it will look as you pencil, as you work 'disconnected'."

Similarly, the monochrome look is one Ziegler arrived at thanks to how it helps wrap *Mundaun* up in a more enigmatic skin. "I love the aesthetic of old monochrome photographs," he says. "There's something mysterious about it. Being too young to have experienced black and white photography as the norm, it feels very removed for me – like its own world or universe. Which is exactly the space where *Mundaun* is set. Somewhere in the past, but also in its own reality."

It's been a long time coming, but *Mundaun* is looking set for its release in the spring of 2021. A time-consuming process, it hasn't been an entirely simple project for Ziegler – his first full game, the need to work with a team distributed internationally, and all the management aspects hitting alongside the desire to just *make a game* has been slow going. "[It's been challenging] keeping track of all the things big and small," he says. "Creating a label for a local brewery to have on a restaurant sign in the game is a detail I care a lot about. But then I also have to make the level designs work, have the story integrated well into the world, and vice versa. Finalising dialogue so it can be localised and voice-acted. Thinking about those big picture dependencies. And then

going back to tweak the distance a creature can cause fear. I like to be able to decide every little thing, but sometimes it's overwhelming."

That said, you don't continue a project for over half a decade if it's nothing but overwhelming, and Ziegler finds it easy to zone in on the simplest part of it: the game's look. "[The simplest thing is] drawing the actual textures," he explains. "The process is very forgiving. Because the drawings are somewhat painterly and sometimes abstract, they seldom have to be very accurate in regards to spatial placement of features. Which suits me just fine."

After an extended development, a lot of drawing, and even more work besides, Ziegler is getting himself ready for a world where *Mundaun* is finally out there in finished form. So what is he looking forward to most, come the spring?

"I hope that audiences will dig it and be transported to the alpine universe of Mundaun as they spend some time in it," he says. "One of my driving motivations over the years was to create something unique and fresh. If I can achieve that I will be very happy. After the game is out, I will go on a vacation – to a place other than Mundaun. And then think about what game to make next." Ⓦ

LOCALISING

'Swissness' isn't something you see a lot of in gaming – does Ziegler see much of it in *Mundaun*, besides the obvious alpine setting? "Yes and no. I work with an international team, and I love that. Of course, my surroundings and the fact that I live here have a large impact on this particular project. I think it's an interesting proposition for any creator to be inspired by something that is close and specific to them. If you can show me something you know well because you are immersed in it every day, that is very interesting to me. There's a power to something that is very specific as opposed to being generic."

ⱽ Yes, you're absolutely right to be getting a *Wicker Man* vibe from all of this.
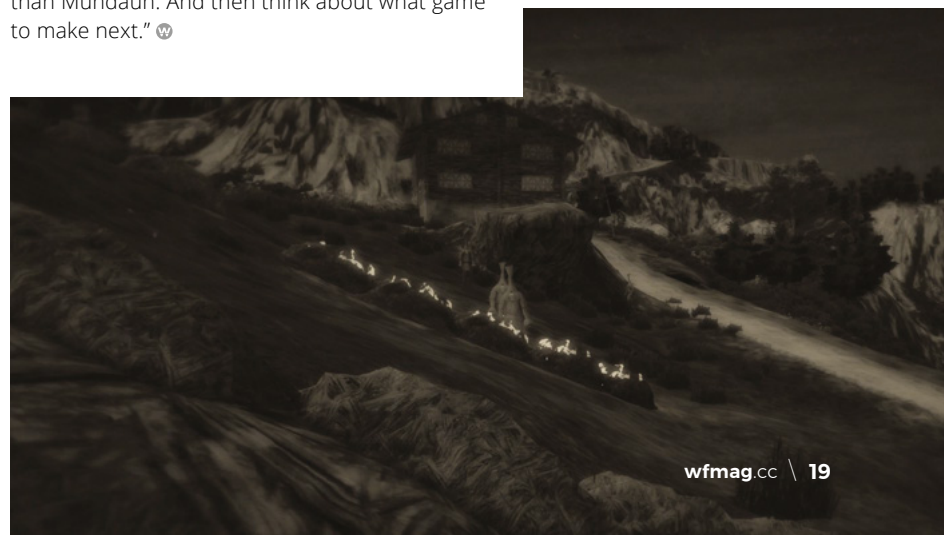
That was the month that was


02

01

03

01. Codies sold...ies

Get ready for *WRC 2K24* – by the time Codemasters is good to go with the *World Rally Championship* licence (2023, fact fans), the studio is very likely to be a part of the Take-Two family. An offer just shy of $1bn (£754m) was accepted in principle for the US-based publishing giant to take over the legendary British racing (and *Dizzy*) studio – the deal is expected to complete early in the new year.

This marks yet another big UK-based studio being gobbled up by a company from outside the Queen's realm, and Codies will be joining Scottish compatriots Rockstar North (and other R* offices) representing the country under the Take-Two banner. Hopefully the Codies name will remain prominent, but we're not hugely confident there...
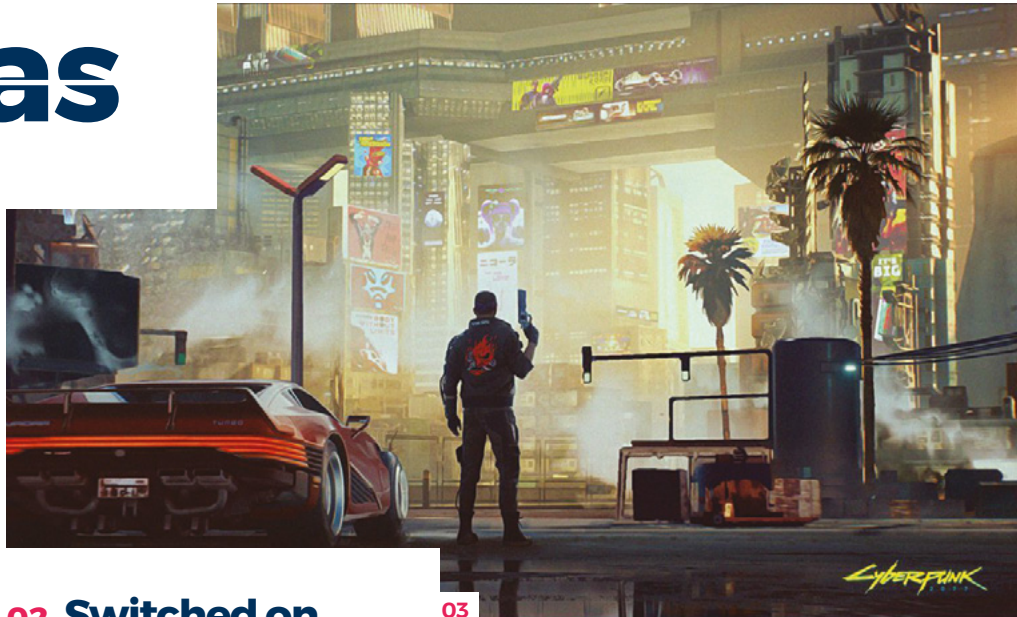
02. Switched on accessibility

Hori is dragging the Nintendo Switch kicking and screaming into the world of accessibility, with the notoriously inaccessible handheld hybrid getting the Hori Flex adaptive controller. The device comes with large buttons on top for directional/face button inputs, as well as around 18 (we're not sure) 3.5mm jack inputs to connect all manner of extra controller options – foot pedals, joysticks, other alternative control methods, the lot.

The Hori Flex is currently only available in Japan, and will set you back around £175 before shipping and customs charges factor in. So it's certainly not accessible when it comes to price, even if it is a huge positive step forward.

03. CD-PR

CD Projekt Red co-CEO, Adam Kiciński, told investors the crunch conditions employees at the studio had been under while working on *Cyberpunk 2077* were 'not that bad', before being forced into something of a climbdown and apologising internally to developers. "I would like to apologise," Kiciński wrote in an email obtained by Bloomberg. "I had not wanted to comment on crunch, yet I still did, and I did it in a demeaning and harmful way." No word on how the apology went down in the studio, but at the very least it's good to see *some* contrition on show – even if the crunch did still happen to begin with.

Xbox Series X shown floating ping-pong ball. IT'S A FAKE, DAMN YOU WORLD

Ubisoft patches out ableist language in *Assassin's Creed Valhalla*: highlighting issues works!

04. Coin-op, coin-off

Sega Sammy announced it would sell up 85.1% of its shares in Sega Entertainment – that's the arcade part of the business – to Genda Inc, an amusement rental business based in Japan. The decision comes amid 'extraordinary losses' for the division as a result of the ongoing pandemic.

The plan is for Sega to continue creating arcade games, but the company's presence as an arcade owner-operator is all but done right now. With its iconic Akihabara location closed back in September, and an obviously tough time on public venue-based businesses, it doesn't come as *too much* of a surprise. And yes, the image for this story is from the *Yakuza* games, because Club Sega will always be open there.
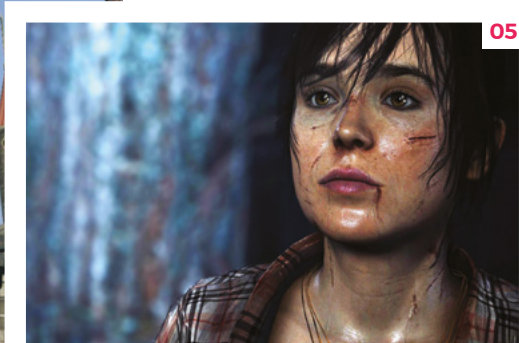
05. FLIM

Really exciting film news... well, *exciting* film news... ah, no, just *film news*: the Hollywood Reporter reported (natch) a movie by the name of *1UP* is in the works, directed by Kyle "*Fanboys*" Newman and starring Ellen "I've been in a video game" Page and Paris "*Mighty Med*" Berelc. The story follows an eSports player named Vivian Lee who quits her team owing to sexism, before making a comeback. Gamergate is mentioned. She's called Vivian, which was the name of Gamergate's mascot, so there's that to contend with.

The film is being produced by BuzzFeed Studios, so we're not expecting it to be the sort of thing made to appeal to a certain demographic (i.e. 'us'), but stranger things have indeed happened. No word on a release date as of yet.

06. PTOver

The world's greatest demo, *PT*, is still attracting some level of controversy years after its release and subsequent delisting from the PlayStation Store. While those who downloaded and kept the horror demo from Hideo Kojima, a 'Playable Teaser' for the *Silent Hills* game that never was, are still able to play the game, attempting to transfer it to PS5 and play it there via backwards compatibility results in an error message. Which would be understandable, were it not for the fact that an earlier version of the PS5's system software did indeed allow *PT* to be played – so someone's clearly flicked a switch behind the scenes. Sad, scare-free times.

Sony plans to support PS4 alongside PS5 for three years. Start the clock

'Don't blow vape smoke into your Xbox', pleads Xbox. Yes, really

07. Massmaster

Rumoured for about eight million years, the *Mass Effect* remaster has finally been confirmed by BioWare. Speaking on N7 Day, which is apparently a thing, chief of stuff at the studio, Casey Hudson, confirmed *Mass Effect Legendary Edition* would be landing in spring of 2021 – one retailer has it as 23 April, specifically, though that wasn't confirmed at the time of writing. And what is it? Well, it's a remastered version of the original trilogy, of course, coming to PS4, Xbox One, and PC, with enhanced editions for the new-gen consoles. No word of the Switch yet, but we're hoping.

Also craftily mentioned was a new *Mass Effect* game, still in the very early stages, but being worked on 'by a veteran team', likely to assuage worries from those thinking it might be another B-team effort like *Andromeda* was.

08. EA-verything is fine(d)

A new turn in the ongoing loot box saga emerged, as the Netherlands Gambling Authority announced it would be fining EA €10 million (£9m) for violating the nation's Betting and Gaming Act. This is made up of two separate, equal fines – one for Electronic Arts, another for Electronic Arts Swiss Sàrl – and arrived as a result of the studio failing to remove loot boxes from *FIFA*, following a subsequently challenged ruling in October 2019. Dutch courts ruled in favour of the Gambling Authority, though, meaning the fines were reinstated and details made public. Safe to say this marks a potentially huge step in how loot boxes are handled from a legal perspective in future. EA stated it will appeal the ruling.

09. ApEpic

The ongoing Epic/Apple barney has been producing little snippets worthy of smirking at over the past few months, and this last month was no different. Apple, it seems, wanted to get Epic in trouble over the latter's circumventing of the former's payment mechanics in order for *Fortnite* players to grab V-Bucks and the like. Apple claimed this amounted to 'stealing' by Epic, as the iPhone maker wasn't getting the money it figured it deserved for allowing Epic to release its game on iOS. The judge on the case threw this allegation out, because of course they did. Things continue, with a trial set for May 2021.

Dennis Brännvall, creative director on *Star Wars Battlefront,* to leave DICE

Survey says: 40% of UK gamers want publishers to take 'active stance on societal issues'

11

10

12

10. GPD Winning

Chinese company GamePad Digital – GPD – announced the next in its line of handheld PCs in the form of the GPD Win 3. Running a Core i7-1165G7 Tiger Lake processor, the upcoming not-quite-pocket-size computer will also sport 16GB LPDDR4x RAM, a full keyboard, and a 720p screen. It'll easily be capable of emulating anything up to the Dreamcast, at a guess (and given how good the GPD Win 2 was), and it wouldn't be a surprise to see it go further than that with both emulation and modern game-playing. We'll be keeping an eye on this, as GPD has knocked out some fantastic hardware in recent years.
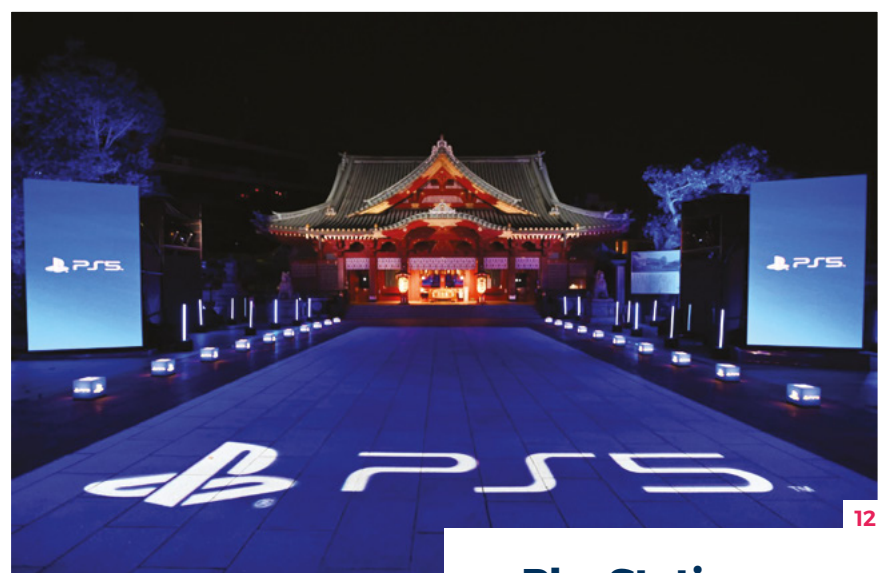
11. Xbox: sells a lot

The Xbox Series X and S launch saw Microsoft shift more consoles than in any other 24-hour period, according to Xbox boss Phil Spencer. Spencer did at least refrain from revealing specific figures, given he'd very soon prior to the console launch said he wouldn't be saying how many units have sold. Still, saying 'in 24 hours more new consoles sold, in more countries, than ever before' does sort of skirt the line between boasting about sales while not actually revealing any numbers, but hey. The Xbox Series X/S's launch is looked at in more detail from page 92.

12. PlayStation: sells a lot

At the time of writing, Sony hadn't flexed on the world by throwing numbers out, but it's clear anecdotally the PS5 launch did the business. Mainly because even with a day-one restock in the UK everywhere was immediately sold out again, much to the chagrin of any and all with interest in the new generation of PlayStations. We did get numbers from Japan – 118,000 consoles sold in the first few days – though that was down from the 300k-plus the PS4 sold over a similar timeline. Seems the restricted stock available over there really was restricted in the real sense. See page 94 for more.

Xbox 'looking to acquire Japanese studios', except Xbox says 'no we're not'

Nintendo teams with Amazon to make cool Mario-themed delivery boxes

Post Apocalypse

Worms, YouTube, and beards. It can only be Wireframe's own letters page

Issue #44

Gaming in Africa

I love games! Video games as a career in early 2000s South Africa was unheard of, and to be honest, was years behind the leading gaming markets. Which makes me think: what does it mean to be a gamer in a place that wasn't really on any game producers' sights? Nintendo, for example, doesn't seem to care much about the African market. I have watched a few documentaries on the video games industry startup years, and it's always the same three markets – America, Europe, and Japan. In *High Score* and *Console Wars*, absolutely no mention of Africa.

What's happening in other countries? I did some superficial research via YouTube and came across what seems to be a thriving gaming community in Brazil, but when I asked on Reddit, I was told it's not really like that. Cuba managed to create its own DIY network and play *World of Warcraft*.

Over the years in magazines I've read about American gamers, Japanese gamers, etc., but what about African gamers? Being a South African gamer has been tough, but I'm not giving up on my dream to one day make a game that will help the youth of South Africa, to inspire them to tell stories via this amazing medium of games. There is such a dedicated and diverse community of gamers here in South Africa.
Kuben Moodley

Ryan writes:
You're absolutely right – South Africa, and other countries often ignored by those reporting on the games industry, deserves far more attention than it gets. It's something we'll look to address in an upcoming issue of Wireframe. Best of luck with your dream of making a game – when it's ready, we'd love to play it.

Sorting Out The Kids

I must be getting old, but I wonder if the parents in the audience might explain this to me. My offspring has more computing power and choice of games available to her than I could ever have dreamed of when I was young. She loves Roblox, *Minecraft*, *Fortnite*, *Super Mario Kart,* and their ilk. She has a games console and plays on both a tablet and laptop as well.

Why, then, are we bringing up a generation of kids who would prefer to sit and watch other people playing the games on YouTube rather than work through them themselves?! I'll never get it! Imagine how deflating the satisfying feeling of completing *Rainbow Islands* the proper way on the Spectrum would have been, if you'd just sat and watched someone else do it first?
A N Beavis

Ryan writes:
I sort of agree with you, but then I often find myself zoning out to YouTube videos of nerds soldering new capacitors to 35-year-old consoles rather than sorting out my own, so really, I'm also part of the problem.

Mutually Assured Destruction

What a lovely blast it was to see *Worms* getting the front cover of your latest issue. I have fond memories of buying the first game on PC from my local Woolworths, taking it back to the university digs I was sharing with several people, and then falling out with them one by one over the course of several hours as I drunkenly destroyed them all. Never let anyone tell you that games can't be special! *Incoming!*
Mark Cross

Ian writes:
I see you're hammering in Woolworths there for an

extra blast of nostalgia. Ah, the past. Everything was better, etc. Joking aside, *Worms* is one of my fondest gaming memories too, as I'm sure it is for many players of a certain age. We were very happy to celebrate the series and all it's done for us, the players.

Shortcuts

We asked our fine followers on Twitter: when it comes to the new generation of consoles, are you an early adopter, or a wait-and-see type?

Got an Xbox Series X on launch day from GAME. I've always favoured the Xbox of the two, and with Game Pass it was a no-brainer for me. It didn't feel like console launches of the past, that's for sure, but delighted with it so far. **@MartinDewar**

Bought a Series X as an upgrade on One S so I could play Game Pass at its best. Deliberately skipped *Gears 5*, *Fallen Order*, and *Ori and the Will of the Wisps* when originally launched so pretty happy with the launch line-up so far! Can't wait for *Flight Sim* though. **@JohnJKerr**

Got my Xbox One Series X on launch. First Xbox since the 360. Am utterly loving it. The fast launch and load times are amazing. The 4K visuals feel a step up from my PS4. Game Pass sold me on it a while back but waited for the new generation to buy into it. **@lucyhattersley**

I've pre-ordered a PS5. I put it down to 2020 panic buying. **@Pixelated_Ben**

Tend to wait at least a year these days. Still plenty of life in my PS4 Pro and hopefully there will be a redesign by then too, as the PS5 is, to quote HRH Charlie, a monstrous carbuncle. **@jasha_jasha**

The burning question

We've been quite obsessed with the subject of current-gen, high-fidelity beards this month (see page 92 for more on this front). So with that in mind, we asked Twitter: which video game character cultivated the best face fungus? As you can see, Kratos won by more than a whisker.

- **Kratos** - 34.6 %
- **Zangief** - 26.9 %
- **King of All Cosmos** - 21.8 %
- **Geralt** - 16.7 %

Incoming

Halo Infinite

It does feel a bit empty to have a new Microsoft console without an exclusive, first-party release alongside it. *Halo Infinite* was meant to be that game, but ongoing shuffles behind the scenes – it's lost two directors in the past couple of years – have helped contribute to a significant delay. We're still keen on Chief's next big adventure, but the signs are things are a bit rocky.

Noch

A happy-go-lucky friendly joy-sim to welcome in the new year, *Noch* is a surreal first-person horror/shooter with puzzles and multiplayer to boot. It's one to keep an eye on if you're in the market for kookiness with a *Twilight Zone* feel. There's even a demo to try out on Steam if you want to give it a try: **wfmag.cc/noch**.
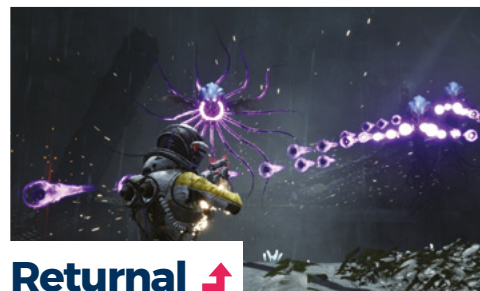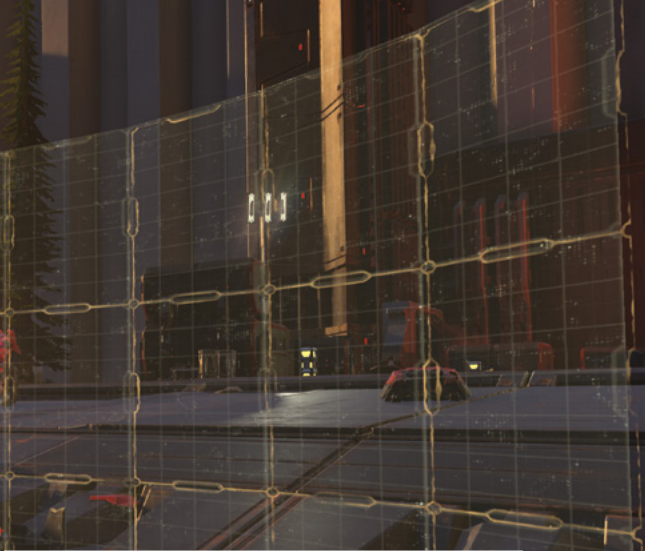
Returnal

The last PlayStation had *Resogun* at launch, but we're having to wait a bit longer for Housemarque's first on the PS5. But *Returnal* does bring with it some intriguing concepts that could make it worth the wait: a third-person roguelike shooter, it sees players living and re-living the same time loop over and again as they explore a hostile alien world. More than anything else, we can't wait to see what they do with the haptics/responsive triggers here, because those things are *good* (see page 112 for more on this).

Stronghold: Warlords

There's a bit of a new-gen feel to these pages this month, so let's bring it back to normalcy with a look ahead to a more standard, old-school-feeling RTS. Firefly Studios is at the helm again for another entry to the long-running series, this time taking the action to East Asia and introducing the titular warlords to matters – each with their own perks and characteristics to use in your everlasting battles to break down walls. It won't push the boat out, but it might not matter if it's as tightly crafted as it's looking to be.

Everwild

A gorgeous world of magic and Eternals tasked with nurturing the wildlife living in it, *Everwild* is the next new project from the near-enough revived Rare. Long gone are the days of *Kinect Sports* and *Kameo*; now we see an invigorated studio making wonderful, characterful multiplayer hits like *Sea of Thieves* and, indeed, this upcoming Xbox Series X/S… well, whatever it is. Probably not a shooter, that much we can assume.

Whatever it does turn out to be, *Everwild* already has our full attention. Rest assured we are pestering Rare as much as we can – while still remaining polite and professional – to get more info on *Everwild*, because it's looking to be a potential gem in the making.

The Gunk

It'd be fair if this one passed you by – it's not the world's most enticing name. But *The Gunk* comes exclusively to Xbox by way of Image & Form, and that means it has the sort of development chops that should make us all sit up and take notice. Players take the role of two intergalactic scavengers who land on a planet colonised/infested by a parasitic goo… or 'gunk', if you will, and have to battle to try and save the planet by ridding it of said parasite. But that might kill the planet. Also, they're scavengers and not heroes, so is it even their fight? It's a lot less clean-cut than things might first seem, and with Image & Form's previous work on the *SteamWorld* titles, it's safe to say there's something to be excited about here. Now we just have to wait until late 2021. Hmph.

Destruction AllStars

Another launch title delayed, *Destruction AllStars* didn't see a huge outcry at it being shunted away from the PS5's launch, to be honest. Still, this *Fortnite*-meets-*Destruction Derby*-alike will now come free to PlayStation Plus subscribers when it does launch in February, so there's every chance this one could end up a surprise early hit for the console even without being there on day one.
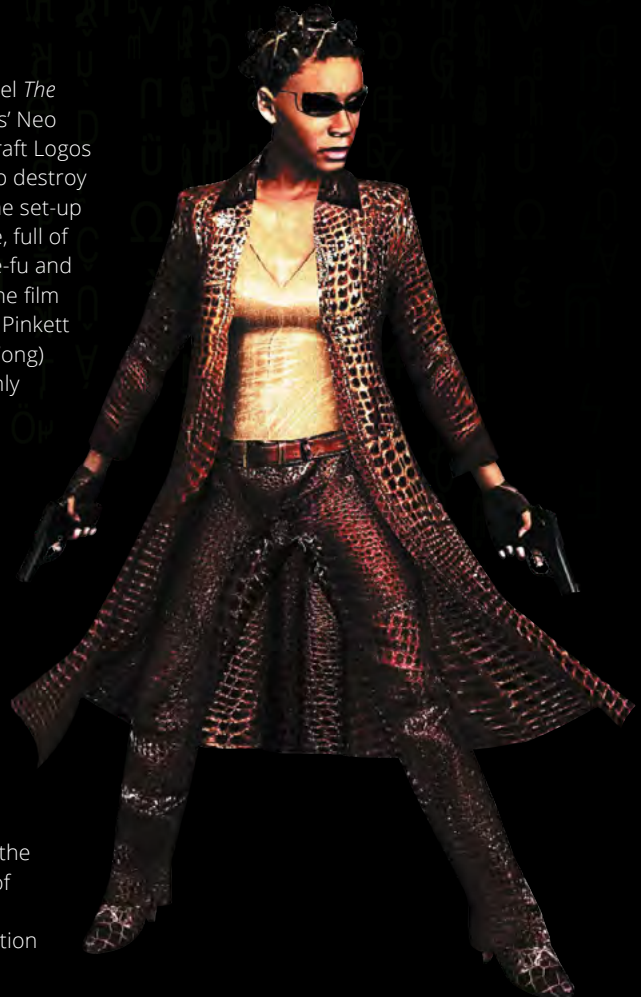
wfmag.cc

THE MATRIX

RE-ENTRY

Enter the Matrix attempted to revolutionise the relationship between movies and their tie-in games. The only enemy was the technology...

WRITTEN BY
OWEN WILLIAMS

In the blockbuster movie sequel *The Matrix Reloaded*, Keanu Reeves' Neo sends the crew of the hovercraft Logos off on an important mission to destroy a power plant. It seems like the set-up for a massive and destructive set-piece, full of the *Matrix* film series' cutting-edge wire-fu and bullet-dodging special effects. But, in the film at least, it doesn't happen. Niobe (Jada Pinkett Smith) and Ghost (Anthony Brandon Wong) disappear from *Reloaded's* narrative, only reappearing out of the blue during the famous freeway chase sequence. The spectacle at the power plant happens off-screen... because *you* have to do it.

Atari's *Enter the Matrix* was released for PS2, Xbox, GameCube, and PC on the same day as *Reloaded* in May 2003. As envisaged by the films' writers and directors the Wachowskis themselves, it was intended as an integral piece of a larger puzzle: the films, the game, animated series *The Animatrix*, a series of comics, and smart use of a website (a nascent marketing tool at the time) all designed to tell unique parts of a single story. Casual viewers who only watched the films had enough information

to stay up to speed. But to truly get the whole picture, dedicated *Matrix* fans needed to go deeper, and the Wachowskis fully encouraged that immersion.

This wasn't a corporate plan dictated by studio Warner Bros. It was creator-driven. Thanks to the surprise, enormous success of the first *Matrix* movie in 1999, the Wachowskis were essentially given carte blanche to do whatever they liked next. That turned out to be a hugely complicated and ambitious enterprise that arguably invented the notion of transmedia storytelling as we understand it today. It also turned out not really to be possible; resulting in *Enter the Matrix* feeling, at best, like a compromised glimpse of a fascinating potential future at which we hadn't yet arrived.

BLUE PILL: THE VISION

It began with a script: specifically, an extra script that nobody was expecting. *The Matrix Reloaded* and *The Matrix Revolutions* were to shoot at the same time over a colossal 18-month schedule split between Los Angeles and Sydney. So when the Wachowskis delivered three screenplays to the studio, they were met with a certain degree of perplexity.

"[Warner Bros.] was like, 'OK, well we understand this is [the second] sequel and [third] sequel, but what's this other thing?'" laughs producer Rosanna Sun. "It looked just like a movie script, and it had all the same actors' names and characters, scenes written out, the whole thing. They explained it was a game,

and [Warner Bros.] didn't really know what to do with that."

The studio, via super-producer Joel Silver, brought in David Perry and his company Shiny Entertainment to develop the actual nuts and bolts of the gameplay experience. Perry isn't sure how Shiny had ended up on the Wachowskis' radar, but the pair were certainly gamers, so it's likely that previous Shiny projects like *Sacrifice* and *Messiah* (both 2000) had caught their attention. It's equally possible that they were fans of *Earthworm Jim*…

The cover of the game as eventually published boasted "Written and directed by the Wachowskis," and Perry says that, the day-to-day aspects of programming and designing the levels notwithstanding, this is genuinely true in terms of "the story, the arc, getting everyone to think of *Enter the Matrix* as more than just a video game licence attached to a movie."

"Normally you get the licence, then you find out all the things the studio *won't* let you do," Perry continues. "For example, Shiny got to make a *Terminator 3* game, but [the player couldn't] be the Terminator or Sarah Connor, and we weren't allowed to use their likenesses. *Enter the Matrix* was the exact opposite. The Wachowskis wrote an hour of new story *and filmed it* so we could have the video game *really* be a part of the *Matrix* story and give the players all that exclusive content. And Rosanna provided super-high bandwidth access to everything, including sets, props, actors, and motion capture. It kept everything authentic. ➤

⌄ *Enter the Matrix* replicated the movies' acrobatic gunplay in video game form. Unfortunately, *Max Payne* beat it to the punch by two years.

THE MATRIX ONLINE

Continuing the theme of running headlong into the future before the future was necessarily ready, the next *Matrix* gaming experience following *Enter the Matrix* was an MMORPG. Launched onto the now-prehistoric seeming internet of spring 2005 (with closed beta-testing having been underway since the summer of 2004), *The Matrix Online* saw the Wachowskis essentially bidding goodbye to their signature franchise. "We ultimately made the trilogy for the fans," they told IGN, "and it now makes perfect sense to us that they should inherit the storyline."

Players could choose to pledge their allegiance to Zion, the machines, or the Merovingian: their game experience affected accordingly. The new post-*Revolutions* narrative threads were picked up by comics writer Paul Chadwick, and the developer was Monolith Productions, who a decade later would be behind the well-received *Lord of the Rings* games *Shadow of Mordor* and *Shadow of War*. But if the pedigree was promising, the *Matrix Online* project was beset with difficulties. Originally a collaboration between publishers Warner Bros. and Sega, it was sold on to Sony just a month after its official launch (Ubisoft were also involved for a time, but pulled out).

Plagued with bugs, uninspiring missions, and a clunky combat system, the game limped on for four years. When the servers were finally shut down in the summer of 2009, the affectionately nicknamed *MxO* had only 500 active users.

Those remaining few were die-hards, however, and for years there remained a hard core of fan modders dedicated to keeping an emulated version operational – even if its world was largely empty. The last update to **mxoemu.info**, however, was in 2017. At the moment, the machine world seems dormant...

We'd never made a game that way before. I don't think there are many directors in the world that could contemplate the complexity of managing two sequel movies and a video game simultaneously."

"Studios at that time weren't – and still aren't, to be honest – set up for that sort of integration," adds Sun, whose specific producing role across the films and the game was one that had never really existed before she was forced to invent it. "You have different departments working separately, and they don't know each other. I'd call one person from one department and one from another and get a conference line, and they'd be like, 'Hey, never met you!' They were all Warner Bros., but they'd never spoken before. There was a lot of that happening for the first time."

"It was almost integrated to the point of absurdity"

The game takes place both before and during the timeline of *The Matrix Reloaded*, and begins in the immediate aftermath of the *Animatrix* short *Final Flight of the Osiris*. Niobe, the captain of the Logos, and Ghost, her first mate, first have to retrieve a package left behind by the Osiris. Having learned that the machines are heading for Zion, Niobe and Ghost gather the rest of the Zion fleet to hatch a plan for the resistance. There's some business with rogue Matrix programs the Keymaker (Randall Duk Kim) and the Merovingian (Lambert Wilson), and the constant threat of Agent Smith (Hugo Weaving) and his other agents, before the Logos crew liaise with Neo on the Nebuchadnezzar and then head off again to shut down that plant. After that, and a conversation with the Oracle (Mary

‹ *Enter the Matrix*'s commitment to accurately recreating scenes and props from the film was rare in games at the time.

⌄ *Enter the Matrix* was far from the first game to use motion capture, but its use helped with the game's cinematic feel.
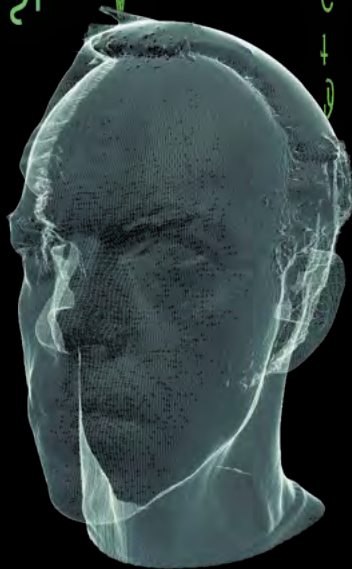
Alice), there's a final face-off with Agent Smith and some more raging against the machines, before we leave Niobe and Ghost preparing for the events of *The Matrix Revolutions*. The gameplay differs slightly depending on whether you choose to be Niobe or Ghost – the freeway chase for Niobe is a driving section, for example, whereas for Ghost it's a few minutes of on-rails machine-gunning – and levels take place across city streets, rooftops and sewers, an airport, a château and, er, a post office.

"That's a good example of the challenge," chuckles Perry. "The script would say we were going to be in a post office, so our team would end up in deep discussion: 'How are we going to make a post office fun?!'"

Tie-ins had used films' real stars before, but this was generally a simple case of actors spending a day or two providing voice-overs behind a microphone. For *Enter the Matrix*, filmed cutscenes, animated cinematics, and gameplay alike all used the genuine actors, film sets, costumes, and props, at least as reference. The game had access to the films' costume and production design departments, and the martial arts expertise of choreographer Yuen Woo-Ping. So hands-on were the Wachowskis that, when shown aspects of the game-in-progress that they hadn't designed themselves, they would send crew out to rectify the situation, folding the game back into their own vision.

"David and his team would write in a location that you needed to find a hint or whatever," Sun recalls. "And if it didn't already exist for the films, we then had storyboard and concept artists work on it, and we even had our location crew go out at times. Our guys in Sydney would send me photographs in LA and say, 'OK, well ➡

THE PATH OF NEO

"If you watch *The Matrix Reloaded*," says Shiny's David Perry, "Morpheus fights on a truck, falls off, and lands on the hood of Niobe's car. In the movie, she just appeared out of nowhere. In *Enter the Matrix*, you're driving the car, and you saved Morpheus. It was really fun to think a movie can have two perspectives."

That angle, however, slightly wrong-footed a sizeable number of gamers who, if they were going to play a *Matrix* game, found it bizarre that they weren't getting to play it as Keanu. Their wish was finally granted two years later with the arrival of *The Matrix: Path of Neo*, Shiny's second stab at the franchise. Technically, it was a far more polished game than its predecessor, and with the film trilogy over, there was no day-and-date deadline release pressure. "*Path of Neo* was more complex, and our team had a lot of creative freedom," says Perry. "Like *Enter the Matrix*, we were developing the engine tech as we built the game, but I think you could feel the progress."

Conceptually, however, it was much more conventional: a game-of-the-film(s) in which players took control of Neo to guide him through a series of instantly recognisable scenarios from the film trilogy. That is, until the bizarre twist towards the end, when the Wachowskis, in the form of 8-bit avatars, hijack the game to explain its new conclusion. "At this point [in *The Matrix Revolutions*]," reason the siblings, "it's martyr time. Now, maybe that works in a movie, but in a video game, the Jesus thing is... lame." So Neo indulges in some "sweaty-palmed button-mashing" against a giant mega-monster mecha-Agent Smith instead. Genuine consideration of satisfying gameplay trajectory, or gamer satire? It's basically both. "Good luck!" the Wachowskis snigger. "And enjoy enlightenment!"

‹ Actor Anthony Brandon Wong and his in-game character, Ghost.

TALKING TO GHOST

Having signed up to play Ghost in *The Matrix Reloaded* and *Revolutions*, Anthony Brandon Wong was, like the studio, initially puzzled to be given a third script.

"The first I knew about the game was arriving at my hotel and finding this mysterious-looking script sitting on my bedside table," he tells Wireframe. "I picked it up and started to read it, and I saw my character's name on almost every page…"

Fifteen months working on the two films and the game simultaneously was, he reflects, "a really heavy involvement. A typical day working on *Matrix* might have been waking up, going to the set of *Revolutions* at 9am, then at 1pm being called across to another sound stage and doing some scenes for *Reloaded*, and then at 4pm going to the motion capture volume and doing a bunch of scenes for the game." Wong and his co-star Jada Pinkett Smith recorded a library of every possible permutation of their own movements, gestures, and facial expressions. "There was one hilarious day where they reconfigured [the Ghost avatar] as a carrot, walking exactly like me," Wong remembers, incredulously. "It was a demonstration that they could take anything and map my movements on to it. They could probably make a whole bunch more *Matrix* movies just using that motion-capture archive!"

He admits that, to some extent, he was disappointed not to have had more screen time in the films themselves. "Not everyone that saw the films was going to play the game," he explains, "so there was a part of me that wished some of that content in the game was more in the movies. But then again, being one of the leads in your own mini bit of *The Matrix* is incredible. I was very happy to be a major focus of *Enter the Matrix*."

When we ask him if he's played it, he says he has… but not very successfully. "I'd go to conventions and *Matrix* fans would ask me how to do parts of the game," he laughs, "and I'd say something enigmatic and Ghost-like: 'Well, the lesson is in the doing, isn't it…' But it was really to cover the fact that I was pathetic at it and got killed within ten minutes every time! One day I'll have to dig out my PS2 and see if I can actually get past the post office."

down the street from this building that we're shooting at is *this* building… Could they use that for this?' It was almost integrated to the point of absurdity. You're making something in CG, it doesn't have to look like a real location, but the Wachowskis wanted everything to feel authentic. They felt that level of detail and attention would translate for the fans."

RED PILL: THE REALITY

Unfortunately, however, in spite of the immense resources at its disposal, nothing could ultimately defeat the game's biggest enemies: technology and time. In 1999, *The Matrix* had blown people's minds with its high-minded cyberpunk philosophising, Goth-metal chic, mind-boggling action sequences, and its then-cutting-edge visual effects. But when it came down to it, at its core, *Enter the Matrix* ended up

> "We really wanted to show the highest capability, and it just wasn't there yet"

a rough-around-the-edges third-person action fighting game; intermittently fun, but never really replicating the movies' 'whoa' factor. Thanks to the cultural saturation of the 1999 film, it even felt over-familiar: Rockstar's *Max Payne* had co-opted the bullet-time mechanic two years earlier. *The Animatrix* had complemented the film series through stylisation, but *Enter the Matrix* was attempting a photorealism that was nowhere near achievable, leading to some jarring transitions between the Wachowskis' filmed vision and the game's graphic interpretations. Fundamentally, 2003's consoles weren't up to the job of rendering the spectacle of *The Matrix*.

An early-2000s classic? Hardly, but *Enter the Matrix*'s ambitious merge with movies, comics, and other media made it stand out.

⌄ Live-action cutscenes added to *Enter*'s cinematic authenticity, but also stood out against the rough edges of the game itself.

"The Wachowskis knew that they were pushing beyond what they'd seen in games up to that point," says Sun. "So there was always going to be a push back... and we got to the point where, with all the film footage and the cinematics, we'd already filled up the disc before any gameplay had gone on. Some hard choices had to be made about how we were going to keep the fidelity of things that we had created in play. We really wanted to show the highest capability, and it just wasn't there yet. That was the hardest, most heartbreaking part of the process for David and I and the team."

Releasing the game day-and-date with *Reloaded* was also set in stone. Games companies are infamous for delaying launches if time for more development and testing is felt to be necessary, but *Enter the Matrix* simply didn't have that luxury. "It was the highest pressure deadline we'd ever worked on," Perry laments. "We just didn't have the time needed to really invest into things like AI for smarter enemies."

The game was heavily promoted, with trailers in cinemas, its own premiere party, and dozens of magazine covers (even extending to the front of the New York Times' entertainment section). Sales were colossal – five million units sold, half of them in the first six weeks of release – but gamers and critics were largely, to put it mildly, underwhelmed. As with the lukewarm response to the film sequels themselves, word of mouth was not strong, and sadly the reputation of *Enter the Matrix* almost 20 years later is one of disappointing compromise. Which is a shame, because it was a noble attempt to do something truly revolutionary, pointing the

way to a future in which games based on films weren't just pieces of tie-in merch; afterthoughts farmed out by studios to third parties for a soon-forgotten cash-in. Sun says it amazes her that the integration of film and game studios for the sort of opportunities suggested by *Enter the Matrix* still isn't anything like the industry norm. In fact, it's rarely – if ever – happened since.

"I'm surprised that Marvel or Star Wars aren't doing it," she says. "They have the capability and the resources, but I think they see it as this mountain that, having been mostly unexplored, is just hard and expensive. Marvel is a perfect example of a studio that still creates a universe and then hands it off to someone else, and the video game company gets really excited if they get, like, *one* of the actors to do a voiceover. The integration we had was down to the bolts that were used. There were limitations, and some things fell short, but the idea was always to be the beginning of more. We wanted to put out the idea of how this could be done in the future..."

For a franchise concerned with prophecy, that seems completely appropriate. Ⓦ

⌃ *Enter the Matrix* producer Rosanna Sun.

Dangerous Play

LOTTIE BEVAN

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

Friedrich Nietzsche was a brilliant man whose most famous theory, the *Übermensch*, has wrongly linked him to Nazi and fascist ideology. In reality, Nietzsche denounced both antisemitism and nationalism, and had nothing whatsoever to do with racial 'master races' legitimising Hitler's genocide. It was his sister – curse you, Elisabeth – who contorted his meaning to justify a Nazi worldview. Nietzsche said lots of clever and non-Nazi things, many of which are handily contained in his masterwork, *Thus Spoke Zarathustra*. But like everyone who talks a lot, he also said some stupid shit. Here's one of them, from the same book: "The true man wants two things: danger and play. For that reason he wants woman, as the most dangerous plaything."

Lottie, you might ask: as (*checks notes*) a woman, might you be a little peeved at this idea, and might you be responding *emotionally* to the suggestion that women are male toys? Well, I'd respond: you got me. But dangerous female playthings also makes me think of someone I've been spending a lot of time with recently – *Assassin's Creed Valhalla's* femtagonist, Eivor the Wolf-Kissed.

Eivor is the most feminist character I've ever seen in games. She achieves this in two ways: one, by being the protagonist, and two, by not being relevantly female at all. So unimportant is her femininity that it makes no difference whatsoever whether she's a woman or a man, though you still get to style her hair if you like. Ubisoft even went so far as to let players swap genders in-game with no effect on the story. So what is it that makes Eivor such a cool woman, if her womanhood doesn't matter? It's the one simple idea that mainwave feminism has been asking for since women realised we were bored of cooking dinner and quite fancied having it cooked for us sometimes: equality, regardless of gender.

If you've read any of my columns before, you'll know that I'm actually quite a girly girl. I reclaim the colour pink; I'm goo around kittens;

I wear make-up and like shopping for clothes. But this is an identity, not a gender. We're all a collection of character points which paint a face on the otherwise featureless egg of a human head. Of course, games have a host of female identities: competent, kindly hacker Alyx from *Half-Life*; Elizabeth, oppressed time-hopping daughter from *BioShock*; Morrigan, sarky goth sex witch from *Dragon Age*. But their characters are inextricably linked to being female. It matters that they're women, particularly to them. So they're great as characters, but they don't quite reach the feminist heights of Eivor, who's so beyond being defined as a woman that sometimes she literally isn't.

Ian Livingstone was once unfortunate enough to be seated next to me for three hours on a train. He was politely surprised that I didn't know who he was. But we had a brief meeting of minds over Lara Croft: I thanked him for making her, as she's the reason I'm in games, and he apologised for making her, abashedly explaining that 'it was the nineties'. I miss the original *Tomb Raider* series, but as I investigate ancient caves, parkour along crumbling masonry, and occasionally shoot the odd endangered species in *AC Valhalla*, I feel like nineties Lara has a feminist successor to be proud of, who *is* a plaything, and whose axe skills certainly make her dangerous. But she sidesteps the male gaze and Nietzsche's fleetingly silly opinions. Long may Eivor reign. Ⓦ
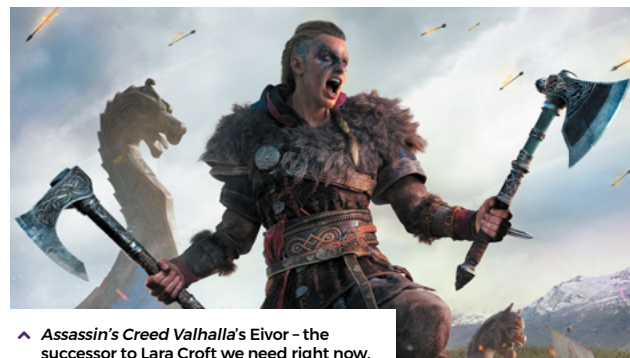
▲ *Assassin's Creed Valhalla's* Eivor – the successor to Lara Croft we need right now.

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GAME
Berserk Boy

ARTIST
Rob 'SketchCraft' Duenas

RELEASE
2021/22

WEBSITE
wfmag.cc/berserkboy

Berserk Boy

As we saw on page 14, *Berserk Boy* is an upcoming action game in the same frenetic vein as Capcom's *Mega Man Zero* series. And one of the creative talents behind *Berserk Boy*'s vibrant artwork is Rob 'SketchCraft' Duenas, whose art style you may have previously seen in Toys For Bob's *Spyro Reignited Trilogy*. "I began the process by drawing almost a dozen sketches on paper using red pencil, Sharpies, and coloured pencils," Duenas says of the gorgeous art you can see here. "Each sketch took me 10 to 30 minutes each but allowed me to quickly work out what characters to use and how to represent the various forms. Though I blacked in every form in the game in some way through all of the sketches, Zu [Ehtisham, artist and developer] and I wired it down to Berserk Boy, Kei, Fiore, Drill form, Mine form, Ninja form, and Air form. From there, I scanned the winning layout chosen by Zu and drew the final lines and colours in Photoshop.

"The entire process took... way too many hours! But I really felt this was a chance to nail down the final design style for *Berserk Boy*, as well as set up the potentiality of the various forms within the game. Hopefully, the artwork makes the player look forward to playing the game and all the gameplay possibilities waiting to happen."

BEST OF THE BEST
(of the past)

Wireframe's picks for the best and brightest of the previous generation

WRITTEN BY
RYAN LAMBIE & IAN DRANSFIELD

That's it: generation over. We've got new consoles now; we don't need to stick with the hoary old PS4, stinky Xbox One, or piddling Switch. Or a PC without an RTX-enabled GPU, of course. No, we look ever-forward, away from the past and to the future, forgetting everything that came before because it's all irrelevant now.

Or maybe, for once – in a bold move that would shock mainstream gaming outlets to their core – we might actually stop and take stock for a minute. We might look back over the generation that, really, hasn't *quite* ended yet, and we might pick the standout games that reminded us many times over why video games really are great.

Apologies in advance that your favourite game isn't featured – it's been an incredibly difficult process to narrow it all down. Still, you can send complaints to the usual address.

The Legend of Zelda:
Breath of the Wild

A predictable entry, perhaps, but the sheer brilliance of Nintendo's *Zelda* sequel makes it one of the most essential games of its generation. Other games had beguiled us with open worlds and interlocking systems long before *Breath of the Wild*, but director Hidemaro Fujibayashi successfully took pre-existing ideas and blended them seamlessly into the franchise's own fabric. Raiding camps of Moblins in the middle of a thunderstorm; encountering our first Guardian; even the simple act of cooking meals – *Breath of the Wild* left us with a wealth of video gaming moments we'll never forget.

Alien: Isolation

We'd be lying if we didn't have to turn Creative Assembly's survival horror off from time to time, so stressful is its depiction of a very bad day on a space station. As if being stalked by a hungry and highly unpredictable xenomorph wasn't enough, you also have an army of eerie Jared Kushner-like androids to contend with, too. Above all, the re-creation of the shadowy, retro-futuristic setting pioneered by 1979's *Alien* is a sight to behold. One of the best licensed games ever? Quite possibly.

Baba Is You

It doesn't look like much in still images, but there's more wit and imagination going on in *Baba Is You* than in games a hundred times its size and budget. Arvi Teikari's gem takes a genre that's been kicking around since the days of *Sokoban* and turns it on its head: here, pushing word blocks fundamentally changes the game's rules, so barriers can become passable, and player control can be shifted to inanimate objects. It's an ingenious idea, and all the more so because, as difficult as *Baba Is You* is to describe, its ever-shifting mechanics can be understood in seconds.
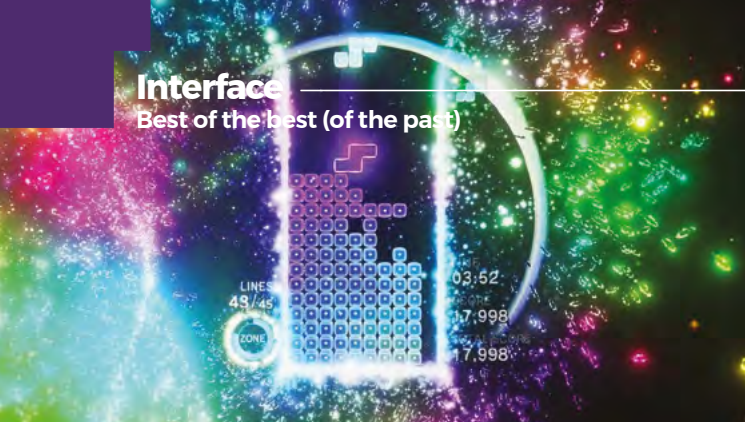
Control

Remedy Entertainment has made cracking third-person shooters in the past (the *Max Payne*s). They've made games that drip with an uneasy atmosphere (*Alan Wake*). *Control* married both to superb effect; the dual mechanic of wielding your gun and Jedi-like telekinetic powers made combat a joy to simply play around with – a pastime heightened further by some fun destruction physics – while the Oldest House's Brutalist architecture gave it a formidable, supernatural presence. Blasting demonic security guards in an abandoned office building might not sound too thrilling, but somehow, Remedy turned the concept into one of the most engrossing action games of the past few years.

Dragon Age: Inquisition

BioWare made a concerted effort to make the long-awaited *Dragon Age: Inquisition* a welcoming game for newcomers, and the effort paid off. One of the biggest, most absorbing games of the last generation, *Inquisition* marries absorbing storytelling to an exceptionally fun, action-driven RPG. There's so much to do, and crucially, you find yourself actually wanting to discover and appreciate all of it. Naturally, it's going to be the best part of a decade before the next game in the series comes along to try and top it. Until then, at least we can replay *Inquisition* again to pass the time.

Tetris Effect

What more is there left to do with a game design that is now over a quarter of a century old? What more can be added to one of the most widely ported and copied games of all time? The answer, as it turns out, is to get Tetsuya Mizuguchi involved. Although he was only co-producer, the *Rez* designer's fingerprints are all over *Tetris Effect*, which takes the old shape-matching formula and adds psychedelic visuals, new mechanics and challenges, and a thumping soundtrack. As much a rhythm-action game as a puzzler, *Tetris Effect* pushes a familiar game into fascinating new territory.

HONOURABLE MENTION

ANIMAL CROSSING: NEW HORIZONS

Not quite the *Lord of the Flies* sim we'd hoped, but another charming, absorbing entry all the same.

Uncharted 4: A Thief's End

Look, we'll just come out and say it: we didn't particularly get on with Sam Drake, the wayward, long-lost brother of series protagonist Nathan. But that gripe aside, *Uncharted 4* was the blockbuster sequel we were hoping for: big, silly, and often stunning to look at. The usual climbing and mass murder was given a welcome overhaul, and we'd even say the cliff-scaling bits in *Uncharted 4* were the best they've ever been. The occasional flirtation with open-world environments, which added a hint of stealth and strategy to gun battles, was a welcome addition, too.

Shovel Knight

Yacht Club Games borrowed from a bygone generation of 8-bit platformers to make *Shovel Knight* – you'll find tender slices of *DuckTales*, *Mega Man*, and early *Castlevania* in here – but what it produced was little short of perfection. Everything in *Shovel Knight* feels so *right*, from the shovel-bouncing mechanics, to the difficulty level, to the secret-laden level design. Yacht Club was absurdly generous with its DLC, too, with later updates turning *Shovel Knight* into a literal treasure trove of new, joyous experiences. The best 2D platformer of the generation? Probably, yes.

What Remains of Edith Finch

The faintly annoying question 'Are games art?' rears up from time to time (spoiler alert: of course they're art), but *What Remains of Edith Finch* proves something else: video games can be poetry. A first-person explore-'em-up about a young woman exploring her rambling, empty family home, it constantly throws the player into dreamlike and new directions as the protagonist learns more about each of her relatives and their untimely deaths. Absorbing and poignant, *Edith Finch* weaves a story in a way that wouldn't have been possible in any other medium.

HONOURABLE MENTION

AXIOM VERGE

Stunning alien environments. Weapons that are a joy to use. Among the best of the recent wave of Metroidvanias.

Super Mario Odyssey

Without spoiling things too much, there's a moment, as you traverse the streets and rooftops of New Donk City, where music and platforming combine to create a jolt of unparalleled delight. It's the kind of scene that sums up Nintendo at its best: the ability to craft moments of imagination and joy out of seemingly nowhere. Almost a quarter of a century after the Big N first moved their mascot into the 3D realm with *Super Mario 64*, *Odyssey* – with its surprisingly deep hat-possession concept – proves it's not even close to running out of charming new ideas.

Metal Gear Solid V: The Phantom Pain

A bizarre mess missing a proper ending, with unfinished content buried in the game's files; a public spat between high-profile developer and a publisher losing the PR battle; a nightmare of sexist tropes tightly bundled together in uncomfortable awkwardness. The fact *Metal Gear Solid V: The Phantom Pain* not only overcame its flaws but actually rose up to be one of the finest games of *any* generation should tell you a lot. One of the most impressive, deep, and playful open-world sandboxes ever made, *MGSV* is an ode to the joy of mucking about, and a grand swan-song for Hideo Kojima's time on the series.

HONOURABLE MENTION

KEEP TALKING AND NOBODY EXPLODES

Turns out the best thing on VR didn't need to be flashy; it just needed to be tense.

Disco Elysium

What's so incredible about *Disco Elysium* is how matter of fact it is. Sure, it looks bleakly beautiful: its depiction of a run-down, slum dystopia is as memorable as anything we've seen in an RPG these past few years. But there's so much going on here that only becomes apparent after really digging into ZA/UM's chilly murder-mystery: the number of branching paths tucked away here, the overwhelming volume of dialogue choices and ways to alter your skills. *Disco Elysium*'s developers sold a car to help fund their passion project. The sacrifice was abundantly worth it.

NieR: Automata

When PlatinumGames hit their creative stride, they're among the best development teams in the world. *Nier: Automata* is full of their trademark flourishes – its sci-fi fable is weird yet always absorbing, and its open-world role-playing offers constant surprises. For a game so huge in scale, *Nier: Automata* is remarkably free-wheeling in its design, as its perspective shifts from third-person hack-and-slash to top-down shooter to text adventure and more besides. Sure, there were technical flaws here and there, but in terms of imagination, *NieR: Automata* more than made up for it.

Monument Valley

Ustwo Games packed an incredible amount into its matchbox-sized isometric puzzler. With simple shapes and minimal shading, it created the sense of exploring and manipulating vast, ancient edifices on your mobile phone. Basic touch controls were all that was needed to interact and solve its intimate, environmental puzzles. And woven between all this was a simple yet emotional story. Put it all together, and *Monument Valley* is the video game equivalent of a warm, relaxing bath. The sequel is also, of course, equally worth checking out.

HONOURABLE MENTION

RESIDENT EVIL 2

A remake feels out of place here, but *Resi 2*'s do-over really was a spectacular effort.

Titanfall 2

No right to be this good. Respawn's previous attempt in the giant stompy robots/FPS genre was a fantastic multiplayer title, but limited by the scope of the then-early generation. *Titanfall 2*, meanwhile, took that incredible foundation of online play and – seemingly out of nowhere, with nobody asking for or expecting it – ladled a hearty dose of *fantastic* single-player right on top of it. All of a sudden this unassuming shooty-sequel transcended its original brief of 'good online game' and became 'the best single-player campaign since *Half-Life 2*'. And that's as high as praise can get for an FPS.
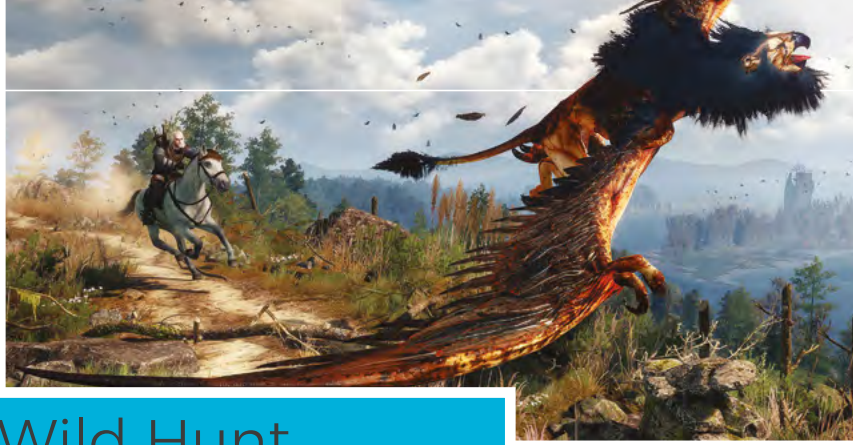
The Witcher 3: Wild Hunt

It was always going to happen, but it still came as a surprise when *The Witcher 3: Wild Hunt* released and immediately exploded as one of the most popular single-player RPGs ever made. CD Projekt Red had been beavering away at the fantasy series for many a year by the time this third game came out, and it showed: *Wild Hunt* presented itself with such effortless confidence, such incredible scale, such fantastic writing, such *fun* combat. If anything, it's a good job the masses did get on board with the third game – anything else just wouldn't have been *quite* as good.

PlayerUnknown's Battlegrounds

It's not often the entire landscape changes with one game's release, but that is absolutely what happened with *PlayerUnknown's Battlegrounds*. It might have faltered and stumbled in the last year or so, but *PUBG* was the game to kick off this particular paradigm shift. 100 players enter; one leaves (or one team). Go in with nothing, procure the ground. An ever-closing circle of death to get inside, and die inside. Pressure, excitement, and scale hadn't been done like this ever before in an online shooter – elements existed, but not together like this. *PUBG* changed games, and – helpfully – it was really good fun, too.
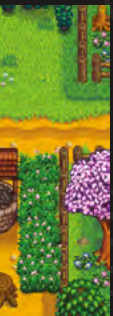
Kerbal Space Program

Edutainment in disguise, *Kerbal Space Program* brought together the joy of discovery – discovering engineering, discovering physics, discovering new worlds – with the joy of wanton, consequence-free disaster. We all know when you make a space rocket you want to see what happens when you blow it up, and *Kerbal* catered for that inevitability with gusto. The fact that it also managed to make you *want* to do things properly, that it challenged you to learn how rockets work, and showed how space exploration isn't exactly straightforward – well, that's what lifted it from a fun aside to a true great.

No Man's Sky

Somewhat unfairly maligned at launch, *No Man's Sky*'s journey over the years that followed its release showed the first version was anything but the end of the road for this product. Hello Games took a lot of flak for (apparent) promises unfulfilled but worked very hard over the years that followed to push, heave, carve, and force *No Man's Sky* into the shape it was always meant to be. Nowadays we have a triumph of developer's spirit on our hands: a universe to explore, a unique atmosphere, and an endless array of support and updates from a studio that worked incredibly hard to win the trust of a bunch of bad-faith keyboard warriors. *No Man's Sky* was always great.

Stardew Valley

Eric Barone, *Stardew Valley*'s lone creator, clued us all in on something many do wonder: how to make a successful and beloved instant indie classic. All it takes, we learned, was to grab on to an existing game from your younger years that you absolutely adored, make your own version of it that's superior in every single way, and not stop working on it for close to a decade, half that time without even getting paid for the privilege. Easy. *Stardew* might be the result of commitment ('overwork') most of us will never encounter, but its version of farm/village life makes for one of the best games, of all the games.

Undertale

There's always that one transformative indie title that sets the tone for years to come, and *Undertale* was very much that for the past generation. Lo-fi and heartfelt, it pushed back against triple-A bombast in presenting something altogether more contemplative and smart. The fact that the foundation of the game was a solid, fun, cheeky, and an inventive spin on JRPG classics just cemented *Undertale*'s instant-legend status. Just remember to play it through a second time as soon as you've finished it once: the true ending is something you need to experience.

Overcooked

By no means did Ghost Town Games single-handedly reintroduce the concept of local multiplayer, but with *Overcooked* we were reminded just why there's no substitute for sitting next to friends and family while berating them for letting the onion soup burn. True pick-up-and-play stuff, *Overcooked* is the sort of thing that appeals to gamers and non-gamers alike, and its gentle learning curve of chopping and boiling soon enough makes fanatics of even the staunchest 'I don't play games' type. It was bettered by its sequel, but it was the first game that opened the kitchen doors to co-op greatness.

Hades

A testament to the good that can come from Early Access, *Hades* marked another great title from Supergiant Games – and arguably the greatest it has made to date. Quick-paced battling through the titular realm to win your freedom, the roguelike system of dying-and-trying was honed to near-perfection, making it the sort of thing you didn't mind losing at, you didn't mind trying again at. The one problem with *Hades*, though, is that it's raised the bar so high for roguelikes that it's going to be hard to make anything that can possibly top this.

HONOURABLE MENTION

THE WITNESS

Puzzle games are a) boring and b) easy. Except when they're *The Witness*. Then they're *stunning.*

Divinity: Original Sin 2

There's a lot to be said for – and against – nostalgia driving the creative process. In the case of *Divinity: Original Sin 2*, it was the desire to craft something that didn't just look like the computer RPGs so popular in the 1990s, but something that played *like you remembered they did*. Larian Studios pulled it off magnificently, resulting in a game that looked like the games of Black Isle Studios and BioWare, but played like your imagination was the only thing holding you back. Choice, options, openness, reactiveness, and a witty, funny, and dark story backing it all up: *Original Sin 2* far surpassed the greats that influenced it.

Hitman

We're going to cheat a bit and include both the first and second games in IO Interactive's series rebirth, but it works – the developer itself counts neo-*Hitman* as a single 'platform'; a bunch of levels – playgrounds of murder, you could say – attached via its engine and emergent systems. *Hitman* is an ode to all that is good about systemic video games: open to creative input and improvisation, it actively rewards players for trying and trying and trying again. Backed up by a supremely solid engine, thick atmospheric design, and just the right amount of silliness, *Hitman* is IOI's magnum opus.

SPECIAL MENTION

FORTNITE

We couldn't get by without mentioning *Fortnite*: it's not a personal selection for Wireframe, but ignoring the sheer impact and importance of the game would be folly. So here you go.

Toolbox

The art, theory, and production of video games

58
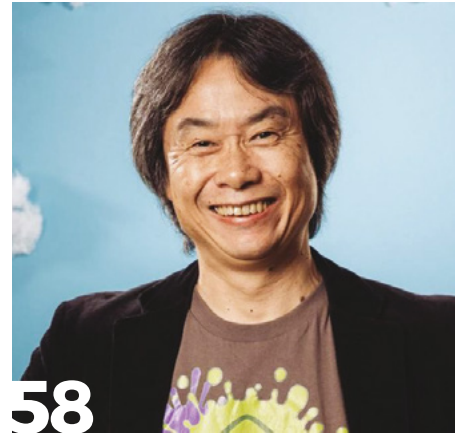
⌃ Unless you have the resources of Shigeru Miyamoto, you won't have months to polish a game. Find out more about project management on page 58.

ELBORETH...

50

⌃ Create an interactive, text-based city using the engine behind *Heaven's Vault* with our guide on page 50.
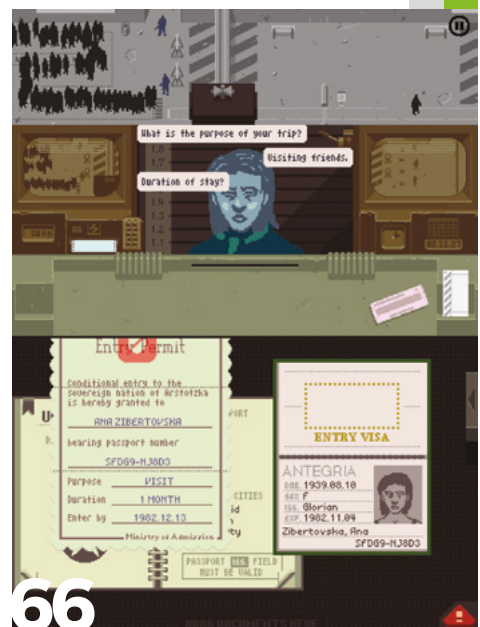
⌄ Uncover the systems and rules behind games like *Cities: Skylines* – see page 46.

46

64

66

⌃ Theme lies at the core of good writing, as Antony explains on page 66.

‹ Recreate the arcade action – and explosive bombs – from Toaplan's *Tiger-Heli*. See page 64.

The secrets of
city-building games

Picking apart the rules and systems that have
governed the genre since the seminal SimCity

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atlas, designs game cities, and consults on their creation. **game-cities.com**

Urban planning might not sound like an obvious staple of gaming, yet city-building video games have been incredibly popular ever since they first appeared back in the late 1980s. Combining elements of strategy, management, and the god genre into unique digital toys, city-builders have risen to become an influential and popular genre. It's pretty impressive, given their relative complexity and often mundane themes.

ON THE WRIGHT TRACK
Since Will Wright's pivotal *SimCity* appeared in 1989, the city-builder genre has made complex systems and subjects such as engineering and geography seem fascinating. *SimCity* was a major success, and not just due to its originality – it provided an interactive peek inside the urban process that is still alluring, even today. *SimCity* offered a flawed but cleverly abstracted and entertaining explanation of how cities and urban planning work, while giving players the opportunity to build and fiddle with their own living, breathing societies. Exploring 'what if' situations, and guiding the evolution of a living city proved to be an absorbing pastime; actually making your city efficient, prosperous, and pleasant to live in was a genuine challenge.

The original *SimCity*'s mechanics still define the genre today. Even in recent city-builders, players commonly assume the role of a powerful and omniscient mayor (or equivalent) and define land uses, design infrastructural networks, and place special buildings such as stadiums and hospitals. Keeping an eye on the economy,

social trends, and available resources is usually mandatory too, as gameplay approximates what a planner supposedly does. In the case of *SimCity*, in particular, the gameplay is focused on harmoniously balancing residence, industry, and commerce.

Interestingly, residence, industry, and commerce are three of the core urban functions of modern cities. Every city-building game since *SimCity* has also been designed around urban functions and their impact on land uses. Shelter, the economy, access to work, power, and drinking water are routinely taken into account, even when designers only imply them. Food in a contemporary simulation is, for example, often made available via commerce, and though water networks were a direct concern in *SimCity 2000*, they were never mentioned in the original.

Historical, fantasy, and sci-fi games often start by focusing on the most important functions of their particular setting. The need for breathable air in space, for example; defences in ancient China; and access to wood in most medieval-inspired fantasy towns is enough to bring new balances, new twists to existing mechanics, and fresh challenges.

▼ Playing and studying *Cities: Skylines* is vital if you're looking to create your own city-builder.

CIVIC HISTORY
I have yet to encounter a city-building game that manages to incorporate history in a satisfying, meaningful way which allows players to experience the changing of eras. Managing to create a sense of true historical progress beyond simple tech upgrades would be an important genre innovation, and something to impress audiences with. Seeing buildings and districts become obsolete, society evolve, and urban forms and functions change as city walls give way to ring roads, and ancient temples attract tourists, might seem daunting to pull off, but is definitely worth a try.

Released to mediocre reviews in 1994, *Outpost* by Sierra On-Line offered a plausibly realistic approach to city-building in space.

SYSTEMIC FUN

Difficulty, accessibility, and decision-making are the key ingredients for a good city-builder. Disasters, monsters, and other scenarios added more defined challenges and even a sense of plot to *SimCity*, while later games such as the Roman-era *Caesar* added strategic goals to be accomplished in each map, and turned to a more mission-based structure.

Whatever form they take, city-builders rely on systems. A house's location, the materials it's constructed from, and how those materials are gathered and processed, are all design choices that go into making interconnected civic systems. A housing block will, for example, attract residents if it's connected to water and power and is located close to workspaces. Systems are essentially sets of rules determining the inner workings of a virtual world. Keep in mind that the models we use in city-builders – whether adapted from science or not – don't have to be objective or precise. *SimCity* was notoriously based on an outdated and ill-conceived planning model, but it still allowed for a fun, seemingly authentic

"The original *SimCity*'s mechanics still define the genre today"

experience. Modern city-builders generally come with more grounded scientific assumptions.

A design choice also worth discussing is the importance – or not – of connections. Connecting locations via roads or paths is essential in some games; in these, people can't go to work if their residence isn't directly connected to a factory. Other games treat roads as elements that speed things up. The former, more rigid solution would suit a contemporary sim, while the latter would fit a historical one. The tone we're aiming for also plays a role – workers free-running across rooftops to a factory would make for a gloriously silly experience, for instance. Similarly, categorising the population into groups and classes could be important to a particular experience. A worker, a soldier, and an aristocrat could have vastly different roles in one game or be treated as a homogenous resource in another.

Still, a city-builder's tension, challenge, and narrative all emerge from its systems. Air or noise pollution will drive away wealthy upper-class residents, but relocating industry might be too expensive and negatively affect the quality of education the less well-off receive. Imaginative, exotic systems can work brilliantly in city-builders, too: *Frostpunk*'s extreme setting allows for a truly unique exercise in interactive storytelling. Ⓦ

HOMELESS IN SIMCITY

The extreme and often unscientific civic politics of *SimCity* were nowhere more evident than in the series' 2013 depiction of homelessness. Homeless people, you see, were presented as some sort of blight that randomly occurred out of nowhere, hurt land values, and could only be remedied via the police. A fascinating archive of the tense political discourse that followed this realisation is presented in Matteo Bittanti's 600-page book, *How to Get Rid of Homeless*. For more: **wfmag.cc/bittanti**.
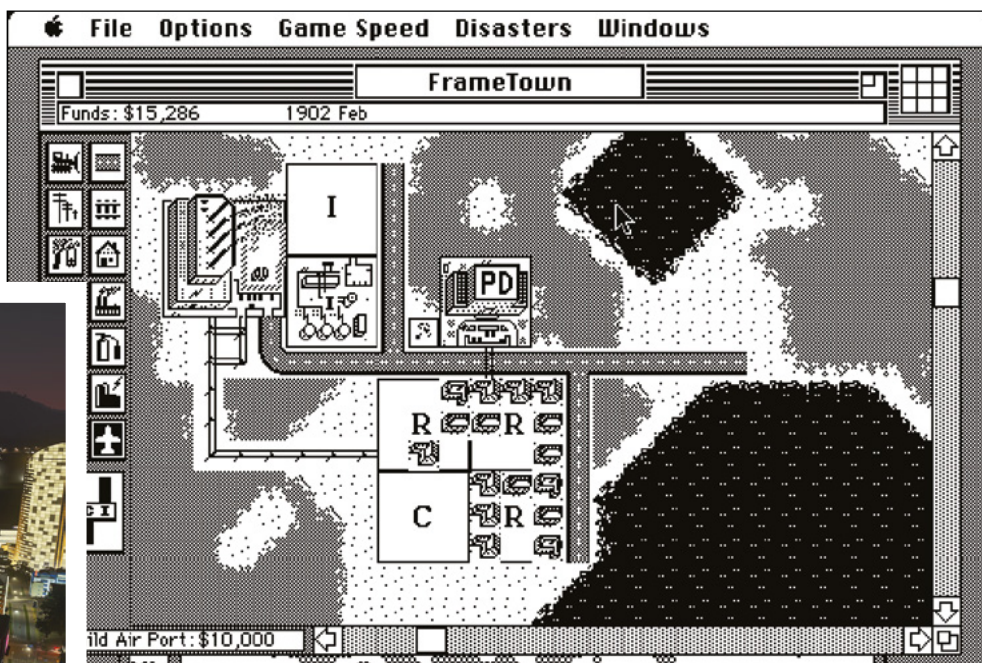
❮ The simplicity of the original *SimCity* (shown here in its Apple Mac version) was crucial to its success.

The principles of game design

Howard recalls his fateful encounters with Atari CEO Ray Kassar – and his path to developing E.T.

AUTHOR
HOWARD SCOTT WARSHAW

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

^ **The late Ray Kassar took over from Nolan Bushnell as CEO of Atari in 1978.**

⌄ **Howard sitting happily at his Atari dev station – possibly a few minutes before Ray Kassar walked through the door.**

O n the afternoon of Tuesday 27 July 1982, I'm sitting in my office at 275 Gibraltar Drive, on Atari's main campus in Sunnyvale, California. I'm hanging out with Jerome Domurat after putting the final touches to *Raiders of the Lost Ark*, the longest development of all my games. Jerome is my graphics/animation designer and my good friend. We're having fun in our usual way, taking turns reading aloud from National Lampoon magazine's letters to the editor, when a call comes in: "Will you please hold for Ray Kassar?" Will I hold for Ray Kassar? The Chief Executive Officer of Atari? My boss's boss's boss's boss's boss? The guy who signs my pay cheques? "Yes, I'll hold for him."

A phone call from Ray Kassar is a very unusual thing, in my experience. However, this is not my first time chatting enjoyably with our CEO. The first time was at a press event. I was demo-playing my first game, *Yars' Revenge*, on one of the first-ever big-screen TVs (a hulking rear-projection monstrosity). Ray emerged from the slew of media people crawling around the room. He approached me and said, "Hello Howard, I heard about what you did with *Yars*."

"Yeah? What did you think about that, Ray?" He half-smiled. "Just keep making games, Howard." Then he turned and melted back into the traffic. That was my first encounter with Ray Kassar. The last time we met, however, was a bit more memorable…

Roughly two months before answering this phone call, I was nearing the final stages of development on *Raiders of the Lost Ark*, the first-ever video game based on a movie. It was a dog-and-pony day, which means key execs are cruising engineering for demos (somewhat akin to visiting the zoo) and we show the current state of our games to anyone being escorted by our bosses. I take game demos pretty seriously, but this time was special. The man himself, Ray Kassar, was coming down from on high to take the tour. He had his entourage in tow, including extras from marketing, legal, and the odd vice president or two. You knew when Ray was coming because his distinctive cologne always preceded him. He came wafting in and took the guest chair while the others stood around him like a halo of nodding assent. I had the game ready to go and Tchaikovsky's *1812 Overture* (the one with the cannons) cued up on the office stereo. It lends an impressive ambience to the demonstration, well beyond the capabilities of my development station (see box).

I press play on the stereo, pick up my game controller, and roll through the demo. Ray offers occasional comments, each of which is quickly and enthusiastically affirmed by the entourage.
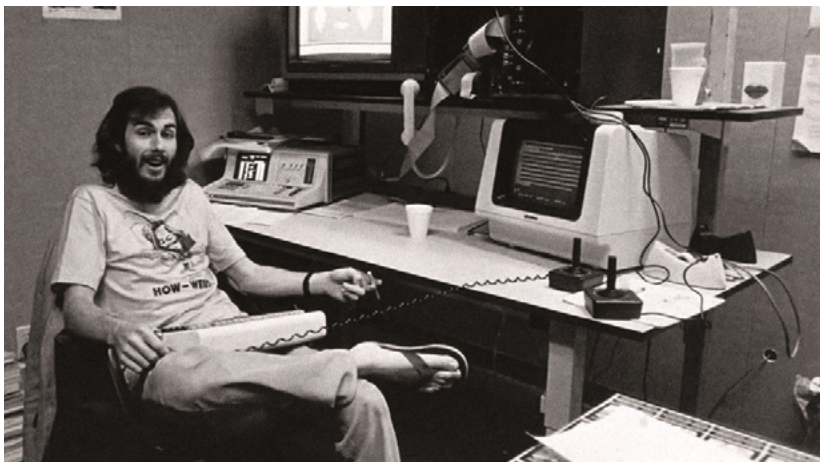
Now it isn't every day I get Ray Kassar in my office, so being the braying ass I'm given to be at times like this in my mid-twenties, I took the opportunity to share some thoughts and suggestions (read: criticisms and complaints) as to how the company might be better run. Mouthing off to the big man is not usually the smartest strategy, but it's easier when your work represents a significant chunk of corporate profits, past and future.

After sitting politely through a more-than-reasonable bit of this, Ray cuts in and says, "Interesting ideas. Perhaps we should switch jobs for a day."

Instantly I fire back, "I'm good with that, Ray. Here's my dev station. Just give me your fragrance and let's go."

And the room froze. Uh-oh, have I gone too far this time? (It's a question I ask myself all too frequently.)

A deafening silence hung there, occasionally broken by stifled chortles. The entourage wants to laugh, but they don't want the guillotine. All the king's men were desperately trying to hold their laughter until they got some inkling of Ray's reaction. After what seemed like hours, Ray finally decided to find it amusing and thus unleashed the torrent. Laughter abounded as they shuffled off to the next office. Since I wasn't fired for that one, I lived to take this call today...

Ray comes on the phone and gets right to the point: "Howard, we need an *E.T.* game for 1 September. Can you do it?"

Without missing a beat, I say, "Absolutely I can! Provided we reach the right agreement." I know what I mean. Ray knows too. Money.

"That's fine," says Ray. "Be at San Jose Airport Thursday morning at 8am. There will be a Learjet waiting to take you to [Steven] Spielberg's office where you'll present the design for the game."

And there it is. I'm doing the *E.T.* game! My first thought is: Whoa, I've got 36 hours to do the entire design and prepare a presentation for the fastest video game development ever attempted. My second thought is: Better have a good dinner tonight, it might need to last me a while. And oh yeah, I'm still on the phone...

I assure Ray I'll be fully prepared when I board the Spielberg Express first thing Thursday morning. We say our goodbyes and hang up. This will not be my first encounter with Steven Spielberg. We've met several times before, but this one will require more imagination, creativity, and fancy footwork than any other.

I know what I'm actually promising. Games on this system usually take at least six months to develop. I'm committing to do one in five *weeks*. Am I confident? My hubris is. But right now, I'm already too busy to think about it. Just 36 hours to my first delivery milestone. In order to pull this off, a lot of headwork needs to happen in a very short time. Fortunately, my brain is hardwired for fast. The tricky part is the balance, staying focused but not tunnel-visioned... Let the thinking begin! ⓦ

> **"There will be a Learjet waiting to take you to Spielberg's office"**

Action Stations

A note to the non-nerd: a development station (or dev station) is a specialised piece of high/low-tech computer hardware (frequently tucked into a black metal box) where game programmers can test-run and debug their software in a reliable environment. It's designed to prevent programmers from having anything other than themselves to blame for their product issues. Of course, this design goal is not always realised.

How to build your own city of text

How to use inkle's powerful narrative scripting language to create a navigable, dynamic city

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U nlike their graphical counterparts, text-based cities can actually be crafted by one person. Text is faster to generate and easier to organise, while also allowing creative imaginations to run wild without hardware or asset limitations. Text also allows authors to focus their audience's attention on specific details in ways a 3D environment would really struggle with. Here, I'll show you how to make an interactive city made only of text, which can be explored via a multiple-choice interface. Please note that, to save space, I'm only showing you excerpts from the finished code in this article – download the full listing from **wfmag.cc/wfmag45**.

The Inky editor is simple and elegant. The left window is reserved for scripting, and the right one provides a playable preview of your game.

INK BASICS

We'll use inkle's powerful ink scripting language (**inklestudios.com/ink**), along with the help of the elegant Inky app (**wfmag.cc/inky**) where we'll enter our code. We'll go into more detail later, but for now, keep in mind that ink is an open-source, markup language for writing interactive fiction that works both autonomously and with engines such as Unity. (For a beginner's guide to ink straight from inkle co-founder Jon Ingold, have a look at Wireframe #29's Toolbox: **wfmag.cc/29**.)

The three core elements of any ink story are knots, diverts, and choices. Knots are interlinked sections that comprise the bulk of an ink project; diverts are the literal arrows (typed as **->**) moving the game from one knot to the next, and choices are the bullet points players will choose from in order to interact with the game.

BEHOLD VAFORT

Before coding, we need to decide on our city's defining fundamentals, and come up with a rudimentary map. One or several maps will be needed to guide the fleshing out and scripting process. These define the city's structure, key landmarks, edges, paths, and districts, even if they're never visited or mentioned in the final game. Having a coherent image in our minds is essential when creating a convincing city design.

For this article, I came up with the city of Vafort: an almost medieval place with definite

Figure 2: The explorable locations (each an ink knot) of Vafort and their connections (via ink diverts).

Figure 1: The complete map of the city of Vafort, complete with game nodes and their connections.

boundaries, a strong axis, a river, ideologically important landmarks, as well as clearly defined districts. Keeping things brief enough to fit these pages was also a consideration, as was trying to imbue the place with a sense of civic life.

Vafort is an imaginary border town situated on the river dividing an Empire from its neighbouring state. It is heavily fortified with two crescent-shaped walls. The more spacious part of town lies north of the river, and the poorer, smaller, and fortified district is to the south. The city's main landmarks, the twin spires of the Thousand Doors Cathedral and the Guild of Guilds, are organised around the node of the Grand Place. Vafort also features four gates, and is loosely separated into a secular East and pious West by the Imperial boulevard.

"Before coding, we need to decide on our city's defining fundamentals"

The city's map and spatial routes can be seen in **Figure 1**, whereas the logical connections of the knots comprising it are shown in **Figure 2**. The locations are:
0. Outside the city; 1. Outside the Southern Gate; 2. Southern Gate; 3. Monolith; 4. Poortown West; 5. Poortown East; 6. Secular district; 7. Town of the Pious; 8. Grand Place; 9. Thousand Doors Cathedral; 10. Guild of Guilds; 11. Eastern Gate; 12. Northern Gate; 13. Western Gate; 14. Eastern Ring; and 15: Western Ring.

The river is called Chorale, and the forest to the south is the Poilon Woods.

CONSTRUCTING THE CITY
Players will enter the city as outsiders, with the game beginning with a simple title and a short description followed by a singular choice. Clicking 'disembark' transports players to the knot called **OutsideGate**. The little arrow is a divert, and each location of Vafort has its own knot.

```
THE CITY OF VAFORT

After five days of travelling through Poilon
Woods, the clearing surrounding Vafort is a
welcome sight. And as your carriage rides past
the hill castles, you can finally glimpse the
massive crescent of the city's walls.


The fabled twin spires of the Thousand Doors
Cathedral and the Guild of Guilds can be seen
in the distance, indicating the city centre.
The walls come closer, and your carriage stops
in front of a massive gate.


* [Disembark.] -> OutsideGate
```

The **OutsideGate** knot is defined by typing **===** followed by its name. Typically, a knot includes diverts linking it to other knots, and can also include stitches (sub-knots, essentially) and diverts towards these. In this example,
= **choices** is one such stitch, and is internally ➡

THINGS T0DO
TODO is a handy ink command which can be typed in your script to remind you to, well, do things. Need to flesh out a description at a later point? Simply, type "TODO: Add more details here" as a note to yourself. Ink doesn't compile TODO commands. The Inky editor, on the other hand, keeps track of all your TODOs in a list. Also, if you need to comment in your code, type // and then add any text you want. So, "// this is a comment" is a comment.

↑ Maps help gamers recreate textual space in 3D in their minds. Seen here is the map from Infocom's classic *A Mind Forever Voyaging.*

INK AND GRAPHICS

What's wonderful about ink is its versatility. You don't have to make text-only, multiple-choice adventure games with it. You can instead plug this powerful language into a game engine such as Unity, and combine its versatility with modern graphics and control methods. Examples of games with ink powering their narrative core include *80 Days*, *Heaven's Vault*, *Pendragon*, and *A Place for the Unwilling* on which – disclaimer – I actually worked.

addressed as `OutsideGate.choices`. The discussion with the captain is handled via the simplified, quicker structure of a weave. As for the bullet-like choices presented to players, they're listed in the choices stitch alongside their results. Choices with an asterisk are only presented until picked, whereas choices with a plus sign are persistent.

```
=== OutsideGate

Climbing out of the carriage allows you to
finally stretch your legs and appreciate the
gargantuan scale of Vafort's walls. The gate is
heavily guarded, and the portcullis partially
raised.

Your driver delivers a scroll announcing your
presence to the captain of the guard, and leaves.
The captain provides you with the required
papers, and invites you to enter Vafort.

-> OutsideGate.choices

= choices

* [Talk to the captain.]

  He is a bureaucrat in soldier's armour, and not in
a chatting mood. His welcome feels honest, though,
and he lets you know that no rain is expected.

    ** [Ask about navigating Vafort.]

    "Getting lost is difficult. Vafort consists
of two semi-circular areas. The larger to the
north of Chorale river, the smaller to its south.
The Imperial boulevard runs from the Southern
Gate to the Northern Gate", he adds.

  ** [Ask about the gate.]

    "The Southern Gate is the largest of the
city's four gates, sir," he says.

        -- "Duty calls," he adds, and points
you towards the gate.

        *** [Pass through the Southern Gate.]
-> SouthernGate

* [Look up at the walls.]

  The ancient architects of Vafort made the city's
```

```
fortifications strong. These walls could never be
climbed nor broken. -> OutsideGate.choices

+ [Enter the city.] ->SouthernGate
```

The description in curly brackets below is used to add a sense of dynamism by altering itself every time the knot is revisited. Type `{1 | 2 | 3}` and the game will first display 1, then 2, and then keep on displaying 3. If instead `{~ 1 | 2 | 3}` is typed, ink will randomly choose to display one of the three every time the knot is visited.

```
=== SouthernGate

{Moving past the gate, the portcullis is lowered.
You are in southern Vafort; the poorer part of
town. | The Southern Gate is closed.}

You are standing on the southern end of the
perfectly paved Imperial boulevard leading north to
the Monolith. Further on, past the great bridge, the
boulevard will take you to the Grand Place.

Beyond the well-kept facades overlooking the
boulevard, the destitution is obvious.

+ [To the Monolith.] -> Monolith

+ [Explore Poortown East.] -> Poortown_East

+ [Explore Poortown West.] -> Poortown_West

+ [Leave the city.] -> SouthernGate.NotExiting

= NotExiting

{~ No one is currently allowed out the Southern
Gate. | The gate is closed for the changing of
the guard.}

+ [Stay in Vafort for now.] -> SouthernGate
```

Impressively, ink tracks which knots and stitches have been visited. As the surveyor in this scene is meant to be around only until speaking with players, we have ink check whether the `Monolith.surveyor_talk` hasn't been visited, and only then mention his presence. Note that the choice of talking to the surveyor is a `*-choice` and can only happen once.

```
=== Monolith
```

```
Perfectly rectangular and tall, the Monolith was
carved from a single rock. It stands in a plaza.
```

```
{not Monolith.surveyor_talk: A surveyor is
attempting to measure the dimensions of the
monolith.}
```

```
To the north you see the great bridge of Chorale
River, and the twin spires. You are in the heart
of Poortown. {! A child passes by and smiles. |
A vendor offers you some fried aubergine; it is
good. | People seem relaxed.}
```

```
* [Examine the Monolith.] -> Monolith.description
```

```
* [Talk to the surveyor.] -> Monolith.surveyor_talk
```

```
+ [To the Southern Gate.] -> SouthernGate
```

```
+ [Explore Poortown East.] -> Poortown_East
```

```
+ [Explore Poortown West.] -> Poortown_West
```

```
+ [Head north to the Grand Place.] -> GrandPlace
```

```
= description
```

```
The more you look at the Monolith the more it
seems to subtly tremble.
```

```
+ [Look away.] -> Monolith
```

Global variables can be declared anywhere via the VAR command and store strings, states, and values. In this instance, they store strings that will be used more than once. So instead of typing **"Introduce yourself, and ask about"**, we simply type **{intr}**.

```
= surveyor_talk
```

```
VAR intr = "Introduce yourself, and ask about"
```

```
VAR plsr = "A pleasure making your acquaintance."
```

```
You approach the surveyor, and politely cough.
"Hello," he says, and {walks away from his
theodolite. | cleans his dioptra.} "How can I
help you?"
```

```
* [{intr} his equipment.]
```

```
"{plsr} This is the latest in surveying and
```

```
topographical equipment," he says.
```

```
* [{intr} the Monolith.]
```

```
"{plsr} Beautiful and mysterious, isn't it?"
he asks, and mentions that exactly measuring it
seems impossible.
```

```
- You are intrigued, but leave the engineer alone.
```

```
    ** [Let the surveyor work.] -> Monolith
```

Tunnels are another great luxury of ink, as they are self-contained sections that can be inserted anywhere and reused. A tunnel is defined as a normal knot that instead of diverting to another knot ends in **- ->->**. **-> tunnel_name ->** is how a tunnel is then called.

```
=== Poortown_East
```

```
-> Poortown_Tunnel ->
```

```
The great walls loom above the roofs of Poortown
East. {not Poortown_West: These are the slums
of Vafort.} You do not dare delve deep into the
twisting roads for fear of getting lost.
```
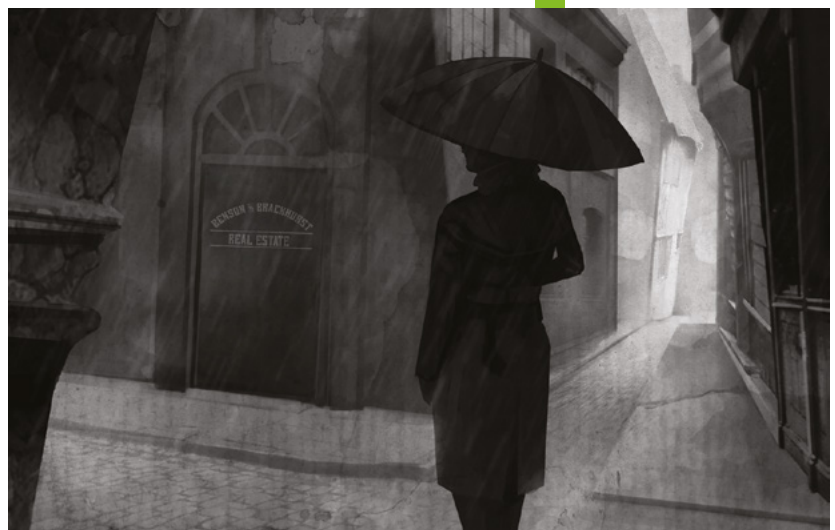
```
+ [Explore Poortown East.] -> Poortown_East.explore
```

```
+ [Visit the Monolith.] -> Monolith
```

```
+ [To the Southern Gate.] -> SouthernGate
```

⌄ The coastal town of Anchorhead, the star of horror interactive fiction *Anchorhead*, is one of the finest parser-driven text cities ever created.

MERETZKY'S ROCKVIL

Text adventures can evoke a sense of civic space and focus our attention at narratively and thematically important details. For proof, check out 1985's *A Mind Forever Voyaging*. Designed by Steve Meretzky, who trained as an engineer and was comfortable with the fundamentals of urban planning, *AMFV* took place in the futuristic and ever-evolving town of Rockvil as it descended into a post-apocalyptic dystopia. The way a select few words were altered to conjure sweeping changes in the urban landscape was simply masterful.

⌄ The cover of Infocom's text adventure *A Mind Forever Voyaging*.
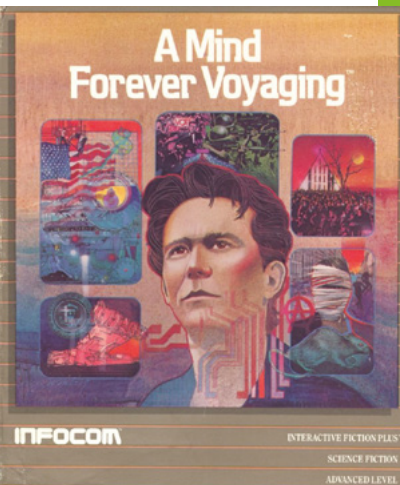

```
+ [To the Secular district in the north.] ->
Secular_district

+ [To Poortown West.] -> Poortown_West

= explore

You head off towards {~ the sign of a tannery |
the dome of a temple}. You are lost in a maze of
alleys, back-to-back houses, and tanneries. You
postpone any further exploration attempts. The
stench of decaying flesh and urine stays with you.

+ [Stop exploring.] -> Poortown_East

=== Poortown_West

-> Poortown_Tunnel ->

Poortown West is squeezed between the boulevard,
the walls, and the Chorale river. Locals claim
that over 10,000 people reside here {not
Poortown_East: in the western section of the
slums of Vafort}.

+ [Visit the Monolith.] -> Monolith

+ [To the Southern Gate.] -> SouthernGate

+ [To the Town of the Pious.] -> PiousTown

+ [To Poortown East.] -> Poortown_East

=== Poortown_Tunnel

Walking in Poortown { the sound of children
crying for food is common. | you were impressed
by the beauty and sad state of its small, half-
timbered houses. | you take a break and taste the
sausages of the 'Honnête Homme' tavern. }

- ->->
```

Moving on to the part of Vafort north of the river, let's first describe its Secular district, and enrich it with the simple interaction of exploring randomised bookstores. Then the Town of the Pious is fleshed out.

```
=== Secular_district

{You were told that Vafort's secular district
was the epitome of modern architecture, but
never imagined such a well organised and alluring
district. | You find yourself in Vafort's Secular
district.}

Orderly roads lined with functional, well
maintained buildings of mostly uniform height are
broken up by the towers of the city's libraries,
and learning institutions.

To the north you can see the Guild of Guilds {not
PiousTown: ; one of the city's twin spires}. The
Eastern Ring surrounds the district.

+ [Enter a bookstore.] -> Secular_district.
bookstores

+ [Visit the Guild of Guilds.] -> GuildOfGuilds

+ [To Poortown East.] -> Poortown_East

+ [Visit the Grand Place.] -> GrandPlace

+ [Explore the Eastern Ring.] -> EasternRing

= bookstores

You choose a bookstore and enter it. {~ Ancient
tomes line the walls of the opulent store. |
The young owner welcomes you to her house of
affordable science. You get a discount on two
books of simplified physics.}

+ [Back to the streets.] -> Secular_district

=== PiousTown

{Secular_district: Just as orderly as the Secular
district.} The affluent and devout citizens
of Vafort live in the Town of the Pious under
the protective shadows of the Thousand Doors
Cathedral, and among countless family temples.

Most people here seem to dress in the Empire's
traditional garments, and the roads are decorated
with freshly picked flowers. The smell of incense
is prevalent.

+ [Enter the Thousand Doors Cathedral.] ->
ThousandDoorsCathedral

+ [To Poortown West.] -> Poortown_West

+ [To the Grand Place.] -> GrandPlace
```

```
+ [Explore the Eastern Ring.] -> EasternRing
```

Sporting the Guild of Guilds and the Thousand Doors Cathedral, and thus connecting the holy and the secular parts of town, the Grand Place is the heart of the city. To conjure a sense of liveliness, a virtual six-sided die is rolled, followed by six if-then clauses determining which scene will be played out. Most of these scenes come with randomised elements themselves.

```
=== GrandPlace

VAR dice = 1

~ dice = RANDOM (1,6)

A stunning creation of imperial architecture
and urban design that incorporates classical and
contemporary styles into a whole.

{dice == 1: The Guilds' Orchestra and the Holy
Choir are performing the {~ 'Waters of Chorale' |
Anthem of Vafort | 'Ode to Poilon Woods'}.}

{dice == 2: One of the officially sanctioned
{~ beggars | widows | orphans} of the square
approaches you. They smile, and ask for {~ help |
compassion}.}

{dice == 3: You notice a large group of {~ solemn
| suspicious} {~ veterans | farmers} crossing
Grand Place.}

{dice == 4: A public ceremony is being held.
The clergy chants and reads holy passages as the
faithful silently hold {~ candles | flowers}.}

{dice == 5: The guilds are exhibiting their wares
in impressive kiosks. Visitors seem {~ shocked |
intrigued | offended}.}

{dice == 6: The City Guard is parading up and
down the square.}

+ [Visit the Thousand Doors Cathedral.] ->
ThousandDoorsCathedral

+ [Visit the Guild of Guilds.] -> GuildOfGuilds

+ [To the Northern Gate] -> NorthernGates

+ [South to the Monolith.] -> Monolith
```
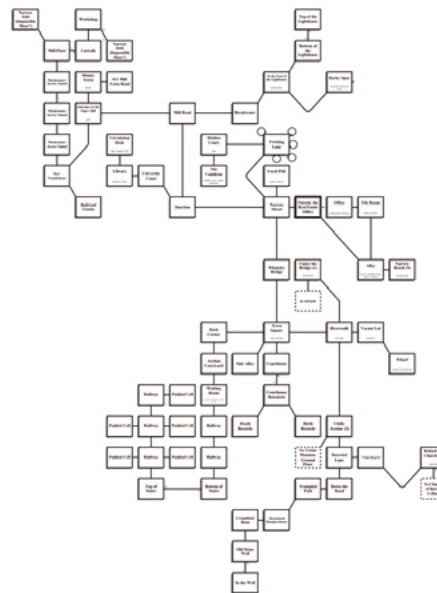

> A map of the Anchorhead city locations and their spatial connections.

```
+ [To the Town of the Pious.] -> PiousTown

+ [To the Secular district.] -> Secular_district
```

The Thousand Doors Cathedral allows for a limited set of actions to add a sense of granularity in a knot with two stitches. The Guild of Guilds remains mostly out of bounds.

```
=== ThousandDoorsCathedral

Looking at the vast Thousand Doors Cathedral,
you realise it isn't a single building. Spires
rest on towers, as ancient scaffolding, belfries,
domes upon domes, and countless smaller temples
are all part of a huge, labyrinthine edifice.

You see a priest with {blue | red | grey | black}
robes entering from a {~ small | secondary | well
hidden } gate.

* [Follow the priest.] -> ThousandDoorsCathedral.
PriestChat

+ [Enter the Cathedral.] ->
ThousandDoorsCathedral.cathinterior

+ [To the Grand Place.] -> GrandPlace

+ [To the Town of the Pious.] -> PiousTown

+ [To the Western Ring.] -> WesternRing

= cathinterior

This is an evocative building, and the details of ➡
```

THE MANUAL

Ink isn't particularly complex in its syntax and structure, even if it can pull off a surprising number of clever tricks. Its complete manual is available at **wfmag.cc/InkManual** and it seems to cover absolutely everything in as little space as possible. It's surprisingly well-written, too. There's an introductory tutorial for complete beginners at **wfmag.cc/webtut**, while our own starter's guide can be found at **wfmag.cc/29**.

> One of the inspirations behind Vafort was Brussels' stunning Grand Place.

NIGHT AND DAY

Incorporating day/night cycles isn't too difficult to do in ink. Defining an appropriate variable (e.g. `VAR is_it_night_time_yet = false`), alternating its value from false to true and vice versa every, say, eight turns (using the very simple `TURNS_SINCE` command), and changing, adding, or removing game elements, descriptions, events, or even just adjectives depending on this value should work fine.

```
its main hall are impossible to grasp in their
glorious infinity.

+ [Take a moment to pray.]

  You pray.

+ [Listen to the sermon.]

  You listen to an unexpectedly human sermon.

- Suddenly, you feel you are intruding here.

** [Leave the Cathedral.] -> ThousandDoorsCathedral

= PriestChat

You follow the priest into a small chamber. He
doesn't mind, and greets you warmly.

* [Ask about the colours of robes.]

You ask about the colours of the clergy's
robes and he lets you know that blue is for
archbishops, red for bishops, grey for priests,
and black for acolytes.

* [Ask about the Cathedral.]

You inquire about the Cathedral, and find out that
its expansion has never stopped in seven centuries.

* [Ask about the room you are in.]

You ask about the room you are in. It is one of the
thousand praying rooms reserved for the clergy.

- Having answered, the priest smiles and asks you
to leave.

** [Respect his wish and leave.] ->
ThousandDoorsCathedral

=== GuildOfGuilds

The Guild of Guilds is unfathomably complex and
```

```
tall. Covered with sculptures, windows, and
terraces, and featuring several distinct wings,
lavish gables, and steep roofs, this is an
imposing building. All guildhouses of the city
and the Town Hall are housed here.

For two hundred years the guilds have made sure
to keep on expanding their monumental edifice.

* [Explore the Guild House.] -> GuildOfGuilds.
guildinterior

+ [To the Grand Place.] -> GrandPlace

+ [To the Secular district.] -> Secular_district

+ [To the Eastern Ring.] -> EasternRing

= guildinterior

You are only allowed into the baroque visitor's
hallway, and informed that the Mayor and Guild
Captains are in a long meeting.

* [Exit the Guild of Guilds.] -> GuildOfGuilds
```

The Eastern Ring rolls another virtual die to pick between three different tunnels to display.

```
=== EasternRing

VAR EastDice = 0

~ EastDice = RANDOM(1,3)

The Eastern Ring feels pleasant and lively. Views
to the Guild of Guilds are ensured from all
public spaces.

{EastDice == 1: -> East_tunnel_1 ->}

{EastDice == 2: -> East_tunnel_2 ->}

{EastDice == 3: -> East_tunnel_3 ->}

+ [To the Grand Place.] -> GrandPlace

+ [To the Secular district.] -> Secular_district

+ [To the Eastern Gate.] -> NorthernGates

+ [To the Northern Gate.] -> NorthernGates
```

```
=== East_tunnel_1

The newspaper wagon passes you by.

- ->->

=== East_tunnel_2

The occasional whiff of scented air confuses you.

- ->->

=== East_tunnel_3

You notice just how spacious the oddly shaped,
carved blocks of the Vafort Rings feel.

- ->->
```

The Western Ring has a chance of displaying its special event once, using a variable as a flag, and ensuring the bells will randomly ring only once.

```
=== WesternRing

VAR WestFlag = 0

VAR WestDice = 0

~ WestDice = RANDOM(1,2)

{ WestFlag == 0 && WestDice == 1:

As the dozens of bells of the Cathedral toll,
people around you stand still, and respectfully
stare at the holy spire.

~ WestFlag = 1

- else:

Only the lower clergy can be found wandering
in the Eastern Ring, and even though a few
Entertainment Houses have been allowed, the aura
of the Cathedral permeates everything.

}

The Western Ring encircles the Town of the Pious.

+ [To the Grand Place.] -> GrandPlace

+ [To the Town of the Pious.] -> PiousTown
```
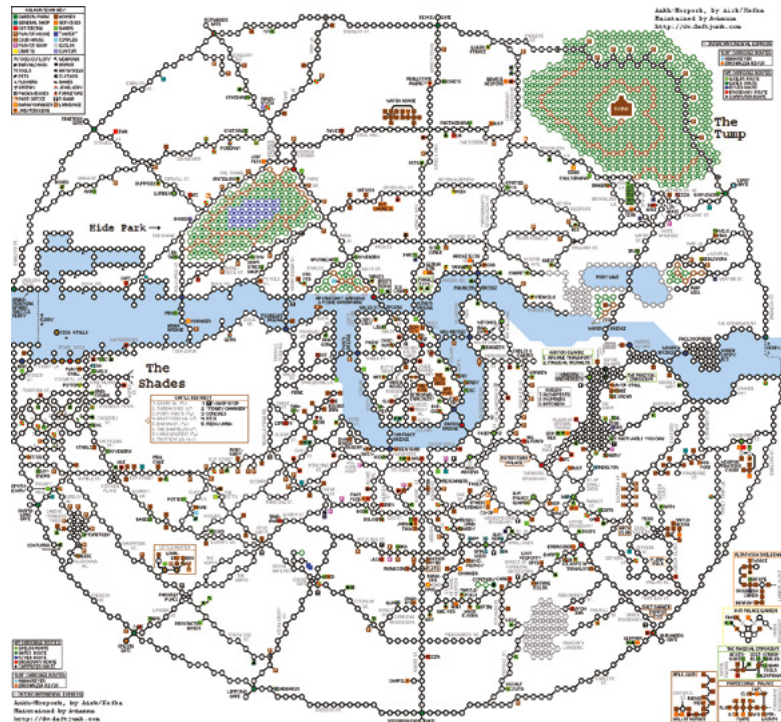
```
+ [To the Western Gate.] -> NorthernGates

+ [To the Northern Gate.] -> NorthernGates
```

Finally, the **NorthernGates** knot describes all three city gates north of the river, and allows players to end the game. Note that the **-> END** divert is required for a functioning ink story.

```
=== NorthernGates

-> NorthernGates_Tunnel ->

Do you want to exit the city (and the game)?

+ [Yes] -> Ending

+ [No. Take me back to the central square.] ->
GrandPlace

=== NorthernGates_Tunnel

Travelling the sinuous, clearly marked roads of
the Ring brings you to the gate.

- ->->

=== Ending

You exit the city of Vafort.

-> END
```

▲ The complex, impressively detailed map of Ankh-Morpork as it manifests in the *Discworld MUD* (Multi-User Dungeon) by Airk/Kefka.

EVEN MORE TOOLS

Ink isn't the only option when it comes to creating cities made of text. Twine (**twinery.org**) is even easier to learn, though it's also less versatile and elegant – see Wireframe issue 36 (**wfmag.cc/36**) for a guide to making an FMV game with the engine. The excellent Inform 7 (**inform7.com**) allows you to create parser-driven experiences, and the Lantern (**retroteacher.net/lantern**) authoring tool is perfect if you want to develop a text game for any of the major, vintage 8-bit micros.

Big Bang: dealing with a universe of game dev problems

Why project management isn't just the producer's problem, but a key component of game design

AUTHOR
ROB HEWSON

Rob Hewson is a lead designer, game director, and indie studio co-founder who's been making games for almost 15 years. **hueygames.com**

We all understand that a small, highly polished game is better than a large, shoddy one. It's why *Aliens: Colonial Marines* has a 45 on Metacritic while *Super Hexagon* scores an impressive 88. As a lead designer and game director of 15 years, I've spent a lot of time thinking about how to maximise the level of polish in a game, and I've come to the conclusion that an important component is thinking about project management from a design perspective.

As a game director, your primary concern is sculpting and maintaining the vision for your game and ensuring the quality of the final product. Meanwhile, the producer's responsible for keeping the project on schedule. When things don't go according to plan, it can feel like these objectives are in opposition to one another, but they're really two sides of the same coin. It's important to appreciate this, because no matter how good the project plan is, things almost never go as expected. As Hofstadter's law tells us, it always takes longer than you expect, even after you take Hofstadter's law into account. Here's why.

A UNIVERSE OF PROBLEMS

When we measure the progress of a project, we look at tasks and bugs. These are assigned to team members, and the rate of resolution versus the rate of creation gives us a sense of a project's progress. We game directors are horrendous task-generating machines. There is no piece of content too small, too trivial, to escape a torrent of feedback tasks, because the pursuit of quality is paramount, and it never ends.

What's worse is that no matter how many tasks we inject into the ballooning project plan, the total at any given moment is merely a snapshot of the issues currently known to you. They're your observable universe – a visible

⌄ *Super Hexagon* is a great example of the importance of quality over scope.
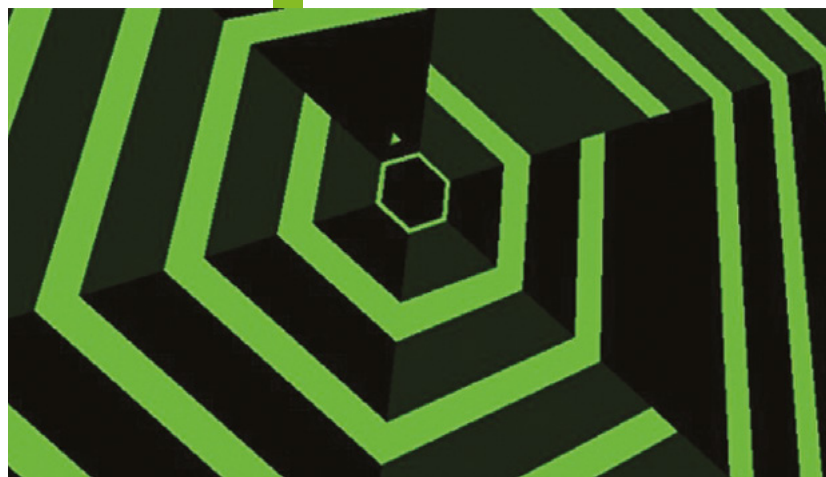
UNIVERSE OF PROBLEMS
(Theoretically Infinite)

OBSERVABLE UNIVERSE
(Tasks & Bugs)

INFLATION
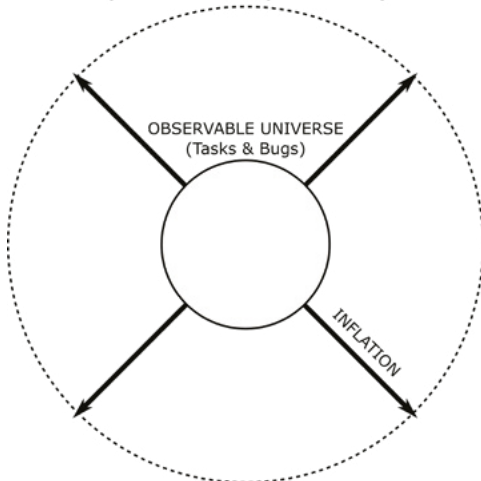
subset of the infinite universe of potential problems in which your project resides. Your game isn't made of ideas and art or imagination and rainbows. It is, at the quantum level, nothing but an infinite soup of problems, the vast majority of which cannot be foreseen.

This universe of problems is both vast and constantly evolving. After the big bang at the beginning of the project, it will and must inflate rapidly, but more importantly, it must at some point begin to contract back towards a big

crunch if you want to release your game. This, of course, is the tricky bit.

Most of the time the problems arise from content taking longer than expected to create, or being scrapped and redone, because it's not up to scratch, or because your team comes up with new, better ideas in the process, but there are many other hidden problems lurking in the darkness. From office politics and legal problems to publisher disputes and power cuts, the list of potential pitfalls is endless.

THE DEVELOPMENT DIAMOND
Your game's content (characters, levels, mechanics, narrative – all the *stuff* which gives rise to the expanding set of problems you will need to solve) is defined and generated during the Inflation phase of what I call the 'development diamond'. But it's in the subsequent Contraction phase that you'll be able to ensure the game's quality. You can think of the Inflation phase as pre-production / pre-Alpha, if you prefer, and Contraction as everything after Alpha. The idea of the development diamond is to depict these stages in terms of the breadth of problems you need to solve to get to a releasable state (see The Ideal Development Diamond). ➡

THE IDEAL DEVELOPMENT DIAMOND

PROJECT START POINT — INFLATION (Pre-Alpha) — Alpha — CONTRACTION (Post-Alpha) — GAME RELEASE — PROJECT END POINT (Theoretically) — Beta — OBSERVABLE UNIVERSE — UNIVERSE OF PROBLEMS

Project Start: A singularity of infinitely exciting ideas erupts in a big bang.

Inflation (Pre-Alpha): The period of inflation is a cauldron of problem creation.

Alpha: The structure of your game materialises and you should begin to see that you are now solving problems faster than you are creating them.

Contraction (Post-Alpha): You gradually collapse the project towards completion. The earlier you reach this phase, the more quality you can apply. The ideal development diamond gives you an extended Contraction phase in which to polish your game.

Release: You have created and solved all the problems you needed to reach a releasable state.

Finish: As Leonardo da Vinci said, "Art is never finished, only abandoned".

Pre-mortems remind us that seemingly impossible things happen all the time.

As the game director, you're responsible for leading the team to define the vision, which also means defining the content, during the Inflation phase. Some people call this the fun part – it's like ordering drinks at the bar on a great night out – just remember that you'll have to deal with the consequences of that extra round of tequila shots eventually. If you overdo it, the hangover will cause a massive delay to the Contraction phase and decimate your opportunity to polish the game to a high level of quality. You might feel, for example, that it would be cool to add a detailed character customiser, or level editor, or extra bonus modes – ideas which the whole team is excited about. But all of these need to be coded, created, reviewed, polished, and tested, which ultimately reduces the polish time on your core gameplay experience. Is it worth it?

The producer can only plan around the content you define, so it's your responsibility to avoid this trap. Ideas are easy, content creation is work, but content quality is everything. Take a careful look at your project plan and think about when you expect to hit Alpha, keeping in mind that you will inevitably overshoot, at least a little.

The longer the Contraction phase, the more polish you can apply to your game. There's a famous quote from Shigeru Miyamoto which is revealing: "A delayed game is eventually good, but a bad game is bad forever". Unfortunately, if you're not in Nintendo's league, then extensive

> **"If you overdo it, the hangover will cause a massive delay to the Contraction phase"**

delay to a project is rarely an option. We must protect the breathing space to polish our games without moving the goalposts.

BUILDING SLACK
A good producer will work with you to build slack into your schedule, but it will soon be eaten up, speaking from the experience of the 20-ish games I've worked on. The universe of problems surrounding your project is infinite, unknowable, and full of black holes from which time can never escape, so how can you protect your Contraction phase? How are you supposed to account for known unknowns, let alone unknown unknowns in advance? Let's begin with the former.

THE PRE-MORTEM
Hindsight is a wonderful thing, and many studios routinely conduct post-mortems to channel lessons learned in hindsight into their next project. However, each project exists in a different universe, and no matter how much you learn from the last one, there is an infinite number of new problems waiting to be discovered. While it's difficult to predict specific problems before they occur, you can help to prepare yourself for the consequences by conducting pre-mortems not just at the start of every project, but routinely at each milestone throughout development.

The pre-mortem works by imagining the scenario in which your project is a failure, and then constructing a narrative which gets you to that scenario from where you are now. Its purpose is to counteract 'optimism bias' – a cognitive flaw which causes us all to assume bad things are less likely to happen to us than to other people.

Imagine yourself, for example, as the US Democrats in early 2016, constructing a narrative for the seemingly impossible scenario in which Donald Trump actually becomes president. As you invent the story of your worst nightmare, you may discover that not only is it less far-fetched than you imagined, but that there are some clear dangers which you can prepare for, if not prevent, by considering and acknowledging them beforehand. So far as I can tell, the pre-mortem concept was originally devised by the Harvard Business Review (**wfmag.cc/premortem**).

THE PCU TABLE

My preferred pre-mortem tool is the PCU (preventable, controllable, unavoidable) table. It works by sitting down with the leads of each department before production begins to imagine a future of a failure where your game is over budget, delayed, and not much fun to play. Sketch out a timeline which takes you from where you are now to that fictional future and write down every problem along the way, before arranging them into the appropriate column in your PCU table.

For all the items in the 'preventable' column, determine the actions to be taken to avoid them. For all the items in the 'controllable' column, agree on the processes you will put in place to rein them in. For everything in the 'unavoidable' column, determine your contingency plans to put in place if and when they occur, or if they are inevitable, build extra time into the schedule for them.

When I was working on LEGO titles at TT Games, for example, we were often working within the constraints of a movie licence. This means you have less flexibility to adapt the story if things get tight, limiting your control over the narrative scope. This went in the controllable column, and the process we put in place consisted of charts depicting all the key plot points from the movie, defining which were essential to cover and whether they should be covered in a cinematic sequence, or in gameplay. The Vita, 3DS, and DS versions we were working on didn't have the cartridge space for all the cinematics of their home console siblings, but we were often able to come up with nifty gameplay sequences to cover certain plot points instead. On the other hand, when I had the privilege of writing the storyline for *LEGO Legends of Chima: Laval's Journey*, this whole problem went away and I could, and did, alter the script when I wanted to shuffle content around to save production time and enhance quality.

Before my LEGO days, I worked on some games with realistic settings, which I soon discovered is a *huge* headache, because every time our team came up with a fun gameplay idea, we had to figure out how to justify its existence in a world with a more limited suspension of disbelief. Can you name a realistic Nintendo game? Why give yourself the trouble of things needing to make sense when you can design more freely in an abstract setting? At Huey Games we've decided never to work in realistic settings with our own IP, basically putting this problem in the preventable column of our company's PCU table for all internal projects.

So, you've completed your PCU table? Congratulations, you've just marginally expanded the observable universe for your project. Do this at every milestone, and you can reduce the delay in reaching the next one, buying yourself a slightly longer Contraction phase to deliver more quality for your game.

There's nothing more satisfying for game developers than being given the opportunity to polish their work before submission day. Don't underestimate the amount of added quality just a few extra days of polish time can produce. I've worked on many games where you can literally see 5–10% being added per day to your Metacritic score in the final few days of development, and sadly on one or two which would have benefited immensely from another week or two of polish – and there's nothing more heartbreaking than that. ➡

◀ Working on movie tie-ins gives you less flexibility to adapt storylines.

WHAT CAN GO WRONG?

There are many ways that your project can go wrong, but they all have the same result; a delay to the Contraction phase.
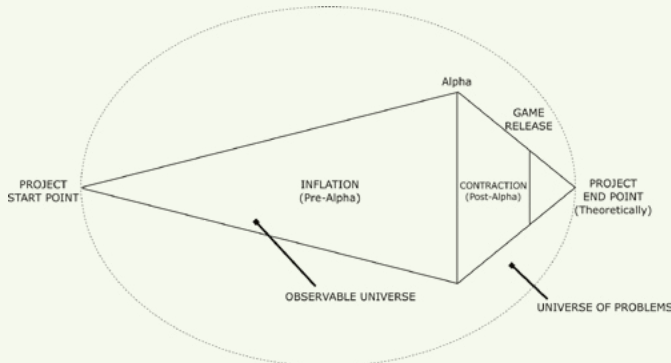

If you over-scope your project, or allow feature-creep to take hold, you will end up with an extended period of Inflation and an intense Contraction period where you are firefighting issues rather than focusing on quality. Over-scope / feature-creep is one of the most common causes of Contraction delay.
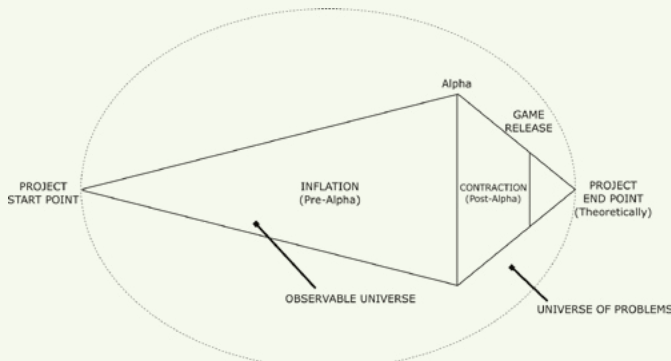
If you spend too long planning content and not enough time actually building it – 'chin-rubbing', as an insightful former colleague of mine called it – you will end up with less content and less time to polish it.
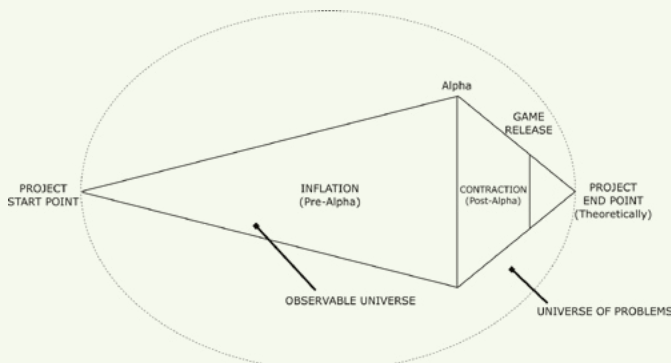
Fail to plan properly, or to stick to your plan, and you will end up with multiple false starts, a bunch of wasted work, less content, and less polish time. Basically, you end up chasing your tail, and it takes forever to kick-start the Inflation phase.

LOVE THE C-WORD

But what about the unknown unknowns – the black holes lurking just beyond the expanding boundary of your observable universe: surely there's nothing you can do about those?

You can't foresee these problems, but you can foresee that they will occur, because they always do. While you can't address unknown unknowns directly, you can make extra space for them by pre-determining the content you'll cut from your game when too many arise and all the slack in the schedule has been exhausted. Let's not pretend that the need to cut content is uncommon. It happens all the time. Better to prepare for it than to pretend it will never happen and be caught without a plan.

Decide what the core vision for your game is and list the essential content you must have to achieve that vision, which should then be prioritised in the schedule. Anything not on the list can potentially go in your cutting contingency, with the most expendable items back-ended to ensure the more important elements are worked on first. Of course, you hope to avoid this content-cutting contingency, and you needn't share it with anybody else on the team, if you prefer to keep your cards close to your chest. Lock it away in the back of your mind instead, ready for a rainy day.

Picture the scene when that rainy day arrives. Project leads are gathered around the boardroom table lamenting all the problems which have knocked the project off course, and discussing how to get things back on schedule, when the producer casually throws the C-word into the conversation. A shiver ripples down your spine, culminating in a prolonged sigh which

⌃ All kinds of cuts were made to *BioShock Infinite* to keep it on track.

sinks the room into silence. The design team had been pushing in futility for more time and more resources, but once again the dreaded 'cutting content' conversation is rearing its ugly head.

Reluctantly, after much protest, you agree to go away and think about it, but you make it clear that you aren't happy. Then, the next day you stride triumphantly back into that boardroom, clutching the ingenious plan you had locked away in the back of your mind, as if you have been up all night working on it.

Experienced game directors learn not only to plan for the cutting contingency, but to actively embrace it as an opportunity to practice design by subtraction and to focus on the features that matter most. Defend crucial content passionately and vigorously, but also be prepared to re-examine the structure of your game objectively. The requirement to cut is just another constraint forcing you to find clever, creative solutions. We did this on one of the games I worked on by cutting a whole chapter of levels and reincorporating the villains of that chapter as interlopers in another section of the game. Narratively, this was a stronger fit for the nomadic nature of this group of bad guys and added a neat twist to the storyline in the process. The end consumer doesn't know what content you planned; they only know what you

"You can't foresee these problems, but you can foresee that they will occur, because they always do"

deliver. They can't mourn content they never knew existed, but they can appreciate a focused, elegant, and polished design.

WHERE'S THE PASSION?

Perhaps this all sounds a bit unromantic. Where's the passion, the creativity, the drive to make something incredible? You absolutely need that, but if you're a game developer, I'm assuming you already have it. We need to recognise reality. Yes, making games is a dream job, but it's also a torturous process full of anguish and despair. Many other jobs are full of stress and pain. The fact that game development is also thrilling, captivating, and wondrous is what keeps us pushing onward through the storm, but it's no use pretending the storm doesn't exist.

Passion and commitment will only get you so far if you aren't equipped to deal with the pain and difficulty of your endeavour. You can't sculpt the vision for your game or ensure its quality in a vacuum. You must do so within the confines of linear time and finite resources. As Theodore Roosevelt so eloquently put it, "Nothing in the world is worth having or worth doing unless it means effort, pain, difficulty... I have never in my life envied a human being who led an easy life. I have envied many people who led difficult lives and led them well." Ⓦ

Source Code
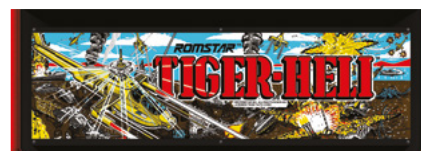
Recreate Tiger-Heli's bomb mechanic
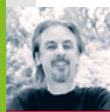
Code an explosive homage to Toaplan's classic blaster

AUTHOR
MARK VANSTONE

R eleased in 1985, *Tiger-Heli* was one of the earliest games from Japanese developer Toaplan: a top-down shoot-'em-up that pitted a lone helicopter against relentless waves of enemy tanks and military installations. Toaplan would go on to refine and evolve the genre through the eighties and nineties with such titles as *Truxton* and *Fire Shark*, so *Tiger-Heli* served as a kind of blueprint for the studio's legendary blasters.

Tiger-Heli featured a powerful secondary weapon, too: as well as a regular shot, the game's attack helicopter could also drop a deadly bomb capable of destroying everything within its blast radius. The mechanic was one that first appeared as far back as Atari's *Defender* in 1981, but Toaplan quickly made it its own, with variations on the bomb becoming one of the signatures in the studio's later games.

For our *Tiger-Heli*-style Pygame Zero code, we'll concentrate on the unique bomb aspect, but first, we need to get the basic

scrolling background and helicopter on the screen. In a game like this, we'd normally make the background out of tiles that can be used to create a varied but continuous scrolling image. For this example, though, we'll keep things simple and have one long image that we scroll down the screen and then display a copy above it. When the first image goes off the screen, we just reset the co-ordinates to display it above the second image copy. In this way, we can have an infinitely scrolling background.

The helicopter can be set up as an Actor with just two frames for the movement of the rotors. This should look like it's hovering above the ground, so we blit a shadow bitmap to the bottom right of the helicopter. We can set up keyboard events to move the Actor left, right, up, and down, making sure we don't allow it to go off the screen.

Now we can go ahead and set up the bombs. We can predefine a list of bomb Actors but only display them while the bombs are active. We'll trigger a bomb drop with the **SPACE** bar and set all the bombs

to the co-ordinates of the helicopter. Then, frame by frame, we move each bomb outwards in different directions so that they spread out in a pattern. You could try adjusting the number of bombs or their pattern to see what effects can be achieved. When the bombs get to frame 30, we start changing the image so that we get a flashing, expanding circle for each bomb.

It's all very well having bombs to fire, but we could really do with something to drop them on, so let's make some tank Actors waiting on the ground for us to destroy. We can move them with the scrolling background so that they look like they're static on the ground. Then if one of our bombs has a collision detected with one of the tanks, we can set an animation going by cycling through a set of explosion frames, ending with the tank disappearing.

We can also add in some sound effects as the bombs are dropped, and explosion sounds if the tanks are hit. And with that, there you have it: the beginnings of a *Tiger-Heli*-style blaster. ⓦ

Making bombs in Python

Here's Mark's code for a *Tiger Heli*-style shooter, complete with deadly bombs. To get it running on your system, you'll need to install Pygame Zero – full instructions can be found at **wfmag.cc/pgzero**.

```python
# Tiger-Heli


WIDTH = 600
HEIGHT = 800
backgroundY = count = 0
heli = Actor('heli1', center=(300, 650))
bombActive = False
bombs = []
bombDirs = [(0,1),(1,1),(1,0),(0,0),(0,-1),(-1,-1),(-1,0),(-
1,1),(1,-1),(-0.5,0),(0.5,0.5),(-0.5,-0.5),(0.5,-0.5),(0,-
0.5),(-0.5,0.5),(-0.5,1),(1,-0.5),(-1,-0.5),(0.5,-1)]
for b in range(0, 18):
    bombs.append(Actor('bomb1', center=(0,0)))
    bombs[b].frame = 0
tankLocations = [(500,-250),(100,-250),(300,-500)]
tanks = []
for t in range(0,3):
    tanks.append(Actor('tank0', center=(tankLocations[t]
[0],tankLocations[t][1])))
    tanks[t].frame = 0


def draw():
    screen.blit('background',(0,backgroundY))
    screen.blit('background',(0,backgroundY-1400))
    screen.blit("helishadow"+str(count%2 + 1),(heli.x+10,heli.
y+10))
    for t in range(0,3):
        if tanks[t].frame < 10:
            tanks[t].draw()
    if bombActive == True:
        for b in range(0, 18):
            bombs[b].draw()
    heli.draw()


def update():
    global backgroundY, count,bombActive
    backgroundY += 1
    if backgroundY > 1400: backgroundY = 0
    heli.image = "heli"+str(count%2 + 1)
    if keyboard.left and heli.x > 50 : heli.x -= 2
    if keyboard.right and heli.x < 550 : heli.x += 2
    if keyboard.up and heli.y > 50 : heli.y -= 2
    if keyboard.down and heli.y < 650 : heli.y += 2
    if keyboard.space : fireBomb()
    for t in range(0,3):
        tanks[t].y = (tankLocations[t][1] + backgroundY)
        if tanks[t].y > 850: tanks[t].frame = 0
        if tanks[t].frame > 0 and tanks[t].frame < 10 :
tanks[t].frame += 0.2
        tanks[t].image = "tank"+str(int(tanks[t].frame))
    if bombActive == True:
        for b in range(0, 18):
            bombs[b].y += 1
            bombs[b].x += bombDirs[b][0]*5
            bombs[b].y += bombDirs[b][1]*5
            bombs[b].frame += 1
            if bombs[b].frame > 30:
                bombs[b].image = "bomb"+str(bombs[b].frame-30)
                for t in range(0,3):
                    if bombs[b].collidepoint(tanks[t].pos) and
tanks[t].frame == 0:
                        tanks[t].frame = 1
                        sounds.explosion.play()
            if bombs[b].frame == 40:
                bombActive = False
    count += 1


def fireBomb():
    global bombActive
    if bombActive == False :
        bombActive = True
        sounds.launch.play()
        for b in range(0, 18):
            bombs[b].frame = 1
            bombs[b].pos = heli.pos
            bombs[b].image = "bomb1"
```


❮ Our homage to the
classic *Tiger-Heli*
arcade game.

How to write:
theme and politics

Theme lies at the core of good writing, political or not.
Here's how it works and how to use it
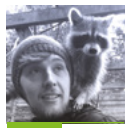
AUTHOR
ANTONY DE FAULT

Antony is Wireframe's game writing and narrative design
columnist. He's also creative director of Far Few Giants, and you can
find his work on **default.games** or **@antony_de_fault** on Twitter.

Simply put, themes are what stories are about. Stories often act as a way in which we explore topics from the real world, and when explored thoroughly enough in a work, these topics become its theme. Through the film *SE7EN*, we explore evil. In the children's book *The Giving Tree*, the theme is exploitation. In *Game of Thrones*, the theme is power. But exploring a theme means more than just featuring it – it means including many different versions of and viewpoints on your theme. In music, a theme is a sequence of notes repeated throughout a body of work, not just played once, and often changes between appearances. The same applies to theme in other media.

For example, *WALL-E* features space travel, but it's not *about* space travel. It's about our relationship with technology. It explores ways in which technology can lead us astray (such as the ship AI), disconnect us from our humanity (consumerism), our planet (the escape into space), even from physical interaction (convenience culture). But it also explores ways in which technology can be made humane. WALL-E himself is successful in endeavours because he cares – a human trait. Robots work with humans to rebuild and recultivate society on Earth. To look at it optimistically, the spaceship's tech is the only reason the humans survived their own foolishness in the first place. By featuring enough different arguments for and against a topic in a work of art, a theme emerges.

To help with writing theme well, I find it's often best to phrase your theme as a question, to which you then create characters or scenarios providing different possible answers. In our *WALL-E* example, we could consider the theme I illustrated very simply as "Is technology good?" Then, when coming up with ideas for the story, I can make sure each one answers that question differently. Of course, great stories often have multiple themes, and each inclusion must satisfy many different thematic angles, but... let's not get ahead of ourselves.

Games, particularly those with interactive narratives, are well-suited to getting a player to engage with theme. Games are mostly a series of decisions, running a wide gamut from where to place your *Tetris* block to whether to spare a treacherous soldier's life. Because games require the player to weigh up multiple options

> *Papers, Please*: an expired passport, but unlikely to cause trouble. Do you help her out, despite personal risk? What is your responsibility to strangers?

Garrus: We can't endanger the mission for a bunch of miners!

We're helping them!
I gave you an order!
He has a point.

❮ *Mass Effect* is constantly reframing one question: "What is the value of one life versus another?"

Empathy

It's often said that any writer's most precious skill is empathy. In order to write deep, realistic, opposing characters, you have to be able to empathise with a wide range of different types of people, to really put yourselves in their head, and in many ways forgive them of the traits they have that you personally dislike. But the same is true of theme; in order to really, authentically express a wide variety of responses to your thematic question, you've got to have the empathy to understand them.

and pick between them, they have the potential to also require the player to make *thematic* decisions, to choose between different answers to the theme's core question. They can force the player to face the theme again and again and again, each time disguised by a new context, and eliciting an ever-refining understanding of how the player feels about the question.

For example, let's look at *Papers, Please*, a game about being an immigration inspector in a totalitarian state. The player must decide who to allow across the border, while also balancing their own family's dire finances and desire to escape the country. Naturally, some border-crossers are terrorists but have the correct paperwork, are sympathetic civilians but don't, or can offer you bribes. But getting caught breaking the rules also means lower pay, and other potential punishments. Every time somebody comes to the window of your booth, you're fundamentally asked the same question: "What's your responsibility to strangers?"

Sometimes, this means a child desperate to reach her parents, who lacks paperwork but has gathered a bribe. She deserves leniency, but there's a risk to yourself and your family, but then again there's the bribe. Let's say you begrudgingly let her in, but you get disciplined for it. Later in the game, there might be a similar child, but who *can't* afford a bribe. Do you do the same again? Does your responsibility to a stranger extend that far? Your answer might differ. Other times, it might mean choosing to deny entry to civilians with all the correct paperwork and a bribe and who threaten you personally, just because their entry to the country endangers the lives of many. And finally, atop it all, there's the fascist communist machine

"Games are well-suited to getting a player to engage with theme"

you're living under, itself an example of how communal responsibility can be mobilised and turned toxic to the detriment of all.

So how to write politics in games? Political stories are simply ones with a strong theme, and whose theme is a political question. If your theme is "Is there extra-terrestrial life?", then there are certainly some almost politics-free stories you could tell while still maintaining a strong theme, but generally, any thematic question regarding society, technology, or humanity is going to be political. This is unavoidable: you can't go far very into a topic like "Under what circumstances do people change?" before you run into scenarios and arguments that are also part of real-world politics, such as rehabilitation, punishment, or financial pressure. If your intent is to write a polemic, ask an explicitly political question, such as: "Is inequality good?"

So in the end, all you have to do is form a question that matters to you, then answer it in as many ways as possible. I'm looking forward to what you create! ⓦ

❮ Note the content of *WALL-E*'s 'bad technology' holograms. It appears to be social media, and video games with gambling-like serotonin-hits ("FUN WIN"). Prescient, for 2008.

GAME
White Shadows

STUDIO
Monokel

RELEASE
TBC 2021

WEBSITE
monokel.de

White Shadows

German developer Monokel is crafting a bewitchingly eerie monochrome world for its debut title, *White Shadows*. It's about a young raven girl who struggles to make her way in a benighted society where birds are treated as outcasts by other species. To create its dystopian landscape, Monokel is using Unity as its engine, while 3D assets are created in Maya. For earlier stages of design, meanwhile, the studio turns to more traditional techniques. "We use lots of pen and paper," explains developer Daniel Wagner. "In our studio, the walls are filled with drawings. It's just like long walls filled with cards of when to do what and how work flows into each other. And we have a huge whiteboard, which is basically the game drawn as one level. And you know, how stuff connects, how we should move it around, what's not working."

Designing a fantasy world bereft of colour is one of the major challenges Wagner and his team have faced so far; for him, it's as much a case of figuring out what to excise from a design, and how to avoid cluttering the game with ideas. "It's making the story clear, concise, and simple enough that I can tell it to the player without having to use words," Wagner says. "So you have to kind of kill your darlings and realise, well, this is interesting to you as a designer, but it's not really interesting to the player. So you have to rework it and rework it… for me, this sort of minimalism is the hardest thing to design. The simple stuff is always the hardest."

Silver Snipers

We speak to a range of older gamers to find out how the hobby's having a positive impact on their well–being

WRITTEN BY
RACHAEL FIDDIS

Video game adverts are awash with fresh-faced young men – and more recently women – hunched over the latest must-have console. But beneath the fountain of youth lies a stream of elderly gamers who love nothing more than picking up a controller and playing anything from *Skyrim* to *Counter-Strike: Global Offensive*.

The stereotypical view that video games are the preserve of children and adolescents is now more myth than fact. Pensioners are playing more games than ever, and in fact, many of them have spent decades enjoying the medium; it's easy to forget that the halcyon days of *Pong* and Atari are now almost 40 years in the past.

Last year, a survey by UK Interactive Entertainment (UKIE) discovered that 42% of Brits aged 55–64 and 27% of the over-65s have enjoyed playing video games in the past five years. Over 40% gravitate to the strategy genre, while 20% prefer multiplayer games. It's further proof that gaming is spreading far beyond the younger generation.

There's a potential mental health benefit to playing games, too. Research (such as a Canadian study published at **wfmag.cc/senior-gaming**) has suggested that seniors who play games even occasionally report better overall mental well-being, and that some forms of cognitive stimulation might delay the onset of degenerative neurological diseases, such as Alzheimer's.

Of course, there's a wide variety of reasons why older adults enjoy games, including the social benefits: online gaming can also provide a valuable connection to the outside world.

DISCONNECTION

The elderly are especially vulnerable to loneliness and social isolation, and this lack of human connection can have a profound effect on their physical and mental health. The ability to forge bonds with online players, then, is a genuine plus. Shirley Curry is an 83-year-old YouTube sensation affectionately known as 'Skyrim Grandma' by her

⌄ **Audrey Buchanan, 88, enjoys playing *Animal Crossing* on her Nintendo 3DS XL as a way to stay socially connected.**

mass of over 900K subscribers. Her nickname springs, of course, from her love of *The Elder Scrolls*; she also refers to her subscribers as her 'grandkids', and believes that playing games has helped to keep her mind in shape. "I think that it has certainly kept my mind healthy longer compared to a lot of people I see around my age," Curry says. "Although, even so, my memory does keep getting worse – but I started gaming 40 or so years ago."

Curry also emphasises the importance of maintaining some kind of hobby to counter-attack those feelings of isolation and disconnect in later life. "As people get older, they should have any kind of hobby that they enjoy," she says, "but so often they don't, so they just sit and feel lonely. I have so many interests that I've never felt lonely. If [older people] want to play online with others, they can make some good and interesting friends to chat with – I know I have. Gaming is just another hobby."

When asked if she thought the games industry could do more to include the older generation, Curry passionately believes that "involving us more in their advertising" and showing older people playing games could help spread the hobby's popularity even further among the elderly.

> "THE ABILITY TO FORGE BONDS WITH ONLINE PLAYERS IS A GENUINE PLUS"
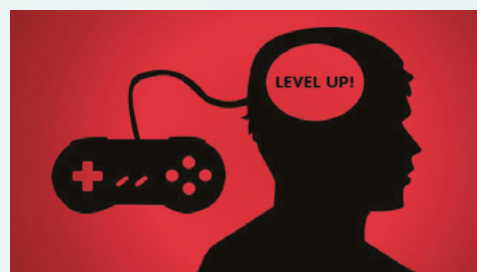
CONSIDERATIONS

All kinds of considerations go into developing a game, from its plot to its mechanics to the tiniest details of its visuals and sound design. But do game developers consider how their game is viewed through the eyes of an older person? Jeff Ross, game designer of the survival horror *Days Gone* at SIE Bend Studio, says that "simply realising there's a broader audience is a start, but in order to effectively serve them it will require a deeper and more thorough understanding of the audience's tastes and preferences, as well as what actually works."

"I think the scientific data is too early to be specifically actionable, so I'd like to see an advocacy group emerge that can teach my industry about the things we can do better," Ross says. "The accessibility movement is a great example of how the community has taught game developers about easy changes that go a long ➡

▲ **Shirley Curry enjoys interacting with her many followers on YouTube while exploring the world of** *Skyrim*.

◀ **Research suggests video games can help tackle the decline in mental age, especially for older adults.**

QUALITY OF LIFE

"I think this movement needs a strong advocate that can further drive research and formulate solid findings for game developers to understand where and how they can make a difference," says Jeff Ross. "AbleGamers is a great example of an organisation that's advancing the cause for accessibility. They're a shining example of how to drive industry awareness on how to make small changes that make big impacts on the quality of life for many gamers."

^ One thing that the industry still needs to improve on is the face of video games: it's not solely for the young anymore.

^ Curry attends game conventions when she can, meeting cosplayers and fans along the way.

way in creating much more inclusive experiences for people who used to be left out. As developers, this gives us tangible action items, and that's the reason I'd like to see the same types of lessons for mental health or cognitive benefits."

CHANGING TIMES

Delving further into ways developers could make their games more appealing to older players, Ross explains the hurdles that could get in the way of this happening. "One big obstacle to dedicated experiences might be how strong 55+ people are on social media," he says. "If you're an indie developer counting on viral awareness driving your sleeper hit, it's not obvious that this is the audience who's going to generate the buzz you need to break out from the pack. Ideally, developers don't look at this as an either/or situation, and can learn to create games with broader appeal, along with gameplay that's tailored to all audiences."

As a self-confessed member of Generation X, Ross says that "the stigma around people of any

"PEOPLE AREN'T ASHAMED OF SAYING THEY'RE SENIORS THAT PLAY GAMES"

age playing games has decreased over the years, but there's still a trace association that games aren't serious or timeworthy, but this stigma is eventually going to fade even more."

Ross cautions that research into the subject is still in its infancy, but adds that "the initial findings bode well for establishing a connection between gaming and positive mental health benefits. It's definitely eye-opening to me in that there's a larger audience we can appeal to, as well as a potential area to improve how we make games for the greater societal good."

John Garvin, *Days Gone*'s creative director and writer, has been playing video games since *Pong* came out in 1972, and believes that older adults value their time a lot more than the younger generation. Garvin says that, for a game to be worthy of an older player's time, it needs to have depth, and speak to them specifically. "Games need to have more to say," he says. "I'm not saying they all need to have a story, but older players value their time more. Sure, time-wasting games on their phones are OK – but are they going to sit down for two hours and play a game that doesn't make them think?"

While reminiscing about his first job – making cartridges for the Atari 2600 – and going on to play every computer game in the eighties on the Atari 800, Garvin ponders whether games have a positive mental health benefit on the older mind. "I've played video games at every stage of my life, and I don't see that changing. Is there a benefit to the mind? I'll leave that to the experts, but I feel like anything you do

CROSS-GENERATIONAL PLAY

"I have young people talking to me all the time about trying to get their grandmas or grandpas to play games," says Shirley Curry. "These studies seem to be affirming the idea that it would be good if the older generation started playing games. But here's the problem: at my age, I wouldn't be able to just 'start' playing games. I wouldn't be able to think fast enough or clearly enough to even learn how to play a game. I started gaming when I was in my late 40s or early 50s, so I was able to 'keep on' gaming. I didn't 'start' at the age of 83. You can't expect an ageing brain to be agile and alert if you haven't been doing something for the years prior to help it stay that way."

The Silver Snipers was formed with the help of Lenovo, who wanted to put a senior gaming team together.

to engage yourself mentally – reading, puzzles, movies, poetry, music, conversations, video games – is beneficial."

While some elders find learning complex controls a daunting process due to arthritis or slower motor skills, there are plenty of older adults who are proficient enough to enter the competitive world of eSports.

JUST A NUMBER

Counter-Strike, a first-person shooter which calls for extremely fast reflexes, isn't necessarily a game you'd associate with the elderly, but with nicknames that include Wanja 'Knitting Knight' Godänge and Inger 'Trigger Finger' Grotteblad, the Silver Snipers are here to turn everything you think you know about senior citizens and video games on its head.

The veteran eSports team from Sweden, whose squad ranges in age from 62 to 81, compete in *Counter-Strike: Global Offensive* tournaments partly due to the positive mental health benefits it provides, and also to be part of a younger gaming generation. "They make me feel a lot younger when I'm gaming with them, and the physical aspect is that my brain and hand co-ordination has increased," says Godänge. "I can feel that my brain, with all that strategy and thinking, is keeping me on a healthy path. I have also noticed that my response time in the games gets faster."

Grotteblad says that since getting into gaming, she's made friends both on and off the screen.

TOMORROW'S SENIOR GAMERS

"They haven't considered us as a target group," says Silver Sniper member Abbe 'BirDie' Drakborg of the current games industry. "I think some games should work on having an easier access level from a user experience point of view. I would say that there is no age limit in gaming. Gaming is for everybody."

"It's not uncommon to bump into other gamers in their 60s, and people aren't ashamed of saying they're seniors that play games."

She also says that before she started gaming, she didn't have as much in common with her grandchildren; now, it's an interest they can share.

Whether older gamers play games for their mental well-being or simply out of habit, it's clear that they're the future of an ever-changing and maturing industry. "The youngsters that are gaming every day now will soon get old, and it won't be too long before it's common that all seniors are gaming," Grotteblad points out. "For example, *Counter-Strike* has been around since 1999, and if you started playing that when you were around 15 years old, you would now be pushing 40. So this is only 20–30 years away. The industry needs to be prepared and develop games and equipment that are suited for the demands of tomorrow."

Developers and publishers are only just starting to take notice of a market that doesn't fit the 'traditional' mould of teens and 20-somethings, but there are at least signs that things are beginning to change. And they absolutely should: let's face it, we'll all be Silver Snipers one day. Ⓦ

Gaming is for the elderly, and the Silver Snipers are on a mission to prove it as they compete in tournaments that include DreamHack in Stockholm, Sweden.

Interactive

How I made... There Is No Game: Wrong Dimension

Pascal Cammisotto tells us how he made a viral game jam project into a one-of-a-kind narrative puzzler

▾ **There Is No Game**'s developer, Pascal Cammisotto.

From the moment it begins, *There !s No Game: Wrong Dimension* refuses to play nicely. Where most mainstream experiences try to ingratiate themselves with tutorials or friendly nuggets of advice, *There No Game* actively works against the player: it opens with little more than a static title screen and a disembodied voice that implores you to turn your computer off and do something else. The more you click around, tinkering with the letters that make up the title screen, the more frustrated the voice becomes – until, gradually, *There Is No Game* opens out into a clever and unexpectedly heartfelt meditation on the games industry, the medium's conventions, and the nature of creativity. There are nods to everything from bat-and-ball games to point-and-click adventures to *Zelda*-like action adventures to money-grabbing mobile apps. It's a funny, weird and, ultimately, deeply personal game for French developer Pascal Cammisotto and his indie studio, Draw Me A Pixel.

When it emerged in August 2020, *Wrong Dimension* marked the end of a creative process that began at a game jam way back in 2015, where Cammisotto's winning entry, simply titled

There Is No Game, unexpectedly went viral thanks to the attention of some high-profile YouTubers. That success led Cammisotto to launch a Kickstarter campaign for an expanded version of his oddball puzzler; when that attempt failed, he choked back his disappointment, sought alternative funding, and put his experiences as an indie developer into the game itself. "Surviving as an independent game developer is, each year, more and more complicated," Cammisotto tells us. "But after the unexpected success of the jam game, creating a commercial version of this concept was an opportunity for me to keep my creative independence while perhaps finally being able to make a living from it. But before that, I needed some seed money. So I did this Kickstarter campaign, which unfortunately failed. Despite the hundreds of emails we sent to all the international press and influencers who had tested the jam version, nothing. No news. No one was informed. So I had to finance the project with my own funds without paying myself for several years. That's why I decided to integrate the crowdfunding campaign failure in the game story. Let's be 100% meta!"

Cammisotto's original game jam entry was a ten-minute point-and-click experience; his first

challenge, then, was to figure out how to expand his short, snappy concept into something longer and more in-depth. "I started to think about how to make a game that lasts several hours on a concept that ends in ten minutes, all the while surprising the player every time," he tells us. "The concept of the dimensional journey then quickly seemed to me to be the solution – travelling in different video game dimensions, constantly changing the theme, the point of view, and the atmosphere. But there had to be a common link through this journey, so I wrote the foundations for the story; a story that would give an unexpected meaning to the title, 'There is no game', once the game was finished."

There Is No Game is one of those titles that is best left unspoiled, since its element of surprise is what makes it so unique. It's perhaps sufficient to say that its puzzles take the player in all kinds of unexpected directions – and it's the game's mix of genres, Cammisotto points out, that made development more complex. "*Everything* in the game takes a lot of time because there's almost no reuse [of assets] from one chapter to another," he says. "Even when it comes to programming, each chapter is unique. It feels like you've made six different games. That's one of the reasons why it took so long to make."

Although Cammisotto had some help during development – pixel artist Nico Nowak worked on one particularly gorgeous section of the game – *There Is No Game* was still largely a solo project. This meant that, as well as writing and designing the game, he also provided its gruff, distinctly Gallic voiceover. "That's probably where I had the most nervous breakdowns," Cammisotto admits, "because it was all homemade – [there was] no budget to do it in the studio. Between my pronunciation problems,

"I had to finance the project with my own funds without paying myself for years"

the noise of cars passing in the street, and a change of microphone, I had to record the entire narrator's dialogue three times!"

Despite – or even because of – all these challenges, *There Is No Game: Wrong Dimension* has emerged as one of the most unique and refreshing experiences of 2020. It feels of a piece with the boundary-pushing games developers like Mel Croucher were producing in the 1980s, yet perfectly attuned to the creative risks indie devs face in the 21st century. It's also possible to imagine another game of its type, which gently probes at the conventions of other game genres – so is that something Cammisotto's considered? "Now that the story is over, I don't see any reason to travel again in new parodied video game worlds," he says. "Right now, there's no sequel planned. But maybe, in the future, a new idea will sprout in my mind and the user will get stuck in a non-violent *DOOM*-like, or on a battle royale island with no players. Who knows?" ⓦ

There Is No Game: Wrong Dimension is out now.

JAMMIN'

As mentioned, *There Is No Game* originated at a game jam – specifically, Deception Jam, held by Newgrounds in 2015. The prize? A shiny Xbox One. "As its name suggests, the theme was 'deception,'" Cammisotto tells us. "In French, [the word 'deception'] means 'disappointment'. But the real meaning in English is a 'fraud', a 'lie'. So I quickly had to come up with a new idea, and I started from a question: 'What is the biggest lie a game can tell us?' Well, that there is simply no game. So I started with that title idea, '*There Is No Game*', and then iterated my gameplay and story from there." The resulting game was placed first, and Cammisotto walked away with that shiny console.

CREATIVE TO THE
CORE

The YouTube of gaming? Manticore Games takes us under the hood of its free-to-play creative sandbox, Core

WRITTEN BY
RYAN LAMBIE

^ Your avatar remains constant across most of Core's games.

Core is particularly suited to building fantasy/historical settings, but different sorts of modular parts are regularly added.

Frederic Descamps is full of anecdotes. He tells us about the receptionist who lost her job in the middle of the Covid-19 pandemic, turned to the idea of making games in her new-found spare time, and wound up winning a game design contest. Then there's the intensive care nurse who made a competition-winning fantasy game in just a few weeks. The 55-year-old retiree who's gone from IT security to making arcade games.

Descamps is talking about Core, a game creation and development platform now in open alpha, and his enthusiasm for the project is infectious. "We're basically creating a user-generated content multiverse," he tells us. "That sounds very grandiose, but it's truly what we're doing. It's kind of akin to YouTube or Twitch, but for game creation. We're not gonna say game development, because the democratisation of game development is Unity, whereas the democratisation of game creation [is Core]."

The notion of a package that makes designing games approachable for newcomers isn't a new one. We saw things like Sensible Software's Shoot-'Em-Up Construction Kit (SEUCK) in the eighties, and applications like Klik & Play and GameMaker in the 1990s and 2000s; most

recently, we've seen Media Molecule's Dreams, the huge popularity of Roblox, while E-Line Media has The Endless Mission in Early Access.

BUILD AND SHARE

Core shares certain aspects in common with Roblox; they're both free to play, both give players the ability to build and share their own games, and both use Lua as an optional scripting language. What Core offers, however, is a fast and almost seamless integration between playing and creating games; once you have the client installed, games can be explored and loaded with impressive speed, while for creators, it's possible to make and share a simple idea with the click of a few buttons. Those ideas can then be collaborated on with other members of the platform community, so it's theoretically possible for large groups of remote users to make games together. It's all part of San Mateo-based studio Manticore's plan to make "the YouTube of gaming" – a place where creators can potentially make a living from building and sharing their ideas.

For Descamps, Manticore's CEO, the desire to make Core comes from his early experiences in the games industry. As a youth growing up in northern France, he found breaking into his home ➡

Player
relativities
grimland
SnoFlak
Onyx520
chickeninabasket

[All] relativities: lol

Push   Roll   TEMPORARILY DISABLED

You can make just about anything in Core, so some users have already built 'homages' to *Fall Guys*.

RUN DMCA

When users began making and sharing their level designs in *LittleBigPlanet* back in the PS3 era, they'd sometimes find their creations quietly removed if they infringed copyright. So what is Manticore going to do to stop Core's users from infuriating Nintendo with a *Super Mario Galaxy* clone, say? "The IP owners have very easy access to us if they want to make a [take-down] request," Descamps says. "It's a UGC platform, so it's open, [but] there are some boundaries. First of all, we don't target kids – you have to be 13 and up. And there are certain forms of content that are not welcome on the platform… to be candid, it's self-policed at this point. There's stuff we will take down if we see it, and then we have the copyright stuff – if you find a copyright issue with some of the content you see, you can contact us and we'll take care of it promptly."

country's eighties development scene difficult; he'd tried dropping his CV in at Ubisoft, but never got a reply. In the end, Descamps moved to the US to follow his ambitions – his and Manticore co-founder and CCO, Jordan Maynard's previous company, A Bit Lucky, was eventually sold to Zynga. "When I was in my 20s and I wanted to get a job in gaming, it was so hard because it's such a closed industry," Descamps says. "And today, it's much more open – even average business people like me can find a job in gaming. But if you're a creator, it's really hard, right?"

In 2016, then, Descamps and his team at Manticore began work on Core – a platform designed to "bring a new generation of creators to gaming". Four years on, Core's in open alpha, and, according to Descamps, now boasts a community of players and creators that numbers in the hundreds of thousands.

Delving into Core for ourselves, we certainly found the platform to be simple and quick to navigate: within a few minutes, we'd sampled a first-person shooter called *Sniper Alley*; a ball-control action game called *Roll-'em*, and an MMORPG called *Legend of Corinthia*. Making games, meanwhile, is as simple as hitting the big 'create' button at the top of the main menu – this leads you to a handful of options: you can start a new project entirely from scratch, or choose a preset game type, such as a third-person shooter or a top-down dungeon crawler and use one of those as a jumping-off point. "We really honed in on the concept of 'opt-in complexity', where we give you 80% of what you would want to do just out of the box without having to do anything,"

says Maynard, as he demonstrates a few of Core's features to us on a video call. "If I hit the Play button, I've already got a third-person avatar that I can move around. And if I hit publish on this, within ten seconds, it will be up in the cloud. So we tried to streamline as much as possible the process of getting to the fun. And we did that with every aspect of game creation, including programming, where if you just want some simple game mechanic like last man standing, you can drag and drop a component and it does that for you. You don't have to know how to code it."

In our experience, Core's UI is logically laid out, and anyone who's used a 3D package or Unity will immediately feel at home with the tools on offer – as Maynard points out, Core allows users to immediately test their creations mid-flow by hitting the Play button on the UI, just like Unity. Absolute newcomers may need to delve into the documentation and tutorials Manticore have lined up, but Descamps maintains that some of the best games yet made on the platform were created by complete beginners – which leads us to more of his success stories.

HEALTHY COMPETITION

Back in September, not long after Core's alpha launch, the team announced the Design-A-Dungeon Contest – a competition to see which user could create the best Dungeons & Dragons-inspired game in just four weeks. This is where the ICU nurse, the out-of-work receptionist, and a number of other newcomers showed up with their award-winning entries. "Two and a half weeks into the DND contest," Descamps recalls, "a creator
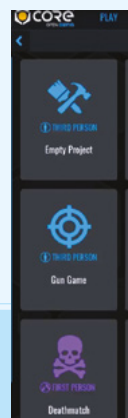
submitted a game and I was, like, 'Oh wow.' It was an amazing game – polished, tightly made, full of story. My bet was that it was made by a pro. It was too good. It's a pro who wants to show off."

Instead, "it was a small group of friends in Ukraine," Maynard chips in. "They had no prior game development experience."

"Like in RPGs, the game industry has rules," Descamps says. "So you can be an artist, a UI artist, a programmer, but if you want to change lane, you're not typically allowed, right? But here we're changing that. We have artists who are making for games; we have engineers, UI or UX designers making games. And so it's kind of a new paradigm shift."

Key to that shift will be Descamps' pledge that creators will one day be able to make money from their creations. "From the get-go, we wanted people to be able to make money, and maybe even make a living from Core," he says. Although details aren't confirmed at the time of writing, creators will apparently be able to sell items or season passes for their game, while players will be able to make donations to their favourite creators, Patreon-style.

With Core, users are able to make games in even complex genres – multiplayer shooters and MMOs, for example – without the risks of huge overheads like server costs, Descamps says. "Ninety percent of games are commercial failures right now; not creative failures, but commercial failures. They're always running out of money. An average game takes dozens of people typically two to three years – and sometimes tens of millions of dollars to make. But [with Core], most of the games on the platform are made by one or two people... I think that the traditional gaming industry should be a little scared. Because when you see the quality of what people are able to produce, and then for the player, it's really kind

▲ Bashing together level designs is pleasingly quick, with modular parts which can be scaled, rotated, and positioned within seconds.

"It's really an endless arcade or universe of games"

of an endless arcade or universe of games they can explore."

Core itself represents something of a risk, of course: the platform's success hinges on the support of its community and the quality of the games it creates. Core already has the likes of Roblox and Fortnite Creative to compete with; and while there are some fun titles on offer in Core at present, it isn't yet clear whether the platform will really produce something on the same scale and level of polish as *World of Warcraft*, as Descamps boldly suggests, or something as attention-grabbing as Mediatonic's unexpected mega-hit, *Fall Guys*.

Still, Core has some hefty support behind it – Epic Games pumped $15 million of investment into Manticore in September – and Descamps and Maynard are optimistic about their platform's chances. "If you look at the games industry over the past 15 years, I think most of the innovation has come out of the mod scenes," Maynard says. "*League of Legends* came out of the *DotA* mod scene, and *PUBG* came out of the *Arma 3* mod scene. But the barrier to entry to making a mod is really high. It's super-technical to mod *Arma 3* to your will. So what we're really hoping is that for every Brendan Greene, who's able to make a *PUBG*, there's maybe ten other people who have as good an idea, but just didn't have the wherewithal to slog through it for ten years... I really believe that we're gonna see all kinds of really cool new genres emerge that had not been possible before." ⓦ

▲ Manticore Games founders Frederic Descamps (left) and Jordan Maynard (right).

THE FUTURE

There are plans to move Core from open alpha to Early Access in the near future, and looking further ahead, Manticore also has a port Core to consoles and mobile in the works. Meanwhile, Core's Creator Economy should be getting started as you read this. Says Descamps, "The Creator Economy is this pilot program where we have put over a million dollars, probably closer to $1.5 million, to give to creators. It's based on the merit of their game, meaning [player] activity, engagement, etc. We have 120 creators or more in that program, and some are making good money now."

⌄ In Create mode, you can begin a new project based on pre-existing core templates, like Dungeon Crawler or Team Death Match.
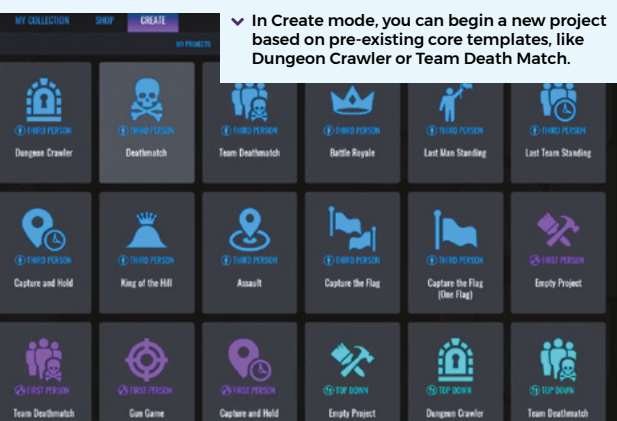
Online Diary

GITTIN' GUD

The new generation is here! Time to play
Call of Duty: Black Ops Cold War, I guess...

WRITTEN BY IAN 'GUNS' DRANSFIELD

There's comfort to be had in relative cowardice: you can't quite escape the mania of a *COD* online game, but you can sit on a big gun and try to bag some baddies that way.

Just when I think I'm out, another few months pass, a new generation of consoles launch, and the temptation to jump back into *Call of Duty* returns, if only to see what gimmick has been introduced to prise what little free time we have in the world out of our hands. Yes, friends, I did indeed spend actual time in my actual life playing *Reagan Simulator 2020*, aka *Call of Duty: Black Ops Cold War*. And I honestly couldn't tell you what's different about it all.

But these aren't the pages to critique in detail – these are the pages journaling an ongoing journey; one of trying to find a single game out there that can be played online, repeatedly, without making me want to pull my own brain out and fling it over the nearest rainbow. *CODBLOPSCW* is not going to be that game, it's fair to say, but it did actually do two things very well indeed: moment-to-moment, heart-racing action, and *choice*.

The latter first, because I'm a renegade – Activision and its (approximately) 900,000 studios working on the *COD* behemoth has come up with plenty of different modes in which you can play the games over the years. Rather than dropping them (though some are dropped), plenty of things end up carrying over to the next game – and that's led to where we are today with *Cold War*, where there's multiplayer and its dozen or so different modes; Warzone, the take on battle royale that does a decent job of it; and the ever-popular Zombies spin-off ('spin-in', given it's included in the main game?). Safe to say, there's a lot of game to be had, a lot of different ways to play, and a lot of different potential things to get their claws well and truly into you. Gosh, *Call of Duty* tries *hard* to get its claws into you.

I spent no time with Warzone beyond seeing if it worked – it does – because I played that relatively recently. Instead, I focused on the main multiplayer portion and was a mix of pleasantly surprised, bored out of my mind, left feeling exactly how I expected to feel, and utterly infuriated. *Cold War* is, safe to say, another *Call of Duty* game. Straight-up deathmatch, team or otherwise, does the job in a pinch – it's big dumb fun, but it's where I spent most of my time dying within seconds of spawning, be it from some bugger shooting me through a 2 mm gap

After a few games, my kill-death ratio had risen to almost 1.0. Spoiler: it never actually hit 1.0.
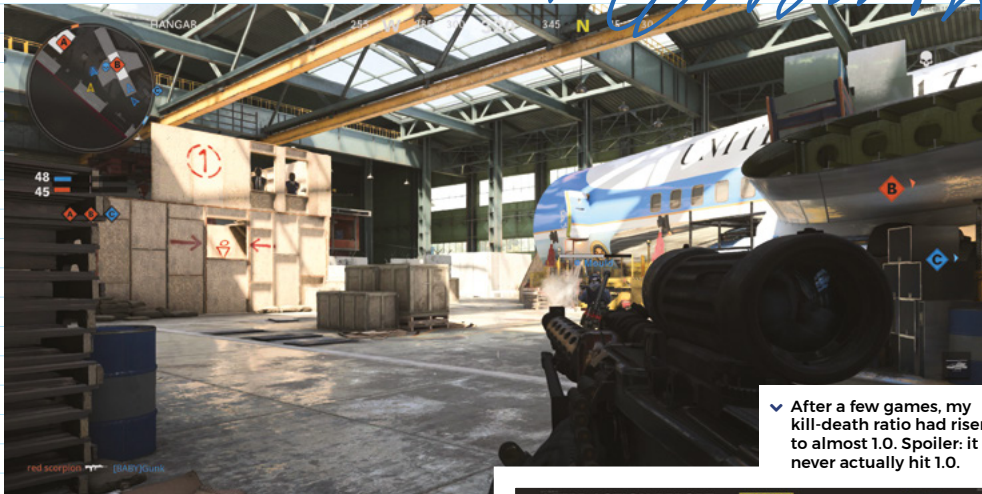
This level is, quite frankly, bloody brilliant. You can hide in a plane!

around a corner, some other bugger stabbing me while I looked right when I should have looked left, or the ultra-buggers who drop bombs on you because they're so good at the game they deserve to be more powerful(?).

No, that's not the fun. The fun comes in modes where you have to think *a tiny bit*, where you have to capture hardpoints – like in Hardpoint – or endure the ever-swaying to-and-fro of a conquest, sneaking in around the back to try and capture point A while everyone's fighting over point C (top tip: do that). There's even some new newness here in *Cold War*, as I found, with Fireteam: Dirty Bomb offering both a fresh take on the larger game modes (40 players, teams of four), while also getting my Spider-Sense tingling that a game about stealing uranium to make and detonate dirty bombs is the sort of stuff nightmares are made of. *Call of Duty*: you do parody yourself.

The Fireteam stuff lasted a couple of games, but honestly, I just wasn't able to wrap my head around it – more because I couldn't be bothered than anything else, I'll be honest, but also because the call of something else (not duty) came on strong: zombies. Zombie mode in *COD* has always been a hoot, and in *Cold War* it's no different, even if there are even more cutscenes to skip this year. But rather than getting caught up in the usual blast-the-undead FPS bit, I instead allowed myself to be drawn to the gimmick I'd always avoided: Dead Ops Arcade. This time it's Dead Ops Arcade 3: Rise of Mamaback, specifically, but the template has been the same since the original *Black Ops* –

> ## "There's a lot of game to be had, and a lot of different ways to play"

it's a top-down twin-stick shooter you can play with others, where you battle waves of zombies, pick up power-ups, and all that gubbins, and it's brilliant.

By no means did I expect this to be where I spent most of my time, but then maybe that's a comment on me as a player: I'm not good enough at the core *COD* action – much as my skills improved in the few sessions I played, there's a serious plateau that hits after not too long, and it just gets... well, *boring*. Dead Ops, meanwhile, is *Smash TV*. I still like *Smash TV*. So I'll keep playing Dead Ops. Feels like a bit of a daft reason to download about 200GB of data, mind you.

Just as with *COD* Warzone a few issues ago, I don't actually *dislike Cold War*'s online offerings, it's just not something for me. Not something to stick with, or get particularly good at. I genuinely barked with joy at taking out five (or was it six?) opposition team members in quick succession thanks to a smartly placed proximity mine, and the few times some of us worked together it really did become more than the sum of its parts. But neither of those things is unique to *COD*, or any game. Everything is more fun when you do well at it. Everything is more fun when you play it – together, as a team – with others. Especially *Smash TV* homages. ⓦ

TOP TIPS FOR WAR-GAMES
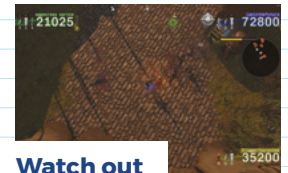
Watch out
Don't get stuck playing the same mode/s over and again – *Cold War* has plenty to mess about with, allowing you to find something that suits you. For example, I found the Zombies arcade game was something I was officially not terrible at. Huzzah!
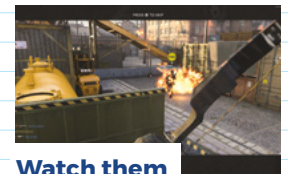
Watch them
Killcams are a good way to see two things: how idiotically you behave while running around like a head-lacking chicken; and how well others act in the game. Fix the former, emulate the latter, and you *should* get better at the game.
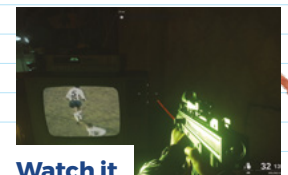
Watch it
When you get bored of shooting people with accents different to yours, why not stop and watch some looping video footage? You can see: old football, CCTV footage, and Reagan's swearing-in ceremony. What more do you need in life?

No article on the Mega Drive would be complete without a mention of *Sonic The Hedgehog* – the game that helped the system shift around 30 million units worldwide.

Sega Mega Drive

In terms of global success, the console was Sega's finest hour, and arguably changed gaming forever

It was sleek. Curvaceous. Futuristic and faintly Gothic, like something the Caped Crusader would build in his Batcave. Compared to the angular cream or grey boxes of previous generations, the Sega Mega Drive looked refreshingly different when it first hit Japan in October 1988: functional, but with more than a hint of cool. There were futuristic-sounding things going on beneath its plastic shell, too: powered by a Motorola 68000 processor, the Mega Drive was the first true 16-bit console on the market, beating its rival, Nintendo's SNES, to the shelves by a little over two years.

There was a sense, as word spread of the Mega Drive in the late eighties, that Sega had learned some valuable lessons from its earlier attempts at cracking the console market: the 8-bit Master System had sold well in territories like Europe and Brazil, but Nintendo had already dominated Japan and America with its NES, released two years before Sega's offering, and enjoyed the kind of third-party developer support the Master System could only dream of. Sega may have had an entire back catalogue of arcade games to convert to its home systems, but Nintendo had already struck exclusivity deals with some of the best developers of the era, including Konami, Taito, and Namco – basically, if you wanted to publish a game on the NES, you couldn't put it out on any other platform.

▲ *Altered Beast* was the big pack-in title until a certain hedgehog came along. It was a plodding brawler, but certainly showcased the Mega Drive's graphical oomph.
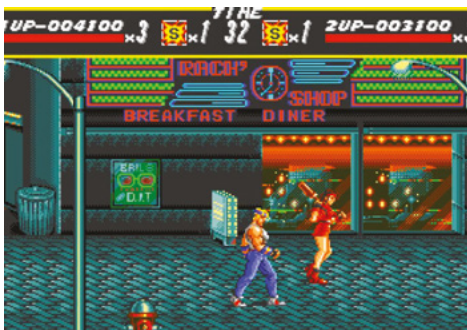
▲ Games like *The Revenge of Shinobi* and *Streets of Rage* felt like proper arcade games, but provided experiences unique to the Mega Drive.

By the end of the eighties, however, Sega must have seen an opportunity to strike first; the NES was beginning to look long in the tooth, its successor was nowhere to be seen, and some of those developers that had once queued up to sign deals with Nintendo were beginning to smart thanks to the company's aggressive licensing terms. By the time the Mega Drive launched in 1988, Konami and Namco had begun to look to other systems for their games, leading to the release of such titles as *Contra Hard*

"The Mega Drive looked refreshingly different when it hit Japan in 1988"

Corps, *Rolling Thunder 2*, and *Castlevania: Bloodlines* on Sega's 16-bit console.

Meanwhile, western developers also began to regard the Mega Drive with interest: EA's support for the system, with sports games such as *NHL Hockey* and *John Madden Football*, were pivotal to its broader appeal in the US beyond the typical gaming audience of the early nineties.

The Mega Drive's hardware – similar to that which powered its System 16 arcade machines – also made for a serious audio-visual leap over the previous generation. Launch titles like *Altered Beast* and *Space Harrier II* didn't offer much in the way of depth, but they were a convincing demonstration of the Mega Drive's prowess; more cannily, Sega soon opted to develop new experiences as well as straight arcade ports: the likes of *The Revenge of Shinobi*, *Castle of Illusion*, and *Phantasy Star II* were among a killer early wave of games that emanated from Japan in the late eighties.

SONIC YOUTH

All of this helped the Mega Drive firmly take root in the US, where it was launched in August 1989 as the Genesis ➡

Mega Drive Europa

It's easy to look at the Mega Drive through rose-tinted spectacles, but in reality, being a Sega fan in the early nineties wasn't always a bundle of fun – particularly if you lived in Europe. First, residents of the PAL region had to wait almost three years for the Mega Drive to launch – it didn't appear until September 1991 – and just to add to our woes, the PAL version of the console ran roughly 17 percent slower, with the image joined by an ugly black bar at the top and bottom of the screen. Little wonder that grey imports were such a big deal back then; gamers with deep-enough pockets (and a multiscan television) could get hold of a Japanese console – and a copy of, say, *Strider* – years before Sega launched the system officially.

◀ The marketing war between Sega and Nintendo in the Mega Drive/SNES era was, of course, legendary.
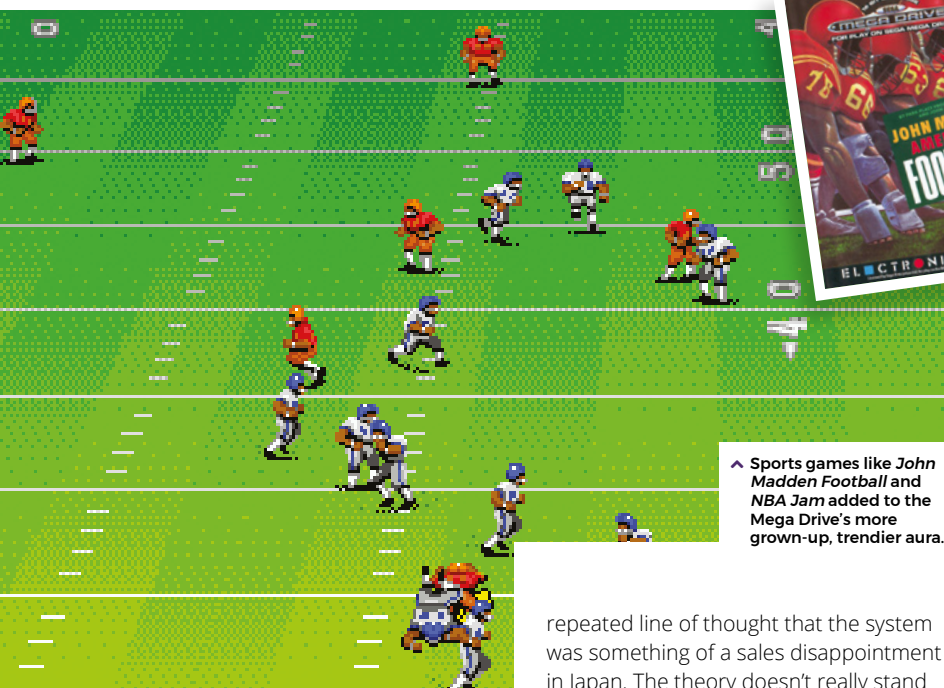
▲ Sports games like *John Madden Football* and *NBA Jam* added to the Mega Drive's more grown-up, trendier aura.

(the Mega Drive name was reportedly already taken by another tech company). *Sonic the Hedgehog* was, of course, Sega's killer app: released in 1991, the blue blur was a rival to Nintendo's *Super Mario*, showcased the console's speed and trendier edge, and epitomised Sega's growing swagger at the height of its powers. Between the speedy platforming of *Sonic* and a growing library of quality third-party releases, Sega had established a solid platform by the early nineties: one well-placed to capture the market from those who were beginning to grow out of the NES's more family-friendly image.

The Mega Drive's success continued as it rolled out across Europe and the rest of the world in 1990, but there's an oft-repeated line of thought that the system was something of a sales disappointment in Japan. The theory doesn't really stand up to much scrutiny, though; sure, the Mega Drive had more competition from NEC's PC Engine and its variants, which were hugely popular on those shores, but the Mega Drive still held its own with a user base of around 3.5 million. It's worth noting, too, that Sega continued to push the Mega Drive in Japan through the first half of the nineties; where the Master System was pulled from the market with only 85 games released in its home territory, the Mega Drive had well over 400 Japanese games launched for it between 1988 and 1996. Later add-ons, like the Mega Modem and the Mega CD, were also released in Japan – hardly the sign of a failing platform. (The timeline below provides a taste of the staggering number of variants Sega put out during the Mega Drive's lifetime.)

Inevitably, the sleeping giant that was Nintendo finally stirred into life in November 1990, and its next-gen console, the SNES, was a formidable opponent. The Mega Drive had a faster processor on paper (7.68MHz versus Nintendo's 3.58MHz CPU), but the SNES could display a richer colour palette of up to 256 colours at once, and boasted custom chips which could scale and rotate sprites, as well as render all kinds of nifty transparency effects. Even the most die-hard Sega fan must have surely looked at the rolling fog in *Super Mario World* or the 3D effect of *F-Zero* and felt at least a small pang of jealousy.

With the arrival of the SNES came the now infamous console wars of the 1990s – it was a battle Sega never really stood much chance of winning in the long term, at least in the US, but it's quite impressive just how strongly the Genesis continued to perform in that territory. Where the Master System was little more than a rounding error in terms of market share, Sega ended the Mega Drive era with something like a 55 percent share of the American market, according to Sega boss Hayao

> **"Sega ended the era with a 55 percent share of the American market"**

The Mega Drive timeline

MEGA DRIVE
Release:
October 1988

POWER BASE CONVERTER
Release:
1989

MEGA MODEM
Release:
November 1990

TERADRIVE
Release:
May 1991

MEGA-CD
Release:
December 1991

WONDERMEGA
Release:
April 1992

MEGA DRIVE II
Release:
1993

Nakayama. It was a victory that Sega gradually frittered away through a series of questionable business decisions, not least the calamitous release of the 32X in 1994 – a performance-enhancing add-on that had all of 40 games made for it during its short lifespan. By then, Sega had launched its next-gen console, the Saturn, Sony had thoroughly disrupted the market with its PlayStation, and the Mega Drive's halcyon days were drawing to a close.

A MEGA LEGACY

So what did the Mega Drive leave us, besides a library of games and a whole lot of nostalgia? We'd suggest that its impact on the games industry extended far beyond the life of the system itself. Years before the PlayStation, the Mega Drive sought out an audience beyond the very young; Sonic the Hedgehog was the system's sassy poster boy, but as mentioned earlier, licensed sports games like *NBA Jam* and *FIFA* successfully courted the kind of older demographic that Sony would later capture in the mid-1990s. The sometimes absurd controversy that swirled around games like *Mortal Kombat* and *Night Trap* only added to the Mega Drive's 'edgy' persona. Indeed, it's possible to imagine an alternate timeline where Sega of America kept this audience, and Sega maintained its footing as the Mega Drive aged and the Saturn came in to replace it. While the 32X and Mega CD almost certainly tarnished Sega's reputation in the eyes of its gaming public, the hardware

was only part of the story. Later in the Mega Drive's life, Sega of America waved through an increasing number of poorly-made and often downright bad games, ranging from bland platformers (*Chakan: The Forever Man*) to licensed tosh like *True Lies* and *Cutthroat Island*. The Mega Drive's success put Sega in an extraordinarily strong position in the early nineties, and the system itself was and remains a brilliant one: perfect for its moment in time, and so cleanly designed that it's still a joy to use 32 years later. Had Sega been more careful with its next moves, then maybe the Saturn and Dreamcast could have replicated its success – though that, of course, is a whole other story. Ⓦ
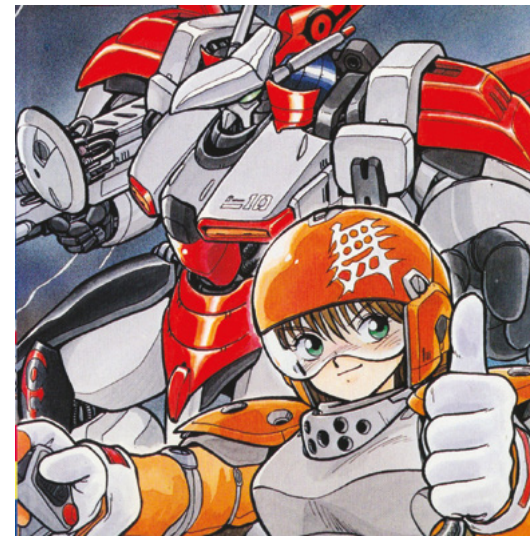
▲ The MD boasted some great shooters, including *MUSHA* (above) and *Trouble Shooter*, aka *Battle Mania* (above left).

▼ Despite some risqué advertising and the promise of faster and better graphics, the 32X add-on failed to take off.

MEGA-CD II
Release:
April 1993

AMSTRAD MEGA PC
Release:
1993

32X
Release:
1994

MEGA JET
Release:
March 1994

MULTI-MEGA
Release:
April 1994 (US)

NOMAD
Release:
October 1995

GENESIS 3
Release:
1998

10 rare Mega Drive
masterpieces

Not all obscure, collectable games are great.
But these Mega Drive corkers definitely are...
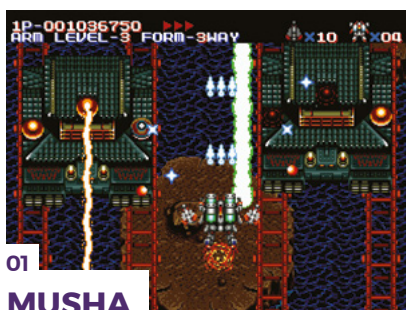
01
MUSHA
1990

The legend of this Compile shooter has only grown in the years since its release, as more players have stumbled on its bewitching mix of heavy metal soundtrack, sci-fi medieval visual stylings, and exotic weaponry. Part of the *Aleste* series – it's known as *Musha Aleste* in Japan – this is easily one of the best action games Compile ever made.
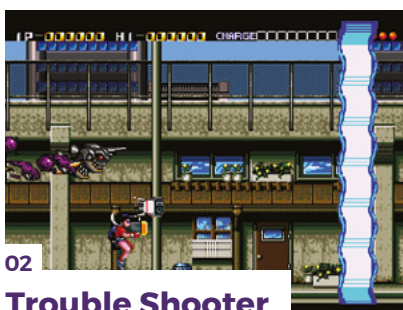

02
Trouble Shooter
1991

The developer behind this oddball shooter had to fight hard to get the game made, and there's a definite anything-goes attitude to its design: you control two characters at once, meaning you can fire both in front and behind, while the enemies you face – like a gigantic train powered by mice – are joyously strange. Its Japan-only sequel, *Battle Mania: Daiginjou*, is another gem.
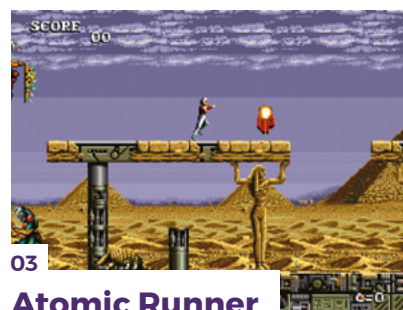
03
Atomic Runner
1992

Data East's run-and-gunner improves hugely on the arcade original, with a visual overhaul and a wealth of control options. The forced scrolling makes this one tricky to master, but there's a thrill to cracking each frenzied, enemy-filled stage, and there are a number of control options to ease you in. The Japanese version, *Chelnov*, is highly sought-after today.
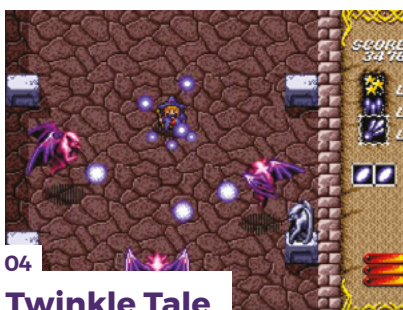
04
Twinkle Tale
1992

This top-down shooter has some neat ideas tucked away amid all the mayhem, including RPG-style weapons which can be levelled up, and optional rooms which can be raided for loot. *Twinkle Tale* was a late, Japan-only release from an incredibly obscure developer (ZAP Corporation, fact fans) and thus one of the console's most scarce games.
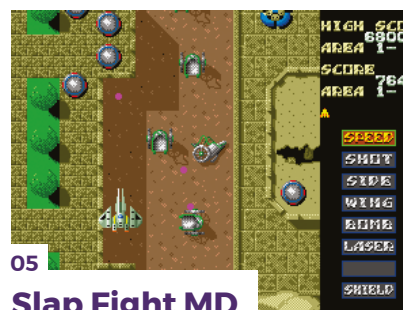
05
Slap Fight MD
1993

Shooters were ten a penny on the Mega Drive, and this conversion of an early Toaplan game might not look like much at first glance. Its all-new, M2-developed Special mode, however, features entirely different graphics, weapons, and a banging Yuzo Koshiro soundtrack, which makes this one of the absolute finest – and most collectable – blasters on the system.
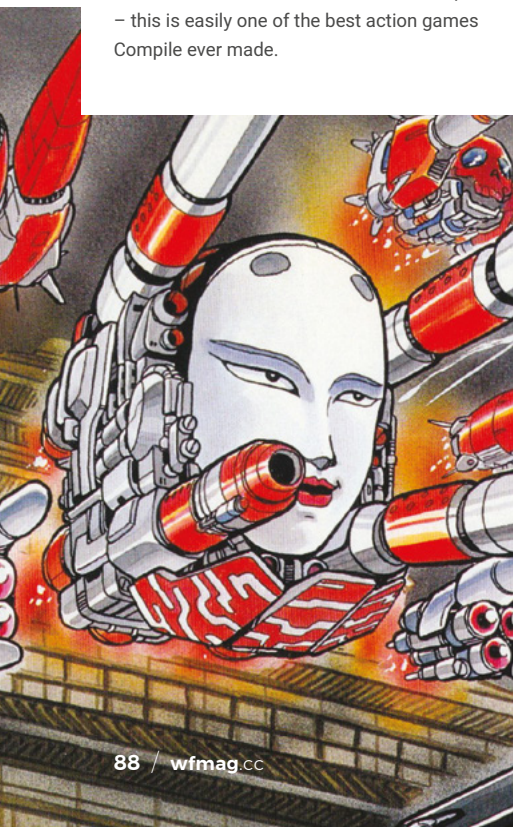
06
Crusader of Centy
1994

It owes a clear debt to *The Legend of Zelda* series, but *Crusader of Centy* is a top-down action adventure with a charm and character all its own. It's also an expensive game to track down if you want the English language version; assuming you can read Japanese, the eastern edition, called *Ragnacenty*, is far more affordable today.
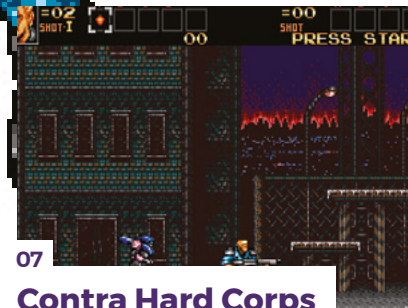
07
Contra Hard Corps
1994

While SNES owners got *Contra IV*, the Mega Drive got *Hard Corps*, a run-and-gun sequel perfectly tailored to the system's hardware. We'll risk courting controversy and argue that this one's a bit *too* hard for its own good – especially the western versions – but there's no doubt that Konami put a huge amount of time and craft into this epic blaster.
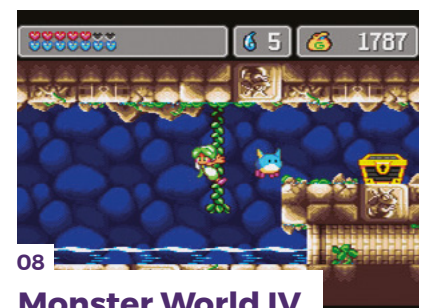
08
Monster World IV
1994

If there were any justice, Westone's entry in its *Wonder Boy* series of action adventures would have been one of the Mega Drive's biggest sellers. Instead, it went unreleased outside Japan and remained somewhat obscure – at least until the translated version on the Mega Drive Mini finally gave *Monster World IV* the wider exposure it deserved.
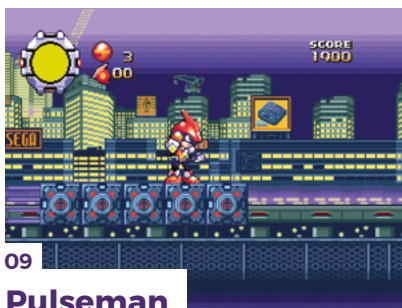
09
Pulseman
1994

Game Freak made a number of games before it hit the big time with the *Pokémon* franchise, and this effervescent platformer was among its best. Fusing the feel of the *Mega Man* series with a hint of *Sonic the Hedgehog* speed, *Pulseman* is yet another cracker that never got a physical release outside Japan, ensuring its status as a 16-bit cult item.
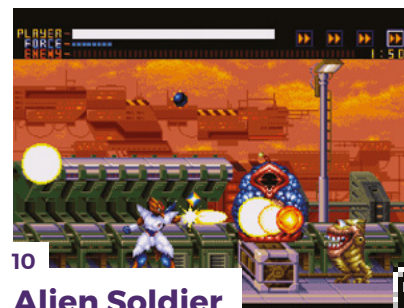
10
Alien Soldier
1995

Japanese studio Treasure stormed the Mega Drive with its debut game, *Gunstar Heroes*, but this follow-up is legendarily hard (and therefore expensive) to obtain. *Alien Soldier* is essentially a run-and-gun boss rush, but the imagination in its design, the precision of its controls, and sheer technical wizardry on display make this one an out-and-out classic.
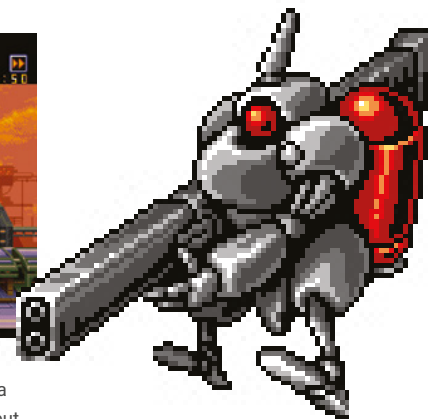
Gaming: making Christmas bearable

STEVE MCNEIL

Steve is one of those people who loves Christmas so much it annoys you.

> "They're a hell of a lot more fun than the Queen's speech"

C hristmas is a funny old time in a normal year. In a year where the news often resembles the first draft of a *Brass Eye* special before the channel told Chris Morris to "dial back the most unbelievable bits", it's going to be even stranger than usual.

In years past, as a gamer, the way to get through Christmas gatherings was the Wii. Good old Nintendo, creating video games and, crucially, a controller that even a drunk grandad could master in seconds, so that you could conceivably pad out the 'putting up with people you don't like' with a bit of what you fancy.

This year, though, it's going to be a much trickier one. Even if in your area you end up being allowed to spend Christmas with loved ones, you'll all need to be in separate, well-ventilated pods, with your own fork and toilet roll. So, how on Earth do you infiltrate family gatherings with games this year? Allow me to humbly offer a couple of solutions.

Unless you have the best family ever, there's never been any hope of spending the whole day with four generations taking it in turns controller-swapping on the latest triple-A title and, even if you did, you'd need a lot of sanitiser this year. But, assuming your family aren't complete Luddites, they've now all got a smartphone. If you've not looked into them before, may I humbly recommend Jackbox Games. They sell multiple bundles of games, on pretty much every console you can imagine, as well as PC, and you just need a single copy, fired up on the TV at the location of the gathering. It then lets everyone take part in party games on their smartphones.

They're all suitably simple so that anyone who's familiar with their phone would be able to instantly use them, and cover a range of styles such as quizzes, drawing, murder mysteries, and so on. They'll never get 96% on Metacritic, but they're a hell of a lot more fun than the Queen's speech, or your prejudiced drunk uncle's. They can work remotely too, so, even if you can't be together, you can screen-share the game on Zoom/OBS/whatever you prefer, while everyone else on the call plays along on their phones.

Of course, if you're playing from separate homes, you could all just be playing online multiplayer video games, but I'd imagine for most families that would involve buying several households a console for Christmas, should they even be able to work the controls. But, yet again, smartphones/tablets are here to save the day. Simple, hugely popular, board games like Carcassonne and Ticket To Ride have cheap apps that work cross-platform (so no Apple/Android issues) and, again, you can all play while chitter-chattering away on Skype et al.

Of course, there's no guarantee that this will alleviate all the other familial tensions of Christmas but, if you're dialling in from home anyway, you can at least do the thing you can never usually do – pretend the internet's packed up and turn them all off, and go and play on your own.

And, in a way, isn't that the true spirit of Christmas? No. No, it isn't. But for getting through 2020, you're entitled to being cut a bit of slack. Well done, and a sincere Merry Christmas. ⓦ
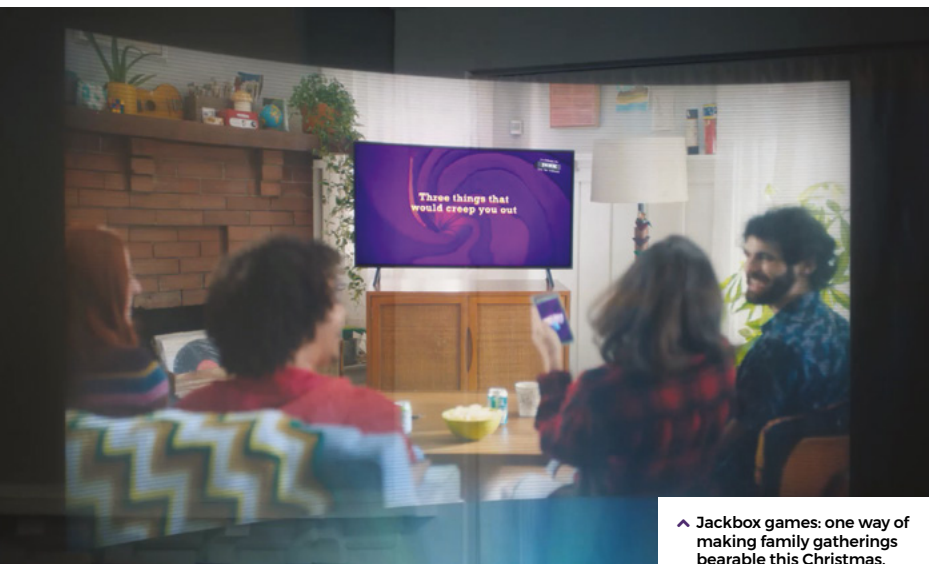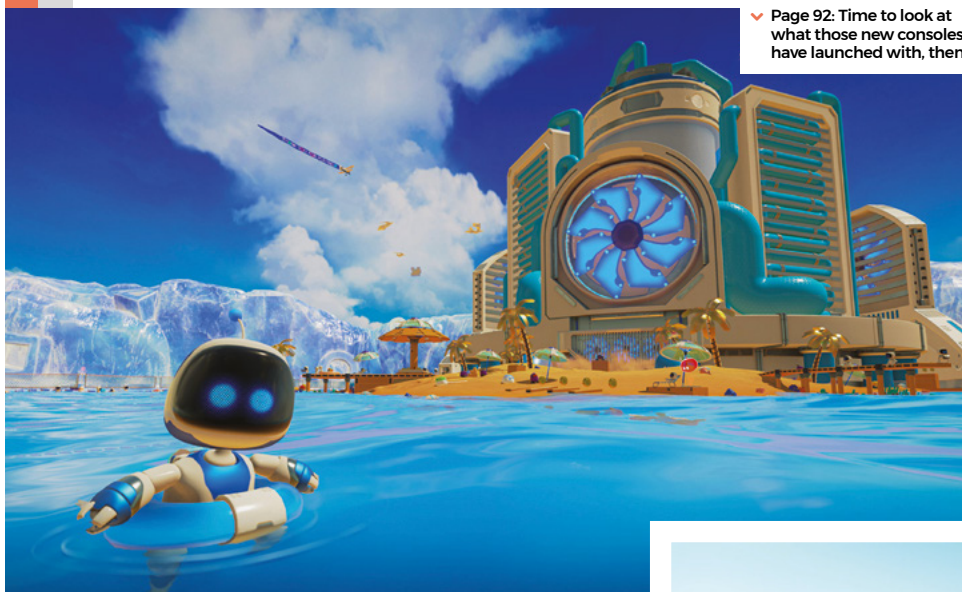

^ **Jackbox games: one way of making family gatherings bearable this Christmas.**

Backend Contents

Reviews, retro games, and lots more besides

OUR SCORES

1–9
Trash. Unplayable; a broken mess.

10–19
A truly bad game, though not necessarily utterly broken.

20–29
Still awful, but at a push could be fun for two minutes.

30–39
Might have a redeeming feature, but otherwise very poor.

40–49
Adds in more redeeming features, but still not worth your time.

50–59
Average. Decent at best. 'Just about OK'.

60–69
Held back by glitches, bugs, or a lack of originality, but can be good fun.

70–79
A very good game, but one lacking spit and polish or uniqueness.

80–89
Brilliant. Fabulous fun. Everyone should at least try it.

90–99
Cutting edge, original, unique, and/ or pushes the medium forward.

100
Never say never, eh?

▾ **Page 92: Time to look at what those new consoles have launched with, then.**

PLUS

❯ **Page 110: Games let you live out your wildest dreams, like: resting for a bit.**

Next-gen roundup

Review

Xbox Series X|S

PRICE
£450 [X] / £250 [S]

If you've used an Xbox One recently, you'll be completely unsurprised by the Xbox Series X/S when it loads up: this is exactly the same UI as before.

But it works, and the simple upgrade from one gen to the next is a comfortable one. The consoles look neat, run quietly, and seem robust from our testing (no dropping out of windows, mind). The thing holding the new Xboxes back, though, has been the lack of true exclusives, with only upgraded versions of existing Xbox games making the jump.

Backwards compatibility is generally superb, with games just *working* – the addition of auto HDR and 16x anisotropic filtering makes things look better than they did, though the HDR is sometimes a bit patchy. But generally, the Xbox Series X/S works fantastically with old games.

Forza Horizon 4 ⬇

One of the best racing games of… ever, really, isn't a bad shout for a launch game on a new console. Problem is, this is the same game as released in 2018, but with significantly shinier graphics and a smoother frame rate. As such, it fails the litmus test for new and exciting console launch titles – it's not a new game, and just like *Gears 5* (and others) is instead just a touched-up version of something a lot of Xbox owners have already played. That said, in being an established – and superb – game already, *Forza Horizon 4* also avoids the common pitfalls of new and exciting console launch titles in that it's brilliant, deep, and rewarding. **Recommended? Absolutely.**

Watch Dogs: Legion ⬆

One of Ubisoft's two cross-gen big hopes, *Watch Dogs: Legion* switches the *GTA*-alike's action to the rainy streets of near-future London, peppers it with terrible regional accents, and allows you to play as almost any NPC you encounter thanks to its 'recruitment' system. As a game, it's middling: boring a fair bit of the time, but capable of moments of real joy at others – mainly when you're using a cargo drone to ferry yourself about. As a showcase of new-gen capabilities, it's also middling: it frequently doesn't blow you away with its visual splendour, but then it starts raining and the ray tracing really comes out to play. *Then* it becomes a feast for the eyes. It's still a bit of a meh game, though. **Recommended? Hmm… maybe**.
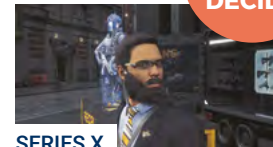
BEARD-OFF
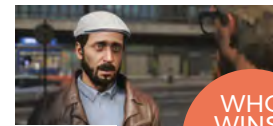
SERIES S

WHO WINS?
YOU DECIDE

SERIES X

Assassin's Creed Valhalla ⬆

The other of Ubi's big cross-gen releases is the latest in its history-straddling series, this time taking players to… well, England, just like in *Watch Dogs*. Huh. Anyway, *Valhalla* sees you bringing a Viking incursion to the proto-UK's shores, and mixes the elements now familiar to series stalwarts: running and climbing, fighting, sailing, and accidentally falling off stuff, and throws it all into a more linear, story-driven RPG-alike than we've seen before in the *AC* games. Frankly, it works, and this is – barring some bugs and the like – the best the series has been. As a showcase of the new generation it's a good 'un too, with more than enough gobsmacking moments popping up to just make you stop and take stock of what it is you're seeing. Honestly, the draw distance is the stuff of dreams.
Recommended? Yes.
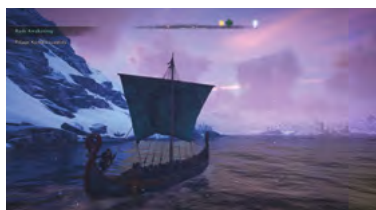
NBA 2K21 ⬆

Always good to have a sports game showing off your new generation pretties, and *NBA 2K21* is no exception – there are times when this stuff looks like Real Life™, but then just as many where it veers into canned, obvious animation. Largely it does look the part, though. Playing *2K21*… well, it's another basketball game from 2K Sports, I'm not sure where to go with this. It's fine? It's fine. Plenty of teams to pick from, plenty of skills to learn if you've not played before, and plenty of career and creation modes to make your own hoop-shooting dreams come true.
Recommended? Er… maybe.

Dirt 5 ➡

Another past-gen upgrade showing up on the first days and weeks of the console. *Dirt 5* is the latest in the more arcade-focused side of Codemasters' rally series, and as such, means you can usually finish a race with wheels and pride intact. Always fun. As a game, it's precisely what you'd expect: rally handling (loose), energy drink-inspired atmosphere (annoying), and varied track types around the world (gravelly). As a title to show off the prowess of the Xbox Series X/S? *Forza Horizon 4* does a *much* better job of things, truth be told, so this isn't the game to scratch that particular itch. If you have a rally-sized hole in your heart, though, go wild.
Recommended? Another maybe.
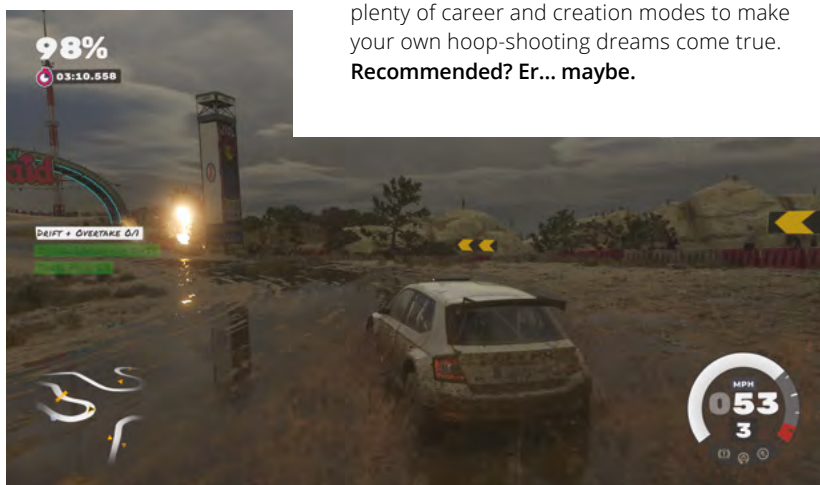
Next-gen roundup

PlayStation 5

PRICE
£450 [disc] / £360 [digital]

It's very big. Bigger than you think. But still, thanks to its size – and the fans/heatsink inside – the PS5 runs cool and quiet, and I can take the massive size hit for that benefit. Loading up for the first time, you're met with the usual Sony flourish – this *feels* like a new experience – and a UI that's... well, it's a bit confusing. And there are no folders, for some reason. Still, things load exceptionally quickly, the DualSense is the best thing to happen to games since the Switch, and all in all, Sony has put together a superb bit of kit for the money.

Backwards compatibility stretches to PS4 games from the outset – plug in an external drive and off you go. Titles with uncapped frame rates are well served thanks to the PS5's power, running better than they ever did, and compatibility seems to be very high indeed. It'd be nice to have more prior PS generations, but what the PS5 does, it does well.

Astro's Playroom ⬈

Why and how a pack-in 3D platformer/tech demo intended to teach new and younger players how the DualSense controller works has ended up being one of the best games in the haul of new-gen launch titles is beyond me, but here we are. It should be an indictment of an underwhelming step into a new tomorrow, but *Astro's Playroom* is *really good*. It's the *Wii Sports* of Sony's world. It's a wonderful advert for the capabilities of the DualSense controller, the pitter-patter of robo-feet on different surfaces, rain hitting you, the coil of a spring bending – it's all felt. The responsive triggers are *proper* next-gen stuff, too, and really have to be experienced in person – words do it no justice. **Recommended? You already have it, but still: *Yes*.**

Demon's Souls ⬇

If you missed out first time around, this is the perfect opportunity to get into *Demon's Souls* – FromSoftware's first go at what became the *Souls*-like genre. A magnificent game, it demands skill, patience, and the odd bit of creativity to get through – or just die a lot along the way. This remake loses nothing of what made the original so special. It gains a chunk thanks to Bluepoint's marvellous remaster: *Demon's Souls* looks stunning (less so in its 60fps performance mode) and plays great, with tweaks and modernisations to menus, and translations that bring things up to a level you'd want from a showcase launch title. The only real drawback is that it's not *actually* a new game, so falls into a weird limbo of launch exclusives that aren't technically exclusive. **Recommended? Yep.**

Bugsnax ⬆

Take *Pokémon Snap* and add in a few more mature themes – marital strife, animal welfare, body horror – and you've got yourself some *Bugsnax*. The titular critters roam the island you've crash-landed on, and it's your job to catch them and feed them to a group of Grumpuses (think *Sesame Street* characters with emotional baggage) who've made their home there. It's also your job to sort out their problems, to interview them, to figure out what happened to a missing explorer, to get a bit worried about what happens when you *do* feed these creatures to the Grumpuses, and to generally plod on through an air of unease despite the delightfully cutesy world surrounding you. It's not quite inspired, but *Bugsnax* is very good all the same and definitely worth a pop, even if it doesn't *scream* new-gen. **Recommended? Yes indeedy**.

Marvel's Spider-Man: Miles Morales ⬆

I have to open this with the cynic inside me piping up: this is standalone DLC, clearly intended for the PS4 initially, specced up and given pride of place in the PS5's line-up. *Marvel's Spider-Man: Miles Morales* is fine fun, well-made, and at times absolutely gorgeous – spoiler, it's completely recommended – but it doesn't exactly feel like the new-gen *thing* we might have thought it would. The story carries on from the PS4 original (also available up-rezzed on PS5) and follows young Miles as he tries to carry on the day-to-day Spider-Manning he's been left to while Peter Parker's off on holiday. He's a great character, and the story is – if comic booky – fun, and it's hard not to be drawn in by this one, even if it doesn't completely blow me away. **Recommended? Yes.**

Sackboy: A Big Adventure ⬅

Maybe it's because *Astro's Playroom* is so very good, but *Sackboy: A Big Adventure* did leave me a *little* underwhelmed. It's a pretty straightforward platformer starring the chunk of hessian from *LittleBigPlanet*, in which you make your way around adorable levels figuring out adorable (and straightforward) puzzles, tests of dexterity, and so on. Like I said: a straightforward platformer. It's gorgeous and riddled with character, but the underwhelming use of the DualSense on a Sony-published PS5 launch title is immediately worrying, and the wider concern that the game is fun but, really, nothing special, does weigh on the experience a bit. **Recommended? At a push.** ⓦ

Review

Yakuza: Like a Dragon

A love letter to RPGs, friendships, and hard knocks

REVIEWED BY
Alan Wen

⌄ While turn-based battles
make combat more
cartoonish, the more brutal
Heat-style animations can
still be found in the
Extreme Attacks.

In Japanese, Kasuga means 'spring day', a time of new life if you will, while Ichiban can mean 'first' – or more often, 'the best'. There isn't a more fitting name RGG Studio could have picked, then, for *Yakuza: Like a Dragon*'s new protagonist in an instalment that also reboots a 15-year-old series. Of course, you might not be able to tell at first glance, as it still likes to indulge in its tradition of lengthy cutscenes, with meticulously detailed close-ups of faces, all the better to show off just how faithfully the new English dub matches the lip-sync (rest assured, purists can still opt for the original Japanese audio).

But once you're in control of Ichiban Kasuga and thrust into your first brawl, the difference is immediate. Instead of real-time fights, combat has changed to turn-based battles like that of a JRPG. I say 'like', but that's genuinely the genre *Yakuza: Like a Dragon* has stepped into; rooted in our new hero's childhood obsession with *Dragon Quest* as it is, and seeing you accrue a rag-tag party of allies to fight alongside.

Despite the references to Square Enix's series – one that's always been traditional to a fault – *Like a Dragon* revels in off-the-wall experimentation. Most obvious is how it reimagines classic fantasy

JRPG tropes in a real-life contemporary setting. Underground sewers become dungeons, and powerful allies are summoned with a smartphone app, while job classes are actual jobs like a chef, office clerk, pop idol, or construction worker. The results are as absurd and surreal as you might expect – a perfect fit for a series that's always balanced realism with the weird.

There's also a dynamism in its turn-based battles, which factor in environmental context and button prompts. The transition isn't flawless, like how enemy area attacks are at the mercy of unpredictable enemy movement you don't have control over, and there's a disincentive to experiment with jobs since you can only switch at one location (a job centre, no less). Die-hard fans may still pine for being able to deck someone with a bicycle straight away, but the results are nonetheless a surprise, with some hilarious animation sequences reserved for the most powerful attacks. It probably helps that RGG Studio has taken plenty of inspiration from sister firm Atlus and the acclaimed *Persona* series, from the button-based battle interface to stats that extend to personality and relationships.

Another big shake-up is the relocation from the familiar neighbourhood of Kamurocho to

> **"The best things about the *Yakuza* series remain intact here"**

> Instead of just yakuza thugs, there's literally a whole Pokédex worth of enemy types including drunk salarymen, flashing perverts, dine-and-dashers, even one termed 'twitchy streamer'.

You'll do well to invest your time in the management minigame, which sees Ichiban become a benevolent capitalist at a company of his namesake. It's certainly the best way to make lots of dosh, but where else can you put up cheesy TV commercials or battle a room of angry shareholders using the persuasive powers of your staff, including a pet chicken, a circus monkey, or a giant Roomba?

Yokohama's Isezaki Ijincho – a much larger area that takes a while to get to grips with. But even if you feel like an outsider adrift at first, as you make your way from its homeless camp and seedy soaplands (brothels) to the pierside park and a bustling Chinatown, things open up and it eventually becomes a welcoming home, not least because of all the pleasant diversions on offer.

This is, after all, a game where you could be on an urgent hunt for a crime boss, only to find a few hours have passed and you haven't moved to the bright pink spot on the map because you couldn't help but play tourist, taking in the detailed sights and sounds of the city, most of which opens up to you early on. Instead, you'll be playing a game of darts in a basement bar, hitting balls at a golf or batting centre, playing classic Sega games at the arcades (*Virtua Fighter 5*, *Super Hang-On*, *OutRun*, and more), or even driving around the city in a surprisingly decent and meaty *Mario Kart* clone. Better still, you'll run into the locals and help them out in many hilarious side quests. In other words, the best things about the *Yakuza* series remain intact here.

But as serious as *Like a Dragon* is about having a laugh, it's also serious about telling a compelling story, one unafraid to venture into

mature themes of history and politics, while also taking a more confidently progressive stance. Incidentally, female characters and gang members from other Asian minorities, in the past often portrayed as victims or villains respectively, both have playable roles for the first time. As underdogs, your party is both representative and sympathetic to the marginalised who have fallen through society's cracks.

Much of this is anchored by an outstanding voice cast who deliver on both the melodrama and the razor-sharp banter, making you cry and laugh. It's arguably the best dub I've ever experienced, feeling like nothing has been lost in translation. While that's a collective effort, just as you might expect in a party-based RPG, it all comes back to Ichiban Kasuga, surely the most optimistic protagonist ever seen in a game, despite a life spent on the bottom rung on the ladder followed by a betrayal that would leave most on a path of vengeance. A wild contrast to *Yakuza*'s stoic former leading man, Kasuga is a loud-mouth, dumb as bricks, sporting an explosion of a haircut others rarely miss the opportunity to take a crack at. But his heart, as big as that of a lion – nay, dragon – more than fills the shoes left behind by Kazuma Kiryu. "It must be nice to be Ichiban," a more cynical character quips. It really is, actually. Considering the hellscape this year has been, as other zeitgeisty games double down on dystopia, escaping to a modern-day Japanese city with ordinary heroes who can and do make a difference is a breath of fresh air. ⓦ
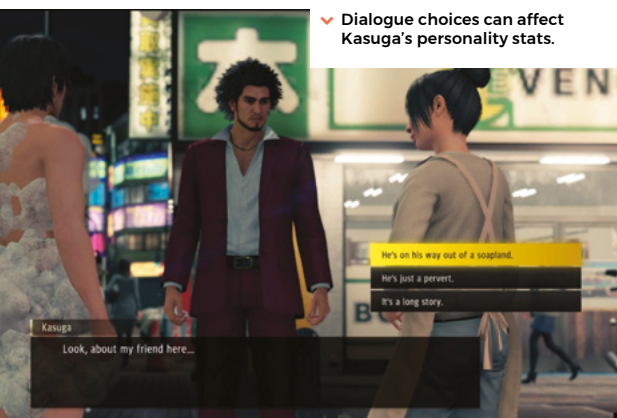

⌄ Dialogue choices can affect Kasuga's personality stats.

VERDICT

A wacky surprise and blazing triumph with an unapologetic dollop of heart, *Yakuza: Like a Dragon* is one of the best games of the year.
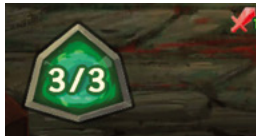
90%

There's a moment halfway through *Slay the Spire* where you check to see how much time you've put into the game. That point, when you stare, aghast and proud at the gargantuan number of hours you've already sunk into the thing, gives you a feeling few other games can replicate.

⌃ **Don't just buy cards from the shop, look at the relics and potions, too.**

Info

GENRE
Card game

FORMAT
IOS (tested) / PC

DEVELOPER
MegaCrit

PUBLISHER
Humble Bundle

PRICE
£9.99

RELEASE
Out now

REVIEWED BY
Harry Slater

VERDICT

Slay the Spire has some niggles on mobile, but its brilliance and compulsive nature still manage to shine through.

81%

Review

Slay the Spire

The mobile version of the rogue-lite deckbuilder still slays

Slay the Spire is fuelled by compulsion. The compulsion to push on, to try again, to discover the myriad secrets that the titular tower possesses. But at the heart of all that drive is one single, unshakeable idea: you have to slay the spire.

The game is a deck-building roguelike, resplendent with garish horrors to fight and tricky tasks to overcome. Each race through the game offers up a vast amount of tactical slaughter and a heap of choices that will decide whether or not you manage to reach the top.

Your weapons for this task come in the form of cards. You have attacks, blocks, and skills that bridge the two. Each character begins a standard run with a starter deck, and you'll unlock new cards as you kill your way up the floors.

The first few tries will see you fail – and fail badly. Then you'll start to get to grips with the different styles that each character offers. You'll have to unlock most of those characters first, pushing through with the warrior you begin with to get the knife-wielding, back-stabbing rogue and the magical, spell-casting robot. It'll take even longer to get the fourth character, a stance-shifting martial artist.

Once you start exploring the different possibilities the characters present, the game opens up into a thing of almost exquisite beauty. You'll hanker to find the cards to suit your play style, cheering when you find one in the corpse of a defeated foe or for sale in the shops that dot the map.

Every time you play, you feel like you've learned something. Figuring out which enemies to kill first when you're confronted with specific combinations of foes, learning the strengths and weaknesses of the massive bosses that sit at the end of every section – the game is always asking you to consider your strategy and to revise it with new information.

And there are layers upon layers of that information. Relics, for example, give you specific buffs. Curses pop up as well, and they can stymie the best-laid plans. Enemies that are easy to kill with one character pose huge problems for others. There are no blunt instruments here, just subtly shifting sands that drag you deeper and deeper into the experience.

Scattered throughout the battles and rest stops are tiny slices of a strange and confusing story – little suggestions that make you start questioning what you think you know. Compulsion, desire, obsession – it can be hard to know whether it's the characters in the game or you, the player, that's being referred to.

Is this mobile version the best way to play *Slay the Spire*? Probably not. It's finicky and fiddly, and even though you're just choosing cards and moving through menus, the controls don't feel as natural as they could.

But it manages to work past that, to make you forgive its mistakes and keep climbing, because you have to slay the spire. That one idea will push you on and on, and you're going to enjoy every moment of it. ⓦ

Review

Foregone

Refusing to go Rogue

▲ Your supersoldier Arbiter is tasked with taking down a series of rogue bioweapons.

▲ The *Dead Cells* vibe is rounded-off by the game's unobtrusive acoustic soundtrack.

Most enemies in *Foregone* patrol a single platform or stretch of floor and refuse to move beyond it, even when trying to kill you. Within their well-trodden groove they're comfortable, capable. But venturing beyond that narrow patch is a notion too scary to contemplate. It's a feeling that permeates the whole game.

Foregone's pitch is simple – *Dead Cells* but not a roguelike. It's a linear series of locations with miniature bursts of exploration, slim story elements, and colour-coded loot. It's *Dead Cells* because, well, for one, it really looks like *Dead Cells*. Darkened foreground structures contrast against colourful, pixel-edged backdrops depicting the aftermath of a world-ending war – from the rusting shells of machinery littering nature to underground labs hinting at cruel military experiments. Faceless sentinels stroll the halls with exaggerated poise and fluidity. Their blocky shading evokes a nineties style that never really existed.

Combat is also infused with strands of *Dead Cells*' DNA. It's not quite as fast and frantic, but each impact in the brief fights feels more punchy and deliberate. Short- and long-range weapon attacks chain smoothly with jumps and slide dodges. A flurry of swings and gunshots sees foes dramatically slump over, a plume of multicoloured loot baubles spewing in their wake. And while these corrupted beasts and soldiers don't offer much resistance alone, their careful arrangement in mixed groups demands hit-and-run tactics and careful target prioritisation.

But it's limited. *Foregone* plays like it's worried about putting its solid foundations under too much strain. New abilities gained from beating firm-but-fair bosses are industry standards like air dashes and ground stomps, while supplementary combat powers add only a thin icing of strategic depth. There are also just five short- and five long-range weapon types, and choosing which to use is mostly a matter of style preference, or opting for the biggest raw damage output among your collected specimens. Equipment perks and character upgrades, meanwhile, often come down to trivial percentages. Do you want 1% extra health or 2% more movement speed? A 4% chance of inflicting this status effect or that one? It's hard to care.

This would matter less if the levels themselves were more expressive, but their neat blocks of rooms and platforms feel agoraphobically constrained. Some areas split briefly, asking you to hit multiple switches to open a door. There are occasional hazards to avoid and some secret rooms to discover. But no location or scene sticks in the memory, unless it's due to some cosmetic splendour.

Foregone looks, sounds, and feels good. It just doesn't capitalise on the biggest advantage it has over *Dead Cells*' procedural construction – the opportunity to handcraft each stage, enemy, and weapon with a unique identity and challenge. As its monsters stall on the edge of their tiny territories, it's as if a strict roguelike algorithm was dictating the boundaries after all. ⓦ

Info

GENRE
Action/Platform

FORMAT
Switch (tested) / PC

DEVELOPER
Big Blue Bubble

PUBLISHER
Big Blue Bubble

PRICE
£26.99

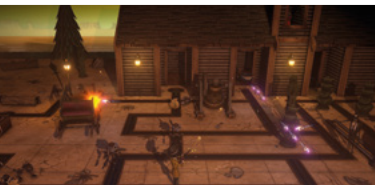**RELEASE**
Out now

REVIEWED BY
Jon Bailes

VERDICT

Foregone has pleasing style and rhythm, strait-jacketed by some rather plain design.

62%

Later levels can get frantic as you're assailed by super-fast killer prawns and machine gun eggs.

Info

GENRE
Twin-stick shooter

FORMAT
PC (tested) /
Xbox One

DEVELOPER
Beep Games/
Tribetoy

PUBLISHER
Beep Games

PRICE
£11.39

RELEASE
Out now

REVIEWED BY
Lewis Packwood

VERDICT

A wonderful idea let down by tiresome controls, frustrating enemies, and unfair deaths.

51%

Review

Bartlow's Dread Machine

Back when I were a lad, arcade games were made of tin. None of this new-fangled nonsense

ndie games are incredible, aren't they? Just the sheer breadth of imagination on parade is astounding. Whereas mainstream games are increasingly settling into risk-averse recycling of the same old open-world template, in indie world you could be earning a crust as a film noir taxi driver-cum-detective one day, then tearing up an English village as a naughty goose the next. And here comes *Bartlow's Dread Machine*, a game made in the style of a 100-year-old electromechanical arcade cabinet. What a time to be alive.

Electromechanical machines were a mainstay of the arcades until the late 1970s, but their fixed nature meant they were limited in what they could do. Here, though, we're presented with a machine of unlimited potential, where fresh floor panels and scenery satisfyingly flip into position as you near the end of the screen, and enemies pop up from the workings below, gliding forwards on a complex system of rails.

You control a US agent charged with tracking down the occult, otherworldly abductors of President Teddy Roosevelt, and the game plays much like a cross between *Pac-Man* and *Robotron: 2084*. You can fire in any direction using the twin-stick controls, but your movement is limited to the maze-like tracks laid down by the machine. There's a pleasing variety to the shooting as your US tour takes in places such as New York, the Wild West, and the Pacific Ocean, and enemies gradually get trickier to deal with as things like bullet sponge brutes and machine gun Humpty-Dumptys start to be thrown into the mix. It all looks superb, and the 'tonk' sounds as you hit the tin scenery are a wonderful touch.

So why is it such a chore to play? The controls are a big part of the problem: your agent moves achingly slowly by default, and it feels hit and miss whether you can make a turn at a T-junction, even with 'corner sensitivity' set to 'high'. Too often you'll find yourself missing the turning and instead gliding straight into the enemy you were trying to avoid, even though you could have sworn you were pressing in a different direction. And being stuck on rails makes it incredibly hard to avoid enemies, and bullets in particular, as you back away slowly down a straight piece of track. A deflect button can potentially protect you from enemy fire, but it's hard to time right and leaves you open to melee attacks while you activate it.

The game in general is rock-hard, even on 'easy', but deaths are frequently frustrating as you're hit by bullets from off-screen or enemies that appear out of nowhere. And the one-hit-kill baddie and falling floor panels of one level in particular are excruciatingly annoying, especially as you only have three lives before you're sent back to the start. All in all, once the nostalgic charm of *Bartlow's Dread Machine* begins to fade, you're left wondering whether electromechanical machines were best left in the past. ⓦ

HIGHLIGHT

It's possible to spend most of your time playing with the game's tooled-out photo mode, which is capable of producing exceptional images with the lavish lighting and toy-box of blocky car models. Both free roam and a post-race replay function makes it easy to find the perfect angles.

▲ Sunsets cast striking shadows while night blacks out all but the arc of your headlights.

▲ A magnificent soundtrack by Tatreal rounds out the experience.

Review

Art of Rally

This masterful impression of rally radiates toyetic charisma

With a bold commitment to style that couples synthwave with pastel tones, *Art of Rally* revives the sport's golden age, an era inclusive of 1960s stock cars and the Group B legends of the eighties. It launches in the slip-stream of other retro-inspired racers, but *Art of Rally* is unexpected. It's a rally game from a top-down perspective, for a start, with a pure focus on threading your miniature motor through low-poly landscapes in the best time. It's like playing *DiRT Rally* via the aerial camera. Only it's more meditative, as ready to reward you for finishing stages as *DiRT* is for mastering them.

Point-to-point racing is the main event, taking place on picturesque stages inspired by real locations. Japan's asphalt stages see you glide downhill beneath cherry blossoms, while the sun-baked dirt roads winding alongside Sardinia's vineyards audibly strafe your car with gravel. As inviting as off-piste looks, penalties discourage shortcuts. Instead, finishing stages requires grasping how the straightforward controls interface with idiosyncratic handling. Do it right, and you will flick through hairpins. Do it wrong, and you'll collide with a spruce. Then there's the scalable damage model, the absence of rewind and checkpoints, or a co-driver with pace notes. *Art of Rally* does for rally what *Lonely Mountains: Downhill* does for mountain biking. Its simplified interaction and striking visuals pair with mechanics that are easy to access yet tough to master.

> **"Does for rally what *Lonely Mountains: Downhill* does for mountain biking"**

The cars, for their part, look brilliant and feel distinctive. You might start rallying with the 'meanie', a sprightly bug and facsimile of the Mini, or the beefier 'esky' (Ford Escort). Progressing through the career mode, covering 1967 to 1996, provides for graduating to a turbocharged icon like 'das hammer v2' (Audi Sport Quattro S1). The playful descriptions are incentives themselves, where you learn that a Volvo is a "fine Swedish metal turbo brick". Through handling and sound design – brakes squeak and engines backfire – cars are compellingly differentiated. Meanwhile, liveries are tastefully slick, embracing classic motifs like Subaru's blue/gold design. It's hard to resist trying cars out sooner in custom events or free roam, a mode with its own diversions and collectables to pursue.

Art of Rally is chiefly the work of Vancouver-based developer Dune Casu, and the resulting game is necessarily pared back. Ideally, I'd like more feedback from the road surface, increased track variation, and a more experimental free roam. Yet there are surprising touches, from the way the game ensures you can always see your car through scenery, to how spectators shrink from your bumper.

While it's a game of mastery, there are few pressures demanding you get the best scores. The only prerequisite of a career rally is completing the one before. There are leaderboards and challenges, but in *Art of Rally*, good enough is good enough. You must simply finish what you start – and do it with style. Ⓦ
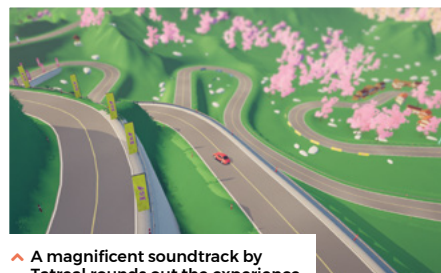
VERDICT

A superb, beguiling distillation of the sport that's more sim than *Sega Rally*.

80%

Review

A busy but legible HUD tells you everything you need to know.

Star Wars: Squadrons

A+ Wing

Info

GENRE
Action/Flight sim

FORMAT
PlayStation 4 /
Xbox One /
PC (tested)

DEVELOPER
Motive Studios

PUBLISHER
EA

PRICE
£34.99

RELEASE
Out now

REVIEWED BY
Nic Reuben

VERDICT

A triumphant homage to classic *Star Wars* flight sims with all the bells and whistles of a big-budget modern release.

86%

Star Wars: Squadrons has a high skill ceiling. It had to have, really. You only ever leave the cockpit to make loadout adjustments, so Motive needed to pack in a lot of variety between hangar and dashboard. Variety means nuance, and nuance means that it always feels like there's more to learn. During your first few matches, you're Bantha fodder. You might get in a couple of kills if you're lucky. Here's the thing, though: even if you only get one, that single kill will feel like such a thrilling, authentic, fantasy-fulfilling *Star Wars* experience that it's going to make all those deaths instantly worth it.

Squadrons is primarily a competitive multiplayer game. Sure, it has a story, which is about eight hours long, and is basically just *Star Wars* doing a *Star Wars*. You like *Star Wars* though, don't you? You probably do, because you're reading about a *Star Wars* game – in which case you'll probably like the narrative that unfolds here. It might leave some players wanting, but I can't criticise story length in a game that was transparently marketed as being primarily multiplayer. If anything, it's all far more generous, well-produced, and thoughtful than it needed to be.

There are two multiplayer modes. Dogfight is a 5v5 kill-everyone-that-isn't-on-your-team affair. Fleet Battles are huge 5v5 laserfests involving dozens of AI dogfighters, frigates, and capital ships, where you'll need to use teamwork and learn how the different classes

operate to succeed. You'd be forgiven for thinking this sounds restrictive, but they do their job. Namely, providing the theatres of war *Squadrons* needs for its kinetic, cerebral PvP improv to clang out from every laser-scarred, sizzling balcony.

Here's the crux: even the simple act of flying, of moving between asteroids, or threading industrial alcoves, is gut-fluttering in its thrilling believability. I have, and will again, play entire matches where I haven't even attempted a single kill, just boost-drifted, feinted, and otherwise evaded opponents, and had the best time doing so. This may have not been the most

"Far more generous and thoughtful than it needed to be"

helpful for my team, but if you want to play a match as a slow, hefty bomber, or a shield-generating support ship, *Squadrons* makes these options viable and satisfying. Even the standard X-wing and TIE fighter offers half a dozen viable loadouts and approaches.

There's not much point in me explaining what the opportunity to fly an X-wing or a TIE fighter should mean to you, in a game that looks this good, sounds this faithful, and is this astonishingly absorbing to play. All I can say is, aside from a few technical hiccups with controls and VR that look like they're being regularly patched, *Squadrons* nails the landing. To subvert an online adage, Motive did, literally, have one job: to let you fly some *Star Wars* ships. And every dial on every panel of every starfighter is tuned to doing that one job better than anything that's come before. ⓦ

One of *BPM*'s coolest passive skills is the ability to summon an angelic helper upon recharge. Powers like this can help make the difference between a doubtful or decent run in the underworld, with the most useful discoverable in golden chests unlocked using a precious golden key.

> Each of *BPM*'s guns boast their own fire and reload pattern.

Review

BPM: Bullets Per Minute

Hell to pay... over and over again

As far as bonkers but brilliant genre mash-ups go, *BPM: Bullets Per Minute* hits all the right notes. Casting you as a Valkyrie warrior traversing seven rhythmic levels of the underworld, it's your job to blast your way through legions of demonic creatures, with the gimmick being you can only do so by dodging, jumping, and shooting to the beat. What follows is a flurry of fast-paced FPS madness backed up by a soundtrack dominated by aggressive guitar riffs, acting as the closest thing we'll ever see to an official *DOOM* musical.

BPM no doubt owes a great deal to id Software's classic hellish shooter in terms of its visual and audio design, but by randomising each run with different guns and passive abilities, there's a sheer unpredictability here you won't find in an authored single-player campaign. Any roguelike rightly lives or dies on its ability to keep things fresh, so it's good that despite the order of end-level bosses and their attack patterns never changing, almost every other design element – including vendors, room layouts, and enemy types – is set to shuffle with each new descent.

There's a definite learning curve to knowing when exactly to fire, but Sam Houghton and Joe Collinson's procedural score has been designed in such a way that shooting on the on- or off-beat (depending on your weapon) eventually becomes second nature. Initial runs were tough as I had

to fight my natural instinct to spam the fire button after taking too many hits. However, after realising *BPM* better-rewards patient players that can stay in the metrical flow instead of those with an itchy trigger finger, eventually I was treating my gamepad more like a dance mat.

Fire-throwing monkeys, acid-spitting bats – *BPM*'s various foes all have their ways to land a crafty hit, especially when you first start out with a pistol lacking in range and damage. Survive long enough to gain improved buffs and a better weapon though, having to reload it on the beat three times instead of two often proves to be worth it in the long run.

All your basic actions like run, double-jump, and dash stay consistent across runs, and can be chained together until you're waltzing around stages for as long as you maintain ownership of the beat. This sense of speed proves invaluable since almost none of your progress in *BPM* transfers to the next run, and in this way, you're very much at the mercy of what the game's algorithm is willing to spit out. Still, given that it only takes 30 or so minutes to finish a run, you're sure to find a sweet loadout at least once every session.

Initial punishing difficulty aside, *BPM: Bullets Per Minute*'s fast-paced firing mixes with demonic beats to always keep the action rocking. It's a masterclass in rhythmic shooter design, and another excellent addition to 2020's already great roster of roguelikes. ⓦ

> "Eventually I was treating my gamepad more like a dance mat"

Info

GENRE
FPS, Rhythm, Roguelike

FORMAT
PC (tested)

DEVELOPER
Awe Interactive

PUBLISHER
Awe Interactive

PRICE
£15.49
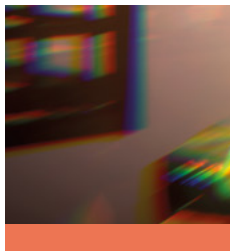
RELEASE
Out now

REVIEWED BY
Aaron Potter

VERDICT

Easily living up to its name and ambitious premise, *BPM* offers up enough hellish variety to keep you rocking and gunning for hours.

83%

HIGHLIGHT

There are plenty of moments in *Little Orpheus* where you're going to have to stop and gawp at the gorgeous vistas. The way it uses light and shade to draw the eye really is a thing of wonder, and even on a small screen, it's hard not to get lost in the vibrant colours.

> ^ **The game builds its world with what's in the background as much as the foreground.**

Info

GENRE
Platformer

FORMAT
iOS (tested)

DEVELOPER
The Chinese Room

PUBLISHER
Sumo Digital

PRICE
Free
(Apple Arcade)

RELEASE
Out now

REVIEWED BY
Harry Slater

VERDICT

While the controls aren't perfect, *Little Orpheus* is still packed full of joy and adventure.

75%

Review

Little Orpheus

A nuclear-powered platformer from the developers of Dear Esther

Little Orpheus hums with technicolour moments of brilliance. From fleeing a T-rex in a lush jungle to scrabbling through the grotesque, parasite-riddled guts of a massive whale, from swinging vine to vine to solving its simple puzzles, everything is bright and beautiful. There's a sense of childlike joy that permeates everything the game does – which helps balance out most of its niggly problems.

The game is set in the bowels of the Earth and follows unfortunate and reluctant explorer Ivan Ivanovich. He's retelling his story of chasing the titular Little Orpheus – a nuclear weapon that was powering the drill that delivered him to the centre of the Earth. A flabbergasted colonel listens on, and their exchanges are a brilliant foil to the on-screen action.

There's an old-fashioned beat to the platform action, with definite shades of a handful of Disney classics from the 16-bit era. Don't expect twitchy, tricky leaps, though – there's a more measured feeling to the jumping around, and it helps to make the game feel more comfortable on a touchscreen.

Not that the controls are without issues. Sometimes they fail in annoying ways, leaving you motionless when you're trying to climb a rope, or stuttering when you try and cross a chasm. Luckily, the checkpoint system never throws you too far back, but there are moments of frustration threaded through the wonder here.

That said, there's an awful lot to love about *Little Orpheus*. It's a game that's filled with

nods and winks to classic Saturday morning adventures, and there's a deep charm to the experience as well. It's almost impossible not to like Ivan, even when he's not doing what you're trying to tell him to do.

Plus the graphics here are absolutely stunning. There's a living, breathing world outside the confines of the linear gameplay, and sometimes you just need to stop for a moment to soak it all in. Credit sequences bookend the levels, giving *Little Orpheus* an episodic rhythm; it belies the fact that when you've finished one section, you can move straight onto the next.

Little Orpheus is a bright, bold, often hilarious platformer. It rests on its laurels here and there, reusing gameplay elements and ideas, but then it'll surprise you with something unique and exciting, and you'll buy back in completely. The controls are by no means perfect, but following Comrade Ivan Ivanovich through the bowels of the Earth is still a hugely enjoyable way to spend a few hours. ⓦ

> ^ **It's OK to just stop and take things in from time to time.**

CUSTOM PC

THE BEST-SELLING MAG FOR PC HARDWARE, OVERCLOCKING, GAMING & MODDING

ISSUE 209 OUT NOW

Backwards
compatible

WRITTEN BY RYAN LAMBIE

Sega FM

The Sega Master System doesn't evoke quite the same levels of passion and nostalgia as its successor, the Mega Drive, but the 8-bit console still had a surprisingly decent library of games – particularly in Europe and Brazil, where it sold in the greatest numbers. What Sega didn't exactly shout about was that a fair percentage of those games had hidden FM soundtracks, which sounded far warmer and richer than the somewhat metallic, 'square'-sounding PSG chiptunes most of us were used to back in the eighties and nineties.

Why were these tracks hidden on Master System cartridges? Because in Japan, Sega released an add-on device called the FM Sound Unit, which when plugged into the Sega Mark III – the Master System's predecessor, released exclusively in its native country – would unlock those nine extra tracks of silky, frequency-modulated sound. When the Master System launched in Japan in October 1985, the FM Sound Unit's YM2412 chip came built in; for the console's wider release elsewhere,

however, the chip was missing. Did Sega intend to release a version of the separate FM Sound Unit in the west at a later date? It certainly could have done so, since the western Master System has the same expansion slot as the Mark III. Whatever Sega's intentions, it continued to produce western cartridges with hidden FM soundtracks that few players would ever even hear.

Thanks to a quick bit of haggling on a certain online auction site, though, I recently managed to get my hands on one of those FM Sound Units, which plugs quite nicely into the Sega Mark III you may remember I was blathering on about back in issue 42. Actually, there was one minor teething problem: the device didn't work the first time I plugged it in. After a brief bit of swearing, I twigged that the expansion slot on the Mark III was caked with almost a quarter of a century of grime; one gentle clean with some isopropyl alcohol later, and my faintly yellowed FM Sound Unit was running perfectly.

So how does it sound? In short, bloomin' marvellous. It's a subtly different vibe from the Sega Mega Drive's later

YM2612 chip (and sadly outputs in mono rather than stereo), but it still has a lovely, warm, engaging tone to it. And thanks to the cartridge adapter I got sorted in issue 43, I can play my entire library of European MS games on the Mark III – and enjoy the FM tracks tucked away therein. Where Sega's 8-bit port of *OutRun* was once metallic and angular, it now sounds rich and bassy, with pleasingly eighties-sounding synth instruments bashing out Hiroshi Kawaguchi's iconic, sun-drenched soundtrack. Compile's top-down shoot-'em-up *Power Strike* is a bigger surprise: its downbeat score sounds even more ominous and doom-laden in FM mode. It's like John Carpenter suddenly switched careers from directing and scoring horror movies in the mid-eighties and took to making tunes for high-octane shooters instead. You can check it out at **wfmag.cc/PowerStrike**.

Sound Alternatives

What if you want to unlock those FM tracks on your Sega Master System games without going to the hassle of buying a Mark III and an even more obscure Japan-only add-on? As briefly mentioned in issue 42, there are several routes open to you, besides simply opting for ROMs and emulators. You could buy a Japanese Master System (also known as the MK-2000) which has the FM chip built in, though you'll also need an adapter to play western games, and these consoles are getting quite pricey online nowadays. The next alternative is to buy a Power Base FM, db Electronics' adapter that allows you to play Master System carts on the Sega Mega Drive with those extra channels of FM sound. Unfortunately, the Power Base FM isn't in production at the time of writing, so you'd have to try and track one of the devices down on the second-hand market. Another option is to modify your existing European (or American) Master System with an FM sound chip. Tim Worthington has just such a kit, which costs A$80 (Australian dollars) excluding shipping. You'll need to be handy with a soldering iron, of course, but there are full instructions on Worthington's site if you're feeling confident: **wfmag.cc/SMSFM**.
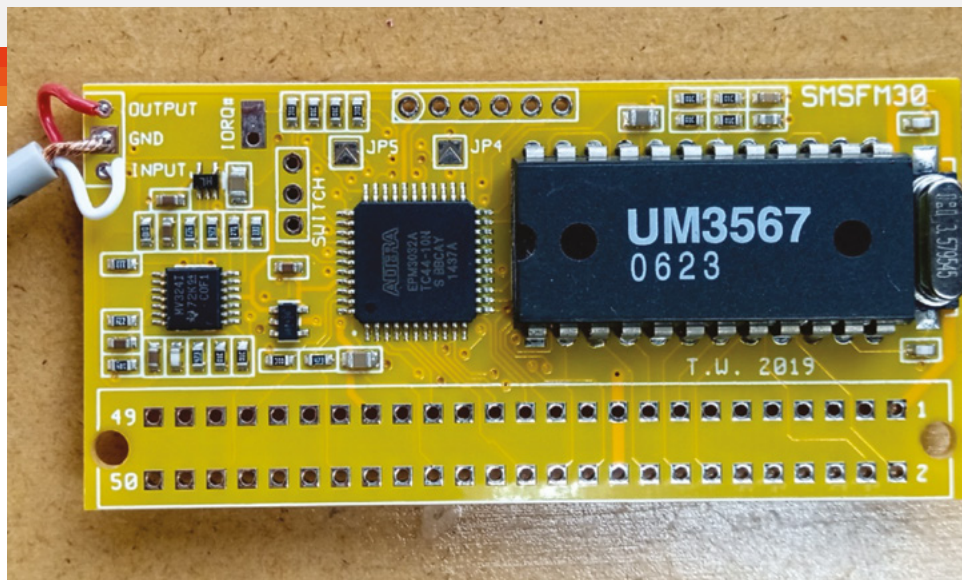
Making ToeJam

Sticking with the Sega theme – albeit tenuously – I recently stumbled on the existence of American chef June Kirsch's proposed ToeJam & Earl cookbook. Or, to give it its full title, *ToeJam & Earl's Funky Fresh Foods of Funkotron*. It's an unlikely spin-off from an offbeat roguelike series that began on the Sega Mega Drive in 1991, but its pages are stuffed with all the jazzy nineties graphics you'd expect, while recipes include 'Tomato Jam,' 'Funky Beet Cake', and 'Fermented Root Beer.' The project has surpassed its £27k goal on Kickstarter, so we can expect this little bound blast of funky fresh foodie-based nostalgia to emerge sometime in September 2021.

Pad Medicine

Elsewhere this month, I've been doing a bit of impromptu controller repair. I finally tracked down an original Joypad for my Sega Mark III in late September, but it arrived in a decidedly sorry state: the case was covered in grime, the controller cable was loose, and worst of all, the A and B buttons didn't work properly. Thankfully, all the device needed was a strip down and a good clean: a cotton bud dipped in isopropyl alcohol on the circuit board contacts later, and the pad worked just fine. What's striking about the original Mark III controller, though, is just how tiny it is: it feels even smaller in the hands than the already compact Sega Master System controller. The advantage is that these dinky pads interface nicely with the console itself: in a move swiped from Nintendo's Famicom, the Mark III's controllers slot tidily into place on either side of the system. This is especially useful, since I'll probably leave the proper Mark III Joypad stashed out of the way and play actual games with my larger, comfier Mega Drive controller.

Backwards compatible

WRITTEN BY IAN "SEEN BEEN" DRANSFIELD

Mr and Mrs Potato Heads

Naturally on picking up a brand new gaming console in the form of the Xbox Series X, riddled as it is with futuristic tech and powerful graphics processing and speedy SSD capabilities, the first thing I loaded up on it was... *The Elder Scrolls III: Morrowind*. Genuinely, it was. And I don't even feel stupid for doing that. What I do feel slightly more stupid about, though, is pumping in excess of 15 hours into that game's sequel, *The Elder Scrolls IV: Oblivion,* again using the Xbox Series X. Doing the former because it was a funny little thing to amuse myself? Fine. Doing the latter because I can't get out of the past and accept we don't live in 2006 anymore? Less fine. Ah well.

But it was with some honest reasoning behind it, at least at first: trying out the new Xbox's formidable backwards compatibility offering. And in this regard it's an absolute winner: the game runs fantastically, with the previous gen's upgrades slotted in there (*Oblivion* got some upgrades on the Xbox One X) and the new tweak of note from the Series X, active HDR, bringing a level of lighting realism to some scenes

that genuinely lifted the visual impact of the game well beyond what the vanilla version could muster. It made things too dark in general, mind, so I did switch it off, but it's a cool effect in some cases and does work better on some other old titles. My old *Oblivion* saves from the Xbox 360 synced and downloaded (I promptly lost a 14-year-old autosave because I forgot to turn them off for the new game), and I was able to just jump back into something I hadn't touched in a long time on a brand new machine. That's everything backwards compatibility should be. That being: there. It should just be present in a new console, it should respect your prior purchases, and it should just load up and let you carry on, and in that respect, Microsoft has produced an absolute winner. The PS5 works well for PS4 games, sure, but it ends there, at least at the time of writing.

That 'honest reasoning' I mentioned did fall by the wayside, mind you, when I realised I'd been playing *Oblivion* all day, and that's because... I think I'm oddly more fond of it now than I was 14 years ago. I adored Bethesda's open-world epic when it was the first of the real next-gen games on Xbox 360, sure, but there was always the nagging feeling that it wasn't as weird as *Morrowind*, that the potato-faced people looked rubbish, that Sean Bean had phoned in every one of his few

lines (while Patrick Stewart had acted the snot out of his even fewer lines). But now, two console generations later, playing on a save I first made when I was in my early 20s and living in Leeds, it all just feels much more impressive. Much more ambitious. Much more honest.

Of course, that's the harmful brand of nostalgia seeping through, and therein lies the reason why backwards compatibility should, actually, be destroyed for the good of humanity. We can only take so many articles extolling the virtues of games of the past when being played on machines absolutely not made to play something so primitive, after all.

Make It Again IV

Driving games come out all the time, so they're often something I'll dabble in – one thing I've noticed in more modern titles, though, is the rewind button. I understand and like this feature, but it does make me yearn for consequences to your driving actions and, thus, my brain pivoted hard to *Stuntman*. Reflections' way-too-hard game of driving numerous vehicles around movie sets and pulling off inch-perfect manoeuvres was unique in the best sense, and is the sort of thing I see games crying out for right now. Think about it in a modern sense, though: gorgeous scenes to work through, lifelike driving physics, endless particle effects to show off, and instant restarts meaning much of the frustration is removed. It just makes sense to go back to *Stuntman*, really.

The game was followed up by a competent (and less difficult) sequel, and then promptly forgotten. In this modern era of life being painful and difficult, I for one call for a return to that sort of thing in the video game versions of driving. No more rewind buttons, yes more failing for ever-so-slightly touching a traffic cone and making it wobble, and not even fall over. Oh *Stuntman*, you were fantastic, but an absolute bugger.

Finali-toy

I'm not usually a fan of gaming figures, toys, tat, whatever you want to call it – tends to get in the way of my regular desktop clutter (or 'rubbish', as you may well call that). But Square Enix recently released its range of polygonal *Final Fantasy VII* figurines here in Europe and… well, I had to. They're teeny little models in the same style as the original PSone game, so the nostalgia overload is very real indeed. Previously only available as a random selection in Japan – resulting in excessively high prices for the 'Cloud chase' figure on eBay – the box of all eight figures can be yours for a snip at… erm… £55.99 plus postage. Yes, it is actually a good argument for why people shouldn't have disposable income.

All at sea in The Touryst

Ryan uncovers sun, sea, and screaming frustration in
Shin'en Multimedia's likeably offbeat puzzle game

've gone on holiday by mistake. Lured in by the sun-kissed beaches, floral shirts, and voxel graphics, I now find myself trapped in an archipelago of torment. I've been playing *The Touryst*, Shin'en Multimedia's 2019 action puzzler that recently resurfaced on the Xbox Series S/X.

It all looks so inviting at first. Taking control of a decidedly laid-back protagonist – who, with his shades and droopy moustache, looks uncannily like *Magnum*-era Tom Selleck – you're dropped off by a cheerful boatman on the idyllic island resort of Touryst. Roaming the beaches, collecting the odd coin, and chatting to the locals, the game unfolds at the relaxed pace of a Mediterranean package holiday... but then you descend into your first monument, and *The Touryst* shows the first glint of mischief in its eyes.

Monuments essentially function like the dungeon/temple challenges in *The Legend Of Zelda* series, except with the combat removed and the emphasis instead placed on puzzle-solving and nimble platforming. There are also boss battles, of sorts, but these are also resolved by solving problems rather than swinging a sword. In the first monument, for example, you'll encounter a serpentine creature comprised of blocks; you can defeat it by luring its sole, glowing eye into gazing at coloured squares on the ground. Complete the challenge here, and an older tourist will instruct you to head to four other islands, each with its own monument and a MacGuffin to collect from within.

The further into the game you go, the spikier these monument challenges become. One asks you to jump across chasms onto moving platforms to pick up a block, then make your way back to the other side of the chasm to place the block on a switch, then make your way back
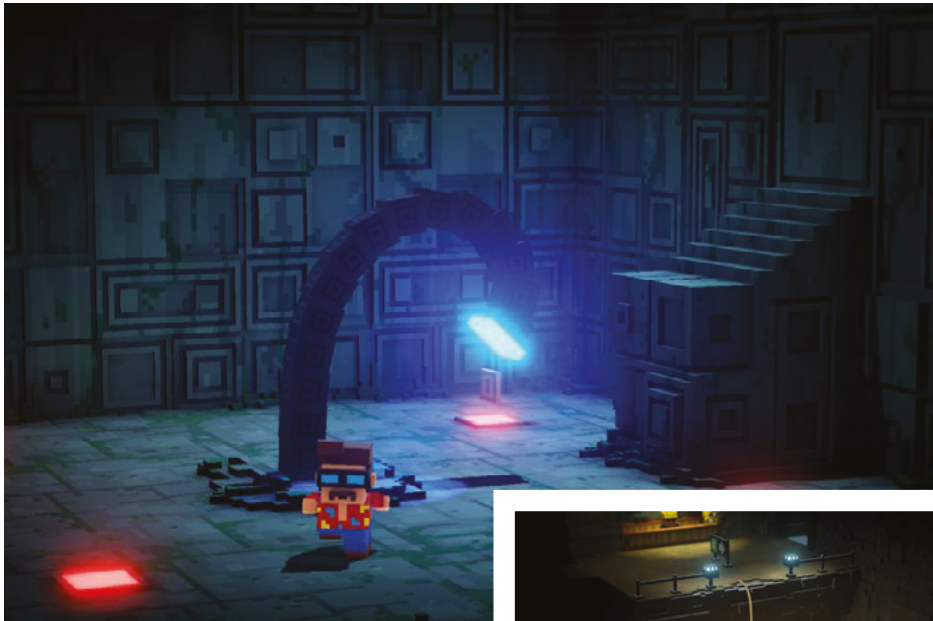
across the chasm again. This, and other puzzles like it, can be absolutely infuriating – and for a while, I struggled to put my finger on exactly why. Dying means you have to attempt the entire challenge again, which can be annoying when you've figured out exactly what you're meant to do but then, say, mess up the last jump at the very last second. The game's also marred on occasion by some fiddly controls: one boss encounter asks you to stand on a platform and throw blocks onto five distant switches with pinpoint accuracy – a simple task made much more tricky because the throwing arc is so twitchy and difficult to position. Get a throw even slightly wrong, and the manically writhing boss will knock all the blocks over, meaning you'll have to start again.

Really, though, I think I've found the monuments so frustrating because they take you away from the most enjoyable parts of the game. While the most challenging parts of *The Touryst* are found in the murky depths of those monuments, the bits that take place out on those sun-drenched islands are far more satisfying – and, dare I say it, more original. There's a real joy to be found in odd tasks like helping a detectorist uncover buried treasure on a beach, or taking the helm of a kid's drone, or digging up fruit to make a smoothie for a bored receptionist. I could happily spend hours chipping away at silly tasks like this, but *The Touryst* is more intent on gently ushering me in the direction of another dingy monument.

"I find myself trapped in an archipelago of torment"

This isn't to say that there aren't moments of brilliance in these subterranean challenges. Some of the puzzles are wittily designed and visually striking – one involves shepherding a horde of voxel rats, which I won't forget in a hurry. But there are also other moments that involve annoying things like blind jumps onto narrow ledges, which are enough to leave you gnawing at your controller after you've messed them up for what feels like the thousandth time.

Still, it's the little details that keep me coming back: the record store with tiny, pixelated yet instantly recognisable album covers (look, there's Nirvana's *Nevermind* on the top shelf). The way you can join in with the dancing at a beachside party. The likeably salty dialogue from the islands' residents. There are times where I think *The Touryst* actively hates me, as it forces me to endlessly collect diamonds from a crypt full of tiny platforms and narrow pits where the slightest mistake forces me back to the start of the area. But then I emerge into the gorgeous sunlight, and I find myself thinking: as frustrating as it can be, I think I'm happy to stick around on *The Touryst*'s curious islands for just a little while longer. ⓦ

Wireframe Recommends

Treasure Island Dizzy
ZX SPECTRUM / VARIOUS
Some of *The Touryst*'s quirky lock-and-key puzzles remind me a bit of The Oliver Twins' action-adventure from the eighties: *Treasure Island Dizzy* was also charming, yet sometimes infuriatingly difficult.

OutRun
ARCADE / ALL SORTS
It's not just a classic driving game – it's a vacation for your eyes and ears. Groove to Hiroshi Kawaguchi's timeless soundtrack. Chill to the tropical scenery zipping by as you potter along in your Ferrari. Bliss. Absolute bliss.
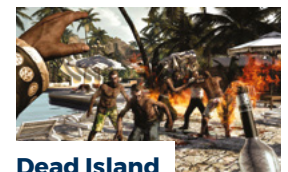
Dead Island
PC / VARIOUS
It's *Night of the Living Dead*, but with palm trees and beach huts. Sure, *Dead Island*'s glitchy and flawed, but there are undoubtedly worse places to slaughter hordes of mindless, slavering undead. Zombie cocktail, anyone?

Made to demo the DualSense it might be, but *Astro's Playroom* is... just really good.

Haptic fantastic

Ian really can't get Astro's Playroom out of his head

Astro's Playroom is chatted up in our reviews round-up for this new generation's initial batch of games – well, the ones we had access to and could fit in the mag, at least – but since turning it on for the first time, it's a game that's been dominating my brain in a way I never expected it to. As such, it's getting a bit more space *and deserving every single one of its extended column inches*. I cannot overstate how thoroughly impressive *Astro's Playroom* is, how utterly next-generation it feels as an experience, and how surprisingly crafted with obvious love it all is. It's a tech demo. It's made to teach you about what the new PS5 controller can do. But it's one of the best things I've played in a while, and that's frazzled my brain a bit.

Maybe it's because you expect these early days demos to be like the T-rex on the original PlayStation: impressive, something you wanted to show off to your friends, but ultimately not something you actually played; leaning completely in favour of the *demo* side of things rather than anything approaching a game. Unless you want to count 'pretending to make a dinosaur talk' as a game, I don't know. Maybe it's because there've been a couple of *Astro* games previously, and while I haven't played the VR version, the original PS4 one was a cute little 'hey, look at what the controller can do' sort of thing. It was there, did a job, but was easily ignored

beyond that. I've just got my brain in a place where that's what I expect early days PlayStation demos to be like. I wasn't expecting a crafted and *fun* platformer that mixed up what you do as much as it does where it's set, all while it expertly demonstrates just how cutting edge the controller in your hand actually is. I'm still reeling.

I can't take it apart into its constituent elements, of course. This isn't a world-beating 3D platformer. If it just demonstrated the DualSense's capabilities, it would be little more than an interactive instructional video. If it was just a series of empty references to PlayStation's past then it would be as disjointed and pointless as an episode of *Family Guy*.

So yes, picking at the seams gets you a whole load of unattached fabric and not much more. But together? Oh, *what* a technicolour dreamcoat *Astro's Playroom* is.

Words struggle to describe how impressive the haptic feedback is.

Your platforming is fun, snappy, and while not particularly challenging, for the most part it's a fully-fledged experience with tricky sections to navigate, plentiful secrets to be discovered, and even boss fights to battle your way through. Linked directly to the platforming is *Astro*'s use of the DualSense's haptic feedback and responsive triggers – I'll just say haptics for the sake of space – which are constantly there alongside smart use of the built-in speaker. You know what surface you're running on by feel, you can hide from the rain and you know it's stopped hitting you, you can sense the bend and sway of a coiled spring as you tilt left and right – I know it's a series of motors and vibrations and gears and whatever, but this is actual magic levels of fun. The haptics are incredible. *Incredible*. If other PS5 games use them to this extent, and as well as *Astro's Playroom* has, the console will be able to offer something Xbox literally cannot (at least until Microsoft catches

> ## "Oh, *what* a technicolour dreamcoat *Astro* is"

up and launches a haptics-heavy controller of its own, which feels inevitable given the general reaction to the DualSense so far). The endless nods to the PlayStation's past are caught in your periphery, rather than forced down your throat, picking up on a re-enacted *Resident Evil* scene, a *Wipeout* race in the distance, even the original livery from *Ace Combat* showing up – it's not lazy nostalgia, it's honest love for the platform's 25-plus-year history. Plus there's a boss fight against an old friend that combines the general play with the nostalgia in a far more direct way, and actually made my nostalgia gland enlarge. At least I think that's what it was.

So it is indeed impossible to pull *Astro's Playroom* apart in any meaningful way, nor should you want to. It's a magnificent achievement as a pack-in demo as well as just in general, and anyone who has so far picked up or intends to pick up a PS5 should get on it, right now. There's even an online speedrun mode that lets you attempt levels and the other minigames – climbing as a monkey, springing as a... spring, rolling as a ball, rocketing as a rocket – in the fastest time possible, ranked against other players. I put that on to try it out one evening and, there we were, two hours later, still taking it in turns to try and get the quickest time we could from a side attraction in a tech demo. All smiling, all having so much fun, and all endlessly amazed by these bloody haptics. I like this new generation. Ⓦ

⌃ The regular platforming action is solid, snappy, and fun.

Next Issue

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LITTLE
NIGHTMARES
II

Tarsier Studios' platform-adventure is back – and more sinister than ever

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