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ALL FORMATS

Wireframe

LIFTING THE LID ON VIDEO GAMES

Samus to Shantae

Crafting the perfect
Metroidvania

Shadow's Edge

A game designed
to change lives

Issue 19 £3

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INMOST

Uncover a bleak,
beautiful Gothic adventure



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TO LEGENDARY



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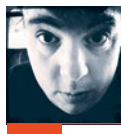
aocgaming.com

Gatekeeping in the golden age of video games

Old video game magazines are a treasure-trove of fascinating history – particularly those from the early 1980s, an era when the conceptual boundaries and even the language of video games were still crystallising. Advertisements hail long-forgotten games as the greatest of all time, while articles employ curious terminology like ‘screen games’ to describe arcade machines and ‘climbing games’ to refer to the genre we now call platformers. Suffice to say, these vintage publications offer intriguing glimpses into the roots of video game culture as we know it today.

With that in mind, I was recently skimming through the monthly ‘Glitches’ news column in the March 1983 issue of *Electronic Fun with Computer & Games* when an item caught my eye. Under the provocative headline ‘Yoo Hoo, Feminists...’, the short piece reported on the upcoming release of *Strawberry Shortcake: Musical Match-Ups* for the Atari 2600. Parker Brothers marketed the game, based on Kenner’s popular toy line of scented dessert-themed dolls, as the “first video game cartridge for young girls.” What I found striking about the piece wasn’t so much the historical significance of an early game targeted at a female audience, but rather the disdainful tone it struck – a tone all too familiar in 2019.

The authors (the column is jointly credited to Ronald Chironna, Pat Kinsley, David Celsi, Bill Sillbert, and Robert Casilla) open by alluding to “nefarious things” afoot in the “game universe.” After briefly mentioning the emerging trend of erotic games, they identify the real threat: so-called “sexual stereotyping.” The authors go on to frame the pending release of *Strawberry Shortcake: Musical Match-Ups* as a “quantum leap backwards for feminism” due to its “cute,” girl-centric content. They frame the crisis as follows:



JESS MORRISSETTE

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

What is the world coming to? Can we expect to see games aimed specifically at other groups? For example, senior citizen games in which ominous muggers try to steal the elderly’s social security cheques; tall people games in which basketball players routinely step on jockeys; and, finally, dentist games, in which Strawberry Shortcake is eliminated because she causes cavities.

In case the authors’ meaning wasn’t entirely clear, an illustration (‘Cute Shoot’) depicting someone scoring a violent headshot on a shooting gallery-style figure with a strawberry head accompanies the article.

So, if you’re wondering how many video games had to be marketed towards girls before dudes started claiming the industry was under assault, the answer is one. Literally. The first one.

Looking back at this news item today, it’s hard not to interpret it through the lens of Gamergate and its own efforts to ‘defend’ gaming from perceived bogeymen – feminists, cultural Marxists, social justice warriors. It represents an opening salvo in the decades-long battle to define what counts as a ‘real’ game and, by extension, a ‘real’ gamer. As is still the case today, *realness* to many gamers remains a fundamentally gendered concept. Contemporary reactions from self-proclaimed ‘hardcore gamers’ to titles like *Kim Kardashian: Hollywood* – mobile, casual, female – aren’t that different from *Electronic Fun with Computer & Games*’ condescending take on *Musical Match-Ups*.

That the authors flippantly added a violent element to their criticism (‘eliminating’ Strawberry Shortcake, the headshot illustration) is unsettlingly prescient when considered in the context of contemporary harassment campaigns targeting women in the video game industry. Taken as a whole, the article’s a stark reminder that the ‘boys only’ mentality of gaming culture isn’t a new phenomenon. In fact, there’s evidence to suggest it was there almost from the start. 🗿

#19



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WELCOME

There are all kinds of skills that go into making games, from programming to design to music and dozens more disciplines besides. But the skill that overarches all those other ones is – as I've concluded after talking to a wide variety of developers over the past few months or so – perseverance.

When former Ubisoft and Rockstar artist Luis Antonio embarked on his time-loop adventure *12 Minutes* in 2013, he spent hours of his spare time reworking and refining the concept. From there, he worked on the game for about three years before publisher Annapurna Interactive spotted its potential; thanks to their funding and expertise, Antonio's now able to complete his game's motion capture and voice acting. What began as a comparatively small solo venture has, through six years of hard work and, yes, perseverance, grown into something far more cinematic and unsettling.

Similarly, German student Kim Seitner spent three years working on his platform-puzzler *Alien Escape*, fitting its development around his studies. After being picked up by an indie publisher, the game's now on Steam and the Nintendo Switch eShop, giving it a potential audience of millions. Technical ingenuity, design flair, intuition and luck all played important roles, but without their creators' drive to see them through to the bitter end, those games would never have existed.

Ryan Lambie
Editor



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RETRO GOTHIC

Three characters exploring a benighted pixel art world; two indie devs battling to make it. We find out more about the gothic adventure, **INMOST**

Hideous monsters that feed on suffering. A gothic landscape battered by wind and rain. Look around at the gloomy pixel world of *Inmost* and you probably won't immediately connect it to *Dizzy*, the series of cartoon games featuring a bouncing, grinning egg first released in the 1980s (see page 32). And yet, for Lithuania-based artist and game designer Alexey Testov, *Dizzy* was one of the many influences that went into *Inmost*: an atmospheric and visually striking platform-adventure that also takes in elements of such classics as *Flashback*, *Another World*, and modern indie darling, *Limbo*.

Inmost takes chunks of those varied 2D games and makes them its own: here you'll find a puzzle-filled tale that's more contemplative and deliberately paced than most retro-influenced games we've seen in recent years. It tells the tale of three characters whose fates are, divided though they are by time and space, closely intertwined. There are obstacles to overcome and enemies to vanquish, but *Inmost* is equally about soaking up the details of its dank, desaturated world and uncovering the stories behind its three lost souls.

Initial work began on *Inmost* in 2017; by this point, Testov and Hidden Layer Games co-founder Andriy Vinchkovskiy

had spent several years working together on a string of mobile and Flash games, before a desire to make something bigger and more ambitious began to take hold. Testov and Vinchkovskiy worked solidly for two months on creating a prototype, pouring considerable effort and studio funds into their dark proof-of-concept. With Hidden Layer Games' coffers running low by this point, *Inmost* might have gotten lost in its own form of limbo without additional funding, but salvation came when it won an indie game competition in Minsk. The cash prize from that victory helped finance the meat of *Inmost's* development; meanwhile, the game's growing reputation attracted London-based company Chucklefish, which later stepped in as publisher.

Inmost, then, is shaping up to be a captivatingly melancholy adventure – and the story behind it is similarly emotional. We caught up with Alexey Testov and Chucklefish's Katy Ellis to find out more about its making.

Is this a personal game? Have your personal experiences informed the game's tone in some way?

Alexey Testov: Not directly. *Inmost* doesn't tell about events that happened to me or people I know, but of course, I'm trying to inject into it my personal thoughts and emotions. I'm trying to make the game raise questions important to me. When I started writing *Inmost's* story, I hadn't seen my wife and two-year-old daughter for several months. They were unable to join me in Lithuania because of documents issues, while I was unable to move back to them because I just didn't have enough money. I was very depressed. In many ways, exactly that part of my life defined the game's tone. ▶





Can you talk a little bit about *Inmost's* story, and how its three characters interconnect?

Katy Ellis: *Inmost's* story is a dark one, exploring three playable characters – each with their own gameplay style – and one interweaving narrative, told through each of the characters' journeys. The story is set across two worlds, weaving together a tale of suffering, sacrifice, and family. We're purposefully being a little coy about the details – we think *Inmost's* story is best told while playing and discovering it yourself.

Will one character's actions through the game affect the others?

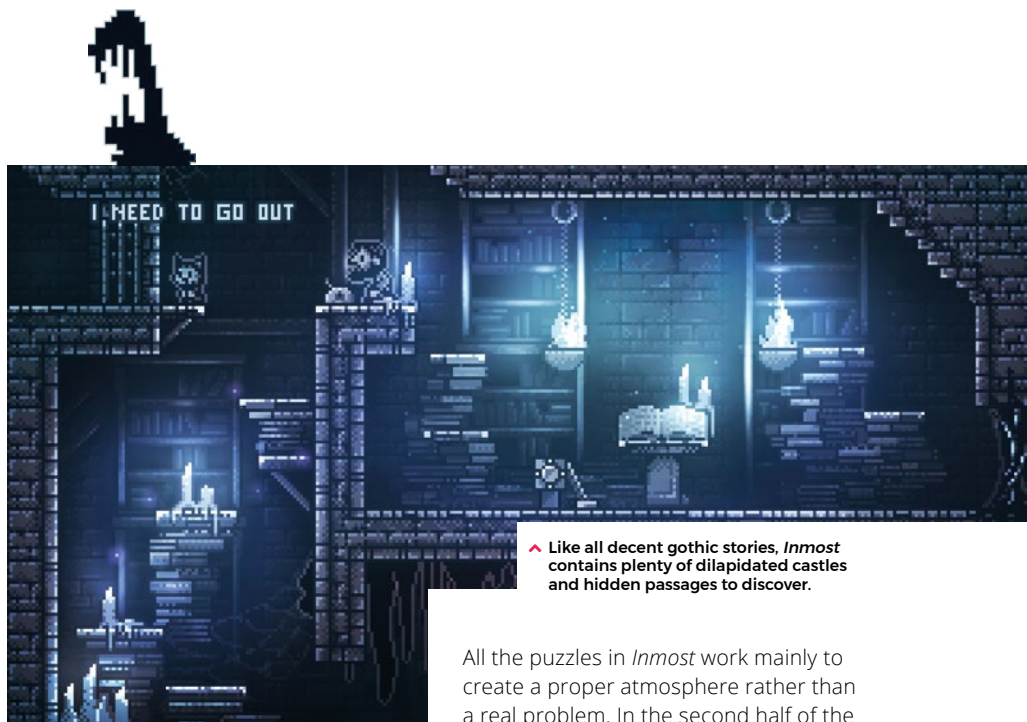
AT: Characters' actions don't necessarily affect each other directly; they're divided not only by different worlds, but also time. You will, however, see consequences of past events, and these events are distorted in different worlds. I'm trying to make the world's decorations as important as the story itself. They should help to tell the story and fully explain the characters' true nature.

“My mood was changing from unlimited positivity to the darkest depression”

Although characters can't influence each other directly, the main hero can affect NPCs' stories in his own world. By saving or killing certain characters, you may unlock some possibilities in the future. In addition, the main hero in comparison to the Knight is unable to attack, but each enemy can be either killed with help of the environment or other enemies, or kept alive, which also can affect the story itself.

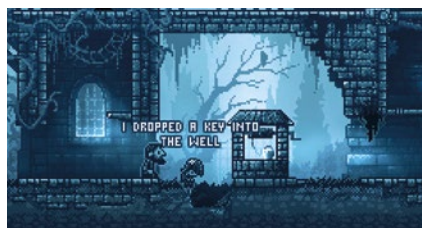
Would you describe the game as a kind of pixel-art horror story?

KE: It's definitely got a spooky vibe. We've been calling it an atmospheric puzzle-platformer, which I think suits the game well, as it certainly creates a mysterious and foreboding environment to explore. Some people think that pixel-art games can't be 'scary' or 'creepy' in the same way as games like *Limbo* or *Silent Hill*, but there are definitely some jumpy moments.



▲ Like all decent gothic stories, *Inmost* contains plenty of dilapidated castles and hidden passages to discover.

▼ The use of dialogue and on-screen prompts is kept to a minimum, allowing the art and score to tell the story.



All the puzzles in *Inmost* work mainly to create a proper atmosphere rather than a real problem. In the second half of the game, puzzles become more complex, but I think they're still not too complicated. At least not enough to fill you with nothing but despair for weeks on end!

I read that making the prototype for *Inmost* was something of a gamble; could you talk a bit about that?

KE: The initial demo of *Inmost*, made for a contest at the DevGAMM conference in Minsk, was a complete gamble. Andriy and Alexey risked all the studio's funds to create the prototype; they knew that if the game received no attention they would be forced to close the company. But, thankfully, *Inmost* won the award for Best Indie Game, as well as prize money to help keep the project alive, which is when Chucklefish got involved.

To what degree did the reception to that prototype drive *Inmost* forward?

AT: It's difficult to overestimate how important positive feedback is for a developer. When we started working on a prototype, we were on the verge of emotional burnout. Every second I doubted what I was doing. My mood was changing from unlimited positivity to the darkest depression. That was happening for weeks. It's really hard to live in such a mode. But since I found how many people were rooting for the game at DevGAMM and felt their support, I understood that someone, somewhere, needs what we're doing. Community support doesn't allow us to give up, even in the most complicated situations.



What tools have you used to develop *Inmost*?

AT: I create art and animations in Photoshop, while Andriy writes code in Visual Studio. Then we assemble these elements together in Unity. We're also widely using Photoshop and Unity scripts that we wrote ourselves to simplify our routine, which significantly speeds up some important processes.

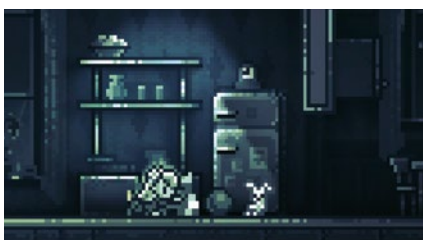
Can you explain how you achieved the game's wonderful lighting?

AT: Lighting in *Inmost* is artistic rather than technological, and it takes a significant amount of time to set up lighting for each location. Each location is configured manually, and we don't use any lighting sources at all. All the lighting in *Inmost* is a combination of small tricks, lots of sprites with additive blending, and a few hours of work on every single location!

What's your thinking behind the use of pixel art? Do you think it forces players to look at your game world in a different way?

KE: Initially, the Hidden Layer Games team wanted to make a very retro game, with two-frame animations and a restrictive four-colour palette in a pixel art style, but they found it a little too limiting. They started experimenting with the style, adding in more colours into the palette, gradients, and smoother and longer

▼ **It's the small animated details that hit hardest, like a little girl playing with a ball, or the rain falling softly among the trees.**



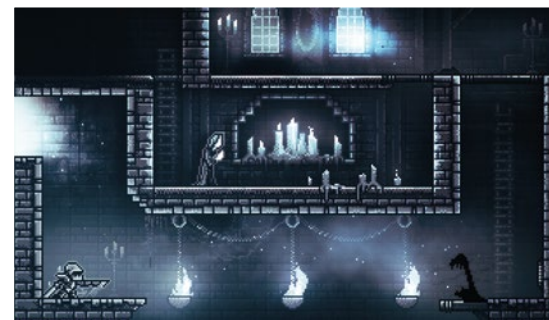
▲ ***Inmost* pays homage to one of its key influences, Éric Chahi's *Another World*, in this scene. Fans of a certain age will recognise the connection in an instant.**

animations, until there were none of the original limitations left, just the general visual style and pixel art.

Pixel art is of course a style very close to our hearts at Chucklefish, so it was immediately a look that resonated with us and stood out as a game we wanted to support. Another great aspect of pixel art in *Inmost* is how it plays with your imagination, providing the player with just enough information to highlight silhouettes and then allowing you to complete the image for yourself fully in your mind. It's especially interesting when it comes to more atmospheric horror games – did you really just see what you think you saw...?

The smooth animation I saw in one sequence, with the character swinging on a rope to avoid a shadowy monster, immediately made me think of *Another World*. Was that game an influence?

AT: Sure! I'm a big fan of retro video games – *Another World* and *Flashback* were my main sources of inspiration for mechanics of movement and characters' animations. Animation is what I pay specific attention to. At the moment, the three main characters have more than 250 animations alone. In addition to *Another World* and *Flashback*, other games I was heavily influenced by are *Limbo*, *To The Moon*, and the *Dizzy* series. I tried to take the elements I love the most from each of these titles. It's interesting that many people write that *Inmost* has a *Heart of Darkness* and *Hollow Knight* vibe, but I only discovered these games significantly after we started working on *Inmost* – although I'm very flattered by such a comparison.



▲ **There's combat and action in *Inmost*, but you'll often defeat enemies through indirect means: squashing them with carts or trapping them in cages.**

Is there a lasting feeling that you want players to walk away with after finishing *Inmost*?

AT: It's funny you should ask that. I was thinking a lot about this recently and there is something I really want to leave the player with, long after they've finished *Inmost*, and that's a wish to call their parents or someone they love or who loves you, no matter what may have happened in the past. I want players to remember that we should never forget the ones who love us. 🥰

***Inmost* is due for release on PC and Nintendo Switch later in 2019.**

HIDDEN ORIGINS

In a vague echo of *Inmost*'s characters, the designers behind the game were once separated by space, before events – and their mutual love of game design – forced them together. "Originally, they both worked remotely," Chucklefish's Katy Ellis explains. "Andriy was from Kyiv in Ukraine, and Alexey from a small Russian mining town called Zverevo. However, due to tense political situations between the two countries, they both had to relocate to Lithuania in 2016, in order to be able to continue working together."



Psycho thriller

Developer Luis Antonio tells us all about his suspenseful time-loop thriller, 12 Minutes

Info

GENRE
Adventure
FORMAT
PC / XBO
DEVELOPER
Luis Antonio
PUBLISHER
Annapurna
Interactive
RELEASE
2020

Although mostly viewed from above, the perspective will shift at key moments.



Sometimes, a game concept doesn't truly coalesce until its scope is reduced and all the extraneous parts are carved away. Such is the process that Portuguese developer Luis Antonio went through in the early development of *12 Minutes*, a time-loop adventure laced with the suspense of a Hitchcock thriller. At first, *12 Minutes* was a 3D open-world game, in which the player had a full 24 hours to explore a city and talk to its inhabitants; gradually, however, Antonio began to scale down the scope of the game, from multiple locations to just one cramped apartment, and from a day-long loop to one lasting less than a quarter of an hour.

"It started with the desire to explore the time-loop concept without any preconceived ideas of what it would be," Antonio tells us of the game's initial prototypes. "I knew I wanted to stay away from a 'video gaming' experience in the classic context, and make something more serious that would require a clear emotional investment from the player, and so the further I went into

the concept, the more it naturally became an interactive thriller."

Antonio describes *12 Minutes*' early stages of development as "extremely slow, but rewarding", partly because he was teaching himself to program, and partly because he was still working as an artist on Jonathan Blow's indie gem, *The Witness*. "Prototyping was very free-form, and a lot of the work was more thinking than producing, so it was actually useful that I didn't have that much time to be sitting to work on it," Antonio adds. "It allowed me to go from the original [concept] to the more constrained but complex version we have now."

The resulting game is disturbingly stark. A married couple's quiet evening is interrupted by the arrival of a man claiming to be a police officer, who violently attacks the pair; in the struggle, the attacker murders the wife and knocks the husband unconscious. When the husband comes to, he finds himself back at the start of the time loop twelve minutes earlier, the sound of the police officer accusing his wife of murder still ringing in his ears. Cast in the role of the husband, it's the player's task to use those twelve minutes carefully, picking up clues around the apartment and talking to the protagonist's wife in the hope of altering their dismal fate.

Antonio willingly cites Hitchcock's *Rear Window* as an inspiration for *12 Minutes*' thriller plot, but there's also hints of director Christopher Nolan's *Memento*, Kubrick's *The Shining*, and, of course, Harold Ramis' *Groundhog Day* woven into its fabric, too. Even the top-down perspective adds to the game's cinematic

The two main aspects left to do are motion capture and voice-acting," Antonio says of the game's last few months' development.





^ Although it began as a solo project, Antonio's amassed a small team of collaborators, including *What Remains of Edith Finch* story consultant, Stephen Bell.

overtones, with the unsettling god's eye view recalling a similarly grisly murder scene from the classic *Psycho*; for Antonio, though, his choice of viewpoint was also made for practical reasons.

"The main reason for the top-down perspective was accessibility," he says.

"The characters are always moving on a single plane, and that allows the player to avoid having to deal with

camera controls and 3D navigation. It also has the added benefit of hiding the character faces, so we don't have to deal with

facial animation and expressions, and allows the player to mentally visualise the character faces, making it more personal in an eerie way."

The sense of eeriness has only grown since publisher Annapurna Interactive arrived on the scene midway through development. With the help of their financing, the game's earlier builds have visibly flourished: backgrounds and character models are more detailed, the use of light and long shadows is more dramatic and noir-ish. "They helped remove the two biggest obstacles that were causing me a lot of stress: time and money," Antonio says of his publisher's backing. "I can now focus 100 percent on the creative side of things. They also have a lot of knowledge on the film side of things, which helps a lot for this specific project. The last year was focused on the characters' emotional journey and how that is expressed through voice acting and animation, and they have provided a lot of support to make it the best it can be."

From its beginnings six years ago, *12 Minutes* has therefore reduced in scope but steadily increased in detail; ahead of its planned launch next year, the game still has motion-captured performances to complete, as well as an evolving script to record with voice actors.

"When I started, I never expected it would become so movie-like"

"When I started, I never expected it would become so movie-like," Antonio says. "I tried to avoid having dialogues for as long as possible since I don't like deciding what the player is allowed or not allowed to say. In the early versions, the interactions between characters were only in service of the time-loop requirements, but as those got figured out,

I realised there was a lot more room to delve into the characters, and the drama side of it emerged naturally."

One of Antonio and Annapurna's masterstrokes was the game's reveal trailer, which emerged in June. Succinctly distilling the game's setting and premise into a lean two minutes, it also leaves us hankering for the answers to its mysteries. Is the wife really a murderer? Is the cop really a cop? Just how can the protagonist escape his cycle of terror? Agonisingly, we'll have to wait until next year to see how Antonio's thriller plays out. 🗨

FINDING TIME

Like so many aspects of *12 Minutes*' design, the duration of its time loop came about through a process of experimentation and refinement. "I just kept cutting out all the unnecessary clutter and noise in order to find the shortest amount required for the loop to work with what I wanted it to do for the characters and themes," Antonio tells us. "That ended up being around twelve minutes, and since there's quite a bit of meaning to that number, I kept it."





OK Computer

^ Skip to the end - well, maybe not. But you're not meant to watch everything.

Lizi Atwood tells us her story of working on Sam Barlow's ambitious non-linear FMV thriller, **Telling Lies**

Info

GENRE
Investigative thriller

FORMAT
PC / Mac / iOS

DEVELOPER
Furious Bee /
Sam Barlow

PUBLISHER
Annapurna
Interactive

RELEASE
2019

Just like in film, it's easy to fall into the cult of the auteur in video games and forget there are whole other teams or individuals making it happen behind the curtain.

Of course, when Sam Barlow made *Her Story*, the non-linear detective game that brought FMV back into respectability, it had really been a solo project, at least for the Steam and iOS releases. But when it came to bringing the game to Android, he sought outside help.

"Sam asked for me to do some bug fixes on the iOS version at first," says Lizi Atwood, technical director at Furious Bee. "I did some fixes, and then he said, 'Do you want to do the Android port?', so I did the Android port for him. By then, he was like, 'Well, you know, you may as well do the next game too.'"

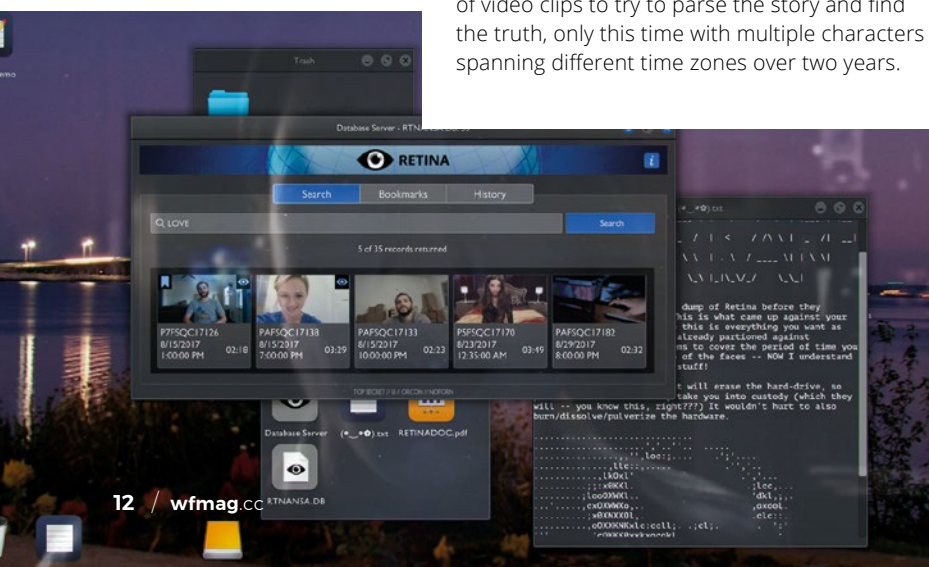
That next game is *Telling Lies*, which returns to *Her Story*'s search engine-style investigation of video clips to try to parse the story and find the truth, only this time with multiple characters spanning different time zones over two years.

The story and vision is all Barlow's, but the ambitious scale made more hands on deck a prerequisite. Publisher Annapurna Interactive's background in film production was instrumental in casting actors hailing from Hollywood and TV like *X-Men*, *Halt and Catch Fire*, and *Westworld*. This is also a contemporary story with modern technology, meaning a nostalgic return to Windows 95 wasn't an option, so as well as coding the game and putting the hours of video footage together, Furious Bee was tasked with building a functioning OS desktop that players would be spending a lot of time in front of.

"I had quite a lot of influence in the design during that process - the first pass went in without any guidance, really," says Atwood. The UI looks indistinguishable from a real desktop, including a battery icon that might catch some people out - it's reading 100% by the time Atwood has finished showing me the game, though in actual fact her laptop is almost out of battery. Fortunately, she's also able to show the game running on iOS, the icons looking a bit bigger to feel better on a phone, but otherwise retaining the conceit that it's taking place behind a desktop.

Adding to that immersion is the woman you can see reflecting back from the screen, essentially FMV superimposed onto the image, and still present when you're watching other clips. "There's two FMV games," Atwood laughs. "I started by taking footage of myself to put in, to show that a reflection could be done in video, and it would be way more realistic than you could achieve in CG."

✓ The desktop OS makes use of dark mode, which makes the reflection pop even better.





▲ The game is being localised into multiple languages – so ensuring words don't get mistranslated or appear too early in another search is going to be challenging.

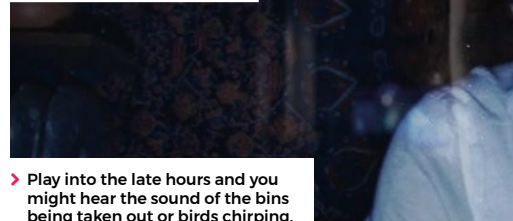
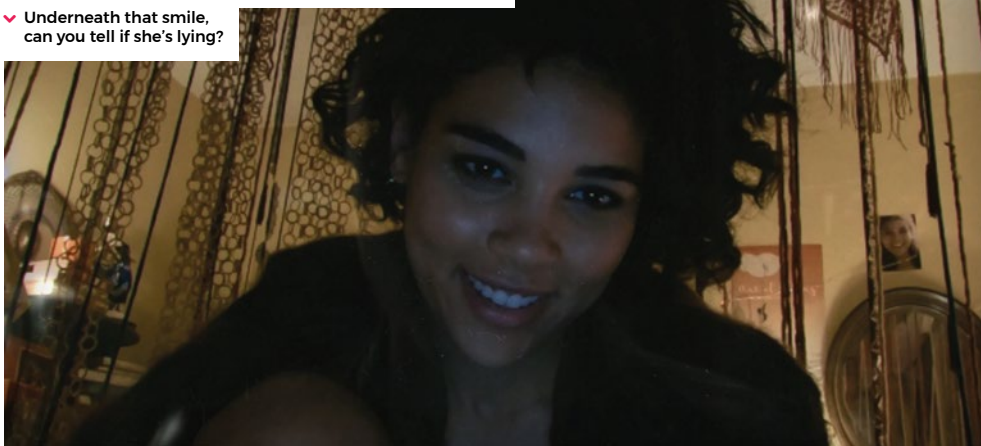
Who this woman is and what exactly she's searching for, however, remains a complete mystery, and Atwood is at pains to keep a lid on any story details or character names. Whereas at least with *Her Story*, the player was aware there was a murder investigation, the only background you have in *Telling Lies* is that you've obtained a stolen NSA hard drive containing hours of video footage, and it's up to you to work out how the lives of those you watch are linked.

It's very much been described as an open-world game except with text, so you can use Retina (a program modelled after Tails, famously used by NSA whistle-blower Edward Snowden) to search for video clips based on a word or consecutive words (it's not quite Google though, so multiple keywords or more advanced search techniques aren't possible). That said, a modern OS does allow for slicker and more tactile ways to search for the truth. As with *Her Story*, you'll only be provided with the first five results of a search

in chronological order, so are encouraged to narrow things down, but the video will play from the point the keyword is used, while also time-stamping any other moments it's used. If you pick up on a keyword or phrase through your investigations, you can even just highlight the subtitles then go straight to search from there. It's also easy to scrub footage backwards and forwards. With over ten hours of recordings at your fingertips, it means you don't need to be sitting through all of it. Nor is that the intention.

"Sam is not keen on people trying to 100% the game – he's perplexed that people did that in *Her Story*," says Atwood, explaining that there's

▼ Underneath that smile, can you tell if she's lying?



► Play into the late hours and you might hear the sound of the bins being taken out or birds chirping.

ultimately no way of finding out how much footage there is that you haven't seen.

What you will be able to do, thanks to a search history, and multiple bookmarking and tagging options, is piece the story together through your own discoveries. Say, if you find two individual clips that have the same date and time (bearing in mind that some characters are speaking in different time zones to each other), with the exact same duration, then you'll have successfully found both sides of a single conversation. Initially you may have been

inferring what was being said by the second party; a discovery like this will open up the truth – and further investigations.

"You can watch this footage in any order you want, but even if you do watch it close to the end, you won't have the context to understand it at that point," says Atwood. "So then you can go back to an earlier clip, and then suddenly it takes on a whole different meaning because of other things you've watched in between." It won't be long until players can get their hands on this themselves, and just like the time shown on the top-right corner of the screen, it's a mystery that will keep you playing late into the night. 🗨

"It's been described as an open-world game, except with text"

CARDS AND NOTEPADS

Telling Lies' desktop is fundamentally used for video searches, so it's pretty sparse on icons or other functionality – but that hasn't stopped Furious Bee trying. A basic version of *Solitaire* is included as a way to blow off steam should people find themselves stuck, and in fact a fair few playtesters really did just play *Solitaire*. There's also a convenient memo app, so players can actually take notes in-game. Apparently, Barlow was conflicted about this addition after admitting he enjoyed seeing hand-written notes taken by *Her Story* players. That's technology for you.

Headlines

from the virtual front



01

01. Switcher upper

Two new models of Nintendo Switch are on their way, though neither is particularly life-changing. The less interesting one is your regular mid-cycle upgrade for a piece of hardware, which will see the Switch's battery life increase to around 4.5 to 9 hours depending on what you're using it for, compared to the original model's 2.5 to 6.5 hours. Same everything else, same price; the machine launches later this year.

More interestingly, Nintendo also announced the Switch Lite – smaller and compact with no removable Joy-Cons, the tinier device is made to be used entirely in handheld mode. Dry your eyes, 3DS, you had a good run. It's also launching later this year, and will likely be around the £200 mark.



02

02. Not so Keen-oo

Death Stranding almost featured *Cyberpunk 2077* poster man Keanu Reeves, creator Hideo Kojima has revealed. Instead, the director-developer went with his Super Best Friend, Mads Mikkelsen, and the rest has been a whirlwind tour of Twitter photos and friendship bracelets (that second part may be made up).

Kojima also found time to throw some shade on battle royale games, which does tick a few of our boxes, saying when he left Konami he could have gone on to "make a game where everyone is on an island and shoots each other," but instead he wanted to challenge himself to make something unique. Which is fair: we're still not entirely sure what *Death Stranding* is.



03

03. Can I Play With Fury

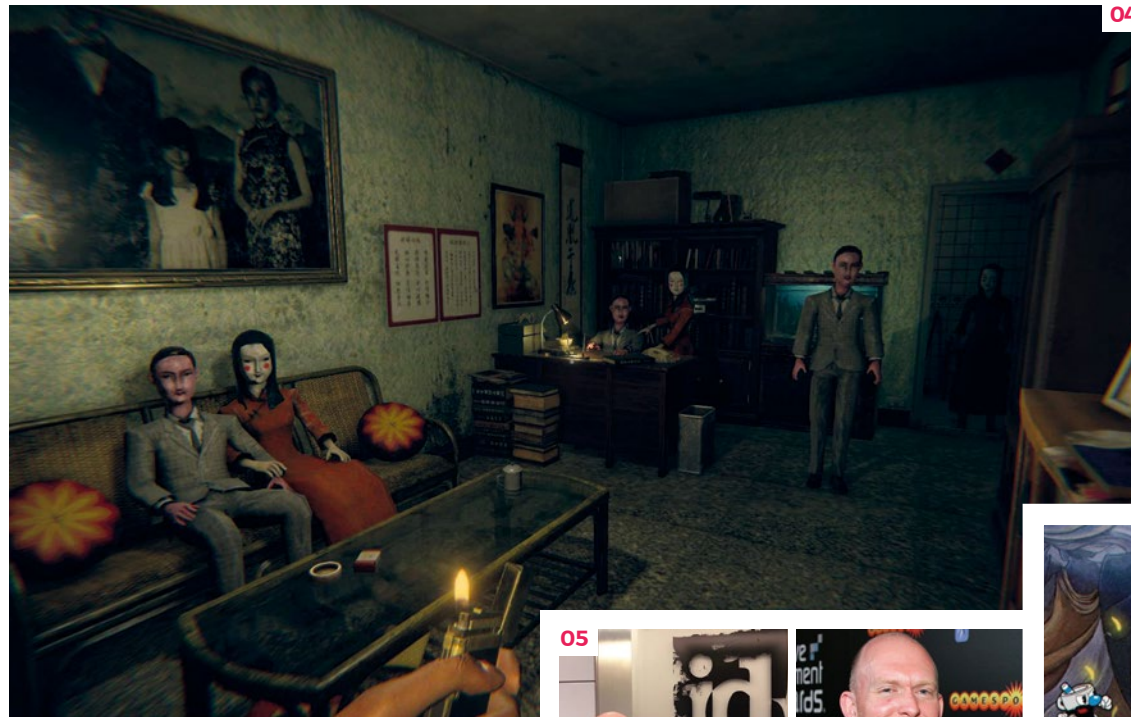
It's not called *Ion Maiden*, stop calling it *Ion Maiden*, but by crikey *Ion Maiden* was a brilliant name and a hard one to shift from the mind. Which is probably a part of the reason why the band Iron Maiden launched legal action against 3D Realms and its retro-styled FPS, *Ion Maiden*.

A bit too close for naming-comfort, Maiden demanded the other Maiden change, which 3D Realms has eventually complied with. Seems battling a massive metal band with huge coffers just isn't worth it. The shooter is now *Ion Fury*, meaning the studio didn't accept our suggestions of *Metallicargh*, *MotorDead*, or *MegaDeath: The Game*.



Gearbox creative director wants The Rock as Claptrap in *Borderlands* movie

Porting to Stadia cost 'not that high', says Ubisoft



04

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



04. No memes for you

Devotion, the psychological horror game from Red Candle Games, will not be returning to Steam following its removal for including a satirical meme comparing Chinese president Xi Jinping to Winnie the Pooh. After its release in February, players discovered a scroll in the game that apparently read 'Xi Jinping Winnie the Pooh Moron', resulting in *Devotion* being taken down and the developer being dropped by its publisher.

Things haven't taken a turn for the better, it seems, given that *Devotion* will remain unavailable until the dust has settled. A spokesperson for the studio said: "While mediation is still in progress, Red Candle's co-founders have reached a unanimous decision to re-release *Devotion* in the near term."



05

05. On two jet planes

Big names at big studios no more, as two veterans announce their departures from companies they've been fixtures at for either side of a quarter-century. Twenty-four years ago, Tim Willits joined id Software as a level designer but, before the big 25, he announced he's leaving his current role of studio director.

Elsewhere, one of Blizzard's founding members is on his way after 28 years at the studio. Frank Pearce, CDO at the *Warcraft*, *Overwatch*, and *Diablo* firm, announced on the company blog his time was up and his bags were packed. His departure leaves Allen Adham as the only remaining founder still at Blizzard.



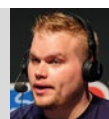
06

06. Cartoon > Game > Cartoon

A double-whammy of happiness for the makers of *Cuphead* has landed, with the intensely difficult platformer/shooter – with its stunning old cartoon-style animation – revealed to have sold over four million copies. That's just one bit of good news. The *other* thing is that Netflix has picked up an animated series based on the game, which will be produced using hand-drawn digital artwork, or 'tradigital' art, if you want.

We can't wait for the game based on the cartoon (based on the game, based on an era of cartoons).

Xbox hardware revenue down 48%,
new gen can't come soon enough



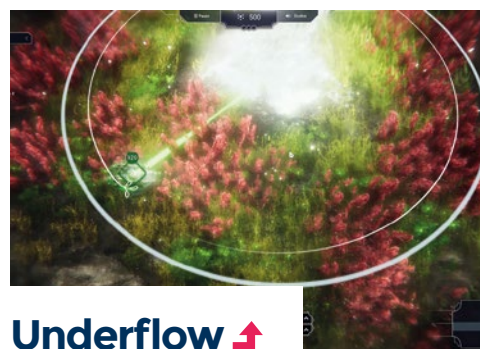
StarCraft commentator Geoff
'iNcontrol' Robinson dies age 33

Attract Mode



Deliver Us The Moon ↗

If No Code's superb *Observation* left you hankering for yet more thrills set in space, then *Deliver Us The Moon* could provide a decent sci-fi fix. Set in a future where our planet relies on the moon's resources for survival, you play an astronaut tasked with heading to the lunar colony to discover why the power has mysteriously gone out. Where is everyone? Are pesky aliens involved somehow? Those mysteries and more await, as *Deliver Us The Moon* primes for launch later this year.

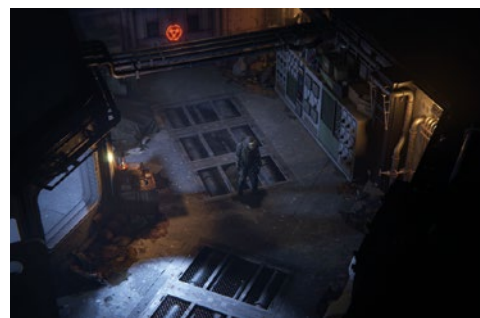


Underflow ↗

Here's an upcoming real-time strategy game with an aquatic theme and some seriously psychedelic visuals. You command an army of nanobots on a mission to destroy all opposing tiny machines and take over an alien ocean. Defeated nanobots can be repaired and added to your cause until you've amassed a mighty horde capable of Zerg Rushing enemy bases into submission.

Cornflake Crisis ↘

There's lots to like about this self-consciously zany platformer from developer Mike Laraman, but we also happen to enjoy its trailer, which is by turns cheeky and disarmingly honest. "My friend Kevin's doing the music," one blurb reads. "It's really good." "This bit's not finished yet," concedes another. "Cheaper than a boat," pledges a third. As the title suggests, *Cornflake Crisis's* characters are all morsels of toasted maize, each with their own abilities and corresponding outfits. The mix of traversal and collecting things looks familiar enough, but we're definitely beguiled by its presentation. One stage sees you meet an edible-looking dinosaur who grows, "I'm aggressively unhappy about my inability to form meaningful personal relationships." Wonderful.



Utopia Syndrome ↗

Developer Andrew Averkin is a 3D artist by training, which explains why every inch of *Utopia Syndrome's* shadowy world is full of grimy detail. A point-and-click adventure set in what appears to be a post-apocalyptic industrial complex, it sees a lone protagonist hunting for clues and uncovering "mysterious parallel storylines."





Airborne Kingdom ↗

Bossa Studios' similarly themed MMO sadly shuffled off this mortal coil earlier this year, so if you're looking for another game that allows you to build fantastical machines in the sky, then *Airborne Kingdom* is worth a look. The emphasis here is more firmly on city building and management, though, and there's also a pleasingly utopian angle to its premise. As you hover above a desert world, steadily customising and growing your city, you gradually attract new citizens from the tribal communities living below. The studio behind *Airborne Kingdom*, The Wandering Band, consists of former developers at the now defunct Visceral – among them Ben Wander, who made last year's indie adventure, *A Case of Distrust*. With a pedigree like that, we're looking forward to finding out more about their Laputa simulator as its development progresses.

Lord Winklebottom Investigates ↘

It's a point-and-click detective game, except the detective's a frightfully British giraffe investigating the murder of his friend, an axolotl named Admiral Gilfrey. Expect lots of pipe-smoking and clue-following between cups of milky Earl Grey tea when *Lord Winklebottom Investigates* unleashes its surreal 1920s world next spring.



Project Genesis ↘

This space-faring epic promises a heady mix of ship-to-ship combat and first-person shooting action, with Seattle-based developer 8 Circuit Studios saying there'll be a "seamless" transition between the two gameplay pillars. The studio also bills *Project Genesis* as "an evolution in blockchain gaming," with the technology purportedly being used to create an online 'metaverse' where players can move characters and items they've built up from game to game. This latter idea seems a bit too ambitious for its own good right now, but a mash-up of third-person spaceship destruction and first-person laser battles? We like the sound of that part.




SHADOW'S EDGE

REDEFINING THE GOOD THAT GAMING CAN DO

HOW TWO WOMEN BUILT A GAME TO HELP YOUNG PEOPLE
THROUGH THE TOUGHEST TIMES IN THEIR LIVES

WRITTEN BY HARRY SLATER





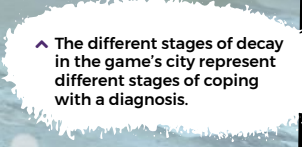
Video games have always been about conflict. From the medium's birth, the focus has been on destruction rather than creation; on catharsis through violence in one form or another. But there are also games designed to help with some of the most difficult aspects of being human – games that use the technology in ways that aren't about strength or oppression, but about hope and healing. *Shadow's Edge* is one of those.

Shadow's Edge is designed to help teens and young adults come to terms with being diagnosed with a life-changing illness. The city in *Shadow's Edge* is a morphing, ever-changing place – one that develops with the actions of the player. It's a game built around private thought and public expression, made with the help of therapists and teenagers. The story behind it, and the stories of the people who play and make it, are as moving as they are intriguing.

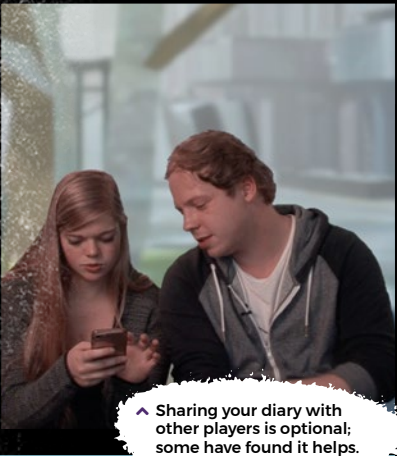
There's something about Rosemary Lokhorst, producer and writer on the game, that makes you want to listen to her. She's animated but never over the top, intelligent but always open. Her story before *Shadow's Edge* involves some of the biggest technology companies in the world – Microsoft, HP, Siemens – but there's the sense that *Shadow's Edge* is a project she's more than just passionate about.

GIVING KIDS A VOICE

"*Shadow's Edge* is specifically designed to help teens and young adults that have chronic illnesses develop emotional strength while they're going through the hard stuff that comes their way," Lokhorst explains. "The idea is that it's a game, because that's where teens are – they're on their mobile phones playing games – but it's not meant to distract them from what they're going through. It's meant ➔



^ The different stages of decay in the game's city represent different stages of coping with a diagnosis.



^ Sharing your diary with other players is optional; some have found it helps.

SHADOWGRAM

Within *Shadow's Edge*, players can share the art they create on an internal social network. It's part of the community-building that's so important for Lokhorst. "The game is one part, but we have the community too, which we call Shadowgram. We want to make sure that teens have a place to go to where they can see and think about what others do, and be inspired by them and comforted by them. They can also have their own voice and put stuff out there in a place that is not judgmental."

to help them really come to terms with their feelings and understand themselves and their reactions better – it gives them a voice."

Lokhorst's route to this point is a circuitous one. Taking a sabbatical from work to focus on writing, it was at the New York Film School in Los Angeles where *Shadow's Edge* started to take shape. While there, she was invited for dinner with a colleague from another project she'd been working on – that colleague is the husband of Sheri Sobrato Brisson, a philanthropist and author who'd also survived a brain tumour. It was a book that Sobrato Brisson had written that sparked the idea that would become *Shadow's Edge*.

Says Lokhorst: "Sheri was talking about her project, *Digging Deep*. The book takes questions that are usually asked in therapy and makes them more palatable. I bought the book, and I looked at it and said, 'This is really cool, how can I help?'. Sheri said she wanted to digitise it, and she was thinking about maybe an audiobook or a scrapbook, at which point I asked her who she was trying to reach. She told me the book has been distributed 35,000 times and used in over 200 hospitals already. She noticed that every once in a while there'd be 15- or 17-year-olds using the book. She wanted to do something for teens because there's nothing out there for them, there's no tools targeted

at teens. And I said if you want to do that, I think you should make a game, and I think you should do it on mobiles, because that's the device they have in hand most, so it'll be most natural to them."

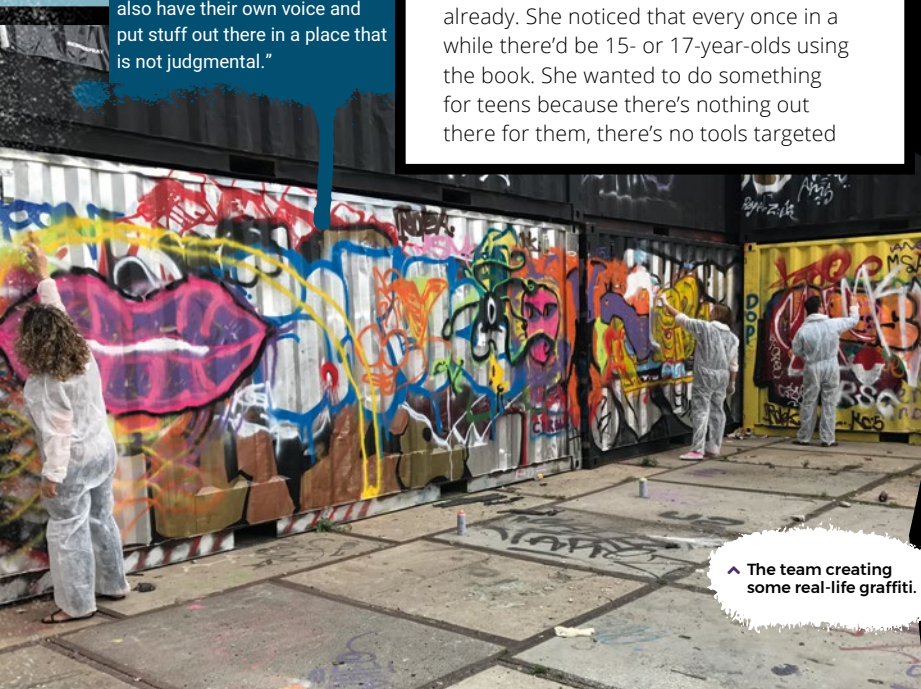
After that, things started to move much quicker. According to Lokhorst, a lot of that's down to Sobrato Brisson. "We had to fill in the blanks, hire a developer, because I'd never developed a game – I'd developed software, so it wasn't too far off, but we did need to find specialists. Fortunately, Sheri is a formidable lady. She had brain cancer when she was a teen – around 19. She was given a ten percent chance of survival. 35 years later, she's still here. Ever since, she's made it her mission to really come to terms with what people with illnesses are going through, because she knows what it's like. Most of the projects we do in that space are self-funded, meaning she puts up a lot of the money."

FOR THEM AND BY THEM

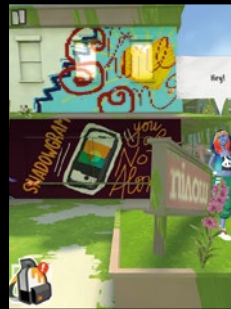
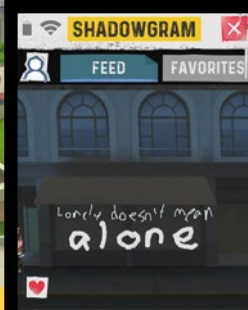
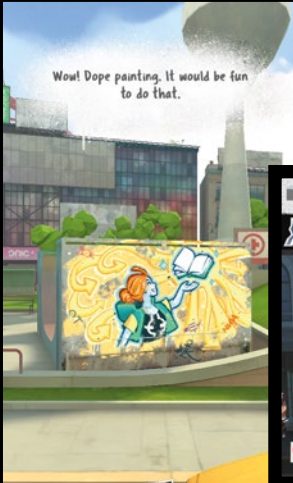
Shadow's Edge is as much a labour of love as it is a tool for helping those who need it most. The lack of that commercial need has turned it into something that might have the shape of the games we know and understand, but its core mission isn't to earn but to help. It was the team's goal from the start to make sure that not only was *Shadow's Edge* going to feel welcoming to its players, it was going to be built with direct input from them.

"It's an awkward space," Lokhorst tells me, "because if you're a teen, your brain is forming, you're changing, trying to find a space in the world, and then something nasty like a disease or a trauma or a disability comes your way and everything that you thought is completely disrupted. It's tough for them, and the chemicals in their brain are different, their hormones are just starting to go, and so all of that doesn't really help the fact that they now have to deal with this illness."

It was clear to everyone involved that one of the keys to the game's success was going to be control – not in the traditional sense, about what the buttons do, but in



^ The team creating some real-life graffiti.



◀ The development team is small, but incredibly passionate.

the sense that stability and commonality are thrown out of the window when a catastrophe hits.

"A lot of the time these teens don't have control over their disease," Lokhorst continues. "It's not like they can make some of these decisions – their parents will make them for them. They feel like they're out of control, like they have no future, like they have nowhere to go. And that's really what we wanted to do – give them a place to go. From the very first rung of the development process, we involved teens that had illnesses. We often get asked 'is this specifically for cancer patients?', and no it isn't.

"The idea isn't to put everyone in one bucket. We're not saying that every disease is the same and everyone goes through the exact same things, but there are similarities. If something happens in your life, it's a disruption to how you've been – generally in the beginning people don't want to know about it, or they just keep going as they are, try to muddle through. And we wanted these teens to be able to talk about those similarities. From the very start, we included various different types of illnesses, and asked teens with those diseases to help us make this game. That was really rewarding to see, because this is a game we've built for them – it shouldn't work for us, it should work for them."

That ethos isn't just the player-first approach sometimes spouted to hype up a game's launch. The 'kids,' as Lokhorst often affectionately calls *Shadow's Edge's* players, have been an intrinsic part of the development process. "There were a couple of things in the beginning where we thought this is how the game should work, and the teens said 'No, we wouldn't



DIGGING DEEPER

Where other games about illness are often shallow, Lokhorst wanted to ensure that *Shadow's Edge* offered a much more enduring experience. "We saw a couple of games that had you attacking your illness, like shooting your cancer, which make you feel a little bit better at the beginning. But we wanted to make something that has a longer impact – give the teens the tools to reflect upon themselves, give them the tools to come to terms with what they go through, to dig deeper, if you will."

▼ Sobrato Brisson and Lokhorst started the project after a chance dinner meeting.



▲ After a successful career in tech, Lokhorst was looking for a more creative outlet for her talents.

play it like that.' From the first concept, it's changed quite a lot – the world changed from fantasy to more realistic and urban, the characters changed – everything we had them select had to be a metaphor. The metaphors and the characters, they're all based on the lived experience of patients that we worked with, either during the game-building or with Sheri's experience in counselling. All of that lends authenticity to the emotional process that players are going through with the game."

Emotion and metaphor are two of the driving ideas behind *Shadow's Edge*, and they're used to great effect. The development team worked with psychologists to break up the stages of grief, paring them down to just three – disruption, disillusionment, and discovery – each representing a step in the process of coming to terms with being diagnosed with an illness.

As players work their way through the game, things begin to change. During the first stage, the city is storm-blasted and wrecked, and the character you're talking to scrambles to continue her normal life in the ruins. The tone darkens, and talking ➔

STORYTELLING

The game's changing nature was enshrined from the start of its development. Not simply for aesthetic reasons, but because the narratives of the players change the more they play. "We believe that telling your narrative is very important in the healing process," Lokhorst says. "Every time you tell your story, you tell it a little bit differently, because you're starting to reflect. You're starting to accept the changes in your life, and starting to incorporate them as you tell them and as you live them."

to your guide becomes more difficult – she grows reluctant to share, withdrawing into herself. Finally, the city brightens, as the player starts to come to terms with the realities of their diagnosis, whatever those may be.

"Everything there symbolises getting on with your life," Lokhorst says. "Not just moving on, but incorporating what you've learned and what you've experienced into who you are now. And realising that your life can still be beautiful, even with the conditions that you have and even with the way that you've changed."

There's also a creative element, with players able to leave their mark on their city with graffiti tags. It's another level of metaphor, one that adds a truly creative aspect to the game. "The very first idea we had, we wanted your story to be the writing on the wall," explains Lokhorst. "We chose graffiti for a number of reasons – it's expressive, you can go a bit wild with it, but it's also real and raw. And that's what we wanted the kids to be able to be. We want them to be themselves – it's OK not to be OK, it's OK to be angry – it doesn't matter, that's not the point; the point is you are feeling, and those feelings are valid."

That idea evolved over time – there's still graffiti in the game, but there's also a personal diary that remains private to the player who's writing it.

EXPRESSION

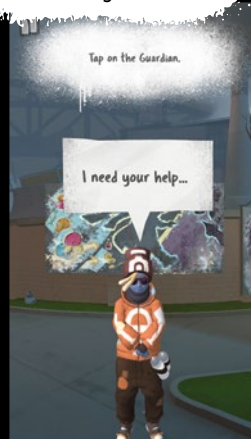
"We believed that graffiti was a really nice way to express all of that stuff that players normally wouldn't," Lokhorst explains.

"It then evolved into the teens repeatedly saying that they wanted to keep the diary

▼ Art is a fundamental part of the *Shadow's Edge* experience.



▼ The guardians are the NPCs that players interact with in the game.



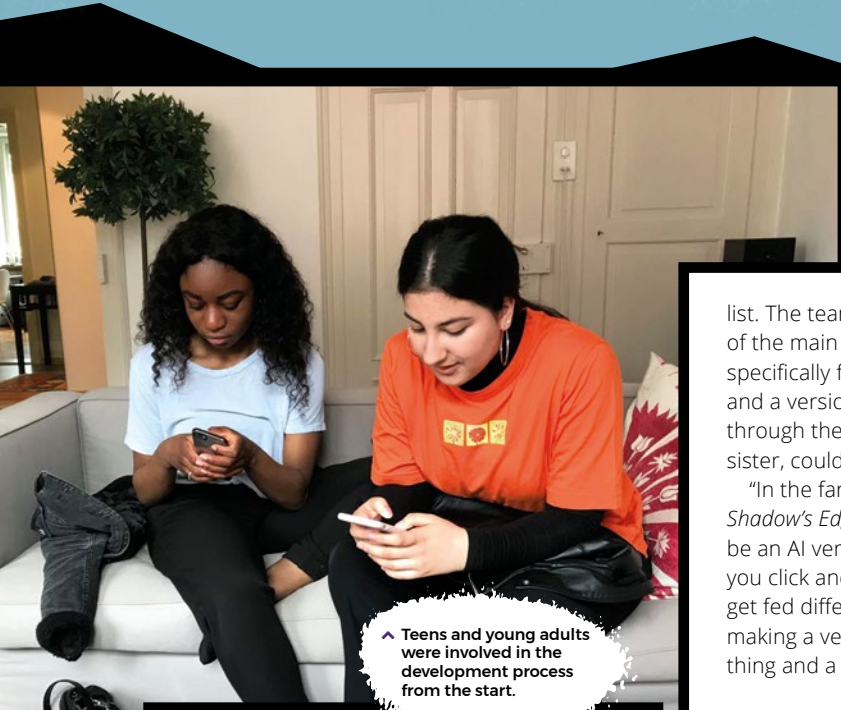
part of the game to themselves. We started to think more about how we could separate the personal diary but still give players that graffiti idea and that writing on the wall idea. Writing in your diary is private, it's in your own personal space, no one will see it unless you hand your phone to somebody. What you choose to share with the world is much more expressive, it can be literal writing on the wall or it can be a drawing – we wanted it to be both.

"We also know, from narrative therapy, that being able to build your own story, really create your own self by writing, can be incredibly helpful. Art creation is also very soothing and can help get things out there. Sometimes it can calm you down as well, depending on what mood you're in; doodling or drawing can just really help you out. It's a little bit nicer to share with others if it looks cool and different. It doesn't have to be an artistic A+, but that's the nice thing about graffiti – it can be done with stencils and stickers and it's still going to look cool."

The idea for customisable avatars was also dropped after feedback from young people. There's a pressure inherent in creating something to represent yourself, so rather than adding to the list of weights a newly diagnosed patient can feel like they're carrying, the team decided to have an NPC guide players through the game. It then became something even more personal, with players seeing the world through their own eyes.

"Among the 200 kids helping us to develop the game, we had one or two kids that wanted an avatar, but the others said no because an avatar is pressure as well – you customise it and it becomes who you are in the game. Being in a first-person view and then writing your diaries feels much more like the experience is part of yourself rather than playing a role. We did about 40 or 45 different surveys, from over 300 teens and young adults, and it was fantastic and humbling how they wanted to help us."

Shadow's Edge is different from other games that have tried to tackle illness,



▲ Teens and young adults were involved in the development process from the start.

because it's not about overcoming anything. That's something deeply personal to Lokhorst, who's battled with an autoimmune disease for 20 years. "There's nothing I can do about it. I can take whatever medication, I've searched for the last 20 years and there's nothing that can be done about it. And so for me to then try and make a game that would somehow overcome that doesn't really work."

A STORY FOR US ALL

The game isn't just Lokhorst's story, or Sobrato Brisson's; it's as much a part of the people who play it as the people who built it. Says Lokhorst: "One of the kids said, 'The game helped me recognise things about myself that I didn't know. Positive things.' And this was a girl who's been living with depression – she's 19, and she'd been living with depression for six years. If that's the thing we can do with our game, where we really make people realise something about themselves, then I think that's what we do differently, and more successfully, than other games where you're just trying to overcome an obstacle or raise some awareness about what it's like to be ill."

The story of *Shadow's Edge* is far from over. While it's out now, there's still work to be done. The next steps for the project involve incorporating new technologies – an AR or VR companion app that lets young adults decorate their hospital rooms, or create art shows using the images they've created in-game is high on Lokhorst's to-do

list. The team is talking about new versions of the main game as well, designed specifically for sufferers of certain illnesses, and a version for siblings, helping them through the diagnosis of a brother or sister, could be on the way.

"In the far future there might be only one *Shadow's Edge*," says Lokhorst, "but it might be an AI version where, depending on what you click and what you answer, you might get fed different answers, instead of us making a version of *Shadow's Edge* for one thing and a version of it for another."

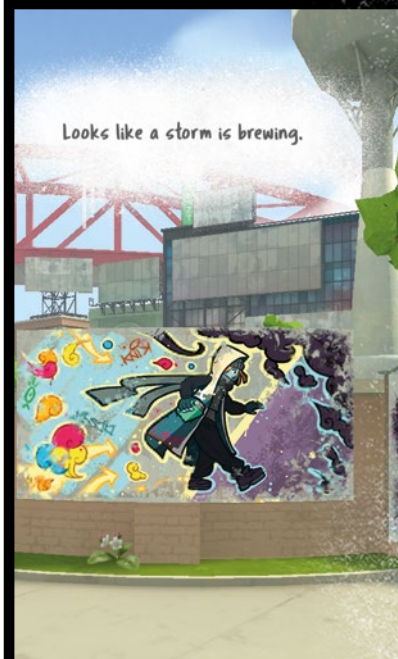
UNDERSTANDING AND EMPATHY

Lokhorst's big hope is getting the game FDA-approved, allowing it to become an official tool used in conjunction with therapists to help children and young adults through some of the most difficult parts of their lives.

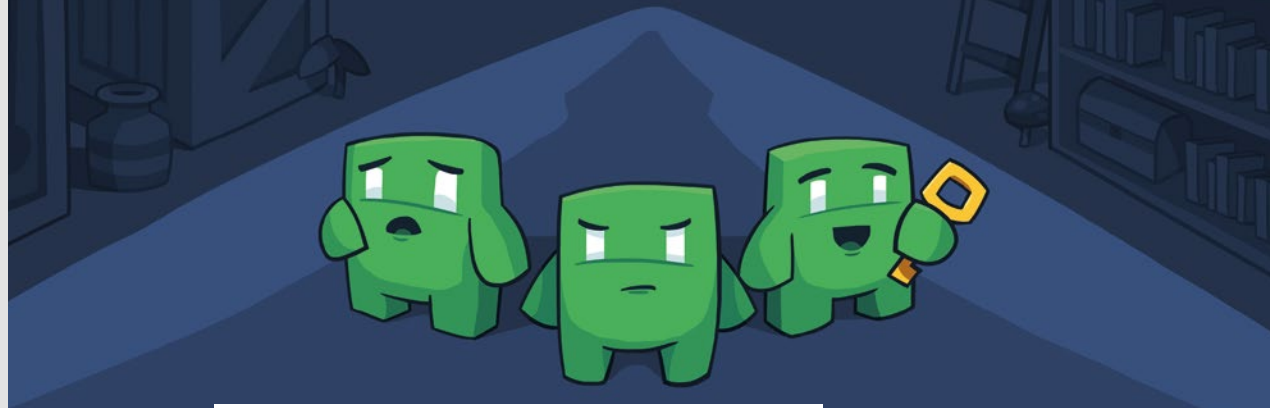
And in all honesty, you wouldn't put it past her. There isn't just a drive to everything that Lokhorst says – there's compassion as well. When she talks, you're swept up in her vision of a better world, shown for a brief moment that, amidst all the horrors that have surrounded gaming in recent years, there's still a place for genuine people to do things that matter. And *Shadow's Edge* does matter: right here and now, it's changing lives for the better. The world needs more games like *Shadow's Edge*, more people like Rosemary Lokhorst. It needs hope and love and kindness, but more than that, it needs understanding and empathy – and those are the twin pillars of *Shadow's Edge*.

"One important thing is that *Shadow's Edge* isn't meant to be a distraction, it's meant to be something that can help," Lokhorst says as the interview comes to a close. "It's a game, because we believe that having something entertaining makes it more palatable. There are messages out there about how to deal with certain things, and how there's hope in the world, and that's what we wanted for *Shadow's Edge*. If we can help one kid, then it's already worth the tears and the pain and the cost to us." 🗣️

▼ Many of the messages are filled with hope for the future.



ALIEN ESCAPE



Interactive

Alien Escape

Kim Seitner tells us all about his brain-teasing, world-rotating platform game, Alien Escape

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

Some of the greatest games ever made have emerged from breaking the established rules of a given genre. With *Lemmings*, DMA essentially created a platformer

where the player has no control over the characters moving around on the screen; all they can do is use barriers, bridges, pick-axes, and other tools to help coax the creatures in the right direction. Similarly, Capcom's *Bionic Commando* up-ended platformer convention by switching the ability to jump with a grappling hook – thus creating a mechanic we're still happily playing around with decades later.

Alien Escape, created by German student Kim Seitner at NoFuel Games, takes a similarly elastic approach to genre conventions. It's a platform puzzler where, with a press of the left and right shoulder buttons, levels have to be rotated this way and that to guide a fragile alien to the exit. It's a little like Tsutomu Kouno's wonderful *LocoRoco*, but transferred to a more compact puzzler where each stage takes place on a single screen. Early levels require little more than a few spins left and right to guide the alien past some spikes and on to freedom; soon, though,

spikes are joined by crates that, depending on how clumsy you are, will either crush the hero like a falling anvil, or drop down to form a useful bridge. There are also keys to collect, fellow aliens to rescue, and bonuses awarded for completing stages in as few rotations as possible.

It's the kind of game whose difficulty sort of creeps up on you; after the first dozen stages or so, the frequency of grisly deaths gradually increases to *Super Meat Boy* levels. For Seitner, getting the balance of these levels just right –

so that the challenge escalates rather than hits the player with demoralising spikes – was a key part of *Alien Escape's* development.

“Bringing everything together took so much longer than expected”

“It was a constant swapping of levels back and forth,” he tells us. “Luckily, I have three little brothers who were involved many times in game testing. Having the exact right difficulty of a level was something which was really important. A lot of game testing was needed to see which levels were working and which not.”

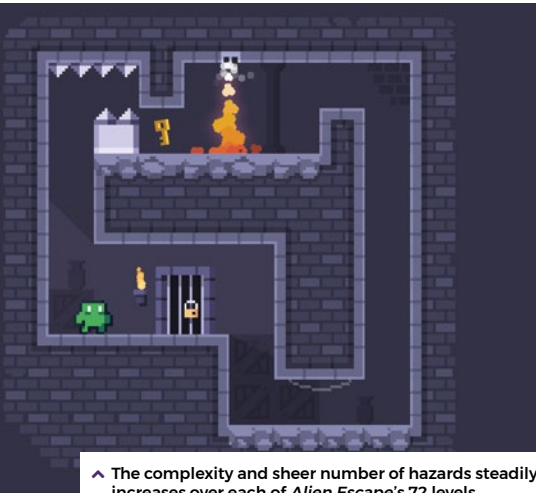
Alien Escape began as one of Seitner's earliest design experiments while he was studying programming at university. The seed for its world-rotating mechanic was first planted when a friend showed Seitner *Fez* – Phil Fish's



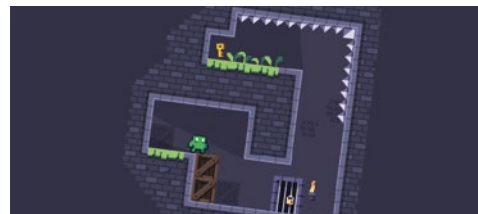
^ *Alien Escape* was created with a mixture of GameMaker, Photoshop, and Aseprite.



^ Seitner cleverly plays with his own rules in some stages, such as here, where honey allows you to defy gravity and stick to walls.



^ The complexity and sheer number of hazards steadily increases over each of *Alien Escape*'s 72 levels.



^ Through careful rotation, crates can be moved into place and used as platforms. Get the timing wrong, and they'll also crush you to death.

2012 platformer in which a 2D landscape can be rotated in 3D space. Inspired by what he saw, Seitner began thinking about a puzzler where levels could be rotated clockwise and anticlockwise in 90-degree increments. "I tried the room rotating mechanic, and I realised it's kind of fun," Seitner says. "I also realised that it had a lot of potential to combine the mechanic with other elements to interact with, and make a challenging puzzle game out of it."

IN A SPIN

From there, development on *Alien Escape* took three long years, as Seitner worked on the game in-between his studies and steadily built up his coding and design skills. Inevitably, crafting those increasingly intricate levels also took a long time, with initial ideas sketched out on paper, and the player's path through the obstacles essentially worked out backwards.

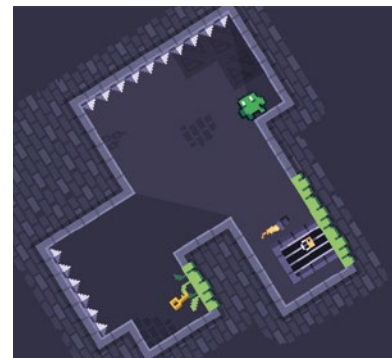
"Every time I created a level or came up with a new game element to interact with, I first thought about which rotations would be necessary to solve the room and how," Seitner explains. "For example, if a level can be solved with a minimum of ten rotations, I imagined how the two final rotations would be and afterwards built the other needed turns around them. So it was like building the level from the end to the start."

The most challenging part of development came at the end, as Seitner began work on *Alien Escape*'s release on Nintendo Switch; a last-minute bout of polishing and bug-fixing meant that its planned launch in June had to be pushed back by two weeks. "The hardest part for me were the last two months," says Seitner. "Bringing everything together took so much longer than expected and was really debilitating. I learned how important it is to get a balance between studying, working on the game, and having some time for myself."

Despite these setbacks, though, Seitner's achieved something pretty remarkable with *Alien Escape*: developed a deviously tricky game and, with the help of German indie publisher Korion, got it on both Steam and Nintendo's coveted eShop. Spurred on by that success, Seitner's now working on his next project – and even has a few ideas for expanding *Alien Escape* further. "I'm working on some smaller games right now," Seitner tells us. "Also, an online multiplayer brawler together with Korion, called *Ninstar*. For *Alien Escape*, it would be awesome to add a second player mode or a few new mechanics. Or, even better, a sequel! But first, let's see how people like [the original] *Alien Escape*." 🍷

GRAVITY RUSH

In the process of designing *Alien Escape*, Seitner quickly realised that it was vital to tune the earliest levels so that players have time to get to grip with the game's rules. "The most important rooms are the first ten," Seitner tells us. "This is where the player slowly gets a feeling for how the rotation gravity mechanic works. I realised that a lot of people had trouble imagining how they had to change the gravity to get to the goal. So the first levels are built in such a way that they're very simple, with elements placed on specific spots to make it as easy as possible for the user to understand which next move could be the right one." After that, the rest of *Alien Escape*'s 72 levels quickly increase the likelihood of sudden, repeated deaths...



Building runways to release



HALEY UYRUS

Haley Uyrus is the Marketing and Communications Manager at Mediatonic. Before joining their ranks she worked at Failbetter Games on titles such as *Sunless Skies*, *Sunless Sea*, and *Fallen London*.

“It’s no longer possible to stick to the same marketing cycles of our predecessors”

Back at my first games job in 2014, devs would approach our marketing agency with just a month – or worse, a week – before launch and ask us what we could do for their game. The answer was virtually nothing – at least nothing that would get them results. Admittedly, the runway games needed for a successful launch was a bit shorter five years ago than it is today. Back then, it was still conceivable that an indie game could launch six months after its announcement and succeed. But with the marketplace now becoming more crowded every day, this kind of short build-up would be nearly impossible, especially for a new studio without a well-known name or IP.

Instead, that runway now looks like a year – sometimes even two or three – for indie devs. According to a PC Gamer news story published in January, half of Steam’s 30,000 games were released over the last two years, making visibility one of the biggest marketing hurdles for developers. A longer build-up to release doesn’t guarantee success, either, and can just as easily be a title’s downfall without consistent marketing and communication.

It’s no longer possible to stick to the same marketing cycles of our predecessors. Instead, from the beginning, we must plot out bigger, more strategic moves in order to gain a large enough portion of delicious eyeballs to turn a profit and continue making games. Furthermore, the days when a developer can rely on a publisher for success are over. It’s paramount to always have at least one person on your internal team focused on marketing strategy and business goals throughout the development cycle, even if you have external help at the same time.

There are all sorts of creative ways developers and marketing strategists are carving out paths to the top of the charts. To simplify things, in 2019, there are really four main ways indies can reliably achieve commercial success (in this order): store and platform partnerships, money, community, and luck.



^ Not all indie developers can define a genre, as *PUBG* did, but nurturing your community and building partnerships can help improve your game’s chances of success.

Luck really means hitting the right game at the right time, but within the category of luck are games that popularise new genres (think *PUBG*) or do something so special and unique with their IP or mechanics (*Cuphead*) that audiences eagerly take notice. It’s the wild card principle, and it’s not easy to build into a reliable strategy. The few games that hit the right place at the right time end up attracting platform partners, money, and community more easily, too, which help to further their reach.

The more of the four categories you have in your marketing plan, the wider visibility and awareness for your game will spread. Similarly, whichever ones you can’t attain will point to the areas of your marketing that will require extra elevation. If you don’t have tons of cash for advertising, you know you’ll need to grow your own community, to carry awareness via word of mouth. If you don’t have a community or money, then you’ll need strong platform links to gain extra eyes directly on store pages, and if you don’t have any of those, you’ll need an extraordinary amount of luck.

Hard work and traditional marketing activities shouldn’t be abandoned. Hard work is just a much longer, slower road to success if you don’t explore those additional strategic avenues. Try to find the routes that will put you a few steps ahead. 🗺

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The art, theory, and production of video games

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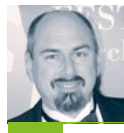
▲ The Oliver Twins dig into the programming tricks used to squeeze *Fantasy World Dizzy* onto the ZX Spectrum – see page 32.

▼ Post-apocalyptic cities are more than just smoking ruins. Find out how to devise your own on page 30.



The principles of game design

What is design innocence, and what does it have to do with tuning your game? Howard explains all



AUTHOR
HOWARD SCOTT WARSHAW

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

REO Speedwagon was a popular rock group of the 1970s. You know, before you were born. In 1978 they released an album entitled *You Can Tune a Piano, but You Can't Tuna Fish*. This title is printed just below a picture of a tuna fish with a tuning fork in its mouth. This gets my vote for best album title ever. I like it because it's clever, it's a pun, and it makes an important point. If pianos are easy to tune and fish are impossible, can you tuna video game?

Where do video games fall on the spectrum of tunability? This depends on several factors. The first is who you are. Are you a gamer? Do you have a sense of fun and insight into what creates fun? How is your sense of dynamic reasoning? Spatial relation and timing? How well can you assess an experience to know how to

adjust it towards a given goal? How well can you empathise with the hypothetical experiences of others? These are all skills.

The amount of time you have also makes a big difference. I know that *E.T.* could have been a very different game if I'd had more than five weeks to design it. *Yars' Revenge* wound up a very good game, but I had seven months for that one. I also did *Raiders of the Lost Ark*. That game presented a unique tuning challenge, which raises another critical factor in tunability: game type.

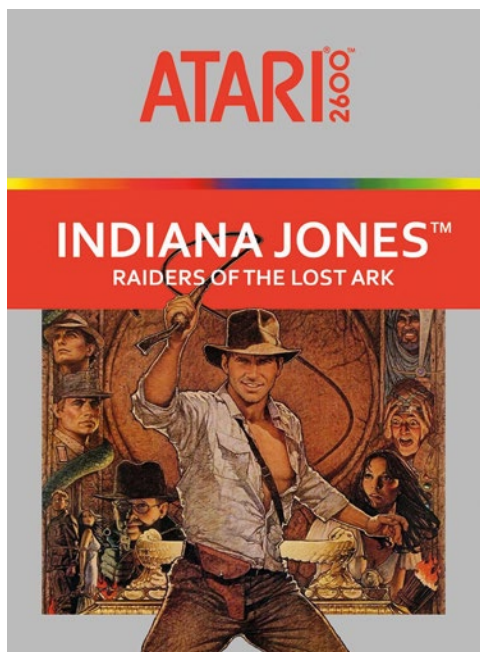
For the purposes of this discussion, I'm going to reduce the entire world of gaming to two types – action and adventure. And the key distinction is, adventure games require some uncovering of secrets or special knowledge to complete. Action games simply exercise essential skill sets: you may need to practise, but you don't need secret knowledge to engage or explore the game.

Let me be clear: tuning a video game is never an easy or trivial exercise, but there's a huge difference between tuning an action game and an adventure game. And the difference is this: in an action game, the designer can have the authentic play experience, just as any other player would. This enables you to get a very accurate read on game feel, ramp-up, and difficulty. In an adventure game, the designer can never have the player's experience, therefore they have no first-hand insight into what that play experience is.

When you can't actually play the game like any other player, all the tuning decisions you make are reduced to second-hand guesses

✓ Are your game's puzzles satisfying to solve, or too obscure? *The Secret Of Monkey Island* was a classic, partly thanks to its fine-tuning.





▲ A complex game for its time, *Raiders of the Lost Ark* on the Atari 2600 posed some tuning challenges for Warshaw.

impediment to accurately tuning adventure games is loss of innocence. Which is rather funny in light of my having cut my game design teeth at Atari, where innocence was in such short supply, the idea of losing it wasn't anywhere near as notable as finding it.

Adventure game tuning requires a skill which is not widely reputed to be in the average programmer's repertoire. This is a job for empathy. The onus falls on the developer to be able to project, intuit, and ascertain how challenging a given task will be for the

uninitiated. The only credible alternative is to gain access to an endless stream of fresh players on which to experiment, and even then, how

representative is each player of the population at large?

Game design is tough enough, but tuning is where a video game truly comes into its own... or doesn't. The concept of an initial design that just plays like a dream in its prototyping stage is just that – a concept. I've never seen it realised. There's an old saying, a plan is a basis for change. A prototype is the implementation of the plan, but that is not where a game ends. In fact, unless you're doing *E.T.* for the 2600, that is where a game begins. And the road it travels from that point on is called tuning.

Tuning an adventure-style game takes an incredible variety of skills and talents. In the pantheon of video game development activities, tuning an adventure-style game is the pinnacle, it's the apex challenge, and it's enough to take you to the edge and frequently over. It's no place for innocence, but it is all about purity of experience. Which, like REO Speedwagon, totally rocks. 🎸



▲ The REO Speedwagon album that inspired this article. There's a track on here called *The Unidentified Flying Tuna Trot*.

and assumptions. This is a tremendous handicap when it comes to assertively and knowledgeably tuning a game. There are no reliable signposts along the road. Nothing to hang my hat on as I'm making choices and creating or adjusting possibilities in the game.

It's no secret that secrets are the secret to designing adventure games. And the funny thing about secrets is their creators can never know what it's like to solve them. All you can really do is guesstimate the difficulty to the best of your ability and do consumer testing (something of which I've had quite a bit of experience).

“Tuning is where a video game truly comes into its own... or doesn't”

KEEPING SECRETS

You see, secrets are like virginity: once you're on the other side, there's no looking back. Once you attain an experience, it's impossible to return to an unknowing state. You can't unlearn a secret – at least not without a lot of time or some really intense drugs. And when you're making video games, that much time is definitely not available in a development schedule. And as for drugs, well, that depends on the developer, of course. But even so, drugs are unlikely to generate such acute (and specific) short-term memory loss. (Important note: kids, don't try this at home.)

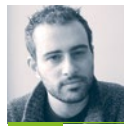
As the designer of an adventure-style game, the key issue you're dealing with isn't really game mechanics or level layout. The major

Beasts within

How often does wildlife appear in the creation of a game? Frequently. Most games feature a variety of avatars, since players and opponents need to be represented on the screen. This gives us an opportunity to engage with beings (both real and fictional) that one rarely gets to deal with in real life. Consider Donkey Kong, Banjo-Kazooie, Crash Bandicoot, Spyro the Dragon, Bowser, and Pikachu, just to name a few. It also means you get to be something you normally aren't, like the animal you may truly be. Don't believe me? Then answer this question: how do you feel about taking on the persona of a hyperactive hedgehog?

CityCraft: Shaping your post-apocalypse

Ways to imagine the structure, urbanism, and life of your post-apocalyptic cityscapes



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

Failing Materials

With time, things that aren't maintained tend to crumble. Concrete slowly turns to dust, iron rusts, glass windows break, wooden beams bend, dust blocks air ducts, copper corrodes, and plaster cracks. Temperatures, humidity, biological factors such as insects, caustic gases, earthquakes, pollution, flooding water, and fire are only some of the factors that can damage building materials, collapse large constructions, turn corporate towers into empty, barely-standing husks, or twist bridges into grotesque shapes. And as even plastic and steel can degrade under the right circumstances, researching what might happen to your city's materials after the apocalypse is a good idea.

► *Frostpunk* allows players to ensure the survival of a brutal industrialist society in the last city on Earth.

Zombies, droughts, floods, nuclear fallout, climate collapse, resource exhaustion, meteor strikes, alien invasions, earthquakes, disease, famine, and good, old-fashioned warfare could all bring human civilisation to near collapse. And as the post-apocalypse has long provided storytellers with lone survivor fantasies, it's also provided a popular backdrop for video games.

Handily for video game world-builders, the post-apocalypse allows for the mixing and matching of historical elements, technological artefacts, architectural styles, and eras. What's more, its urban environments tend to be some of the eeriest and most evocative of the medium; we humans are deeply moved by the sight of a dead city.

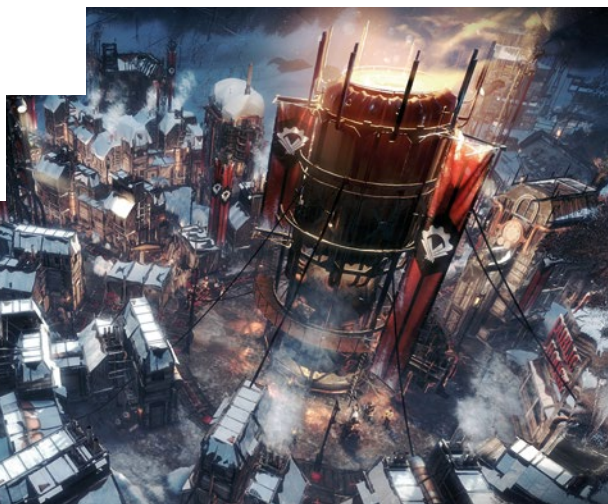
DESTROYING YOUR CITIES

Before *Fallout 4*'s Boston was devastated by war, before Moscow's subway tunnels were sealed

off in *Metro 2033*, before zombies roamed the streets of the *Walking Dead*'s Atlanta, before people abandoned Milton in *The Long Dark*, and before *S.T.A.L.K.E.R.*'s Pripyat got trapped in the Zone, these were all fully functional and liveable places – places that existed and developed long before they met their cruel fate. It's important, then, to realise that the post-apocalyptic versions of these cities were built directly on top of their former selves; in many cases, on their ruins. These are all places with pre-existing histories, geographies, characters, and details.

So, before the destruction, there has to actually be a city to be destroyed. Its post-apocalyptic iteration will inherit many of its historical characteristics, providing a layer of cohesiveness and realism. A pre-existing city could be completely imaginary, borrowed from reality, or anything in between, but it should be planned through sketches, or a few descriptive paragraphs. A believable foundation with its surviving landmarks can set the town's tone, and inform the new spatial relations of dilapidated buildings, post-apocalyptic governance centres, and forgotten functions.

Metro 2033, for example, replicates Moscow's stunning underground network, complete with all its art and architecture, providing a very particular and believable sense of place. The pre-war buildings and recognisable landmarks still standing in *Fallout 4* give its version of Boston a unique atmosphere. As for *The Long Dark*'s town of Milton, its fictional yet entirely believable history goes back a century before the apocalypse.





▲ Post-apocalyptic settlements don't have to be huge to be interesting. Pictured here, the town of Milton from *The Long Dark*.

Deciding on the way your city was destroyed is another crucial factor in post-apocalyptic design. Each type of disaster can have very different effects on both the built environment and wider society. A virus or zombie plague will mostly kill off humans, shattering the social tissue but leaving constructions intact to slowly rot, whereas a great flood would transfer human life to the upper sections of taller buildings, and make boats and bridges vital. Nuclear bombs would leave behind ruins and mutants; a fire in a medieval setting would leave smoking ashes and a few stone buildings, while severe climate change would probably require drastic societal modifications.

When the apocalyptic event occurred is another defining factor. A disaster two centuries ago would give time for societies to at least partially rebuild, and for older materials and edifices to further erode. A more recent event may find people still in shock, and fires still burning.

A NEW GEOGRAPHY

A few scattered ruins, an old building here, some scavengers there, and a house built of scrap-metal do not make a city. What world builders need to do is imagine a cohesive new reality: a civic geography and an urban organisation based on the ruins of the past. They have to decide where the new downtown will be, or if one will exist. They have to think of living quarters, shopping areas, and production capabilities, and decide whether new settlements need defences.

They may even declare that parts of the old city have survived, and now serve as the new centre – just like the Strip in *Fallout: New Vegas*. World builders will have to define the

new society occupying the devastated space. Have people gone feral? Is there a democracy? An oligarchy of the powerful and most savage? Has society perhaps evolved towards fairness, and embraced equality and direct democracy? Have new religions clouded minds, or has everything collapsed into chaos?

And what does everyday life look like? How is it organising its space? From the simple things such as having access to water – it was after all a failing water chip that kicked off the *Fallout* series – and producing food to a working economy, some basics simply have to be put in place. Residence has to be organised, and the size of populations decided.

Designers must further imagine popular pastimes and what people are dying of, and try to plan urban space around the needs and functions of their new society. Will we have new architecture and new planning paradigms? Have old buildings been adapted for new uses? Did society preserve pre-apocalyptic styles and modes, or is everyone just living in ancient boathouses tied to the derelict skyscrapers of yore? As ever, it's questions like these that define the shape of a city. 🗺️

▼ As Steve Meretzky's *Superhero League of Hoboken* masterfully showed, the apocalypse doesn't need to be grim.



Nature Rampant

Pripyat, the almost utopian city built for the staff of Chernobyl and abandoned after the nuclear disaster, is one of the few places on Earth we could describe as post-apocalyptic. Interestingly it has effectively been taken over by nature. The town and the area around it have evolved into a wildlife preserve, as the lack of human activity gave nature the space it needed to go wild. Similarly, many types of apocalyptic events – especially those like viruses and plagues that are almost exclusively aimed at humans – could be followed by a return of the planet's habitat to pre-industrial levels.

▼ The recognisable Boston of *Fallout 4* is as unsettling a virtual city as it is familiar.



Squeezing the ZX Spectrum

The Oliver Twins explain how they squeezed Fantasy World Dizzy into just 41kB of memory



AUTHORS
PHILIP AND ANDREW OLIVER

The Oliver Twins have been making games since the early eighties, and can now be found at their new consultancy firm, Game Dragons. gamedragons.com

We were relatively late getting our first ZX Spectrum. It was October 1986 when David Darling of Codemasters sent us one, and suggested we convert our games from the Amstrad versions we were creating at the time. Beginning with *Ghost Hunters*, we went on to create 17 Spectrum games over the next five years, many of them bestsellers. The most fondly remembered of those are the *Dizzy* games.

With *Dizzy*, we wanted to create a cartoon adventure where the player solved puzzles. Being fans of adventure games like *Zork*, we knew we needed an inventory and interesting, logical puzzles. These were functionally still ‘key

and door’ puzzles, but dressed up with lots of themes: for example, the Mucky Grease Gun that enabled a rusted mine-cart to be moved in order to access a mine. There was a manhole cover blocking another route, which could be opened with a crowbar. At this time, *Dizzy* could only pick up and drop a single item at a time, leading to some additional gameplay of figuring out the optimum route and where best to leave items for collection later.

While *Dizzy* was slow to catch on, we eventually produced a sequel, 1988’s *Treasure Island Dizzy*, with a new story and improved game mechanics. It was commercially successful, but there were lots of areas we wanted to improve; so in the summer of 1989 we designed *Dizzy 3: Fantasy World Dizzy*. We knew from the outset this would be a hit, whatever was in the box, but we wanted to make sure nobody was disappointed. We also wanted to stretch the Spectrum to its limits and make the best possible *Dizzy* game.

We enhanced the inventory by having a pop-up window selection system. We added names to every location and added 30 coins to collect; but most important was the story and the introduction of a bunch of new characters, and a lot of dialogue. There were 50 screens in all, and the game took over 30 minutes to complete if you knew what you were doing; but, like all games at that time, if you lost all your lives, you had to start over. Most players would play for over 50 hours to beat the game. That’s quite a

▼ ZX Spectrum games took ages to load, but colourful screens like this one kept players company for those lonely minutes.





► The Spectrum's price point helped bring gaming to the eighties masses.

lot of entertainment for £2.99, and squeezed into just 41kB.

Fantasy World Dizzy was met with critical and commercial success, and went on to sell over half a million copies, being converted to many different computers; years later, it still has a cult following. So how did we squeeze all that onto the Spectrum?

FIRST-GEN BEDROOM CODERS

We weren't taught to code or make games; we had to work everything out for ourselves. There was no internet, and few books on the subject. We got ideas and inspiration from other people's games, either in arcades or on home computers. We'd challenge ourselves to achieve as much as possible, but also gave ourselves self-imposed, tight deadlines: we set ourselves the challenge of creating one game a month.

Fantasy World Dizzy took about six weeks, and we developed it first on the Amstrad and then converted graphics and some routines to the Spectrum. Since the Spectrum was similar in many ways to the Amstrad and also based on Z80, most of the game code was identical. The only differences were in the input routine (reading keys) and output routines (display and sound). This was our 17th (and last) game on the Spectrum; so, reusing code from other games, the Spectrum version only took a day or two.

RAM

We ensured our games all ran on the 48K Spectrum. The screen was 256 pixels (32 bytes) × 192 pixels, so a total of 6144 bytes for the bitmap

data, plus another 768 bytes for the colour attributes, making a total of 6.6kB. After a few other system memory reserves, there was only 41kB of RAM left for the game.

HEXADECIMAL AND BINARY

You'll notice there's an awful lot of counting in hexadecimal and working out in binary. The fact is the 8-bit language requires you to be constantly thinking in these numbers. Everything relies on it, and if you start thinking in these terms, you *will* write better code.

GRAPHICS

We created the sprites (all the 2D graphic assets) in our own 'Panda Sprites' utility, which we'd written and published on the Amstrad when we were at school. We figured every hobbyist would want to create games with animated sprites, and went to great efforts to give the editor plenty of features, even including rotation of sprites for people making top-down games. This feature led to Dizzy doing his spinning jump. We spent time creating flexible sprite printing routines that people could put in their own games. We even allowed them to write their games in BASIC, which was really easy to use. It was possibly the first middleware for game creation.

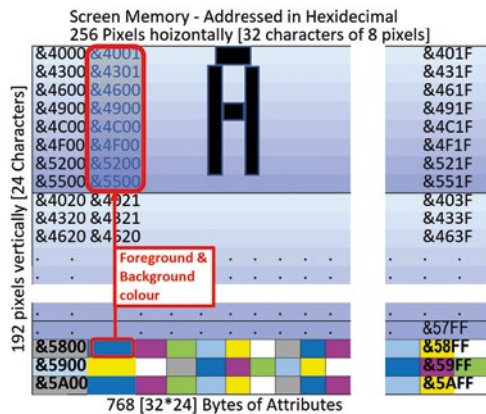
Printing sprites on a Spectrum was interesting. As with the BBC B and Amstrad, the way the ►

THE ZX SPECTRUM

The ZX Spectrum was an affordable computer with just 48kB of RAM and a 'rubber' keyboard. It had blocky, low-resolution graphics, but it could plug into a regular TV and used a cassette player for storage. Its main processor was an 8-bit Z80 running at 3.5MHz. The screen resolution was 256×192 pixels, and supported eight colours, with 'colour attributes' limited to one foreground and one background colour per 8×8 character. This severely limited what colours could be displayed and where, but it was efficient on memory and improved the speed of printing graphics to the screen; it also led to the distinctive appearance of the computer's games.

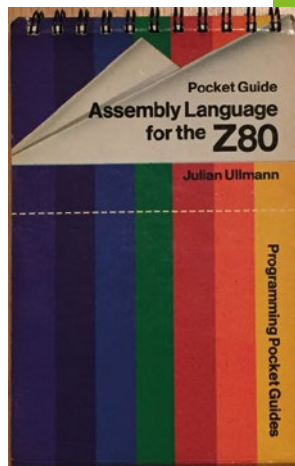
Toolbox

Squeezing the ZX Spectrum



▲ Figure 1: A diagram showing the ZX Spectrum's screen memory in hexadecimal.

▼ The Oliver Twins learned Z80 from a £2.99 Pocket Guide.



► Figure 2: An example of register use on the ZX Spectrum, and how many clock cycles an operation could take.

CODE

There isn't space here to explain assembler coding on the Z80 in detail, but here's a basic overview. The 8-bit chip had a main A register, three multi-purpose paired registers: BC, DE, and HL, and then two further paired registers: IX and IY. These were duplicated for use by interrupt routines. The paired registers gave 16-bit pointers to address up to 64kB RAM/ROM.

There were standard operations: LD (load), ADD, AND, XOR, SLA, and SRA (shift bits left or right within a byte), along with conditional operations – compare and jump to a new section of code – but it didn't have multiply or divide operations, and many things had to be done by creating loops and lookup tables.

Not all operations would work on all registers: everything would work with register A, but only subsets of operations worked with the other registers, so there was an awful lot of register swapping needed to write Z80 code.

The simplest 'load' (LD) instruction took four clock cycles and, depending how it was used, could take up to 19 (see Figure 2).

Coding assembler efficiently was essential, given the limitations of the 3.5MHz Z80 processor. This was where being a 'Code Master' really came into play. We were literally obsessed by writing fast, efficient code, counting every byte and clock cycle (time to execute an instruction),

screen memory is laid out is odd (see Figure 1). If you watch a Spectrum game's title screen loading, it starts top-left, goes across to the right, jumps down one character line (eight pixels) and works all the way down the screen. Finally, it fills in all the colour attributes to display the finished picture.

but also coming up with advanced techniques to reduce the runtime logic required.

For example, there's a common routine you'd need to get the memory location of an X and Y coordinate on the screen. The conventional method was as shown in Figure 3 (we recently pulled this from the internet – a luxury we didn't have back then).

We'd literally write random bytes to memory to see what appeared where, then reverse-engineer the screen memory configuration and develop code to write to it! But we knew everything printed on to the screen went via this, so if we could speed it up, our games could have far more things on the screen (see Figure 4).

This required two tables each of 192 bytes to be created, each on consecutive page boundaries – all the Low screen addresses in the first table, then 256 bytes later all the High screen addresses.

Because the code was now very short, we'd paste it in-line, when needed, to avoid the extra 'call' and 'return' from a routine.

The upside-down levels (Figure 5) were created as normal; we'd just flip the values in the lookup tables.

▼ Figure 3: The conventional method to locate the screen memory from a coordinate.

```

; B = Y pixel position
; C = X pixel position
; Returns address in HL
Get_Pixel_Address_Conventional
4 LD A,B ;Calculate Y2,V1,Y0
7 AND %00001111 ;Mask out unwanted bits
7 OR %01000000 ;Set base address of screen
4 LD H,A ;Store in H
4 LD A,B ;Calculate
4 RRA ;Shift to position
4 RRA ;Shift to position
7 AND %00011000 ;Mask out unwanted bits
4 OR H ;OR with Y2,V1,Y0
4 LD H,A ;Store in H
4 LD A,B ;Calculate Y5,Y4,Y3
4 RLA ;Shift to position
4 RLA ;Shifting bits left
7 AND %11100000 ;Mask out unwanted bits
4 LD L,A ;Store in L
4 LD A,C ;Calculate X4,X3,X2,X1,X0
4 RRA ;Shift into position
4 RRA ;Shifting bits right
4 RRA ;
7 AND %00011111 ;Mask out unwanted bits
4 OR L ;OR with Y5,Y4,Y3
4 LD L,A ;Store in L
10 RET ;Return from routine
117 Total Clock Cycles ;28 Bytes
    
```

Instruction	eg.	Comment	Clock cycles
LD r,r	LD A,B	Load single 8 Bit register, with another	4
LD r,n	LD A,10	Load a fixed number	7
LD r,(rr)	LD A,(HL)	Load 8-bit register with contents of pointer	7
LD rr,nn	LD HL,&4000	Set of 16-bit register	10
LD rr,rr	LD HL,DE	Paired register operations	11
LD r,(ir+n)	LD A,(IX+5)	Load register with contents of pointer+offset	19



◀ The Olivers showing off some of their earliest Codemasters titles, including *Super Robin Hood*.

```

; IN A = X (0-255), L = Y (0-101)
; out HL = screen address
GET_SCREEN_Address_Oliver:
4  BRR      ;Rotate Right A
4  BRR      ;Rotate Right A
4  BRR      ;X coord has been divided by 8
7  AND B,SP ;Mask possible bits rotated in
7  LD H,HL  ;Load High Byte of Lookup Table
7  ADD A,(HL) ;Add X(0-31) to Low Screen Address
4  INC H    ;Move Lookup table pointer up 1 page (8000)
7  LD H,(HL) ;Load the high byte of screen address
4  LD L,A   ;Move calculated low byte pointer to L
40 Total Clock Cycles 11 Bytes
    
```

◀ Figure 4: The improved method to locate the screen memory from a coordinate.

DIZZY SPRITE PRINTING

The Dizzy sprite was 24 pixels wide by 20 pixels high – put another way, he was 3 × 2.5 characters, with each character being 8 by 8 pixels.

As shown in **Figure 6**, the first *Dizzy* game used our general-purpose sprite system. He was printed onto the screen using XOR [swap bits with 1s], so he would be printed once to appear and a second time to make him disappear. (There was no drawing full screens to back buffers in those days!) This worked easily, but when he walked in front of other graphics, he'd appear a little messy, and could be difficult to see. Our solution was to create two versions, with body and hands moving up and down in opposite motion, so he was always moving and this made him much easier to see. Most sprites in our early games worked this way.

“We used a new method involving masked sprites”

The images in **Figure 6** show Dizzy in the open, and then in front of a tree. As you can see, when he's standing in front of background graphics it doesn't work so well.

By the time we created *Fantasy World Dizzy*, we used a new method involving masked sprites. It was slower and more complex code, but gave a much better result, as you can see in **Figure 7**.

Dizzy could clearly be seen in front of a complex background using the advanced masked sprite system. This meant that whilst Dizzy still picked up on the attribute colours of the background – like a chameleon – he could be seen more easily when standing over background graphics. To have moved his colour around

with him would have seen a character-aligned white box following him, which would have looked awful.

In this system, we created a mask image, slightly bigger than Dizzy, and copied the 24 × 20 pixels from the screen memory into a temporary buffer. We then printed the mask directly to the screen memory, creating a black Dizzy-shaped hole, and then printed the regular Dizzy sprite into this as before. To remove Dizzy as he moved on, we printed back the temporary buffer

to the screen, replacing whatever he'd rubbed out (see **Figure 8**). We didn't need to look up areas of the map, or what objects

had been placed there – we simply copied back the rubbed-out screen area. It was very fast and effective.

This worked well, except when two sprites crossed over each other. We enhanced the method by working out what we wanted to print to the screen, combined the screen with the mask using the AND function, then stored that result XOR-ed with the screen. We then wrote the byte onto the screen. This way, to rub out we used XOR to rewrite the buffer back to the screen, so now multiple sprites could go over each other without leaving corruption on the screen.

Each sprite was 24 (3 bytes) × 20 high = 60 bytes × 2 for the mask, so 120 bytes per frame.

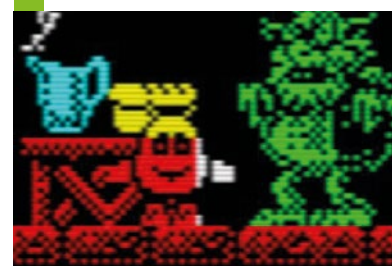
There were 39 Dizzy frames of animation, so he took a total of 4680 bytes or ~4.5kB. ➔



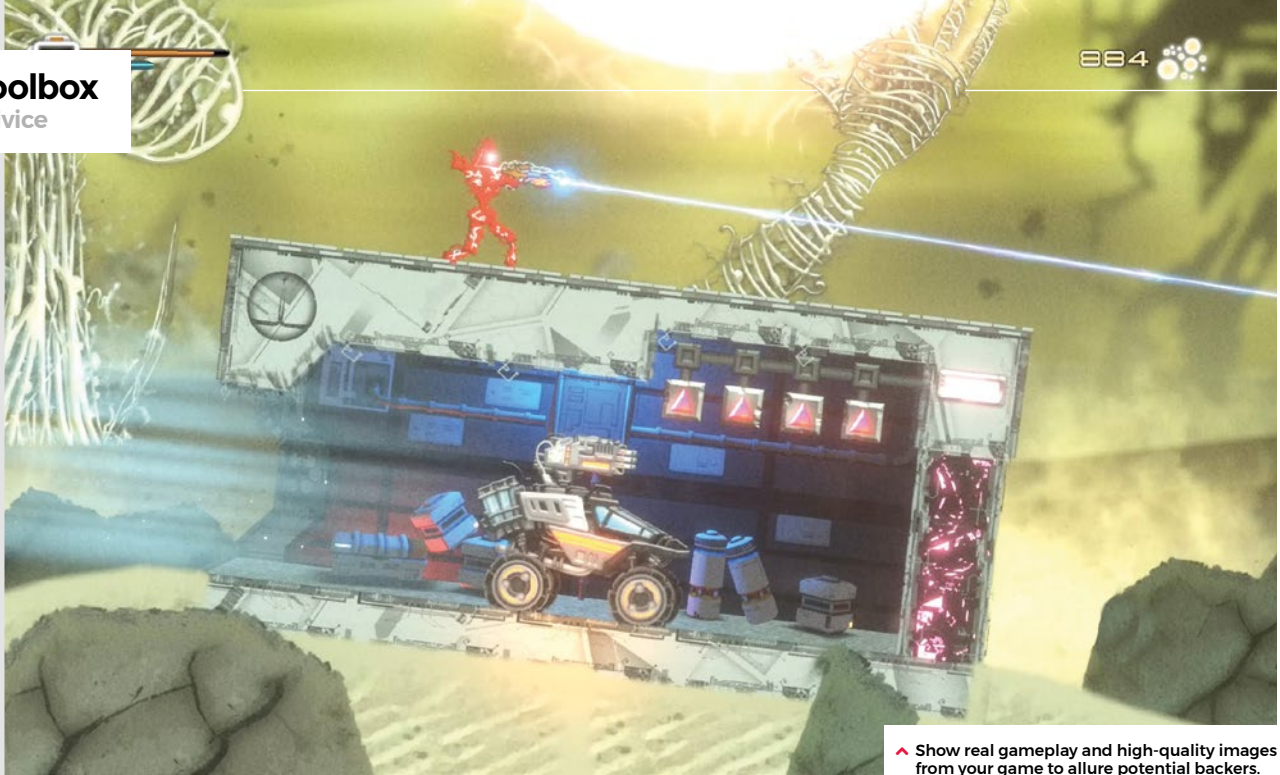
▲ Figure 5: *Fantasy World Dizzy's* market square, which flipped the sprites by adjusting the values in lookup tables.



▲ Figure 6: Fast, easy, XOR sprite printing as used in the original *Dizzy* game.



▲ Figure 7: The improved, masked Dizzy sprite we used in *Fantasy World Dizzy*.



▲ Show real gameplay and high-quality images from your game to allure potential backers.



AUTHOR
JEFF SPOONHOWER

Jeff Spoonhower is a developer, artist, and college professor who's been working on triple-A and indie games for over 17 years.
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Indie reflections: Making Anew Part 7

Crowdfunding can be a powerful way to finance and market your game. Jeff sheds light on the basics

What is crowdfunding, exactly? Think of it as a distributed funding mechanism where individuals online contribute money towards the development of your game. You present your game idea to the community, and 'backers' collectively pitch in to help you hit a predetermined funding goal. So, instead of sheepishly asking Great Aunt Millie for a cheque for \$150,000, you appeal to hundreds or thousands of backers who each pitch in to help you cross the finish line. The amount of money backers donate generally depends on their level of interest in your game, and their faith in your ability to finish it.

What your generous backers receive in return for their pledges is up to you. You'll need to entice potential backers into donating by offering them rewards. Most crowdfunding campaigns offer rewards in tiers – the more money a backer donates, the more, and better, rewards they receive. Some examples of lower-level rewards include digital copies of your game and soundtrack, an exclusive game wallpaper, or credits on your website. Mid-level rewards may include physical copies of your game, posters,

T-shirts, and other souvenirs. High-level rewards may be art books, signed posters, and a variety of ways for backers to actually be involved in the development of your game, such as collaborative design sessions and voicing a character in-game. Often, the higher-level rewards have limited quantities, and are therefore especially valuable and exclusive to backers.

PLATFORMS

Many crowdfunding platforms exist, but here we'll focus on two popular options for indie game developers: Kickstarter and Fig. Indiegogo is another option worth researching. It's advisable to spend time researching each of these before selecting one for your campaign.

Kickstarter is the original crowdfunding platform, and hosts the most indie game campaigns each year. As such, Kickstarter attracts a large audience of potential backers who are interested in the rising stars of the indie game world. On Kickstarter, you set a time-sensitive, all-or-nothing target funding goal, and can offer tiers of rewards to backers. If you meet or exceed your goal by the time your campaign ends, you receive all the funds you raise, minus a percentage paid to Kickstarter. If you don't

▼ A graphical matrix of backing tiers and associated rewards is a quick way to show backers what they'll receive for their donations.

NAME	\$	11	21	31	44	59	125	251	500	1000	2500
NO WALLPAPER	•	•	•	•	•	•	•	•	•	•	•
ART SPACE SHIRT	•	•	•	•	•	•	•	•	•	•	•
SHIRTPOSTER	•	•	•	•	•	•	•	•	•	•	•
CREDIT ON WEBSITE	•	•	•	•	•	•	•	•	•	•	•
CLOSED BETA	•	•	•	•	•	•	•	•	•	•	•
DIGITAL ART BOOK	•	•	•	•	•	•	•	•	•	•	•
IN-GAME DEV TOOL	•	•	•	•	•	•	•	•	•	•	•
SIGNED POSTCARD	•	•	•	•	•	•	•	•	•	•	•
BACKED T-SHIRT	•	•	•	•	•	•	•	•	•	•	•
COLLECTOR'S BOX	•	•	•	•	•	•	•	•	•	•	•
SIGNED POSTER	•	•	•	•	•	•	•	•	•	•	•
SHIRTPOSTER	•	•	•	•	•	•	•	•	•	•	•
SIGNED SHIRT	•	•	•	•	•	•	•	•	•	•	•
DESIGN SESSION	•	•	•	•	•	•	•	•	•	•	•
1 ON 1 DEV SESSION	•	•	•	•	•	•	•	•	•	•	•
NAME ON CREDITS	•	•	•	•	•	•	•	•	•	•	•
PHYSICAL ART BOOK	•	•	•	•	•	•	•	•	•	•	•
CREDIT IN GAME	•	•	•	•	•	•	•	•	•	•	•
VOICE & CHARACTER	•	•	•	•	•	•	•	•	•	•	•
VISUAL FEEDBACK	•	•	•	•	•	•	•	•	•	•	•
EXCLUSIVE BETA	•	•	•	•	•	•	•	•	•	•	•
SIGNED PHOTO SHIRT	•	•	•	•	•	•	•	•	•	•	•



▲ Include a photo of your development team to help personalise your campaign.



▲ A simple budget breakdown helps backers to understand how you plan to use your funds, and also establishes trust and transparency.

also cancel your campaign at any time if you feel as though you're not going to hit your funding goal. Your only obligation on Kickstarter is to fulfil the rewards promised to your backers on completion of your game.

Fig is a newer crowdfunding platform that has helped fund several promising indie games. Similarities between Kickstarter and Fig include a campaign page, the ability to offer rewards, and a time-sensitive, all-or-nothing funding goal. Fig differs considerably from Kickstarter, though, in a few important ways. Whereas any developer can run a Kickstarter campaign, Fig is a curated platform which requires developers to pitch their campaigns. Only approved projects make it onto Fig. In addition to receiving rewards, Fig backers also have the option to invest in your game and earn a percentage of its sales. If your game is successfully funded, Fig becomes your non-exclusive publisher and receives a percentage of your profits.

It's important to note that backers are becoming increasingly jaded about crowdfunding due to an increase in low-quality games seeking funding, as well as failed completions and unfulfilled promises for games they've backed. It's vital, then, that you have polished and unique-looking assets in place before beginning your campaign, or backers will ignore you. Gone are the days (circa 2012) when indie devs could post a few pieces of concept art and a talking-heads video for a game that didn't yet exist. Today, you must show high-quality gameplay to attract backers' attention.

“It's vital that you have polished assets in place”

CROWDFUNDING ANEW

We ran a successful Kickstarter campaign for *Anew: The Distant Light* in March 2017, earning a little over \$35,000 from 684 backers. We began planning our campaign a year in advance, researched successful and failed indie game campaigns, and collected as much advice as we could. My dev partner and I began preparing for the campaign full-time two months before it began – writing text for our page, creating a trailer, capturing screenshots, designing graphical elements, planning rewards, and more. During the month-long campaign, I worked full-time on outreach and marketing. We feel as though the modest amount of money we

raised was worth the effort, although it didn't come easily.

Of course, \$35,000 isn't enough to completely fund the development of a game involving two full-time developers, plus a freelance composer, over the course of five to six years. We have primarily been self-financed, but the money raised on Kickstarter helped offset several costs including marketing, PR, trade show attendance, legal advice, and subcontractor assistance. Of equal importance to the money raised was the significant increase in awareness *Anew* received. Our enthusiastic backers spread the word about *Anew* with their friends, which brought in more backers and fuelled growth on our social media platforms. Publishers, content creators, and game websites discovered us through our campaign page, which led to interviews, features, streams of our demo, and business partnerships.

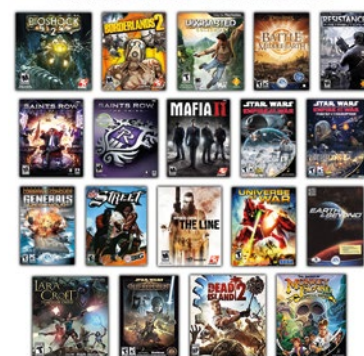
We quickly learned that our active crowdfunding campaign required constant, vigilant support and monitoring. We worked around the clock on outreach efforts – emailing websites, bloggers, streamers, friends, and family to spread the word about our campaign. We responded to questions and comments on our campaign site quickly and professionally. In order to fuel interest in the campaign, we posted (and continue to post) frequent updates on development, as well as new videos, screenshots, and marketing assets. A 'set it and forget it' attitude would have certainly led to a failed campaign. Having an established following on Facebook and Twitter before starting our campaign also helped in our outreach efforts, as our built-in community was eager and ready to help spread the word about *Anew*.

While the research, planning, and execution of our crowdfunding campaign was a tremendous amount of work, we're glad we decided to embark on the journey, and we hope to crowdfund our next game as well. 🙌

Campaign reference

If you're new to crowdfunding, it's worth checking out the Kickstarter campaign for *Anew: The Distant Light*. There you'll find ideas for funding tiers, rewards, campaign sections, gameplay videos, and other visual materials to help successfully pitch your game idea to backers: wfmag.cc/aneu

GAMES WE'VE WORKED ON



▲ If you have prior games industry experience, definitely highlight it on your page, as it adds credibility to your game and studio.

◀ *Ninja Gaiden's* dramatic continue screen. Who would be cruel enough to walk away?



Source Code



▲ SNK's *Fantasy*, released in 1981, was the first arcade game to feature a continue screen.

Create your own continue screen

Learn how to create game states, and rules for moving between them



AUTHOR
RIK CROSS

The continue screen, while much less common now, was a staple feature of arcade games, providing an opportunity (for a small fee) to reanimate the game's hero and to pick up where they left off.

Games such as Tecmo's *Ninja Gaiden* coin-op (known in some regions as *Shadow Warriors*) added jeopardy to their continue screen, in an effort to convince us to part with our money.

Often, a continue screen is one of many screens that a player may find themselves on; other possibilities being a title screen or an instruction screen. I'll show you how you can add multiple screens to a game in a structured way, avoiding a tangle of `if...else` statements and variables.

A simple way of addressing this problem is to create separate update and draw functions for each of these screens, and then switch between these functions as

required. Functions are 'first-class citizens' of the Python language, which means that they can be stored and manipulated just like any other object, such as numbers, text, and class instances. They can be stored in variables and other data types such as lists and dictionaries, and passed as parameters to (or returned from) other functions.

"The continue screen was a staple of arcade games"

We can take advantage of the first-class nature of Python functions by storing the functions for the current screen in variables, and then calling them in the main `update()` and `draw()` functions. In the following example, notice the difference between storing a function in a variable (by using the function name without parentheses) and calling the function (by including parentheses).

```
currentupdatefunction =  
updatecontinuescreen  
currentdrawfunction = drawcontinuescreen  
  
def update():  
    currentupdatefunction()  
  
def draw():  
    currentdrawfunction()
```

The example code above calls `currentupdatefunction()` and `currentdrawfunction()`, which each store a reference to separate update and draw functions for the continue screen. These continue screen functions could then also include logic for changing which function is called, by updating the function reference stored in `currentupdatefunction` and `currentdrawfunction`.

This way of structuring code can be taken a step further by making use of state machines. In a state machine, a system can be in one of a (finite) number of predefined

Game states in Python

You'll need to install Pygame Zero to get Rik's code running. You can find instructions at wfmag.cc/pgzero



Download
the code
from GitHub:
[wfmag.cc/
wfmag19](https://github.com/wfmag19)

```
class State():
    def __init__(self):
        self.rules = {}
    def addrule(self, state, rule):
        self.rules[state] = rule
    def update(self):
        pass
    def draw(self):
        pass

class StateMachine():
    def __init__(self):
        self.current = None
        self.frame = 0
    def update(self):
        if self.current == None:
            return
        self.frame += 0.01
        for s, r in self.current.rules.items():
            if r():
                self.current = s
                self.frame = 0
        self.current.update()
    def draw(self):
        if self.current == None:
            return
        self.current.draw()

sm = StateMachine()

def drawtitle():
    screen.draw.text("Title screen", (50, 50), fontsize=40,
color="white")
    screen.draw.text("Press [space] to start", (50, 80),
fontsize=40, color="white")
```

```
titlescreen = State()
titlescreen.draw = drawtitle

def drawgame():
    screen.draw.text("Game screen", (50, 50), fontsize=40,
color="white")
    screen.draw.text("Press [e] to end game", (50, 80),
fontsize=40, color="white")
gamescreen = State()
gamescreen.draw = drawgame

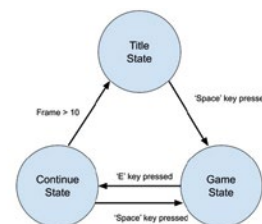
def drawcontinue():
    screen.draw.text("Continue screen", (50, 50), fontsize=40,
color="white")
    screen.draw.text("Press [space] to play again", (50, 80),
fontsize=40, color="white")
    screen.draw.text(str(int(10 - sm.frame)+1), (50, 110),
fontsize=40, color="white")
continuescreen = State()
continuescreen.draw = drawcontinue

titlescreen.addrule(gamescreen, lambda: keyboard.space)
gamescreen.addrule(continuescreen, lambda: keyboard.e)
continuescreen.addrule(titlescreen, lambda: sm.frame >= 10)
continuescreen.addrule(gamescreen, lambda: keyboard.space)

sm.current = titlescreen

def update():
    sm.update()

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



▲ Rules define conditions that need to be satisfied in order to move between states.

states, and rules determine the conditions under which a system can transition from one state into another.

A state machine (in this case a very simplified version) can be implemented by first creating a core `State()` class. Each game state has its own `update()` and `draw()` methods, and a rules dictionary containing state:rule pairs – references to other state objects linked to functions for testing game conditions. As an example, the `continuescreen` state has two rules:

- Transition to the `gamescreen` state if the `SPACE` key is pressed;
- Transition to the `titlescreen` state if the frame timer reaches 10.

This is pulled together with a `StateMachine()` class, which keeps track of the current state. The state machine calls the `update()` and `draw()` methods for the current state, and checks the rules for transitioning between states. Each rule in the current state's rules list is executed, with the state machine updating the reference to its current state if the rule function returns `True`. I've also added a frame counter that is incremented by the state machine's `update()` function each time it is run. While not a necessary part of the state machine, it does allow the continue screen to count down from 10, and could have a number of other uses, such as for animating sprites.

Something else to point out is the use of lambda functions when adding rules to states. Lambda functions are small, single-expression anonymous functions that return the result of evaluating its expression when called. Lambda functions have been used in this example simply to make the code a little more concise, as there's no benefit to naming the functions passed to `addrule()`.

State machines have lots of other potential uses, including the modelling of player states. It's also possible to extend the state machine in this example by adding `onenter()` and `onexit()` functions that can be called when transitioning between states. 🐹

Directory

Get industry advice with **Ukie Hotline**

Budding developers can get expert tips on localisation, marketing, financing, and more with Ukie's free hotline service

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

What is it?

The annual Ukie Hotline is an initiative created by industry trade body Ukie to provide developers and publishers with the opportunity to get completely free advice from industry experts. They'll be available to cover all kinds of disciplines, including PR, legal, recruitment, finance, business development, and more.

Ukie appreciates that it can be difficult at times for start-ups and small studios/publishers to afford professional advice, and thus created this initiative to allow people to get first-class advice, for free. Each expert included is extremely excited to help and has dedicated a day of their time to provide the expertise and knowledge to anyone who needs it. The companies lending their expertise include Sheridans, Amicus Recruitment, Game Dragons, Plus Accounting, and many more.

When does it run?

The Hotline started on 22 July and will run for four weeks, with an industry expert available each day to answer questions via a phone call between 10:00am and 4:00pm.

This service is for anyone within the games industry to use for free, with each expert excited and waiting to take your call.

How can I get my free advice?

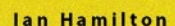
A full breakdown of the experts and companies taking part is listed on the Ukie website, with bios and videos explaining what each respective expert can help you with. Contact details are also listed on the site. For more information, visit wfmag.cc/ukie-hotline.

▼ It's only for a limited time, so get your calls in as soon as you can.

ukie hotline



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MAKING THE PERFECT METROIDVANIA

SAMUS AND SIMON PIONEERED IT. SHANTAE AND
STEAMWORLD BROUGHT IT BACK. MEET THE
DEVELOPERS PERFECTING THE METROIDVANIA

WRITTEN BY ANDREW KING

A modern portmanteau derived from inelegantly smashing *Metroid* and *Castlevania*'s titles together, the Metroidvania harks back to the mid-nineties, and two seminal action platformers: Nintendo's *Super Metroid* and Konami's *Castlevania: Symphony of the Night*. For about a decade, both series continued to serve up non-linear forays into interlocking, unlockable worlds. But after *Metroid: Zero Mission* in 2004 and *Castlevania: Order of Ecclesia* in 2008, the series went largely silent – at least, as far as their 2D, exploration-focused outings were concerned.

This absence inspired indie developers to take the Metroidvania into their own hands.

"The genre was wrapped in cherished childhood memories for much of the team," says Rodrigue Duperron, marketing and communications specialist at Thunder Lotus, the studio behind 2017's *Sundered*. The Metroidvania genre was, Duperron adds, "Ripe for indie reimagining, especially with a key genre franchise – which shall remain nameless – being rather quiet through most of the decade."

While fans clamoured for new *Metroid* and *Castlevania* adventures in vain, indie studios stepped in to fill the void. WayForward Technologies made the *Metroid*-inspired sequel *Shantae: Risky's Revenge* in 2010; DrinkBox released the first *Guacamelee!* in 2013; and the

following year, Tom Happ released *Axiom Verge*, hailed by Polygon's Jeremy Parish as the best indie Metroidvania ever made.

Since then, Metroidvanias have come to dominate the indie space. *The Mummy Demastered*, *The Messenger*, *Iconoclasts*, *Dandara*, *SteamWorld Dig 2*, *Chasm*, *Yoku's Island Express*, *Hollow Knight*, *Guacamelee! 2*, *Sundered*, *Death's Gambit*, *Monster Boy and the Cursed Kingdom*, and *La-Mulana 2* – and many more – have all appeared in the past two years. The genre's collaborative, as developers bounce ideas off each other, iterating on the community's suggestions, and taking the genre to bold new places.

But how do they do it? How do these indie developers create compelling worlds that are exciting to explore the first time, and still interesting to backtrack through the 100th time? How do they make unlocking new areas and discovering power-ups challenging but not frustrating? To find answers to these questions and more, we spoke to many of the developers making the most compelling games in the sub-genre.

ENTERING THE UNKNOWN

It's rare to find a game that isn't at least a little bit like Samus Aran. As she blasts and bombs her way through Thebes, *Metroid*'s heroine finds new, useful tools hidden in the nooks and crannies of her world. She doubles her →

GLUTROIDVANIA

Chasm was released in July 2018, kicking off an entire summer of Metroid-style games. *Dead Cells*, *Guacamelee! 2*, and *Death's Gambit*, plus Switch ports of *Salt and Sanctuary* and *Iconoclasts* in a similar time frame, made it difficult to stand out, according to James Petruzzi. "In 2012, when we started, there was almost nothing else like it out there. But when it launched, they called it the Month of the Metroidvania because eight other Metroidvania games came out the same month that we came out. It's like, how are you supposed to succeed when you have that much competition?"

^ *Chasm's* gorgeous artwork helped it secure an impressive backing of around \$190,000 on Kickstarter in 2013.



▲ *Monster Boy's distinctive, anime-inspired art style was introduced fairly late in development: just a year and a half before it shipped.*



▲ *Dandara developers Lucas Mattos and João Brant originally met while studying computer science at university in Brazil.*

jump; she gets a nifty new gun; she somehow, improbably, turns into a ball. By the time she takes down the pterodactyl or angry jellyfish awaiting her at the end of her journey, her toolset is barely recognisable. The core is there, to be sure, but so much around it has changed. Games are like that. When an indie Metroidvania arrives as a colourful thumbnail on a digital store, it's often massively different from the hazy concepts that inspired its creation. Central ideas may remain intact, but much of the presentation changes. And, lots of times, central ideas change too.

“NISHIZAWA MISUNDERSTOOD THEIR MESSAGE AND GRANTED THEM THE WONDER BOY LICENSE”

“We started to work on the *Monster Boy* game in 2014,” says Fabien Demeulenaere, co-founder of Game Atelier, the Parisian studio behind 2018's *Monster Boy and the Cursed Kingdom*. “Back then it wasn't called *Monster Boy*. It was called *Flying Hamster 2*.”

The original *Flying Hamster*, Game Atelier's first game, was a little-known platformer released for the PSP in 2010. After they launched a Kickstarter campaign to fund a sequel, the team contacted Ryuichi Nishizawa, who directed the first two titles in the long-running *Wonder Boy* series, to express thanks for inspiring what was then still called *Flying Hamster 2*.

To their surprise, Nishizawa misunderstood their message and granted them the

Wonder Boy license. He even provided a video endorsement for their Kickstarter. With that, *Monster Boy and the Cursed Kingdom* was born: still a Metroidvania, as Game Atelier had planned, but now it would be a new entry in a storied series, rather than a new entry in one that few people ever knew existed.

João Brant and Lucas Mattos, the main developers at Brazil's Long Hat House, experienced a similar shift in design in the early production of 2018's *Dandara*. After their first release, the mobile game *Magenta Arcade*, the duo began work on another touch-based action game.

“It was this arena with ground on top and ground on the bottom; the grounds would move, and if you stayed on them too long you would die,” Brant explains. “You could jump between them and shoot enemies like an arena game.”

The final product retained that movement and combat, but transplanted it into a more substantial Metroidvania. Players still jumped from wall to wall, but now they did so as part of a search for power-ups and experience points. And, instead of using this gravity-defying traversal to move through linear corridors, *Dandara's* jump would be used to explore a world that sprawled in every direction.

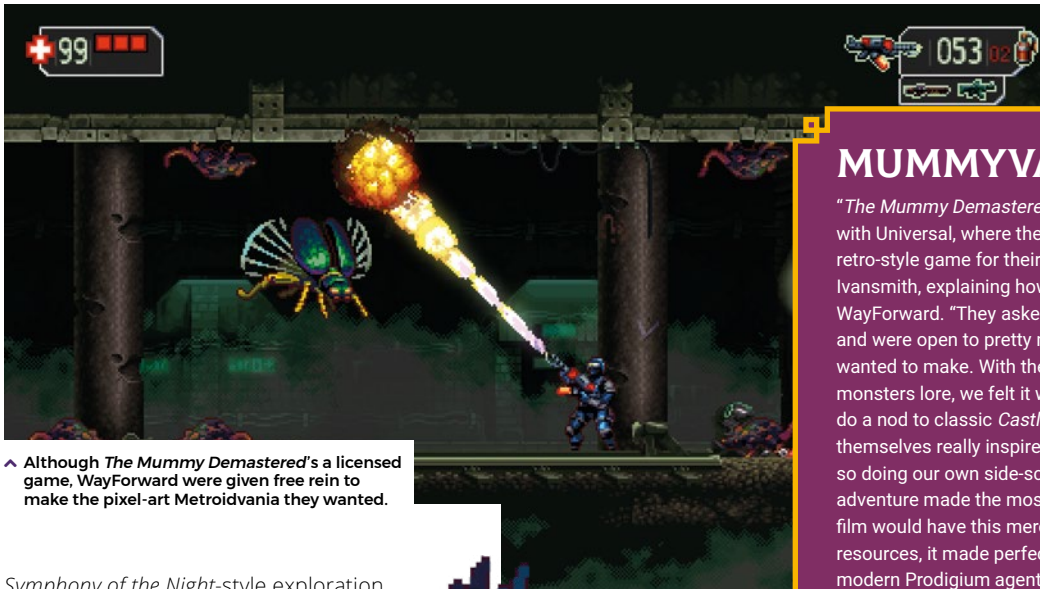
“We made a string of levels, a string of rooms,” Brant said of the pair's work during the first few months of pre-production. “Then we started making branching paths. [The shift happened] right in the middle of the prototype, actually.”

It took considerably longer for BitKid, Inc. to unearth the core of *Chasm*, a fantasy RPG released in 2018, but which began life back in 2012. According to designer James Petruzzi, the game was conceived as a sci-fi mining game called *Solus*.

“Your ship crashed on this planet, and you had to mine down and find stuff to repair your ship and eventually escape,” Petruzzi says. “I didn't really like sci-fi stuff, though, because I was procedurally generating all these tunnels under the ground. And in sci-fi you kind of need projectiles; I don't think melee works as well. And I was kind of like, ‘It's so claustrophobic.’”

So, in the final release, sci-fi guns were gone, replaced with swords, axes, and spears. Mining mechanics were eschewed in favour of





^ Although *The Mummy Demastered*'s a licensed game, WayForward were given free rein to make the pixel-art *Metroidvania* they wanted.

MUMMYVANIA

"*The Mummy Demastered* started as an opportunity with Universal, where they approached us asking for a retro-style game for their upcoming film," says Austin Ivansmith, explaining how the game got started at WayForward. "They asked us to pitch them a game idea and were open to pretty much any type of game we wanted to make. With the film dipping into the Universal monsters lore, we felt it was a good opportunity to do a nod to classic *Castlevania* games, which were themselves really inspired by the old monster films, so doing our own side-scrolling, monster-hunting adventure made the most sense. And since the film would have this mercenary group with limitless resources, it made perfect sense for our hero to be a modern Prodigium agent and battle with more *Contra*-like sensibilities instead of a melee whipmaster."

Symphony of the Night-style exploration and combat. And the spaceship became a sleepy mining town whose residents had disappeared into the monster-infested mines below.



FINDING THE FUN

Ideas are a dime a dozen; the hard part of making a game is working out whether those ideas stand up under the cold light of scrutiny. For game director Olle Håkansson at Image & Form, that cold light was cast on the original *SteamWorld Dig* about three months into development.

"The first prototype that we tested on external players didn't have wall climbing, and it was extremely unforgiving," Håkansson explains. "If you didn't consider the way you were digging, you'd make yourself a pit that you couldn't climb out of."

"We tried many different versions of tutorial levels that worked on ingraining the idea of digging carefully, but there was always a player or two in our tests that missed the cues."

"Finally, we decided to give up on the idea of the meticulously planned mine shafts and just give the player the ability to wall-jump. That was the moment the gameplay suddenly clicked, and from there on we were in production."

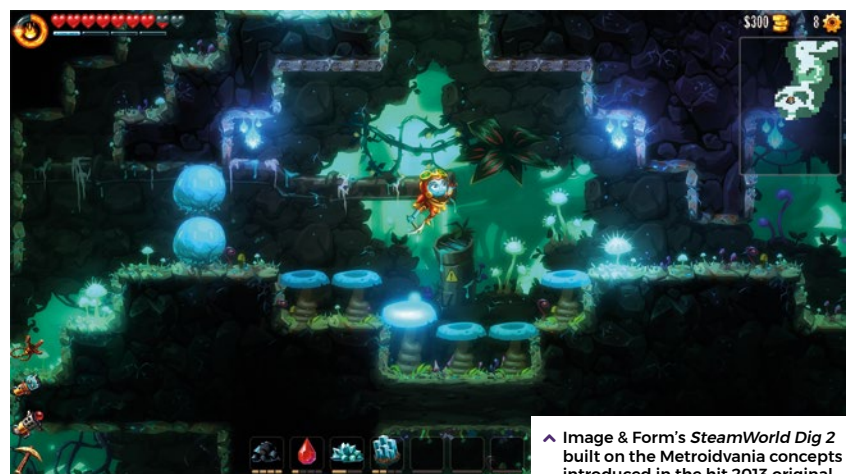
Giving up on preconceived notions of what a game *should be* is an important step in the process of discovering what a game *actually is*. This can be especially challenging in a genre as reliant on formula as the *Metroidvania*. The heirs of *Super Metroid* and *Symphony of the Night* are rarely content to inherit the lock-and-key structure that made their ancestors sing.

Rather, most of the genre's descendants opt to include many of the same tools as well. It's a challenging line to walk.



"All genres are [formulaic], and if they're not, people complain that they don't feel like the games [should feel]," says Petrucci. "With *Metroidvanias* in particular, if you see a high ledge, it's like, 'Oh, I know I'm gonna get a double-jump.' Or, if you see a little nook you can slide into, it's like, 'Okay, I'm going to be getting something for that.'"

In fact, during the development of *Dandara*, Long Hat House just stopped thinking of the game as a *Metroidvania* at all. ➔



^ Image & Form's *SteamWorld Dig 2* built on the *Metroidvania* concepts introduced in the hit 2013 original.

^ Sundered combined tried-and-true Metroidvania mechanics with unpredictable procedural generation.

"We thought about a jump that [would allow you to] jump mid-air, but we just would have needed to make the jump slower so you could aim mid-air. So we didn't do it," Brant says, adding that it would've been a mistake to include a double jump or similar mechanic simply because "people expect it" of a Metroidvania.

GETTING STUCK (AND UNSTUCK)

The feeling of being stuck is part of the Metroidvania's appeal. The player encounters a locked door, or a high ledge, or a gap in a wall they're too big to squeeze through. None of the tools currently in their arsenal are any use. They scour the map for leads, but frustratingly, they can't find any unexplored areas. Then comes the 'Eureka!' moment.

The player suddenly remembers an alien statue in an empty chamber they haven't returned to in hours, or a high wall they can now climb, or an expanse of lava they can now sprint across unscathed.

To deliver such a moment, Metroidvania developers must perform a delicate high-wire routine, avoiding an abyss of frustration on one side and frictionless ease on the other.

"I think everything in games is that sort of balancing act," says Petrucci, who, with *Chasm*, wanted to create a game that was challenging – like the *Castlevania* games he played in his youth – without pushing players to turn to a strategy guide. "You never want to go too far in any direction," he continues. "You want to walk this line between accessibility, difficulty, and convenience."

Used right, late game discoveries can recontextualise everything that came before,



SOULSVANIA

The *Dark Souls* series looms large in modern Metroidvanias. *Dandara*, for example, combines familiar *Metroid*-style backtracking with a leveling system and 'corpse run' mechanic, where the player drops their experience points when they die, but have one chance to retrieve them before they're lost forever, inspired by From Software's imposing action RPGs. *Hollow Knight* also draws from the series in its imposing, mysterious world and deliberate combat.



^ The shadow of *Dark Souls* looms large over the great *Hollow Knight*.

as Austin Ivansmith, creative director of *The Mummy Demastered*, explains.

"Our underwater ability was based on *Castlevania: Aria of Sorrow*'s 'Deep Seeker' soul, and was actually meant to be the first ability the player acquired," he says. "There were a lot of water puzzles early in the game, but almost none later in the game.

"This was mostly because of a hurried oversight in the layout of the levels, so midway through development, we swapped our underwater ability to be one of the last items we acquire, and it was serendipitous, because it played so much better to backtrack to all the water rooms the player remembered from the first area.

"It just goes to show that even with lots of planning, it's important to think on your feet and be able to make big shifts to design issues throughout the course of development."

OUTSIDE EYES

Spotting the moments when big shifts in design are needed often requires a fresh set of eyes. For a programmer who's spent the past three years making a game, glaring issues may be impossible to spot; playtesters play a crucial role, then, offering nimble fingers and a new perspective.

"[What helps a lot is] seeing the reaction of the player", says *Monster Boy*'s Demeulenaere. "Then you understand that, 'Yeah it's not going to work,' or, 'He knows that this is the right approach,' and sometimes the ideas that

we had didn't work at all during the playtest. You realise that, really, the best thing to do is to try with people who don't know anything about your game.

"Playtesting began very early during the development process. Meaning that, for three years in a row, there were people coming almost every day, playing the game, testing it. People coming from the schools that we have in Paris. That really helped, because we can have a very clear view of what you're doing and all the ideas for what you think are going to work, never working perfectly in the end."

HEADING OUT THE DOOR

Of course, the ultimate playtest happens once the game's released. And given the live nature of modern game development, studios will likely be working on their Metroidvanias for months if not years afterwards, fixing bugs and tweaking any gameplay issues that might have hampered the game at launch.

Since *Chasm* released last August, the team at BitKid, Inc. have worked to make their Metroidvania more satisfying to play for modern audiences without losing the old-school edge that drew in early fans.

"We spent about two months doing major fixes, tightening up combat timing," Petruzzi says, noting that *Chasm's* Castlevania-style combat didn't click with many PC gamers, while earning solid reviews on PS4. "We didn't want to break it because we have some people who love it... So, I was trying to find some balance between that, where it doesn't feel totally stilted but it doesn't feel like a modern game either, where you can just keep running while you're attacking."

Meanwhile, the developers at Sabotage – who released last year's time-bending ninja

action platformer, *The Messenger* – have moved beyond the fix phase to work on a free patch, *Picnic Panic*, that will reward players with the amount of new content they would typically associate with a paid expansion.

"The idea with this DLC is that it's low-stakes, light-hearted; we're just having a good time," says Thierry Boulanger, *The Messenger's* creative director. "It's a smooth send-off to that whole story, that character and that world."

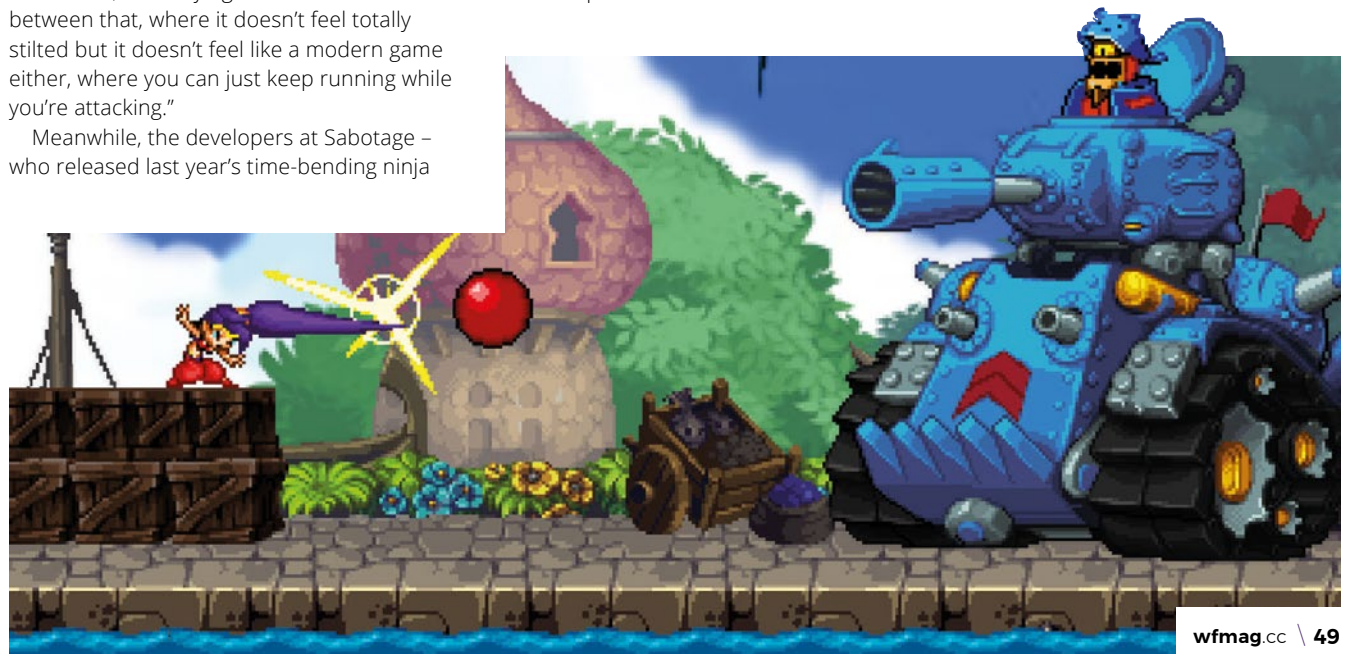
"IT JUST GOES TO SHOW THAT EVEN WITH LOTS OF PLANNING, IT'S IMPORTANT TO THINK ON YOUR FEET"

Long Hat House, likewise, is working on DLC for *Dandara*, though Brant warns that "something horrible could happen and we don't launch anymore, so no promises."

That kind of Murphy's Law approach is a realistic one: when it comes to game design, anything that can go wrong often does. But many of the Metroidvania developers we've spoken to have learned to roll with the punches, and to pivot when an idea doesn't work.

Like expert Metroidvania players, they've learned to use every weapon in their arsenal, back-track, and work through their frustration, until those locked doors are finally forced open. 🗝

▼ WayForward's *Shantae and the Pirate's Curse* freely draws on the Metroidvania genre while establishing its own uniquely light tone.





Developer Profile

Bullfrog Productions

Another one snuffed out by the corporate embrace

It was less going out with a whimper, more going out with a confused shrug – the death of Bullfrog Productions, one of the greats of the British games industry, came quietly and over an extended period. Its last game didn't even feature the studio's logo, nor was it a production of the studio, instead a console port. The company that had brought us true legends like *Dungeon Keeper*, *Theme Park*, and *Syndicate* ended its run by bringing *Quake III* to the PS2.

It might have been subtitled *Revolution*, but it was not quite the revelation we had expected from Guildford's ambitious sons.

See, Bullfrog was a studio with a capital-R Reputation. It wasn't a team that just made games; it was a creative force absolutely riddled with imagination and known for understanding that the word 'unique' isn't just something to be used as vague praise. It shifted perceptions on what games could be, multiple times, on what *should* be fun, multiple times, and what we could expect from developers, multiple times. So when we lament the slow-burn death of Bullfrog, quietly absorbed into the EA conglomeration blob in the early noughties, it may well surprise you to learn that the studio actually began its life in 1988 emerging from another company, and because it was developing a port of a shooter from another format it had released on years prior. Ah, symmetry. Of sorts.

LES AND PETE

The big names in Bullfrog were Les Edgar and Peter Molyneux. You may well have opinions on the latter, that's fine, and our dealings with the former show him to be a nice enough sort. That's not the point here, though – the two had gone into business together some years before developing business software, and through an act of subterfuge (and a mistake on Commodore's part) had



^ Powermonger took the Populous template and focused it on war.

> Bullfrog back in the early days.



< Peter Molyneux: a man who makes people have opinions about him.



< Les Edgar is largely out of the gaming sphere these days.



^ Quiffy the toad-like thing from Flood; a... weird one.

bagged themselves a few Amiga dev machines. After some success in the bizdev world, gaming came a-calling when a friend of Molyneux asked him to port *Druid II: Enlightenment* to the Amiga.

THE BIRTH OF GOD

Stepping out of the businessy cocoon, Bullfrog was born to facilitate releasing the port. Soon after, another shooter – *Fusion* – was launched... and nobody really cared. It was around this time that Edgar suggested they wind up this brief experiment and just *go do something else*. Naturally (?), this served as inspiration for a little something called *Populous*. It might not have started with a bang, but Bullfrog only took one port and one original release before it hit its stride, and in a way nobody expected at all.

Populous invented a genre, and a game focused entirely on creation and worship made Bullfrog a studio known for its creativity and one worshipped by fans. *Do you see what we did there?* From there – and thanks to a bit of financial breathing space – the hits kept on coming. *Flood*, the bizarre, brilliant platformer with a bequipped, rotund, toad-like creature lobbing grenades everywhere. A *Populous* sequel and the more war-focused spin-off,

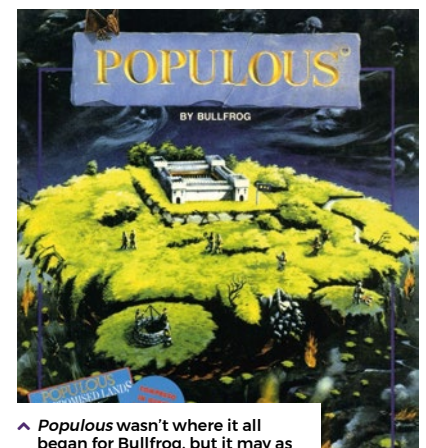
Powermonger. The callous satire of cyberpunk legend *Syndicate*. An early foray into fast-paced 3D shooters with *Magic Carpet*. Ignoring the odd sequel, you really couldn't accurately predict what Bullfrog would do next. The same studio that brought us the bright-and-cheerful *Theme Park* also threw the dark-and-nasty *Dungeon Keeper* our way – though admittedly the amount of evil going on behind the scenes in the park management simulator makes it less surprising Bullfrog would go all-out evil in a latter release.

“Populous made Bullfrog a studio known for its creativity and one worshipped by fans”

But it couldn't last, of course. If you read the intro to this piece you'll already know that. By 1995, Bullfrog had been bought by EA, and by 1997 Molyneux had tired of his role as a corporate VP at the publisher, wishing to return to development in the trenches – and doing so by leaving altogether to form Lionhead Studios. Edgar followed, leaving his role as chairman in 1999. Bullfrog had already become just another EA Studio by this point, but the

loss of both its founding fathers really did hammer home the point: this was no longer the studio that burned so very bright in those early years.

A series of sequels and spin-offs – mostly focused on the *Theme Park* franchise – followed, and while plenty were serviceable, there just wasn't that spark to be found. All things considered, it's actually not that surprising at all that Bullfrog's last contribution to the world of gaming was a decent-but-uninspiring PS2 port of a true PC trailblazer. It can't help but feel completely wrong for the studio to end its life in such a way, but on reflection, it was absolutely a fitting end for what Bullfrog had become. ☹



^ Populous wasn't where it all began for Bullfrog, but it may as well have been.

Frog stupid

10 bullish sentiments from Bullfrog

It was hard not to make this all about *Syndicate*



01

Populous

PC / multi – 1989

Not Bullfrog's first, but certainly its most impactful, *Populous* put you in the role of... well, god. Players were tasked with building a civilisation in order to get more followers and so accrue more power. So, more Old Testament than new, really. It also, handily, created the god game genre, something very closely associated with Molyneux over the years.

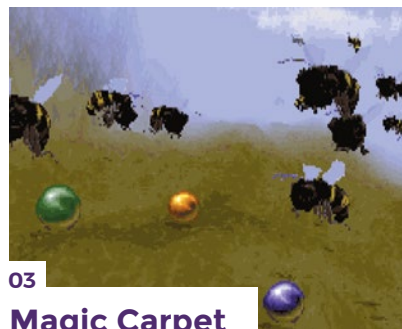


02

Syndicate

Amiga / PC / multi – 1993

Casually cynical about our increasingly corporate world, *Syndicate* dropped on the Amiga and PC, causing less of a stir than if it had been made by an American company and arrived on consoles first. Its blithe disregard for the sanctity of human life is just as impactful as its take on strategic combat, and it's an absolute legend of a game.



03

Magic Carpet

PC / PS1 / Saturn – 1994

Taking the theme of accruing mana to increase your powers sounds a bit like *Populous*, but the similarities ended there with *Magic Carpet*. An early 3D first-person shooter of sorts, the game was huge around the time of its launch, with the fantastic tech and graphics behind it wowing audiences. Yes, those reactions look quaint today, but it was 25 years ago.



04

Theme Park

Umm... all of them? – 1994

It all seems so simple now: a game where you run a theme park. You build it, you set the routes patrons take, change the prices, put loads of salt on the chips to make people thirstier, thus making them buy an overpriced drink which you've massively watered down with ice... there was a running anti-corporate theme going on behind the scenes at Bullfrog, that's for certain.



05

Hi-Octane

PC / PS1 / Saturn – 1995

Made to appease new owners EA, *Hi-Octane* was developed in almost shameful secrecy owing to its derivative nature. The result was a very un-Bullfrog title: a racing combat game with little in the way of discernible personality and few memorable aspects. It's no surprise at all this was made in around eight weeks – it definitely shows.

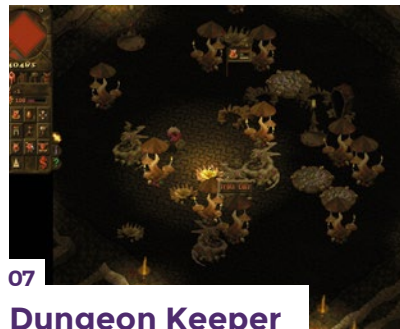


06

Syndicate Wars

PC / PS1 – 1996

Bullfrog had made sequels before, but it wasn't really a studio known for going back to the well very often. *Syndicate Wars*, though, was a good example of why it is sometimes a solid idea to retread old ground. Building on everything the original created – and adding in destructible cities – this dark, distressing world of the future surpassed its roots.



07

Dungeon Keeper

PC – 1997

You want to say 'it wasn't an evil studio', but with titles like *Dungeon Keeper* it's hard to stand by that argument. Flipping the whole fantasy trope on its head, the game saw you taking control of the dungeon heroes would attempt to penetrate, building defences, keeping its denizens happy, and slapping a lot of imps. One of strategy gaming's finest, no doubt.

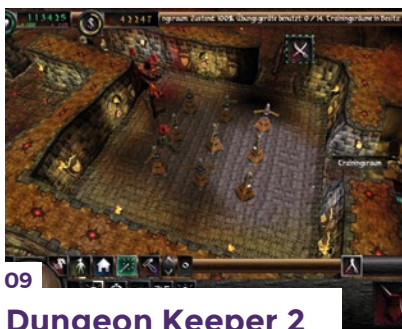


08

Theme Hospital

PC / PS1 – 1997

The *Theme Park* bubble hadn't burst, so naturally the next step was... hospital? This shouldn't have worked, but *Theme Hospital* was a superb mix of in-depth management and wickedly funny medical conditions, making for a compelling, deeply entertaining time. It's no surprise spiritual successor *Two Point Hospital* is doing as well as it is.

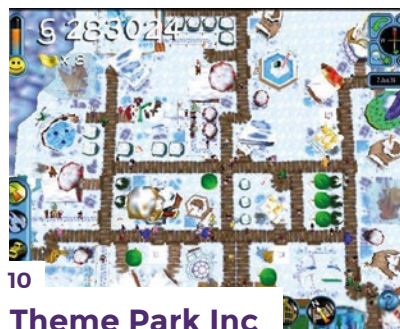


09

Dungeon Keeper 2

PC – 1999

The final great game from Bullfrog, and even that's arguable owing to the vocal contingent of 'the sequel was rubbish' shouters. *Dungeon Keeper 2* was really more of the same, but with a fully 3D engine and a few different monsters and rooms. But when the original was so good, did it matter that the sequel was so derivative? The answer is 'no', by the way.



10

Theme Park Inc

PC – 2001

The last game to feature the Bullfrog logo on its box was hardly even developed by what then remained of the studio. Instead an effort spearheaded by the team, but ultimately made by the EA hive mind, *Theme Park Inc* was... fine? Unmemorable at best, but not the worst way for a studio to exit this mortal plane. The *Quake 3* port followed, and... that was that.



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Info

GENRE
Igavania
FORMAT
PS4 (tested) / XBO
/ Switch / PC
DEVELOPER
ArtPlay
PUBLISHER
505 Games
PRICE
£34.99
RELEASE
Out now

REVIEWED BY
Richard Wakeling

HIGHLIGHT

The sprawling castle at the heart of *Bloodstained* is a treat to explore. There's a delightful flow to its mixture of combat and exploration, and the bowels of the castle throw up some curious surprises. Progressing can be frustratingly esoteric at times, but there's no doubting the gratification of opening up new areas.

✓ The story, which concerns protagonist Miriam stopping the Dracula-esque Gebel, is told through conversations and a handful of cutscenes.



Bloodstained: Ritual of the Night

Symphony of Blood

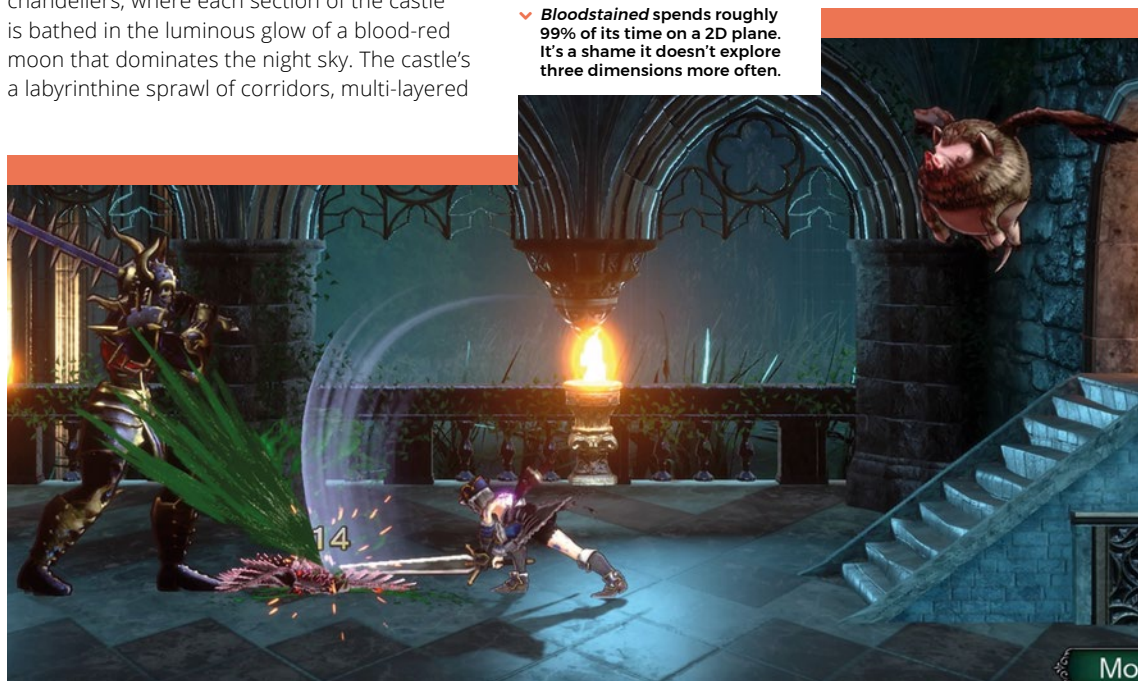
Bloodstained: *Ritual of the Night* is a *Castlevania* game in all but name, and even then the subtitle isn't too far off. This is all by design, of course; Koji Igarashi, the former lead producer of the *Castlevania* series, left Konami around five years ago to found his own studio and give fans (read: Kickstarter backers) exactly what they want: a spiritual successor to the seminal *Symphony of the Night*. Igarashi and his team at ArtPlay have succeeded in their goal, crafting a brand new Igavania that bottles the essence of those classic side-scrolling, monster-slaying adventures, for both good and bad.

Let's start with the good, then. It's not an understatement when I say *Bloodstained* is essentially a new *Castlevania* game. There are some obvious elements that jump out straight away, even if you've only ever had a passing interest in the series. The gothic castle is a *Castlevania* staple, its opulent interior decorated with stained glass windows and enormous chandeliers, where each section of the castle is bathed in the luminous glow of a blood-red moon that dominates the night sky. The castle's a labyrinthine sprawl of corridors, multi-layered

rooms, and hidden paths containing secret treasures. Some of *Bloodstained's* familiar elements go deeper than these surface level details, though. The enemy designs are an eccentric mix, with a traditional sword-wielding knight found in the same room as a giant spell-casting house cat with horns. But there are also clear analogues to enemies from Igarashi's *Castlevania* games, such as the undead creatures that rise from the ground, grotesque monsters that hurl projectiles into the air, and big armoured guys that heave spinning axes. They might look different, but their behaviour is pulled straight from the Belmont archives.

Those well-versed in the inner workings of the *Castlevania* series will clearly get a kick out of these well-trodden ingredients, and that's without mentioning the way you can attack right before your initial strike lands to get in a fast second attack – a trick for those who still maintain the muscle memory 20 years on.

✓ *Bloodstained* spends roughly 99% of its time on a 2D plane. It's a shame it doesn't explore three dimensions more often.





▲ Boss fights vary in quality, but there are more good than bad, with most based around learning attack patterns and countering with blows of your own.

Despite this, *Bloodstained* is still welcoming to newcomers. On the default normal difficulty, combat is a relative breeze until a sudden difficulty spike towards the story's conclusion, and by that point you'll hopefully have a decent handle on the game's intricacies. Combat is built around a few different mechanics. Its foundations are composed of either melee or ranged attacks, depending on your weapon of choice, with daggers, rapiers, greatswords, spears, whips, a blunderbuss, and many more to choose from. Each weapon type has its own attack range, but you never feel trapped in any canned animations. Combat is responsive and satisfying, as agile weapons hit with a rapid pace that relies on movement, while their heavier counterparts let you tear enemies asunder with hefty blows. There's also a backdash for dodging out of harm's way, and both jumping and ducking are still viable defensive manoeuvres.

The crown jewel of *Bloodstained's* combat is, however, the variety of otherworldly shards that allow you to personalise your combat style. Each enemy you kill has a chance to drop one of these shards, letting you inherit one of the recently deceased's powers. Bosses tend to drop shards imperative to progression, whether it's a double jump for reaching higher levels, or a reflector beam that gives you access to previously inaccessible areas.

But most of the shards you assemble grant you the use of projectiles, special attacks, summons, or passive buffs – each one sipping from a pool of mana. There are a plethora of varied shards to play around with, whether you want to shoot beams of lightning out of your hands, or conjure a gaggle of tentacles to deal damage to anything in range. You can ostensibly pick a handful of shards for specific situations, perhaps deploying a magic shield to err on the defensive side. But enemy attack patterns and move sets are so simple that there's never any real incentive to alter your selection of shards to fit a given situation. Instead, it's much more about experimenting with myriad setups and finding what works for you.

Shards are one of the few innovations *Bloodstained* introduces to its Igavania framework. Other attempts at contemporary ideas are less successful, with side quests that are little more than grindy monster

“Bloodstained is essentially a new Castlevania game”

hunts, and a crafting system that's mostly inconsequential. Other issues arise simply because of *Bloodstained's* adherence to the past, and these dated decisions are only exacerbated by a disappointing slew of bugs and glitches. At one point, I was wandering the castle for upwards of an hour due to unknowingly missing a line of dialogue that didn't trigger because I did things in the 'wrong' order. The game is also full of opaque puzzle design, perhaps requiring you to open a chest you didn't know existed in an area you last visited five hours ago, wherein you'll find a piece of armour that will allow you to gain access to another area you had completely forgotten about.

Exploration is an integral part of any Igavania, but retreading old ground because of purposefully vague puzzle design isn't fun.

There's been no shortage of Metroidvanias in recent years, with games like *Hollow Knight* and *Ori and the Blind Forest* innovating on the genre in interesting ways. *Bloodstained* is much more of a throwback to the past; it has some new ideas but otherwise feels overly familiar. Everything's all a bit been-here-done-that, yet there's no denying ArtPlay succeeded in creating exactly what it said it was going to. *Bloodstained* has its problems, but there's still a sense of comfort in that familiarity. 🗨

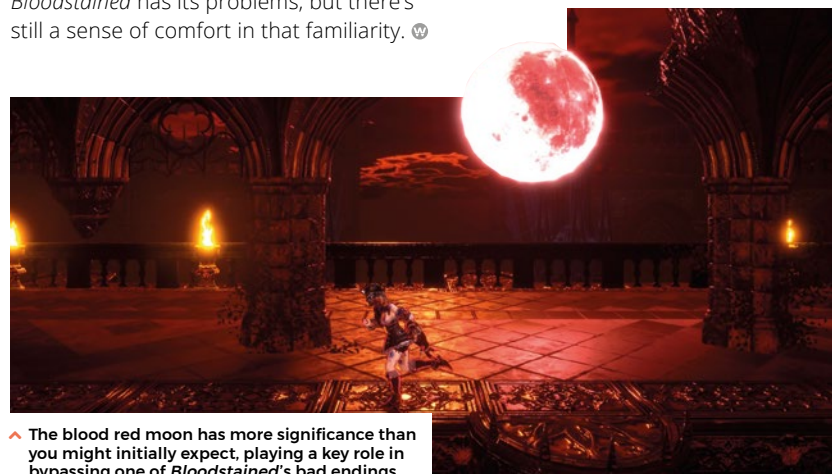


▲ She isn't a Belmont, but Miriam still emerges as an engaging new protagonist.

VERDICT

A familiar but enjoyable throwback to Koji Igarashi's *Castlevania* games of old.

74%



▲ The blood red moon has more significance than you might initially expect, playing a key role in bypassing one of *Bloodstained's* bad endings.

Rated
Review

HIGHLIGHT

You're ferried to the different levels in a cute little leaf boat, accompanied by a guitar-playing gnome. Together with the charming aesthetic, it feels like having your own personal K.K. Slider. Keep your hands outside of the vehicle for a musical surprise.

Review

Fujii

^ Visually it can be dark and mysterious, bright and airy, or anything else – but it's always pretty.

Nurtural Reality

Info

GENRE

Adventure

FORMAT

Quest (tested) /
Oculus Rift /
Steam

DEVELOPER

Funktronic
Labs

PUBLISHER

Funktronic
Labs

PRICE

£11.39

RELEASE

Out now

REVIEWED BY

Jonny Foster

VERDICT

Fujii is a gorgeous musical adventure, but it's short-lived. A symphony without a second act.

60%

F *ujii* is a zen-like musical gardening adventure that's clearly aiming at a wide audience. While plenty of the game occurs close to the ground, you're not required

to be bending over all the time, thanks to your stretchy arms, which make exploring the environments and restoring the native flora a breeze. They balloon up humorously when you absorb water, too, which is used to interact with plants and grow seedlings.

The biomes you visit are dark and mysterious at first, but as you interact with the environment, you spread light throughout the levels and discover the radiant beauty around you. The world of *Fujii* runs on pearlescent orbs that are hidden in every corner of the land, harvested from plants, and used to unlock doors to access new areas. Collecting and managing them creates a rewarding sense of accomplishment along your adventure, and they even serve as a currency in your home garden.

Here, you can plant and nurture the seeds you've collected throughout the levels. The branches of a tree also let you buy duplicates of the seeds you've found, while indicating any you might have missed. This is a perfect balance between handing you creative licence to build your personal forest as you see fit, but also providing a sense of accomplishment and something to work towards. I quickly ended up with more plants than I knew what to do with in my cornucopia of creation.

You can also find eggs to bring critters back to your garden, which is an adorable addition, even

though the game never explains it to you. That's a recurring theme of *Fujii*; no words are spoken throughout the game, though the occasional piece of text will give you minor instructions.

But it's a living, breathing world that inhales curiosity and exhales music and mystery in equal parts; everything from stepping on lily pads to interacting with flowers adds music to the world. It all feeds into a brilliant sense of wonder and awe that permeates the game. Even the inventory is lively and intuitive, as you slot seeds and orbs into flower faces for safe-keeping.

Lush and enticing though the environments are, and as subtle and calming as the music is, *Fujii* also feels drastically short. There are only two unique biomes to visit, with the third only really serving as filler, and you can see everything the game has to offer in under two hours, unless you stop to smell every rose. You can keep tending to your garden indefinitely once the credits roll, and there's plenty of seeds to plant and space to grow them in, but it's a real feeling of emptiness when you realise there's no more *Fujii* to explore. 🗨

v Your garden of zen is a place to unwind, stretch your green fingers, and nurture your plants.



HIGHLIGHT

At its very core, *Samurai Shodown* is a methodical and patient fighter. The ability to stare down your opponent as the seconds tick by, sweating as you worry about their next move, creates a level of tension that's almost unheard of in other series.

Weapon Flipping Techniques are wonderfully cinematic attacks that deal a chunk of damage, as you can see.

Review

Samurai Shodown

Forget kicks and punches: swords are the way forward

It's rare that you find either a moment of serenity or combatants wielding cold steel in one-on-one fighting games, but *Samurai Shodown* has long made a feature out of both.

This twelfth entry in the long-running series – a sequel and also a reboot – runs completely against what we've come to expect of our modern fighting games.

The slow and steady pace of fights is accentuated by the risk attached to every single swing of your weapon. From light to heavy slashes, every blocked attack, outside of kicks, leaves your character recoiling so far that local chiropractors have time to set up shop between rounds. As a result, there's a high level of risk in every fight. Some players go on the offensive and take risks, while others develop a strategy of calculated patience.

It goes deeper than basic attacks, of course, with unarmed combat, spot dodges, and deflecting attacks – to name but a few – making sure the experience is elevated beyond simply trading turns to attack and defend each round.

An obvious highlight of these mechanics is the Rage system. It allows players to burst out of a basic combo and deliver a devastating cinematic attack called Issen, which removes nearly three quarters of a lifebar if it hits. It's flashy and it's devastating but, for my money, it's not quite the same as catching a sword with your bare hands. The consistency of having shared inputs for many techniques means

you can easily transition from playing as a tiny American ninja (accompanied by a dog named Poppy) to a tuberculosis-riddled swordsman. There are so many eclectic personalities and different weapons spread across the 16 fighters, and most of them are an absolute delight to play as. Each, as you'd expect, boasts a curated collection of palette swaps too, with Kyoshiro's fourth pink outfit being an absolute belter.

Then there are the graphics, which bring an odd sense of serenity to otherwise intense situations. Little details are thrown in everywhere, even the attack animations. Genjuro, for example,

tosses a bunch of cards on top of his enemies, which are adorned with some truly astonishing artwork.

Yoshitora's cuts and slices give way to bunches of blossoming

flowers as he battles on; and the minutiae on Kyoshiro's frog attack is astonishing. *Samurai Shodown* takes a cel-shaded art style, familiar from *Street Fighter IV*, and gives it new life.

It's just a shame that there are very few opportunities to really flesh out the experience. Arcade mode is short and culminates in a battle that can only be described as a slog. The heavily-promoted ghosts are literally remnants of the player's spirits, and the online connection is so ropy and archaic that it falls on its own sword. All of this means *Samurai Shodown* absolutely lives or dies by your ability to find people to play locally, which – again – runs completely against what we've come to expect from modern fighting games. 🗑️

“There's an unprecedented level of risk in every fight”

Info

- GENRE**
Fighting
- FORMAT**
PS4 (tested) / XBO
- DEVELOPER**
SNK Corporation
- PUBLISHER**
Athlon Games
- PRICE**
£49.99
- RELEASE**
Out now

REVIEWED BY
Ryan Esler

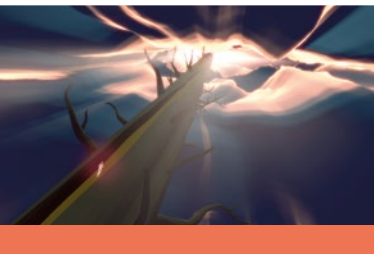
VERDICT

A reboot that fails to meet modern standards on many fronts.

69%



▼ Your journey to the top of the tree is seemingly endless yet over far too quickly.



Review

HIGHLIGHT

The score really is beautifully done and adds much to the game's ethereal atmosphere. From tinkling pianos and lilting guitars, to jazz rhythms and haunting vocals, the sounds shift almost as much as the perspective. Listen out for musical cues that give hints if you're on the right track.

Etherborn

Baby, I was Etherborn this way

▲ The levels are intricate and pretty, but the camera often struggles to keep up.

Info

GENRE

Puzzle platformer

FORMAT

PS4 / XBO / Switch (tested) / PC

DEVELOPER

Altered Matter

PUBLISHER

Altered Matter

PRICE

£13.99

RELEASE

Out now

REVIEWED BY

Ed Nightingale

VERDICT

All style over substance, *Etherborn* fails to leave a lasting impression.

55%

In a world of 100-plus hour RPGs, sprawling open world adventures, and competitive online games that demand for us to be plugged in, Matrix-like, to the internet, there's something to be said for short, breezy experiences.

Yet the design of *Etherborn* is minimalist to a fault. Developer Altered Matter has created a puzzle platformer with, as the name suggests, an ethereal mood and a seemingly thought-provoking narrative. But the result is thin, wispy, and forgettable, despite its striking visual style.

As a faceless corporeal being, you awaken at the base of a great tree. Your task is to climb it as you're whisked away through portals to various levels that require you to run, jump, and complete the same puzzle over and over, that being: collect glowing white orbs to progress.

There is one twist, though: *Etherborn's* central concept. Your character can walk up walls and reorient gravity. As such, each level is cleverly designed like an Escher-esque construct, where you run effortlessly around mind-bending corners, fall sideways across the screen, and cope with a camera that just about keeps up with your movement but never quite gives the optimal view for such distorted platforming. There are dizzying swoops as gravity changes, and cinematic framing of the scenery, but while it's easy to fall, the generous checkpoints allow for some experimentation.

It's easy to get lost in these levels, not least because the minimalist scenery becomes flat

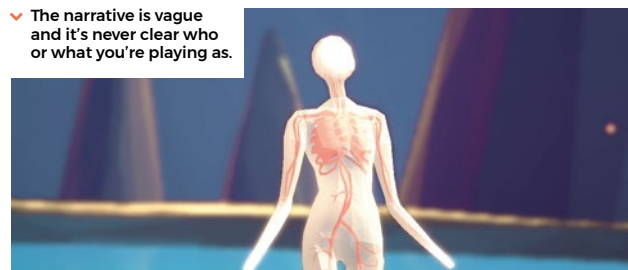
and repetitive. The puzzles demand you consider multiple planes, angles, and dimensions, which can lead to some aimless wandering if you're not careful before stumbling upon a solution. That said, this is a gently cerebral experience that's never too taxing, even when it gradually ramps up its challenge.

What ties it all together is a philosophical narrative that, rather than inspiring curiosity, is fluffy, obtuse, and ultimately unnecessary. As you rise up the tree, a disembodied, breathy voice narrates some sort of history of humankind, spouting existential questions and suggesting something about the insignificance of humans. It's all a bit disconnected from the playing experience, and fails to add much that's meaningful to the game itself.

Visually, the abstract, polygonal world mirrors the conceptual narrative, and a beautiful score of hushed woodwind and lustrous strings maintains peace when your mind is in full concentration mode. Yet after a couple of hours, it's all over, its questions unanswered, its one-note mechanics never reaching a satisfying climactic peak.

Etherborn is gossamer-light, its refreshing change of pace a brief flutter among the weightier games in your backlog. 🗣️

▼ The narrative is vague and it's never clear who or what you're playing as.



Level Progress

Dishes Delivered
19 / 30

Energy Used
1,292 / 1,800

Ingredients Used
82 / 125

Power Usage
21,350 W

Reputation
100 %

Restaurant

#20 Chicken Melt

#21 Chicken Melt

#22 Fries

#23 Chicken Melt

#24 Fries

Info Lenses

Rated
Review

HIGHLIGHT

Special orders may come in from time to time. These range from rush hour customers to visits from VIP food critics. It encourages you to optimise your assembly lines to be as fast as possible.

▲ A robotic companion gives you tips and accompanies you throughout the campaign.

Review

Automachef

Overclocked

I've seen enough *Kitchen Nightmares* to understand the agony of running your own busy restaurant. Between the hustle and bustle of serving those hungry customers and the stress of micromanaging a team of cooks, *Automachef* instead presents a modern solution to the culture of overstaffed kitchens by replacing everything with robotic chefs that prepare, cook, and assemble entire meals. Each level in *Automachef* has you designing elaborate food assembly lines that go through the whole process of making a meal, from grabbing the right ingredients to processing them in the correct way. Constructing these setups leaves you to your own devices, using crane arms, conveyer belts, and other machinery to help optimise the perfect design.

Once you've put it all together, your skills are put to the test as the restaurant opens and the customers come flowing in. Your designs are never perfect the first time around, and you'll immediately notice flaws that need correcting. Through trial and error, you find creative solutions for these problems, and the most optimal kitchen setups soon present themselves. Bigger challenges appear as you progress, with factors such as power usage and insect infestations affecting how you design these layouts.

If you wish to break up the story, you can also hop on over to one of the other game modes. 'Contracts' is a more open-ended way to play,

with a bigger focus on the business management features – such as keeping your reputation and finances afloat – while you tackle stages with randomly-generated objectives. It makes for a well-deserved change of pace from the scripted campaign, as every level feels unpredictable while also allowing for additional freedom in how you approach the scenarios.

For a more sandbox-oriented experience, you can also play on the Test Site, which acts as a playground for testing out different machines and setups. Then there's the level editor where you can create a whole stage from scratch –

with custom objectives and limitations – to upload to the Steam Workshop. Further mod support includes the ability to make your own food recipes, allowing for near-infinite

possibilities when paired with the player-made levels. If one thing's certain, it's that this game is built to last.

The beauty of *Automachef* lies in its diverse approach to player freedom. It's a puzzler where every stage has multiple solutions. Sure, if you just wanted the minimum success rating, then you need not worry about the extra objectives. Watching your budget, power usage, and reputation is a restriction for the players who desire that added challenge, but it also allows you to think creatively in a way other puzzle games don't. Stacking it up against recent gems like *Opus Magnum* or *Factorio*, it feels like the most accessible game of its type and a top banana of the genre. 🍌

“Your designs are never perfect the first time around”

Info

GENRE

Puzzle

FORMAT

PC (tested) / Switch

DEVELOPER

Hermes Interactive

PUBLISHER

Team17

PRICE

£10.99

RELEASE

Out now

REVIEWED BY

Olly Smith

VERDICT

Accompanying a cute, industrial aesthetic and a variety of different game modes, *Automachef's* emphasis on player freedom is a recipe for success.

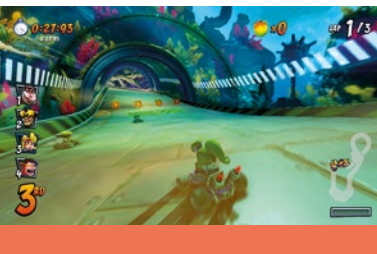
80%

Rated
Review

HIGHLIGHT

Nitro-Fueled offers a solid number of modes to keep local players busy during nostalgic game nights, with everything from fully-fledged grands prix to explosive battle arenas. One mode that always ends in tears is Last Kart Driving, where players have to survive an endless onslaught of rockets to claim victory.

Many of the tracks in *Nitro-Fueled* pay visual homage to the best levels in *Crash Bandicoot*'s PSone platforming legacy.



Review

Exciting, yes, but also startlingly harsh at times.

Crash Team Racing Nitro-Fueled

Kart-y like it's 1999

Info

GENRE
Racing

FORMAT
Switch (tested)
/ PS4 / XBO

DEVELOPER
Beenox

PUBLISHER
Activision

PRICE
£34.99

RELEASE
Out now

REVIEWED BY
Jordan Oloman

VERDICT

Crash Team Racing Nitro-Fueled is a careful remake of a uniquely caustic kart racer.

70%

I've never managed a true photo-finish draw in a kart racer before *Crash Team Racing Nitro-Fueled*. My eyes strained from squinting at my paltry half of the undocked Switch screen, I wiped my sweaty palms, and struggled to contend with the melancholy result of all that exertion. This cocktail of mixed emotions came to define my experience with Beenox's exhilarating but brutal remake.

There's still something inexplicably satisfying about *Crash Team Racing*'s Adventure Mode 20 years on. At a glance, it's unnecessary to gate your progress in such a way, but then the feedback loop starts to dig in. Unlocking giant doors and dealing with snarky, carefully animated world bosses... It's those elements that cemented this game's legacy in 1999, and you'll be pleased to know the same charm still lingers. *Nitro-Fueled*'s courses are lathered in details, but sadly, it's unlikely you'll be able to slow down enough to appreciate them.

Beenox's dedication to the source material borders on psychotic and, as such, the original game's systems have been replicated in uncanny fashion. The crushing difficulty and abrasive boost system of *Crash Team Racing* is still very much present in *Nitro-Fueled*, as are the visually inspired but whiplash-inducing tracks.

Oxide Station veterans will no doubt delight in this eye-popping reimagining – but if you're a newcomer who hugs the wall to get around tight corners in *Mario Kart*, you will struggle to enjoy

Nitro-Fueled. It's far from fun for the whole family, unless they have the muscle memory to contend with its razor-sharp controls.

You can even tinker with the UI and swap out the fantastic new soundtrack for the grainy tunes of yore to achieve the true classic experience – yet, I found myself rejecting the sentimental options so I could switch between different characters throughout the course of the campaign.

In doing so, you can play with the customisation options unlocked via *Nitro-Fueled*'s 'Pit Stop', the game's coin-driven marketplace. It's all cosmetic, but its mere existence feels sinister – as if it could be monetised at any moment. That and the pittance of coins you receive lead to a monotonous, unnatural grind for items which made me long for the cosy infrastructure of Nintendo's kingpin kart racer.

You'll long for the thud of the green shell when a grinning cabal of half-cyborg reprobates unload a salvo of homing rockets into your bumper in quick succession, wasting three minutes of your time and forcing out a race restart. Catch-up mechanics? Who needs them, says Beenox.

All in all, it's a few steps away from the overbearing shadow of *Mario Kart*, asserting its own sense of identity in a dominated genre. *Crash Team Racing Nitro-Fueled* is an uncompromising remake for masochistic grown-ups – the seasoned few with calluses where the PSone bumper buttons rubbed against their aged fingers. 🗣️

HIGHLIGHT

The hub world is a cartoon version of a typical British high street, and it's full of parodical shop fronts where all the game's best gags can be found – 'Pidl', for example, is the best gag, because it's like a real supermarket except it's a word for wee. The other good one is 'Beanland', because they sell baked beans in Poundland. See?

EASY ST Review

Supermarket Shriek

Not even the best game about flinging a goat into stuff

Supermarket *Shriek* is a superbly well-designed game from a talented studio. And it's awful. If the concept were leaving high school, the yearbook would deem it "most likely to have been built around a dubious pun." It's Britain, sometime after 2016, and a man has become stuck in a shopping trolley alongside a goat. When the man screams, the trolley turns left. When the goat screams, the trolley turns right. Together, their screams thrust the trolley forward. Players control this phenomenon with gamepad triggers, or by screaming into headset mics.

Play sessions, solo or co-op, are dominated by a discordant drone of screaming. When using the microphone control method, you and the sap you roped into playing with you will produce a bagpipe cacophony, punctuated with laughter and snorts of "Why on *earth* does this exist?!", which will escalate in sincerity as it becomes clear that the microphone gimmick is not an optimum control scheme. Not that there is one.


In the tradition of games better YouTube'd than played, like *Surgeon Simulator* or *I Am Bread*, the principal challenge is in overcoming a bad control scheme to beat time trials and CPU races through various shop interiors, all built around the idea that traversal is hard if you're wearing clown shoes.

Somehow, between a concept that's thinner than a spill on aisle five, the constant din, and the frustrating controls, *Supermarket Shriek* has got something.

Perhaps it's nostalgia – those who lived through the peak of *Supermarket Sweep* presenter Dale Winton's career will raise precisely one eyebrow, maybe, at the subtle references to him (a shopfront with his name on it, and literally the entire game). Perhaps it's cutting political satire – fans of moaning about Brexit on Twitter will enjoy the decaying wall of thrift stores that make the game's hub world, including buses with the words '£350 million' written up the side, a gag so toothless, directionless, and shorn of vital context that Ubisoft might steal it for *Watch_Dogs 3*.

No. Actually, it's that the level design is fiendishly good. Every curve, oil spill, and trap-trigger has been carefully placed to encourage repeat attempts when you almost get to that checkpoint, or nearly get around that corner without skidding into magma.

Treated as a series of death-cheating puzzles, *Supermarket Shriek* works so well that you find yourself admiring its viciousness after, say, flooring it over a moving platform, only to overshoot into a giant red button that unsprings a panel which punches you into the drink. It's the *Dark Souls* of karting, unfortunately steeped in comedy pitched at people who'd find a line like "It's the *Dark Souls* of karting" amusing. Or worse, the sort of person who would write it, then claim it was ironic to strengthen the narrative.

Supermarket Shriek is a horrendous idea, borne of a pun so tenuous that the whole enterprise should have ended at "Shut up, Kevin." But it didn't, and somehow, that's not entirely a bad thing. 

▲ In Pidl, no one can hear you scream.



Info

GENRE
Kart Racer

FORMAT
XBO (tested) / PC

DEVELOPER
Billy Goat Entertainment Ltd

PUBLISHER
Billy Goat Entertainment Ltd

PRICE
£14.99

RELEASE
Out now

REVIEWED BY
Dave Hurst

VERDICT

A terrible concept, perfectly executed. Like if Ronseal started selling tinned dog droppings.

44%

Rated
Review

HIGHLIGHT

Defector features two completely different twist endings, each coming as a surprise. Only witnessing one of these is criminal, and though they lead in totally different directions, both tee up possible sequels that would be welcomed with open arms.

Review

Defector

▲ Side activities include games of chance, but you have a gadget or two to tip the scales in your favour.

Blood and Stewth

Info

GENRE

Action

FORMAT

Oculus Rift /
Rift S (tested)

DEVELOPER

Twisted Pixel
Games

PUBLISHER

Oculus
Studios

PRICE

£16.00

RELEASE

Out now

REVIEWED BY

Jonny Foster

VERDICT

Pacing issues aside, *Defector* is a VR star worthy of your radar.

76%

D*efector* opens in classic spy thriller style, with your actions under scrutiny from your superiors. Something went wrong, and you have to answer for the events

leading up to an incident on US soil. You're thrown into a series of flashbacks as you recount your version of the story, culminating in a dramatic climax atop the Statue of Liberty. Along the way you'll see futuristic gadgets, outrageous stunts, and ludicrous set pieces as *Defector* does its best *Mission: Impossible* VR impression.

Each of the game's five missions only last 30 minutes to an hour, depending on how many optional objectives you pursue, but the options *Defector* provides you with will keep you coming back. Every level features a branching decision moment where you must choose which action to take, such as whether to go in stealthily or don a Rambo headband and unleash hell. You'll want to replay each level to experience the different paths and endings, but the optional content doesn't end there.

You're given a list of objectives – achievements which unlock cheats and modifiers for the visuals and game itself. Some of these modifiers are fairly basic, like doubling enemy damage or inverting colours, but some add new flavours to the action, like weapons that explode if you don't reload them. Between this and replaying missions to explore the other branching points, you'll get six to eight hours out of *Defector* and, for once, I genuinely wanted to see the entirety of what this game had to offer.

It's largely because the world-building is so intriguing. Each level is packed with things to

do and see, all enticing you to go hunting for every scrap of information you can find. The achievements offer interesting objectives to attempt, like flawlessly winning a fist fight, for example. Unfortunately, some of this filler does detract from *Defector's* glistening star qualities. You can't interact with the majority of your environment, and there's no collision detection for walls to stop you from stepping or leaning outside of where you're supposed to. Reloading with magazines at your waist in the first level is fluid and immersive, but later you're dumped in a stationary Gatling gun for five minutes.

And despite an intricate dialogue system, it's a shame that the protagonist isn't given a voice – or a human body, for that matter. One mission has you assume someone's identity, but you only see a disembodied face and arms in the mirror, loosely connected to a translucent blue blur. This is especially strange given *Defector's* voice acting is intense and dramatic, and NPC models are detailed.

But even with a few issues cropping up, *Defector* is undeniably fun to play. Some design decisions feel dated, but my main concern is just that Twisted Pixel sets the bar too high for itself. The high-octane action is so gratifying that other sequences feel bland by comparison, and the dialogue options are too engaging and thoughtful to be used as sparingly as they are. These tantalising systems have been designed so well that you can't help but wish there was more time to experience them. This is the PC's cheaper, slimmer answer to PSVR-exclusive *Blood & Truth*, and it's absolutely worth your time. 🎮



Well, that was unexpected

Getting to it late doesn't stop Bayonetta 2 from being magnificent

Where could they go from *Bayonetta*? I remember that game – for me – coming out of nowhere in 2009 and, quite frankly, ruining other games for a long time. It was just mechanically peerless; the sort of systems on systems on layers on systems that should be taught in the highest echelons of How To Make So, So Good Games University. Which isn't a real place. So from there, where could PlatinumGames go?

Seems not very far. And for once, that isn't a negative. Some tweaks are present in *Bayonetta 2*, the sequel initially dropped by Sega but revived by, of all things, Nintendo. Enemies respond better to your attacks, reeling away in directions you expect them to, there's a new super-special move to build up to... you can pick up bows? Honestly, it's a struggle to get that bullet point list of new features. But that's to be expected: as a third-person action-combat game, the original *Bayonetta* got about as close to perfect as you could expect. The changes would have to focus elsewhere.

So it is that I find myself playing through the sequel with possibly the world's biggest grin as the endless cutscenes and set pieces take place, often ridiculous, usually verging on surreal, forever captivating. The game opens with

Bayonetta out doing Christmas shopping, passes through her surfing on the back of a fighter jet, and taking on the denizens of Paradiso with a brand-new set of hand-and-shoe guns, and ends with our witch heroine battling a rogue demon she herself summoned initially to vanquish her angelic opponents. And that's just the first bit (post-prologue, which itself involves falling clocks and other such fun).

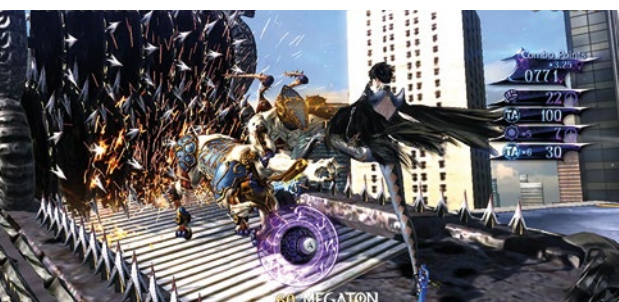
Really, if *Bayonetta 2* didn't have all of this delightful nonsense going on I'd still adore it – there's something about razor-sharp mechanics that make something intensely satisfying to play.

“There's a lot to ridicule, and a lot to unpack”

A parry on *Street Fighter III*. A perfect set of colour-switches to avoid/absorb in *Ikaruga*. Witch-timing a boss in *Bayonetta 2*. It's not a low-level sense of enjoyment just handed to you, as seen in plenty of other triple-A blockbusters; it's a small success that you know you've *worked* to achieve and done well to engage.

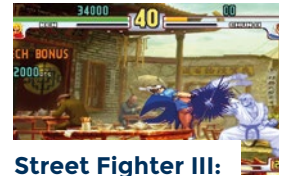
It's a game that features a witch dressed in her own hair and a bumbling sidekick with the most ridiculous Italian-American accent of all time, and one that raises a thousand debates about sexuality and the agency of women/female characters inside and outside of games. There's a lot to ridicule about it, and a lot to unpack at the same time. But when I'm playing *Bayonetta 2*, I simply don't care – it's just a *really good game*.

The question is usually 'Where can they go from here?', but for *Bayonetta 3*, I have total confidence in Platinum to deliver something that's as utterly, genuinely unique as the team wants it to be from a storyline and presentation aspect. Because it will always have those mechanics to rely on, and they are so, so good. 🍷



Now playing
Bayonetta 2

Wireframe Recommends



Street Fighter III: Third Strike

ARCADE, DREAMCAST, MULTI

Making defence tactical is the best thing *Street Fighter* ever did, and *SFIII*'s parrying system – perfected with the addition of guard parrying in *Third Strike* – is a monumentally brilliant mechanic.



Ikaruga

ARCADE, DREAMCAST, GAMECUBE, MULTI

Black and white balance is key to *Ikaruga*'s brilliance – white is vulnerable to black and vice versa, for both you and enemies, making for one of the smartest, most intense shoot-'em-ups ever made.



FTL: Faster Than Light

PC, IOS

Instead of relying on split-second reactions, *FTL* demands perfect on-the-spot planning to get through its roguelike space-hopping adventure. And it's magnificent.

Killer Feature

PES (née ISS)



PES

Football's greatest manoeuvre: the Super Cancel

KONAMI / 2003 - ON / MULTI

The timing might be a bit off here, but by our records, *Pro Evolution Soccer 3* in 2003 was the first of the series to introduce it, and it's been a mainstay of high-level play ever since. No, not random shots from the halfway line: Super Cancel. It's also hard to quantify whether or not Konami has ever actually referred to the technique with this, its adopted name, but that's how it's known.

So what is it? Well, by pressing a couple of buttons together (your traditional ones being R1+R2 for the PlayStation versions), the player under your control will stop doing what they were doing. With football games, you see, there's a lot of automated help behind the scenes to make sure your players are always attempting to get to the ball, and a lot of canned animations that have to play out in full. In football games before *PES*'s introduction of Super Cancel, you had to wait out these animations without being able to control your player, or watch helplessly as they stupidly ran the ball out of play for no real reason. Super Cancel stopped all this: it overrides whatever is going on and allows you full, direct control of the player.

Oddly, the cancel function can be traced back to earlier fighting games, of all things, with one of the biggest of the early examples being *Street Fighter II*. Some characters were able – through a glitch – to ‘cancel’ moves and quickly switch into new

ones, resulting in unsanctioned combos. Eventually this glitch was turned into an actual feature, and these days you're lucky to see a fighting game without cancelling as a part of it.

It's not a cheat command in any game, let alone *PES*. Far from it, this is high-level stuff. See, the automated aspects of any football game are a big help to most players. We simply can't keep stock of everything that's happening on the pitch at all times – it's 22 people all with jobs to do, and the majority of it simply has to be automated, both so it's fun to play and so we can retain our sanity. Switching off that automation isn't

a choice to be taken lightly, even if it does only last as long as the buttons are held. It opens you up to all manner of mistakes: stumbling past the ball, misjudging where an opponent is, generally making a buffoon of yourself, and so on.

But in the hands of the experts – or at least used smartly and sparingly – Super Cancel becomes an essential tool in the video game footballing arsenal. No more automatically chasing a ball out of play and touching it just before it crosses the touchline, resulting in the most pointless corner kick of all time. No more getting in the way of a ball that wasn't meant for the player. No more reliance on automated AI-controlled runs for through balls. It brings the human element into the game, and makes it much more engaging, much less predictable, and – dare I say it – much more like real football. 🗨

“Switching off that automation isn't a choice to be taken lightly, even if it does only last as long as the buttons are held”

Next Issue

ON SALE 15 AUG

EL HIJO

Stealth meets spaghetti western in HandyGames' upcoming sneak-'em-up

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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