

£3

ALL FORMATS

Wireframe

LIFTING THE LID ON VIDEO GAMES

BRUTAL DELUXE

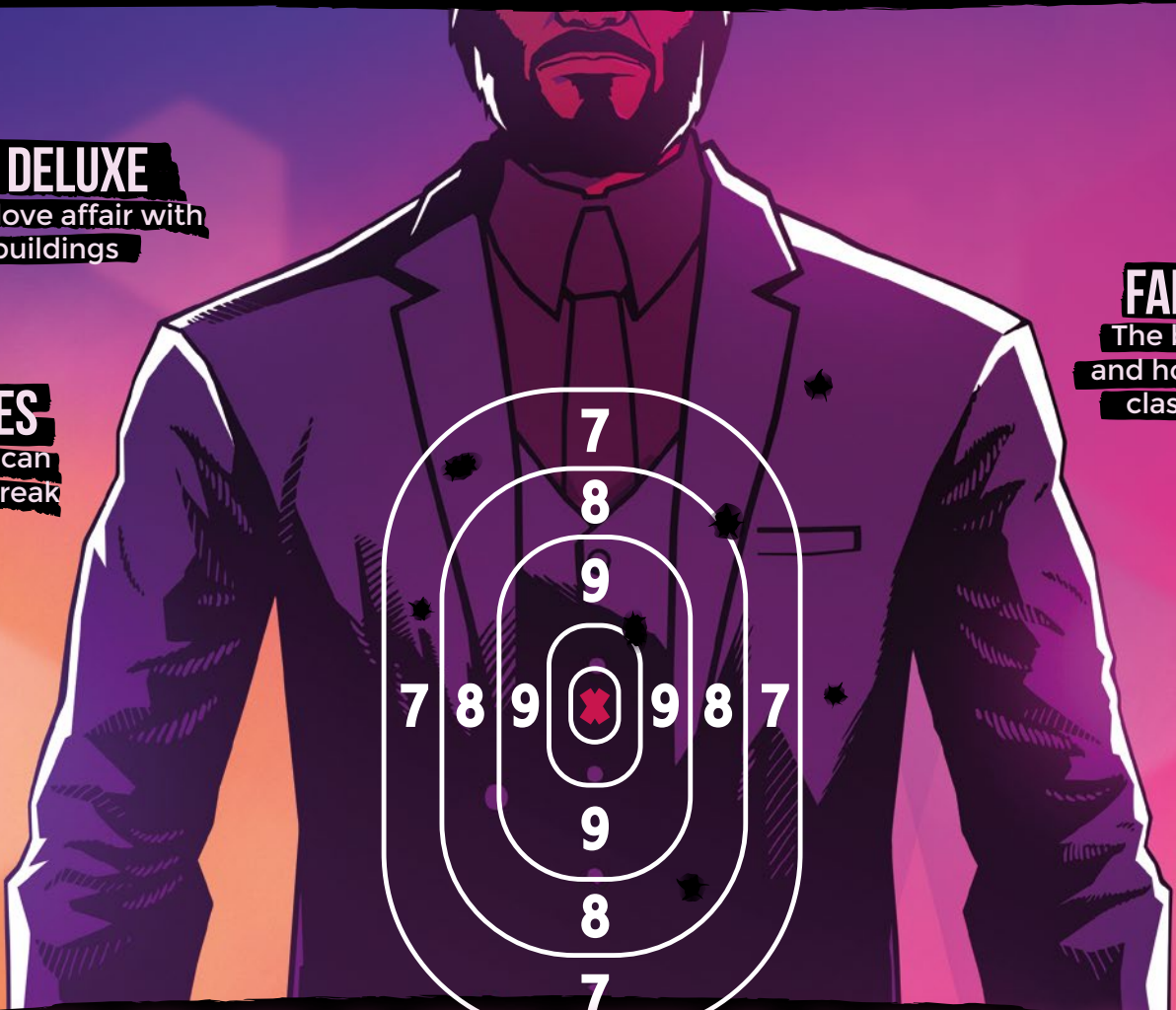
Gaming's love affair with concrete buildings

HITBOXES

How they can make or break an FPS

FAN-MADE

The best mods and homages to classic games



BREATH TAKING

VIOLENT TACTICS
IN JOHN WICK HEX

Issue 22 £3 wfmag.cc



UNLOCK YOUR GAME



JOIN THE PRO SQUAD

1ms

144Hz

Free Sync



RED EAGLE™

GB260HSU | GB270HSU | GB2760QSU



GET IN THE GAME

1ms
75Hz



Free Sync



BLACK HAWK™

G2288HS | G2530HSU | G2730HSU | GB2530HSU | GB2730HSU



IMMERSE YOURSELF IN THE GAME

4K



Free Sync



GOLD PHOENIX™

GB2888UHSU



ENTER A NEW DIMENSION

2560
x
1440

1ms
75Hz

Free Sync



SILVER CROW™

GB2783QSU

Without help, a golden age of gaming will soon be forgotten

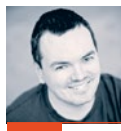
Forget-Me-Not is back on my iPhone. This makes me almost deliriously happy for two reasons. First, this is my favourite mobile game. It's a deranged, frenzied, bonkers mash-up of old-school delights. It gleefully smashes together *Pac-Man's* dot-munching, *Wizard of Wor's* roaming monsters, *Rogue's* semi-randomised dungeons, the pandemonium of cult Commodore 64 title *Crossroads*, and more besides. It's an intoxicating mix of near-faultless arcade goodness.

Secondly – and most importantly – it proves that finally, *someone* is taking seriously the notion of safeguarding iOS gaming's history. Not Apple, obviously – the US giant set off a bomb on the App Store a couple of years back that vapourised every 32-bit title. Only the hardy survived. Many weren't so fortunate, for various reasons: financial, technical, developers deciding they'd finally had enough of Apple, and some creators – such as Stew Hogarth, of legendary pinball/*Jet Set Willy* hybrid, *I Am Level* – sadly no longer being with us.

No, it turns out GameClub (gameclub.io) is now the self-appointed custodian of iOS gaming's past, having wrenched a choice portion of its library into the present. At the time of writing, about 30 titles have been resurrected, from obscure fare (*Mr. Particle-Man*; *Glorkian Warrior*) to games you'd be surprised weren't still going concerns on the platform, like *Super Crate Box*.

This is all great. What isn't great are two issues that become obvious with just a moment's thought. GameClub can only work on titles it has permission to save. That means the likes of *Geometry Wars 3: Dimensions*, *Space Invaders Infinity Gene*, and *Infinity Blade* all remain very dead indeed.

Also, GameClub is a business. I'm all for people making money from their efforts – after all, half the reason these games were never updated by



CRAIG GRANNELL

Craig Grannell doesn't make games (unless you count his dodgy GAC and SEUCK creations in the 1980s), but writes about them an awful lot. You'll find him delving into mobile titles, or getting misty-eyed about the classics.

the original developers comes down to cold, hard cash. My fear is what happens if GameClub doesn't make enough money to satisfy its investors. Doors would close, and would anyone else dare to take another crack at saving these titles?

Android, PC, and console gamers may well be rolling their eyes at this point. But the thing is, similar question marks hang over a great deal of what you play, too.

Games long ago shifted away from being collectable, static items. They're now ephemeral, often relying on host systems that are themselves subject to change. Factor in downloads, servers, other online components, and the sheer number of titles released on a daily basis, and it becomes clear we're digging an increasingly gaping hole in gaming's history.

I've no idea what the solution is, but it strikes me that platform owners and publishers could do more (or at least something) to safeguard games for the future. Instead, most do nothing, bar reissuing the same set of familiar games time and again, as though we live in an alternate universe where the biggest industry names only released a few dozen titles before 1995. You've probably rebought some of them so often you're in danger of repetitive strain injury.

It could be said that not every game needs saving for posterity. Maybe games are mostly to be enjoyed only in the here and now. But few would make that argument about music, books, movies, and TV shows. And legitimately or otherwise, I can play a slew of retro greats on a range of modern systems, and this will still be the case decades from now.

It breaks my heart that the same might not be true for *Forget-Me-Not* – and countless other recent and contemporary titles in danger of being forever lost, thereby robbing future gamers of the opportunity to enjoy and learn from them. 🙄

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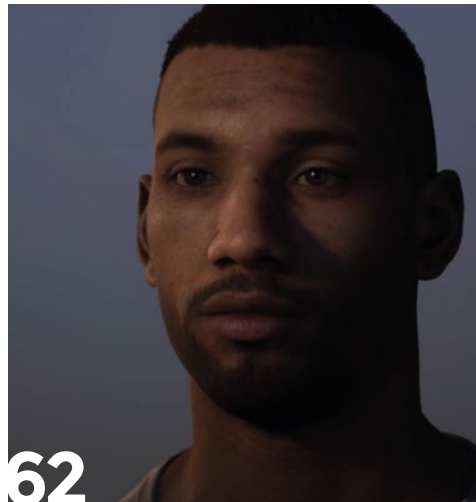
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WELCOME

This edition's cover game, *John Wick Hex*, got me thinking about licensed tie-ins. Games based on films and TV shows have been around almost as long as the medium itself, of course, as has their reputation for being a bit rubbish – a stereotype hardly helped by early examples like *E.T.*, a game hurried into production in order to profit from the Christmas sales bonanza of 1982. But while there are dozens of examples of bad licensed games, it's worth noting just how good British developers often are at taking a property and doing something original with it. In 1986, programmer Jonathan 'Joffa' Smith took *Cobra* – a somewhat generic Sylvester Stallone action movie – and turned it into an eccentric platformer full of prams, hamburgers, and rubber ducks. It also had a dedicated 'murder' button, and a *Rocky* theme remix on the soundtrack. In short, it was brilliant.

Also in 1986, there was Denton Designs' *The Great Escape*, which turned an ageing classic into a riveting isometric adventure game. About a decade later came Rare's seminal *GoldenEye 007*, which unexpectedly became one of the finest – and most influential – console shooters of its day.

So far, Mike Bithell's *John Wick Hex* looks like another great British tie-in game, taking Keanu Reeves' bullet-strewn action series in an unexpected direction. *John Wick* isn't an obvious candidate for a strategy/tactics game, but then, it's that kind of leftfield thinking that could make for something as curious and fun as those tie-ins listed above. No pressure, then, Mr Bithell.

Ryan Lambie
Editor



DOG-GONE IT

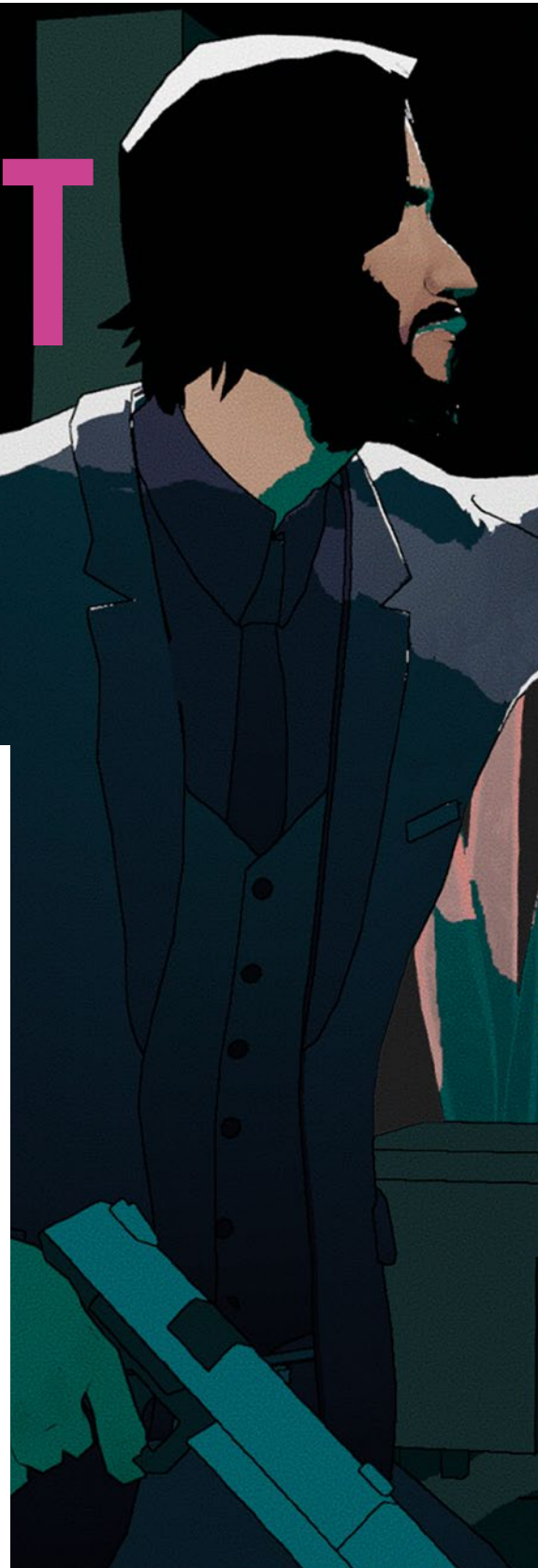
Thomas might have been alone, but Keanu doesn't need any friends in *John Wick Hex*

For some reason, while playing *John Wick Hex* – the official movie tie-in coming from, of all studios, Bithell Games – there was one game running through my head: *Vandal Hearts II*. It's not that the two are specifically similar, it's just I was struggling at the time to think of any other game that reminded me of the indie team's take on Keanu Reeves' masterclass in getting angry about dogs. See, this isn't turn-based strategy (*Vandal Hearts II* is) – it's a blend of semi-real-time and stop-start strategy that allows you to plan as you go.

Think how the world in something like *Dragon Age* pauses when you encounter an enemy and you're on the right track – you're making your way through a grid of dots in real-time, and when one of the plentiful goons steps into your line of sight, *Hex* pauses and lets you think, dipping a toe into the world of turn-based strategy without actually forcing you to wait your turn. *Vandal Hearts II*, meanwhile, has both player and enemy characters complete

their moves at the same time. That's where the comparison came to mind, and that's how quickly it fizzled out, and I became embarrassed to have even brought it up to the game's creator, Mike Bithell.

Because – would you believe it – *John Wick Hex* is not *Vandal Hearts II*. It's not *XCOM*. It's not *Dragon Age*. It's certainly not the million and one banal third- or first-person shooter movie tie-ins we all know and love (“don't love”). *Hex* is unique, stylish, and very much surprising. The strategy – the stop-start nature of play – might feel jarring at first, but it's something you get used to quickly, and it's something that, on reflection, actually suits the logic of the character. John Wick is the world's finest assassin – if it bleeds, he can kill it. He's not impervious, but he is quick and capable of improvising on the fly. Regular players are not. And so the timeline feature comes into play – every action takes a set amount of time, taking a step, firing a gun, throwing a punch, and so on. With the game paused, you're able to weigh up your options and





“Me being a pretentious indie hipster, I said you wouldn’t do a shooter as that would be stupid”

figure out what the best course of action is in order to proceed (clue: it always involves taking down goons) – if an enemy is making a move, you can see how long it’ll be before their action engages, and plan accordingly. As the action ramps up and more enemies appear at once, it becomes a constant barrage of stop-start strategy to try and make your way through the melee, taking as little of a beating as possible. What starts as rather perplexing soon makes sense, and soon after that becomes a fair bit of fun – at least from the few levels I played.

It’s not often a licensed title – especially one based on a film so purely centred on action – requires so much explanation. But this isn’t your regular tie-in – it’s from the studio behind *Thomas Was Alone*,

Volume, and *Subsurface Circular*, so it was always going to be wildly different from what we expected. Expectations suitably dashed against my mindrocks, I sat down with Mike ‘Bithell Games’ Bithell for a chat about all things Wick-ish.

How did this all come about? I mean, you’re Bithell Games, why did you get to do *John Wick*?

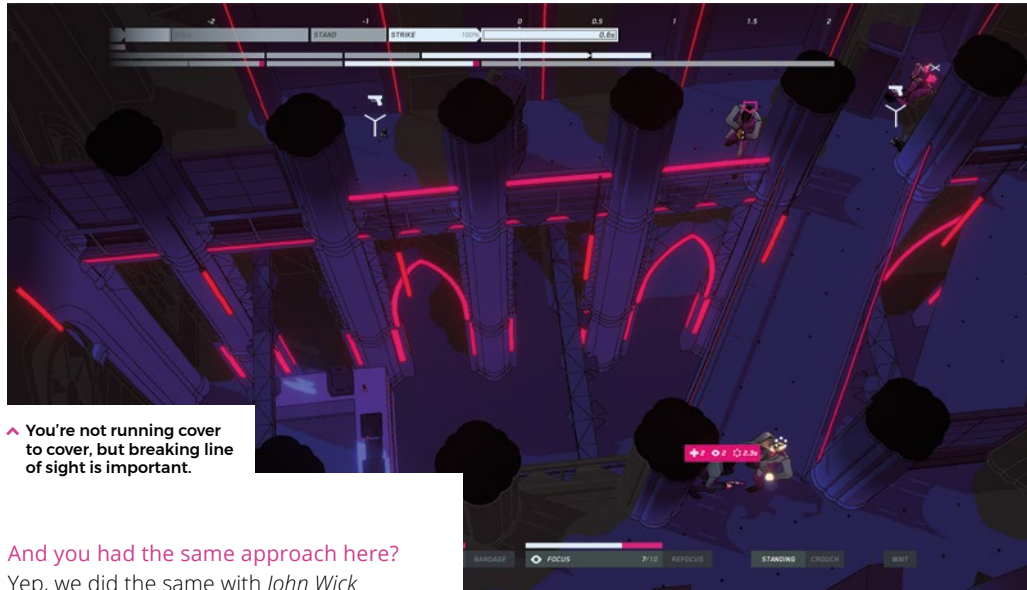
It was a nice organic process. Before I entered, Lionsgate and Good Shepherd were talking about doing stuff with the Lionsgate IP – the studio has *John Wick*, *The Hunger Games*, a bunch of different things, so they were talking about what they could do. Good Shepherd gravitated towards *John Wick* and started figuring out what kind of game would work for that; ▶

I believe they were talking to a number of people about exactly what you'd expect, third-person shooters, that kind of thing. Then they brought in Ben Andac as producer and said 'We don't want to do the obvious thing, can you find someone who can do something interesting with it?'

Ben tricked me. He took me to the cinema, we were hanging out, then about four hours into the evening out, in a bar, he asks me, 'So, if you could make any game based on *John Wick* what would you do?' Me being a pretentious indie hipster, I said you wouldn't do a shooter as that would be stupid - 'What you do is a tactics strategy game that gets inside their heads - like *John Wick/XCOM-y/Hotline Miami* kind of... something'. He told me I should make a prototype of that, because they needed a *John Wick* game. [So we made a prototype].

Have you considered making licensed games before?

As a studio, we've been approached about IP stuff before, and our internal process has always been only to pitch the idea we think is too interesting or too daft for them to actually do it. We pitched for one big IP, and we got a response from a very important person at the IP owners' company, which was just 'LOL' and no other comment after that. That's what we're aiming for, it's what as a team we strive for - we only want to make licensed games if we actually like the thing we're making, so we self-sabotage a bit.



^ You're not running cover to cover, but breaking line of sight is important.

And you had the same approach here?

Yep, we did the same with *John Wick* - internally, honestly, we took it as an excuse to make a game we thought had an interesting concept that we'd like to make. Then we took it to Hollywood and met everyone, and people liked it. What was really interesting was the people making these movies, even Chad Stahelski the director, they looked at it and went 'Oh, you're making the thing we do - that's interesting'. That meant they got engaged, which meant it wasn't just your standard licensed game where you slap a logo on it.

How did they get engaged?

The example I use is how the fog of war came about - I was sat with Chad and he was complaining that *John Wick* could see around corners, which was 'bullshit'. He asked if we could bring the camera

what we have now and all the support we've had along the way.

You said a game like this was the idea from the start, but how much has it evolved from day one?

It was more *XCOM-y*. The first version was very *XCOM*, to the extent it played like the game - you had move actions and attack actions, all the enemies took their turn, you took your turn. That was the prototype we got the project with, and everyone liked where it was going. But there was concern from the filmmakers about why *John* was waiting his turn, it 'didn't feel very *John Wick*'. To which my initial response in the Lionsgate boardroom - which looks exactly

like you picture a Hollywood boardroom to look - was to pull up videos on the big screen of *XCOM* to show them 'This

"I just explained to everyone who made *John Wick* that he has to stand on the spot and let people shoot him. That doesn't work"

is how games like this work'. They were listening to me as the game designer, but hearing myself explain 'This is how games like this work' got me thinking, and on the flight back home I decided it wasn't good enough. I just explained to everyone who made *John Wick* that he has to stand on the spot and let people shoot him. That doesn't work. 'Because genre' is a really bad argument.

So we went back to the drawing board, and that's where the whole timelines

down for a cinematic feel, and I explained it wasn't really how a strategy game would work, but 'there's a thing called fog of war that might be a fit'. We put it into the game, and he was like, 'Oh yes, that! That's amazing! How did you come up with that?', and I said 'Well, that's fog of war, Chad; I've just invented fog of war, that's what this is.' Patented Mike Bithell game mechanic, fog of war. But yes, it was just an organic process - we got taken more and more seriously, which led to



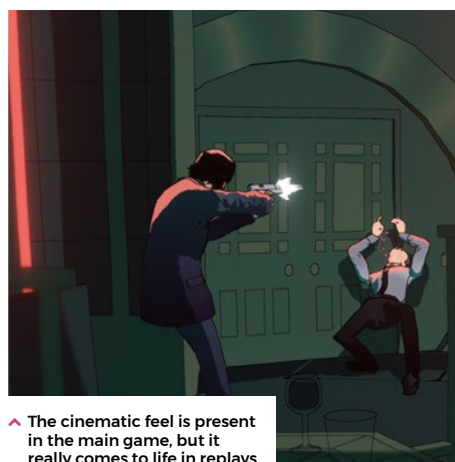
^ Measuring your action's impact on the timeline is important to master.

and interrupts thing came from – it's an interesting needle to try to thread, but it has led to the kind of thing where it feels more immediate, and *John Wick*, and unique, but also it opened the door to things like the replays. Suddenly, when you take all of these actions, and you show them without any pauses, and you change the camera angle, it's like, 'Oh, this is a *John Wick* fight scene.' That became a thing we worked with at the studio, working out how to make that work. It's probably the game that's changed the most from prototype to execution at our studio – most of our stuff is a prototype ('Oh, that's fun!'), then we make it into a game. This has been more of an evolution.

What does the back-end tech look like?

This is Unity, but we've heavily rebuilt the way it renders to get that cel-shading at the level we want, to the point it looks like it could actually be hand-drawn art. Getting [the engine] to make choices that artists would, like the level of detail, scaling, getting line art to be consistent weights, things like that. There's a lot going on behind the scenes.

The art style, when we sat down to talk about it initially, we wanted to avoid photoreal, we wanted to do a comic-book style, it's something we arrived at quite early. The concept artist I've worked with for years, Daz Watford, said to me, 'There's a kid I'm working with right now, he's been trying to build a comic book renderer for Unity.' We went to him and it was awesome, guy called Dick Monday, great name, he was working on this stuff in his own time – it was beautiful, he had this renderer achieving a comic-book look in Unity, and we just hired him and bought his tech. 'We'll get you, and we'll get everything you've worked on for the last



^ The cinematic feel is present in the main game, but it really comes to life in replays.

few months, please', and that became the foundation, he worked with us for a couple of years to build up to what we have now.

The core team is around six or seven, in terms of people who are there on the team call every day, and then we bring in a bunch of people as and when we need them. The credits list is going to be about the same as *Volume*, so around the 30 people range, but in terms of the key team – those who are going to be annoyed at me for not being in the team call today – that's about six or seven people. It's important for us – I like to work with a very small team of talented and awesome people. The scale-up scares me a bit. We may well do it at some point, but I like making games in this range.

But you will scale up with success, surely?

We've worked very hard to avoid that by making weird choices.

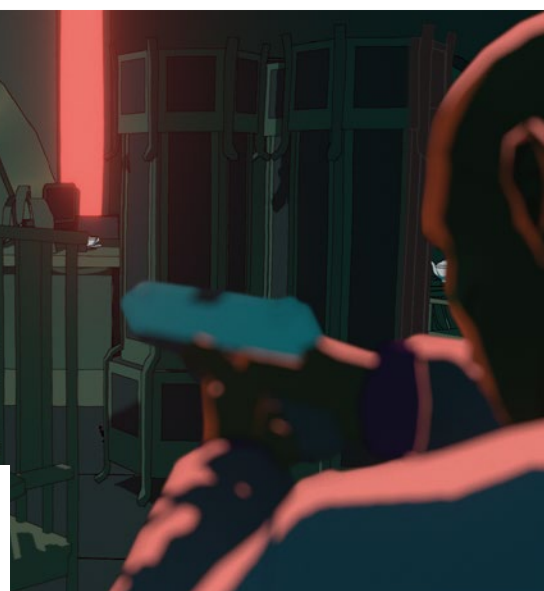
'Weird choices' like a *John Wick* licensed game?

Which is a very cool side effect, yes.

I've run out of real questions; I can just ask something daft like 'How well-textured are the crates?' or something in a vague tribute to *Old Man Murray*...

It's crazy – we're showing an old build right now, but the crates actually do look better. The colour palette's better, there's slightly more detail everywhere... I look at it now and just think, 'I hate this version of the game.' But that's fine. 🐾

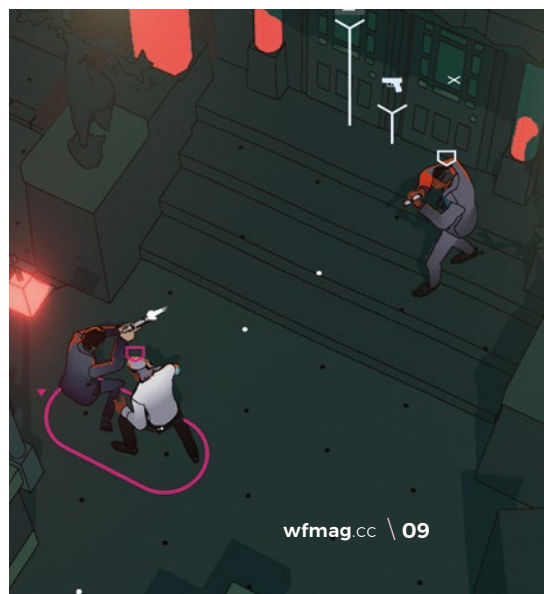
***John Wick Hex* releases on PC and consoles in the not-too-distant future.**



EPONYMOUS

The burning question, though, is this: isn't naming the company Bithell Games a bit of an ego trip? "When I named the company, it was just me, and I never thought anything would happen with it because I'm an idiot," the titular dev explains. "Though it's better than the original plan, which was Michaelsoft, which I'm very glad I didn't go with... that would have been bad. When I made games as a kid, they were always Michaelsoft, because I was a really cool guy. As you can imagine."

^ *Wick's* bread and butter is multiple threads at the same time, and taking them all down in the coolest way possible.





Beyond Blue

Get ready for a whale of a time

Info

GENRE

Exploration
adventure

FORMAT

PS4 / XBO /
PC / Mac

DEVELOPER

E-Line Media

PUBLISHER

E-Line Media

RELEASE

October 2019

▼ A small underwater drone can be used to discover hard to reach areas, such as the deep sea or underwater caves.

The ocean is a strange and unfathomably diverse place. We all know the feeling of splashing around in the shallows on a sandy beach, yet the murky ocean depths and the strange creatures that lurk within them can seem completely alien. A daunting task for E-Line Media's upcoming *Beyond Blue* then, a marine exploration title attempting to create the most realistic and encompassing ocean experience ever seen in a video game.

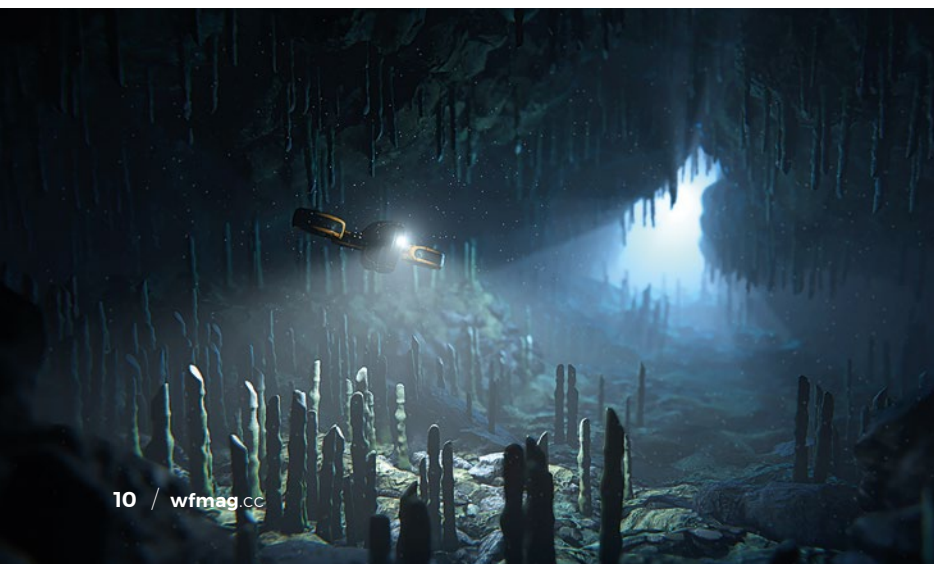
Luckily, E-Line Media began the project with the BBC and *Blue Planet II* (the award-winning documentary series narrated by Sir David Attenborough) firmly on side. As creative director Michael Angst explains: "The BBC's proposal was to grant us access to breathtaking footage from the *Blue Planet II* production. They also introduced us to leading ocean experts." A promising start from a research point

of view, but now the game's approaching the end of its development, how is it shaping up?

The demos seen so far show scientist and playable character Mirai heading up a new marine research team. Their task: to use brand new technologies to explore the ocean in ways which were previously impossible. The tech depicted in the game isn't science fiction, however: "All of the advanced technology depicted in *Beyond Blue* is inspired by real-world tech that either exists or our scientists anticipate existing in the next 10–20 years," Angst says. "Our goal was to put the natural world front and centre and provide the player with the technology that would allow them to stay immersed in their exploration."

These technologies include data-collecting buoys tethered to the ocean floor, and, most excitingly, the ability to scan marine wildlife in its natural environment. Playing the demo myself, I swam up to manta rays, dolphins, even a sperm whale, and then I scanned the animal to reveal fascinating information on its behaviour and biology. It's a smart dynamic; learning about the lives of the creatures you're interacting with allows players to forge deeper connections with the underwater world that Mirai's researching.

Beyond Blue will also include 'Ocean Insight Videos' – real footage shot by the *Blue Planet II* team to complement Mirai's computer-generated world. E-Line Media's previous game, *Never Alone* (a puzzle platformer revolving around native Alaskan folklore), also featured short video clips to complement the core experience. In both *Never Alone* and *Beyond Blue*, these videos allow the player to further immerse themselves in the





▲ Future technology allows Mirai to freely explore the ocean without a clunky oxygen tank slowing her down.



▲ Even the most extreme places in the ocean harbour a surprising amount of marine life, if you can reach them.

game's message and world, bridging the gap between in-game experience and real-world discovery.

With real marine footage worked into *Beyond Blue*, it might be assumed that going back to a game world after seeing real ocean life would be jarring. *Beyond Blue* gets around this the best it can through its impressively detailed visuals. Angst explains: "Our goal is to expose the exceptional diversity, complexity, and beauty of the ocean through the eyes of richly drawn characters inhabiting an evocative narrative."

But what exactly is the shape of this narrative? Specific details are obviously scarce pre-release, but Angst does offer up a hint: "Mirai is a robustly represented character with a backstory and motivations that we hope will resonate as players get to know her. Mirai also spends time staying in touch with her sister, with whom she has a deep and complex relationship."

Of course, it's likely the thrill of exploring realistic ocean expanses is what will attract most players to *Beyond Blue*. Playing the game, you'll encounter many different environments including reefs, the open ocean, hydrothermal vents, and even underwater caves. Each setting is a kind of marine playground you can paddle through in your own time. Angst explains that the *Beyond Blue* team wants to "give players an opportunity to explore each environment

at their own pace and have their curiosity rewarded." While this isn't a game with an entirely open-world format, we do know that the habitats E-Line Media has focused on will feature a strong attention to detail and many different species of marine life.

In order to discover these new species, you'll have to spend time searching through every cave and coral reef. Once under the waves,

you'll come face to face with a plethora of fish, mammals, and reptiles, each with unique behaviour that changes based on your presence.

Animal models and animations are strikingly realistic, and differing sizes and masses means every creature feels as though it's unique from the others in its school or pod.

Ultimately, *Beyond Blue* is shaping up to be more than just another exploration game. Based on the demos, it's an experience which seems as though it could be as beautiful to play through as it is remarkably authentic, and the game couldn't be coming at a more important time. Our oceans are currently facing huge challenges from climate change and pollution, but Angst and the *Beyond Blue* team are refreshingly optimistic on the future of our seas. "We worked with our scientists to depict a future for our ocean that we might reasonably aspire to experience, that is as hopeful as they are." 

"Our goal was to put the natural world front and centre"

ASK THE EXPERTS

Research undertaken by scientists Dr. Samantha Joye and Dr. David Gruber has been a huge influence on the development of *Beyond Blue*. Speaking about Dr. Joye's input, E-Line Media explained: "Dr. Joye is our lead science advisor. She introduced us to some of the most fascinating places in the deep ocean, like hydrothermal vents and brine pools." On Dr. Gruber's input: "Dr. Gruber is an explorer and scientist with a deep respect for scientific approaches that minimise intrusiveness." Indeed, playing *Beyond Blue*, it's clear that Mirai aims to disturb the environments she explores as little as possible, and the game's hydrothermal vents are one of the most spectacular and otherworldly settings in the game.

Attract Mode Early Access



Planet Zoo

Imagine Jurassic Park, but without any dinosaurs

Info

GENRE
Wildlife
imprisonment
simulator

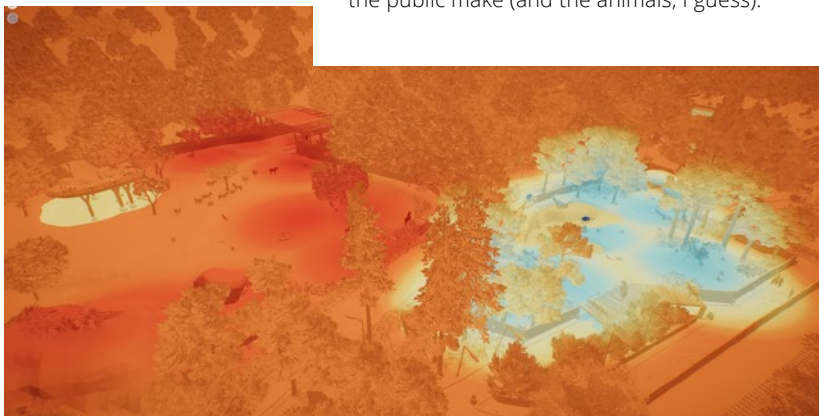
FORMAT
PC

DEVELOPER
Frontier
Developments

PUBLISHER
Frontier
Developments

RELEASE
5 November 2019

▼ Elements like heat maps can immediately highlight issues with, say, a lack of cooling for creatures that require not being toasted alive in public.



Frontier's really gunning for this simulation genre thing now, isn't it? And, well, fair enough – *Planet Coaster* was a (dare I say it) scream, and licensed tie-in *Jurassic World Evolution* was a solid, well-presented package (with an admittedly lacking long-term appeal). So it's of very little surprise the developer-publisher would venture further into the world of making enclosed entertainment spaces to exploit the wallets of the gawking public. Yes folks, this time you're making zoos.

If you've ever played a sim-style game – and you probably have, given it's one of the oldest genres – you know what to expect, and the fundamental aspects really don't veer too far from what's come before. That is to say, you're granted an area in which to create, and you go. You build enclosures for animals, entrances/paths/shops for the public, and staff facilities for the folks who need to clean up the bad messes the public make (and the animals, I guess).

You do some light management-y stuff in the back end, and you try to make it all a success, sometimes with the odd stipulation thrown in for good measure/challenge. It's a tried and tested formula, and even now, in space year 2019, it still offers a sturdy foundation on which to build more Good Stuff.

Planet Zoo's way of bringing in more Good Stuff is to tweak the approach – the underlying attitude – surrounding your reasons for making this animal jail. Rather than looking at building a grand facility for the people, and bringing in money by manufacturing the sort of pure empire of capitalism you're usually going for, *Planet Zoo* focuses more on the welfare of the animals within your walls (and fences, and plexiglass enclosures). OK, the overarching goal is still to not lose all your money and go out of business, so really it does all boil down to the endless pursuit of wealth accrument, but at least you are starting out from a more benevolent standing.

Animal welfare doesn't just mean feeding and watering the beasties in your zoo; you're looking to tweak enclosures to their needs, bring in friends and mates for them, keep them entertained, and generally just look after them. A dusty sand bowl of an enclosure might be decent for a bunch of baboons, but dik-diks need grass to be happy – not too much, and not too little. An alligator without any water is just cruel. A bear needs entertaining, and giving it a cardboard box to play with is just as good – and far less cruel – than forcing it to dance or wrestle for the amusement of the masses (not that you can do either of the latter in the game). It all

comes together in a grand animalistic facsimile of *The Sims*, with a big part of your management goals coming down to making sure all of your animals' many mood bars are kept in the green.

Left to the hands of the amateurs and fools, this would make for a gigantic pile of micromanagement, with endless menus to click through and ridiculous mini-tasks you didn't even know were a thing that existed, never mind needed doing. Not so in *Planet Zoo* – a simple interface guides you through the process of making sure Terry the tapir and his brood have enough space, food, water, grass, shade, and are at the right temperature. A click to bring up how the enclosure is working out for the animals inside, a couple of clicks to get to the tools needed to change things, and a live update of the mood bars as and when you make changes: it sounds simple, but it's one of those quality of life features you only see from studios that have this stuff locked down.

Aside from the depth of management aspects – think deeper than *Theme Park* but not quite on a par with... a *really deep management game* – there's another thing sure to draw in a bunch of players: creativity. Admittedly, it's never going to be as much fun as designing a rollercoaster from scratch, but *Planet Zoo* does bring with it the creation and landscaping tools needed to make your zoo truly unique. Or to just mess people about. How accommodating to a freestyle approach the game will be,

“Dik-diks need grass to be happy – not too much, and not too little”

I'm not entirely sure, but I'm hopeful it will still be possible to make an interesting, visually engaging (and bloody weird) zoo that actually functions in a positive fashion for the animals inside it, rather than having to stick rigidly to predetermined paths towards success. As well as clearly signposted paths towards the toilets.

Zoos aren't as exciting as theme parks, and frogs aren't as thrilling as velociraptors, so we'll have to just wait and see if *Planet Zoo* can hook on to any particular zeitgeist to become a success. But from what we've seen and played so far, it's starting out life with solid fundamentals, and is focusing just enough on a slightly different angle to what we've seen before. It'll probably all be fine, so long as there are no sudden tiger fights. 🐾



▲ As with *Jurassic World Evolution*, the animal cam is surprisingly engaging, allowing you to pore over your wee beasts in great detail.



▼ 'Animal enrichment', it's called. We know it's just an excuse to make us laugh at what these silly ex-dinosaurs get up to.

ANIMAL WRONGS

The core game pushes aspects of conservation and emphasises animal happiness, but it's still good to see Frontier at least acknowledging there are those fundamentally opposed to zoos. Granted, this is presented more as a challenge to overcome, with protestors sometimes picketing your zoo and needing to be appeased to move them on, rather than a discussion to be had in a frank and earnest fashion. But hey, that wouldn't make for a very good game now, would it? And maybe the tigers *like* being stared at in a pen 300 times smaller than their natural ranging habitat. Ahem.

Headlines

from the virtual front



01. (The name) Telltale's back!

Developer Telltale, which imploded earlier in the year for many a failed business-related reason, is back from the near-dead. This new incarnation is a company formed from an assets purchase by LCG Entertainment, allowing the company to operate as Telltale and pick up some of its existing franchises like *Batman* and *The Wolf Among Us*, as well as bringing new projects to life later on down the line.

Questions have arisen on the studio's new form after it was revealed some old Telltale staffers had been offered roles at the new-ish company, but only on a freelance basis. Freelancers don't enjoy the same employment benefits and protection as full-time employees. This is, perhaps, down to the company just starting out – we hope.

02. Microsoft (looks through your) Windows

Contractors working for Microsoft revealed they were previously tasked with listening to what you – yes, you – were saying to your Xboxes and PCs. This was a part of a 'product improvement' service, according to Microsoft, and involved contractors hearing voice clips sent via Microsoft's Kinect and Cortana services.

The practice has ended, and Microsoft has clarified its standing in an update to its terms and conditions, but it just goes to prove your wild screaming at the computer to try and make it give you a free copy of *Void Bastards* probably wasn't the greatest idea in the world. Also: privacy is a real concern in the modern world!

03. Night in the Woods developer dies

Night in the Woods co-creator Alec Holowka has died, with a family member reporting his passing and noting Holowka had been suffering with mental health issues for a large part of his life. News of his passing came just a few days after the developer was accused of sexual abuse. Following the accusation, a number of development partners withdrew their support from projects attached to Holowka.

The accusation wasn't the only one levelled against developers, with a number of other prominent men also named in what has been referred to as gaming's #metoo moment. For legal reasons, all parties have to remain unnamed here, but allegations run the gamut from predatory behaviour all the way up to sexual assault.

Information, help, and support can be found at The Survivor's Trust:

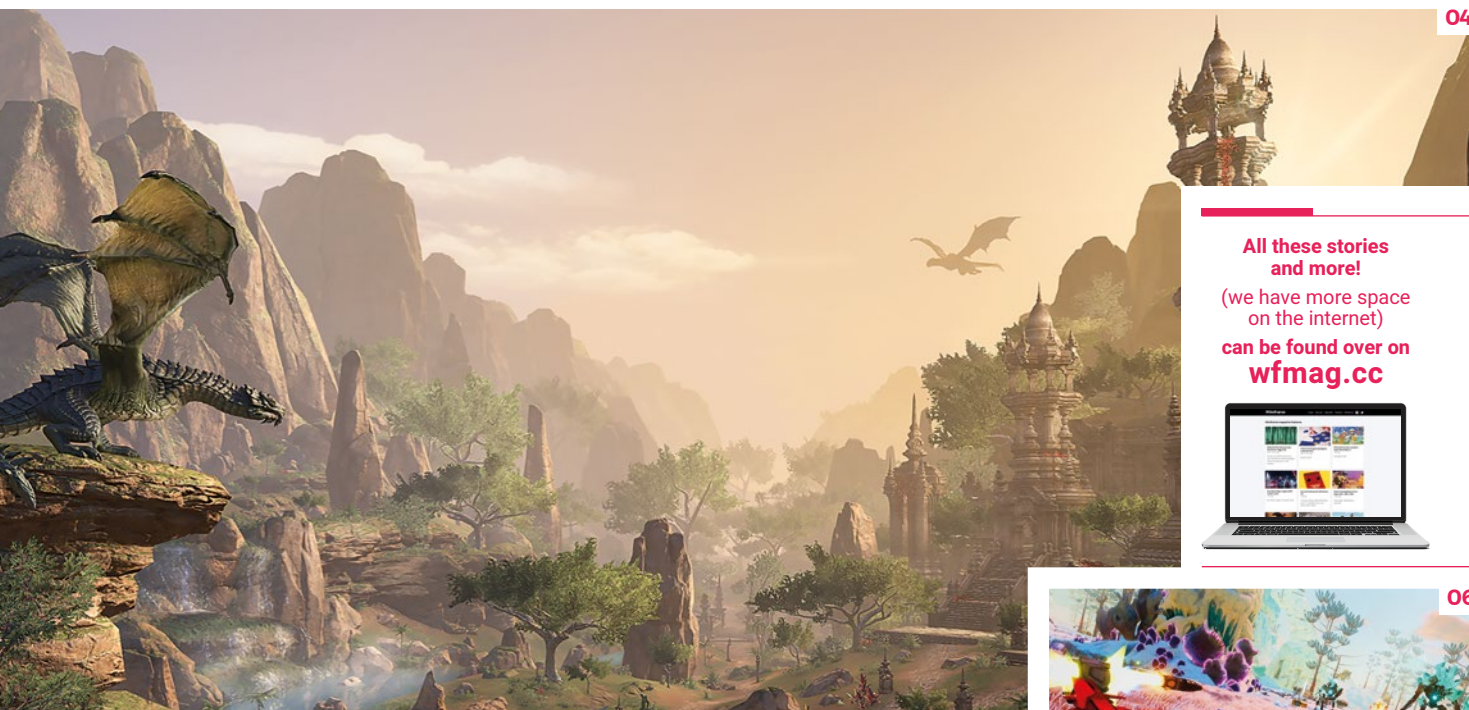
thesurvivorstrust.org

Samaritans can be contacted on 116 123 or email jo@samaritans.org



Shovel Knight Dig unveiled; excitement overflows

New *Resident Evil*? Print deadlines mean 'we don't know'



04

All these stories
and more!
(we have more space
on the internet)
can be found over on
wfmag.cc

04. Switched off

The Elder Scrolls Online would find a perfect partner in the Nintendo Switch, we're absolutely certain of it, but... well, it's not going to happen. Despite Bethesda having *Skyrim* ported across to Nintendo's handheld in fine fettle, ZeniMax Online Studios game director Matt Firor poured cold mead on the nascent thoughts of the online entry to the series hitting Switch. "Not going to happen," he told Twinfinite. "The only way it'd work is if there was some kind of streaming service on Switch. It's just not powerful enough." Ah well, there's always *The Witcher 3: Offline* (not its official title).

05



05. Feathers

Flash game preservation is something close to our heart here at Wireframe, so it came as a very pleasant thing indeed to hear about Ruffle. Adobe is ending all support for Flash at 2019's close, but the open-source Ruffle project from coder Mike Welsh aims to act as a conduit for the deprecated tech, meaning Flash programs, sites, and those daft windows that used to ruin your browsing experience can all live again in a newer, better, more secure fashion. The emulator's built in Rust (the language, not the survival game), and you can find out more about it here: ruffle.rs



06

06. Ubisoft's new groove

After staring down the enemy and refusing to blink first, plucky underdog Ubisoft (total assets value: £2.55 billion) saw off the threat of a Vivendi takeover. With that particular sword of Damocles seen off, the studio has moved into a safer state of mind, and with it comes the desire to create new intellectual properties for players around the world to enjoy. "We feel that it's a good moment now to go onto investing in new IPs," said Ubisoft's EMEA executive director Alain Corre, who pointed out the advancements in PC tech, the imminent next-gen of consoles, and wildcards like Google Stadia all coming together to form An Opportunity. *Assassin's Creed* will still continue forever, mind.

Reggie Fils-Aimé to lecture at Cornell; our bodies are ready



Driveclub delisted from PSN; games don't exist any more

Amplitude



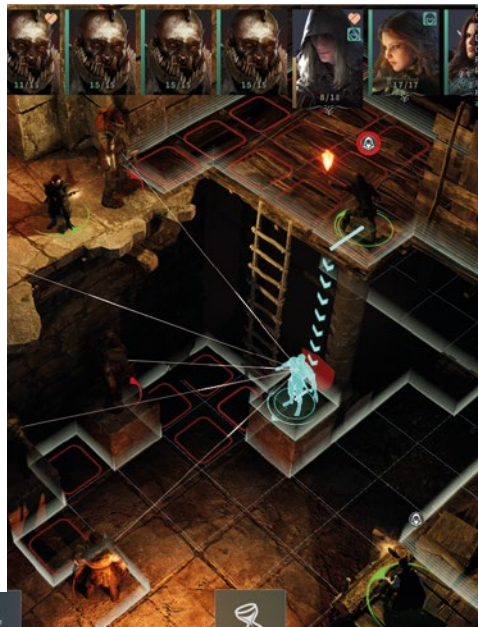
Comanche ↑

The grand return nobody even thought about until it was announced, *Comanche* is being brought back to life by Nukklear under the guidance of THQ Nordic. A team-based, objective-led, multiplayer game, it's all looking decent enough so far – even if it is honestly difficult to get too excited. Fans of the series may be let down by a lack of single-player, mind.



Humankind ↑

Amplitude Studios has been knocking it out of the park with its 4X releases so far, but these have been sci-fi- and fantasy-focused. *Humankind*, meanwhile, is the studio's attempt to dethrone *Civilization*. At a glance, it appears very much like Sid Meier's classic, but an emphasis on changing ages – and with it, civilizations – offers a twist on the formula. You may start as the Egyptians, but you won't necessarily finish as them.



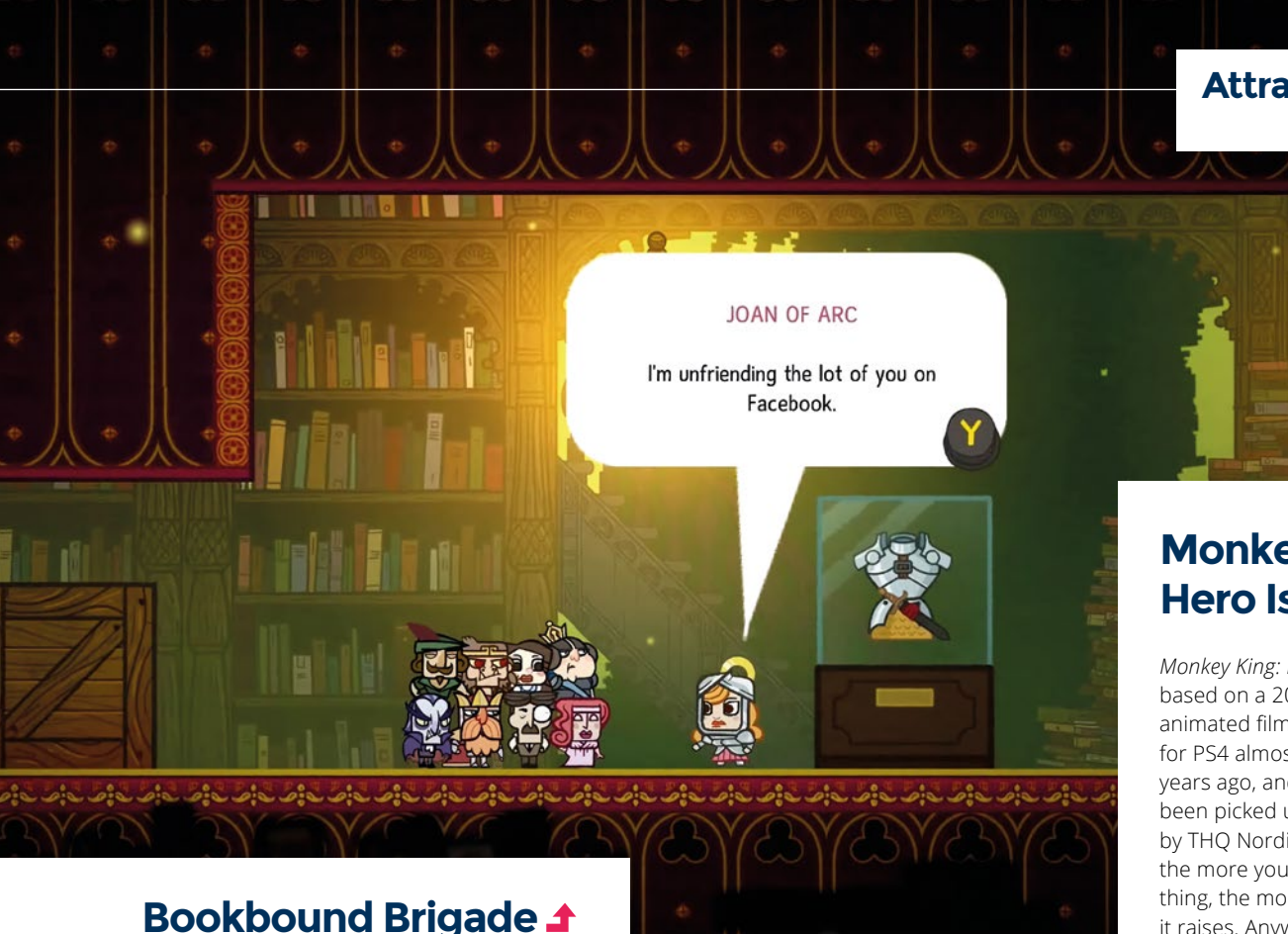
Solasta: Crown of the Magister ↑

A CRPG from the co-founder of Amplitude Studios, *Solasta* is already shaping up nicely. A couple of focal points shift from the norm – you're in control of a party, not a hero and their friends, so decisions are made in a sort of collaborative fashion, for example. Also, there's an emphasis on verticality in both exploration and combat. Each sounds like a minor shift on paper, but in practice, they seem to make a big difference.

HyperParasite ↓

We put it to *HyperParasite's* developer, Troglodytes Games, that this game has a fair bit in common with 1980s classic, *Paradroid*. This was met with a blank stare. Regardless, *Paradroid* and *HyperParasite* do have some crossover – you're a parasitic organism which can take over and control any other character it comes into contact with, adopting their powers (and weaknesses) to exploit. Mix that in with a dash of *Enter the Gungeon* or *Hotline Miami*, and you've got yourself something that plays well, looks great, and looks to be the sort of thing you can put hours into mastering. Hopes are high on this one.





Bookbound Brigade ↗

Bookbound Brigade brings together the beating heart of the *Metroidvania* and slaps on top of it the mechanics of oft-overlooked Wii U great, *The Wonderful 101*. What this means is you're jogging around completing simple puzzles and platforming feats of skill, while at the same time managing the formation of the eight literary characters you control – with different formations offering different abilities (reach higher, move quicker, etc.). It's a unique mix of genres and – as well as the lovely visual style – helps *Bookbound Brigade* stand out from the masses. One other element that stood out

from our brief time with the game so far was the writing. Penned by *LittleBigPlanet* (among many others) scribe Dean Wilkinson, the script is surprisingly pithy and – at times – quite mean. Don't get us wrong, it's funny at the same time, but the Brigade mocking Joan of Arc's aversion to fire isn't exactly what you'd expect from something so cutesy. There's even an element of educational content to the game, with these historical literary characters offering players a grounding in who they are and where they come from through their characterisation.

It's all looking... intriguing.

Monkey King: Hero Is Back ↘

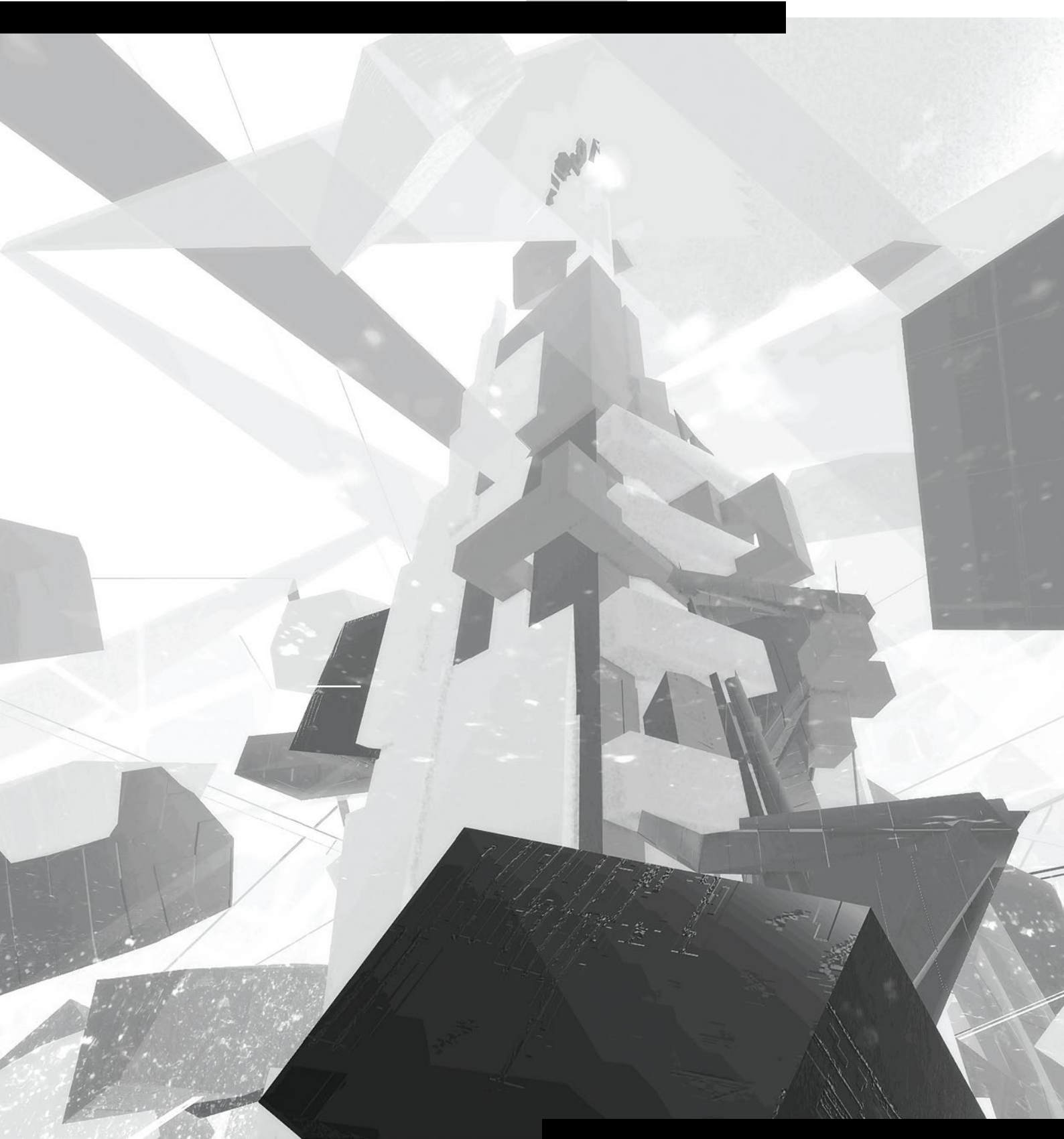
Monkey King: Hero is Back is based on a 2015 Chinese animated film, was announced for PS4 almost as many years ago, and has since been picked up and revived by THQ Nordic. Sometimes, the more you learn about a thing, the more questions it raises. Anyway, this looks like your classic movie tie-in fare: enjoyable for the kids, potentially (not likely) with something more for the adults.



Bee Simulator ↘

The prevailing thought swimming through my head when watching *Bee Simulator* being played was one that very much explains how a certain type of brain works: 'This isn't a simulator.' What it is, though, is a child-friendly, light-hearted game of exploration and collecting things (or pollen), of buzzing around and softly bumping your head into things, and hopefully not stinging any humans. It looks genuinely sweet, and with local multiplayer options, might be a surprisingly good game for the family to enjoy together.







BRUTAL DELUXE

WHY DEVELOPERS LOVE RAW CONCRETE

Game devs are increasingly looking to Brutalist architecture when creating their virtual worlds. Here's why

WRITTEN BY
EWAN WILSON

“**F**or me, it evokes a kind of coldness,” *NaissanceE*'s creator Mavros Sedeño says of Brutalist architecture. “Something artificial, unfriendly, and non-human.

Like if we were just units that could be put in boxes, arranged in an optimal way for maximum efficiency, with no thought for our well-being.”

If you live in a city, you'll likely be acquainted with Brutalism: the hulking, spare concrete buildings that sprang up in the post-war era of the fifties to the seventies. Even today, the style elicits strong reactions of fascination or perhaps even outright hatred – which makes Brutalism a great choice for games, because architecture is so useful for creating specific emotions in players.

Concrete levels aren't new to games; they've appeared in nineties titles like *Quake*, *GoldenEye*, and *Medal of Honor*. Those simple grey textures were often borne out of necessity, but nevertheless created memorable atmospheres by combining austere corridors with claustrophobic bunkers. Brutalist structures

have also appeared in more recent, big-budget titles, from the futuristic worlds of *Halo* and *Deus Ex* to the cold, alt-histories of *Dishonored* and *Wolfenstein: The New Order*.

More recently, we've seen developers use Brutalism in more deliberate ways. As they tap into ideas of authority and control, we're beginning to see more conscious explorations of concrete architecture, and a deeper engagement with Brutalism's history.

CONCRETE ACCIDENT

There's still nothing quite like 2014's architectural exploration game, *NaissanceE*. An obscurity turned cult classic, the game sees you scrambling through the monochrome halls of an endlessly shifting megastructure. *NaissanceE* and Brutalism seem perfect for each other, and yet – as is so often the case in game development – the connection was accidental. Sedeño tells us that he “wasn't aware of Brutalism until late in [*NaissanceE*'s] development” – it was only later that he discovered that some of the artists he →

IN THE RAW

The word Brutalism has nothing to do with brutality, although it's difficult to shake the connotations. The term instead comes from the French architectural technique 'béton brut', which simply means 'raw concrete'.

This is what makes a Brutalist building: a rough, exposed concrete finish, pioneered by modernist architects like Le Corbusier.

was inspired by were connected, often loosely, to Brutalism. What fed into his work was as much the things he saw in "movies, comics, and video games", as the stuff he learned in art school or through wandering the streets of Paris.

"I can say for sure I had the work of Frank Lloyd Wright in mind when I made *NaissanceE*," Sedeño tells us. A massively influential modernist, you can spot manifestations of Wright's early 20th-century style in Brutalism's concrete forms – if you've seen the sci-fi classic *Blade Runner*, you'll have seen some of his Los Angeles buildings in there, too.

Sedeño lived in Marseille for a time, and so the work of Le Corbusier, in many ways the father of raw concrete, may have also seeped into his psyche. Le Corbusier's Unité d'Habitation (Housing Unit), along with other "big blocky concrete buildings" and "low-income housing", as Sedeño describes them, can be found in the poorest parts of Marseille; they are, he adds, "the dystopian realisation of utopian visions." What began as a social project embodying progressive ideals – to have buildings meet every social need – deteriorated over time. It's common to see Brutalism as a shorthand for overbearing governments and sometimes even outright totalitarianism.

For Sedeño, *NaissanceE*'s architecture induces "the same emotions" as real-world Brutalist architecture. "It's all enveloped by this insecure, anxious aura," he says. "The feeling of being small, swallowed up and digested by the architecture, the city, and those big, repetitive shapes."

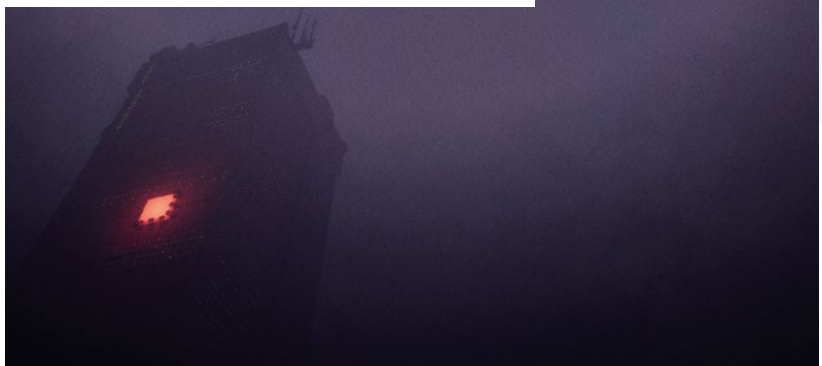
These atmospheric elements come through clearly in *NaissanceE*, but they also stem from

^ *NaissanceE*'s buildings are places where you "feel weak and lost", according to creator Mavros Sedeño.

^ Luis Hernandez was kind enough to show us this image from an unannounced – and so far unnamed – project.



^ *Neon Entropy* is Moshe Linke's new project, and is influenced as much by *Blade Runner* as real-world Brutalism.



the real experience of urban life, where we're surrounded by an ever-growing multitude of large, often concrete, buildings. We become strangers in an inhospitable land. The city is a powerful source of anxiety, "a place where you don't belong and feel weak and lost." It's these emotions that Sedeño attempts to communicate – blown up to vast proportions in *NaissanceE*.

AESTHETIC POWER

Indie developer Moshe Linke is the first to admit the artistic debt he owes to *NaissanceE*. A few years ago, he even created a fan sequel, with Sedeño's blessing, called *VoyageE*. While *NaissanceE* may have shown Linke what was possible in the virtual realm, he's long been inspired by real-world architecture. "When I went on holiday as a kid, I always preferred to see the city rather than spending time at the beach," Linke explains. "I remember visiting Trieste in Italy and seeing the Rozzol Melara complex. It was incredibly ugly, but also interesting and otherworldly. It had a huge impact on me."

Linke would go on to create several games featuring Brutalism, including *Fugue in Void*, which released last year. "I find there's something strangely romantic about Brutalism," Linke says. "The buildings look totally out of place in their surrounding environment. Often they're forgotten by society or even on the verge of being destroyed." Brutalism's detractors have long pointed to the ugly streaks and stains that appear when the buildings are poorly maintained.

Linke thinks part of Brutalism's appeal, and perhaps the reason for the recent flood of interest, has to do with its purity and minimalism. "The raw façades are hideous, and yet there's also something aesthetic about them." Linke explains that the raw, exposed elements, when placed in a virtual context, "make everything look more stylish."

He also loves the soundscapes that uniquely arise from concrete environments. "I can play with different room sizes and experiment with reverb. Footsteps echoing through the space helps create that sense of exploring a massive megastructure. It's about fuelling the player's curiosity."

It's also about scale. "Buildings that are inhumanly big and engulf the player are inherently mysterious," he continues. "You can't build a mental map of them, they're too massive. That feeling of the unknown – that's what's exciting for me."

Neon Entropy is Linke's latest project, and he says it's his "biggest and most ambitious" yet. With a writer and a programmer on

board, it frees him up to focus entirely on the architecture and world-building. "I'm spending a lot more time on the details and making the buildings more complex," he says. "An aspect I've always loved about the *Dishonored* games is how they open up. You always have multiple ways of traversing the level." While there looks to be more variation in the environments, Brutalism remains a "central thread" running through Linke's latest project.

PLACE-MAKING

Luis Hernandez is one of the creators of *Jazzpunk*, a comical adventure game set in an alternate-reality Cold War world. While there's a huge range of architectural styles present in *Jazzpunk*'s cartoon cities, Hernandez admits to being particularly captivated by Brutalism, and tries to feature it in all of his projects and games.

Hernandez traces this interest back to school, when he became interested in black and white photography. "Forcing my eye into the viewfinder and looking at the world monochromatically, the structures resonated in a new way," explains Hernandez. "They became sublime sculptures of light and shadow. My high school itself was built



^ *Fugue in Void's* spaces are designed to conjure a sense of the unknown, says Linke.

in 1961, and was a good example of Brutalism, as was the nearby University of Toronto and Robarts Library."

Once again, it's Brutalism's purity that captivates. "It's stark, direct, and without ornamentation," Hernandez says. "After postmodernism, many of us grew tired of giant toys and sprawling plate-glass cages with tacky colour schemes. Brutalism stood quietly. Grey, monolithic markers to a different time. The buildings also don't try to hide their

nature. It's pure form, light, and shadow on display, comparable to something like a classical figure painting."

While Brutalism can

be used to create feelings of estrangement, Hernandez is more interested in its display of raw power. "You can sense its immense strength," he says. "The scale and weight alone commands a certain gravitas, but I think this is also why people are often polarised about the style." It's easy to see how power and strength might slip into authoritarianism – big buildings make loud statements, but they can also intimidate or even evoke silence.

When designing his Brutalist structures, Hernandez tries to convey a sense of mass, "like the weight you feel when looking at a mountain. It's unimaginably heavy and exists on a completely different timescale from human life." While Hernandez thinks Brutalism can be unreliable in conveying things like tension, claustrophobia, and horror – there are as many people captivated by it as there are those who believe it an eyesore – he thinks Brutalism is effective at communicating awe-inducing concepts like infinity, alienation, and otherworldliness.

But while Brutalism creates powerful emotions, it can't be divorced from the real-world contexts that ▶



^ This structure is an example of Metabolist architecture, a cousin of Brutalism that emphasises concepts of organic and biological growth.

BLAME GAME

Brutalist buildings are often monumental, but the structures found in *NaissanceE* are something else. Tsutomu Nihei's manga *Blame!* was a major influence on Sedeño's work. Set within a megastructure known as The City, *Blame!*'s impossible world is endlessly modified and extended by a group of robots, The Builders. *NaissanceE*'s environment is of a comparable scale, lacking any sense of origin, coherent logic, or semblance of an external world. Everything takes place within a vast and seemingly infinite labyrinth.



^ Not only do we get a feel for the colossal scale here, but also the strange, gravity-bending effects of a structure without universal referents like the sky or a horizon.

gave birth to it. For Hernandez, this history is important. "I use Brutalism to communicate time and place," he says. "Because it's not one international style, but an umbrella term for many types of modernism. You can use regional vernaculars to depict different flavours and eras of design. Is the structure municipal, institutional, corporate, part of a campus, or military-industrial? Is the building made of cheap gravel aggregate or pure Portland cement? Is the [reinforcing bar] swollen with rust, or the concrete in a state of disrepair?"

Look beyond the simple texture of grey concrete, and Brutalist structures are surprisingly complex.

The details are important, and for Hernandez, they help "form a rich tapestry, which hopefully engages players with a sense of place, rather than feeling like just another polygonal game level."

DYSTOPIAN SLIDE

Solo developer Max Arocena was interested in Brutalism long before he broke into making games. After graduating from architecture school, he spent time digitally modelling many of his more "grandiose" ideas, while simultaneously struggling to make ends meet on small interior renovation projects.

"During my off-time, I would sit down and model these crazy formalist structures with no purpose or functionality beyond exploring architectural themes," Arocena tells us. "Brutalism was a common thread."

These grand structures would go on to form the basis for Arocena's meditative first-person exploration game, *0°N 0°W*. "The sketches grew until they were large cities that could be explored," he explains, "so one day I just thought, 'Why don't I input these into a game engine?'"

Arocena did just that, importing his project into CryEngine and releasing an early prototype codenamed *Dream.Sim*.

0°N 0°W features several cities with different styles of architecture. Arocena's urban environments are closer to what he calls the "playful interpretation of Brutalism, which is

about juxtaposing solids in chaotic and non-symmetrical arrangements," as opposed to more "rationally imposing" forms. He contrasts the irregular shapes of places like Montreal's Habitat 67 and the Holy Cross Church in Chur, Switzerland, to the more traditional, balanced symmetry of Le Corbusier.

When asked what he thinks people find so fascinating about Brutalism, Arocena's reply is simple: "Power. Power over materials, gravity, nature, but most horrifically, power over people," he says. "It's heroic, loud, but at the same time imposing, forceful, and oppressive. To me, it's a symbol of an era that started triumphantly and

with the best intentions, but descended into dystopia."

Brutalist architecture has long been used by filmmakers to explore dystopian ideas, making

appearances in the sci-fi worlds of *A Clockwork Orange*, *Gattaca*, and *High-Rise*.

Taken on their own, the buildings can be alluring, but it's also necessary to consider the negative impact they've had on people's lives. Large concrete buildings are often cheap, uncomfortable, hard to maintain, and can negatively affect our psychology. Used to quickly erect social housing and tower blocks, or for the government to authoritatively mark buildings of civic importance, it's easy to see why Brutalism has been historically unpopular.

"Consider the daily lives of people forced to live under those oblique, 90-degree concrete angles," Arocena says. "I think the problem with Brutalism in the real world is that it stopped being an art style and became a lifestyle. It tried to solve big socio-economic issues in a very formalist way, which was disastrous! Society and people are organic constructs that continuously evolve, so when you try to prescribe a rigid top-down hierarchy like that, it just doesn't work."

The story of Brutalism is that of the organic struggling against enforced rationality, Arocena continues. "While we all want to fit in, we also want to be unique, and this is clearly seen in Brutalist housing units that have survived the passage of time," he says. "Occupants change the windows, paint everything in unique colours, hang plants and drapes. In short, they do everything possible to make the space their own."

"It's a symbol of an era that started with the best intentions, but descended into dystopia"

CLASHING STYLES

• The increased interest in Brutalism is sometimes put down to its simplicity, and the fact it seems more honest than hiding behind tons of steel and glass. Postmodern architecture, on the other hand, can be disorientating in its combination of styles, taking elements from different historical periods, like tacky pastiches. Similarly, high-tech architecture can wear thin: think of the mishmash of oddly shaped London skyscrapers: The Cheesegrater, The Gherkin, The Walkie-Talkie. Also, consider the hotels of Donald Trump: all extravagance and glitz.

CONCRETE PLANS

There's been a noticeable shift in sci-fi aesthetics over the years. In the 1980s, the city of the future was thought to shine: steel, glass, and neon cyberpunk sprawls were an exaggeration of our own modern skylines, and places like Tokyo's Shibuya Crossing. The recent *Blade Runner 2049*, however, makes frequent use of concrete in its depiction of Los Angeles, while sci-fi TV series like *Westworld* and *Black Mirror* use simpler textures for their own futuristic interiors. Perhaps concrete is the future?

^ A lot of Arocena's work plays with glitch aesthetics, which is a striking contrast when paired with endless mazes of concrete.

THE HUMAN COST

For Jessica Harvey, it was post-war Britain and the concrete and asphalt that paved over the ruins that influenced *Tangiers*. A surreal stealth game inspired by *Thief* and the literary works of William S. Burroughs and J.G. Ballard, the world of *Tangiers* is explicitly dystopian. Harvey builds her cityscape by "assembling an aggregate like a collage" – a practice she's been working on throughout her life.

"It's the culmination of austere protestant sensibilities in confrontation with more traditional, gaudy, adorned movements and attitudes," Harvey says of Brutalism. "That's refreshing."

But Harvey is also critical of the movement. "We have a responsibility to go a little darker and take on board the contexts around Brutalism," she says, comparing the fascination surrounding Brutalism to the allure of totalitarian uniforms. "Brutalism expresses control, strength, and

▼ An Orwellian, oppressive-looking governmental building labelled 'Institute of Optimised Consumption Strategies'.



URBAN DECAY

While *Tangiers* is a work in progress, Jessica Harvey is also part of the team that made 2018's narrative adventure game, *Paratopic*, which recently won an Independent Games Festival award for its excellence in audio design. Much of the game takes place in a grungy urban landscape, making use of mundane spaces like restaurant diners, gas stations, and apartment lobbies. It creates an oppressively grubby atmosphere, not dissimilar to the Brutalist monuments we glimpse decaying in our cities.

power on not just the environment, but on surrounding social conditions. It's a monolithic power project that appeals to many of our base desires, but it's also impossible to talk about without considering history and politics. It would be grotesquely irresponsible to ignore the origins or the human impact of Brutalism. It caused a lasting swathe of human damage."

Harvey warns about rendering the socio-economic damage done by British Brutalism down to mere aesthetic. "It would be inhuman to look past the scars," she says. "British Brutalism is filled with messy rebirths, failed opportunities, and utopian dreams gone astray. It's a clear-cut case study on the failings of modernity. We can see how rapidly the opportunity to start afresh without the binds and limitations of tradition can be polluted by corruption, arrogance, and systemic incompetence.

"We can also see how much damage this does to those on the lower rungs of the social pyramid. With *Tangiers*, I'm working to provide a cross-section of Britain's post-war reconstruction. It's a dissection of modernity and its outcomes. A grotesque rendition of it, but also a frank discussion about the things we take for granted and the mistakes we are repeatedly seduced by."

Harvey's point about the seductive power of Brutalism is an important one. While there's no questioning Brutalism's strength, many of these structures stem from a specific time and place. As the style makes the leap into the virtual realm, Brutalism's history – and its human cost – shouldn't be forgotten. 🌐



Interactive

Nauticrawl: 20,000 Atmospheres

Developer Andrea Interguglielmi tells us all about his unfathomable undersea sim, Nauticrawl

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



^ "It's all real-time lights," Andrea says of the game's lighting in Unity. "They have to be switched on and off depending on how the player operates the machine."

Imagine this nightmarish scenario: you're stuck, several fathoms under the sea, inside the cockpit of an alien-looking machine. You gaze at the bank of levers, buttons, and dials that lie in front of you, unable to comprehend what on earth they all do; but at the same time, you know that the only way of escaping to freedom is to figure out how to operate this contraption.

Such is the premise of *Nauticrawl: 20,000 Atmospheres*, a mix of survival sim and dungeon crawler created by Sicilian developer Andrea Interguglielmi. In the early going, getting to grips with the machine's

controls is a key part of the experience: exactly what all those controls do is kept deliberately vague. There are

no tutorials to ease you in, and no tooltips to hold your hand – only the chattering lines of text that scroll up on the machine's retro-looking monitors.

For Andrea, *Nauticrawl's* lack of hand-holding is not only a stylistic choice, but also "a solution to a problem." Tutorials, he says, "want to teach you about a game as if it was a piece of software that you'll need to use for a job." Rather than bombard players with instructions, he figured it

might be more fun to simply let them figure out the controls for themselves.

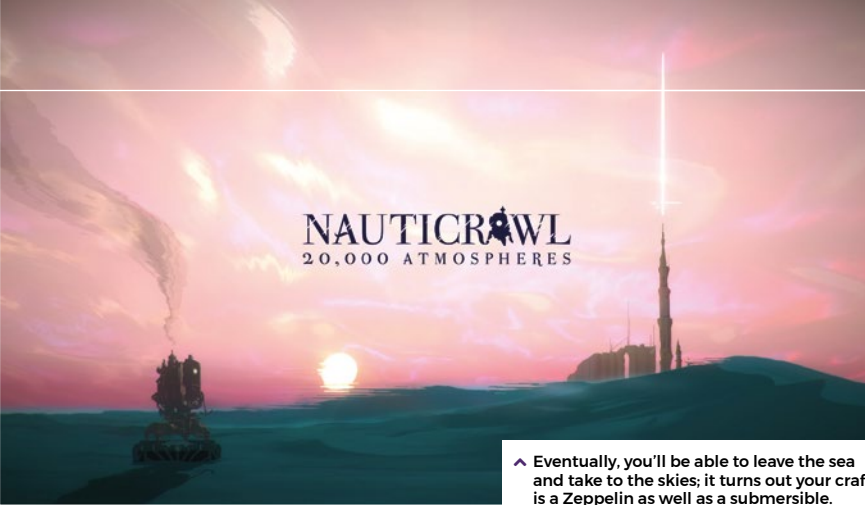
Says Andrea: "The key was to set a plausible premise that is central to the whole game: you stole this machine to escape from a horrible place, but it was never meant for people of your kind. Now you'll have to deal with this desperate situation. That's when the game starts, and then you'll most likely die after a few minutes – but that's part of the premise as well."

Rather than appear in a flash of inspiration, the idea for *Nauticrawl* gradually emerged from a lifetime's experiences: as a child, Andrea used

to tape cardboard boxes together to make submarines ("I'd get in and pretend I was a pilot taking part in some sort of dangerous

"You'll most likely die after a few minutes – but that's part of the premise as well"

mission"). Years later, he clambered aboard a vintage tram in Turin, and was immediately struck by the driver working away at a bank of levers and buttons – a sight that must have stuck in his mind, because it resurfaced when he was watching television one evening. "I was watching *20,000 Leagues Under the Sea*, and I thought, 'Let's mash together the Nautilus with a tram,'" he explains. "And there you have it – that's when *Nauticrawl's* journey began."



^ Eventually, you'll be able to leave the sea and take to the skies; it turns out your craft is a Zeppelin as well as a submersible.

Andrea's journey through the games industry began almost 20 years ago, when he worked as a pixel artist on various handheld titles. Moving overseas, his focus shifted from art and animation to programming, and he found work at companies such as Lionhead and DreamWorks Animation. "I'm not sure how," Interguglielmi says, "but I eventually landed back here, in Palermo, where it all started. [It's] where I live right now, making games from home as a solo dev."

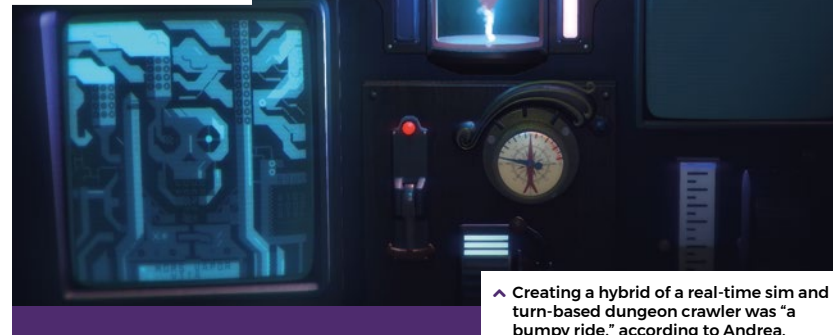
DEEP DIVE

Andrea began work on the *Nauticrawl* prototype in his spare time, slotting in an hour each evening to work on it. "I didn't have a clue where this was headed, but it was very satisfying to see the machine coming to life," he tells us.

From the start, his goal was to keep the project contained, both in terms of its location and its scale; by keeping the player trapped inside the machine, with only monitors and a tiny viewport to the world outside for company, Interguglielmi could handily sidestep the need for expensive, time-consuming things like character models and cutscenes. "I've modelled the assets in Blender and then assembled it all in Unity," he explains. "Unity is probably my favourite tool in the whole process."

There was one aspect of *Nauticrawl's* development that proved to be less than easy, however: balancing its mix of real-time cockpit sim and turn-based dungeon crawler. With no clear view outside, the player instead has to explore the world via a monitor, which provides a top-down impression of the landscape – and the deadly creatures inhabiting it. In early builds, the game's action unfolded in real-time, but Andrea soon realised that asking players to get to grips with the controls as warning lights flash and enemies close in was simply too frustrating. At the same time, he couldn't make the game entirely turn-based, either.

"The world outside had to be slowed down, so I decided to go back to turns, to let you think about your next move without rushing," says Andrea. "But the machine simulation inside



^ Creating a hybrid of a real-time sim and turn-based dungeon crawler was "a bumpy ride," according to Andrea.

the vehicle had to stay real-time, or it'd feel wrong to be locked from touching the levers while the enemy takes a turn."

Fortunately, the game's premise provided a logical solution: a machine that requires steam pressure to build up before it can move, and creatures that respond to movement. "The player can choose the amount of time it will take between each move, but that will come at the cost of using a certain amount of fuel. To make the game more strategic, I also made sure that every gauge in the game displays some sort of preview, of how your next move will impact on resources such as fuel and battery."

Interest in *Nauticrawl* steadily grew thanks to exposure on Twitter, which in turn attracted a publisher – Armor Games Studios – whose backing has allowed Interguglielmi to work full-time on the game for the past year.

With development almost finished at the time of writing, *Nauticrawl's* shaping up to be a unique and challenging steampunk adventure. Andrea freely admits that *Nauticrawl* isn't for everyone, but then, the fine line between frustration and triumph was written into the game from the start. "It's definitely a game for those willing to explore, try different things, fail, and figure out solutions," he says. "Reactions are usually strongly divided between, 'I can't handle this deadly madness of controls and gauges', and 'Give me more of all of that: I want more buttons and ways to die!'"

***Nauticrawl* is out on 16 September for PC and Mac.**

ACCURACY

"Behind the hood, the levers and the buttons are really operating a fully functional and simulated machine," Andrea tells us. "Opening a valve will really pump up the fuel to the engine, and in turn, the engine will start charging the battery, which will give power to the various systems on board. It's all numbers flowing from one component to another, based on user input. But the ultimate goal here was to make this feel like fun, and to do that, I had to drop any real physical model of motion or strictly realistic rules about the consumption of fuel or electricity. All these values are arbitrarily controlled in a way that will make the player feel like they're achieving good results, without going completely insane to do that."



^ Plot details are under wraps, because where you are and why are all part of the story.

The Golden Age of Arcades?



STEVE MCNEIL

Steve went to Butlin's so you don't have to.

“Asteroids and Frogger have been replaced with giant adaptations of games like Angry Birds or Crossover Road”

As a parent of a three-and-a-half-year-old that's a fan of drinking during the day (me, not the kid), Butlin's was the obvious choice for a family holiday. A big selling point of the resort is that activities such as the funfair, swimming pool, and shows are all included within the price and there are DBS-certified 'Redcoats' everywhere to keep an eye on the children, so they can run wild while you have 'breakfast whisky'.

One element that's always had an additional cost associated with it, for obvious reasons, is the amusement arcade. As a child who grew up at Butlin's every summer during the eighties, I have many fond memories of converting a pound coin into 2p or 10p pieces and trying to make the most of the coin pushers, toy grabbers, and video games. Many of my generation would claim that arcades were at their peak during that time, with classics like *Donkey Kong* and *Pac-Man* nestled alongside newer titles like *Golden Axe*, *OutRun*, and so on.

A particular trigger for gamers' ire these days seems to be the modern arcade's emphasis on tickets. Most of the games reward you periodically with a stream of tickets which can be exchanged for prizes in the arcade shop, and this definitely changes the tone, as kids run from machine to machine working out which cabinet will dish out the biggest haul, rather than which game might be the most fun to play.

Furthermore, there's scarcely a 'traditional' game in sight. *Asteroids* and *Frogger* have long since been replaced with giant arcade adaptations of smartphone games like *Angry Birds* or *Crossover Road*. If you spot a *Space Invaders*, it's an eight-foot-tall one with massive gun turrets,

and the *Whack-A-Mole* moles have been made redundant in favour of *Despicable Me's* Minions.

Even as I type this, I can feel the hackles rising on the backs of some readers as they shout, 'That's not a proper arcade.' But the thing is, my kid's three. She's never heard of *Pac-Man* (well, she has, I'm her dad, but you know what I mean) but she has got a taste for smartphone gaming because *touchscreens are everywhere*.

Watching her running from machine to machine, she's as happy as I ever was and, ultimately, isn't that the point? Remember when fun was fun? And, when my parents or grandparents handed me a quid in the eighties, they knew they weren't getting anything back.

With tickets, even on a bad day, you're going to end up with some popping candy and a fart whistle. On a good day, you can end up with your own Horse Sex (see below). And really, who amongst us needs more than that? 🐾



^ Visit a modern arcade, and you too could win... well, whatever this is.

Toolbox

The art, theory, and production of video games

28. CityCraft

Urban design, and how to apply it to video games

30. FPS Hitboxes

The theory of collision detection in shooters

36. Studio building

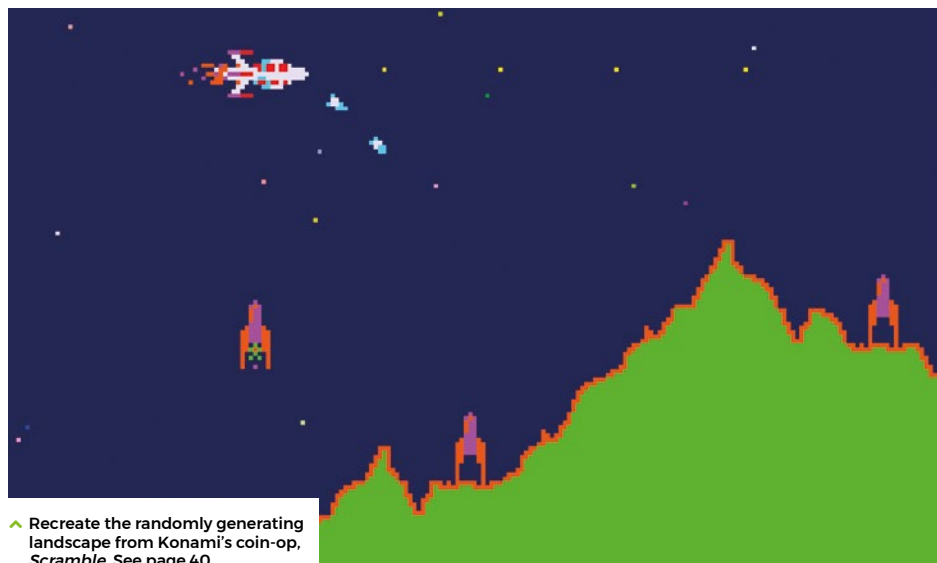
Tips for success, pitfalls to avoid

40. Source Code

Create a *Scramble*-style random landscape

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On this month: a VR storytelling masterclass



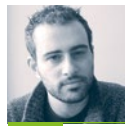
^ Recreate the randomly generating landscape from Konami's coin-op, *Scramble*. See page 40.



✓ Discover more about the theory of hitboxes - and why they're so important in the FPS genre - on page 30.

Focusing on urban design

Urban design, and why it's an important consideration for video game developers



AUTHOR
KONSTANTINOS DIMOPOULOS

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

Meet Streetmix

Streetmix is an impressive web application that lets you design, edit, and even share urban streets. Change traffic lane widths, modify sidewalks, add bicycle lanes, benches, trees or planting strips, and even experiment with trams and rail lines. Handily, the app is free; you can play with it at streetmix.net.

Somewhere between architecture and planning lies the fuzzily defined field of urban design; ask any number of urbanists what it specifically covers, and you're bound to hear different answers from each of them. Ask me, and I'll insist that urban design is the discipline that shapes the urban fabric on the architectural level. It's about streets and pavements, the arrangement of squares, the organisation of pocket parks, the outline of city blocks, monumental spaces, and the decoration of neighbourhoods.

Urban design, I'd argue, is an important part of making video game cities. It's something that covers all the crucial elements of a city, from block layouts, road, density and land use, right down to the architecture of a single building.

One of the prime focuses of urban design is the arrangement of public space in all its varied guises; private, public, open, covered, specialised, movement-focused, parks, and so on. But rather than try to cover everything here, let's briefly discuss squares and roads instead.

PLAZAS AND STREETS

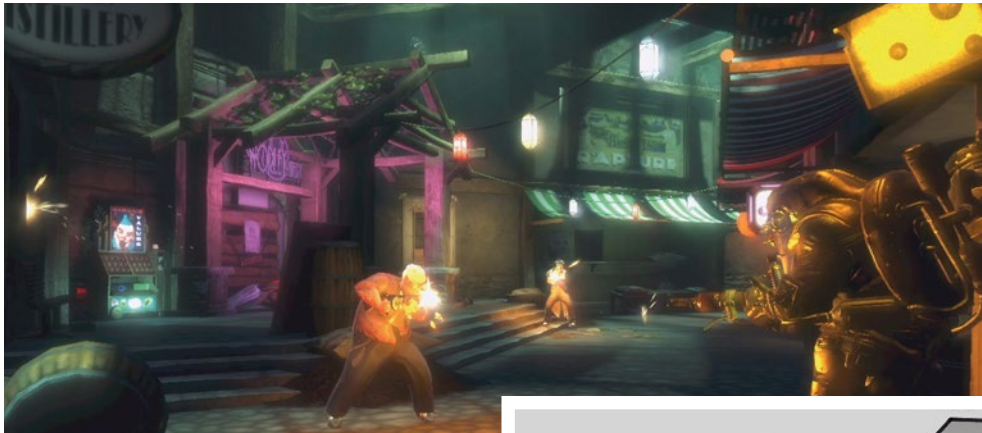
City squares – or plazas – are open spaces that serve a variety of functions and usually adhere to commonly accepted rules. Shaded areas are, for example, desirable in hot countries, as is cover in rainy places; areas for visitors to rest are considered good design, regardless of climate. A square that aims for a cosy feeling shouldn't be wider than 30 to 35 metres, as this is the distance at which most people can make out faces, which puts visitors at ease. And a ceremonial plaza – a place designed for mass gatherings or parades – will be much larger: the Zócalo square of Mexico City, for example, measures an awe-inspiring 240m × 240m.

A square can also include such diverse elements as open-air theatres, designated shopping stall areas, green spaces, fountains, corridors, and kindergartens. Local, cosier squares may offer secluded sub-areas and quiet cafés, whereas others may function as resting places for civil servants working nearby, or for events like festivals and religious celebrations.

Where squares aim to engage and keep citizens within their borders, roads and pavements mostly serve as a means of moving around. Of course, roads and pavements are seldom in a constant state of flow; they can be a place of dense social interaction, where



➤ Hostile, inhumane architecture targeting 'undesirables' and the poor, as exemplified by a Camden anti-homeless bench. Photo by The Wub.



▲ Designing the vibrant yet deadly public spaces of *BioShock 2* must have been incredibly entertaining.

people can stand and talk, catch a breath, drink coffee, window-shop, or wait for loved ones. A comfortable sidewalk is a requirement both for such interactions and to enable smooth movement. An example of such a sidewalk is the one shown in **Figure 1**. It allows two people to walk abreast, while leaving enough space for other activities. Ramps and other accessibility features should also be considered.

As for roads, they should offer good visibility, and if designed to handle heavy traffic, should generally feature two lanes in each direction. Local roads are better when narrower, while the planning choice of whether cars or pedestrians are the focus of a city should also be reflected at the design level.

“Urban design is the arrangement of public space in all its guises”

NEIGHBOURHOOD DESIGN

Urban design is what commonly determines the ratio of average building height to road width, at least at the neighbourhood level. Many different ratios can work – there’s no correct formula here. It all depends on the desired effect, urban composition, and architectural tastes. A ratio of roughly 1:2 is a good starting point, whereas a 2:1 ratio tends to resemble a deep canyon; 1:1 is thought to provide a sense of modest enclosure, and the suburban 1:3 feels spacious, but doesn’t allow for high densities (see **Figure 2**).

In the case of skyscraper clusters or other similarly towering edifices, making sure that such massive buildings are surrounded by open spaces and connected via wide avenues is a way of offsetting a feeling of claustrophobia.

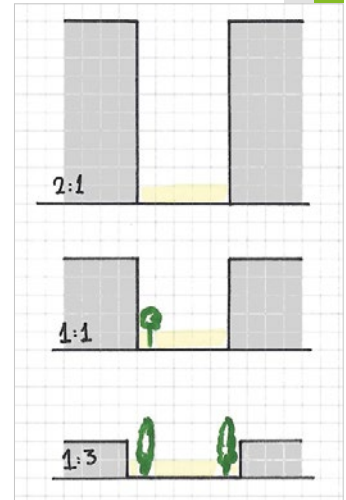
Ensuring that the blocks on which the building volumes rest have pleasing and



functional shapes – curved corners are common – and include such elements as alleys, parking spaces, parks, and corridors, is another important consideration. Note that the arrangement of local parks goes hand in hand with networks of pedestrian and bicycle routes, and that you should always try to connect leisure spots, residences, shopping areas, squares, and parks with each other.

We can also design for a unique local aesthetic. Stunning colours such as those found in Buenos Aires’ La Boca neighbourhood, scenic street lights, the widespread use of local material, and specific construction guidelines can provide a distinct ambience. Façades can be made to overlook a square or park, and buildings can be arranged to form an architectural whole. Urban design can also determine whether façades are continuous or not, and whether dark, private corners or vantage points will give you valuable options for gameplay or storytelling.

It’s also worth remembering that you can reverse the rules of urban design if you’re making a horror game: narrow streets, unfeasibly tall buildings, and empty plazas can all be used to unsettle, confuse, or scare. 🗿



◀ **Figure 1:** A comfortable sidewalk. Two people can walk abreast, and there’s enough room for street furniture and shop signs.

▲ **Figure 2:** Changing the ratio of building height to road width can lead to drastically different urban environments.

A Sense of Place

Existing somewhere between architecture and planning, urban design’s task is to support the former discipline in creating a sense of place. Its aim is to provide an urban space with a unique, recognisable character. It can give a neighbourhood a strong theme, create an interesting and pleasing rhythm of building volumes, evoke specific emotions such as safety or awe, ensure aesthetic variation, craft public spaces that will nurture social life, and occasionally make a bold design statement or define local architecture in a cohesive way.

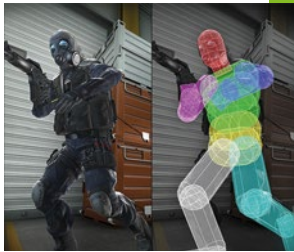
The theory behind first-person hitboxes

Choosing the right hitbox is key to making a great shooter. Here's the difference between them and why they matter



AUTHOR
PATRICK GORDON

Patrick is a research engineer at Hadean, a deep tech startup in Shoreditch, and a former competitive *Counter-Strike* player.



▲ **Figure 1: Hitboxes for CS: GO** players are built from several capsules to closely match the character model, because the emphasis is on accuracy rather than speed of movement.

▼ This will explain some of the terms you'll come across in this article and, more importantly, the parameters you'll need to set to define them.

Almost all modern games simulate physics in some way. From the most basic collision in a roguelike to the complex calculations powering simulations like *Kerbal Space Program*, if you want to build a 3D game, you'll need to make the world feel solid. This is why your game needs hitboxes – the industry term for the physicality of a virtual object.

A hitbox is the representation of a shape that can't overlap with other hitboxes. The world has a hitbox, each player has a hitbox, the scenery, the houses, almost everything you can see and 'touch' in a game has a hitbox. To give the player a sense of realism, they have to be stopped from walking straight through that object, and will often see a physical reaction when two objects connect – bouncing is a common effect of a collision between hitboxes.

Why have we singled out first-person shooters for this feature? Because it's the genre that contains the most varied hitboxes, and where hitboxes have the most tangible impact on the action. The hitboxes you choose have to work hand-in-hand with the shooter you want to make. Do you want your game to feel slow and deliberate, with an emphasis on accuracy, or fast and arcade-like, where twitch reactions determine the winner?

It's useful to understand a little bit of geometry here, since we'll be talking about shapes and lines in three dimensions: spheres, boxes, rays, and segments. You can see these clearly laid out in the diagram on the bottom left.

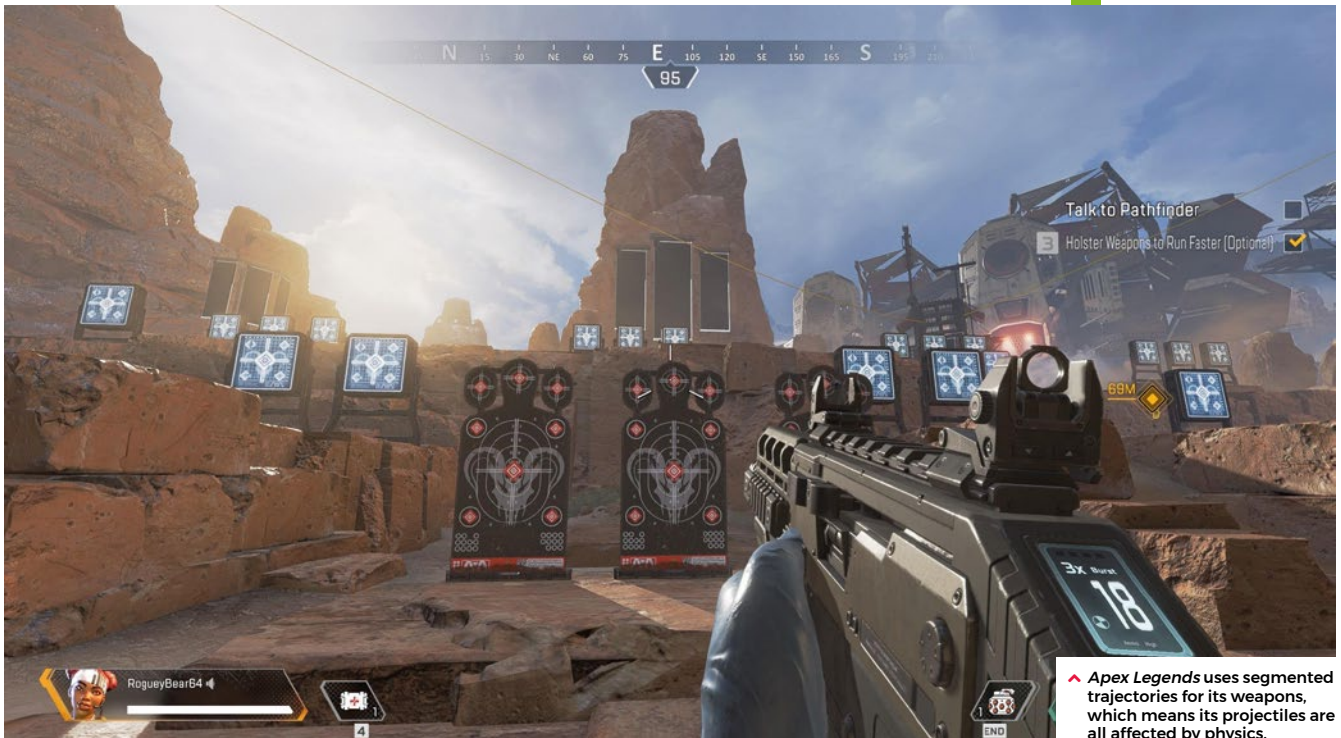
The two most popular game engines today, Unity and Unreal, both have tools for working with simple capsules and joint articulated hitboxes (the most complex kind we'll be talking about) out of the box. Unreal lets you edit hitboxes of models in the Physics Asset Editor, while Unity gives you the Ragdoll Wizard for complete customisation and Character Controllers for single capsule hitboxes.

PRIMITIVES

'Hitbox', is actually a bit of a misnomer, because they come in more shapes than just boxes. The most common approach to making a hitbox is to use a set of primitives, such as spheres, rays, and more complex objects like capsules, which can be efficiently tested for intersecting with each other one-to-one. Boxes (or cuboids) aren't often used in shooters because they're more computationally expensive to intersect with each other and other primitives.

Axis-alignment and orientation is an important consideration for a hitbox. If a hitbox is axis-aligned, it means the primary axes don't rotate relative to the world/map axes: the 'up' direction on the box will always be the same vector. Boxes, cylinders, and capsules are often axis-aligned.

Name	Diagram	Common Parameterisation
Axis aligned box		Width, height
Oriented box		Width, height, orientation
Ball/sphere/circle		Radius
Ray		Start, direction
Segment		Start, end
Capsule		Radius, segment



When it comes to applying a hitbox to a character model, the process typically involves lining up boxes or capsules to the model's joints. If the triangle mesh around the upper arm bone of a player has a radius of roughly 10 cm all the way along the bone, for example, then the hitbox for that bone will have a radius of 10 cm and a length that is the same as the bone (see **Figure 1**).

PROJECTILE HITBOXES

Once you've built a player hitbox, how does a non-player object interact with it? There are other primitives to consider here: rays and segments. Rays are straight lines that start at a point in space and go to infinity, while segments are lines with start and end points. Both of these can be used for hitboxes of projectiles. A ray would be used for something that travels with infinite speed and hits its target instantly, whereas a segment might be used for something that travels with a finite speed (see **Figure 2**).

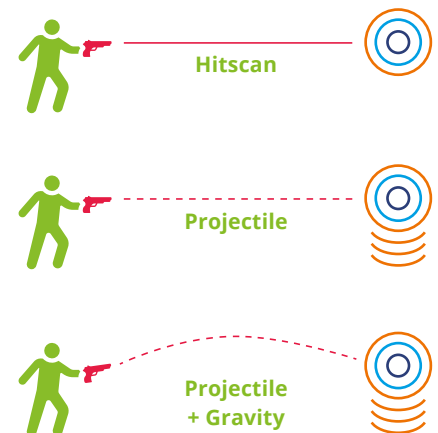
If a ray's start point and direction vector are the same as the position and direction of the barrel of a weapon, then the first intersection point along the ray is where the projectile

will hit. The ray might intersect with many objects along its path, but you're mainly interested in whatever the ray hits first. The same is true for a segment, except this changes its position each 'tick' (or iteration of the game loop) until it reaches its end point. These two methods are commonly referred to as 'hitscan weapons' and 'projectile weapons'.

First-person shooters frequently use hitscan for most weapons, since developers make the assumption that bullets move fast enough to instantly hit their target. This can be both for gameplay and simulation

reasons, since players may expect their shot to strike an object regardless of how fast they or the target is moving. If you plan to

build a more realistic shooter, however, you may not want to make this assumption. In this instance, you should segment the trajectory of the projectile, and simulate one segment per tick, giving it a finite speed. The *Battlefield* and *Arma* games are examples of this approach: both simulate projectile drop-off over long distances due to gravity. *Arma* even →



▲ **Figure 2:** A comparison of hitscan weapons versus projectile weapons. Unlike hitscan weapons, projectile weapons can also simulate the effect of gravity.

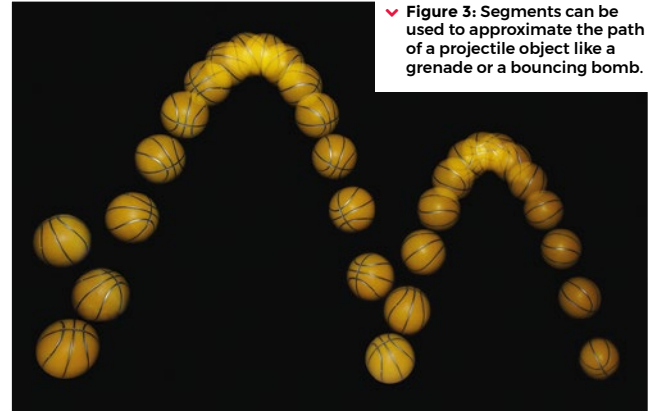
“Hitbox’ is a misnomer, because they come in more shapes than just boxes”

Toolbox

The theory behind first-person hitboxes



▲ For military shooter *Arma 3*, developer Bohemia Interactive went into obsessive detail over the physics, with projectiles even affected by wind speed.



✓ Figure 3: Segments can be used to approximate the path of a projectile object like a grenade or a bouncing bomb.

simulates the lateral movement due to wind. Dropoff can have even more of a gameplay impact if a projectile's damage decreases the further it flies, as in *Counter-Strike: Global Offensive*.

Grenades are another type of projectile. These have a finite and relatively small velocity, so they're much more affected by gravity. A number of segments are generally used to approximate their path, tracing a perfect parabola that ignores wind resistance (see Figure 3).

To add dropoff for low-velocity projectiles, the length of the segment should be velocity * time delta per tick. For each tick, you should also change the direction of the segment according to gravity. Do this by adding g ($= 9.81\text{m/s}^2$) to the downwards velocity each tick (or do it through acceleration by applying a force $F=mg$ each tick where m is the mass of the projectile - this will cancel out when the force is applied to acceleration).

The main decisions for projectiles come down to how fast the projectile is moving relative to the simulation tickrate, whether gravity and/or wind affects the path, and whether it bounces. There's a fun versus realism trade-off to be made here, though, and it may well be that the realism is part of your game's specific appeal.

EXPLOSIONS AND SPLASH DAMAGE

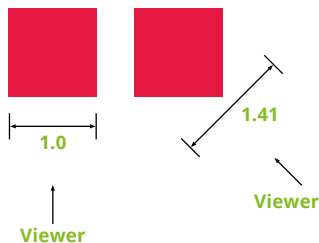
Low-velocity projectiles often have an area of effect, commonly known as 'splash damage'. This doesn't just occur at one point in space where the ray/segment hits, but radiates outwards. The best way to simulate this effect is to use a sphere or a cylinder (you can also use

a spheroid or ellipsoid, although the latter isn't as common because it usually makes sense for the effect to radiate equally in all directions).

This could be as simple as finding all objects within a radius of the collision point and applying an effect. One problem with this method is that thick walls or other objects might not block the effect - think about how FPS players hide behind 'cover' when a grenade is thrown at them - without a very complex calculation. A workaround for this issue is to project rays out from the hit point to the edge of the sphere, and then applying the effect where those rays intersect with objects. This can avoid splash damage effects passing through walls, but the downside is a more expensive computation.

SPEED VS ACCURACY

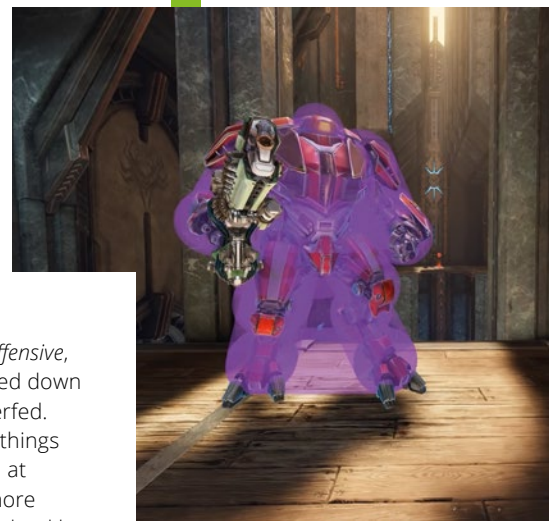
Before you go ahead and build an approximation of your player model out of capsules and spheres, you'll want to think about gameplay. An interesting decision you



▲ Figure 4: Although Axis-Aligned Bounding Boxes are great for computation speed, they suffer for hit accuracy. Hitboxes change size depending on another player's view, meaning shots that should 'miss' will hit.



▲ Scenery in *Battlefield* is built from several hitboxes, so destruction can take away the walls, the floors, and so on. In games like *Call of Duty*, walls will usually consist of a single hitbox rather than several.



have to make when building a shooter is that the accuracy of hitboxes for players and NPCs is strongly linked to the movement mechanics and speed of your game. The faster a player moves, the harder they are to hit; combining this with 'model tight' hitboxes might make for a game that is either too hard, or one that makes players think the collision detection is bad.

The *Quake* series is a good example of this. Up to and including *Quake 3*, the hitboxes for players were Axis-Aligned Bounding Boxes, containing the whole of the model. The advantage here for id Software was computation speed, but in terms of hit accuracy, it is probably the worst solution. The corners of the box stick out far further than the rendered model of the player, meaning even nearby shots that 'miss' the model would be counted as hits. This method is also directionally dependent, meaning that if you move vertically around another player by 45 degrees, the hittable area could expand by a factor of $\sqrt{2} \approx 1.41$ (see **Figure 4**). But this was still great fun for players! Because movement speeds are insane, the hitboxes need to compensate for that slightly.

In *Quake Champions*, there are a couple of interesting differences. Its creators experimented early on with having hitboxes that almost exactly matched the rendered model using a triangle mesh hitbox, but, according to one developer, it turned out to be frustratingly difficult to hit. They then moved to a hitbox that comprised a sphere for the head and capsules for the torso and limbs. This sphere and capsule model was then expanded by about double for the lighter player models, to make players easier to hit and match the players' expectations of what they *should* be able to hit (see **Figure 5**).

The developers chose this approach because the *Quake* games are arena shooters with an emphasis on fast movement techniques such as bunny-hopping, so having accurate hitboxes isn't as important as players being able to hit their opponents who are bouncing around the maps at high speed. Consider *Counter-Strike*,

and particularly *Counter-Strike: Global Offensive*, where movement speed has been slowed down and bunny-hopping has been hugely nerfed. The slower speed of *CS: GO* means two things happen: the player finds it easier to aim at exact hitboxes, and it becomes much more obvious to the player when a hit doesn't land but 'should' have.

COUNTER-STRIKE

Counter-Strike is a great example of why hitboxes are so important in shooters. Its players are well aware that its hitboxes don't match the rendered models, and there have even been a few hitbox bugs in the game's history, each resulting in a community-led investigation. One of the larger ones was the fast-crouching bug, where the player could stand and crouch quickly, gaining sight of the enemy, but the hitbox would change back to crouching much quicker than the model would, meaning the other player wouldn't be able to hit the crouching player even if they could see the model.

If a player can give away their position by firing a single shot, and this can dramatically alter the outcome of a round, then the player needs to know for sure whether a shot has hit its target. The only way to do this is to ensure the hitbox matches accurately with what they see. Because this accuracy is so important to a slower-paced, every-shot-counts game like *CS: GO*, its developers have spent considerable time fine-tuning its hitboxes. *CS: GO* started with much tighter hitboxes than *CS: Source* or *CS 1.6*. The developers also decided to move from a box model (see **Figure 6** overleaf) to a majority sphere and capsule model, and worked to make sure the hitboxes accurately reflected the bones of the character models for all animation poses.

The more complex and accurate the hitbox becomes, however, the more work you make for your netcode. Increasing the number of articulated joints increases both the game's bandwidth, and the chance that internet latency will cause a hitbox to appear out of sync to some players. ➔

▲ **Figure 5:** *Quake Champions* used chunky hitboxes to make characters easier to shoot.

THE QUAKE EFFECT

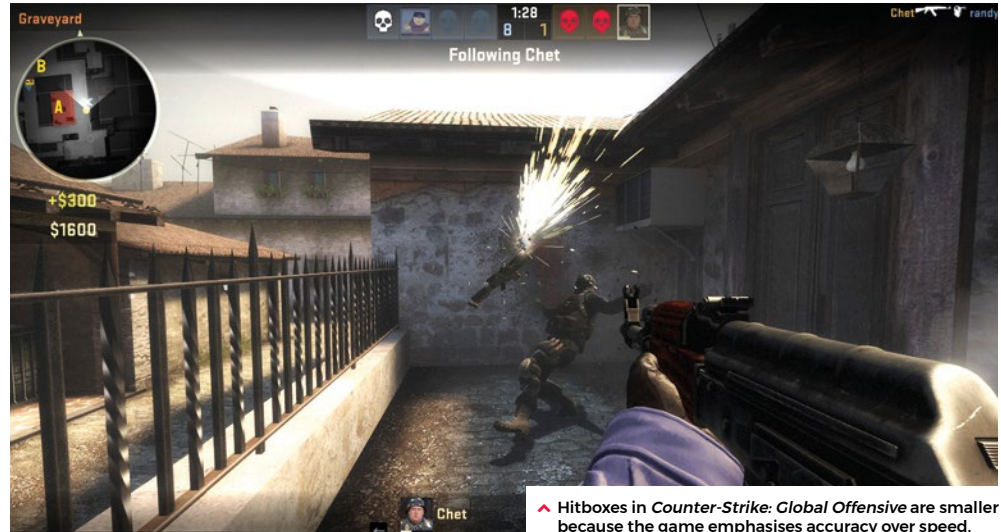
Fast-moving and competitive, *Quake* kickstarted a subgenre of arena shooters, such as *Warsow*, *Reflex Arena*, *Xonotic*, and *OpenArena*. Each tends to closely follow *Quake's* hitbox design; models are entirely cosmetic, and the player can choose what model to use for other players – every player has exactly the same hitbox, whatever they look like. These design decisions are made specifically for high-level competition – this competitiveness is one of the main drivers of hitbox importance.

Toolbox

The theory behind first-person hitboxes

TWEAKING

In Unity and Unreal, you can tweak your hitbox sizes using either the Ragdoll Wizard (Unity) or the Physics Asset Editor (Unreal). Gathering feedback from playtests might be valuable here; your players may tell you that your fast-moving player models with highly accurate hitboxes are just too hard to hit, or that your slow-moving players with large hitboxes feel unfairly vulnerable to attack.



▲ Hitboxes in *Counter-Strike: Global Offensive* are smaller because the game emphasises accuracy over speed.

APPLYING HIT EFFECTS

Detecting a hit is only the first part of making a game feel real. The second part is applying a realistic effect to the hit player. In some games, this means different damage is applied, depending on which part of the hitbox was hit. For example, *CS: GO* applies less damage for leg and foot hits than it does for headshots. Headshots are so key to the *Counter-Strike* series that weapons are defined by whether they can kill a helmeted enemy with one headshot or not. The most well-known weapon which can do this is the AK-47, compared to the alternate teams' M4A4 and M4A1-S, which can't 'oneshot'.

Another mechanic that can be applied here is armour penetration and surface

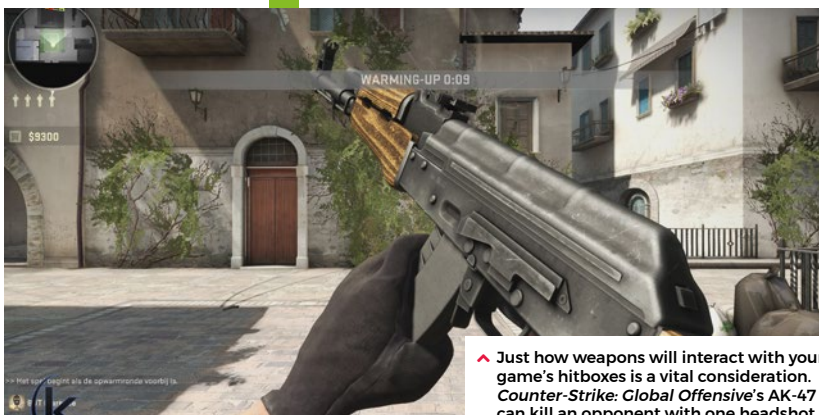
“The more complex the hitbox becomes, the more work you make for your netcode”

penetration. You may want projectiles to affect multiple objects along their trajectory and change the behaviour depending on what they pass through, which is sometimes known as 'wallbanging'. In this case, the hitbox intersection should return all of the objects or surfaces along the ray, not just the first. To implement this in your game, you may want a generic system that can calculate the proper modifier from each surface based on the thickness, angle of penetration, and material.

Varying damage by material and position can be done by detecting which part of the hitbox the ray or segment intersected with first, then choosing from a damage table what to apply. Varying by material could be implemented by lowering the damage of a projectile when it has already hit and passed through a thin wooden wall. Your game engine and terrain hitbox will need to detect these collisions and tell you what material an object is made of, then you can look up in a material table how much something penetrates that material, or lower the damage based on the thickness of the wall by detecting and calculating the distance between both the entry and exit points.

DESTRUCTION

Vehicles are another aspect to consider. *Battlefield* has a system where a vehicle has multiple component hitboxes, which have unique effects when they're damaged or destroyed. Short of outright blowing it up, for



▲ Just how weapons will interact with your game's hitboxes is a vital consideration. *Counter-Strike: Global Offensive's* AK-47 can kill an opponent with one headshot.



▲ *Battlefield V's* vehicles, including its tanks, have multiple hitboxes, allowing for different damage effects depending on where the player shoots.

example, destroying the tracks on one or both sides of a tank may limit its movement or stop it completely. Damaging the turret may disable it, and of course, hitting the players through a hole in the armour will damage them too. These are all possible if your hitboxes are fine-grained and well-matched to the model. Vehicle hitboxes can be quite different from the ones for players/NPCs and the map. Because vehicles have lots of flat surfaces, it makes much more sense to build them from oriented boxes rather than capsules.

Destructible environments can provide a great spectacle for players. In the *Battlefield* series, most structures can be damaged or completely destroyed, while the landscape itself can be destroyed by blowing holes in it. This requires something new in the hitbox system, where hits from a powerful class of weapon can *change* the hitbox of large objects. This could be accomplished by having the structure of a house, say, composed of smaller hitboxes for each individual wall. The wall-sections could either be destroyed in an on/off way, or broken up into even smaller wall-sections on a hit. These details help to immerse the player, but should be balanced carefully so that using buildings for cover isn't completely useless.

Allowing players to create their own cover is one way to balance the destruction aspect. In *Fortnite*, players can make and repair buildings with prefabricated walls and stairs. Players can

create buildings taller and larger than anything else in the game, but this is balanced by making the structures collapse if they cease to be connected to the ground. Other players then have the chance to kill their opponents with fall damage if they climb too high – although this tactic was slightly nerfed by allowing players to use their glider if they were at a high enough altitude.

CONSIDERATIONS

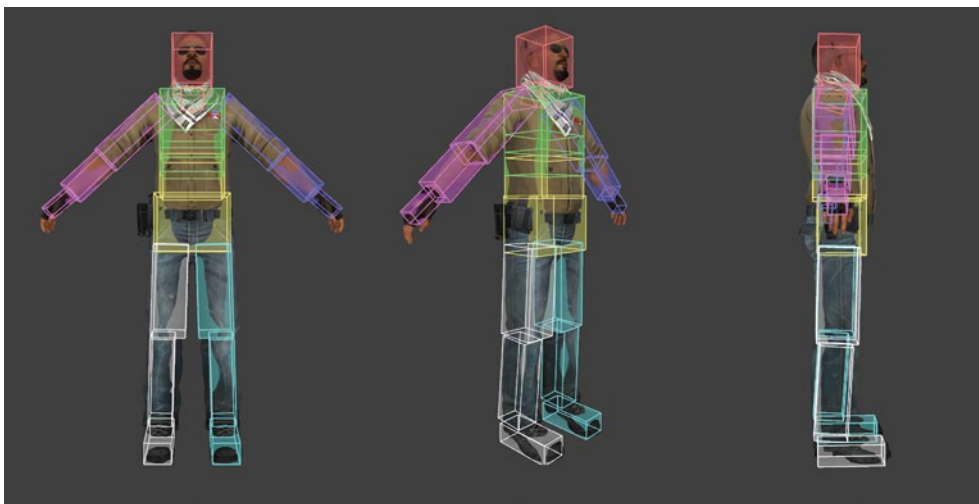
There are so many decisions to make when developing your game, and there are examples of shooters that have found success with all kinds of different hitboxes. *Fortnite*, *Quake*, *Counter-Strike*, and *Battlefield* are all popular at least in part because of the consideration that went into designing hitboxes for players, NPCs, the map, and objects. By putting the time and thought into your hitboxes, you'll greatly increase the chances of making a successful shooter of your own. 🗣️



▲ Despite rumours on some corners of the internet, skins don't affect the size of a character's hitbox in *Fortnite*.



◀ Most weapons in *Fortnite* are hitscan, but sniper rifles use segmented trajectories to simulate bullets that take a split second to hit their target, and drop off at longer ranges.



◀ **Figure 6:** Early builds of *Counter-Strike: Global Offensive* used cuboid hitboxes, before switching to mostly spheres and capsules for greater accuracy.

So you want to start a new studio?

Reid reveals the lessons he's learned: some the easy way, many the hard way...



AUTHOR
REID SCHNEIDER

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

As the games industry workforce gets older, more and more seasoned developers are saying they're ready to start their own studios. I believe this is a convergence of three key factors:

- 1.** Game engine technology is finally at the point where it doesn't matter whether you work in a huge company or are simply two people in an office. Everyone has access to the same awesome game engine technology - Unreal Engine or Unity. This simply wasn't the case in the past: the barrier to entry was just too high, so you needed to build your own tech.
- 2.** The demand for unique and high-quality content has never been higher. You don't need to make *Fortnite* to be successful, as long as you

make something that a subset of people love. This also means that some people might hate your game, but I'd argue that's a good thing. If your game has a clear voice, you have a much better chance of success than Yet Another *Call of Duty* Clone. Making clones is the express track to failure.

- 3.** Digital distribution has hit a tipping point where it's a clear alternative to physical media. Now, many will argue that Steam has been there for years, and they're right, but for all the console players out there, we're finally seeing truly open digital storefronts from Sony, Microsoft, and Nintendo. The clearest indication of this is how publishers are now pointing out what percentage of their sales is digital. This is beneficial for pretty much everyone, with the noted exception of GameStop. (Personally, I don't think you're going to find many developers crying for that retailer after their years of selling used game trade-ins. This was a practice rife with issues, resulting in them taking way too much of the pie and not returning it in any way to the people who made games.)

With all this in mind, here are some of the things I've learned in the process of co-founding Typhoon, my own studio in Montreal. Brace yourself for the rollercoaster ahead...

GET OUT OF YOUR HOUSE

Not everyone will agree with me on this one, but I think there's something powerful about getting out of your house and going to some kind of shared workspace. This isn't to say that amazing companies don't start in people's basements -

✓ Since it was founded in 2017, Typhoon's team has steadily grown - and it's since moved to a larger office in Montreal.





^ Although working from home is an option, Reid still recommends finding a shared workspace.

they do. I'd argue, though, that the distractions are just too intense at home; if you're older and have a spouse, pets, kids, or other things that require attention and care, you have to be prepared to be fighting battles on multiple fronts. Also, don't kid yourself: a start-up *is* a battle, and lots of people are going to tell you, "It's stupid, it won't work, you're wasting your time." It's a battle of wills where your commitment will be tested every day. If you're at home, the battle will be much harder.

At the same time, I don't recommend going out and spending money on a fancy office – or even worse, a fancier (and often very expensive) co-working space. When we started Typhoon, our first office was in a disused mocap studio. A friend of mine, Sam Girardin, the CEO of Game On, let us camp there for no rent. (Once again, thanks Sam!)

The downside was that there were no windows, and we were five guys in a completely blacked-out room with padded walls. When people came in for interviews, they saw what we were doing and understood our approach: we spent money on talent rather than real estate. This had the added benefit of screening out people who were looking for a cushy office and felt put off by our spartan approach. We knew if they signed, they were coming for the right reasons. Win-win.

BETTER CALL SAUL

When we set up the company, we had no idea how much paperwork was involved. This was probably a combination of wishful thinking

and inexperience. However, we did have the foresight to bring in a lawyer as our vice president of legal/business. You'll need at least the following: shareholder agreements, founders agreements, contracts, filing with the various governments for corporate registries, minute books, and more besides.

Rather than put it off, I'd strongly recommend putting the time in to get all this sorted out up-front. Starting a company with co-founders is

like a marriage, and you need to set the ground rules in advance. Many have been burned by being lax here; don't stick your head in the sand.

You might be thinking, "But Reid, what if we have no money to pay a lawyer?" Well, dear reader, we were in the same place when we started.

At Typhoon, we allocated a percentage of the company to our vice president in lieu of his fees. This not only saved us valuable cash, but also made him invested in our success. We went from a model where someone wanted to bill us as many hours as possible, to one where he simply wanted to do the best job for the company. Our VP, Kiri Vanikiotis, has not only been our lawyer, but an incredibly valuable business partner who's able to advise us in areas where we don't have experience. In short, he's a star, and we wouldn't be where we are today without him.

MAKE EVERYONE INVESTED

This one seemed obvious to me, but I was shocked to discover that not every start-up does this. Before moving to Montreal, I lived in the ➔

“When we started, our first office was in a disused mocap studio”



^ Typhoon's workspace initially came courtesy of Game On CEO, Sam Girardin.



▲ Assembling flat-pack furniture's one of the many unglamorous jobs that goes into setting up a new studio.



▲ Co-founder Alex Hutchinson setting up the office on Typhoon's first day.

▼ It may look a bit sparse, but it's a start. The comfy office chairs certainly help.

Bay area, where nobody would join a start-up unless they were given some type of equity package as part of their compensation. For some reason, this has not yet caught on in Montreal, but I think it's critical. When you start your company, you will most likely not be able to pay salaries commensurate with the big guys, so you need to incentivise people in different ways. By giving out company stock, you signal to your people that you're all in it for the long haul, and you want them to be part of the company's ultimate success. It's not just about the founders making a profit – it's about the staff.

“You need a presentation that looks kick-ass”

SELL THE DREAM

When we started Typhoon, it was all about selling the dream to get funding, and bringing people on board. When you're at this stage, the importance of a great-looking presentation can't be understated. Again, some people will disagree with me, and say it doesn't matter what's in your pitch – it's the game itself that counts. Most of the time, I'd agree this is true – except in this one circumstance: before you have anything on screen, you need a presentation that looks kick-ass. If you're setting up the company without an artist, you can find countless pieces of reference material on the internet. Or even better, get some custom concept art created to properly showcase your idea.

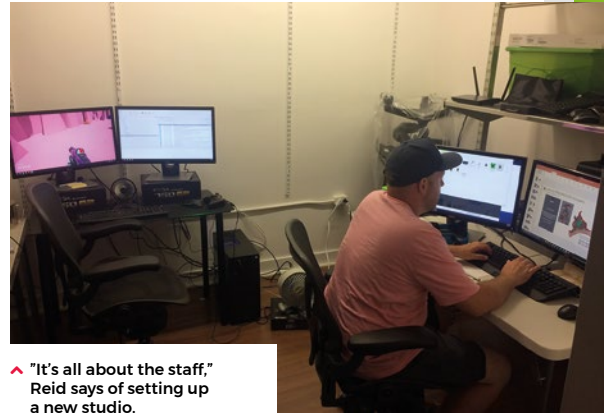
When people open presentations, they generally hate reading lots of text. Show them why your game's cool. Interestingly enough, the freelance marketplace Fiverr has now gone into game development, so it's easier than ever to get some concept art at an affordable cost. Also, you should always keep your pitch at around 20 slides or less, and then have more detailed documents available to prospective partners. When we started Typhoon, we spent countless hours on a great-looking presentation that grabbed people's attention. This is time well spent.

What's even better than a solid presentation, however, is a prototype that effectively shows off your game idea. It's worth noting to always err





^ Finally, some natural light.



^ "It's all about the staff," Reid says of setting up a new studio.

on the side of quality over quantity. For example, one or two really great prototypes are way more valuable than ten average ones.

Finally, don't expect people to play your prototypes. Some people will, some won't – don't be offended. The way to circumvent this problem is to create narrated videos that explain what they're looking at and why it's interesting. This is something we still do to this day at Typhoon.

With every milestone, we make videos explaining to our publisher and partners what they're looking at, where it is in terms of completion, and why it's interesting. I would highly recommend doing the same. It can also serve as a great way to keep your team motivated, since it provides a timeline of how far they have come.

PEDIGREE WILL ONLY GET YOU SO FAR

When we started Typhoon, we had no idea how we'd get funding to make our game. Fortunately, our founders had strong pedigrees (the games we've collectively worked on include *Assassin's Creed*, *Far Cry*, *Deus Ex*, *Spore*, and the *Batman: Arkham* series). This pedigree got us into meetings, but the onus was on us to sell them on our idea and its commercial viability. We needed to get potential partners excited about our vision for the game and studio. In short, unless you're Hideo Kojima, there are no free rides.


Another mistake we made was believing that we could raise money while working at our previous jobs. We learned the hard way that building a company isn't like getting a new job. You need to show you're fully committed and working for free at your start-up. As a general rule, nobody is going to give you money without



^ Typhoon are now working on their first release, *Journey To The Savage Planet*.

complete commitment on your part. If you have the ability to invest your own money into your start-up, this will go a long way in demonstrating to your investors that you're serious. Be aware, though, that this is likely to scare the hell out of your spouse. This is, however, what we did at Typhoon and it paid off in a big way.

In short, starting a company isn't for the faint of heart. You're going to be challenged in ways you never thought possible, and you'll discover that the learning curve is exponential. People are going to question your motives, but at the end of the day, it's a battle of will, and if you believe strongly enough, you can make it happen.

Also, never forget that it's all about the team and who joins you on your adventure. I'm a firm believer in an old Pixar saying: "Give a great team a mediocre idea, and they'll make it shine; give an average team a great idea, and you'll get mediocre results." Nothing could be more true. 



- ◀ Players must avoid the terrain while dodging enemy rockets.
- ✓ Scramble was developed by Konami and released in arcades in 1981.



Create a Scramble-style scrolling landscape

Weave through a randomly generated landscape in Mark's homage to the classic Scramble



AUTHOR
MARK VANSTONE

In the early eighties, arcades and sports halls rang with the sound of a multitude of video games. Because home computers hadn't yet made it into most households, the only option for the avid video gamer was to get down to the local entertainment establishment and feed the machines with ten pence pieces (which were bigger then). One of these pocket money-hungry machines was Konami's *Scramble* – released in 1981, it was one of the earliest side-scrolling shooters with multiple levels.



The player's jet aircraft flies across a randomly generated landscape (which sometimes narrows to a cave system), avoiding obstacles and enemy planes, bombing targets on the ground, and trying not to crash. As the game continues, the difficulty increases. The player aircraft can only fly

forward, so once a target has been passed, there's no turning back for a second go.

In this example code, I'll show you a way to generate a *Scramble*-style scrolling landscape using Pygame Zero and a couple of additional Pygame functions. With early computers, moving a lot of data around

“With early computers, moving a lot of data around the screen was very slow”

the screen was very slow until dedicated video hardware like the blitter chip arrived. Scrolling, however, could be achieved either by a quick shuffle of bytes to the left or right in the video memory – or in some cases, changing the start address of the video memory, which was even quicker.

For our scrolling, we can use a Pygame surface the same size as the screen. To get the scrolling effect, we just call the `scroll()`

function on the surface to shift everything left by one pixel and then draw a new pixel-wide slice of the terrain. The terrain could just be a single colour, but I've included a bit of maths-based RGB tinkering to make it more colourful. We can draw our terrain surface over a background image, as the `SRCALPHA` flag is set when we create the surface. This is also useful for detecting if the jet has hit the terrain. We can test the pixel from the surface in front of the jet; if it's not transparent, kaboom!

The jet itself is a Pygame Zero Actor and can be moved up and down with the arrow keys. The left and right arrows increase and decrease the speed. We generate the landscape in the `updateLand()` and `drawLand()` functions where `updateLand()` decides if the landscape is inclining or declining (and the same with the roof), making sure that the roof and floor don't get too close, then it scrolls everything left. The `drawLand()` function then draws pixels

Download
the code
from GitHub:
[wfmag.cc/
wfmag22](https://wfmag.cc/wfmag22)

Scrolling caverns in Python

Here's a code snippet that recreates *Scramble's* scrolling terrain in Python. To get it running on your system, you'll first need to install Pygame Zero – you can find full instructions at wfmag.cc/pgzero

```

from random import randint
from pygame import Surface
from pygame.locals import *
import math

scrambleSurface = Surface((800,600),SRCALPHA)
landLevel = 600
roofLevel = 10
landChange = -3
roofChange = 3
jet = Actor('jet',(400,300))
speed = 3
crash = False

def draw():
    if crash: # remove the next line if you are affected by
flashing lights
        screen.fill((randint(100,200),0,0))
        screen.blit(scrambleSurface, (0, 0))
        jet.draw()
    else:
        screen.blit('space',(0,0))
        screen.blit(scrambleSurface, (0, 0))
        jet.draw()

def update():
    global speed, crash
    if crash == False:
        if keyboard.up: jet.y -= speed
        if keyboard.down: jet.y += speed
        if keyboard.left: speed = limit(speed-0.1,1,10)
        if keyboard.right: speed = limit(speed+0.1,1,10)
        jet.x = 310 + (speed * 30)

        for _ in range(math.ceil(speed)):
            updateLand()
            if scrambleSurface.get_at((math.ceil(jet.x+32),math.
ceil(jet.y))) != (0,0,0,0):
                crash = True;

def updateLand():
    global landLevel, landChange, roofLevel, roofChange
    if randint(0,10) == 3: roofChange = randint(0,6) - 3
    if randint(0,10) == 3: landChange = randint(0,6) - 3
    roofLevel += roofChange
    landLevel += landChange
    landLevel = limit(landLevel,200,590)
    roofLevel = limit(roofLevel,10,400)
    if roofLevel > landLevel-200: roofLevel = landLevel-200
    scrambleSurface.scroll(-1,0)
    drawLand()

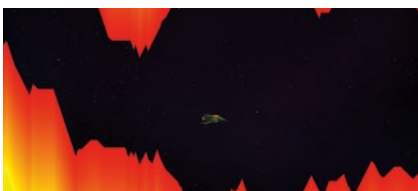
def limit(n, minn, maxx):
    return max(min(maxn, n), minn)

def drawLand():
    for i in range(0, 600):
        c = (0,0,0,0)
        if i > landLevel:
            g = limit(i-landLevel,0,255)
            c = (255,g,0)
        else:
            if i < roofLevel:
                r = limit(roofLevel-i,0,255)
                c = (255,r,0)
            scrambleSurface.set_at((799,i),c)

```

at the right-hand edge of the surface from y coordinates 0 to 600, drawing a thin sliver of roof, open space, and floor. The speed of the jet determines how many times the landscape is updated in each draw cycle, so at faster speeds, many lines of pixels are added to the right-hand side before the display updates.

The use of `randint()` can be changed to create a more or less jagged landscape, and the gap between roof and floor could also be adjusted for more difficulty. The original game also had enemy aircraft, which you could make with `Actors`, and fuel tanks on the ground, which could be created on the right-hand side as the terrain



^ Avoid the roof and the floor with the arrow keys. Jet graphic courtesy of [TheSource4Life at opengameart.org](https://TheSource4Life.at).

comes into view and then moved as the surface scrolls. *Scramble* sparked a wave of horizontal shooters, from both Konami and rival companies; this short piece of code could give you the basis for making a decent *Scramble* clone of your own. 🗺

COLLECTING SCRAMBLE

In 1982, TOMY released a handheld version of *Scramble*, while Grandstand sold a chunky tabletop edition that you can still find for sale on auction sites. If you'd like something a little more up-to-date, though, Konami released *Scramble* as part of their *Konami Collector's Series: Arcade Classics* compilation for the Game Boy Advance. Or, if you have plenty of spare space, you could buy one of the original arcade machines – you'll find working examples for sale at around £1600. With prices like that, you might want to use our code and create your own *Scramble* – it'll save you a fortune.

Realised Realities: 24 September 2019

Find out more about interactive storytelling and the immersive revolution in Ukie's upcoming one-day course

GET INVOLVED

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

Storytelling is experiencing a revolution, and the emergence of new immersive mediums like virtual reality can and will change the way stories are told.

In this masterclass, Realised Realities' Jed Ashforth – former Immersive Experience Specialist at PlayStation, and one of the creators of PlayStation VR – will explore the potential and pitfalls of interactive storytelling in 2019 and beyond. He'll provide a greater understanding of the space, and describe the techniques and approaches that can be used to integrate players' choices and actions into your narratives.

The course is suitable for all senior creatives, writers, and developers looking to expand their understanding and usage of interactive choices within their narratives. It explores the challenges

and opportunities presented by immersive technologies such as virtual reality, mixed reality, and augmented reality, as well as looking at traditional 2D media and interactive, location-based experiences.

The one-day course will include:

Origins: a primer on classical storytelling structures, and how interactivity has always been a force influencing linear narratives throughout history.

Backstories: what we've learned from decades of prior art in the medium, and how developers have tackled the various challenges that interactive storytelling presents.

Motivations: what we want to achieve from interactive narratives from both creative and business standpoints. Examining what kind of interactivity audiences really want, and how much.

The Trials: a deep dive into the challenges that interactivity and audience choice place on your storytelling approaches, and the different types of interactivity and their effects on both narrative and development.

The Ultimate Boon: opening new gateways through immersive technologies and exploring the additional opportunities they provide.

Call to Adventure: looking forward to new technologies on the horizon, scouting out the treasures they hold and the dangers they present, and some thoughts on how to best prepare for the journey.

Stories around the Campfire: an opportunity for group discussion to round out the day; share your stories, ask questions, and seek out the best advice. Marshmallows on sticks optional.

Find out more

You can find more information about the Realised Realities Masterclass, and how to book tickets, at wfmag.cc/ukie-realities.



^ Yes, it makes us all look a bit odd, but technologies like virtual reality are here to stay.



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FAN-MADE

When gamers become developers

We meet the players making homages, mods, and tributes that expand on classic games of the past

WRITTEN BY JACK YARWOOD

For most players, their experience ends once a game's finished. For a small but dedicated minority, however, completing a game is simply the end of one phase and the start of another, as their passion drives them to roll up their sleeves and create something of their own. From fan games and mods to officially released homages and ageing classics, these projects all demonstrate an individual's desire to express their appreciation of another developer's work; some go even further and attempt to add their own bold and original ideas.

Though most publishers will generally discourage fan projects through cease and desist letters or legal action, not all companies are as strict on the practice, with some even giving individual projects their blessing as long as they aren't monetised. Meanwhile,

other savvier creators will instead try to legally distinguish their work from the source material, creating their own characters and story, while attempting to capture the spirit and feel of the original.

Melkhior's Mansion is an upcoming, not-for-profit project for Windows PC, ZX Spectrum Next, and ZX Spectrum 128, created by a small but enthusiastic group of fans. It's a tribute to the work of Ultimate Play the Game – the British studio that would later become Rare – and draws inspiration from their classic library of 8-bit games, such as *Knight Lore* and *Atic Atac*.

You choose from a cast of characters including Sir Stamperlot the Knight, Lester the

Serf, Zouch the Witch, and Princess Ashby, with the goal being to guide them around the labyrinthine home of the evil wizard Melkhior. Much like *Atic Atac*, the aim is to find the hidden pieces of key spread across the many hazard-filled floors, unlock the main entrance, and escape to freedom.

A RARE CHALLENGE

For lead designer Richard Jordan, *Melkhior's Mansion* was an opportunity to try something new – namely, build an isometric adventure in MonoGame – and also pay tribute to some of his favourite childhood games. "I discovered Ultimate's games through playing them with a mate on his rubber-keyed Speccy," says Jordan.

"We mostly played *Atic Atac* and *Underwulde*, two of my favourites from their awesome list of Speccy titles."

After Jordan started

the project, artist Craig Stevenson helped create the colourful, retro visuals of *Melkhior's Mansion*, while musician Alberto J. González volunteered to work on the music. Kev Brady from the Spectrum Next team has also begun making a Next version of the game, and developer Bob Smith, who made *SokoBAArn* on the ZX Spectrum, is squeezing a version onto the ZX Spectrum 128. That's a lot of work for a project being released for free.

After receiving a positive response from his Twitter followers, Jordan contacted Rare to see if he could use the *Atic Atac* name. The studio was happy for Jordan's team to proceed – albeit with a few conditions. "They see it as a ➔

"The projects demonstrate an individual's appreciation for another developer's work"

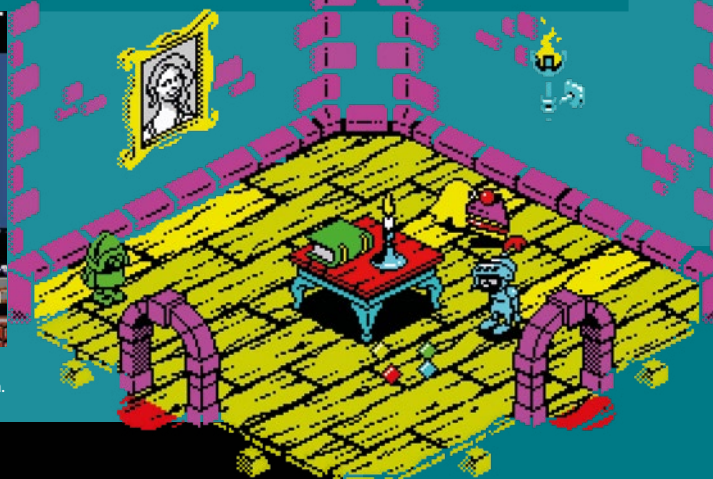




^ *Beyond Skyrim: Morrowind* will feature new quests to embark on, including fully voiced characters.



^ *Brahm's Mansion* is full of terrifying bosses to vanquish.



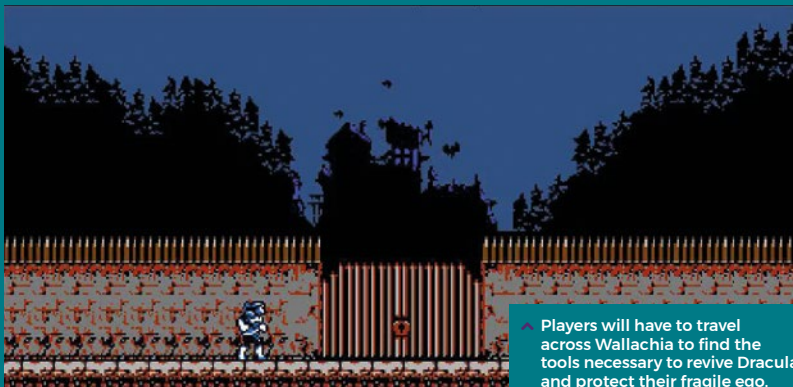
^ *Melkhior's Mansion* ditches the top-down perspective of *Atic Atac* for the isometric view of *Knight Lore*.



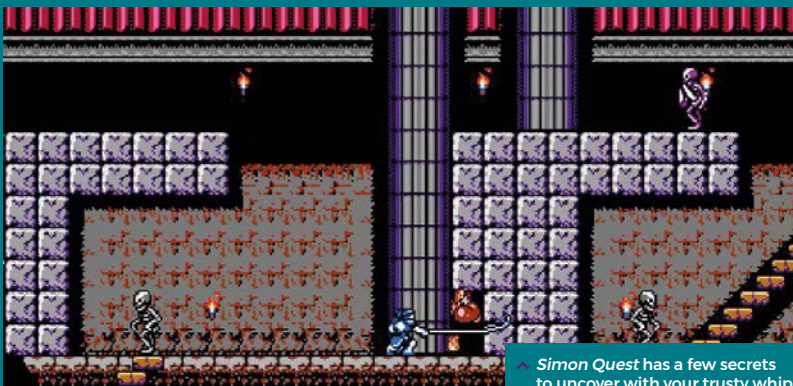
^ Each level is capped off with a boss fight in *Hyper Sentinel*.

NINTENDO HARD

Although generally regarded as a solid continuation of the *Castlevania* legacy, *Simon's Quest* has also been criticised for the obscurity of some of its puzzles – something not exactly helped by the iffy English localisation of the original Japanese text. This is something else Travis Adamczyk's keen to address in his *Simon Quest* homage. "The goal is to keep the spirit of having cryptic hints to progress, without making the game outright unplayable without a guide, like *Simon's Quest* was," he tells us.



▶ Players will have to travel across Wallachia to find the tools necessary to revive Dracula and protect their fragile ego.



▶ *Simon Quest* has a few secrets to uncover with your trusty whip.



fan project which they're cool with, as long as the name *Atic Atac* isn't used, and no profit is made," says Jordan. "They don't want any confusion over what is, and what isn't, an official Rare release. They wished me good luck, and I'm more than happy with that."

LOVE AT FIRST BITE

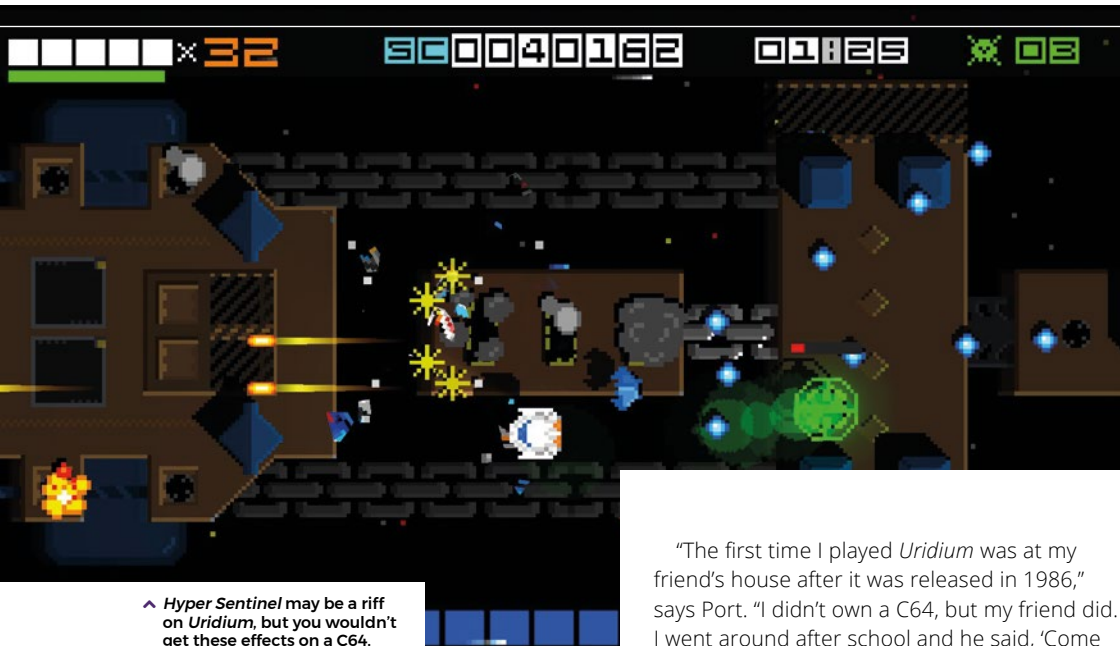
Simon Quest: Transylvania Adventure is another fan-made project inspired by an existing IP. Developed by Travis Adamczyk and Jordan Chewning, the game's both a homage to and parody of the NES game *Castlevania II: Simon's Quest*, a somewhat controversial title among fans.

"While I did enjoy the game in spite of its flaws, I've always thought the premise was a bit silly," says Adamczyk of Konami's *Castlevania* sequel. "[But] *Simon's Quest* is a good base, because it was way ahead of its time in terms of progression, and that formula has since been improved ten-fold. There are so many ways to take the core of that game and improve on it – add quality of life features, and help it flow better. It also came down to it having the easiest name to spoof. We thought, 'Well, our hero can be named Simon Quest.'"

Simon Quest puts players in control of the titular vampire hunter, who arrives in Transylvania to find his rival Stan Helsing has already slain his arch-nemesis, Dracula. In order to reclaim the glory for himself, Simon must journey across Wallachia to gather what he needs to resurrect Dracula – and then kill him all over again.

Understandably, *Simon Quest* doesn't reuse assets from *Castlevania*, and also ignores the series' lore in favour of using characters from the public domain. Far from a fan-made *Castlevania* remake or sequel, *Simon Quest* is an approximation of the original game, wrapped up in a new adventure. For instance, the game keeps the villagers' cryptic hints, but adds such improvements as include save points, a wider variety of movement options like backflips and slide kicks, and also a form of fast travel.

"The goal from the start was to make it look as much like a late-eighties Konami NES game as possible," says Adamczyk. "When I was making Simon's animations, I was watching a long play of *Simon's Quest* on my TV while working on my laptop, and tweaking my sprites until they looked and felt right. It's important to me that a lot of these graphical assets would work in those



^ *Hyper Sentinel* may be a riff on *Uridium*, but you wouldn't get these effects on a C64.

[older] games as much as they do in this one... I feel that's something that *Bloodstained: Curse of the Moon* also tried to do, and it worked well."

When Adamczyk announced *Simon Quest* on Twitter, fans soon voiced their concerns about a potential cease and desist order shutting down its development. For Adamczyk, this is definitely a worry, given how often similar projects are shut down, but he thinks he's done enough to distinguish the two games. "It is definitely on my mind, for sure," he says. "The goal has always been to [make a game] that's not owned by Konami, while still looking like it could have been. One thing to always remember with *Castlevania* is that it's built on other people's work: Bram Stoker, all of the *Universal Monsters*, religious texts... if it comes to Konami [shutting down] this project, I guess my first response would be figuring out what exactly they can claim, and changing it to make it legally distinct. This is my *Nosferatu* to their *Dracula*."

A SPIRITUAL SUCCESS

Like *Melkhior's Mansion* and *Simon Quest*, *Hyper Sentinel* also started out as a bit of a test for its creator. Wanting to learn the Swift programming language, Jonathan Port, lead designer at Four5Six Pixel, came up with the idea of creating a homage to the shoot-'em-ups of the past, with the main inspiration being the Commodore 64 title, *Uridium*.

Like *Uridium*, *Hyper Sentinel* lets players control a spaceship that can flip horizontally to glide either left or right across the screen, with the goal being to destroy stationary targets and waves of enemy fighters.

"The goal was to make it look as much like a late-eighties Konami NES game as possible"

"The first time I played *Uridium* was at my friend's house after it was released in 1986," says Port. "I didn't own a C64, but my friend did. I went around after school and he said, 'Come and look at this new game, you won't believe it!' So, I sat down and was immediately drawn to this super-smooth ship sliding in from the left, and then the Manta space fighter popping out and zooming across the screen with the giant dreadnought moving into view."

While *Hyper Sentinel's* core mechanics owe a debt to *Uridium*, it also has a few tricks of its own. It adds power-ups to the existing formula, for example, and borrows additional flourishes from other classic arcade shoot-'em-ups.

"The back and forth ebb and flow of the game is heavily influenced by *Defender*," says Port. "I also liked the little flying saucer bonus ship in *Space Invaders*,

so the idea for the bonus Alienoids that pop up in *Hyper Sentinel* were a tribute to that – right down to having a trigger sound effect as they come into view. There are also many little special effect influences from games such as *Robotron* and *Llamatron*."

NEO-RETRO

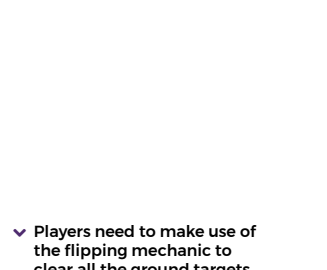
What's interesting about *Hyper Sentinel*, in contrast to the other games mentioned so far, is that it's a full commercial release. Its publisher, Huey Games, is in its own way a successor to Hewson Consultants, the original publisher of *Uridium*. Rob Hewson, son of Hewson Consultants' founder Andrew Hewson, started Huey Games with his father – and business partner John Ogden – back in 2016. A short while after Huey Games was founded, Hewson encountered *Hyper Sentinel* when talking to OAOA – *Off And On Again* developer Tim Keenan at an indie developer meet-up in Manchester.

"I watched a video and immediately recognised the influence of *Uridium*," Hewson recalls. "[Tim] convinced Jonathan to come ➔

- ▼ Enemies will populate each room the player enters. They'll have to bide their time before making for an available exit.



- ▲ Players move between floors to collect the items necessary to escape.



- ▼ Players need to make use of the flipping mechanic to clear all the ground targets.





▲ Players will get to explore the strange Sadriith Mora (it means 'mushroom forest'), as well as volcanic ruins.

along and meet me and yeah, he brought along an iPad with a build on it, and I sat down and played it and gave him some feedback..."

"Just after Christmas," recalls Port, "Rob gave me a call and asked if it would be okay if he, John Ogden, and his dad, Andrew Hewson, could come over to my house. I remember the day very clearly. I was a huge fan of Hewson's games from the 8-bit [era], and I was both thrilled and nervous at the thought. Can you imagine one of the gaming legends from your childhood turning up at your house for a chat? We talked about *Hyper Sentinel*, I showed the game to Andrew, and opened up the code so that John could take a look. We decided to work together and have been ever since!"

For Rob Hewson, his interest in the game stemmed from the idea of releasing a retro-themed arcade shoot-'em-up with modern conveniences. He nicknamed this style 'neo-retro'. "The idea was to make people who play *Hyper Sentinel* go, 'Oh, wow, this reminds me of X, but actually it's throwing around so many more spectacular effects and modern animation,'" Hewson says.

"Showing we can maintain that level of quality is, I think, very important"

MODDING MARVELS

Away from the fan games and homages, there's the modding community – a group of people committed to adding everything from new items and characters to existing games, to complete overhauls that change the base experience almost beyond recognition. Mods often require the original game to run, and most studios are fine with them as long as they aren't using

additional copyrighted material or breaking any internal policies.

Some of the most impressive and prolific modding communities are the ones that have grown up around large RPGs, like *Fallout: New Vegas* and *The Elder Scrolls V: Skyrim*. These groups have given us such impressive delights as *New Vegas* expansion *Fallout: New California*, and *Beyond Skyrim*, which aims to create the entire continent of Tamriel in *The Elder Scrolls V*, complete with additional quests, voice acting, and music. For many of the people working on these mods, the goal is simply to get experience in the games industry.

"There's a large block of people who want to break into game development and other creative industries," says Linton Ineson, writer and quest designer on *Beyond Skyrim: Cyrodill* and casting director for *Beyond Skyrim: Morrowind*. "But it's difficult to do that for most people. And one of the things that is often suggested

by people in the industry is to create a portfolio of work. One of the ways of doing that is modding – I think you get a lot of people joining *Beyond Skyrim* to get a foothold and develop a portfolio of work to get into the industry. It's like a bike with training wheels."

REIMAGINING TAMRIEL

Beyond Skyrim is the work of multiple teams, each responsible for delivering a separate region of Tamriel as a downloadable mod. The project has been in development for several years now, predating even the release of *Skyrim* itself. "It was technically formed very shortly before *Skyrim* was released through discussions on the Bethesda forums," explains Ineson. "There's a history of similar projects springing up for Bethesda games. So people were discussing plans for a similar project for *Skyrim*, and it was suggested to form a confederation for modding projects, rather than them all be independent."

Beyond Skyrim has evolved somewhat since its initial conception, with members coming and going and the standards gradually rising to meet the professional quality of the base game. Not just anyone is allowed to contribute to the project, either: those who lack the necessary skills are directed to the Arcane University, the project's own educational resource, to train up.

▼ The mod team behind *Beyond Skyrim* have had to come up with their own interpretation of how *Morrowind* might look in the fourth era.



“We probably take it more seriously than people would think,” suggests Liam O’Donnell, 3D artist and technical director on *Beyond Skyrim: Morrowind*. “A lot of the time, people would expect that on a modding or volunteer project, you wouldn’t take it that seriously, or that quality isn’t important. But we’ve made a really big point over the last couple of years to hammer home the idea that we need to maintain a professional level of quality. Because a lot of us want to get into the games industry, and showing we can maintain that level of quality and standard is, I think, very important.”

KEEPING MOTIVATED

Keeping *Beyond Skyrim* on track has been one of the major hurdles so far. Given the mods are volunteer-led and require a tremendous amount of work – which includes asset creation, quest design, voice acting, and more besides – it’s easy for contributors to slow down or lose interest.

“One of the biggest challenges is just keeping motivation up with the team, because things take a lot of time,” says Kate Landels, *Beyond Skyrim: Morrowind*’s artistic director. “People have lives, so it’s just making sure everyone is still on board. And a lot of that is pushing towards things like trailers. We released the first trailer for *The New North*, which is our *Morrowind* pre-release, at the beginning of January this year, and before that there was a huge push of activity and... then it kind of died down for a bit. So it’s just mitigating those ebbs and flows. Productivity, I’d say, is the biggest challenge.”

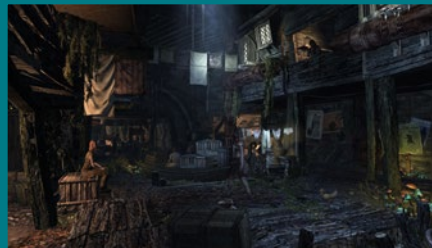
Luckily for the different teams, though, they’ve had the benefit of Bethesda’s current release schedule, which means there’s been time to get their work developed and released. “I think Bethesda kind of helped us out a lot,” Ineson says. “Because, generally speaking, these *Elder Scrolls* mod projects lose a lot of popularity and momentum when the sequel releases. And obviously, Bethesda is taking its time with *The Elder Scrolls VI*.”

Fan games will always be on a bit of a knife-edge, subject as they are to takedown notices from IP holders, but it’s hard not to admire the effort that goes into them. With their homages and mods, these communities are supporting the titles they love most, and expanding their lifespans long after their original creators have moved on to new creative pastures. 🐾

5 AMBITIOUS BETHESDA MODS

Skyblivion >

Like *Skywind*, *Skyblivion* plans to remake a classic Bethesda RPG in the *Skyrim* engine. This time it’s the fourth *Elder Scrolls* entry, *Oblivion*.



< Enderal

A total conversion mod for *Skyrim* set in its own world with new lore, landscapes, and stories to explore.

Skywind >

Unlike *Beyond Skyrim: Morrowind*, *Skywind* attempts to remake *Morrowind* in the *Skyrim* engine.

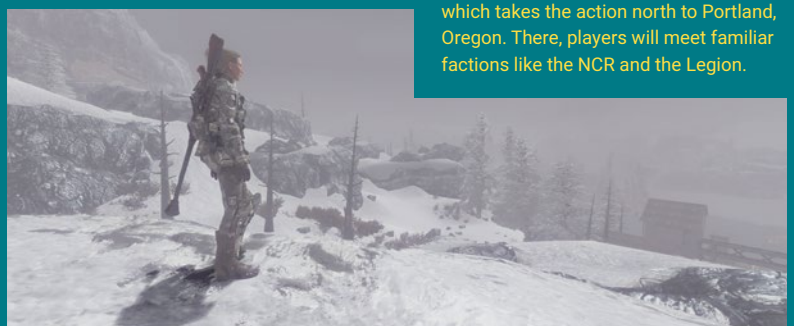


< Fallout: New California

An unofficial prequel to *Fallout: New Vegas*, *New California* draws inspiration from Interplay’s original RPGs.

> Fallout: The Frontier

The Frontier’s a mod for *New Vegas* which takes the action north to Portland, Oregon. There, players will meet familiar factions like the NCR and the Legion.





Developer Profile

Lisette Titre-Montgomery

Two decades of games industry art and advocacy

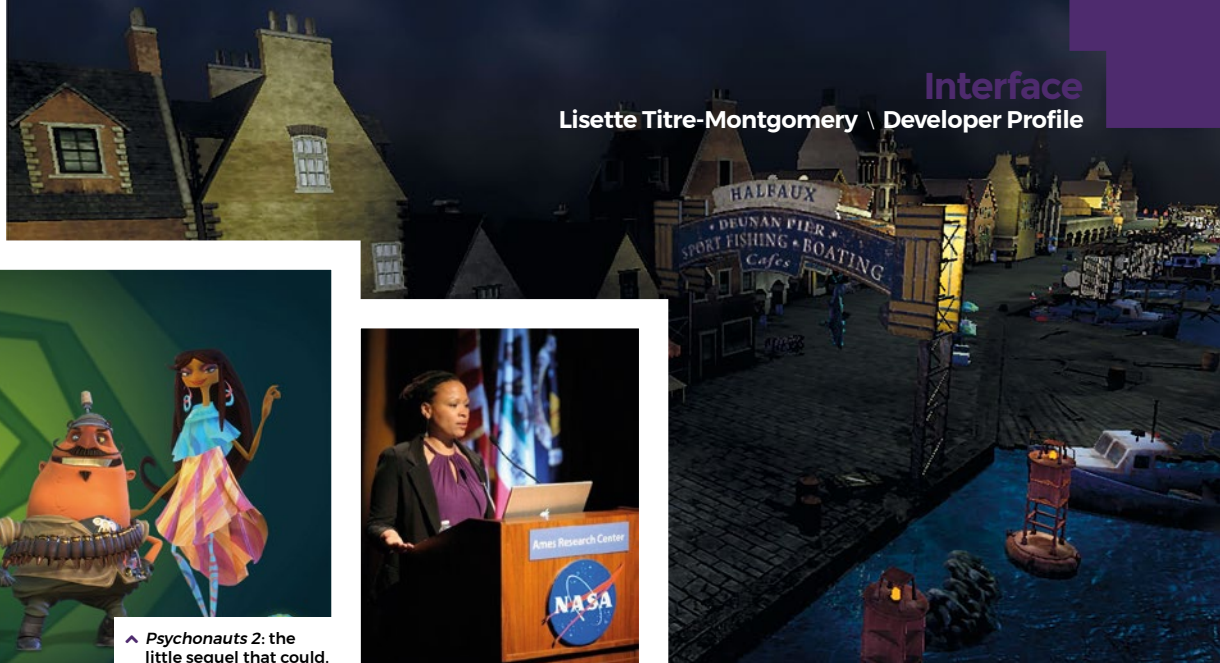


▲ Double Fine's art manager, Lisette Titre-Montgomery

While the world of games played a big part in Lisette Titre-Montgomery's youth, her path to the industry wasn't as straightforward as 'That's what I want to do, so I'll do it.' Instead, she went down the path of film at university, ending up with a degree in computer animation and looking to get started with a career in character artistry – Hollywood? Perhaps. It doesn't matter, because while perusing the job listings on destroyer-of-classifieds, Craigslist, Titre-Montgomery landed on a job

posting for a character artist at Page 44 Studios. Eighteen years later, the career in film doesn't even factor in.

Starting out her life in game dev on *Freekstyle*, as a 3D modeller, Titre-Montgomery moved up from Page 44 and into the fold at EA Redwood Shores, landing a role as a senior character and special effects artist, working on several high profile titles from the development and publishing giant. The general focus remained in the realm of character art, with Titre-Montgomery applying her talents to the likes of *The Simpsons Game* and *Dante's Inferno*, but it wasn't

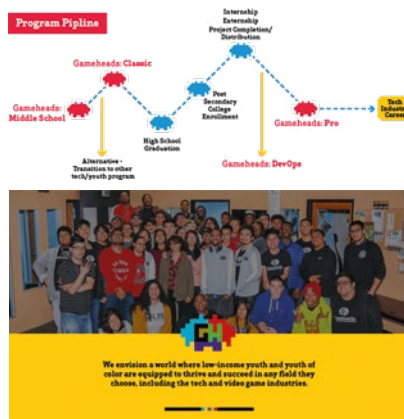


^ Psychonauts 2: the little sequel that could.

until 2012 and her work on Backbone Entertainment's *Dance Central 3* that she took the role as lead artist (a role she moved to in 2011). A stint as art manager on Ubisoft's *South Park: The Fractured But Whole* led into that same role, transposed over to the once-indie, now-Microsoft-owned Double Fine Studios, where Titre-Montgomery currently works as art manager, focusing on *Psychonauts 2*.

FOR THE UNDERSERVED

While Titre-Montgomery's work on the titles she's been involved in is important, the artist and developer is one of those people who define the notion 'You are not your job'. There's plenty more to her experience, and plenty more she involves herself in beyond those Double Fine duties. Being a woman in the games industry is automatically more challenging. Being a woman of colour in the games industry? Not to be so crass as to reuse a feature title from



^ Gameheads advocates for underserved sections of the community in game development.

a recent issue, but it really is playing on hard mode. So it's of little surprise Titre-Montgomery is a keen advocate and activist in and around the industry, raising awareness of – and offering help to – would-be game dev professionals from underserved backgrounds.

There's involvement with Gameheads, for example, where Titre-Montgomery sits on the board of directors. This

“The advocacy aims to push these young people onto a path many might not think is open to them”

Oakland, California-based tech training program offers teaching and coaching on subjects like video game design and development to young people aged 11–25, whether they be youths of colour or from low-income backgrounds. The advocacy aims to push these young people onto a path many might not think is open to them, and offers year-round projects and schemes focused on getting attendees to code, create, and craft, while picking up extra tips to help them move forward into college and through their careers.

But hey, 'keep politics out of games', right? Well, that's not something Titre-Montgomery has exactly stuck to through her years in the industry, as her diversity advocacy has also seen involvement with the Obama administration in efforts to improve the diversity of hiring practices throughout the entire tech industry. There's

also involvement with the Speakers Bureau of the US Department of State, which has seen Titre-Montgomery involved in outreach projects around the world, giving talks and hosting classes in order to help people from diverse backgrounds realise their potential and enter the gaming – and tech – industry. She also keeps busy with involvement in groups such as Black Girls Code and Girls Who Code, as well as being a member of non-profit organisation Blacks In Gaming, the goal of which is to help African-American people in the games industry with networking and collaboration opportunities.

CONSISTENT QUALITY

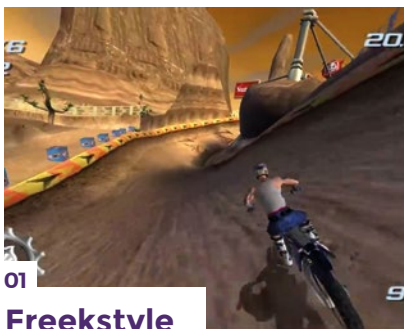
Psychonauts 2 is a really cool project, and we're looking forward to it with bated breath – the first game was a diamond in the rough, unceremoniously dumped on an unsuspecting public and swiftly lost in the ether... at least for a while before its reincarnation on digital storefronts, years later. Titre-Montgomery's work on this and the many other shipped titles she has had a hand in lays at our feet a long, successful career of consistent quality and work with studios big and small, projects both casual and otherwise. But in future years it's going to be her passionate work as a diversity advocate that will resonate; helping to bring those who may themselves have thought they didn't have a place in this industry into the fold, and helping to create a future of broader representation. And there'll probably be a few more character models along the way, too. 🎮



(Are) games art (?)

10 titles from a near 20-year career

We are still confused why Dante's Inferno was made, mind

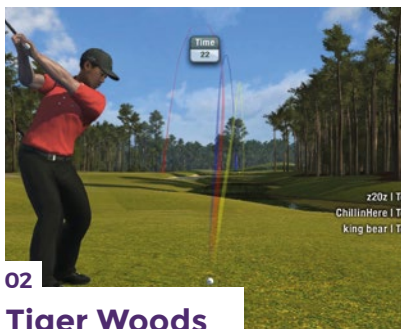


01

Freestyle

PS2 / GC / GBA – 2002

One of a few titles released on EA Sports' BIG label, *Freestyle* combined motocross with some... overexuberant stunts, let's say. *SSX* with a motor it was not, sadly, and while stylish, the game was largely forgotten after its launch. The early 2000s were a very different time, and it shows looking at this one. You just expect Smash Mouth to be on the soundtrack.

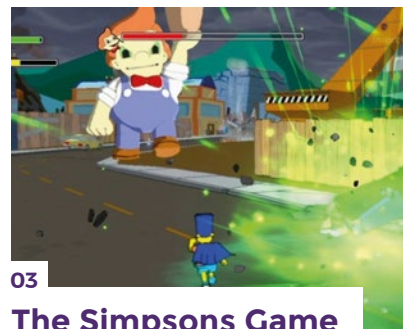


02

Tiger Woods PGA Tour 07

Multi – 2006

There's only one thing worse than having to talk about an upcoming yearly sports game, and that's talking about one retrospectively. This had golf in it, and it was good, but that's about it. Titre-Montgomery's work included modelling the real-world golfers for the game, and they still look pretty ruddy nifty even now.

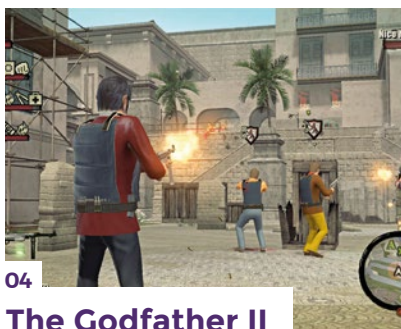


03

The Simpsons Game

Multi – 2007

It ended up a mishmash of half-baked ideas as a game, but nobody ever had bad words for what *really* mattered with *The Simpsons Game*: its presentation. It sounded the part with the show's actors reprising their roles, but not enough credit goes to its look, marrying *The Simpsons'* unique visual style with 3D in-game models, managing to pull it off brilliantly.

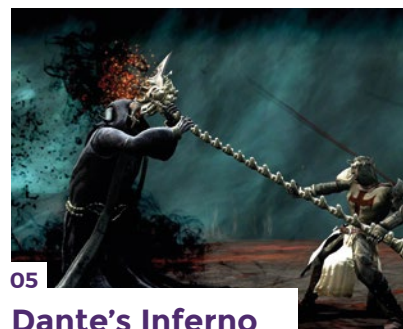


04

The Godfather II

PC / X360 / PS3 – 2009

Not *quite* as memorable as the movie that spawned it, *The Godfather II* did at least mean Titre-Montgomery was able to sort of work in the realm of film. That said, it's not one to really shout about from the rooftops. Derivative, buggy, bland – *The Godfather II* was never going to win any Oscars, regardless of how well it captured the movie's atmosphere.



05

Dante's Inferno

X360 / PS3 / PSP – 2010

EA, on a tear with these licensed titles, really pushed the boat out with this one, mainly because nobody considered a tie-in with *The Divine Comedy*. At all. Oddly, the game was decent, and even more oddly, it maintained a strong, unique style of its own throughout, helped along by Titre-Montgomery's contributions to the character modelling.

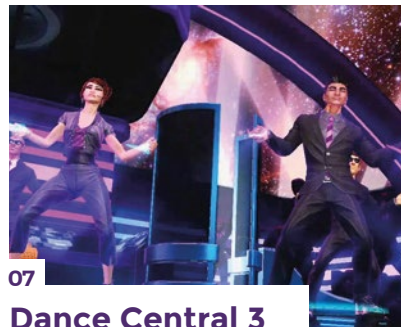


06

Midway Arcade Origins

XBO / X360 / PS3 – 2012

31 *Midway* games from times past, bundled with the intention of making you relive those fever dreams you write off as 'memories'. I'm talking about you, *Total Carnage*. Naturally, we can't put Titre-Montgomery's name on the artwork of the original games in this package, but the overall presentation was solid. Shame about *Pit-Fighter* existing, mind.



07

Dance Central 3

X360 – 2012

Titre-Montgomery's work on Harmonix's dance-'em-up involved bringing to life a lot of the characters players would make dance for them. While they danced. Because, oh yes, it was a Kinect game, and oh yes, we had to dance. Some of us even had to review this game back in the day, even though they didn't have enough room for Kinect to work properly. Ahem.



08

The Sims 4

PC / PS4 / XBO – 2014

The fourth in Maxis' virtual dollhouse series is the most accomplished of them all, thanks in no small part to the advances made over the 14 years from the original's release, which allowed you to really see the anger on a Sim's face when you locked him in a doorless, windowless room as punishment for burning some pancakes. Video games!

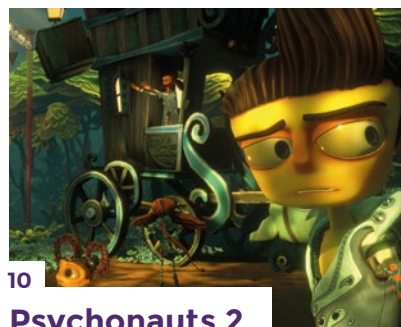


09

South Park: The Fractured But Whole

PC / PS4 / XBO / Switch – 2017

While the series' fandom might be sparring with that of *Rick & Morty* for the title of 'Worst', it's hard to ignore the puerile allure of the *South Park* games. Titre-Montgomery worked with Ubisoft in its art and computer animation department, helping to bring to life those cartoon-perfect animations we saw throughout the game.



10

Psychonauts 2

PC / PS4 / XBO – 2020

Titre-Montgomery's role as art manager in the sequel nobody expected we'd actually get has her – at the time of writing – overseeing the visual style of the surrealistic comedy romp *Psychonauts 2*. It already looks better than the original when it's here printed on the page, so we're going to take a closer look at this one in the near future.



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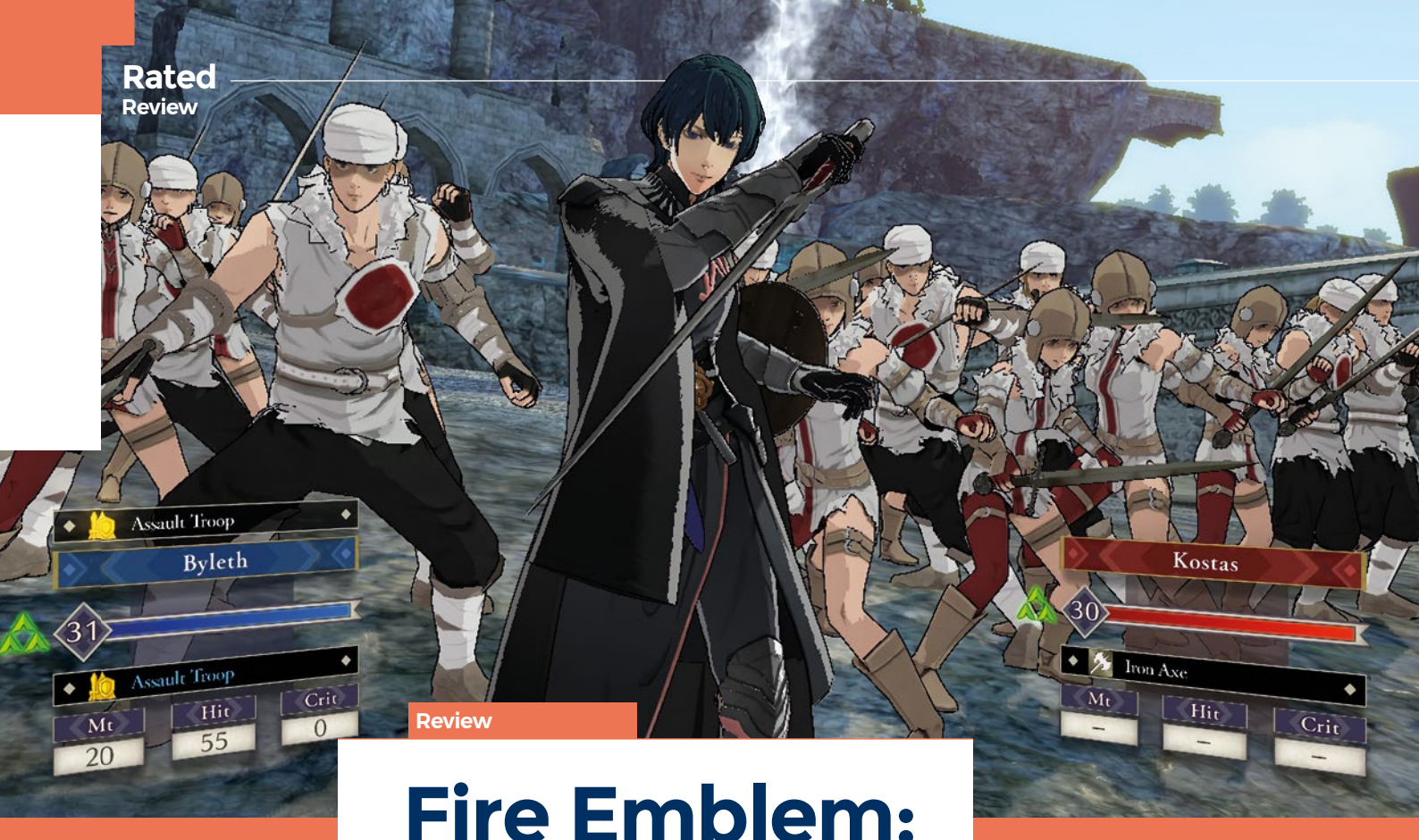
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Rated
Review



Review

Fire Emblem: Three Houses

Romance of the Three Houses

Info

GENRE
Strategy RPG
/ Social sim

FORMAT
Switch

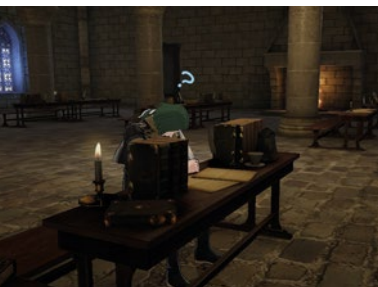
DEVELOPER
Intelligent
Systems /
Koei Tecmo
Games

PUBLISHER
Nintendo

PRICE
£49.99

RELEASE
Out now

REVIEWED BY
Alan Wen



▲ Even if you don't swot up on all the required skills, students still stand a chance of blagging exams to reach a new class.

For *Fire Emblem* players, it used to be that the most crucial choices were on the battlefield, where the positioning of your characters or a mistake could mean losing a beloved unit forever. But just as war is also about winning hearts and minds, some of the most crippling choices you'll be making in *Three Houses* are who to invite to dinner or what topic of conversation to choose over a cuppa.

Your most difficult choice, however, comes at the start, when your mercenary-turned-teacher protagonist is asked to pick which of the three student houses to teach at the Garreg Mach Monastery, determining the campaign path you'll be on for the next 50 hours. Will it be the Black Eagles of the Adrestian Empire, the Blue Lions flying the banner for the Holy Kingdom of Faerghus, or the Golden Deer representing the Leicester Alliance?

Regardless of which house you pick, each of the students are unique, wonderfully designed, and well-written, surpassing the usual anime tropes the genre can often fall into – which is another way of saying that there's less of the awkward, sleazy stuff that previous entry *Fates* was guilty of. At its best, *Three Houses* successfully borrows elements from the niche visual novel genre, albeit with a mainstream

budget, so interactions come with expressive character animations and full voice-acting (as is becoming more popular; both English and Japanese audio are available).

There's also a clear technical and graphical leap from previous instalments, since *Three Houses* marks the series' return to home consoles since *Radiant Dawn* on the Wii over a decade ago. You can see the improvements not just in the monastery's free-roaming environments, but also on the battlefield, where maps actually display character models instead of sprites, while the battles also have a grander scale now that units fight accompanied by an entourage of troops.

While the quaint and very English house system brings *Harry Potter* to mind, how you actually go about school life takes its cues from *Persona*, which brought the social sim to its JRPG dungeon-crawling. While most of the week is for studying, it's during rest days where you make the absolute most of your free time. A whole host of activities open up in the monastery, from choir practice to duelling tournaments, but much like *Persona*, there's a limit on the number of things you can do and who you can do them with.

Or perhaps seeing the grass as greener, you might be tempted to get to know the students

Neutral terrain.



▲ Monsters also roam the battlefield, and often have multiple health bars to take down.

▼ The quickest way to a student's heart is through their stomach, whether that's meals or tea parties.



from the rival houses and poach them for your team instead. This does take considerably more effort, either through seeking personal development to build your stats up to a level they find appealing, or the tried-and-tested method of bribing them with gifts, dinner, and tea.

Whatever you do, you're always balancing priorities, since trying to recruit other members might mean you're not spending as much time fostering relationships within your own house. You can't be too much of a social butterfly, either, as this free time could also be spent on building up your students' practical experience in skirmish battles – it's also where bonds between party members still bloom most effectively.

All of which is to say that prioritising the choices available in *Three Houses* can be overwhelming. You can even choose to skip the socialising aspects altogether and just focus on the battles, but the ability to go deep and customise a character's specialities as they develop into more advanced fighting machines – there's nothing stopping you from steering someone who's initially an archer into, say, a horse-riding mage – makes all the social tinkering worthwhile.

The grid-based, turn-based battles haven't changed all that much, though. The classic weapon triangle may have been jettisoned in favour of stats and weapon durability, but baiting enemies and keeping units together to

boost their bonds and effectiveness remain as crucial as ever. I would have preferred some more variety in mission objectives rather than simply routing the enemy or killing the commander, though this does improve to an extent in the side quests.

What hardcore purists might take issue with is the difficulty, which feels decidedly easy on normal mode – and that's before you factor in the ability to rewind your actions a limited number of times to undo any fatal errors, a

feature first introduced in 3DS entry *Shadows of Valentia*. Nonetheless, it's a welcome addition for newcomers, and I'm frankly glad I don't have to reset every time I make one

miscalculation. If anything, you'll only lament that no such undo function exists if you mess up your teatime conversations.

Even if you try your best to be everyone's favourite teacher, there's just so many nuances in your relationships, classes to experiment with, and diverging paths that take you from the fragile peace between the continent's three territories to all-out war, that there's no way you can finish the campaign satisfied by just one perspective. *Three Houses*, then, is one of those rare and remarkable games where, before you've even reached its conclusion, you're already thinking about the next playthrough – and cancelling your social life to do so. 🗨

“There's less of the awkward, sleazy stuff that previous entry *Fates* was guilty of”

HIGHLIGHT

Three Houses is undoubtedly the chattiest game in the series yet, and it's a constant pleasure to unlock support conversations between party members. It's especially entertaining when some of these relationships start off on the wrong foot, while other characters have questionable personalities. It's to the game's credit then that you always find yourself seeing characters in a different light.

VERDICT

More expansive, sophisticated, and replayable than ever, *Fire Emblem: Three Houses* is the series at its best.

88%

Info

GENRE
Co-op
adventure

FORMAT
PS4 (tested) / PC
/ Mac / Linux

DEVELOPER
Foam Sword
Games

PUBLISHER
Double Fine

PRICE
£15.49

RELEASE
Out now

REVIEWED BY
Andrew King

HIGHLIGHT

I would absolutely spend way too much time at the Penfurzy Island history-themed putt-putt course that Demelza's dad owns. The round of minigolf that the girls play here early in the game is a highlight of interesting design choices, quirky theming, and the best of *Knights and Bikes*' gorgeous hand-painted aesthetics.

Demelza and Nessa spend plenty of time following Honkers, Demelza's trusty goose.



Knights and Bikes

Adventure and co-op action in a dazzling suit of armour

Knights and Bikes is ridiculously charming. The charm begins with the little girls at the heart of this coming-of-age story and extends to the setting they call home. Co-op heroines Demelza and Nessa buzz their lips and let out adorable yells as they sprint around the fictional British island of Penfurzy, represented here in the visual style of a pop-up book. The characters they encounter speak with *Banjo-Kazooie*-style effects in place of dialogue – Demelza's dad, specifically, sounds like a rusty can tumbling down the stairs, albeit in a fun way. Demelza and Nessa are funny, honest, and filled with a sense of wonder and a desire for adventure, even as Demelza deals with a deeply painful event in her recent past.

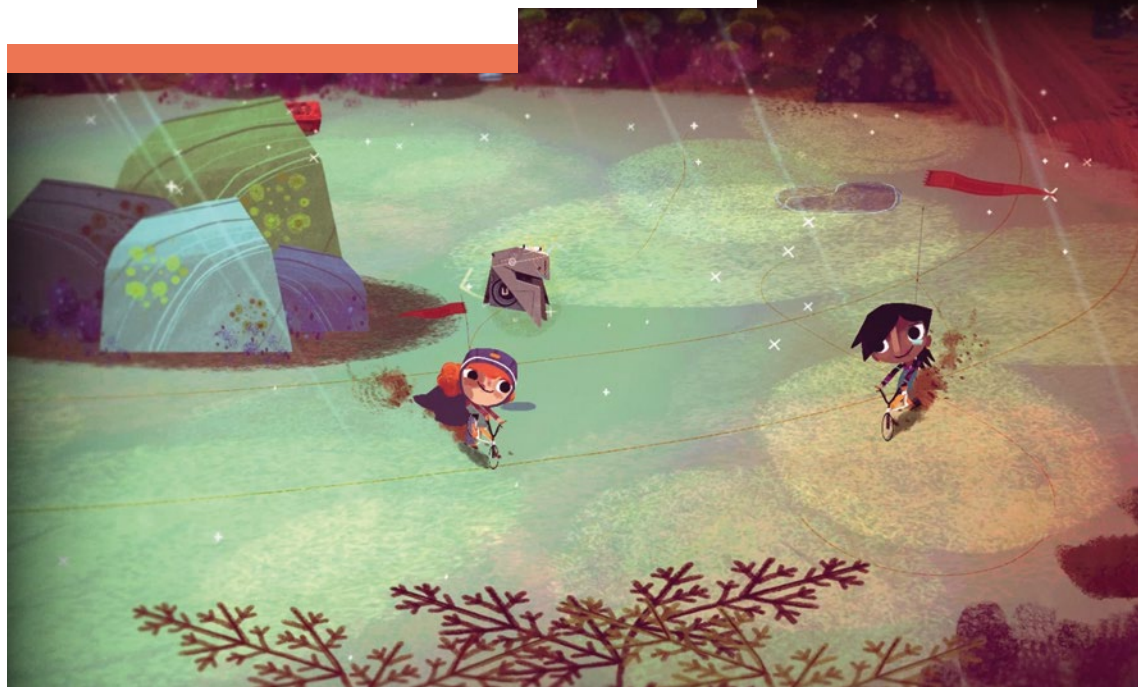
As the two youngsters criss-cross Penfurzy on customisable bikes, Demelza and Nessa visit a miniature golf course, a scrapyards, a mountain top, and more. Each environment is rendered with care, while a muted pastel colour palette effortlessly captures the feeling that summer

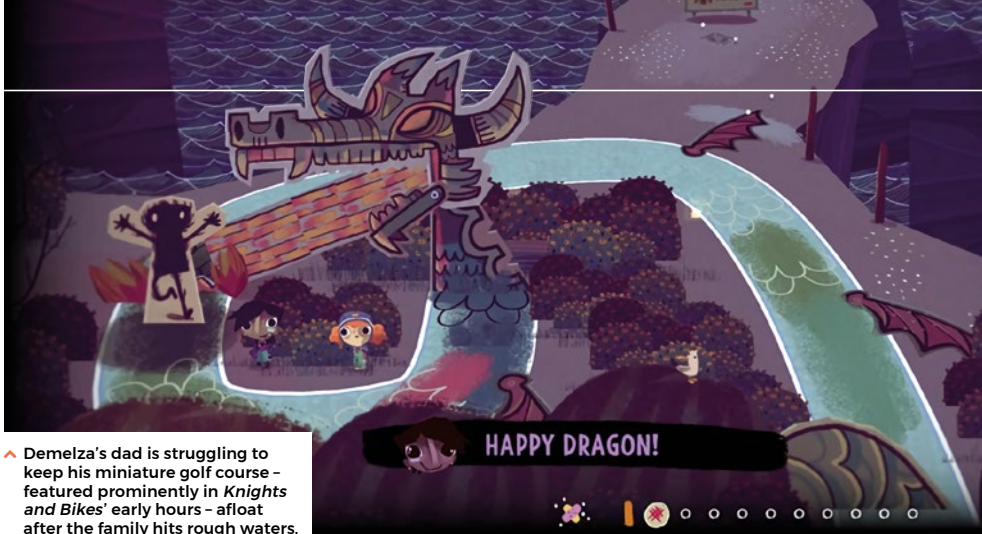
(and childhood) is nearing its end. *Knights and Bikes* is set in the eighties – there's a definite *Goonies* energy to Demelza and Nessa's quest – but it rarely adopts the neon and synth shorthand we've come to expect from period throwbacks. Instead, *Knights and Bikes* presents the era as it truly might have been for two British kids living in a village.

Yes, the game has charm and atmosphere to spare. That's a good thing, too, because it's a bit lacking in other departments. *Knights and Bikes* is, at once, a story-driven adventure game and a co-op title with light action RPG-style combat and character-specific abilities. That mixture, unfortunately, leads to both portions feeling slightly watered down.

The game begins with Nessa, a homeless stowaway, arriving at the Penfurzy docks. Demelza, a bored local with wild red hair, is visiting the harbour with her dad, and after an awkward meeting (Demelza knocks some

Co-op feels fun but a bit under-developed.





^ Demelza's dad is struggling to keep his miniature golf course - featured prominently in *Knights and Bikes*' early hours - afloat after the family hits rough waters.

lobster traps onto Nessa) the two become fast friends. Demelza's father owns a caravan park, and Nessa begins staying the night in Demelza's camper (where they can compete in a very simple Rock 'Em Sock 'Em Robots-style off-brand NES game). During the day, they explore the island, uncovering a story about the order of knights who inhabited Penfurzy centuries before. They embark, like many bored kids before them, on a quest to find the hidden treasure they left behind.

It's a fantastic hook, but this great setup never quite gels with the game itself. I'd hoped for meaty characterisation and an ever-deepening mystery, but *Knights and Bikes*' story feels thin; an almost skeletal outline scaffolding the puzzles and combat sections.

In those action-puzzle segments, Demelza and Nessa have a variety of tools at their disposal. Early on, each gets a simple attack - Demelza kicks and stomps; Nessa throws a frisbee. As the game progresses, though, each heroine unlocks a toolkit of four abilities. These are conceptually interesting, to be sure.

Demelza can drop plungers on the ground, where they wait to pop like timed explosives. She can also charge this move up to throw the plunger, pulling enemies closer or moving barriers out of the way. Nessa, meanwhile, can chuck water balloons to put out fires (whether on burning enemies or in the environment). As waves of bouncing baddies advance toward you, you'll need to shuffle between abilities to manage them. As Nessa, you might throw water balloons to extinguish an opponent, then use the right thumbstick to toggle to your basic attack to pelt your (now room temperature) foe with flying discs.

All of this sounds fine in theory - using different weapons for different scenarios is pretty standard action game stuff - but *Knights and Bikes* never feels like an action game. The process of switching abilities doesn't feel snappy. Over the course of my six-to-eight

hour playthrough, I couldn't get used to selecting moves on the thumbstick. It just didn't feel as natural as, say, pulling up a weapon wheel in a shooter. The combat sections are simple, I never died, and there are no boss battles (though there are some clever feints in that direction). To engage with the combat in this game is to spend hours doing something that doesn't quite feel right.

The puzzles fare slightly better, though they're often marred by a few design quirks here and there. The pop-up book aesthetic is certainly gorgeous, the dioramic, zoomed-out presentation sometimes makes it frustratingly difficult to see a path or solution. *Knights and Bikes*' more significant issue, however, is that its two-player approach

to puzzle design is rarely well-used. Progression mostly just involves both co-op partners standing on pressure plates. In single-player, you won't even need to figure these puzzles out, either, because your AI companion will often automatically solve them for you.

Despite its shortcomings, though, I enjoyed *Knights and Bikes*' tale of wonder and grief. It tells an at times impactful story (which, to an almost comical extent, has a lot in common with 2018's *God of War*). If only the mechanics used to tell that story were just a little better employed. 🐉

“There’s a definite Goonies energy to the quest”

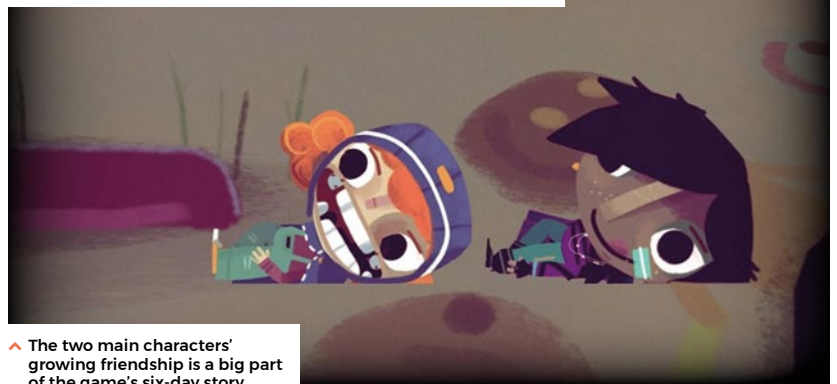


^ Demelza is enthusiastic and full of joy, despite challenging personal circumstances.

VERDICT

Despite some missteps, *Knights and Bikes* tells an impactful story of grief and friendship.

65%



^ The two main characters' growing friendship is a big part of the game's six-day story.

HIGHLIGHT

AER's flight is wonderful in its simplicity; the contrast between traversing on foot to suddenly soaring through the skies is arguably the game's high point. Your avian form responds precisely to your movements, while the occasional tap of the Y button flaps your wings, providing a boost of lift and intoxicating speed. Bliss.

Review

▲ The design of locations – and some terrific lighting – make *AER*'s low-poly world fascinating to explore.

Info

GENRE

Adventure

FORMAT

Switch (tested)
/ PC / XBO
/ PS3

DEVELOPER

Forgotten Key

PUBLISHER

Daedalic
Entertainment

PRICE

£17.99

RELEASE

Out now

REVIEWED BY

Ryan Lambie

VERDICT

An ambient explore-'em-up that, in its best moments, truly soars.

81%

AER: Memories of Old

A charming adventure takes flight on the Switch

Yes, it's a couple of years old now, but *AER: Memories of Old* is one of those games that's interesting enough to make its recent arrival on Switch worth talking about.

A fantasy adventure with more than a hint of thatgamecompany's ever-influential *Journey* laced through it, *AER* takes place in a low-poly world so soothing and inviting that it's tempting to try to climb into the screen. Taking control of an enigmatic character named Auk, who happens to be able to shape-shift into a bird of prey, it's up to you to explore a landscape of flying islands and abandoned, decaying temples in search of answers. What happened to the beings that once populated the place? Just what is the mysterious evil that threatens to devour the wildlife and lush trees that still exist here?

Emerging from the murk of a collapsing cave, Auk sets off with a magic lantern which, when equipped, can illuminate otherwise hidden objects and the wisps of long-dead beings around her – through the latter, the story of what happened to a lost civilisation is gradually revealed. There are also engravings on old monuments and assorted scrolls that fill in bits of backstory – in fact, there's so much on-screen text to read through that the game occasionally threatens to overwhelm you with lore rather than simply let the superbly wrought world do the hard work.

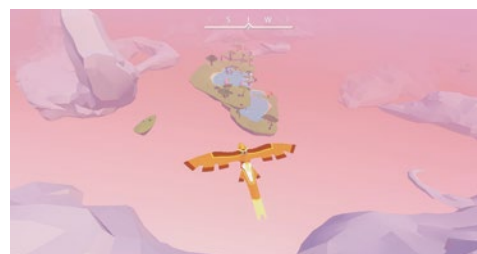
It's when *AER* takes flight that the game begins to really snap into focus. Effortlessly swooping and gliding between islands, discovering new locations, and hunting for clues is an absorbing

and soothing pastime, and the sense of freedom is heightened by the absence of death or injury should you, say, bank a bit too hard to the left and collide with the side of a floating landmass.

In place of mortal danger, there's instead a gentle air of melancholy, which lingers even as the soundtrack soars; the sunlit open spaces are contrasted by shadowy, more claustrophobic interiors where *AER*'s deeper secrets lurk.

Back in human form, you'll find the occasional light puzzle to solve here, but more memorable are the characters you stumble across – mythical beings that provide yet more bits of history point you to where you need to go next, and generally add to the game's air of unearthliness.

That *AER* flatly refuses to provide such things as markers on your map for places you've already visited – or at least, a means to place waypoints on the map for yourself – can sometimes lead to bouts of baffled toing-and-froing. But even this design decision makes sense in context: *AER*'s a game to explore, to puzzle over, to lose yourself in. 🗺️



▲ In-game text can ramble on a bit at times, but the mythical realm it fills in is admittedly a memorable one.



HIGHLIGHT

Gliding is the game's standout method of traversal, and it's beautifully executed. The controls are dead simple – it's all done with the left stick and a single button – but with a little practice you'll be swooping and diving through the air, landing on tiny outcrops, and crumbling towers to get those last few tricky collectables.

Review

A Short Hike

▲ Claire stared crestfallen at the blocky horizon, wondering why *A Short Hike* isn't on the Switch.

Glide-and-peek

You're Claire, a teenager, and you're stuck on a remote island. You're desperate to contact a loved one, but your phone has no signal.

So, you hike up a mountain, praying to find a few precious bars at the top. That's not the opening of a survival horror, but the premise of *A Short Hike*, a game about going on a short hike. And it's rather lovely.

Claire is a bird, one of the several dozen bobble-headed anthropomorphs that populate an idyllic nature reserve off the coast of what one imagines is some New England-ish state. So far, so *Animal Crossing*. Indeed, rip out *Animal Crossing's* farming economy, asinine consumerism, and crippling mortgage repayments, replace them with the traversal mechanics and questing from *Breath of the Wild*, chop the run time down to a manageable two to three hours, and you're pretty much there. *A Short Hike* looks and feels so Nintendo that if it appeared on the 3DS, you might assume that Miyamoto himself had a hand in its development.

It's not just *A Short Hike's* 3DS looks that make it evocative of Nintendo. Its ideas are also executed with such perfect simplicity, and it has a knack for making its trifles and mundanities feel epic, with clever rationing of camera angles and a steady, highly curated trickle of milestones to reach and abilities to unlock.

Claire will start her adventure by learning how to talk to NPCs, how to run, and how to carry stuff. From there, she gradually learns to fish and dig, race, play volleyball – all momentary distractions from the end goal of ascending the mountain. Her key skills are climbing and gliding – which she

gets better at by collecting golden feathers, with each new one extending a stamina bar, allowing her to assail greater heights and glide for greater distances, a trope lifted squarely from *Breath of the Wild* and deployed gorgeously here.

Collecting the golden feathers becomes a thrill in itself. They're hidden all around the island, sometimes in treasure chests on rocky outcrops, sometimes behind certain key social interactions, but they act as your level; a tangible, physical limit to how high you can go. With every inch added to Claire's range, that fated phone call draws ever closer. Through our own efforts as player, we feel Claire's hope and trepidation as the story builds to its crescendo – and the payoff is sweet. Just schmaltzy enough to put a lump in the throat, but not enough to feel like you've accidentally sat on the remote and switched over to a Hallmark special.

When you first loaded them up, all the best games used to feel like the start of the school holidays. Classic *Zelda* titles and *The Elder Scrolls* of old held this magic – the thrill of running off into the fields, with nothing to worry about for weeks except tripping over twigs. In that tradition, albeit on a compact scale, *A Short Hike* is a tremendous summer holiday simulator, which comes dripping with poignance and gleaming with Nintendo polish – the sort of team-of-one indie game that comes along every so often and makes everyone think, "Wow, this dev is going places."

A Short Hike barely asks the price of a Wetherspoon's curry, and takes half the time to digest. For the avoidance of doubt, that's a no-brainer. 🐦

Info

GENRE
Adventure

FORMAT
PC (tested) / Mac

DEVELOPER
adamgryu

PUBLISHER
adamgryu

PRICE
£5.79

RELEASE
Out now

REVIEWED BY
Dave Hurst

VERDICT

A pint-sized adventure with grand ambition, delivered in pixel-perfect Nintendo quality.

80%

Info

GENRE
Branching
narrative horror

FORMAT
PS4 (tested) /
XBO / PC

DEVELOPER
Supermassive
Games

PUBLISHER
Bandai Namco

PRICE
£24.99

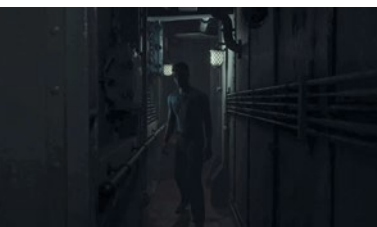
RELEASE
Out now

REVIEWED BY
Richard Wakeling

HIGHLIGHT

The best horror frequently arises from a fear of the unknown. By playing *Man of Medan* with a partner, scenes are occurring concurrently, so you're each experiencing half the game. Some of the best moments came when my mate was simply describing what was happening to him and my imagination had to fill in the rest.

✓ Fixed camera angles are used when you're allowed to explore the ship, harking back to survival horror classics like *Resident Evil*.



The Dark Pictures: Man of Medan

Terror aboard a ghost ship? Best bring a friend

The *Dark Pictures: Man of Medan* reveals its hand early on. It shares much in common with Supermassive Games' previous title, *Until Dawn*, but the addition of co-op proves to be a stroke of genius.

The prologue takes place during the Second World War as two US soldiers, after a night of heavy drinking leads to a mishap in front of their commanding officer, find themselves placed in the brig and medical bay aboard the SS Ourang Medan. Cast in the role of one of those soldiers, I woke up dishevelled and confused in the brig, whereas my friend, playing alongside me, found himself in the medical bay. After exploring our surroundings, we eventually meet and begin exploring the bowels of the ship together. Something has obviously gone awry, with the rest of the crew either dead or prowling the corridors in a frenzied panic. That's when my compatriot asks if I just saw a small child dash across the hallway in front of us. I hadn't seen anything.

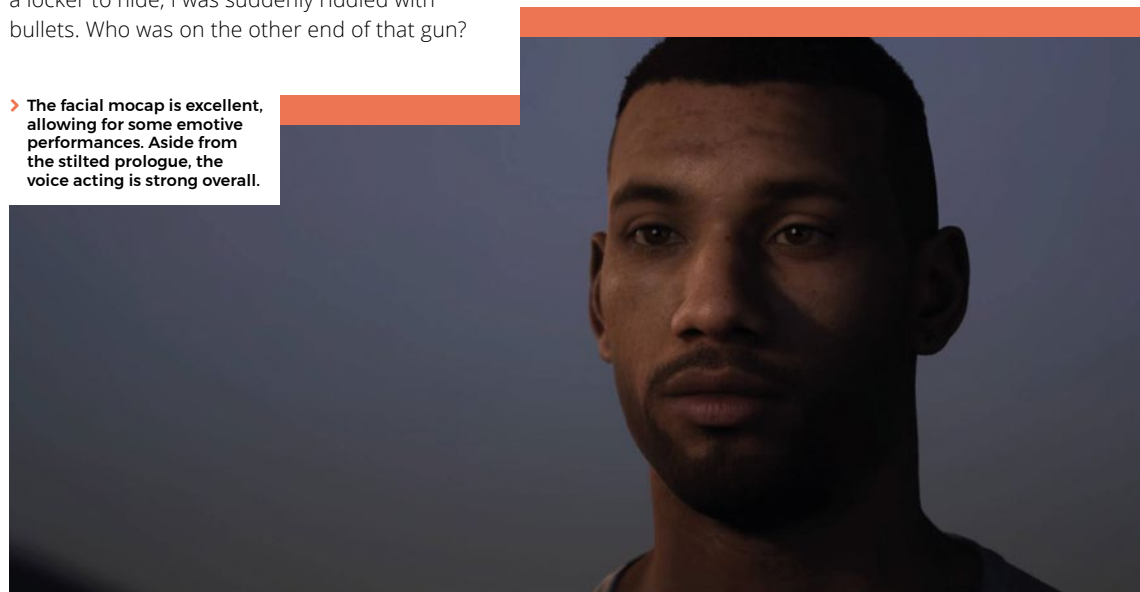
Eventually, we were split up. I won't spoil the grisly details, but after stuffing myself inside a locker to hide, I was suddenly riddled with bullets. Who was on the other end of that gun?

My friend, of course. Though it wasn't a locker he was lighting up – not on his screen, at least. Therein lies the brilliance of *Man of Medan's* co-op: by splitting the branching narrative between two players, there's an inherent unpredictability in the way events can unfold, and more ways for Supermassive to toy with you both – to the point where you might attack one another without even realising it.

Admittedly, the story's disappointing beyond the central mystery, and there's a lack of character development that makes it hard to care what happens to the cast. But the co-op elevates each faltering aspect of *Man of Medan* to such a degree that playing the game solo's almost redundant – if you're going to play it, you need to do so with a friend.

There are certainly enough characters to go around as the narrative shifts to the present day. You're part of a scuba diving expedition on the hunt for the wreckage of a sunken World War II plane. The whole trip's funded by two affluent siblings who are accompanied by one of their boyfriends, his brother, and the

› The facial mocap is excellent, allowing for some emotive performances. Aside from the stilted prologue, the voice acting is strong overall.





◀ Dialogue options are split into three choices, and mostly affect your character's relationship with whoever they're talking to, which might in turn impact their fate.

small vessel's captain. The no-nonsense Captain Fliss is the most interesting of the bunch, with the rest of the cast occupying their respective roles as familiar horror movie clichés. *Until Dawn* was much the same way, yet it managed to subvert expectations as the story unfolded until its characters were better-rounded, which in turn made you care whether they lived or died. At roughly three hours in length, *Man of Medan* doesn't give you enough time with these characters for something similar to happen. The early stages provide room to get to know each one to some degree, but once they arrive on the SS Ourang Medan ghost ship, any notions of character development are thrown out the window in favour of jump scares and spooky goings-on. As a result, I was never really bothered about the fate of any of the characters beyond Fliss, and even then her early intrigue never goes anywhere.

The central mystery is definitely interesting, revolving around the fate of the Medan's crew, and why everyone's seeing ghouls and ghosts. There's such little fanfare when you uncover what's really going on, however, that the reveal feels more like a throwaway piece of information.

Like *Until Dawn*, *Man of Medan* splits your time between moments where you're free to explore and pick up notes and other trinkets, QTE-centric action sequences, and conversations built around dialogue options. Player movement is cumbersome, particularly when you're working in tight spaces, and simply interacting with items is overly finicky. QTEs are what they are, but they at least keep you on your toes, especially when one wrong button press could result in a character's death. The story is shaped by a plethora of branching paths where anyone can die at any moment, and the story will continue on.

Throwing two players into these high stakes is ingenious, because you might be forced to face the consequences of your partner's

actions, and vice versa. There are times when you're together, and times when you're split up, which is when the game starts manipulating each of your perspectives. Our playthrough would have gone a lot differently if we weren't relaying information to each other. In hindsight, the ideal way to play *Man of Medan* would be either without voice chat, or in a way where you decide to conceal information from each other. As a result, we managed to avoid any major character deaths aside from one right near the end. Although this didn't stop me from swinging a knife at my mate's face when I thought he was some kind of zombified monster.

The three-hour runtime is indicative of *Man of Medan*'s lower price point, but it does make it easier to go back through the game and explore the various ways the story can unfold. That story – and its characters – are disappointing when compared to *Until Dawn*, but

again, the addition of co-op adds something new and wholly unique to the branching narrative genre. Supermassive does some interesting things with the concept that elevates what would otherwise be a serviceable horror game and little else. There's certainly potential here for the rest of the *Dark Pictures* anthology. Here's hoping future entries manage to coalesce each element into a more enjoyable whole. 🗣️

“You might attack one another without even realising it”

VERDICT

Co-op elevates *Man of Medan*'s spooky romp through a branching ghost ship.

70%

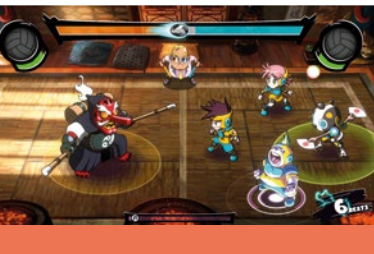


▶ Monster designs vary in quality, from cookie cutter zombies to two-headed monstrosities. The best of the bunch might be the WWII pin-up model.

HIGHLIGHT

The presentation is fabulous. Bursting with anime energy, there's a lot of screaming, over-the-top posing, and powering up to new levels. It's so cheesy and sincere that it's impossible not to get swept up in its nonsense sometimes. There are also more than a few references to Japanese pop culture sewn into the character and environment designs that are worth hunting for.

▼ Watch out, that child is powering up.



Review

▲ Even Maneki-Neko can get in on this dodgeball game.

Super Dodgeball Beats

The five Ds of dodgeball: dodge, duck, dip, dive, and dodge

Info

GENRE
Rhythm
FORMAT
PC (tested) /
PS4 / XBO /
Switch
DEVELOPER
FinalBoss
Games
PUBLISHER
PlayStack
PRICE
£11.99
RELEASE
Out now

REVIEWED BY
Joe Parlock

VERDICT

Simplistic rhythm-action wrapped up in a handsome anime shell.

46%

Graphics don't automatically make a game good, but sometimes – just sometimes – a stellar art style can pull an otherwise just 'OK' game back from the brink. Think *No Man's Sky* or *Crysis*. That's not the case with *Super Dodgeball Beats*, though, as its fantastic anime aesthetic doesn't stop it from being a bland, feature-light rhythm game.

Despite the name, *Super Dodgeball Beats* is only technically about dodgeball; if anything, it's more about tug-of-war. The only time anything resembling dodgeball happens is at the end of the match, where the losing team is blasted away. Instead, *Beats* is a competitive rhythm game inspired by the likes of *Elite Beat Agents*, and has you hitting each of your four team members in time with the music to charge up their power. The team commanding the power bar at the top of the screen when the song ends is the victor, and gets to blast away the other team in a maelstrom of dodgeballs.

To make matters more complicated, accurately hitting the beats unlocks power-ups which will interfere with your opponent. A giant mascot head might obscure the view, bombs may take a chunk off their score if they fail to hit a note perfectly, or doughnuts will temporarily hide all incoming notes.

It's a simple game, verging on inane. Each match plays out like the one before it, and even in (local-only) multiplayer, there's little in the way of strategy

or skill beyond hitting the notes on cue. At least other rhythm games like *Beat Saber* or *Guitar Hero* have diverse and expansive track lists or higher levels of technical precision required to make things more interesting.

It's a shame too, because *Dodgeball Beats'* team sports theme could've allowed for a few tactical possibilities – for example, by building your own teams of characters who bring their own power-ups, or even by just giving different pre-made teams their own strengths and weaknesses.

Instead, every team plays identically, and it all gets dull after a few rounds.

Super Dodgeball Beats' single redeeming feature is its anime-inspired art style. Every screen

brims with colour and over-the-top emotions, and, in true anime fashion, all the character designs are so sincere and wacky. It manages to recreate perfectly the feeling of anime shown on kids' TV in the early 2000s, like *Beyblade* or *Ultimate Muscle*. If you just want to watch some intense kids scream at each other, or an English dude in a Godzilla costume charge up his power levels, this delivers that in spades.

Super Dodgeball Beats isn't bad. It's a perfectly functional, well-polished game for what it is – a quick and simple *Elite Beat Agents*-like intended to be played locally with a friend. It's also a somewhat empty rhythm game that lacks content or room for personal flair. Those graphics sure look pretty, though. 🗨

“Every screen brims with colour and emotion”



Friendly fire

The violence is ferocious, but deep down, My Friend Pedro just wants you to have fun

M

y addiction to *My Friend Pedro*, released earlier this year by DeadToast Entertainment, has crept up on me somewhat. It's one of those games where,

particularly on the Nintendo Switch, it's easy to load up and play for a few minutes between other tasks. A 21st-century evolution of such side-scrolling action games as *Rolling Thunder* or *Shinobi*, its bite-sized levels can be completed in a couple of bullet-strewn, blood-spattered minutes. And despite the simplicity of its premise – a kind of 2D take on *Max Payne*, with all the slow-motion acrobatics and gun-fondling that comes with it – *My Friend Pedro* is a little bit more layered than it might first appear.

Unlike some games, where a failure to accurately master inputs might leave you stuck on a tricky area boss, *Pedro* doesn't punish you for a lack of precision – it simply makes you look a bit daft. Sure, there are challenging moments in *My Friend Pedro* – complicated arrangements of heavily armed goons who'll gun you down in an instant if you don't approach the situation just right – but mostly, the game lets the player set their own challenges. Do you want to just breeze through and see the bizarre and violent delights the game has to offer? Or do you want to properly master each stage, time each dive, spin, and blast just perfectly, and get an 'S' rank for every one?

My Friend Pedro's macho action movie veneer also hides some pleasing jabs of imagination. That the friend in the title happens to be a

floating, talking banana is the first sign that the game doesn't take itself too seriously; later levels go increasingly off the map, from weird gamer-bro enemies to an entire dream sequence that could have come straight from Terry Gilliam's fevered brain.

All of this snaps into focus when you realise that developer Victor Ågren once worked on Media Molecule's charming platformer construction kit, *LittleBigPlanet*; *My Friend Pedro* might look like a 180-degree turn from that game's fabric and cardboard presentation, but in its own way, *Pedro's* just as much of a virtual sandpit. Stages in *Pedro* are strewn with toys you can either ignore or play around with to your heart's content – you don't *have* to ride a skateboard through a window, or do a back-flip while shooting

two bad guys in slow-motion, but it's far more fun if you do. You could just take out villains with a normal zap from your dual pistols – or you could shoot a frying pan in the air, then score extra points for ricocheting bullets off the pan's surface and into the villains' faces. It's easier to do the former; it's vastly more rewarding to at least try out the latter.

And if your best-laid moves go to pot, then the most you'll have to deal with is a bit of mild embarrassment – rag-dolling through the air, shots missing their mark, or landing face-first on the ground as villains watch an unmanned skateboard fly towards them. Even if you're rubbish at *My Friend Pedro*, it remains a wildly entertaining comedy of errors. 🍌

“Pedro doesn't punish you for a lack of precision – it simply makes you look a bit daft”

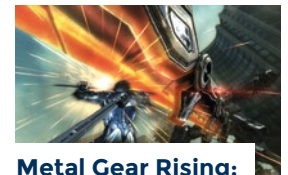
Wireframe Recommends



Viewtiful Joe

GAMECUBE, PS2

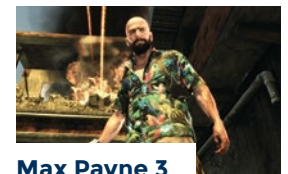
Duck, jump, counter with a glorious upper-cut: Hideki Kamiya's cel-shaded side-scrolling brawler was and remains an addictive, slow-motion delight. Henshin-A-Go-Go, Baby!



Metal Gear Rising: Revengeance

PS3, XBOX 360, PC

A world created by Hideo Kojima got a touch of PlatinumGames mania. *Revengeance* lacked somewhat in terms of dramatic build-up, but its swirling fight sequences bordered on the mesmeric.



Max Payne 3

PS3, XBOX 360, PC

Yes, Rockstar's belated entry strayed from the noir roots of Remedy's original games, but *Max Payne 3* was still a thrilling – and, appropriately for the *GTA* studio, cinematic – third-person shooter.



Syndicate

Forget all the guns and flamethrowers – the Persuadertron was Syndicate’s most memorably unsettling weapon

BULLFROG PRODUCTIONS / 1993 / PC, AMIGA, VARIOUS

There were so many ridiculously good features in *Syndicate*, designer Sean Cooper’s legendarily fantastic nineties collision of real-time strategy and dystopian violence, that it’s difficult to even list them all. There was the focus of its street-level action, in which the player armed up to four killer cyborgs and sent them on bloody missions around the world’s cities. There was the satisfying heft of its weapons, from the grunting rattle of miniguns to the fiery aftermath of its flamethrowers. There was the sense of a living, dangerous future metropolis, where anything could happen: car theft, a flailing intervention from the local police, or panicked citizens running fatally into the path of a train.

One feature summed up *Syndicate*’s cold-blooded nature particularly well, though: the Persuadertron. When equipped, this futuristic bit of tech essentially ‘brainwashed’ any citizen in range of the player’s cyborgs; once under the Persuadertron’s influence, NPCs would shadow the cyborgs’ movements, following them around and even picking up weapons and firing on enemies in certain situations.

Some missions positively demanded accurate use of the Persuadertron; in several instances, the device had to be used to essentially kidnap a pair of scientists from a rival research complex and convert them to your cause, for example. More often, you’d simply use the Persuadertron to create

a small army of civilians and cops, who’d form a human shield around your cyborg agents as they tore through yet another urban landscape.

Using the Persuadertron not only created some spectacular moments – dozens of hypnotised minions tumbling out of a stolen vehicle to do battle with enemy agents – but it also helped sell *Syndicate*’s bleak premise. Here was a game where the grasp for territory and power overruled all notions of morality or human kindness. In the world of *Syndicate*,

governments, the law, science, and society at large were all the playthings of private corporations. Few images got this violent amorality over more efficiently than the aftermath of a typical mission: the city streets full of burned-

out cars, and the bloodied corpses of the citizens you’d used as human shields in your battle for supremacy.

Later *Syndicate* games expanded on these themes, some brilliantly (*Syndicate Wars* was a more than worthy follow-up), others less memorably (the 2012 reboot, simply named *Syndicate*, was merely so-so). With its tiny sprites and isometric cities, though, the original *Syndicate* managed to create the illusion of a cyberpunk future worthy of William Gibson.

And there, in the midst of it all, was the Persuadertron: a quietly horrible little device that allowed the player to cause all kinds of mayhem – assuming they could cope with the tiny shred of guilt they felt after using it. 🗿

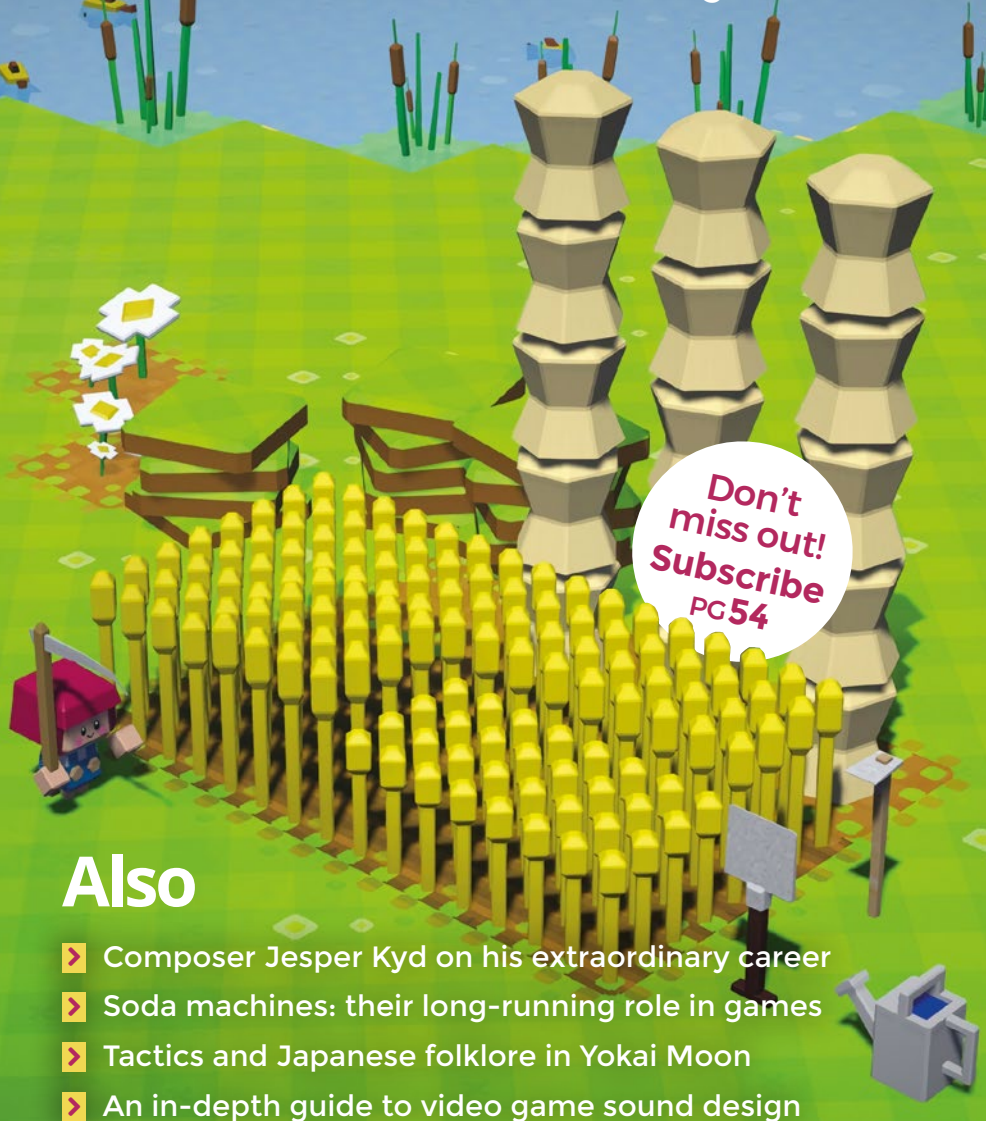
“Here was a game where the grasp for territory and power overruled all notions of morality”

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