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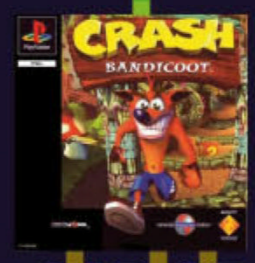
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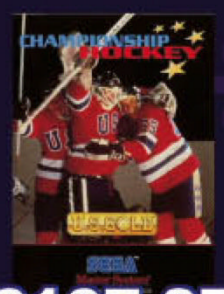


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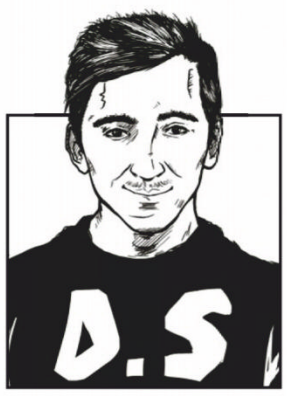
THE RETROBATES

WHAT'S YOUR FAVOURITE HANDHELD?



DARRAN JONES

From a retro viewpoint it's Nintendo's DS. From a modern one it's the Switch. I have around 100 games for each.
Expertise:
Juggling a gorgeous wife, two beautiful girls and an award-winning magazine
Currently playing:
The Witcher 3: Wild Hunt
Favourite game of all time:
Strider



DREW SLEEP

It's a close battle between the GBA and PSP, but the latter narrowly wins. Being able to play classic PlayStation games on a handheld blew my mind.
Expertise:
Surviving without internet
Currently playing:
Nioh
Favourite game of all time:
Final Fantasy VIII



NICK THORPE

I love an underdog, and the Neo Geo Pocket Color is a damn good one. It's even best buddies with the Dreamcast – another of my favourite underdogs!
Expertise:
Owning five Master Systems (I sold two)
Currently playing:
Sega Ages: Columns II
Favourite game of all time:
Sonic The Hedgehog



ANDY SALTER

I owned a Game Boy Colour but only played on it once, so I'm going to go with the iPhone which I've spend thousands of hours playing *Pokemon Go*, *Angry Birds* and various other time-wasting games.
Expertise:
Modding games, no 'vanilla' versions for me, thanks!
Currently playing:
Kenshi
Favourite game of all time:
Rome: Total War



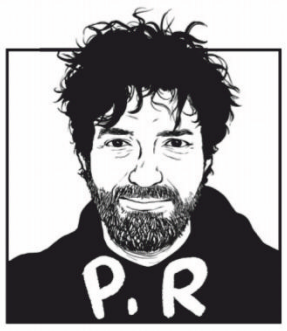
IAIN LEE

My favourite handheld of all time is absolutely Nintendo's Game Boy Advance SP.
Expertise:
Buying overpriced stuff on eBay then never touching it
Currently playing:
Baba Is You is currently ruining my life
Favourite game of all time:
Elite (BBC Model B)



PAUL DRURY

My sentimental side says the MicroVision, my first handheld, but my sensible head says the PS Vita for *Little Big Planet*, *Son Of Scoregasm* and countless others.
Expertise:
The attic bug
Currently playing:
Bubble Bobble 4 Friends
Favourite game of all time:
Sheep In Space



PAUL ROSE

The Switch, by far. I haven't plugged it into my TV since the day I got it.
Expertise:
Winging it
Currently playing:
Luigi's Mansion 3
Favourite game of all time:
Half-Life 2



ANDREW FISHER

My DS Lite, since it can also play Game Boy Advance carts for more Nintendo goodness.
Expertise:
Over thirty-five years of gaming, from Commodore 64 to Wii U
Currently playing:
Alien 8
Favourite game of all time:
Paradroid



RORY MILNE

Astro Wars is technically a tabletop, so I'll go for the Game Boy. It had some great exclusives, and its long battery life made it perfect for gaming on the go.
Expertise:
The game that I'm writing about at the time of writing
Currently playing:
Deliverance: Stormlord II
Favourite game of all time:
Tempest

LOADING...



I've been obsessed with handheld gaming throughout my life. I have owned everything from the PC Engine GT to the Game Gear, the DS and every Game Boy system you can care to name. So the Analogue Pocket immediately got my attention when it was announced, as it offers an exciting new way to play the classic games I grew up with, from the Game Boy and Game Boy Advance to the Game Gear and Neo Geo Pocket Color. Anyone who has experienced the Super Nt or the Mega Sg will be aware of just how impressive Analogue's systems are (think of them as the Bang & Olufson of the retro world) so when we had the chance to obtain exclusive information about the device, we just had to go for it and share it with you.

There's plenty more great stuff in this issue, including an exhaustive look at every single room in *Jet Set Willy*'s mansion, with fascinating insight from Matthew Smith, the making of *Spellbound* and *Fist II* and a look at the Loki – Sinclair's 'lost' Spectrum. There's also a fantastic calendar featuring amazing Spectrum art from the likes of Andy Green, Craig Stevenson and Mick Farrow.

Oh, and be sure to check out our fantastic subscription issue on page 26 as it's a great way to ensure you don't miss out on things like this month's amazing 8-bit calendar.

Enjoy the magazine!



CONTENTS

>> Load 201 Breathing new life into classic games

RETRO RADAR

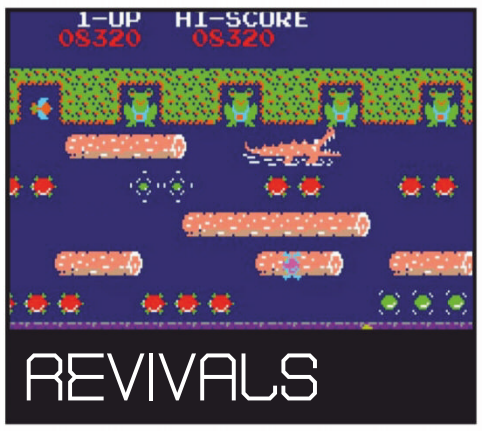
06 **A New Challenger Approaches**
Andrew Byatt explains how the Evercade is carrying the torch for classic games

08 **Iain Lee**
This month Iain gives us an insight into his collecting habits

10 **Mr Biffo**
It's all about the feels for Paul this issue

11 **A Moment With**
Ryan Brown chats to us about Numskull's Quarter Arcades range

14 **Back To The Noughties**
Nick's fantastical journey propels him to December 2002.



REVIVALS

16 **Frogger**
Does anyone else ever get hungry when they play a videogame? Here's Darran's tale

52 **It Came From The Desert**
Or why Darran upgraded his Amstrad

66 **Final Fantasy VI**
Drew is still astonished by how impressive this game's opera scene is

82 **Sonic & Knuckles**
Memories about a certain blue hedgehog? Of course, Nick has written it

98 **Shadow Of The Colossus**
Darran explains why the third titan in Team Ico's game left such a big impression on him





FEATURED

28 **The Making Of: Spellbound**
David Jones reveals how he shook things up for his sequel to the thoroughly enjoyable *Finders Keepers*

32 **The Making Of: Conan**
Eric Parker looks back on turning his game into a licensed *Conan* adventure

44 **Classic Moments: Super Mario Bros**
All of the best bits from Mario's first scrolling platformer. How many do you remember?

54 **The Making Of: Fist II: The Legend Continues**
We go behind the scenes of this innovative sequel to Beam Software's *The Way Of The Exploding Fist*

58 **Classic Moments: Super Ghouls 'N Ghosts**
Nick has been reliving all the spectacular setpieces found in Capcom's slick platformer. Did you experience them, too?

60 **Ultimate Guide: Pole Position**
Everything you need to know about Namco's cutting-edge arcade racer

68 **The Making Of: Bits**
Emily Booth, Aleks Krotoski and Emily Newton Dunn recall creating their anarchic videogame show

74 **Hardware Heaven: This Is Cool Saturn**
Is this the coolest console that Sega has ever created? Darran certainly thinks so

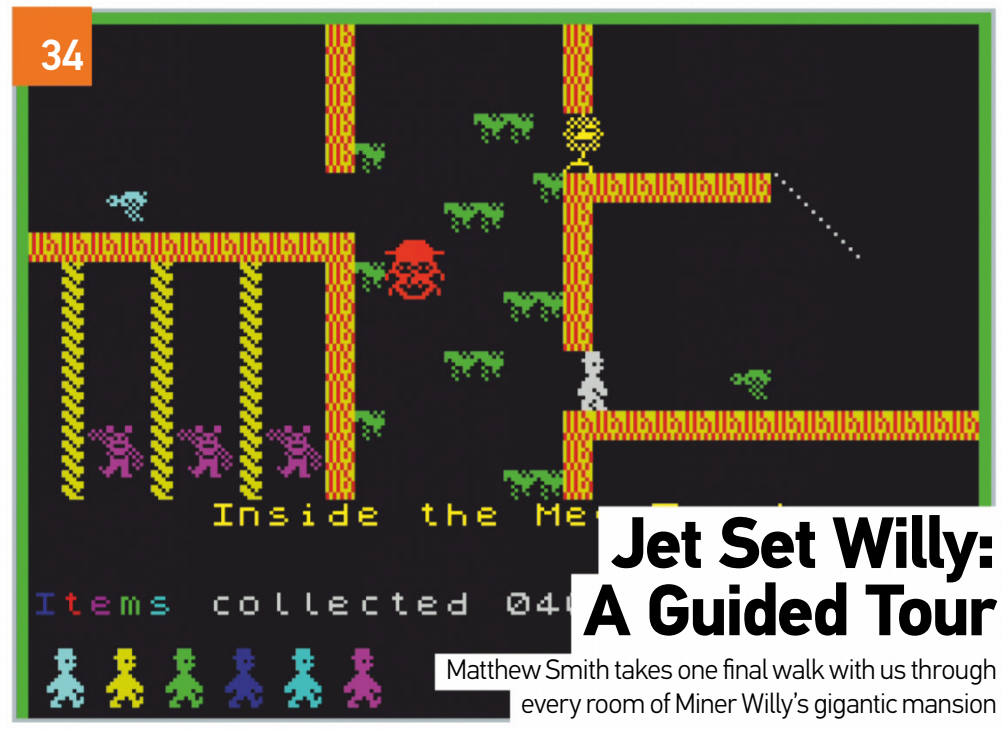
76 **From The Archives: Falcom**
Toshihiro Kondo discusses Japanese home computers and *Trails Of Cold Steel III*

84 **The Making Of: Far Cry**
Petar Kotevski explains what it was like creating Crytek's ambitious bleeding edge first-person shooter



Introducing The Analogue Pocket

Christopher Taber and Kevin Horton take us inside this innovative handheld that will supercharge your old games



Jet Set Willy: A Guided Tour

Matthew Smith takes one final walk with us through every room of Miner Willy's gigantic mansion

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FREE GIFT SUBSCRIPTION SEE PAGE 26





90 92

In The Chair: Barry Leitch

The legendary composer guides us through his truly fascinating career in videogames



100

Review: Capcom Home Arcade

REVIEWS



102 Metal Slug: The Ultimate History

102 MediEvil

102 Sega Ages: Ichidant-R

102 Better Late Than Never: Andy Green Pixel Art

ESSENTIALS

26 **Subscriptions**
More tremendous than playing Game Boy games at an enhanced resolution

104 **Homebrew**
Jason Kelk has been hammering *Pinball Dreams* on Amstrad. Darran is well jealous

108 **Collector's Corner**
This month we catch up with Matt 'Lord Arse' Howlett and marvel at his cool stuff

110 **Mailbag**
Here's your chance to make the team laugh and walk away with one of our awesome retro bookazines

113 **Next Month**
There's lots of exciting stuff planned for the next issue and you'll find some of it mentioned here

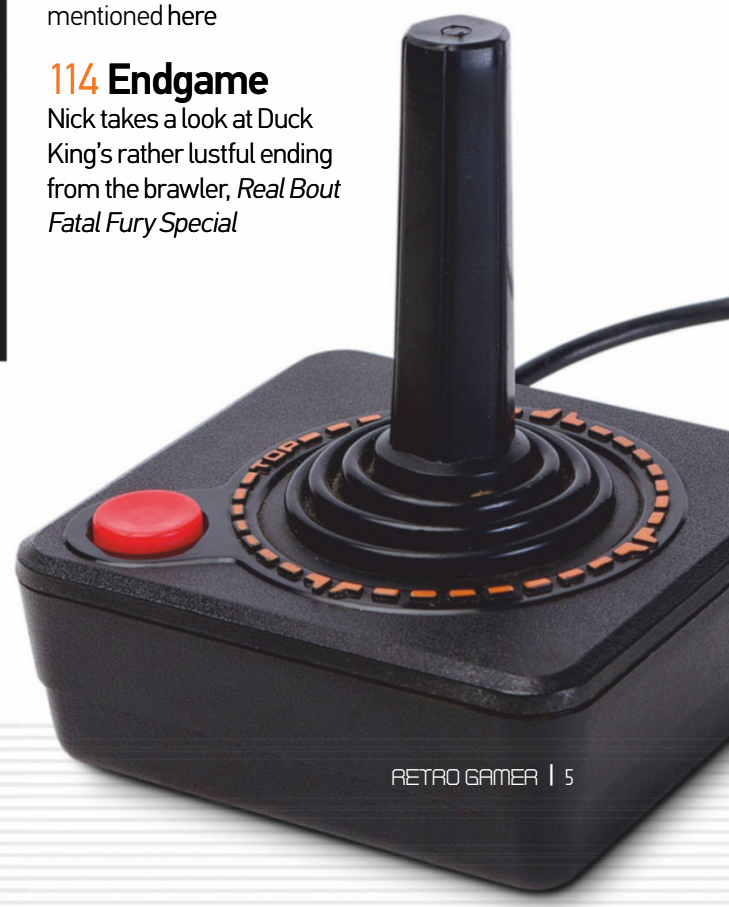
114 **Endgame**
Nick takes a look at Duck King's rather lustful ending from the brawler, *Real Bout Fatal Fury Special*

Loki: The Lost Spectrum

46

Martyn Carroll has the design documents of this missing machine and quizzes developers on what it might have been like







A NEW CHALLENGER APPROACHES

The Evercade enters the retro console arena

» The system's control layout is familiar and will cater for everything up to the SNES quite comfortably.

CONTENTS

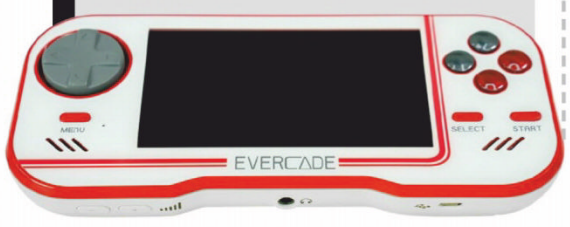
6 A NEW CHALLENGER APPROACHES
Andrew Byatt speaks to us about a brand-new handheld that allows you to play a bunch of classic licensed games

8 IAIN LEE
This month Iain discusses the magazines he's subscribed to over the years. Can you guess what they are?

10 MR BIFFO
The *Digitizer* creator remembers what it was like to hold a Game Boy in your hands

11 A MOMENT WITH: QUARTER ARCADES
We speak to Ryan Brown about Numskull's range of miniature cabs

14 BACK TO THE NOUGHTIES
Nick's time machine has touched down, and he's landed in December 2002



The market for retro gaming consoles has experienced a boom in recent years, but the popular mini consoles do lack one big aspect of retro gaming that many of us love – the thrill of building your own collection. The team behind the Evercade hopes to offer that excitement to players again, and has created a handheld console dedicated to retro games, with software distributed on multigame cartridges. The system is due for release on 20 March 2020, available with one cartridge for £59.99 or three for £79.99, with additional cartridges priced at £14.99. We naturally had many questions about the Evercade, so we've spoken to Andrew Byatt, Evercade's development director.

Why did you decide to create the Evercade?

The Evercade was born out of a desire to create something that we would love to own. We are collectors and we love retro games. The obvious solution for us was to make a bespoke cartridge that contained a collection of titles. We love the idea of a range of games sitting on your shelf proudly. This led to conversations with a lot of IP owners, and a lot of them were excited about getting their content to people in this way. We put it all together and the Evercade was born.

Who is the target audience for the Evercade?

We see the Evercade appealing to both the more hardcore retro collector and the 'gamer dad' who wants some nostalgia both for themselves and their family at a reasonable price. We have managed to get hold of some really interesting games from the likes of Piko Interactive and Mega Cat Studios that will appeal to collectors, and there are some real classics on the system like *Pac-Man*, *Splatterhouse*, *Earthworm Jim* and *BurgerTime* that will appeal to a broad audience of gamers.

What kind of hardware is under the hood of the Evercade?

We have a Linux base and 1.4GHz quad-core processor. The system comfortably emulates 8-bit and 16-bit games. We have a 4.3-inch screen that offers original ratios or fullscreen. We also have the ability to connect to your TV with a Mini HDMI-out option. It is a powerful device for this kind of application. We are especially pleased to offer TV connectivity and the games look great on the big screen at 720p.

Why go with cartridges for game distribution?

Who doesn't love cartridges? Physical, tactile cartridges really do stir the emotion and take you back to the glory days of gaming. We are working on some beautiful manuals to accompany the cart boxes.

Who has written the emulation software used by the Evercade?

We have some emulators being developed for us and we have licensed some of the best emulators for various systems. We believe that good emulation is key to our success and have worked hard to make this the best possible experience.

Does the Evercade offer any way to play multiplayer games?

At this point the Evercade is a single-player experience. This has been our focus during development. We did consider adding extra functionality like Bluetooth for multiplayer, but it was decided that this added cost and complexity which wouldn't



» Unlike the mini consoles, more games will be added to the Evercade library over time.

fit with the Evercade's focus. The games themselves have not been altered, so potentially the same cartridges could be used on a two-player system in the future.

We have seen the promise of 8-bit and 16-bit games, and the ones announced so far cover a mix of systems including Atari 2600, NES, Mega Drive and more. At a maximum level, what hardware can the Evercade emulate – could we expect Neo Geo games, for example?

The Evercade could run Neo Geo games, for sure. A lot of the restrictions in this area tend to be emulator accuracy versus performance. A highly optimised emulator can deliver good levels of accuracy with high performance to work on modest-spec hardware. The energy and effort needs to go into optimisation to make these two parameters meet at the best possible point.

Some games appear to be console versions, as opposed to arcade originals. Is this the case, and if so how will original formats be indicated to buyers?

The Evercade is focused on home consoles, rather than arcade games initially. We know that the arcade games are often definitive versions of these games, but many people had the home console versions and remember those fondly. We have ambitions in the arcade area, but not in year one. We will indicate the launch year of the game and whether it is 8-bit or 16-bit.

How frequently should players expect new releases after the system's launch?

We aim to continue to add publishers and games to the Evercade after launch. We have many irons in fires right now and should be able to make regular releases throughout next year and beyond.

In an ideal world, what does the Evercade scene look like a year after launch?

We will be looking for hundreds of thousands of consoles to be played globally. A rich and diverse portfolio of hundreds of officially licensed games. It's a cliche, but we want people to reach for their Evercade regularly and it to become their preferred way to play retro on the move. We are also exploring options for V2 already – for example (as you rightly asked) multiplayer options and potentially a simpler way to connect to your TV. ✱

"We love the idea of a range of games sitting on your shelf proudly"

Andrew Byatt



» Cartridges have both front and back labels, so you can see which game is in the system at any time.

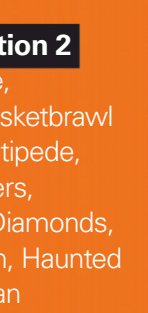
THE GAMES

What will be available for the Evercade? Here's a breakdown…

Atari Collection 1
Adventure, Alien Brigade, Aquaventure, Asteroids, Canyon Bomber, Centipede, Crystal Castles, Desert Falcon, Double Dunk, Food Fight, Gravitar, Missile Command, Motor Psycho, Night Driver, Ninja Golf, Steeplechase, Swordquest, Tempest, Video Pinball, Yars' Return



Atari Collection 2
Air Sea Battle, Asteroids, Basketbrawl Bowling, Centipede, Dark Chambers, Demons To Diamonds, Desert Falcon, Haunted House, Human Cannonball, Millipede, Planet Smashers, Radar Lock, RealSports Tennis, Solaris, Sprint Master, Street Racer, Submarine, Commander, Wizard, Yars' Revenge





Piko Interactive Collection 1
8 Eyes, Brave Battle Saga, Canon – Legend Of The New Gods, Dorke And Ymp, Dragon View, Drakkhen, The Humans, The Immortal, Iron Commando, Jim Power: The Lost Dimensions, Magical Girl, Nightshade, Power Piggs Of The Dark Age, Power Punch II, Radical Rex, Switchblade, Tinhead, Top Racer, Water Margin, Way Of The Exploding Fist



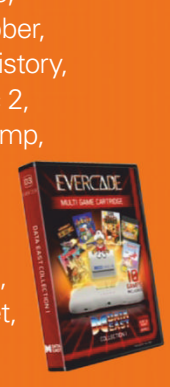


Interplay Collection 1
Battle Chess Boogerman, Clayfighter Earthworm Jim, Incantation, Titan

Interplay Collection 2
Adventures Of Rad Gravity, The Brainies, ClayFighter 2, Claymates, Earthworm Jim 2, Prehistorik Man



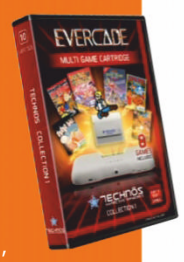
Data East Collection 1
Bad Dudes, BurgerTime, Burnin Rubber, Fighter's History, Joe & Mac 2, Karate Champ, Magical Drop II, Midnight Resistance, Side Pocket, Two Crude Dudes



Mega Cat Studios Collection 1
Almost Hero, Coffee Crisis, Creepy Brawlers, Justice Duel, Little Medusa, Log Jammers, Multidude, Old Towers, Super Painter, Tanzer



Technos Collection 1
Crash N' The Boys: Street Challenge, Double Dragon, Double Dragon II, Renegade, River City Ransom, Super Dodgeball, Super Double Dragon, Super Spike V'Ball



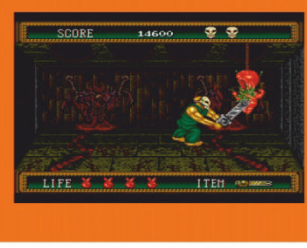


Namco Museum Collection 2
Burning Force, Dig Dug II, Dragon Spirit, Galaga, Pac-Panic, Phelios, Splatterhouse 2, Splatterhouse 3, Tower Of Druaga, Warpman, Weaponlord





Namco Museum Collection 1
Battlecars,Dig Dug, Galaxian, Libble Rabble, Mappy, Mappy Kids, Metal Marines, Pac-Man, Quad Challenge, Star Luster, Xevious



Who is Iain Lee?
Iain Lee is a freelance broadcaster who loves gaming, particularly retro gaming. He currently hosts *The Late Night Alternative* show at weekdays from 10pm on www.talkradio.co.uk and runs daily retro streams on www.twitch.tv/iainlee.

Glossy magazines



It's a genuine thrill to be writing for Retro Gamer. I can proudly say that RG is one of the few mags I have subscribed to in my life. The others are *Record Collector*, *Combat Magazine* (Bruce Lee style as opposed to prepping for the apocalypse) and *The Micro User*.

I used to get *The Micro User* between the ages of 11 to 13. It was a fairly weighty monthly read dedicated to the BBC Micro. As a kid, I would pore over each issue as it arrived. Skimming through first to get the gist of the issue, and then slowly reading every single word to digest the majesty of it.

To stop me going insane during my recent divorce I have been buying bundles of videogames magazines on eBay. Many might argue that this was actually a sign of the insanity I was trying to stave off, and they probably have a point. Recently, I got my hands on two lots of *Micro User* mags. One set from 1985 and one from 1988. I was thrilled when they arrived, and first thing I did was rip open the box and take a bloody good sniff. My word, they smelled magnificent. There's just something about 34-year-old bundles of thick paper that sets me off.

I picked an issue at random, Volume 3, Number 9, November 1985, and rifled through it. The first thing that grabbed me is there are a lot of adverts. A lot. I mean just pages of tiny print, almost too small to read, advertising graphics ROMs, acoustic couplers, IEEE interfaces, monitor plinths with wood grain. So much stuff that as the 12-year-old I would have been then I had absolutely zero chance of getting. And yet, I devoured this stuff. These lists were the equivalent of holiday brochures for those who would never travel, or the Freemans catalogue for those with no chance of ever touching a member of the opposite sex.

There was some actual fun stuff in there. A game to type in called *Whodunnit* by Ken Smith. Micromail, a page written by readers that had to, of course, be sent in via post. And the games review section, which surprisingly only lasts four pages and has hardly any pictures. *Microcosm*, *Lode Runner* and (I kid you not) a lathe simulator were the big releases in November 1985!

The Micro User is certainly a lot dryer than I remembered. The issues from 1988 seem a little user-friendlier, but they are still a challenge to get particularly excited by. I'm scratching my head, wondering exactly what I saw in these magazines back when I was a kid, but I guess it must be partly because these were all we had. Obviously, one couldn't go online to find out stuff. Today we are bombarded with information about gadgets, games and gizmos every second of the day, and it's all beamed directly to your smartphone. 1985 was different. We had to wait. And when it came, we were grateful.

But actually… these mags really aren't as exciting as I initially thought. Anyone want to buy 50 or so copies of *The Micro User*? ✱



> "I have been buying bundles of videogames magazines on eBay"

Do you agree with Iain's thoughts? Contact us at:

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Who is Paul Rose?
Paul is probably better known as Mr Biffo – the creator of legendary teletext games magazine *Digitiser*. These days, he mostly writes his videogame ramblings over at Digitiser2000.com. If you want more Biffo in your eyes, you can catch him as the host of *Digitizer The Show* at www.bit.ly/biffo2000.

Hits you in the feels



Cha-chunk. Psslunk. Clic-lic-lic-lic-lic. No, I'm not having a stroke; those are just three sounds I associate with *proper* gaming. They are, respectively, the sound of me inserting a Mega Drive cartridge, ejecting a Super Nintendo cart, and flicking the GameCube controller's analogue stick, because it felt rewarding.

There was a real physicality with the way we interfaced with games not so long ago. Everything is now so ephemeral and ergonomic, and other long words beginning with e, that it's like we're expected to ignore that games even exist as a real thing. Consoles are hidden beneath a TV, lurking in the shadows, and controllers are almost precision-engineered to be forgotten in our hands.

The media our games come on is now either just millimetres thick, or completely nonexistent. Even Nintendo's games are now so microscopic that they're a choking hazard, and need to be coated in a disgusting, foul-tasting, chemical in case you accidentally mistake one for… what? A Communion wafer? A postage stamp? A scab?

I loved how gaming hardware used to be so tangible, and real. There's no forgetting holding a Game Boy in your hands. It offered all the ergonomic comfort of a house brick, you had to squint and shift beneath any available bright light to be able to even see what was on the screen, and your left thumb would be left with callouses after just an hour on *Super Mario Land*. It was a two-way thing, both of you – apparently – working as hard as the other to make the gaming happen.

Lost to time is that palpable corporeal feedback you'd get from sticking your finger between that springy, flappy, cover bit on the SNES cartridge slot, or playing around with the satisfying way the PlayStation would ping open. How many of us experimented with how powerful that open function was by seeing what could be catapulted off it? All of us, I'd wager, because why wouldn't you?

You can stick your sliding disc trays, your *Tron*-like, flush, neon lighting, and your touch-sensitive controls. I want a big, chunky button, something that feels engineered, and is just begging to be pushed in. I want a console with a handle and sharp edges, that appears destined to be used as evidence in a murder trial. I want handhelds that feel weighty in your hand, and not like they're at any risk of blowing away in even the slightest gust.

Crack open a modern games machine, and I almost don't expect them to look like machines. I kind of half-expect the insides to be organic, like they've been grown in some Giger-esque orchard, by weird, sci-fi, monks. By comparison, though I never tried opening one (it voids the warrenty, duh), I could well imagine the innards of a Mega Drive or SNES to resemble a Victorian workhouse, tiny, grimy, little Numbskulls shovelling coal into some massive steel-and-rivets boiler.

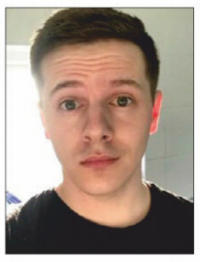
We're now long past the era of gaming's industrial revolution, and have moved into the digital age, an interim stepping-stone to the inevitability of plugging ourselves directly into the machine. *



> "Lost to time is that palpable corporeal feedback you'd get from sticking your finger between that springy, flappy, cover bit on the SNES cartridge slot"

Do you agree with Paul's thoughts? Contact us at:

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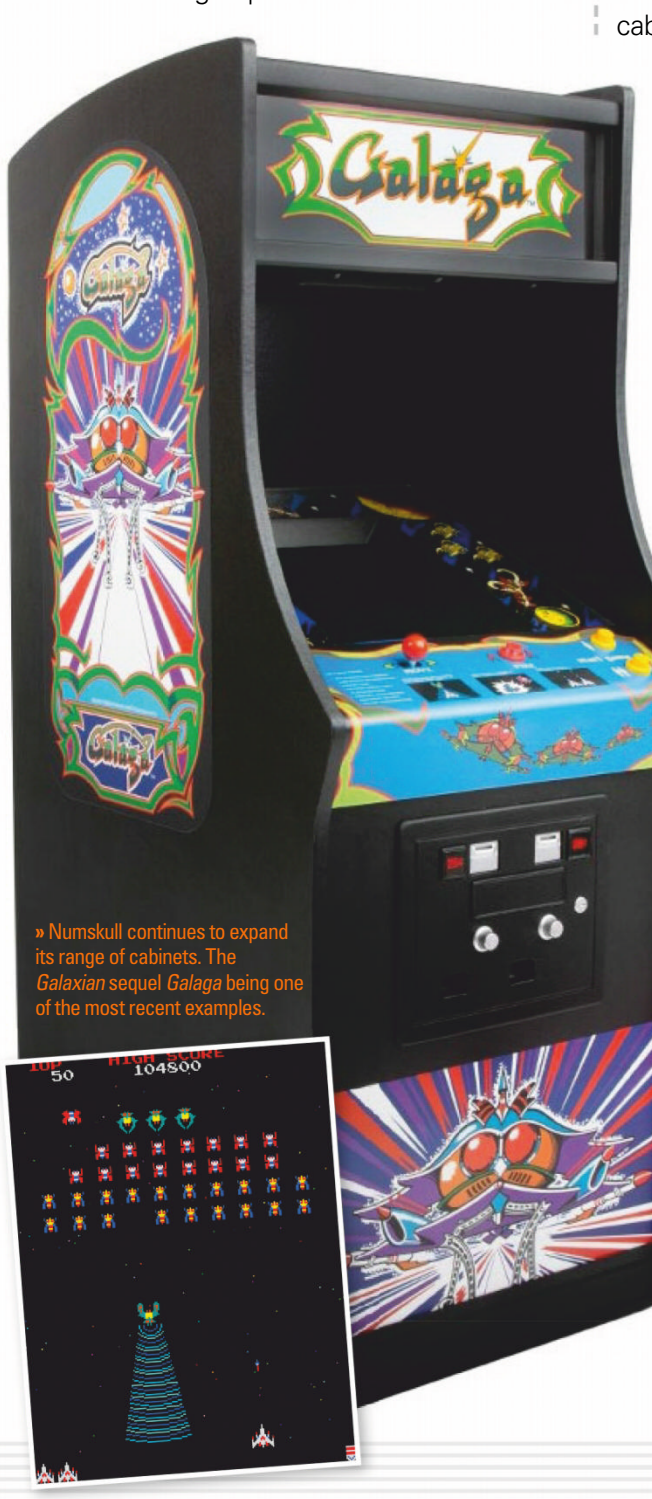


Micro machines

Numskull's Ryan Brown talks to us about its Quarter Arcades range of coin-op replicas

If you needed further proof of the popularity of retro today look no further than Numskull's hit Quarter Arcades series. The company kicked things off with its premium *Pac-Man* replica, but now it's working on a number of other classics from Namco, as well as Konami and Taito. We spoke to Ryan Brown to learn more.

Where did the idea for the Quarter Arcades range originate?
Honestly, it's all down to the company's founders, Matt Precious and Ben Grant, being big fans of retro, arcade games, and wanting to create a line of products that replicated the old school cabinets they remembered playing. It really was very much a passion project that's developed into a full-fledged product line.



» Numskull continues to expand its range of cabinets. The *Galaxian* sequel *Galaga* being one of the most recent examples.

How long does the average cabinet take to create?
From concept to release, about a year. There's, of course, the licensing of the game, cabinet, artwork, and music, which can take some time, depending on the cabinet. Everything is passed through the licence holder for approval, so there's a lot of back-and-forth between us, them and our manufacturing factory, with multiple prototypes built along the course of a machine's development.

What challenges do you face?
Licensing is a big one – more specifically, working out who owns what nowadays. Unfortunately, arcade games weren't necessarily expected to have this amount of longevity to them back in the day, so the rights to certain games and aspects of the cabinets can be broken up all over the place. We end up nailing it eventually, but there have been tricky moments where it's realised the licencer we're talking to doesn't actually own the rights to the cabinet artwork, for example. Having a line of truly authentic replicas is a really, really big deal for us, so if we hit a stumbling block like that at some point down the line, the cabinet is cancelled.

Do you use authentic arcade components?
We try to! Creating a series of high-quality, collectable arcade cabinets that are authentic replicas of the originals is incredibly important to us. Of course, due to its quarter-scale size, that means we can't necessarily use the exact parts that original cabs used – but rest assured, it plays the original arcade ROM on a custom emulator, placed on a board inside of the cab. It's not a Raspberry Pi stuffed inside a quality shell, naturally!

Even little details like the screws on top of the cabinet, wire mesh air vents, and metal plaque on the back are made to perfectly replicate the original cabinets.

Have you considered creating any games that might use trackballs or spinners?
We're definitely looking at those sorts of games, as well as a variety of other non-button based games, and how they could potentially be replicated in a quarter-scale form. Some of our most-requested games include *Daytona* and *Time Crisis*; we've got some thinking to do on how to effectively miniaturise steering wheels, pedals, and lightguns before we fully start pursuing those licences.



» *Pac-Man* was the first release in the Quarter Arcades series and proved to be extremely popular.

Why do you think the Quarter Arcades range has proven so popular?
Numskull has been in the merchandise business for a long time, so we already had a lot of doors open for us to pick up some seriously big-name licences. We know that if you want to play *Pac-Man*, for example, you can do so on any number of platforms already. If you want that arcade experience, you want it to be as authentic as possible. Our focus is on producing the most high-quality, authentic replicas on the market for collectors and enthusiasts, which we're pretty confident we have accomplished. ✱

You can find Quarter Arcades at numskull.com/quarter-arcades.



» The Quarter Arcades line is growing nicely and is perfect for those who are tight on space.

servers.com



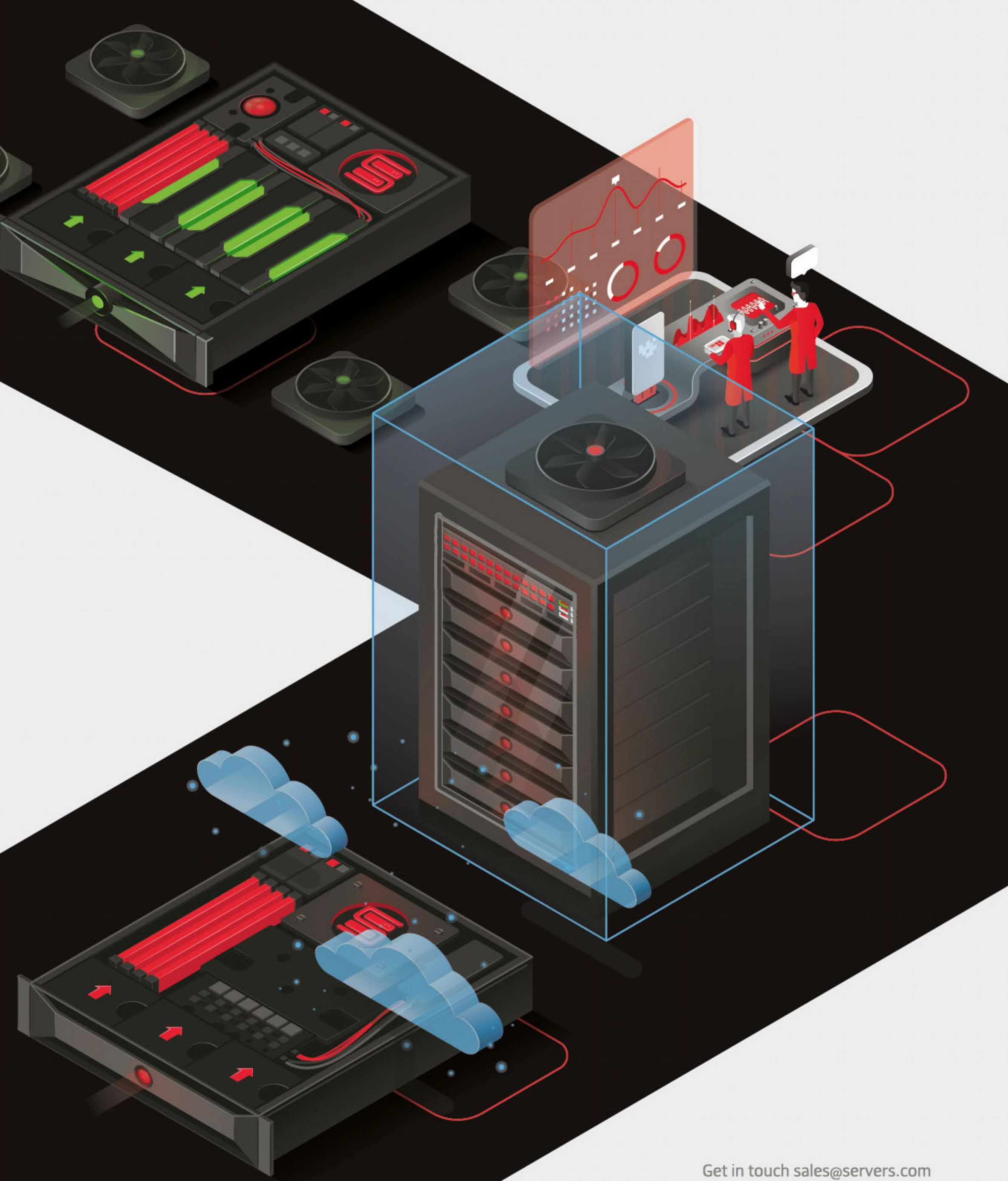
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BACK TO THE NOUGHTIES



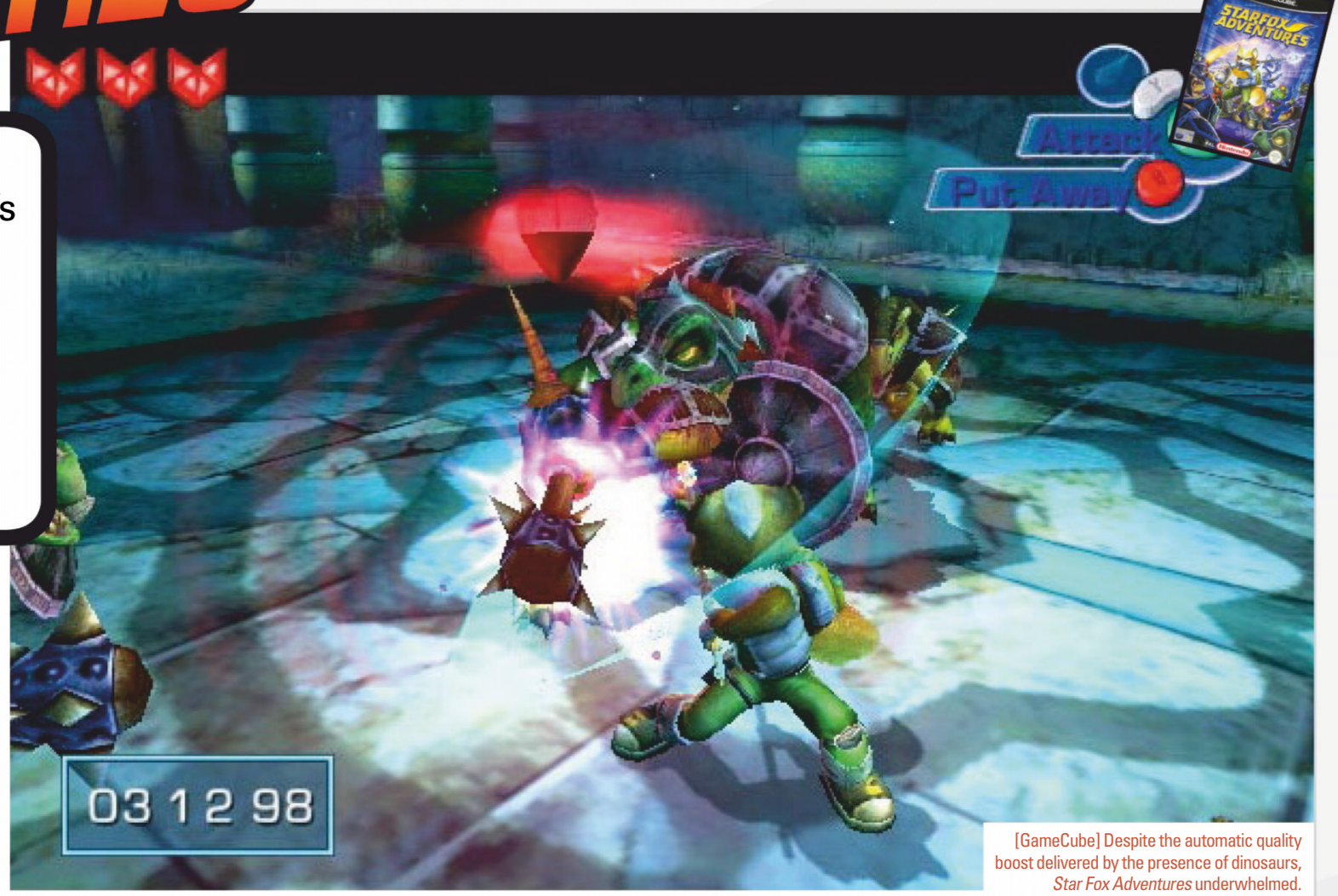
DECEMBER 2002 – It's Christmas chaos! Will GTA's trip to the Eighties beat its Sixties outing? Will Rare's last Nintendo game be worth the wait? Will Sam Fisher ever wear bright colours? Nick Thorpe jumps back in time

NEWS DECEMBER 2002

On 9 December, *Sports Illustrated* announced cyclist Lance Armstrong as the winner of its Sportsman Of The Year award. He was only the second cyclist to receive the accolade, and had won the Tour De France for the fourth consecutive time in July – however, this result and all of Armstrong's other Tour De France wins were invalidated in 2012 due to a major doping scandal.

An Iraqi MiG-25 fighter shot down an American MQ-1 Predator drone during a reconnaissance mission on 23 December. This was the first combat engagement between a drone and a conventional aircraft, and increased tensions as the US government built a case to invade Iraq, based on claims that it possessed weapons of mass destruction – claims Iraq denied.

Clonaid, a Canadian company linked to the UFO religion Raëlism, claimed on 27 December that it had created a human clone. Allegedly, a mother had given birth to a clone baby named Eve. No genetic testing had been done to confirm the status of the baby as a clone, and requests for an independent DNA test have been denied. Despite the dubious nature of the claims, they opened debate from bioethicists who expressed concerns over the health of cloned humans.



[GameCube] Despite the automatic quality boost delivered by the presence of dinosaurs, *Star Fox Adventures* underwhelmed.

THE LATEST NEWS FROM DECEMBER 2002

For the first time in a good few years, gaming was experiencing a true Christmas battle, as multiple viable formats fought for your cash with top exclusive games.

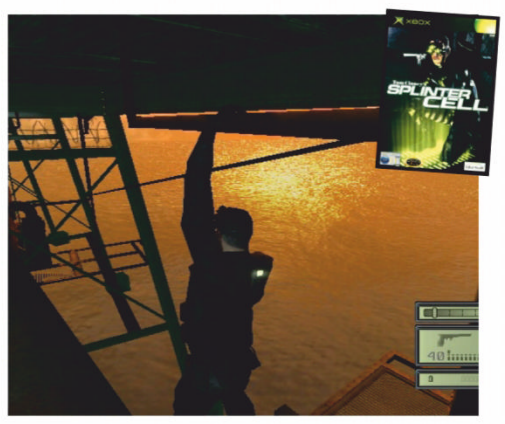
The big winner of the season was the PlayStation 2, which could exclusively show off Rockstar's latest game. *Grand Theft Auto: Vice City*, an Eighties-themed sequel to 2001's *Grand Theft Auto III*, drew critical acclaim and became a sales success. Tommy Vercetti's adventure offered "a more structured narrative" and "feels like a more complete, larger experience", according to a 9/10 review in *games™*. In the *Official PlayStation 2 Magazine*'s 10/10 review, Mark Wyatt claimed that "it doesn't just blur the boundaries between videogames and popular culture, it completely decimates them". *Edge* had complaints – "crash bugs, NPCs walk through each other during cutscenes, buddy AI can be execrable" – but felt that these showed that the game was "a victim of its own ambition" and awarded it 8/10.

On the Xbox, *Tom Clancy's Splinter Cell* aimed to outdo stealth rival *Metal Gear Solid 2*. In an 8/10 review, *games™* claimed it was "nearly Game Of The Year but it lacks a little polish". Praise was heaped upon the "astounding lighting and shadow-casting techniques", as well as the wealth of gadgets that "really sets it apart from its rivals". The reviewer speculated that the game had been rushed out for Christmas, noting "occasional problems with collision detection", but still felt that it was "the most advanced stealth-based adventure title to date". *Edge* was less impressed, awarding the game a 7/10 score. While the reviewer liked that Ubisoft had presented a "compelling and creative attempt to push the genre in new directions", it criticised the game for "extremely poor" enemy AI, "linear and predetermined" level structures and a control scheme "inadequate to the demands of fast movement and targeting of multiple attackers".

Nintendo was relying on its final release from Microsoft-bound Rare to carry the holiday season. Unfortunately, *Star Fox Adventures* didn't live up to the British developer's stellar reputation. *NGC*'s Martin Kitts felt that the



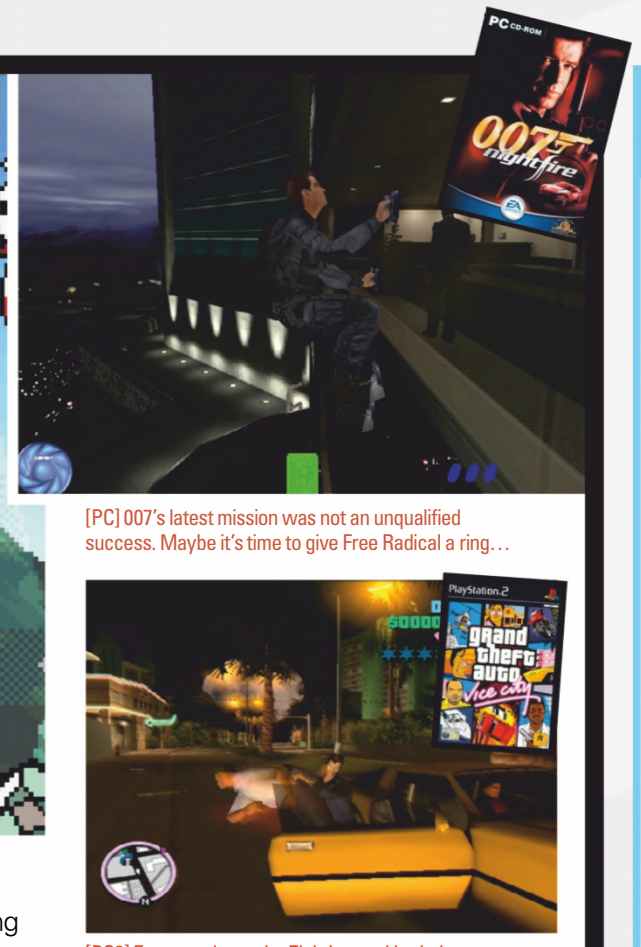
[GameCube] With time limits scrapped and expanded levels, *THPS4* edged away from arcade game design.



[Xbox] Sneaky Sam Fisher gave Xbox owners a great stealth action game to call their own.



[GBA] The return of SNES classic *Yoshi's Island* proves that the true greats just don't age.



[PC] 007's latest mission was not an unqualified success. Maybe it's time to give Free Radical a ring…

[PS2] Everyone loves the Eighties, and both the press and public loved *Grand Theft Auto: Vice City.*

Zelda-esque action adventure was "so bland and flavourless as to make us wonder exactly what the developers have been doing with it for the past three-and-a-half years", and awarded it 72%. *Edge* gave the game 6/10, praising the game's "tremendous looks" but complaining that there was "no sense of exploration or discovery", while *games™* scored it 7/10 noting the game's "overly linear structure", and that "it's almost as if the game's been dumbed down on purpose".

Outside of those flagship releases, platform exclusives were pretty disappointing. On the PS2, side-scrolling throwback *Contra: Shattered Soldier* earned 5/10 from *games™* and 6/10 from *Edge*, with the latter commenting that the game was "unnecessarily harsh". First-person shooter sequel *Red Faction II* scored 6/10 in *Edge* and 5/10 in *games™*, with the latter calling it a "glorified pyrotechnic display" that was "far too short-lived". On Xbox, you could go for *Blinx: The Time Sweeper*, a time-twisting platformer from Sonic character designer Naoto Ohshima. *Edge* gave it 5/10, regarding it only as "a platform game with clever power-ups", while the 6/10 review in *games™* hailed it as "a flawed work of genius". GameCube owners could buy cutesy social simulator *Animal Crossing*, which scored 90% in *NGC* and 8/10 in both *Edge* and *games™* – but only on import. PAL players were stuck with the frustrating and divisive FPS *Die Hard Vendetta* (80% *NGC*, 4/10 *games™*).

Thankfully, multiplatform release *Tony Hawk's Pro Skater 4* was worthwhile. *Edge* scored it 7/10, noting that there was "lots of joy to be had" but questioning if Activision was "doing enough to dispel the fear that the brand is becoming sterile". For *games™*, the "absolutely huge" stages coupled with a "more open and relaxed game structure" earned it 8/10. *James Bond 007: Nightfire* received an interesting mix of scores – 72% from *NGC*, 7/10 from *Official PlayStation 2 Magazine*, 6/10 from *games™* and 4/10 from *Edge*. *NGC* felt it offered "flashes of real excitement" but was "just a spit and polish of *Agent Under Fire*" while *Edge* criticised cuts to the PC version and opined the N64's *GoldenEye* "capably embarrasses this next-gen game".

Handheld gamers didn't get much in the way of new experiences, but they did receive some fantastic conversions of established classics. *Super Mario Advance 3: Yoshi's Island* brought the SNES favourite to Game Boy Advance, and received 92% from *NGC*. *Edge* awarded it 8/10 and used it to defend retro ports, noting that it "will introduce a new generation of players to platform creativity, and in an industry that uncompromisingly rejects archival works like MAME, it shows how important history really is". *Street Fighter Alpha 3* also earned 8/10 from *Edge*, as well as 91% from *NGC* and 8/10 from *games™*, which felt that "those who said it couldn't be done are being handed a chunky slice of humble pie".

Well, that was a year. Join us again for 2003 – or as Nokia would have it, "the year of the N-Gage". ✱

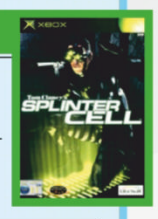
CHARTS

DECEMBER 2002



PLAYSTATION 2

1. Grand Theft Auto: Vice City (Take 2)
2. The Getaway (Sony)
3. James Bond 007: Nightfire (EA)
4. FIFA 2003 (EA)
5. Lord Of The Rings: The Two Towers (EA)



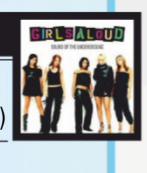
XBOX

1. Tom Clancy's Splinter Cell (Ubisoft)
2. Halo: Combat Evolved (Microsoft)
3. FIFA 2003 (EA)
4. James Bond 007: Nightfire (EA)
5. Medal Of Honor: Frontline (EA)



GAMECUBE

1. Star Fox Adventures (Nintendo)
2. Super Mario Sunshine (Nintendo)
3. James Bond 007: Nightfire (EA)
4. Mario Party 4 (Nintendo)
5. Harry Potter: Chamber Of Secrets (EA)



MUSIC

1. Sound Of The Underground (Girls Aloud)
2. Sacred Trust/After You're Gone (One True Voice)
3. Cheeky Song (Touch My Bum) (Cheeky Girls)
4. Sorry Seems To Be The Hardest Word (Blue ft Elton John)
5. Lose Yourself (Eminem)

THIS MONTH IN…



games™

Cover star Sam Fisher is the face of *Tom Clancy's Splinter Cell*, the newcomer in the stealth action genre – and *games™* is Paragon's newcomer in the videogame magazine market. The multiformat publication includes a hefty 28-page section dedicated to retro games, with November 1992's news and a guide to buying retro consoles.



NGC

Nintendo's executive vice president of sales and marketing, Peter MacDougall, referenced "successor technology" to the GameCube and Game Boy Advance at an investors' conference – quashing rumours of a hardware market withdrawal. Of course, the GameCube still has "at least five years" according to the magazine…

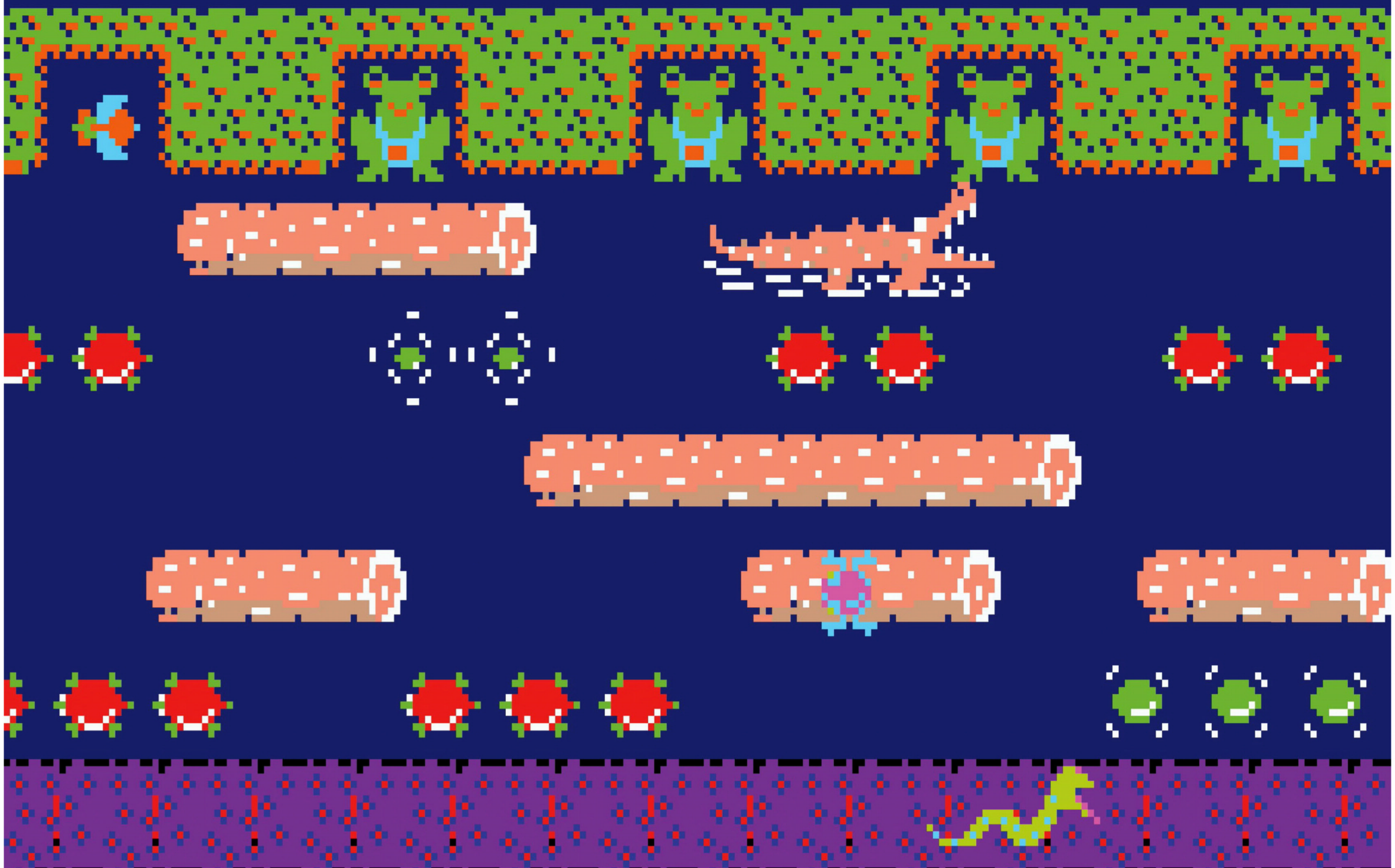


Edge

On the forums, people are confessing their lack of skill at certain genres – but someone's not playing along. "Let's call them 'Games Animal', just to represent their lack of decorum, civility, and evolution," says *Edge*, which doubts the poster's claim "I really don't suck at any games." An image of *Mario 64*'s ice slide accompanies this.

1-UP HI-SCORE

08320 08320



Frogger

SMELLS LIKE VICTORY

» ARCADE » 1981 » KONAMI



I've got a very weird memory of *Frogger,* and it's a rather smelly one. During the Eighties, arcade machines weren't always confined to your local arcade. You could find them in shops (our local Circle K had one) chip shops, and even hairdressers! Our local fish and chip shop, at the top of Herbert Avenue, always had an arcade machine in there and for the longest time it had a *Frogger* cabinet.

Frogger used to be one of my go-to games at Quay Amusements, so the fact that this particular cabinet was at a takeaway just a 15-minute walk from my house made visiting it something of a no-brainer. So there I was with a friend in tow (probably Wayne Osborne) and we both ordered ourselves a fish and chips and had a game of *Frogger* while we waited. We were taking turns playing and both doing pretty well.

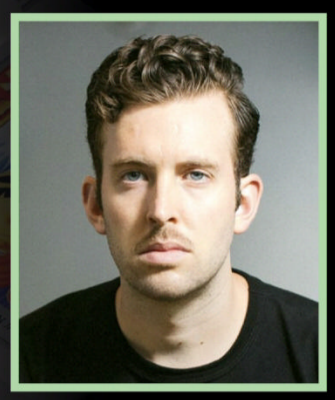
At this point I had already cleared the first two stages and was motoring through the third, which is a little trickier to complete. Unlike the earlier levels, *Frogger*'s third stage starts to introduce snakes into the mix – annoying little reptiles that slither back and forth along the middle part of the screen and instantly cause death to your poor frog if he comes into contact with them. The traffic in the lower third of the screen was getting faster, but I was expertly dodging the trucks and cars like a pro and slowly getting each one of my five frogs home.

Despite this increase in difficulty, I was continuing to do well and I was getting close to getting my fifth frog home after narrowly avoiding a crocodile that had sneakily appeared in one of the empty homes. "Fish and chips are ready," came a call to my right, just as I got a delicious whiff of vinegary chips as my final frog got to safety. I never finished that particular game of *Frogger* as I was too busy wolfing down my food, but whenever I do see or play *Frogger* (it was in the bar where we celebrated **Retro Gamer**'s 200-issue milestone) I always feel a little peckish afterwards. It's funny how your brain works sometimes.

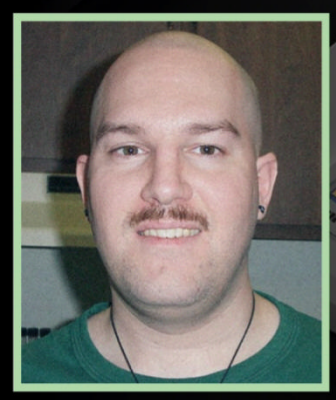
INTRODUCING THE ANALOGUE POCKET

COULD THIS DEVICE BE THE LAST WORD IN HANDHELD RETRO GAMING? IT WILL BE IF ANALOGUE HAS ANYTHING TO SAY ABOUT IT. WE SPEAK TO THE COMPANY ABOUT ITS AMBITIOUS NEW DEVICE AND THE FPGA TECHNOLOGY THAT POWERS IT

WORDS BY NICK THORPE



CHRIS TABER
CEO OF ANALOGUE



KEVIN HORTON
DEVELOPER AND ELECTRICAL ENGINEER

There's a horrible truth that many of us in the retro gaming community don't want to admit: our original equipment is vulnerable, and the risks to our devices only increase as they age. Maybe the disc drive in your PlayStation has spun for the last time, or your Amiga disks have failed, or those dodgy capacitors finally ruined your Game Gear. Sometimes, it's not even the hardware but the technology that supports it – imagine your SNES still works fine but your old TV gives up the ghost, and the new one can't play it because it doesn't have an analogue tuner, or even a SCART socket. So what can be done about this? Well, you can carry on with your old hardware, and there are people willing to help you do that. You'll have seen modding and repair services that keep your old hardware going, and products like the XRGB-Mini Framemeister and Open Source Scan Converter, which get your old systems running on modern TVs. But one option that is becoming increasingly attractive is just getting new hardware to replace those vintage systems.

Arguably, the most ambitious company making retro-compatible hardware right now is Analogue, and its next system is the Analogue Pocket. "I've wanted to make Pocket for ten years," says Christopher Taber, CEO of Analogue. "Nearly all of Analogue's history leads up to this product." After years of making home consoles, this is Analogue's first portable device, and it's designed to run handheld games. ▶


TETRIS BLAST
TETRIS
ELEVATOR ACTION
CAPCOM MEGA MAN V
KIRBY'S DREAM LAND
PUZZLE BALL
ODDWORLD ADVENTURES
TURTLES FALL OF THE FOOT CLAN
BASEBALL
TETRIS ATTACK
JAMES BOND 007
GAME BOY GALLERY 5 GAMES IN 1
SPY VS SPY
Castlevania II BELMONT'S Revenge
TM AND © 1991 KONAMI
PASSWORD
START
SCORE 93
LEVEL 0
LINES 0
Analogue Pocket
MADE IN JAPAN
THIS SIDE OUT



ANALOGUE HISTORY

Analogue has always been in the business of making high-end consoles. "When I founded Analogue I was obsessed with craftsmanship," says Christopher. "The intention behind each of our original products was for them to be the end all, be all, pedestal enthusiast product in their category – while being designed with an attention to detail never before seen in the category, and manufactured from materials that are reserved for products in the thousands of dollars at a radically lower price point."

The company's first product was its Neo Geo Consolised MVS, which launched in 2011. Housed in a premium wood case, the system accepted Neo Geo arcade cartridges and included all of the options you could hope for – the popular UniBIOS was included as standard, as were composite, S-Video, component and RGB video outputs. This, of course, came with a premium price, $649 with no controllers. "The woodworker who hand-made every Analogue Neo Geo product's full-time job was working with extraordinarily rare materials – wood from sunken ships or hundreds of years old," says Chistopher. "His skill level is of a master craftsman and the price we sold these products for were a fraction of what they would cost in any other category (non-videogames)."



» Ernest Dorazio is another key player of Analogue, working as the company's head of production.

The company's next system, the Analogue Nt, was an attempt to build the ultimate NES experience using CPU and PPU chips from Famicom systems described as "cosmetically undesirable/unsellable". This included slots for both Famicom and NES cartridges, RGB output with selectable palettes, four controller ports, the Famicom expansion port and more. The system was another attractive device for retro gaming enthusiasts, this time created from solid aluminium blocks, and cost $499 at launch in 2014. "Only the people who worked on this product know just how difficult it was for us to make this product for the price we made it at," explains Christopher. "It required myself and our head of production, Ernest Dorazio, to hand-quality-check every individual piece of the product one by one, on the floor at factories – hand-assemble every unit, hand-test every unit and, of course, ship them all ourselves one by one. If we didn't do all the work ourselves, the product wouldn't have been possible."

Analogue moved into a new era in 2017, with the release of the Nt Mini. While offering similar features to the previous Nt, this system ran from Kevin Horton's FPGA core rather than original chips, and was smaller and slightly cheaper at $449. The next FPGA-based console was the SNES-compatible Super Nt in 2018, which saw Analogue move closer to mass-market pricing. Using high-quality plastics, cutting back on legacy video outputs and sticking to two controller ports helped to bring the price of the system down, and two games were built into the system – *Super Turrican 2* and the previously unreleased *Super Turrican: The Director's Cut*. The Mega Drive-compatible Mega Sg followed a similar model in 2019, and included the formerly unreleased *Ultracore,* as well as an adapter for Master System games.

> "Our goal is to make products that allow people to explore the history of videogames in an unprecedented way"
>
> CHRISTOPHER TABER

When we say 'handheld games', we're not being vague for the sake of it. The Analogue Pocket will run Game Boy, Game Boy Color and Game Boy Advance games out of the box, and support is being built in for Lynx, Game Gear and Neo Geo Pocket games via cartridge adapters. So why has it turned to this class of systems now? "Handheld game systems are another category of videogame history that are riddled with issues," says Christopher. "Extremely low-quality displays, no backlights, limited to one platform etc. Pocket solves all these issues elegantly."

It's hard to deny the positives of such a console. It's already a struggle to find a working Game Gear in the wild, and it'd be lovely to have a less battery-hungry Lynx. While older Game Boy devices are more likely to work, and do so without costing you a fortune in batteries, they suffered from severe motion blur issues. Even the most recent of the Pocket's supported platforms suffers from issues – the original Game Boy Advance is notorious for its poor non-backlit LCD screen, and models with better displays are now prized. With the Pocket, Analogue is promising a piece of hardware that will redefine your relationship with these systems' libraries. "Analogue was founded to help elevate the medium of videogames – a call to respect its history," says Christopher. "Our goal is to make products that allow people to explore the history of videogames in an unprecedented way. I mean, would you rather watch Stanley Kubrick's *2001: A Space Odyssey* on VHS or Blu-ray? There is just no contest."

That sort of improvement might seem like a lofty claim, but actions speak louder than words and the company's recent consoles have been very impressive. The last one we tested, the Mega Drive-compatible Mega Sg, offers crisp 1080p HDMI output and no added lag. Players can adjust the console's image to their liking – as well as a variety of scaling options that offer a fine degree of control, the console allows you to add scanlines and other filters, and even blend the dithering patterns often found in Mega Drive games. Sound is often the difference between the best and worst Mega Drive products, and the Mega Sg allows players a high degree of control to achieve their desired audio experience. Compatibility is superb, too, with the system supporting almost all peripherals by default, and even including an edge connector for use with Mega-CD. While the system was not perfect out of the box (it had some issues with Mega-CD games, particularly *Chuck Rock*), for most purposes, it actually surpasses the original system.

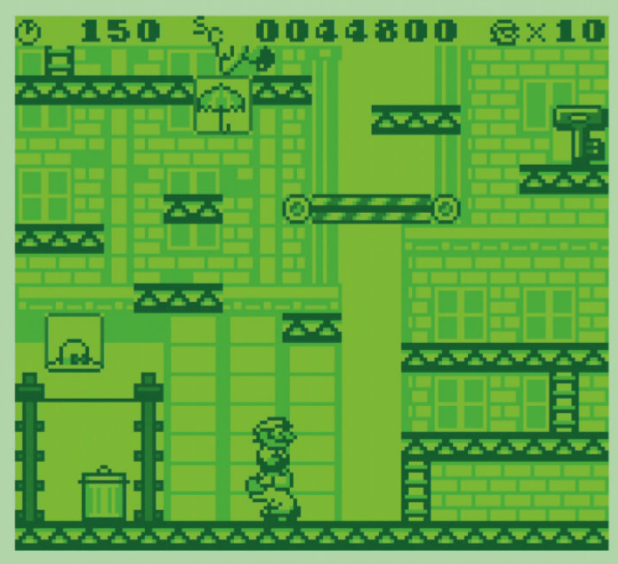
What makes Analogue's systems different to others on the market is the use of Field-Programmable Gate Array technology – or FPGA for short. The engineer behind this is Kevin 'Kevtris' Horton, who has a long history in the retro gaming scene. "I got interested around 1995 after reading about the Atari 2600. My first videogame system engineering was on the 2600, then in 1997 I moved onto the NES and it just went from there," says Kevin. "I was part of the early NES dev crew that hung out on IRC back then. Every week there was some new discovery or thing being uncovered. It was a pretty magical time." Kevin hasn't been working with Analogue for a long time. "In 2015, Analogue contacted me about my Hi-Def NES project, which adds HDMI to your old-school NES. They wished to include it inside their Nt product, which was an aluminium encased NES/Famicom cartridge-playing videogame system. You could purchase the system with RGB output or HDMI output. The latter option was provided by my board." Since then, Kevin has done the FPGA engineering for the Nt Mini, Super Nt, Mega Sg and now the pocket.

So, what does an FPGA do? At its most basic level, an FPGA is a chip that can be configured to behave like other hardware at the transistor level, using what is known as a hardware description language. That versatility has allowed for some huge developments in the retro gaming scene in recent times – the popular Open Source Scan Converter uses an FPGA for video processing, while Terraonion's SD System 3 and Mega SD products use FPGA to substitute for the PC Engine CD and Mega-CD add-ons. "There is definitely an FPGA gold rush going on right now in the classic game market," says Kevin. "I hope that this will only increase as time goes on, and more people are turned on to the power and fun of FPGA development and game-playing. There's definitely a lot more ground that can and will be covered in the future and I can't wait to see and experience it!" But Kevin's work is more ambitious – he recreates entire consoles in FPGA. Where a software emulator interprets the original game code in a way that can be understood by the target hardware, Kevin essentially reconfigures the FPGA so that it acts like the original device at a hardware level.

Why do things this way? "With FPGA hardware a perfect recreation of the original hardware is possible, and it can interface with cartridges, controllers and other add-ons for the system," Kevin explains. "This is not possible with a software emulator; the closest you can get right now with software is hardware that simply 'dumps' the cartridge and runs it on the emulator. An FPGA actually runs the cartridge itself, and does not dump the game from it first. This means that any cartridge that runs on the original system can run on the FPGA." Why might that matter? "People are writing new NES games all the time, with new cartridge hardware that the software emulators might not have the ability to run," says Kevin. "An FPGA would have no trouble running it because it's using the cartridge in the same way the original hardware can." Where a software emulator would need to be updated to take these developments into account, a properly constructed FPGA-based system will run it immediately. Of course, being able to interface with the cartridge as a piece of hardware has other benefits – for example, a number of handheld games include special cartridge



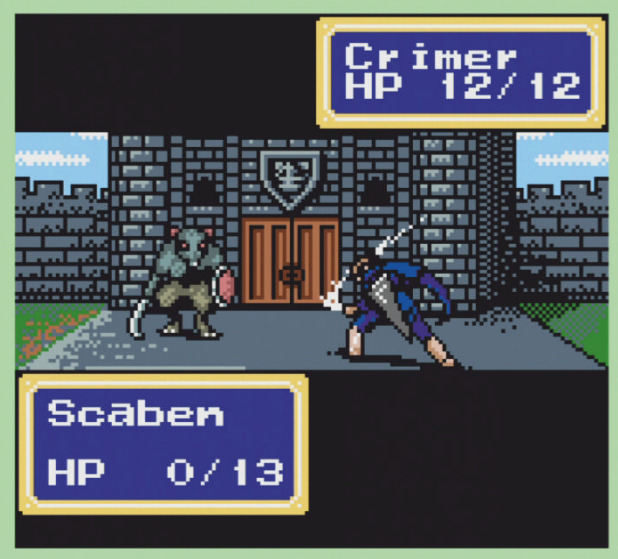
» [Neo Geo Pocket Color] Some may prefer a regular d-pad to the Neo Geo Pocket's clicky stick, though we're not sure who.



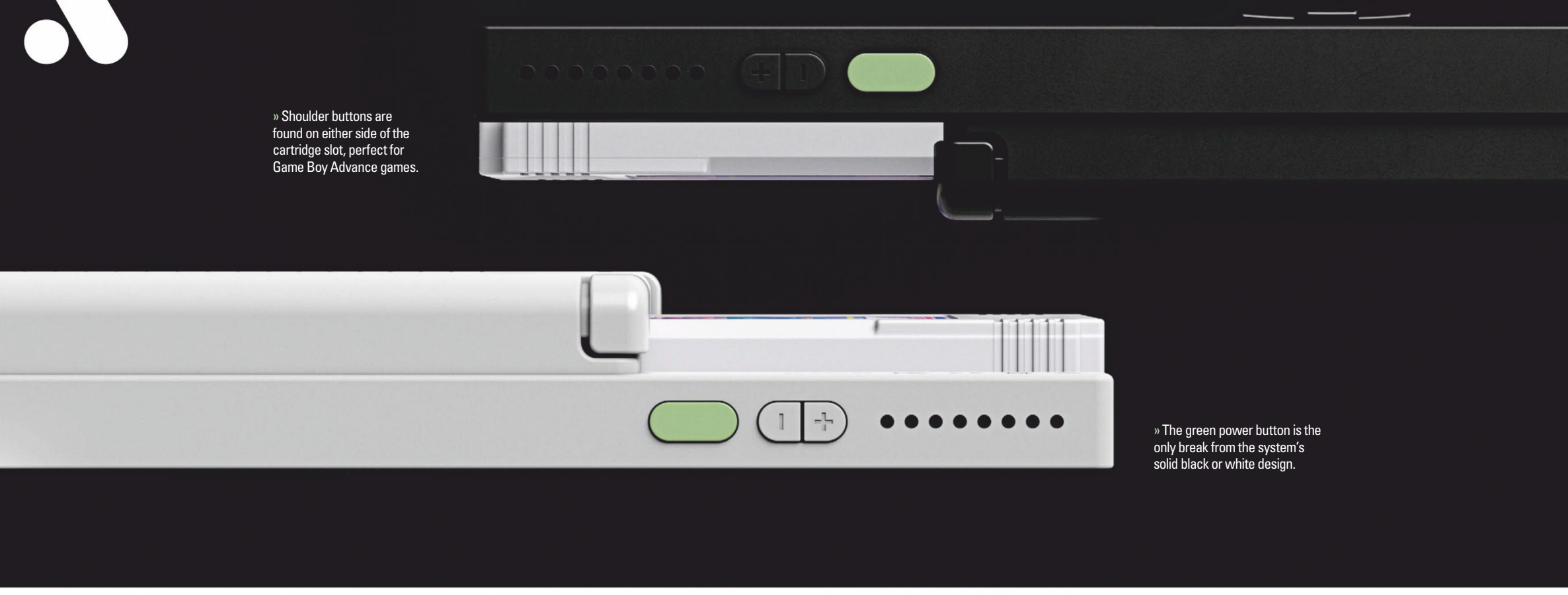
» [Game Boy] We're not yet sure if or how support for Super Game Boy palettes will be implemented in the Analogue Pocket.



» [GBA] Fully configurable controls will be a real benefit in games like *Street Fighter Alpha 3*.



» [Game Gear] Lengthy RPGs like *Shining Force II: The Sword Of Hajya* become more appealing with a rechargeable battery.



» Shoulder buttons are found on either side of the cartridge slot, perfect for Game Boy Advance games.

» The green power button is the only break from the system's solid black or white design.

hardware. Think about the built-in tilt sensor of *Kirby's Tilt 'N' Tumble*, the rumble function of *Pokémon Pinball* or the solar sensor on *Boktai: The Sun Is In Your Hand*. All of these should work without issue on the Analogue Pocket.

In order to create an FPGA core, Kevin undertakes an arduous reverse-engineering process. "The first step is to do reading. Lots of reading. I can spend weeks reading up on the various quirks and documentation before anything is started. This gives me a good baseline on what I should expect," he explains. "After that, custom hardware is created to 'break out' and hook up the baseline components to an FPGA. This lets me compare my recreation with the necessary components during development and make sure things match." What kind of problems does he encounter during development? "The usual problems when developing a core ends up being DMA (direct memory access) and IRQ (interrupts). The timing on them has to be exact or else there will be at least one thing that doesn't work. Having the original chips plugged in and 'on tap' helps a lot with this. On the Super Nt project, I devised hundreds of tests to tease out the behaviour of the DMA and IRQ logic on the CPU chip."



» The built-in version of Nanoloop should make the Pocket a powerful tool for musicians.

This is an enormously costly and time-consuming task. "Every system Analogue develops is engineered completely in-house, from scratch. It's an enormous effort and something we are incredibly passionate about," says Christopher. "Kevin spent nearly 5,000 hours on our NES core alone. And that is an 8-bit core." With six systems to support from day one, surely the Analogue Pocket must have taken an enormous amount of time to create? "There is definitely more time being spent on the Pocket than on some of our previous products," confirms Kevin, and though he doesn't elaborate on how much that might be, he does explain why. "The Pocket's going to be breaking a lot of new ground compared to previous products; we have included a second helper FPGA this time to facilitate development of our cores, and the ability for people to port existing cores, and even write new ones for the system."

That inclusion is a huge deal, as it gives the system enormous potential for expansion. "Our intention is to encourage developers to help preserve videogame history, too," says Christopher. "Pocket is built with one Altera Cyclone V FPGA and one Cyclone 10. This implementation is to support third-party FPGA development accessing the Cyclone V. Developers are theoretically able to develop any core that Pocket's hardware supports with access to our hardware to make things like cartridge adapters and other unique hardware accessories." While nothing has been announced yet, this opens up some awesome possibilities. The Cyclone V is used in the Mega Sg and Super Nt, so adding support for something like the PC Engine or the Mega Drive should be entirely feasible – though naturally, that will require development of cartridge adapters, too. "I hope that people will write brand-new cores for the Pocket, and port existing ones," says Kevin. "There is going to be a lot of capability included that can be used, and I hope this pleases developers. A thriving ecosystem around the Pocket is one of the design goals, and the hardware is set up to allow this to happen." Christopher seems excited by this prospect too, saying, "With access to Analogue's proprietary hardware and scalers, we think developers are going to do some amazing things."

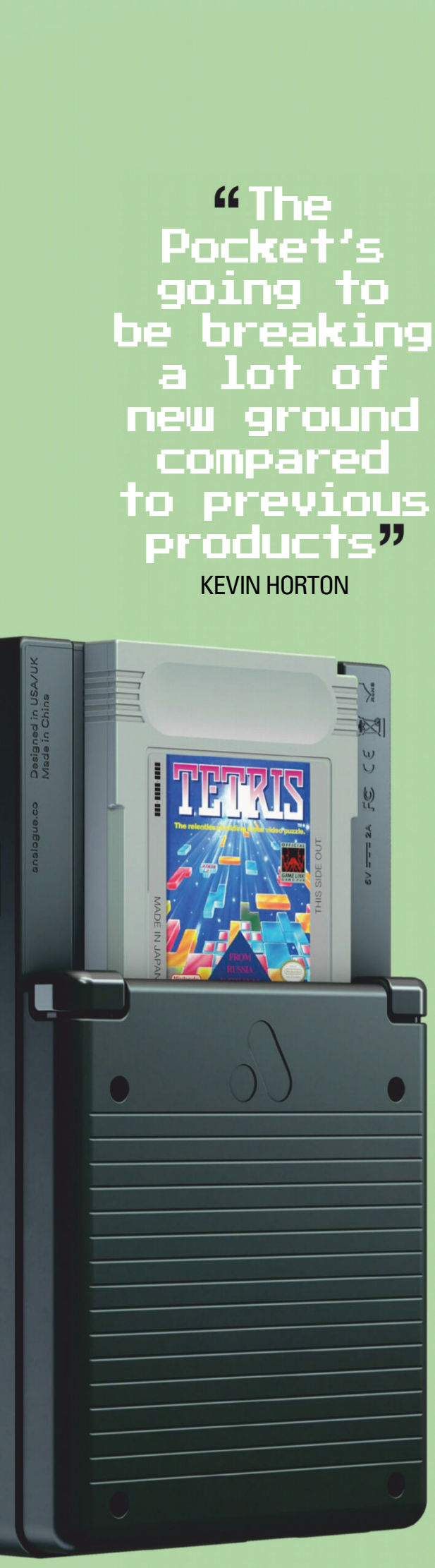
So the Pocket should run games authentically, but what about the system's form factor? "The key for us was starting from the concept of a portrait-style handheld gaming device – which we think is the most iconic orientation of a portable gaming system," says Christopher. "There hasn't been a portrait-style handheld videogame system in a long time – we really wanted to bring this back. Almost all handhelds in the last 20 years are landscape style." The system is minimalist in appearance – uniform in colour, with the exception of a single button on the side, and with a simple, classic button layout. "I think with all Analogue products we're approaching the design with a 'perfection is achieved not when there is nothing more to add, but when there is nothing left to take away' philosophy," explains Christopher. "One of my favourite features of the handheld is that all the buttons are blind – there is no labelling – button distinction is driven by a concave/convex system integrated with an intuitive mapping system in the user interface. One of the reasons we did this is because Pocket is a multisystem, so it's appropriate to allow users to map on a system by system basis. And of course it is beautiful."

With the Pocket relying on a classic body design, what will take the experience beyond the original devices is the system's modern hardware. The inclusion of a rechargeable battery instantly makes Lynx and Game Gear games much more appealing, but according to Christopher, screen quality was chief amongst his concerns, and addressing this satisfactorily has been tough. "We've been working with suppliers for years to try and find the perfect display – one with the right aspect ratio, resolution, pixel density, color accuracy, pixel refresh and brightness. We finally were able to get the display of our dreams for retro aspect ratios," he explains, referring to the system's 1600x1440 LCD screen. "This isn't a random display that is being retrofitted onto a portrait-style handheld – it is a pro-level display for its application. Ten times the resolution of an original Game Boy, seven and a half times the PPI. At three and a half inches in its aspect ratio, it's the near equivalent to a 3DS XXL sized display."

What does that mean in practice? Well, for original Game Boy and Game Boy Color games, you'll get a perfect integer scale that fills the entire screen. Lynx games used 160x102, and should also be able to display at a perfect ten times integer scale that fills the whole width of the screen, but not the height. The Game Gear also used 160x144 as its primary resolution and you could therefore do the same, but the original system's display is a 4:3 LCD, so this wouldn't be an accurate way of doing things.

“The Pocket’s going to be breaking a lot of new ground compared to previous products”

KEVIN HORTON



MONSTER IN YOUR POCKET

ANALOGUE POCKET

Compatible with Game Boy, Game Boy Color and Game Boy Advance game cartridges

Additional systems supported via adapters (Game Gear, Lynx, Neo Geo Pocket Color planned)

3.5-inch LTPS LCD (1600×1440 resolution, 615ppi)

Cyclone 10 and Cyclone V FPGAs

Rechargeable lithium ion battery

All buttons mappable

Stereo speakers

Micro SD

USB-C charging

3.5mm headphone output

Original-style link plug

ANALOGUE DOCK

1080p HDMI output

Two USB inputs for controllers

Bluetooth for wireless controllers

DAC compatible

DIFFERENT BY DESIGN

CHRISTOPHER IS A MAN OUT TO CHANGE HOW THE WORLD SEES VIDEOGAMES – WE DIG DEEPER INTO THE PHILOSOPHY DRIVING ANALOGUE

Never let it be said that Christopher Taber is modest in his aims. "Videogame history is extraordinary. Unfortunately, it doesn't have the same respect that virtually every other medium has (film, music etc). Analogue is here to change this perception," says Christopher. "The standard for Analogue from day one has been to check every box possible. I'm not interested in Analogue just impressing retro game enthusiasts. Analogue should impress the entire industry, industrial designers, engineers, marketers, photographers and, of course, the most discerning retro gaming enthusiasts. It's not worth it to me any other way."

This means providing products that are not just functionally excellent, but also aesthetically striking. "When you look at other mediums, the videogame industry is quite immature in terms of diversity in concept exploration, especially when it comes to design. We're interested in pushing that boundary in every way we can – or it's just not interesting to us," Christopher explains. "Our inspiration when it comes to design, and really as a company as a whole, comes from other mediums and industries, which makes Analogue stand out distinctly from any other company in the videogame industry. We're intensely inspired by fashion, film, music, architecture and, of course, classic industrial design." That definitely comes across in everything Analogue does – looking at the company's Hong Kong office, it's hard not to feel that the location was chosen in part thanks to its photogenic nature.

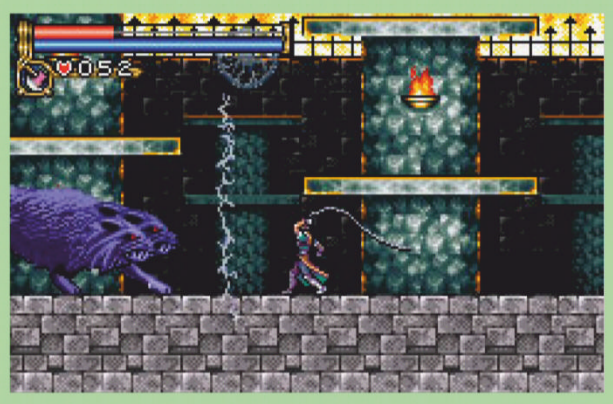
So who inspires Christopher? "It's almost endless," he explains, before quoting independent film maker Jim Jarmusch on the subject of originality – "Nothing is original. Steal from anywhere that resonates with inspiration or fuels your imagination." Amongst designers, one name is singled out for a special mention. "Saul Bass is a huge inspiration for me, personally. As an artist and in terms of his philosophy, he is particularly dear to me," Christopher says. "We're here to bring a perspective and approach to videogames that I don't think anybody else is: 'I want everything we do to be beautiful. I don't give a damn whether the client understands that that's worth anything, or that the client thinks it's worth anything, or whether it is worth anything. It's worth it to me. It's the way I want to live my life. I want to make beautiful things, even if nobody cares.'"

While Christopher offers little comment on what's going on in videogames outside of Analogue, it's interesting to get a sense of where he sees his company's hardware in the wider context of the classic gaming market. While he draws comparisons between watching films on VHS and Blu-ray, he sees the future of retro games as being closer in nature to the music market. "People have been buying vinyl since its inception – long before the relatively recent resurgence," he explains. "Videogames are no different – year after year more people are hunting more games. The breaking point is already being reached (just starting with companies like iam8bit and Limited Run Games) and sooner than later, we're gonna see re-releases on original media as a new norm."

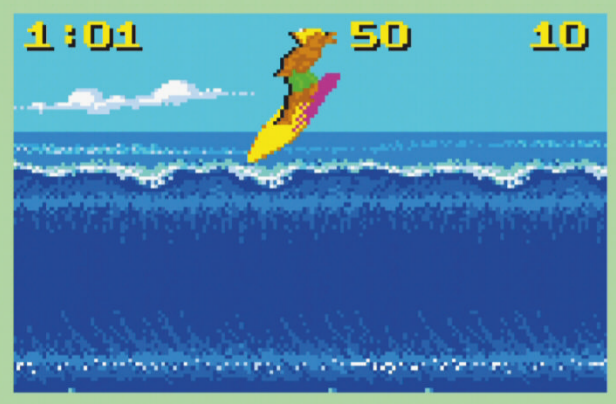








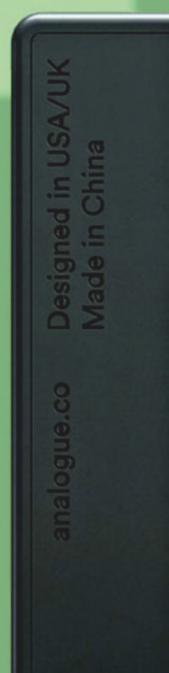
» [GBA] Dark games like *Castlevania* aren't easy to enjoy on the original unlit Game Boy Advance screen.

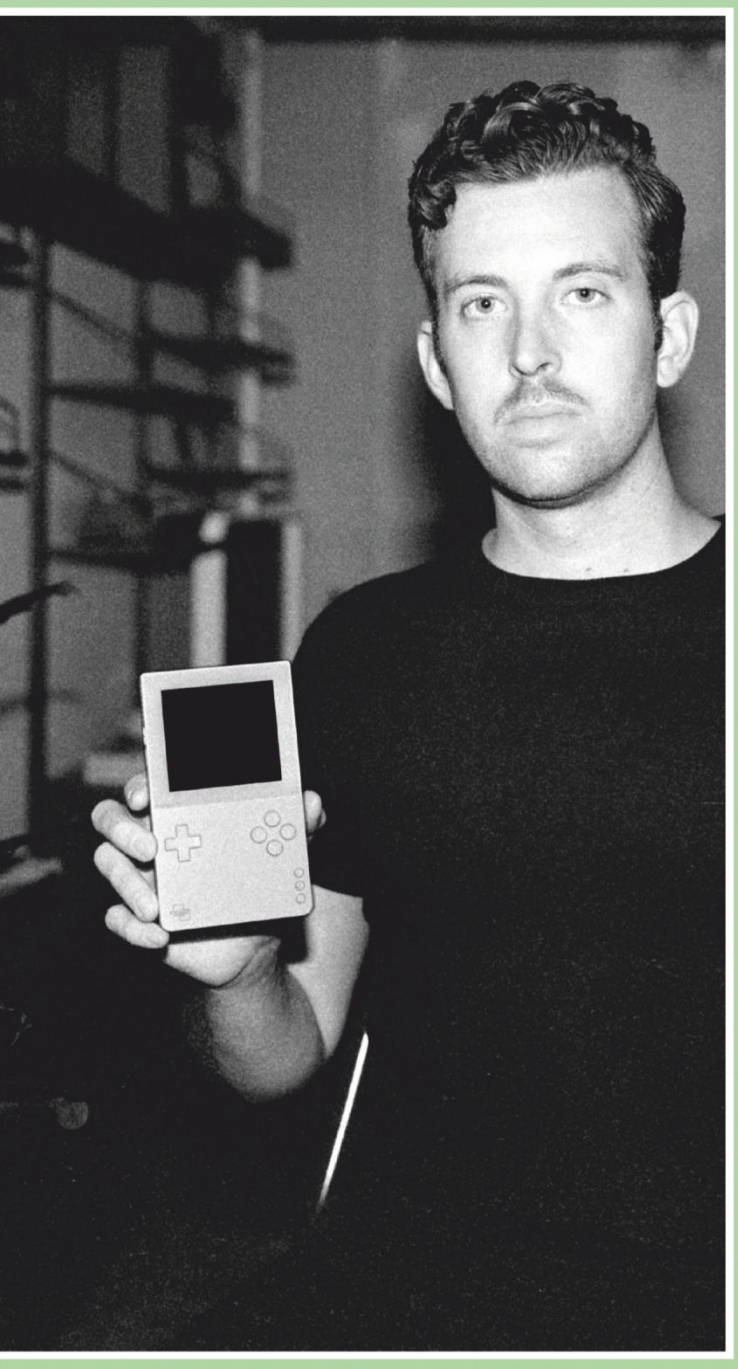


» [Lynx] We're never going to complain about having another way to play a great version of *California Games*.

"We'd like to support all portable systems with Pocket. We will announce more compatible systems at a later date"

CHRISTOPHER TABER







» As with previous Analogue consoles, you can tweak plenty of options from the Pocket.

Neo Geo Pocket Color games ran at 160x152, and would need to run a bit smaller to avoid vertical cropping. The Game Boy Advance runs at 240x160, which is a slightly more awkward fit. However, this is all default stuff, and anyone that has used Analogue's previous devices knows that they are highly configurable. "Pocket will have all of the system by system features, scaling and calibration options anyone could ever dream of – just like all other Analogue products," says Christopher. "Everyone can count on this – we wouldn't do it any other way."

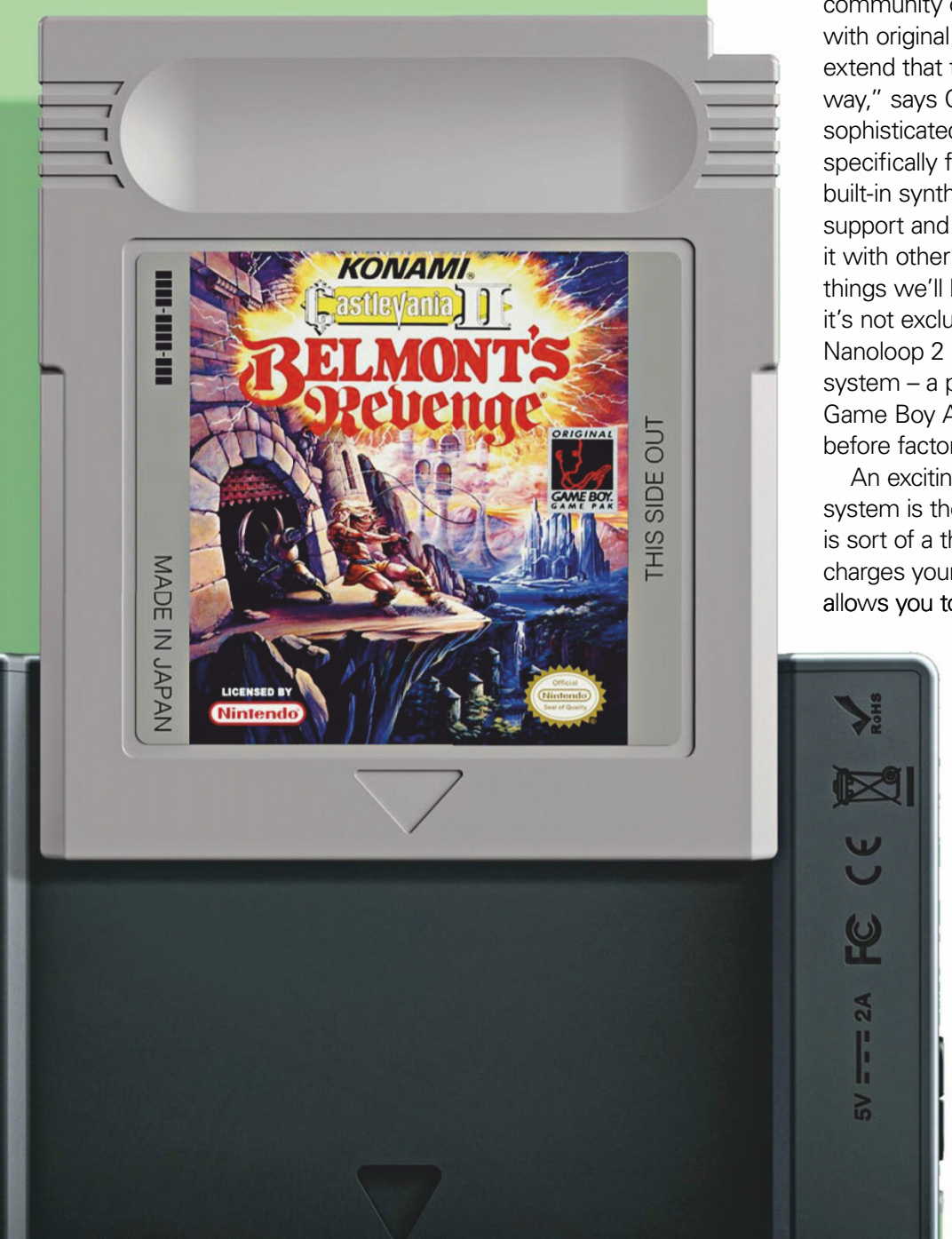
One thing yet to be determined is what support the Pocket offers for systems beyond Nintendo's popular devices. While we know that the system incorporates an original-style link plug for the Game Boy family, compatibility with the peripherals for other systems – Game Gear, Lynx and Neo Geo Pocket – is currently a mystery. "Right now, we are only commenting on the systems launching out of the box with Pocket, but we will certainly be bringing as many features as possible to all supported systems," Christopher comments. But there are some details that he can give us. "The adapters will be rolling out with launch, some coming later and plans to continue to develop and release more system supports. They will be sold a la carte, allowing users to get access to the adapters and system support they are interested in." Will there be more supported devices? Christopher thinks so. "We'd like to support all portable systems with Pocket. We will announce more compatible systems at a later date."

Analogue's Super Nt and Mega Sg consoles have come with built-in software, and the Pocket does, too. However, unlike those previous systems the software is a creative tool. "There is a rich community of people who make music with original Game Boys and we wanted to extend that to Pocket in a more streamlined way," says Christopher. "Nanoloop 2 is a sophisticated digital audio workstation built specifically for Game Boy Advance. It has a built-in synthesiser and sequencer. It has MIDI support and CV support. You can interface it with other hardware and do a ton of other things we'll be sharing very soon." Though it's not exclusive to the Analogue Pocket, Nanoloop 2 is a valuable addition to the system – a physical version for your existing Game Boy Advance would cost you €49 before factoring in VAT and postage.

An exciting additional accessory for the system is the docking station. "Analogue Dock is sort of a three-in-one product – it docks and charges your Pocket, beautifully displays it and allows you to connect to the big screen with controllers," says Christopher. The dock offers 1080p output over HDMI, and allows players to connect wired pads via USB or 8bitdo's wireless controllers via Bluetooth. "Not to mention you can connect DAC to Dock," Christopher reminds us – referring to another of Analogue's products, which converts digital output to analogue video and audio signals. "It is the conclusion to an entire ecosystem. With Pocket you can do it all – on the go, in your home on the big screen and even on PVM's and CRTs." It's an exciting prospect, because while Game Boy fans have devices like the Game Boy Player and Super Game Boy, fans of the other supported systems have previously needed to mod hardware for TV output – and even then, they wouldn't have crisp HDMI output.

The Analogue Pocket is due to launch in 2020, for $199. That's without the Dock or the adapters for non-Nintendo consoles, none of which have been given prices so far. That's the sort of price that might make potential buyers pause for thought – it's exactly as much as the Switch Lite, Nintendo's current handheld console. But Analogue is known for promoting high-end products, and the high-quality display and other components come at a price. Plus, FPGA technology is not cheap – "The FPGA in Pocket is a $53 USD chip," Christopher points out. But if Analogue can deliver on everything it has promised, the Pocket could truly justify that price, breathing new life into the handheld retro gaming experience. While it comes at a steep cost, the prospect of a one-stop system covering the whole of handheld history is a tempting one, especially when you consider Analogue's decision to open up to external FPGA development. If some enterprising soul with the appropriate engineering skills and patience decides that the Pocket should support a system, that can potentially happen – whether it's the PC Engine, the WonderSwan, or even the Mega Duck.

But whether or not you feel like the Analogue Pocket might be the handheld of your dreams, it's an important step forward for a company that's doing crucial work in advancing retro gaming. Some people are happy watching their favourite old films on their phones, others pick up 4K Blu-Rays. Some people are fine with chucking an Eighties hits playlist on Spotify, but others swear by their LP collection. And while software emulation and digital copies will satisfy many players, there will always be an audience that wants to plug in those original cartridges. Hopefully, the Pocket and other devices like it will let us keep doing that for many years to come.



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THE MAKING OF SPELLBOUND

Having found success with the budget platformer Finders Keepers, David Jones looked to design a more interactive sequel. David tells Retro Gamer how a chance encounter with a Mac informed his Magic Knight adventure Spellbound

WORDS BY RORY MILNE



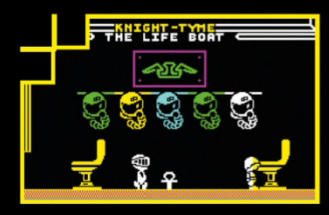
IN THE KNOW

- **PUBLISHER:** MASTERTRONIC
- **DEVELOPER:** DAVID JONES
- **RELEASED:** 1985
- **PLATFORM:** ZX SPECTRUM, VARIOUS
- **GENRE:** ADVENTURE

It's no exaggeration to say that *Finders Keepers* was a revelation. David Jones' brightly hued platformer was the first great game released by Mastertronic, and it was a far cry from the budget publisher's typically less-than-stellar output. Sparkling reviews and brisk sales made a sequel all but inevitable, but as David explains, he intended to make his follow-up *Spellbound* a very different game to its predecessor. "I was looking around and thinking about what I should do next," David ponders. "I had get, drop and trade options in *Finders Keepers*, and I liked that element of it, so I wanted to do more of that. Then I was in some shop, and I had a brief look at an Apple Mac. I thought: 'Oh! Menus! I could use those.' The basic idea of using a list of things and selecting from it was there, and although I wasn't going to have a mouse I could have a pointer that could be moved up and down with a joystick."

With his latest project's framework in place, David next thought about its objectives, which he decided should revolve around a rescue mission. "Right from the beginning, I was thinking about what Magic Knight was there to do," David remembers. "Somewhere near the end of the game there were going to be people that needed to be rescued, and by the time that he got there he needed to have the various items that would enable that rescue to happen. So that was the way my process worked. *Spellbound* was built from the things that I wanted to have happen, and how I would stop the player from doing them straight away then allow them to do them eventually."

But some sort of mechanism was required to trigger these events, and so David devised



DEVELOPER HIGHLIGHTS

FINDER KEEPERS
SYSTEM: ZX SPECTRUM, VARIOUS
YEAR: 1985

KNIGHT TYME (PICTURED)
SYSTEM: ZX SPECTRUM 128, VARIOUS
YEAR: 1986

STORMBRINGER
SYSTEM: ZX SPECTRUM 128, VARIOUS
YEAR: 1987



» [ZX Spectrum] *Spellbound* begins with the Magic Knight in a hazard-free room with an interesting-looking key in it.

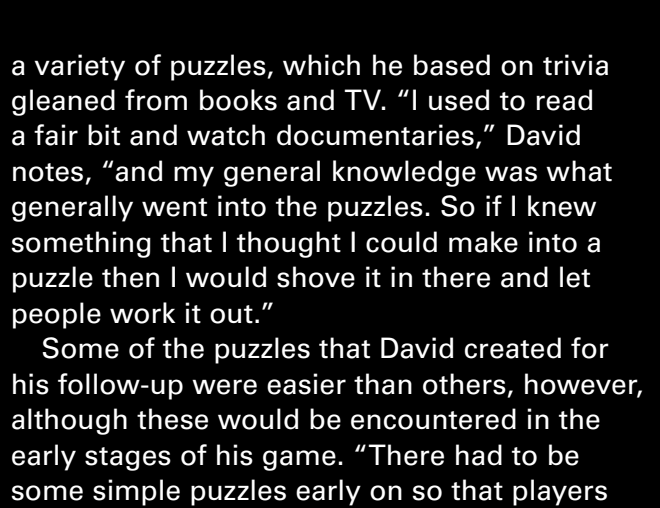


» [ZX Spectrum] Once you find the glowing bottle, the otherwise deadly Dark Room is safe to enter.

a variety of puzzles, which he based on trivia gleaned from books and TV. "I used to read a fair bit and watch documentaries," David notes, "and my general knowledge was what generally went into the puzzles. So if I knew something that I thought I could make into a puzzle then I would shove it in there and let people work it out."

Some of the puzzles that David created for his follow-up were easier than others, however, although these would be encountered in the early stages of his game. "There had to be some simple puzzles early on so that players could learn to manipulate the menus," David reasons. "Also, driving down though the menus to do simple things meant that they would see some of the other options that they might not have thought would have been there. The more obscure puzzles were there because I didn't really like the idea that however long I took to write *Spellbound,* someone would finish it faster. So I wanted to make sure there was some challenge there."

Another way that David ensured *Spellbound*'s challenge was by giving it hazardous locations, including a darkened room that would prove fatal if entered without some form of illumination. "The Dark Room was quite near the beginning, so having to start again wouldn't have been as much of a thing as if you were really into it," David argues. "There was also the Pit. I remember my girlfriend at the time wanted to play *Spellbound*, so I hinted her through, and we were near the end when she went straight into it. And that was it: dead! And we had spent an hour or so getting [back] to that point!"



» [ZX Spectrum] A seemingly arbitrary puddle in *Spellbound* causes the Magic Knight's armour to light up dark areas.

In comparison to the more testing aspects of *Spellbound*'s design, David's approach to the exploration required in his game was a lot more lenient. "I really disliked games where the designer wanted to get so many hours of entertainment for people that they made the player walk all the way over there, pick up something, and then walk all the way back," David frowns. "So by having a teleport, the idea was that it was up to you to work out how to save yourself time. I didn't put them in fixed places, so anywhere you could get to, you could easily get back to."

As well as adding useful objects to his sequel, David was also busy creating its cast of characters, whose motivations stemmed from the names that he gave them. "I found that once a character had a name, I tended to be able to think from their perspective and put together what they did," David explains. "So the name indicated something about the character, and that gave me some ideas about what the character would do. It then made sense for them to have certain items, like Thor obviously would want to obtain his hammer."

Then as a byproduct of fleshing out *Spellbound*'s non-player characters, David

"The more obscure puzzles were there because I didn't really like the idea that however long I took to write Spellbound someone would finish it faster"
David Jones



» David Jones is currently a games lecturer at the Breda University Of Applied Sciences in Holland.

HOW TO BEAT SPELLBOUND

WITH ONLY 48 HOURS, YOU'LL NEED ALL THE HELP YOU CAN GET!



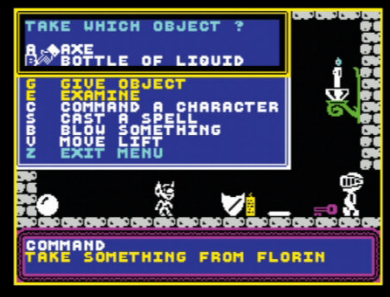
FIRST PRINCIPLES

Spellbound kicks things off with a floor of largely safe rooms where you can get to grips with the game's menu system. Here you'll find the teleport pad and its key, and the glowing bottle, which you use to get through the Dark Room. The only other hazard on this floor is the energy-draining 'odd ball'.



ESSENTIAL SUPPLIES

Before tackling *Spellbound*'s puzzles, go and grab the wand and bottle from the roof. Give the bottle to Florin to fill with health potion, and use the wand to command characters. Use the Elf Horn on the second floor to summon them – Samsun has it – and the mirror on the third to show your energy and objects.



LAY OF THE LAND

Although *Spellbound* isn't huge, it's worth mapping the game out to help you familiarise yourself with it. Before exploring, summon Florin to the lift and send him to sleep, then drop the teleport pad next to him and carry its key with you so you can zap back to power up if your energy runs low.



CHARACTER BUILDING

As well as puzzle-solving, *Spellbound* tasks you with keeping its characters alive, which is problematic as they're always on the move. The best strategy is to tend to them as and when you meet them, which you do by telling them to eat and to be happy, or to sleep if they say that they're tired.



GET A CLUE

You can solve some of *Spellbound*'s brain-teasers using trial and error, but the game contains clues to almost all of them. Most characters and objects reveal the odd hint, and the Banshee is full of them, as is the crystal ball. But for help with the game's core objective you need the ancient scroll.

CONVERSION CAPERS

HOW DOES MAGIC KNIGHT'S ADVENTURE FARE ON EACH SYSTEM?

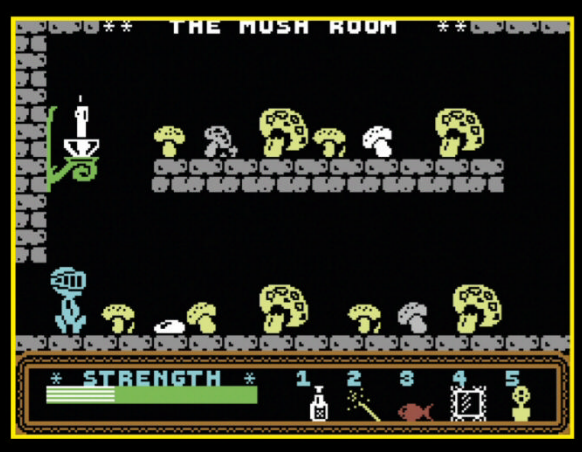
ZX SPECTRUM

David Jones' original must have the fastest-moving hero in Spectrum gaming, and the stages they explore are colourful and nicely rendered. The one negative is that the levels are silent bar for occasional sound effects, but these are quite effective. More importantly, its solid game design means that it's still a joy to play today.



AMSTRAD CPC

A very close approximation of the Spectrum original, Ed Hickman's Amstrad *Spellbound* has exactly the same graphics, but they're depicted in just four colours. Its in-game music is identical to the Spectrum 128 iteration, and although it lacks any sound effects this doesn't impact its gameplay.





ATARI 8-BIT

Although the Atari *Spellbound* retains the original's gameplay, it suffers in other areas. Visually, it has lower res graphics than the other iterations, and it's rendered in grey, green and mustard, which isn't a good look. It doesn't have any music, either, but it does have decent sound effects.



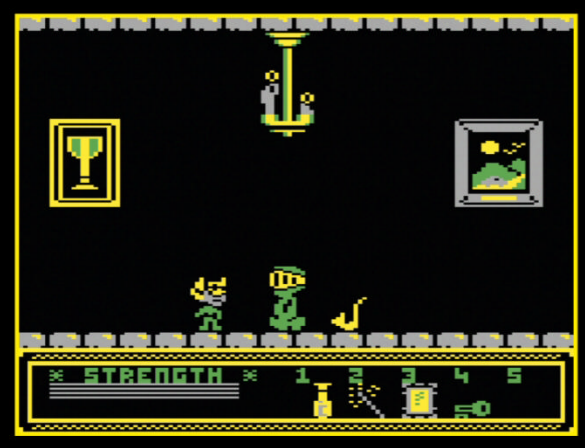
ZX SPECTRUM 128

Essentially David Jones' bigger and better version of his original, the 128K *Spellbound* adds a three-channel in-game tune, colour (rather than white) characters and additional background graphics on some stages that were a little sparse in the 48K version. It also boasts extra rooms and puzzles.



COMMODORE 64

The Commodore 64 version perfectly replicates the original's visuals, rather than using lower resolution sprites, and although its graphics aren't as vibrant as its Spectrum counterpart's this is no great loss. It's the best-sounding *Spellbound*, although its soundtrack cuts out when a sound effect is triggered.



saw an opportunity to make his game more interactive. "Once I had the windows, I thought that I could put some graphics in there with some stats for the characters, their picture and a little bit of text like: 'Thor wants his hammer' or 'so-and-so is upset'," David recollects. "Then, since someone was upset and someone wanted a hammer, I wanted players to be able to interact with them. So it just sort of flowed from that natural development."

Initially, the interaction *Spellbound*'s hero had with the game's other characters was limited to asking for their help with puzzles, but this was subsequently extended to taking care of their every need. "When I'd decided that the characters should all have stats, and that I was going to change their stats, it seemed sensible that Magic Knight should do something to interact with that," David points out. "So you wanted the characters to be happy or they wouldn't talk to the Magic Knight. If they got too hungry they stopped being so happy, and if they got tired they would fall asleep and couldn't talk to you. So if you wanted to interact with them then they had to be awake and happy enough to be interested in talking to you."

Besides problems to solve and tasking the Magic Knight with keeping them alive, *Spellbound*'s characters were given other purposes, such as Florin, who provided an unusual power-up. "Florin was magic, so he just magically made you feel better!" David grins. "His dwarf magic flowed into the potion, which made it work again after you had used it all up. I probably went with this mechanic fairly early on,





» [ZX Spectrum] *Spellbound* has several stages with deadly bouncing balls, and each one contains an essential item.

"If you wanted to interact with [the characters] then they had to be awake and happy enough to be interested in talking to you"
David Jones



» [ZX Spectrum] If she's given a laser, *Spellbound*'s Lady Rosemar will melt a hole in one particularly obstructive wall.

because just having things that you picked up for health didn't seem right. This was a castle, so why would people leave food lying around?"

But David didn't always apply linear thinking to his cast, particularly Lady Rosemar, who he gave a fuse to that she wouldn't give up, preferring instead to be given a laser that she could combine with the fuse to explosive effect. "The characters having objects just implied that there was more going on with them than there really was," David considers. "The fuse was just there to make people think: 'Well there is that fuse…' It just seemed a fun idea, and having things that you couldn't actually collect was atmosphere-building as it gave you the idea that this was a more realistic world."

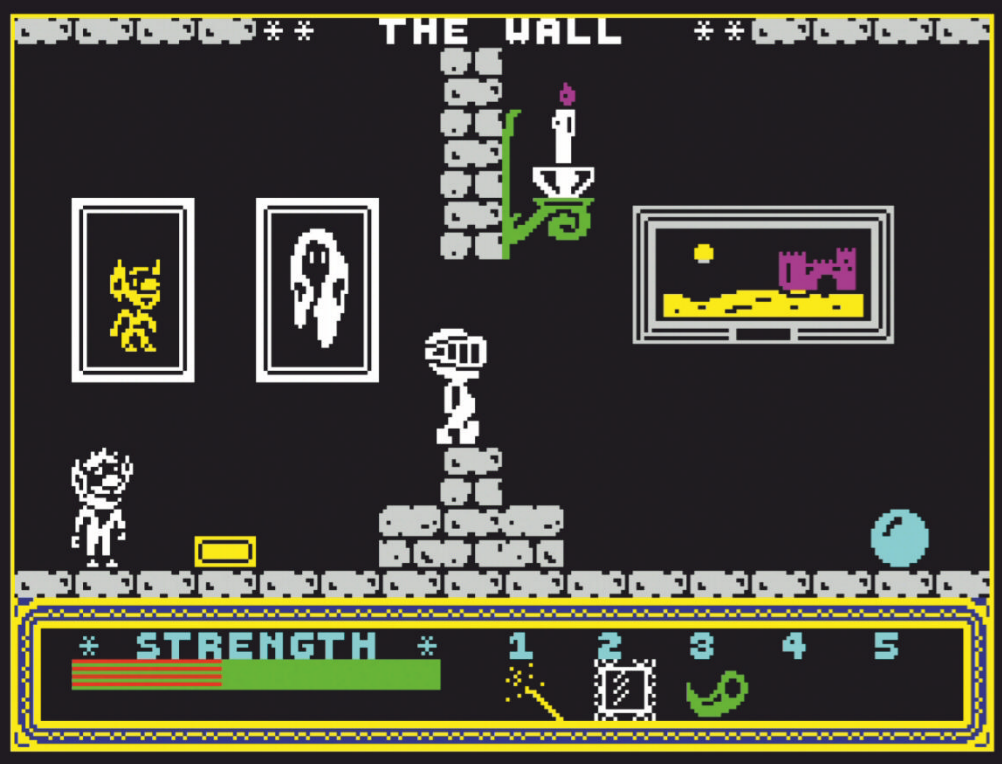
The banshee David introduced into *Spellbound* was equally counterintuitive, in that he designed it to reel off clues to puzzles when released instead of causing a racket. "I probably thought of a genie in a bottle, but just shoved a Banshee in instead!" David reflects. "I can't remember at what point that I decided that he would give a lot of clues, but I think it was down to my own amusement that he actually told you stuff and was useful rather than just screaming!"

But as well as the wise words of *Spellbound*'s banshee, David also hid hints to the game's complex core challenge on a scroll, which he considers quite reasonable. "After finding Gimbal, players then had to work out how to free him," David recalls, "and by that point they had come across quite a few objects and seen other characters. So they would start putting together various elements to try to come up with solutions. But if they *knew* what they were ultimately aiming for it made it easier to finish, rather than getting there and walking around with nothing happening."

After *Spellbound*'s final puzzles had been incorporated, Mastertronic decided to market David's sequel for a £1 more than its predecessor, although this wasn't something that worried him. "I was quite confident," David beams, "because I knew I'd written something that was good and playable, and people who had seen it up until that point had been quite positive. I was very pleased with how it did, and because it was part of Mastertronic's £2.99 range I got a slightly better royalty for it. I also had a bit of a reputation with *Finders Keepers* by that time, so having my name on *Spellbound* helped sales."

Then the following year David found himself returning to *Spellbound*, with the aim of expanding and improving it for Sinclair's recently launched Spectrum 128. "It was a fun project to go back to," David enthuses, "and I knew there was some audience for it. It wasn't difficult to do. It was just adding a bit more text and a few more rooms and objects. The end wall on the lowest floor only went so far in the 48K original, so I added a mechanism to the 128K version for knocking out the wall and getting through there to some other things."

When asked to review his original *Spellbound* decades after its release, David is full of ideas for how it could be improved, but he clearly still has a lot of affection for his acclaimed budget adventure. "I'd have the characters animated and walking around," David suggests, "I'd also have ways of avoiding some of the instant deaths. I'd probably try to use the sound chip to make more varied sound effects, maybe even a bit of voice stuff. I might make it a little bit easier, and not have the characters die so easily. But I look back on *Spellbound* fondly; it was one of my successes, and I like how people like it."



» [ZX Spectrum] Elrand – *Spellbound*'s elf – can blow a hole in a wall with his favourite musical instrument.



» [ZX Spectrum] The key to completing *Spellbound* lies in the order of the portraits in the game's gallery.

THE MAKING OF CONAN

Eric Parker and Eric Robinson's debut was so similar to Joust that Atarisoft asked them to develop the official Apple II conversion. Here, Eric Parker explains how they created a true original with their classic platformer Conan

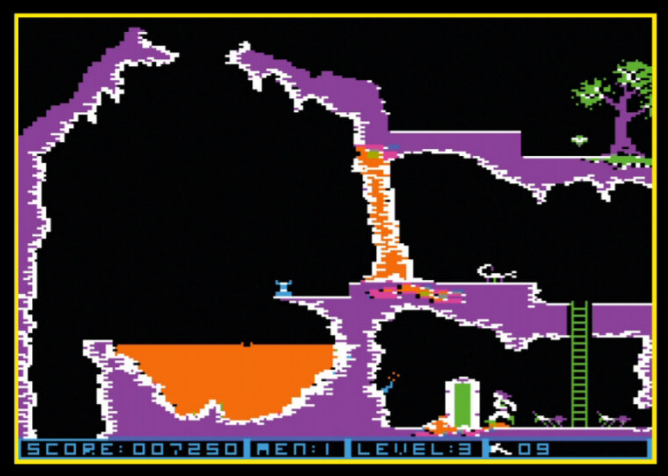
WORDS BY RORY MILNE



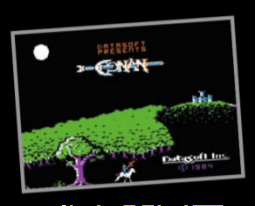
» [Apple II] Conan's quest to defeat Volta begins with storming a castle guarded by a particularly aggressive bat.



» [Apple II] Part of *Conan*'s challenge lies in unlocking doors with keys located in hard-to-reach places.



» [Apple II] You can't get through *Conan*'s third stage without using its teleporter, and it's protected by giant ants!



IN THE KNOW

- **PUBLISHER:** DATASOFT
- **DEVELOPERS:** ERIC PARKER, ERIC ROBINSON
- **RELEASED:** 1984
- **PLATFORM:** APPLE II, VARIOUS
- **GENRE:** PLATFORMER

Coin-op tributes and bedroom coding went hand in hand during the early Eighties, and Ohio high school students Eric Parker and Eric Robinson decided to capitalise on these associated trends. The end result was *Talon*, a *Joust* homage that they subsequently reworked as the official Apple II port of the Atari coin-op. But their next project, *Visigoth*, was a far more original design, which would ultimately feature the fictional barbarian Conan, as Eric Parker explains. "*Conan*'s original name was *Visigoth*, which was a play on VisiCalc – we just thought that was fun!" he grins. "Our earlier titles were less creative, but for *Visigoth* it became: 'Well let's write our own.'"

An early task for the youthful developers was to visualise their fantasy platformer's lead character, and due to gameplay considerations they designed a Gothic warrior that somersaulted and threw boomerangs. "The boomerang was just because we wanted it to come back," Eric laughs, "but you couldn't have an infinite number – if you let it hit the ground you lost it. The somersaulting added more visual interest, and we liked the idea of rotation. It was hard to pull off, but we were trying to build up the game."

Having created their hero, the high school students next started working out level designs, ranging from easily manageable to seriously difficult. "The first level was very much like *Lode Runner*," Eric considers, "and it played pretty well. The later levels' moving platforms and other things were more arcade-like, and they added more complexity. We were trying to get to the point where you wanted to see more because there was an element of discovery and an adventure that drove you."

However, a by-product of this narrative-led level design was that each stage had to be tuned so that it offered an appropriate challenge. "Every level was thought of as a point on your path to the end," Eric reasons, "so there was a reason why you were going from geysers and floating platforms to dragons and onto the final stages. But there was always a balance to strike, and some of it was that we



DEVELOPER HIGHLIGHTS

JOUST (PICTURED)
SYSTEM: APPLE II
YEAR: 1984

CONAN
SYSTEM: APPLE II
YEAR: 1984

ARKANOID
SYSTEM: APPLE II
YEAR: 1988



» [Apple II] You have to leap over pools of lava in order to collect a gem on *Conan*'s fifth level.

had to speed levels up because they were too easy."

Another technique that the developers employed was to finish stages with elaborate setpieces that players could work towards. "A lot of the levels were designed around one large, interesting element," Eric reflects. "So like the bubble coming out of the lava, that was that level's cool thing. Then the rest of that level's design was based around what we were going to do to get you to that cool effect."

For their game's final stages, the pair introduced hazards that could float up and down as well as horizontally, which greatly increased their threat. "We were pretty much stuck on platforms, and a lot of what we were trying to do was increase the skill of killing something," Eric recalls. "So having something move through the vertical space made it that much harder, and having open areas meant that we could have some fighting and tumbling."

After completing work on *Visigoth*'s last few levels, the game's school-aged designers



» [Apple II] Once defeated, Volta gets dropped into a sea of lava by Conan's avian ally.

> "I don't think we expected Conan to carry us through college"
> **Eric Parker**



» Eric Parker left the games industry in the late Eighties and is now a CTO of a data security firm.

looked to secure a publisher for their fantasy title, which they then tweaked after receiving an interesting offer. "We had developed it as *Visigoth*, and sent it to the well-known software houses," Eric recollects. "Then Datasoft sent back an acceptance letter saying: 'Look, we'd like it, but we need you to change it to *Conan*.' We just needed to make the character into Conan, make the boomerang a sword, and put 'Conan' in big letters at the top."

Following its adaptation to accommodate the *Conan* licence, the game originally known as *Visigoth* was finally released, although its critical reception largely went unnoticed by its authors. "I don't remember seeing many reviews," Eric admits, "but we were happy to have something published – that felt good. I don't think we expected *Conan* to carry us through college, but it was a pretty decent culmination to a fun activity."

When assessing *Conan* now, decades after its development, Eric offers one major change that he would make, and although he's critical of the game's host hardware, he clearly still appreciates his Apple II classic. "The thing I would change is the second level," Eric notes. "It was just too simple, and it took almost as much space and time as the other levels. But *Conan* has a feel for me, of not just the good old years, but also the amount of change since."

CONVERSION CAPERS

WHICH VERSION IS THE DESTROYER?

APPLE II



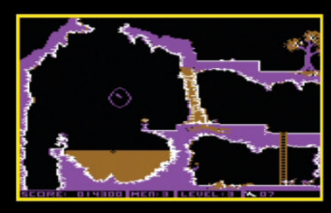
The first thing that you notice about the Apple II *Conan* is that its six challenging stages are explosions of colour. The Apple original also runs smoothly and at high speed, regardless of what's going on, and its controls are impressively responsive. Admittedly, the game's proceedings are practically silent – except for the occasional sound effect, but between tackling its frenetic platforming and avoiding its unpredictable enemies you hardly notice the lack of soundtrack.

ATARI 8-BIT



The Atari and C64 *Conan* ports were both developed by 8-bit Bruce Lee creator Ronald Fortier. They're almost identical, and are very faithful to the original, but there are a few areas where they differ from their inspiration. The Atari 8-bit version uses less colours, but it's rendered in bright hues, and it has tunes playing throughout. On the downside, it suffers from flickery sprites, and slowdown when there's a lot going on, and jumping gaps often requires perfect positioning.

C64

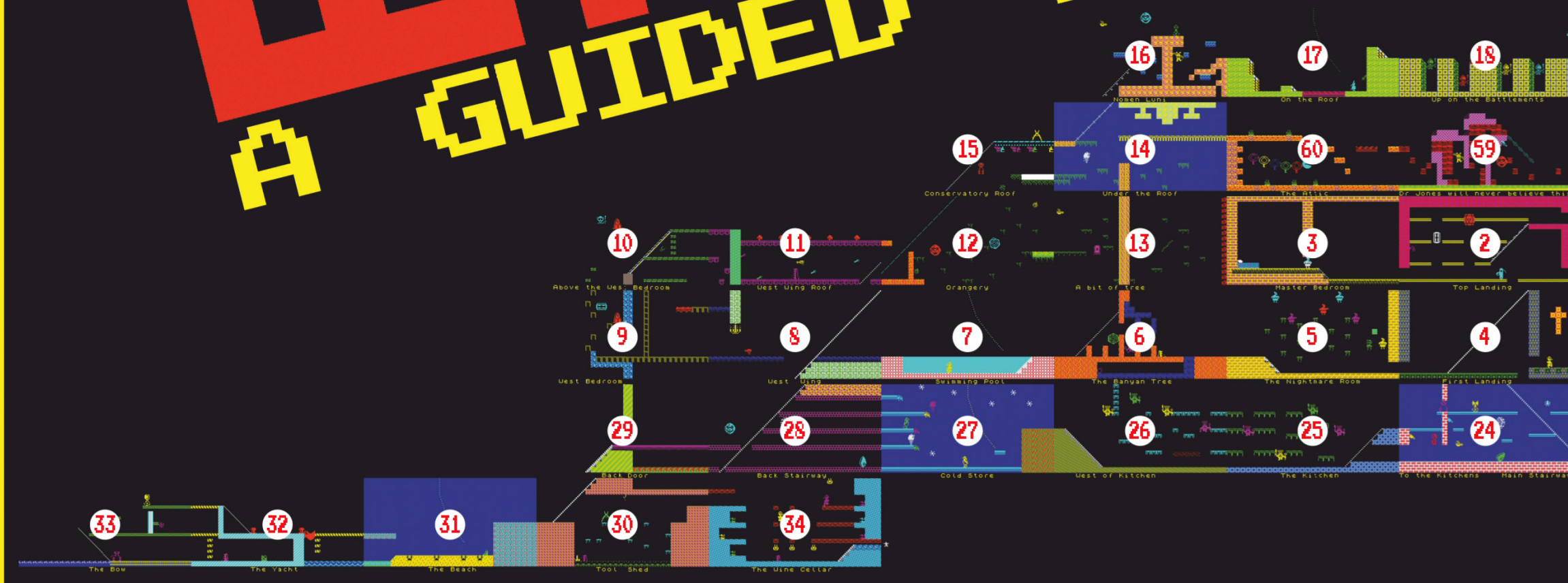


Conan on the Commodore 64 uses a more muted colour palette than either of the other versions, but like its Atari equivalent it boasts in-game music that the original lacked. Some of its tunes drift out of key occasionally, but by way of balance its sprites are flicker-free. That said, the Commodore conversion shares its Atari counterpart's slowdown on busy levels and its requirement for precise jumping, but minor flaws aside, it recreates the original's gameplay pretty much perfectly.

JET SET WILLY

A GUIDED TOUR





To mark the 35th anniversary of its release, we sat down with creator Matthew Smith with a couple of drinks and took a tour of all 60 rooms found in Jet Set Willy. Join us through the keyhole as Matthew shares his memories of Willy's mansion

WORDS BY PAUL DRURY



If you had to choose one game character to represent the British 8-bit home computing scene, Miner Willy would be a sound choice, and his creator, Matthew Smith, similarly epitomised the heroic 'bedroom coder' of that pioneering period. He began programming arcade clones for his Tandy TRS-80 before using the machine to produce Spectrum titles, beginning with *Styx* in 1983 and then *Manic Miner* later the same year, which became a huge critical and commercial success. His legacy was secured the following year with the sprawling and surreal *Jet Set Willy,* but its creation took its toll on Matthew and he would not produce another full game again. Love for Miner Willy's games and fascination with their mercurial creator has endured, though, and there is still hope that both Willy and Matthew might yet make a triumphant return.

WILLY'S EXPANDING MANSION

CONVERSIONS THAT ADDED EXTRA ROOMS TO MATTHEW'S ORIGINAL DESIGN



AMSTRAD CPC

Subtitled '*Final Frontier*', this version added a staggering 74 new rooms, most of them found beneath the house and in space (accessed via The Rocket Room). This was later published for other machines as *JSW II*, featuring a total of 134 rooms.



THE DRAGON 32/64

This added 15 new rooms, including one called Matthew's Next Game, which was an empty room save for a bouncing ball, possibly a reference to the 'Footy' game Matt was rumoured to be working on (or a dig that whatever he was working on lacked content).



MEMOTECH MTX

Two rooms were added near to The MegaTree: The Courtyard and The Front Lawn. **Retro Gamer** issue 122's *Miner Willy's Retirement Home* feature shows the extra rooms from a myriad of conversions skilfully pieced together by master 8-bit architect Martyn Carroll.

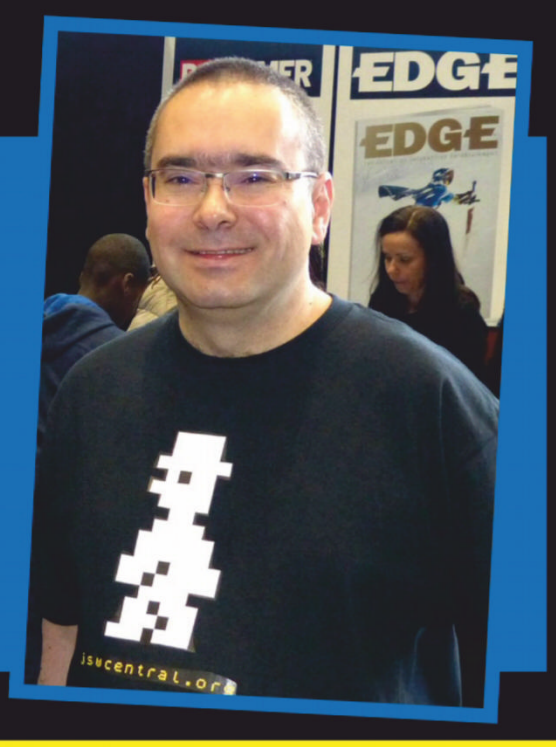


"I'd been forced into 'normal' hours by the people harassing me. I would still code at night and try to sleep in the day"
Matthew Smith

THOROUGHLY MODDED WILLY

HOW JSW SPAWNED A COMMUNITY OF CREATORS

Soon after its release, editors became available which allowed players to create their own platform games using the *JSW* engine. This early example of a modding scene is still healthy and we urge you to visit jswcentral.org, created and curated by Daniel Gromann, which gathers together all known versions of *JSW* and its predecessor *Manic Miner*, from simple tweaks to the originals to whole new games containing hundreds of levels. "I am proud that the site provides a full, all-inclusive picture of this unique expression of human creativity," says Daniel. "Real magic lies in being able to create new parts of the *JSW* universe and trying to make them interesting for the players, both artistically and in terms of gameplay, can be truly intoxicating. It is gratifying to know that players can experience the joy of discovering new rooms and caverns just like they did back in the Eighties with Matthew's brilliant creations."





THE BATHROOM

01 The enemy at the top is two Earths, rolling after each other, based on an episode of *Space 1999*. I think they crashed two moons into each other with no apparent ill effect. **RG: "Did you ever wake up in the bath after a heavy night?"** Nah, my Willy is an original work of art and is not based on any person living or dead. And I deny ever having slept in a bath.



TOP LANDING

02 That's a barrel with three Xs on it and it's red, so that's obviously Watneys. I had a Swiss Army knife so that went in. Having eight lives was my decision. I could see three lives wasn't enough, so I thought, 'What's a good number? What is there room on the screen for?' Eight seemed about right. It's a lucky number in Chinese. And in electronics.



MASTER BEDROOM

03 The housekeeper was based on a Greek lady who lived over the road. Yeah, her name was Maria. I don't think she ever knew she was in the game. **RG: "Her sprite looks a little odd… what's going on with her chest?"** I'm not commenting. She might still be living there. I do not wish to discuss [it].



FIRST LANDING

04 **RG: "When did you realise there was a bug here?"** About 40 years later. I think it was Cameron Else who fixed the bugs. He won the champagne and helicopter ride [for the first player to complete the game], though Alan [Maton, fellow director of Software Projects] told me he accepted cash instead. Whatever happened, Tommy [Barton, another director] will have written it off as a tax loss.



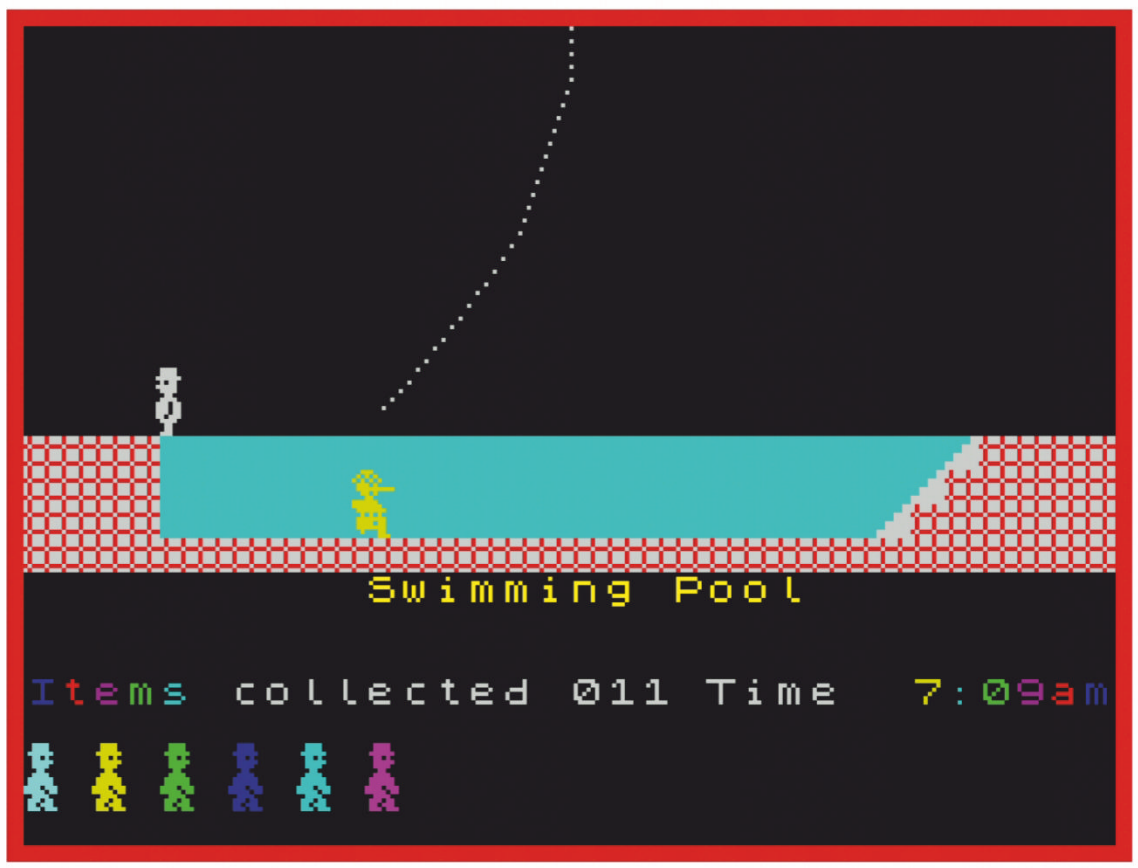
THE NIGHTMARE ROOM

05 There was probably a Pink Floyd influence, though I just thought Willy transforming into a pig was funny. I had the idea that the route you took was dependent on the skills you had, because there are some tricky jumps here. **RG: "Were you prone to nightmares?"** That's a leading question. I can't remember. I slept pretty well because I tended to be… erm… tired and emotional.



THE BANYAN TREE

06 I knew it was tricky while I was doing it, and deliberately kept it tricky, but I knew it was possible. I was the only one testing it… well, Alan might play it while I was on a piss break. Or sometimes I'd have to cease my whole operations while he satisfied himself. That's the only way I can describe it. He'd come round, sit behind me and… help me. **RG: "Define 'help'."** A backseat driver, mainly. And on balance, it was never helpful.





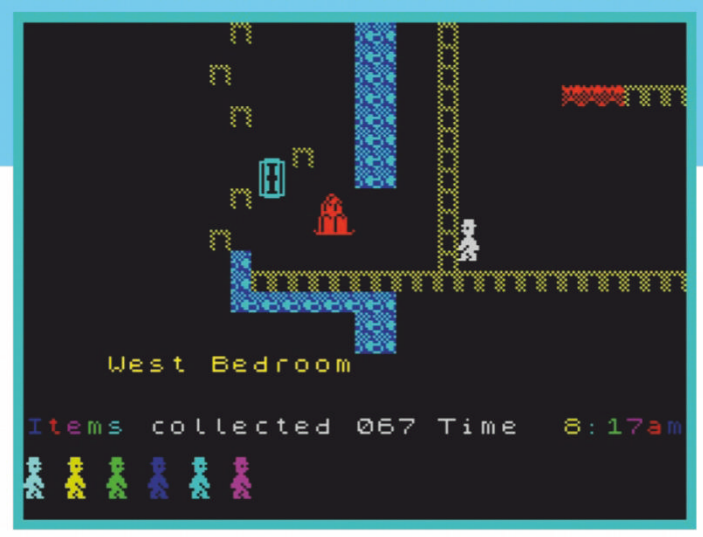
SWIMMING POOL

07 I think I had air at one point [during development] and was planning to make it run out more quickly here, so you'd have to keep jumping [out of the water] to get a breath… but I changed it to time, so no, you can't drown. And the monk can't either.



WEST WING

08 **RG: "Is the name a reference to the USA?"** Nah, this is nothing to do with the West Wing of the White House. It was based on an English country house, though the only one I've visited was on a school trip to Speke House [near Liverpool airport]. I remember they had a nine-foot bed spread made of cat fur.



WEST BEDROOM

09 **RG: "What is a wobbling jelly doing in a bedroom?"** Oh there was no plan. I'd draw stuff first and then decide if I liked it afterwards. I'd draw the prototypes on graph paper, 16 by 16 [squares], but only animate them when they were on-screen and some things don't look good when you rotate them. So you keep drawing shit until it works!



ABOVE THE WEST BEDROOM

10 Ah, there's Dave Ward [future Ocean boss]. I included him to amuse and annoy. I'd done a *Pac-Man* clone [*Monster Muncher* for the VIC-20] for him back when he ran Spectrum Games Ltd. It was a nice little earner – £500 for three hours of work. **RG: "Did Dave know this sprite was meant to be him?"** Nah, and if he asks, it isn't him.



WEST WING ROOF

11 I think that they might be mushrooms on the top row. Or maybe tiny little trees. I had graph paper and tended to do six rooms together, two across and three down, on A3. I did have a master plan [with all the rooms] on paper but that got chucked out when the dog pissed on it. It's nearly a working square, but like the periodic table, there are a few 'excursions'.





ORANGERY

12 The red face isn't based on anyone, though I suppose I did see myself as a bit of an artist… well, more as an inventor. This was a computer program I was making and the art was grist to the mill. And the mill is what I was selling. Or at least the flour. And nah, that's not a spider web – it's a spiral and a hex!



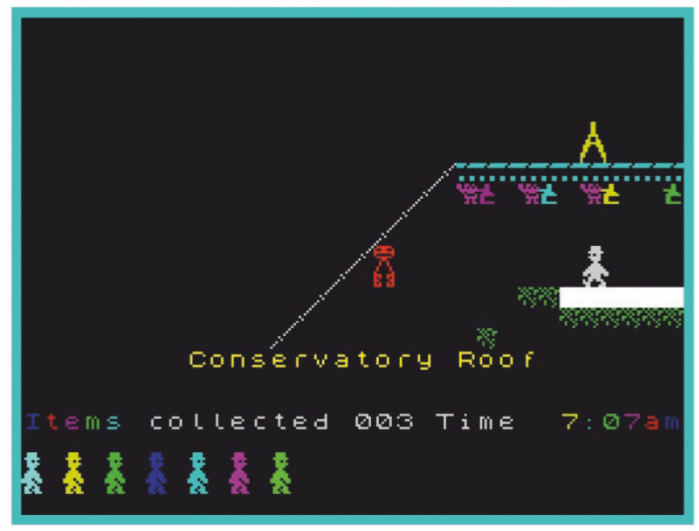
A BIT OF TREE

13 I like this, and I like the MegaTree even more with the pine leaves. I just thought a tree would look cool. That's why I had the Endor screen in *Manic Miner*. Am I an environmentalist? Only like the Green Party, in that I want to eliminate 90% of the population [Matt laughs maniacally while we scurry on to the next screen].



UNDER THE ROOF

14 That's the plane from *Zzoom* crashing through the roof. I did meet John Gibson [the author of *Zzoom*] and I did play games by Imagine [the Liverpool-based publisher]. Briefly. Because they were mainly shit. **RG: "Is the ice cream a nod to the seaside arcades of New Brighton?"** Nah, it's a nod to ice cream.



CONSERVATORY ROOF

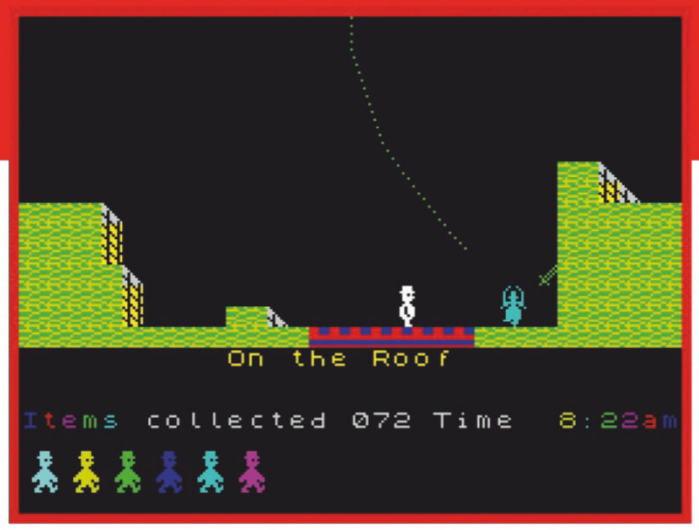
15 That's a pair of pliers and those are probably little bears holding bottles. 'Why?' You have to ask, 'Why not?' I'd put stuff in and if no one could come up with a good reason why not, it stayed in. **RG: Who's that red enemy, then?** Your mum.





NOMEN LUNI

16 That's a blue meanie from The Beatles' *Yellow Submarine* and that's a bear, wearing overalls, like Rupert. **RG: "The title is a pun on Imagine Software's tagline. How did you feel when it went bust?"** It was inevitable and it had already gone south for me by then, too. I didn't have much faith in the future of our company. I was surrounded by people who wanted stuff 24 hours a day.



ON THE ROOF

17 The title is a Carole King song. That's a rabbit. It hops one way and pirouettes the other. I suppose you want to know if I've ever had a dancing rabbit now, don't you? Yes, I had a rabbit. Well, I wouldn't say 'had'. We were just seeing each other [giggles].



UP ON THE BATTLEMENTS

18 Of course, the whole top of the roof is *Hunchback*. That game doesn't work without arrows – it's just a series of simple jumps – so I had to put them in and ended up using them on other screens, too. And that didn't always work.



WE MUST PERFORM A QUIRKAFLEEG

19 This was originally called 'The Gaping Pit' 'till I changed it [a reference to the *Fabulous Furry Freak Brothers* comics]. All the screen names are mine but I did ask people if they thought they were funny. The little kink in the rope was due to a miscalculation, but I liked it so I left it.





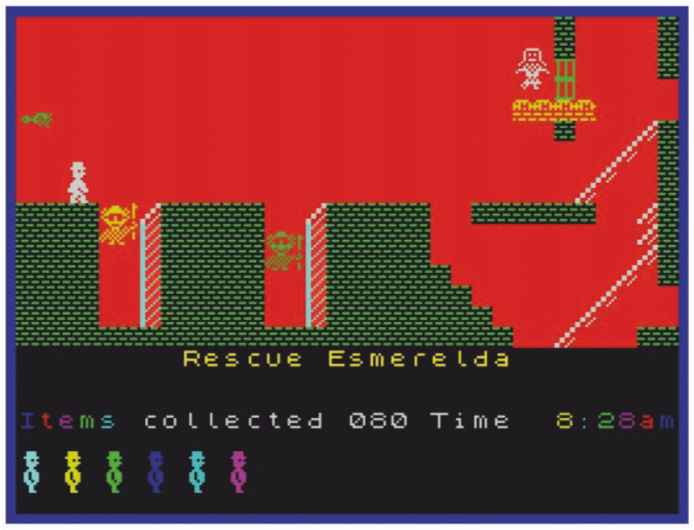
WATCH TOWER

20 This could be based on St John's Tower [on the banks of the Mersey] or it could be based on the Leaning Tower Of Pisa. That is definitely Weed, though, from *Bill And Ben*, with feet added. **RG: "Why does jumping off the top of this screen take you to The Off Licence?"** That could be a conspiracy. Or a cock-up. I think it was the latter.



I'M SURE I'VE SEEN THIS BEFORE...

21 This was me saying, 'Look, I can do a closer rip off of *Hunchback* than the official one which costs £5.95 and this is a mere tiny portion of a much bigger game! **RG: "Did you ever show the game to the Ocean Software people?"** Nah, I didn't get to go to shows by this time. I was pretty much locked up. I coded most of the game at home but then I was shuttled between here and work. When I was home, they hassled me here [at home], when I was at work, they hassled me there. There was no escape from it.



RESCUE ESMERELDA

22 Yeah, alright, Esmerelda isn't a looker but you've only got so many pixels. What you going to do? She's got a face. And pigtails.



ON TOP OF THE HOUSE

23 It's all very sparse, isn't it? I just didn't have time to fill in each screen intricately. That flag is a Red Ensign and it goes up and down, I suppose. You don't really see flagpoles like that in 'Surbiton-On-Sea' where the house is supposed to be, do ya? But never mind.



TO THE KITCHENS - MAIN STAIRWAY

24 I just think I put more effort into this screen. You've got chickens and eggs, a meat cleaver stuck in the wall and that could be a disco ball. If I'd got a goat sprite I would've had that running along down there, too. **RG "Is the title trying to orientate the player?"** That was the aim of all the screens – to give a hint of what was to come.



THE KITCHEN

25 The chef was probably based on Johnnie Cradock [husband of Fanny Cradock] and there might have been a bit of the Swedish chef [from *The Muppets*]. I took most of my cultural references off the telly, I suppose. This is basically Wacky Amoebatrons from *Manic Miner* spread over two screens.



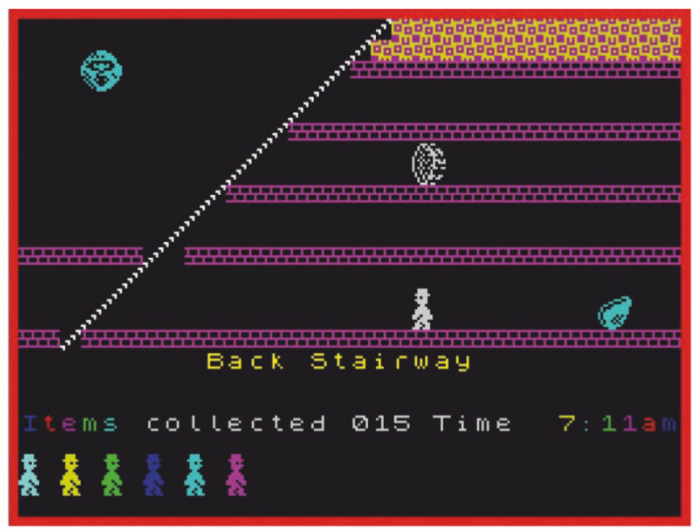
WEST OF KITCHEN

26 I must have named the chef Andre because later I did a BASIC type-in game for *C&VG* [*Andre's Night Off,* which features 'the chef from the mansion']. I wrote it on the Spectrum, not the Tandy, and it's probably the biggest thing I ever wrote on an actual Spectrum. I got £50 a page, which is what they paid everyone.



COLD STORE

27 That ice cream and penguin could well be lifted straight out of *Manic Miner,* though I didn't carry much over, if anything. When Derrick [Rowson] did *JSW II* he told me he started from scratch because I wouldn't give him the source code. I found out that wasn't company property. I guarded it jealousy. Or that's what they kept telling me.



BACK STAIRWAY

28 This is obviously one of those screens I'd call 'filler'. And that's not a pear, it's an egg. **RG: "Were you still coding mainly at night, like with *Manic Miner*?"** I'd been forced into 'normal' hours by the people harassing me. I would still code at night and try to sleep in the day but then they'd come round and wake me up. Which meant I wasn't getting any sleep, basically. I kind of broke myself.



BACK DOOR

29 There's obviously space to put stuff in, but I didn't. Basically, I would say that's not finished. There are a lot of screens like that, looking at them now. I was just running out of energy.





TOOL SHED

30 I suppose a country house needs maintaining and so it needs a workshop. **RG: Was this influenced by Mellors from *Lady Chatterley's Lover*?"** Nah, it was more *Fawlty Towers*.



THE BEACH

31 The sewer backed up here last week and I had a nostalgic whiff of New Brighton beach in the old days. As they used to say, 'You don't go swimming in New Brighton, you just go through the motions.'



THE YACHT

32 Nah, I wasn't implying I could afford a yacht. I was just telling a story… about a lucky man who made the grade. When *Jet Set Willy* was finished and out, I did suspect I was going to be wealthy. False expectation, as it turned out. I thought I'd cracked it for a little while.



THE BOW

33 A journalist asked about the rumour that if you waited here until 11.45pm a raft would take you to an island, and I refused to confirm or deny it. Which they interpreted as a 50% chance it was true. I did think about having stuff happen at different times like the graphics changing when it got to night and the Off Licence closing. I mean, knowing when the Off Licence shut was one of the guiding principles of our lives back then.



THE WINE CELLAR

34 Ah, the secret exit! Once I knew you could walk through stairs, I wanted to do something with that. **RG: "Are the monk's long noses a comment on the disputed nature of religion?"** Er, possibly. And they were monks in a wine cellar so long noses would help.



THE FORGOTTEN ABBEY

35 If a screen looks and feels busy like this one it's because I've put the effort in. I'd flesh screens out as I went along and for some I'd mess about for ages. But I was being harassed to finish it, so by the end I'd do a block of six screens on paper and type them in as I'd drawn them.

THE SECURITY GUARD

36 **RG: "The player sees the lower path a long time before they can actually get to it."** Yeah, I liked to hint at what might be coming. Like, the secret passage in The Wine Cellar [which you need to go through to get to this screen]… everyone likes finding secrets like that, don't they?





ENTRANCE TO HADES

37 I had carefully designed screens so when you entered them, you would be safe but then falling into them… that was a different story. I knew you'd lose all your lives here. For a laugh… and I had that big sprite and I didn't know if I was going to keep it. **RG: "Is it Eddie, Iron Maiden's mascot?"** Erm, you'd have to check with my lawyer about that.



UNDER THE DRIVE

38 That might be a dancing Dalek, or maybe it's Sputnik, or the robot from… **RG: "*Lost in Space*. Do you have any favourite enemies in the game?"** I like about half of them. To be honest, I think the sprites are more finished than some of the screens.



TREE ROOT

39 **RG: "There seems to be a possible exit from this screen to an unused room in the code. Was that one of the four 'lost rooms'?** I seem to recall they were up on the roof somewhere but maybe there was one off here. **RG: "What was in the missing rooms?"** Dunno. I think there was a chimney stack in one of them and I was going to have another room on top of that.



THE DRIVE

40 Yeah, of course that's a giant egg. Why didn't I put a car on here instead? Nah, you don't drive on a drive… it's just there.



AT THE FOOT OF THE MEGATREE

41 The MegaTree game was originally going to be on the Spectrum but then [long pause]… I was asked to do it with a couple of C64 programmers and they had their own ideas of what they wanted to do. We never got very far, to be honest. Nah, I don't think we ever played *Jet Set Willy* together at Holt Rd. I can't say I ever played my own games once they were done.





INSIDE THE MEGATRUNK

42 Ah Little Weed is back! **RG: Was a little weed consumed during the making of *Jet Set Willy*?"** Nah, I think I was mainly drinking at the time. I think that's fair to say.



CUCKOO'S NEST

43 This is tricky. When you're doing a difficult screen, everything is relative. You have to think of every detail but only around a small area where you need to jump. Nah, the title of this screen isn't anything to do with *Robin's Nest*, though I did fancy Tessa Wyatt [Vicky in the TV show].



ON A BRANCH OVER THE DRIVE

44 I made some screens have different background colours for variety but you could get problems so I mainly stuck to black screens. Anything else would be sadistic.



TREE TOP

45 The idea of getting inside a trunk and climbing right to the top did give a sense of scale, having things bigger than one screen. […] I did experiment with scrolling on the Spectrum later with *Zombie Chickens* but the sprites were much bigger, like whole buses scrolling across the screen and you running to keep up with them. Scrolling whole characters is dead easy. It's the fine scrolling that's difficult.



OUT ON A LIMB

46 **RG: "Did you know a C16 game took this title and even included a Miner Willy sprite in it?"** Well, obviously I'm in no position to complain, what with me ripping off *Hunchback* and taking ideas from other games like *Miner 2049er* and *Donkey Kong*. It was almost a shared culture.



UNDER THE MEGATREE

47 Now you mention it, I'm not sure if that's a rabbit or a kangaroo at the bottom. What's the difference anyway? And that's not a beard on that face, it's a head with six legs. If you want to call it a Bug-Byte bug, that's up to you.



THE BRIDGE

48 **RG: "Was this level based on an actual bridge in Liverpool?"** Nah, sorry, there's nowhere you can stick a blue plaque. I think that's the only place that flying saucer appears.



THE OFF LICENCE

49 Twelve items – this is pay dirt! This is where you should be going after a party. I should have put a hairy dog in there, too. Is that what I did the morning after? Look, this is a fictional character. This is not autobiographical. Though I was enjoying my booze back then. **RG: "What was your drink of choice back then?"** A jeroboam of Remy Martin. Please.

THE FRONT DOOR

50 There's nothing in here! Well, there's one item. A shit room, you know, an empty room like this would just take an hour or so to get the first draft in there… though I do like that marble texture. Having to collect 83 items was nothing to do with me starting to write it in 1983. I mean, there was supposed to be 64 rooms but I couldn't work out why the last four weren't working, so there was supposed to be more items in total.



THE HALL

51 There's a top and bottom way here, but nah I'm not saying it's taken from *Pitfall!*. I'd seen [that game] but not played it. I never had an Atari.



BALLROOM EAST

52 There's no one dancing in the ballroom because the party is over. Yeah, I did all the music [for the game]. I had the sheet music for *Moonlight Sonata*. Someone had simplified it so I used that arrangement and simplified it even further for the Spectrum.



BALLROOM WEST

53 Actually, there is still some dancing – on the table. Yeah, that must be a rabbit. It's waggling its tail. That can't be a kangaroo. I must have reused a conveyor belt for the table.

JET SET WILLY
A GUIDED TOUR



THE CHAPEL

54 Why all the religious stuff? Well, it's just the English upper classes – they established religion, didn't they? You can't have a country house without a chapel. *Brideshead Revisited* had been on telly and that made an impression on me.



EAST WALL BASE

55 I think I had ideas of what else I could do here. That way out could lead somewhere. As it is, all you can do is jump to your death. But without the opportunity to die, how do you know you're alive? [Cackles sinisterly].



HALFWAY UP THE EAST WALL

56 **RG: "This is the only use of a conveyor 'ramp' in the game and all it does is push you to your death?"** That's the slippery slope! You always have more ideas than you end up using. For *Manic Miner*, I had the idea of water flowing through the screens. I must have already rejected that for *Jet Set Willy*.



PRIESTS' HOLE

57 **RG: "Is this based on the Priest Hole at Speke Hall?"** How did you know I'd been to Speke Hall? Have you got access to my school records? **RG: You told us about it earlier, before we started drinking Absinthe."** Oh yeah… there's probably a link. One thing we were always taught about the aristocracy was that they murdered each other for being the wrong shade of Catholic. Which must be why we're not allowed to string them up on lamp posts now – they have suffered enough.



EMERGENCY GENERATOR

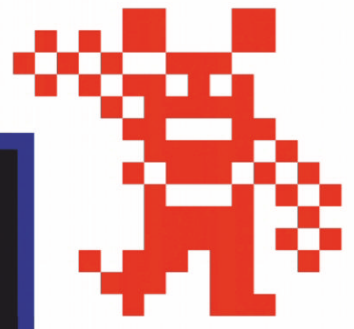
58 If there's a flying pig over a power station, it has to be Battersea. I was born in South Norwood [in London] so nah, I wasn't near Battersea but this is 'Surbiton-On-Sea' so that tells you it's somewhere down south.



DR JONES WILL NEVER BELIEVE THIS

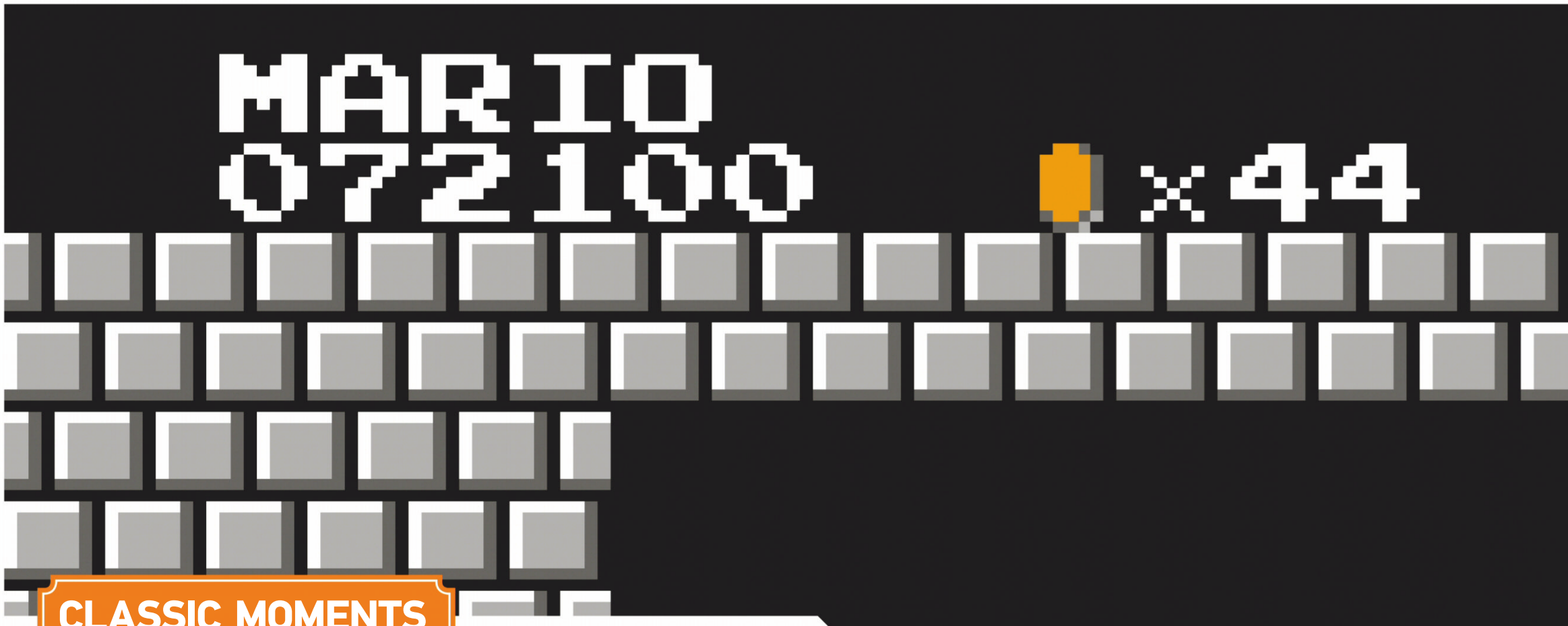
59 **RG: Is this a reference to the 'Myth Of Jones' as postulated by the philosopher Wilfrid Sellars?"** Nah, I'd not read that. Though it does sound very plausible. I'm sorry, I've not studied philosophy. They had me tagged for Oxbridge but I would've had to stay on and do me A-Levels. **RG: "So who was Dr Jones?"** A fictional character. I'd not seen the *Indiana Jones* films when I did this. I mean, after Smith, it's the most common name.





THE ATTIC

60 Nah, I wasn't aware of the 'attic bug' but I think this was next to one of the 'dead' rooms. I did the Pac-Man head and added in the centipede body afterwards. They looked rushed, don't they? The game was nearly finished and they were saying people were coming… [long pause, then cheerfully] well, it had to be out some time and nothing is ever perfect!



CLASSIC MOMENTS

Super Mario Bros

» **PLATFORM:** NES » **DEVELOPER:** NINTENDO » **RELEASED:** 1985

Your trek through the first few stages of *Super Mario Bros* has taught you the basics – there are stages above ground and stages underground. There are Koopas and Goombas trying to get you, and if you fall down a hole, you're dead. But stage 1-4 is altogether different – the large castle is far more dangerous, filled with pits of lava and spinning fire barriers. Even the music suggests that this place is not to be trifled with. As you make progress through the stage, fireballs start to shoot in from the right of the screen.

Finally, you meet your nemesis for the first time, Bowser. He's a formidable foe – much larger than the standard-issue grunts, and his jumps and fireballs are harder to predict. You try to jump on him to no avail, and the second encounter ends with a flame-grilled Mario. But the third time you notice the glowing axe behind the fiend and jump over him, destroying the bridge and claiming victory. Nice work!





BIO

Mario Bros had been a reasonably popular arcade game, but *Super Mario Bros* was such a thorough evolution that it left the older game in the dirt. Single-screen platforming was replaced with lengthy scrolling assault courses, taking place in a variety of locations including above ground, on bridges, underwater, underground and a fiendish castle. New enemies and end-of-level bosses provided challenge, and a catchy theme tune would lodge itself in pop culture for decades to come. This was the single best reason to buy a NES during its overseas launch, and remains an iconic classic that is still enjoyable to play today.

WORLD 1-4

TIME 197

MORE CLASSIC SUPER MARIO BROS MOMENTS

Knock Them Down



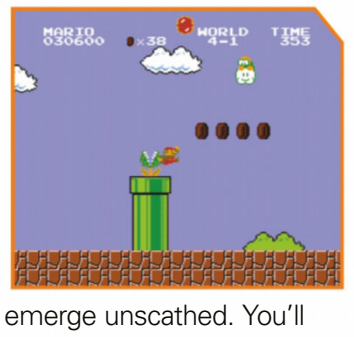
The first time you jump on a Koopa, you'll notice that its shell is left behind – and if you run into it, it'll be kicked away. But what is super satisfying is when you realise that the shell has been weaponised. If you sprint after it you can see it taking out rows of enemies in succession, racking up increasing points combos.

A Brief Dip



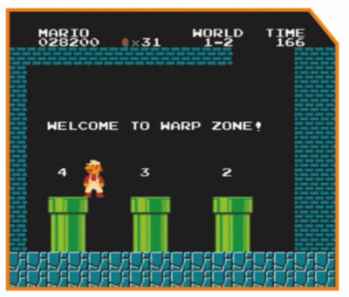
You might think you've seen everything after the first world of *Super Mario Bros*, but you'd be mistaken. Instead of emerging in the familiar underground, Mario enters a pipe only to splash down into the sea. Marauding fish and squids are a danger to our portly plumber, but if he's got a fire flower he can still use it – yes, underwater!

Jaws Of Death



This one is a feat of pixel-perfect platforming. When running at full speed, Mario can jump right over a pipe with a Piranha Plant extending out of the top if he leaves the ground at just the right spot – he'll ever so slightly overlap with the plant's sprite, but emerge unscathed. You'll probably learn this skill running from Lakitu in World 4-1.

Warp Zone



Sometimes, skipping levels feels a bit like, well… cheating. But *Super Mario Bros* brilliantly incorporates its Warp Zone into the game design, only letting you go as far as the developers want – sometimes a few levels ahead, sometimes just one. It's a secret and you still feel pleased to have discovered it, but only because Miyamoto and the Nintendo team wanted you to.

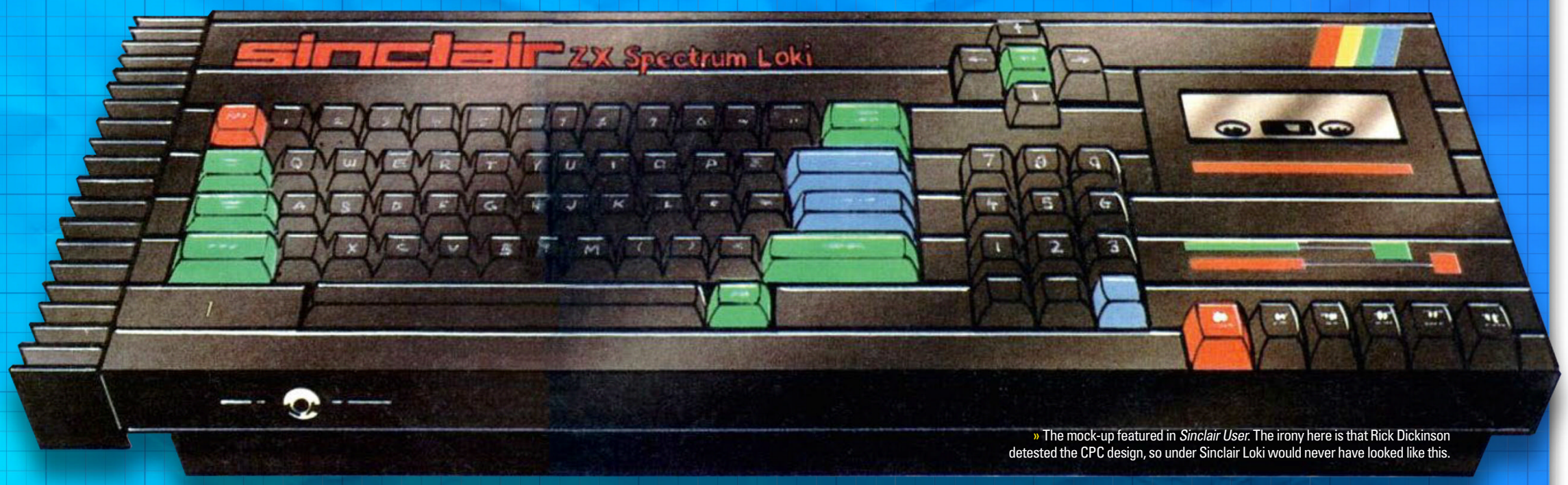
The Lost Spectrum

THE SPECTRUM HARDWARE WAS INTRODUCED IN 1982, AND BAR SOME BELLS AND WHISTLES, IT WAS NEVER MEANINGFULLY UPGRADED. BUT THINGS MIGHT HAVE BEEN DIFFERENT HAD THE AMBITIOUS LOKI PROJECT MATERIALISED. RETRO GAMER ASKS: WAS IT A MISSED OPPORTUNITY OR JUST A PIPE DREAM?

words by martyn carroll



Loki: The Lost Spectrum



» The mock-up featured in *Sinclair User*. The irony here is that Rick Dickinson detested the CPC design, so under Sinclair Loki would never have looked like this.



Jim Bagley

■ Jim is well known for his 8-bit versatility and is currently part of the Spectrum Next team.



Rick Dickinson

■ Before the Loki, the late Rick Dickinson designed the ZX81, the ZX Spectrum and the Sinclair QL.



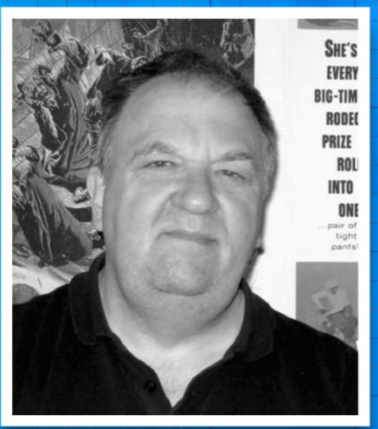
Sir Clive

■ The head of Sinclair Research was actually unaware of the Loki project's existence.



Steve Turner

■ Steve's company, Graftgold released a number of iconic Spectrum games.



Bob Pape

■ The coding veteran likens the Loki to being very similar to Sega's Master System.

Sinclair Research was a secretive place. According to former employees there were always multiple projects on the go or in suspended animation, and it was difficult to keep track of what was being planned or prototyped at any given time. In 1985 three employees – Martin Brennan, John Mathieson and Ben Cheese – started developing a clandestine new computer project that, according to Sinclair designer Rick Dickinson, even Sir Clive himself wasn't aware of at first.

The project was named Loki, after the trickster Norse god, because it was supposed to 'borrow' all the best bits from the competition. The competition was, of course, the Commodore Amiga and the Atari ST, the two new 16-bitters on the block. Loki was designed from Sinclair tradition of offering the capabilities of rival computers at a fraction of the cost. The bold plans were laid out in a five-page internal document that was date-stamped 16 January 1986 and titled, rather grandly, 'Specification of the Super Spectrum Entertainment Engine'.

Fast forward six months and the June issue of *Sinclair User* leads with the splash 'Super Spectrum – a £200 Amiga?'. The internal document had found its way to the press and the key details were spilled. Loki would feature a Z80H processor running at 7MHz (twice the speed of the Spectrum), 128KB of main RAM (expandable to 1MB), 64KB of video RAM, blitter-style functionality, 512x212 pixel display, 256 colours, synthesised sound, genlock input, ROM card support, a keyboard and full Spectrum compatibility. It would also come with a suite of built-in software including enhanced BASIC, CP/M, and various editors (text, image, animation, music and more). All this would retail for £200 – around an eighth of the cost of a new Amiga 1000.

It sounded incredible. It also sounded impossible – and Simon Goodwin of *Crash* magazine shared that view. In a barbed Tech Tips column he poured scorn on Sinclair's proposal, arguing that the numbers didn't add up and Loki was clearly vapourware. Whether it was too good to be true was a moot point, however, as there was another factor in play that killed the proposal stone dead: the Sinclair computer business was no more.

In April 1986 Sinclair had been forced to sell out to rival Amstrad in a deal worth £16 million. It's presumed that Loki would have been part of the sale, but it was clear that Amstrad only had eyes for the Spectrum. The first thing it did following the buyout was to ditch the QL business machine, offloading 20,000 of the ill-fated things to an overseas distributor. It then silently killed Pandora, the portable Spectrum that had languished in development for years. *Sinclair User* suggested that, in Loki, Amstrad had acquired "Sinclair's secret weapon" in the 8-bit battle, but there was zero chance that Alan Sugar's outfit would fund such a sketchy concept. All Amstrad wanted to do was align the Spectrum with its own CPC range and position it as its entry-level computer, hence the rapid release of the Spectrum +2 in September 1986.

Loki was abandoned and, as a direct result, has attained almost mythical status in Sinclair circles. But what do we actually know about the computer, beyond the *Sinclair User* exposé? And would it have been the mighty games machine it proposed to be? ▶

> "Sinclair Research might still be here today if we'd brought Loki to market"
> **Rick Dickinson**



> "The lack of a built-in disk drive would have been a big disadvantage. Tape loading was old technology"
> **STEVE TURNER**

To answer the first question we can look at the specification doc, which **Retro Gamer** has been privileged to see. It opens with an overview of the proposed machine: "Loki is intended to be a replacement to the Spectrum 128, selling for less that £200. The sound facilities will have the capabilities of a commercial synthesiser. The graphic facilities will allow better animation than any existing home computer, and will allow cartoon quality graphics. The innovative features (at this price) will enable it to be sold to a wider consumer market than the computer games/hobbyist market." It's clear that Loki was being positioned as a general entertainment unit, thanks to its advanced audio and video capabilities, rather than a pure videogames machine. That said, two of the three graphics modes were clearly included with gaming in mind: 256x212 pixels with the full 256 colours, and 256x212 pixels with 64 colours plus 'rasterop' (blitter) functionality to boost data-to-screen speed.

Most of the detail was diligently reported by *Sinclair User*, with the exception of the 'look' of the machine. The magazine showed an artist's impression that was essentially a Sinclair-branded CPC 464, most likely because the proposal is vague when detailing the actual design. There are some clues, however. "The basic machine is contained in a box with a built-in power supply and a proprietary keyboard," it reads, before suggesting that a separate keyboard could be used. "Certain peripherals will be designed to interface with the machine... floppy disk drive, music keyboard, light pen, extra RAM/ROM. They will be manufactured by Sinclair and connect neatly to the main box or be installed within the main box."

> "I think it would have been an amazing dev machine. I would have loved making games for it"
> **JIM BAGLEY**

This ties in with Rick Dickinson's comments that Loki was to adopt a modular design. "[Loki was] utterly expandable," he commented on early concept sketches he shared on his Flickr account in 2007. "Peripherals could be added until they dropped off the desk. Everything you could ever need could just be plugged on." This idea was an extension of the way you could daisy chain an Interface 1 and Microdrive(s), Interface 2 and ZX Printer to a Spectrum – which was the antithesis of the CPC and its all-in-one approach. "Sinclair Research might still be here today if we'd brought Loki to market," mused Rick. "Unlike any other Sinclair computer, it was directed absolutely at the games market."

To ascertain whether Loki would have been good for gaming, we shared the proposal with several Spectrum programmers. Graftgold hero Steve Turner was asked about Loki by *Sinclair User* in 1986 and back then he called the machine "a game-player's dream", but questioned the lack of memory to store graphics and sound. "When asked to comment when it was first rumoured, my main worry was the size of the screen," he tells us now, as he looks back over the document. "The 64KB video RAM would have 53KB used up by the screen, leaving just 11KB for game graphics. That means that most of the graphics would have to reside in the main RAM. However, it doesn't look as though this is accessible by the video hardware. If the blitter could access the main RAM via paging then it would all depend on the speed of this operation. It probably would be a lot slower than accessing video RAM. The spare 11K could be used to cache graphics, but this is a small amount so it would be difficult to efficiently use it. The sound hardware looks good. It doesn't say how large the wave tables are – they might be expensive in RAM – but it looks like a very flexible system that takes the burden off the CPU."

The lack of a floppy drive also raises an eyebrow. "Compared to the Atari ST and Amiga, the lack of a built-in disk drive would have been a big disadvantage," Steve continues. "Games would have needed to load in extra sound and graphics data and this would have been clunky on tape. Yet adding the disk drive would have increased the price so it would no longer be such a commercially-viable games machine. That's probably why it didn't get past this stage. Tape loading was old technology.

"In summary, it looks as though this would be a fun games machine to program – providing you designed within the hardware limitations. It would be a pig to convert other games to as you'd have to cut the amount of graphics on the screen at any one time down and work out clever ways to manage caching. The games could have looked pretty with terrific sound, but would have to be specially-designed console-style games with limited graphics. I cannot think of any of Graftgold's games of the time that would be suitable due to their free nature that allowed loads of different sprites on the screen at any time. Overall, I think it would have been too late to compete graphically with the ST or Amiga, and too expensive to compete with the consoles."

Celebrated Z80 programmer Bob Pape also sees the console connection, having developed games for both the Spectrum (*R-Type*, *Dragon Breed*) and Sega Master System (*Shadow Of The Beast*). "It's pretty similar to the specifications of the Master System," he says. "The SMS was already throwing large amounts of data around a scrolling screen with polyphonic sound in 1986. The advantage of the SMS, and other consoles, was that they were based around cartridges with their instant load capabilities. The Loki spec seems to deliberately ignore this, perhaps because the production and manufacture of the cartridges was beyond the scope and capabilities of Sinclair? Of course, there's always the cassette interface, but if you thought the length of time loading a 48KB Spectrum program was tedious then imagine how long it would take to load anything approaching 256KB or even 512KB in size.

> "You get the feeling that they decided to throw in everything but the kitchen sink to make it more appealing"
> **BOB PAPE**

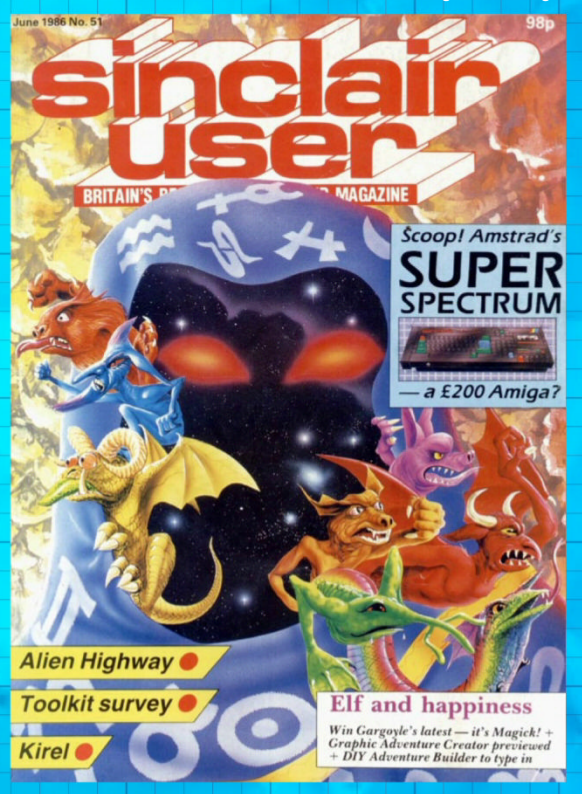
"The legacy support of the 48KB and 128KB models does not appear to be thought out properly either, with no mention of how the Loki screen would emulate the bizarre layout of the previous machines. They mention 'Spectrum Mode' where the CPU is clocked at 3.5MHz to retain compatibility, but don't mention if it could also be run at 7MHz which would speed up existing Spectrum games, allowing them to become more playable."

Bob believes that Loki would struggle to outgun the Master System, which launched in the UK in 1987 for just £99. "Based purely on what the document says, from the viewpoint of a games coder, there's nothing there that would have made it any better than the Master system, which was also running a Z80-based CPU but at a slower clock speed [4MHz]. The three graphic modes are a definite improvement over the 48KB Spectrum and would have allowed for much better looking graphics, but they do have their weaknesses since they don't appear to be paletted. There is no mention of hardware scrolling in the document, or hardware sprite support – unless these are undocumented 'rasterop' capabilities. The idea of using a light pen to create and edit graphics and sprites would





» Loki was conjured up in the secretive Sinclair Research building in Cambridge.



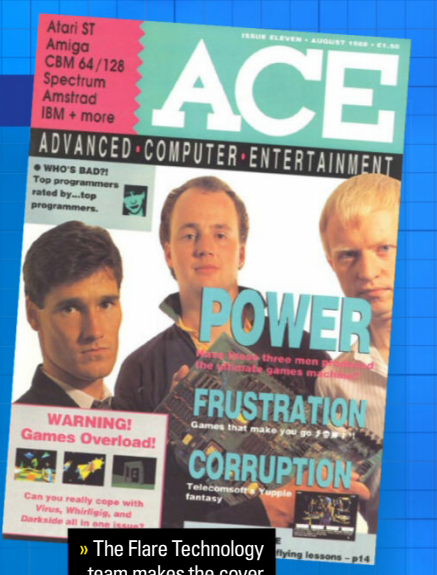
» Scoop! The June 1986 *Sinclair User* reveals the existence of Loki.



» "It's everything the Amiga should have been." In hindsight this probably wasn't the best way for *Sinclair User* to earn credibility.

DESIGNERS WITH FLARE

WE TALK LOKI WITH THE TWO MASTERMINDS BEHIND THE PROJECT



» The Flare Technology team makes the cover of Ace, to advocate its Flare One hardware.

Loki's unique selling point seemed to be 'Amiga power at a fraction of the cost'. Was this the main impetus for the project?

John Mathieson: The impetus was to create a Spectrum successor aimed at the gaming market. We looked at the Amiga architecture and decided it was over-engineered, and we could get similar performance with less silicon.

Martin Brennan: We were impressed by the Amiga, but it was expensive and to our way of thinking it seemed to have several ways of doing the same job. They also used bit planes and we favoured pixel addressing. Bit planes typically have one pixel represented by bits in several memory locations. Pixel addressing has one pixel at one address. We felt that our approach was simpler and better for photo-quality images.

Why did you propose to use a Z80 instead of a 68000 series chip, was this mainly down to legacy reasons?

JM: The Z80 choice was all about cost. It might have changed had the project progressed.

MB: I don't think we had Spectrum compatibility in mind, but we were familiar with Z80 and the 68000 was significantly more expensive then. Our thinking was that the performance of the central processor was much less important when coprocessors were doing the grunt work. We had a philosophy that, providing we saturated the memory bandwidth, there was nothing more that could be done, regardless of the CPU.

Rick Dickinson's concept sketches show an unconventional design, where multiple hardware expansions could be bolted on in modular fashion. Is this the form you envisaged Loki would take?

JM: We were all coming up with 'blue sky' ideas, and Rick enjoyed doing these crazy sketches to see what might stick. We were all scarred by the ZX81 RAM-pack 'wobble' experience, and I think some of that was behind his thinking.

MB: I don't recollect having a mental image of the product. I was a bit more geeky and thought more about the innards.

Rick previously suggested that if Sinclair had managed to produce Loki, its history might have been very different. Do you feel that Loki had the potential to be a success in the market at that time?

JM: I think Sinclair was doomed at that point whatever products it released. The returns rate on Spectrums was absolutely terrible, never fully addressed, and meant the business was doomed to failure. It only survived as long as it did because of the explosive growth it went through.

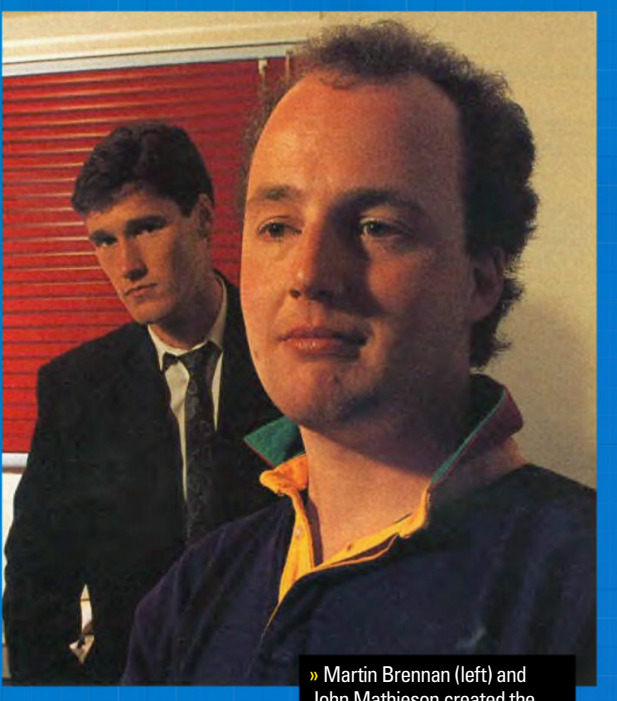
MB: I think the Spectrum compatibility would have made it viable. I always believed Loki had potential. That's why we started Flare Technology.

JM: What we did at Flare with the Flare One was truly the successor of the Loki concept. It almost made it to production with the Konix Multisystem.

What's your reaction to the internal spec doc, seeing it after all these years?

JM: It is a hodgepodge of some well-developed ideas, and some speculation. The 'synthesiser' idea was from Ben Cheese and that concept is what we turned into reality on Flare One. I can see my hand and Martin's in the graphics stuff. The architectural details are the results of some ideas from lunches in the pub and don't seem fully thought through. Some of it seems laughable in hindsight, like the statement that a 7MHz Z80 would be enough. Loki was never more than an internal paper proposal, and I don't think Clive ever bought into it.

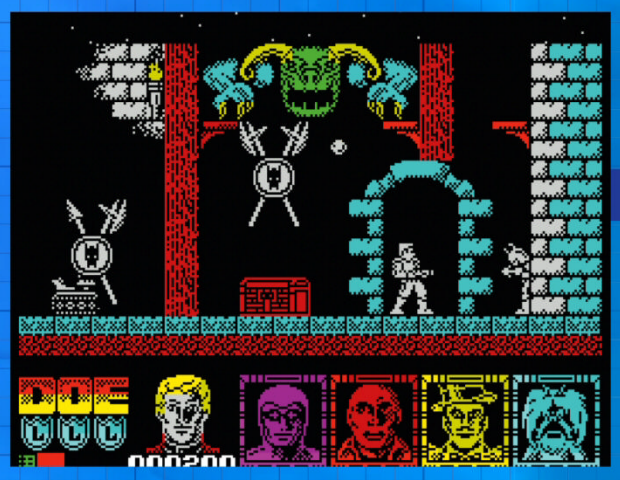
MB: The document is aligned with my thinking at the time. Genlocking, eight bits per pixel, interrupt per line, sampled sound and lightpen support were all my personal causes. It all looks very doable – quite modest targets, I would say.



» Martin Brennan (left) and John Mathieson created the tech specs for the Loki.

THE COUPÉ CONNECTION

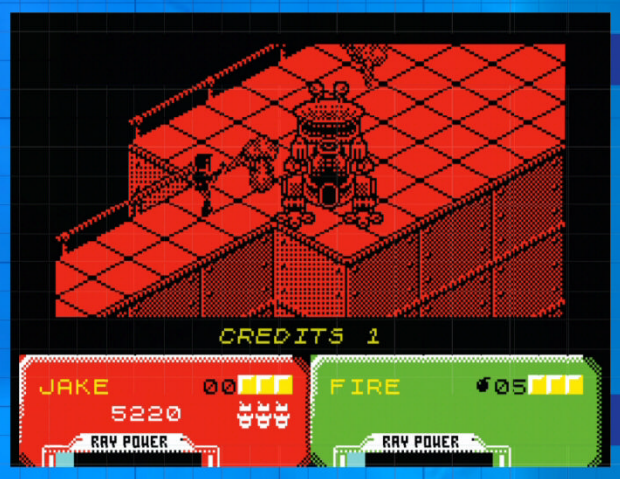
The spec suggests that Loki games would have looked similar to those on the SAM Coupé. Here's how five Spectrum games compare to their SAM equivalents to give you an idea of how Loki may have performed

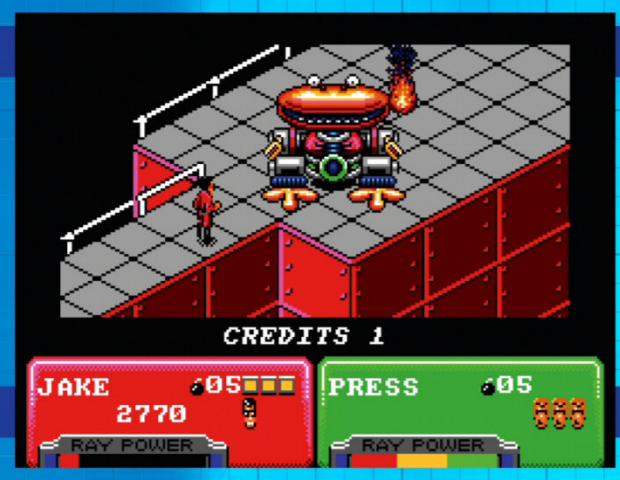




Defenders of the Earth

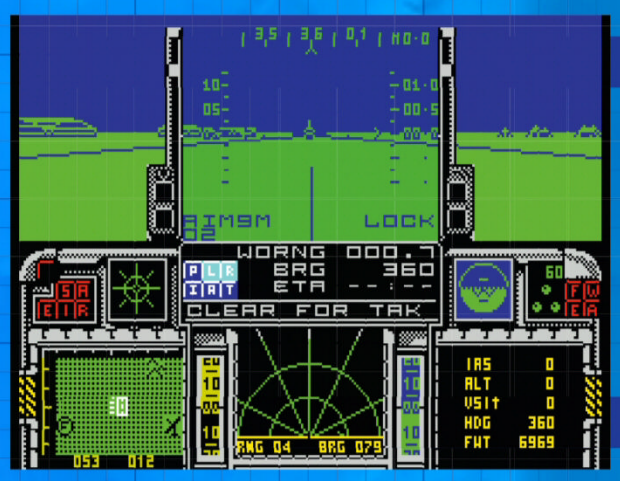
■ One of the first games to appear on the SAM is a clear cut above the Spectrum version, visually at least, thanks to its multicoloured sprites and more detailed backgrounds. The graphics surpass the rival Commodore 64 and Amstrad CPC versions, and the game could easily pass for an ST or Amiga title.





Escape from the Planet of the Robot Masters

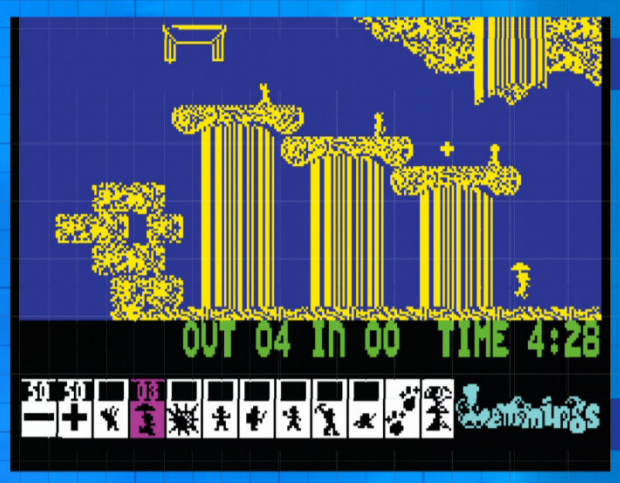
■ The ZX Spectrum version is sadly monochrome, while the addition of colour on the SAM really makes those isometric graphics pop. Perhaps a Loki version could have preserved the scrolling from the coin-op.





F-16 Combat Pilot

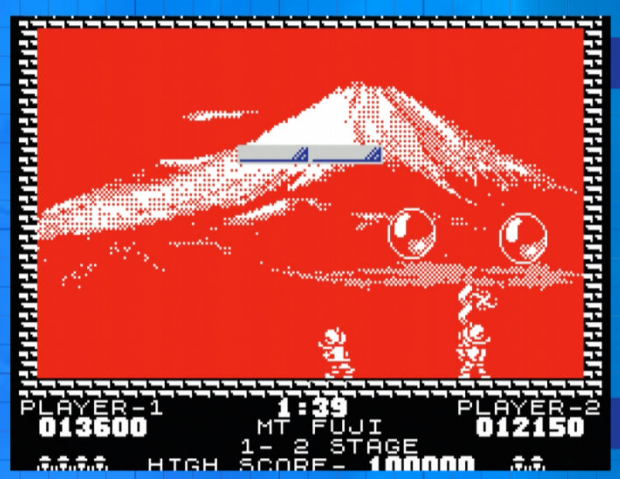
■ The SAM version of this dogfighting sim was never released, but a playable demo that surfaced uses filled vectors rather than the wireframe graphics seen on the Spectrum. It's painfully slow on the SAM, but presumably Loki's 7MHz CPU and video hardware would have addressed the speed issue.





Lemmings

■ This classic save-'em-up arrived pretty late in the Speccy's life, and the lack of colour hardly showcased the game's cartoon nature. The SAM version, meanwhile, is much closer to the Amiga original, with the slightly narrow playing field being the only real compromise on show.





Pang

■ Arriving in 2015, this SAM conversion is a solid match for the 16-bit versions and close to the original coin-op. While fun to play, the ZX Spectrum version looks pretty rough. Look at Mount Fuji! You can imagine that Loki would have been able to emulate a game like *Pang* with ease.

be unfeasible both from a practical and hardware standpoint.

"I agree with the *Crash* view, that the figures just don't add up," Bob says. "The endless list of interfaces, sockets, connectors and hardware features that the Loki was to have smacks more of pick and mix than anything else. You get the feeling that they decided to throw in everything but the kitchen sink to make it more appealing. The whole thing sounds like a flight of fancy, a last throw of the dice to persuade people that Sinclair was still a viable company with prospects. If Loki was indeed produced and marketed, then I believe the costs would have risen. If Sinclair had managed to release this for £200 then I could see it selling, but not in large quantities. The cost of the 16-bit machines was dropping all the time and 16-bit to many meant better, faster, sexier. It's hard to see how they would have persuaded any serious user that an 8-bit machine that was built down to a price could compare with an ST or Amiga."

"The architectural details are the results of some ideas from lunches in the pub"
John Mathieson

Bob's comments evoke memories of the SAM Coupé, another 8-bit computer that aimed to supersede the Spectrum. It too offered a faster Z80 and advanced video modes while retaining Spectrum compatibility, yet when it belatedly arrived in 1989 it couldn't compete with the 16-bits in terms of technology or even cost. Amstrad's CPC Plus range followed a similar tack but that too struggled to gain traction as 16-bit computers and consoles dominated the market.

As for Loki, its DNA can be found in two distinct machines. Following the Sinclair sell-out, Martin Brennan, John Mathieson and Ben Cheese founded Flare Technology where they developed the Flare One as a proof of concept. Derived from the Loki concept, and powered by four custom chips, Flare One was chosen by Welsh hardware manufacturer Konix to power its Multisystem console. While the Multisystem reached an almost finished state, and numerous games were in development for it, Konix ran out of cash and the project never made it to market. Flare One would evolve into Flare Two and the hardware was acquired by Atari where it formed the basis for the Panther project, later realised as the 64-bit Atari Jaguar.

» Did anyone ever do this? Regardless, the Spectrum's official expansions provided inspiration for Loki's modular design.



Technology has marched on, but the success of the Spectrum Next (Kickstarted to the tune of £720,000 in 2017) suggests that there's still demand for an evolved Spectrum. Next developer and all-round good guy Jim Bagley appreciates the comparisons between the Next and Loki. "I'd never heard of it until not long after I joined the Next group," he admits, "when someone asked 'Is the Next going to be like Loki?' There are some likenesses with the specs, in that it features a sped-up Z80 implementation and additional hardware features, but compared to Loki we've added hardware sprites and an 8-bit display. We've also added a tile map display to help speed up scrolling games too, and three AY chips, plus DMA for moving data around quickly. Most of the enhancements have been introduced to make it easier to program, especially for beginners, and I have high hopes that it will encourage more people to make games for the Spectrum.



» A grand tradition. The late, great Rick Dickinson was responsible for the look of the new Spectrum Next.

"To be fair on the Loki it does look nice. I guess they're both aimed at what the next Spectrum would have been like. Had the Loki been released back in the day, I think it would have been an amazing dev machine. I would have loved making games for it, just as I love making games for the Next now."

"I think the Spectrum compatibility would have made it commercially viable"
Martin Brennan

The Next has experienced hardware issues resulting in a lengthy delay, but unlike Loki it's no speculative proposal. It obviously exists – we've seen it, we've played it, and its release is tantalisingly close. And so more than 30 years after the Loki idea was mooted, we'll soon be able to experience the closest thing yet to the fabled 'Super Spectrum'.

THE PORTABLE SPECTRUM

WHY WE DIDN'T GET TO PLAY THE GREAT ESCAPE ON THE GO

The other main casualty of the Amstrad buyout was Pandora, a portable 128KB Spectrum that featured a monochrome flat-screen monitor. The development was far more advanced than Loki – working hardware existed and Rick Dickinson had designed the funky outer casing. John Mathieson remembers Pandora well. "Clive's goal with Pandora was to use the display technology of the flat-screen pocket TV to create a portable computer. It was based on the Spectrum architecture, and would have been able to run the games, although the monochrome display would have limited them."

A lack of colour wasn't the only issue, John recalls. "I don't think the display technology would have ever been acceptable for real use. It featured a Fresnel lens that magnified the tiny screen to try and make it usable as a monitor. It suffered from the problem you would expect – it had a narrow field of view, and it shifted around and distorted disconcertingly if you moved your head." This chimes with Rick Dickinson's comment that using Pandora made you feel "seasick".

Unsubstantiated rumours claim that Alan Sugar first coined his "You're fired" catchphrase when he was demoed Pandora by an unfortunate Sinclair technician.



» Seen here in its final form before it was shelved – the Sinclair Pandora 128.



It Came From The Desert

TIME TO RETIRE THE AMSTRAD



» AMIGA » 1989 » CINEMAWARE

One of the great things about owning a new computer is the smugness of knowing that the new game you're playing simply wouldn't have been possible on your earlier system. I didn't have my Amiga 500 for very long, but one of the games that left a huge impression on me at the time was Cinemaware's excellent *It Came From The Desert*.

My previous computer had been an Amstrad CPC 464, and as much as I loved it, it had looked rather old hat next to my friends brand-new Amiga and his copies of *Shadow Of The Beast*, *Batman: The Movie* and *It Came From The Desert*. I kept my Amstrad and eventually upgraded to various consoles, but the memory of those Amiga games always niggled at me and I knew I had to own one. When I finally picked up an Amiga in the early Nineties, *It Came From The Desert* was one of the first titles I grabbed, along with a bunch of *D&D* games like *Eye Of The Beholder* and the point-and-click adventure *The Secret Of Monkey Island*.

Cinemaware's ambitious game certainly didn't disappoint, and the sheer scale of what was on offer made my humble Amstrad look archaic beyond belief. It wasn't just the gorgeous visuals that impressed so much, but the sheer wealth of content that was available in *It Came From The Desert*. You could travel around the town of Lizard Breath and interview a variety of different inhabitants and spend an age just finding out what makes them tick. It had a distinctive story-like structure that I had rarely experienced on the Amstrad, and there was a depth and maturity to it that simply didn't seem possible on my 8-bit micro.

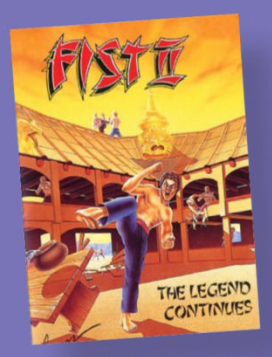
And then, of course, there were the entertaining minigames that ranged from a dramatic game of chicken with an oncoming vehicle, to quick-and-dirty knife battles and even one revolving around the use of a fire extinguisher. The best, however, were the first-person gunfights you entered into whenever a giant ant appeared. Get some quick hits in and you'll drop your gigantic foe, fail and you'll end up in this unfortunate situation. Now let's see the Amstrad try and do that!

THE MAKING OF FIST II

THE LEGEND CONTINUES

WIDELY DERIDED IN ITS TIME, THE SEQUEL TO THE WAY OF THE EXPLODING FIST, WAS A CONTEMPLATIVE, ATMOSPHERIC TITLE BRIMMING WITH INNOVATIONS. GREGG BARNETT TALKS US THROUGH ITS CREATION

Words by Alexander Chatziioannou



IN THE KNOW

PUBLISHER: MELBOURNE HOUSE

DEVELOPER: BEAM SOFTWARE

RELEASED: 1986

SYSTEM: COMMODORE 64, ZX SPECTRUM

GENRE: ACTION

***The Way Of The Exploding Fist* did not just introduce the tournament fighter to home computers, a year after *Karate Champ* had inaugurated the genre at the arcades, it also carried Beam Software's considerable hopes of capturing that emerging niche.** As its regular collaborator and the individual on whose shoulders that responsibility fell, Gregg Barnett realised that "from the very moment [it] was completed, even before the success in the marketplace was confirmed, there was an expectation there'd be a sequel". A good thing for everyone involved, then, that the game went on to become one of the biggest critical and commercial hits of 1985.

For the next few months, Gregg's creative energies would be channelled toward adding depth to the budding genre, literally. His follow-up, *Rock 'N' Wrestle*, allowed its colourful competitors to move along the z-axis and featured a dazzling array of complex holds to replicate the excesses of its flamboyant quasi-sport. Even outside the *Exploding Fist* franchise, "This evolving of fighting games was a deliberate plan," he says. By the time *Rock 'N' Wrestle* was released to lukewarm reviews in mid-1986, he had the accumulated wisdom of his two previous titles to put into a, by then hotly anticipated, sequel to *The Way Of The Exploding Fist*. The recent success of *International Karate* had proved there was still demand for the template. "It would have been easy to just reskin the original game (although we didn't have that term in those days), change locations and dojos, add new opponents, etc," Gregg says. So, naturally, he chose to do something completely different.



DEVELOPER HIGHLIGHTS

THE HOBBIT (PICTURED)
SYSTEM: VARIOUS
YEAR: 1982

MUGSY
SYSTEM: ZX SPECTRUM
YEAR: 1984

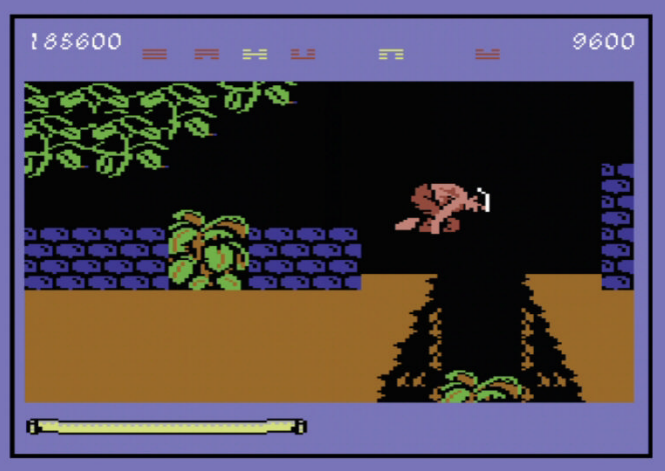
THE WAY OF THE EXPLODING FIST
SYSTEM: VARIOUS
YEAR: 1985



» Gregg Barnett created the original *The Way Of The Exploding Fist* and its divisive sequel.



» [C64] Flying kicks still look as impressive in the sequel as they did in the original.



» [C64] Somersaulting over that gaping chasm requires calmness and precision.

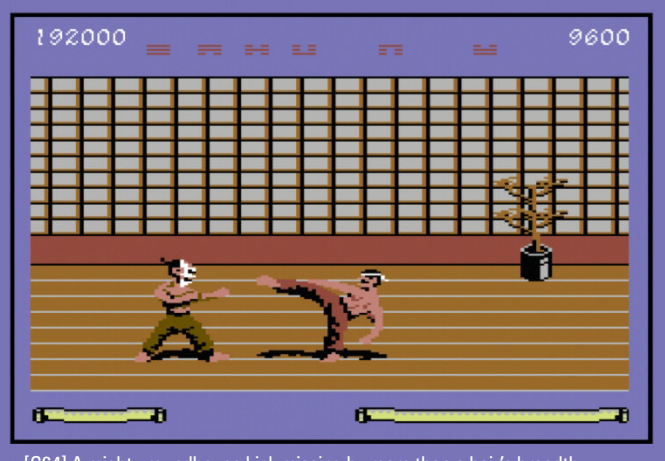
"The decision of what type of form a sequel would take had little to do with the success of the original game, or indeed the prevailing market at the time," he says. "It was much more to do with the urge to do something totally original, and, dare I say it, something I would personally like to play." Thus, the tournament structure was summarily removed. *Fist II: The Legend Continues* was going to be an atmospheric, side-scrolling action adventure, instead. It was a change of direction that resulted in one of the most unexpected, misunderstood and underappreciated sequels in the history of the genre.

In the game, a wandering martial artist finds himself in the middle of a gloomy forest, a lake visible to his left, a fallen trunk suspended over a gaping chasm to his right. An ominous whistling melody punctured by the trilling of crickets, hidden spectators of our young disciple's every move, adds to the unease – the woods are watching. It's a quiet scene, one that could almost be described as serene, if it wasn't charged with the expectation of imminent violence. To one side lays the entrance to a complex of caves hiding a tiny shrine, a place to meditate, enhance your powers and rest. To the other, an imposing fortress has been erected, the first line of defence for the warlord whose tyranny you've sworn to end. Somewhere within its winding corridors and secret chambers, the first of eight sacred scrolls you need to succeed in your quest is kept. So, choosing one direction or the other, the journey into *Fist II*'s vast, labyrinthine world begins.

Fist II is defined by a kind of wanderlust, a fascination with discovering sights and sounds rather than the intricacies of combat mechanics, that brings it closer to the cinematic aspirations of Jordan Mechner's *Karateka* than its own predecessor. "From an existing game perspective the only influence was the feeling of exploration I got from the *Ultima* games," Gregg says. "It wasn't so much a conscious decision, but that was definitely the theme: it drove level structure, pace, soundscape and visual aesthetic." There's a danger, however, when you draw heavily from an RPG for the inspiration of your next action title. *Fist II* was very, very slow.

Unlike *Karateka*, which allowed for tactical sprints to cover more distance before new enemies emerged, your walking speed in *Fist II* never rises above that of a leisurely stroll. Combine this with a vast open world (one whose exploration involves a fair amount of backtracking) and the lack of respawning enemies and you have a recipe for disaster. The more locations you cleared from the warlord's villainous henchmen, the emptier his domain became – in later

> "It was much more to do with the urge to do something totally original, and, dare I say it, something I would personally like to play"
> **Gregg Barnett**



» [C64] A mighty roundhouse kick missing by more than a hair's breadth.



» [C64] The unstoppable mule kick employed against a… lorry driver?

WANDERING MARTIAL ARTISTS

GAMES TO ROAM THE COUNTRYSIDE PICKING FIGHTS

KARATEKA



Jordan Mechner attempted to create a cinematic game long before the industry considered it technically possible and, surprisingly, he succeeded. Inspired by the works of Akira Kurosawa, *Karateka* remains memorable for some of the most evocative cutscenes of its time, and for introducing Jordan's trademark rotoscoping technique.

FIGHTING WARRIOR



Another genre offering published by Melbourne House, *Fighting Warrior* experimented with an Egyptian-themed alternative to the more customary Japanese setting. Unfortunately, the sparse backgrounds and the rigid weapon-based combat, which regularly leaves you open to painful counterattacks, sap your energy to explore quicker than the desert sun.

SAMURAI WARRIOR: THE BATTLES OF USAGI YOJIMBO



This unusually complex work could have accurately been titled 'Samurai Simulator'. Other than simple combat, *Samurai Warrior* immerses you in the mindset of its hero, allowing for a variety of interactions with peasants, monks as well as his peers. Donate some money to the poor, or draw blood unprovoked, each decision will reflect on your karma.

TIGER ROAD

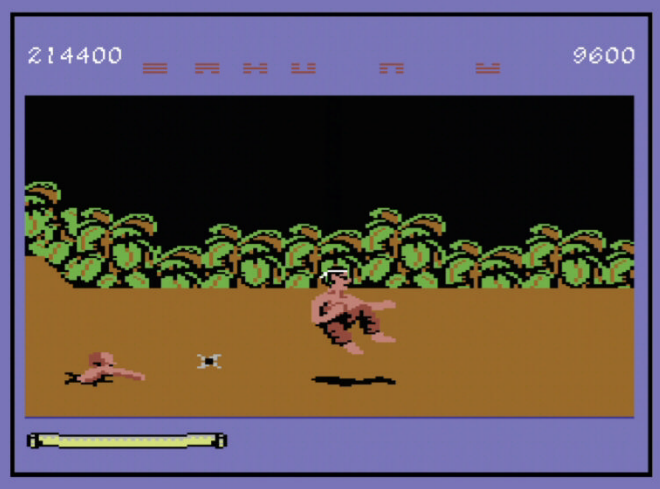


Faster paced than the other games on this list, *Tiger Road* is more of an action-style platformer than a conventional fighting game. Still, if most enemies thrown at you are dispatched with a single hit from your axe, that leaves you with a little more time to admire the towering golden statues and majestic dragon columns that decorate the game's temples.

NINJA



A budget release and it shows. *Ninja* is nevertheless one of the few titles that combines relatively complex hand-to-hand combat with both weapon-based strikes (a downwards slash that instantly incapacitates your opponent) and ranged attacks. An intriguing, if not entirely successful, attempt to put a new spin on traditional mechanics.



» [C64] A henchman appearing momentarily to launch a shuriken star before vanishing underground.

stages of the game you could be walking for five, ten minutes without being challenged. Reviewers, inevitably, noticed. The *Zzap!64* contingent collectively scowled at the game, describing it as "sluggish" and "dull", and awarding it an overall score of 39%. Over at *C&VG*, Paul Boughton painted a depressing picture of crushed expectations with everyone enthusiastically gathering for a go, then shortly drifting off disappointed. Yet, while voicing his criticisms, he noted how he kept coming back to a "thoughtful game with a lot more to it than meets the eye". In retrospect, the reason is plain to see: hidden beneath the glacial pace, lies one of the most innovative titles of its era and one of the medium's earliest metroidvanias, long preceding Konami's well-documented foray into the genre.

Which takes us back to those aforementioned sacred scrolls and the way they gradually unlock the game's closed-off sections. Rather than simply fortifying you with extra health or striking power, these magical parchments, when taken to their respective shrines, grant entirely new powers. The first you're likely to encounter bolsters your flying kicks so that you can use them to clear the piles of rubble that block entrances to the deeper subterranean locations; another makes you impervious to the poisonous gases filling the warlord's skeleton-strewn dungeons; there's also one that enables you to uproot trees and use them as makeshift bridges. Shrewdly, *Fist II* lets you encounter most of these inaccessible areas before you have the chance to unlock them, offering a tantalising glimpse of what awaits you, as well as encouragement for thorough exploration. As the world starts to unfold in every direction, consulting a map – whether one hand-drawn by the player or one mercifully provided by the magazines of the era – becomes necessary.

Fist II predates *Symphony Of The Night* by more than a decade, but what about the other half of the canonical metroidvania duo? Was that an influence? Gregg is categorical, saying, "To be honest, I haven't played *Metroid* or *Castlevania* to this day... these were all elements I instinctively thought made for good design (both game and story), and more importantly elements I really wanted to experience." Considering that *Metroid* was originally released in August 1986, remaining exclusive to Japan for the next 12 months, and that *Fist II* was already



» [C64] What secrets lie behind this tall bamboo fence?

» [C64] Awaiting the judges' decision in the tacked-on tournament mode.

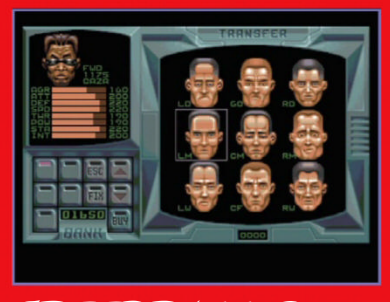
CHANGING LANES

KEY SEQUELS THAT STRAYED FROM THEIR ORIGINALS



PITFALL II: LOST CAVERNS

While thematically still revolving around Pitfall Harry's outdoor hijinks, David Crane adopted a radically different structure for this sequel. Out went the linear platforming of the original, in came a mazelike subterranean domain you could easily become lost in, ending up as prey for its roving scorpions, poisonous toads and feral geese.



SPEEDBALL 2: BRUTAL DELUXE

The original *Speedball* was hard to improve upon, so the Bitmap Brothers focused on expanding its rudimentary managerial aspect. Training your own players is the more cost-effective option, but by far the most memorable and irresistible one is to oust those cookie-cutter jocks to make room for the battle-scarred punks that are available as free agents.



ZELDA II: THE ADVENTURE OF LINK

It's a side-scrolling *Zelda* game, do we really need to say more? The green tunic and pointy hat are still there, but virtually everything else in *The Adventure Of Link*, from the tacked-on RPG elements to the traditional platforming sections, feels alien to the series. Side-on segments would return in *Link's Awakening* for the Game Boy.



BARBARIAN II: THE DUNGEON OF DRAX

In a similar change of direction to *Fist II*, while the original *Barbarian* was a typical one-on-one fighter (albeit with swords instead of fists), its sequel turned into an action adventure game. A good thing, too, as the genre's relative creative freedom allowed for the kind of delightful brutality hitherto unseen on 8-bit machines.



CAULDRON II: THE PUMPKIN STRIKES BACK

It's not as if flying around on a broom was easy in *Cauldron*, but the successor reached unprecedented levels of unwieldiness, handing you control of a malicious pumpkin that unfailingly bounces off any solid surface that it touches as it tries to navigate the cramped interior of a witch's castle.

"It was, even back then, quite common for two similar games to come out at the same time, so obviously no matter how subtle, there were influences at play"
Gregg Barnett

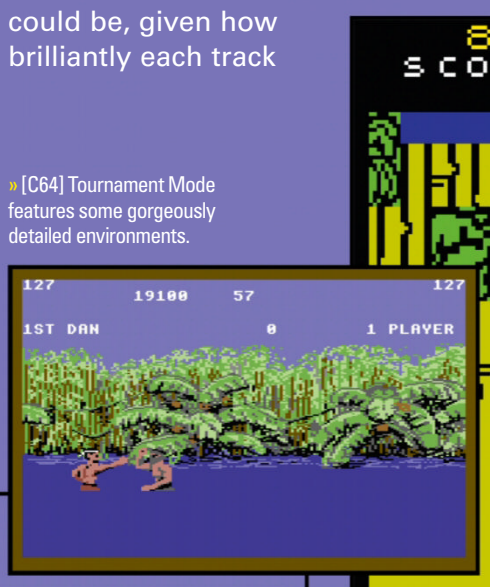
being reviewed in the November issue of *Your Commodore* in that same year, not only does the claim sound convincing, it makes even indirect influence by osmosis seem unlikely. A case of parallel evolution is the more probable scenario, triggered by deeper processes in the direction the medium was taking. Or, as Gregg puts it, "It was, even back then, quite common for two similar games to come out at the same time, so obviously no matter how subtle, there were influences at play." After all, the innovations of *Fist II* were hardly restricted to its proto-metroidvania features.

Self-folding geography was rarely seen and even more rarely discussed in games before *Dark Souls* made the concept popular in 2011. Yet *Fist II*, perhaps in some subconscious acknowledgement of its pacing issues, pioneered that approach to world design through its clever positioning of shortcuts to expedite your return trips. To maintain player immersion, these were integrated in the world as trapdoors, chasms and waterfalls allowing for fast vertical drops to connect otherwise separate locations and save you some long journeys on foot. While not entirely solving them, these shortcuts did alleviate some of the game's flaws and remain another example of how its groundbreaking ideas went unnoticed in the contemporary clamour for more mindless action. "It was a case of knowing roughly what I wanted to achieve, but not being able to lock in a design for it," says Gregg – which is, perhaps the most succinct description of *Fist II*'s trajectory, from its early concept to the cold reception following its release.

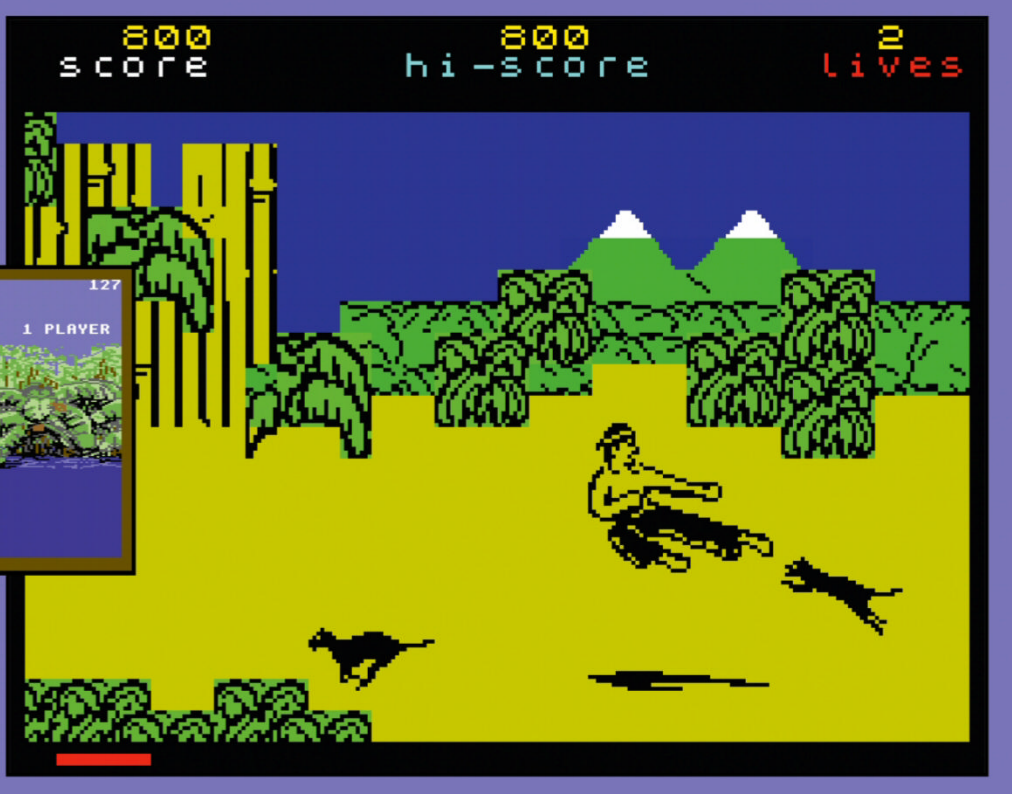
Nevertheless, from a more critical perspective, one unaffected by the kind of expectations that made the *C&VG* crowd so dejectedly condemning more than three decades ago, those innovations still stand out, as does another thing: its incredible atmosphere. Impressively, for a single-load world of this size, the countryside you wander is beautifully crafted and exceedingly varied. More than visual detail, what amazes in the game's gorgeous vistas is their coherence. Unlike the picturesque but somewhat disjointed backgrounds of tournament fighters, the scenery in *Fist II* draws you inside a consistent, believable world.

The illusion is further enhanced by a Neil Brennan soundtrack that's perfectly tailored to each location. Julian Rignall had suggested that parts of it might have been lifted from Beam software's earlier Commodore 64 port of *The Hobbit* but Gregg is quick to refute that, noting how "doing another orchestral score probably drew comparisons, but in reality, there was absolutely no crossover". And it's hard to believe there could be, given how brilliantly each track matches the mood of its respective area, from the airy whistling of its sprawling plateaus, to the threat of its underground passages, conveyed by a low, thrumming bass, regularly interrupted by the chattering of invisible bats.

Herein lies the irony: these feelings triggered by the sounds, the sights, the tranquil majesty of its world, intensify the slower *Fist II* gets, the emptier the warlord's domain becomes, so that survival no longer poses a distraction. Gregg describes the game's reception as "deservedly mixed" and admits he "would have loved to have addressed the pacing and respawn issues in particular" but one wonders whether such an 'improved' version would be nearly as memorable. We'll never have a definite answer but we do have a hint: the Spectrum version, tweaked to respond to reviewers' complaints (the character jogs!), has failed to leave the mark its troubled Commodore sibling has. For all its flaws, and there are many, there is an almost meditative aspect to *Fist II*, one that feeds off its glacial pace and its dwindling challenge, urging you to simply explore and absorb its eerie beauty. A walking simulator, in other words, even if contemporary audiences lacked both the term and taste for it. Modern criticism, however, does not and it seems that Gregg Barnett's most personal work, the only game he tried to make with himself as the target audience, is long overdue a reappraisal for speaking powerfully to the soul, if not the fists.



» [C64] Tournament Mode features some gorgeously detailed environments.



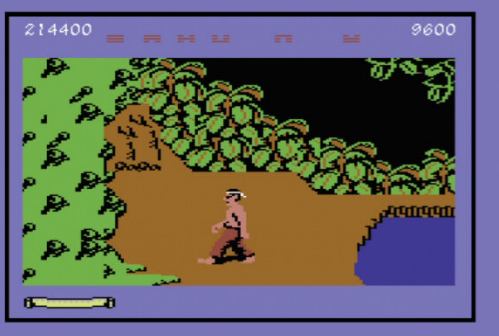
» [ZX Spectrum] Felines vs flying kicks in the ZX Spectrum version of *Fist II*.



» [C64] Waist-deep in water means that you cannot use your sweep kick – punching in the face is still good, though.



» [C64] The water current carries you toward the edge of the waterfall – brace yourself!



» [C64] The entrance to a cave, is there an ambush waiting for us or a sacred scroll hidden inside?

CLASSIC MOMENTS

Super Ghouls 'N Ghosts

» **PLATFORM:** SNES » **RELEASED:** 1991 » **DEVELOPER:** CAPCOM

Thousands of people have a story like yours. You bought *Super Ghouls 'N Ghosts* thinking you were pretty good at games, and then found yourself getting utterly dominated. For a while, you couldn't even get past the first level. It's a good job you're a determined sort of person, because other players would have baulked at the difficulty, sold the game on and picked up something a little gentler.

Now you're on the second level. You've finally managed to make it past those irritating ghosts on the ship, only to plummet into the choppy ocean with only a tiny, rickety raft for company. Now there are all sorts of horrors lunging for you and shooting at you, and all the while you're trying to stay on top of the movements required to navigate the gigantic spiky pillars that block your way. *Ooh* – you draw a sharp intake of breath as you narrowly clear another one. How long can you keep this amazing run going – and what lies in wait?



BIO

After experiencing success with home conversions of its arcade hits *Ghosts 'N Goblins* and *Ghouls 'N Ghosts*, Capcom decided to give SNES owners an exclusive treat in the form of a new sequel in the series. The game retained the punishing difficulty of its predecessors, but included new features including sections making use of Mode 7 rotation. The game was of a high quality and sold well, but a successor didn't appear until 1999's *Makaimura* For WonderSwan. Still, *Super Ghouls 'N Ghosts* was ported to the Game Boy Advance in 2002, and has appeared on various Capcom compilations, too.

MORE SUPER GHOULS 'N GHOSTS MOMENTS

Catch The Wave



One of the nastiest tricks that *Super Ghouls 'N Ghosts* pulls on unsuspecting players is this setpiece in the very first stage. As you're negotiating a series of platforms, a huge wave comes and washes half of them away! Patience is the key to progress – you need to wait and see what's left afterwards.

Towers Of Terror



On a system where players had come to expect state of the art graphical tricks, the rotating towers of *Super Ghouls 'N Ghosts* are comparatively simple to pull off. But actually navigating them is not simple at all, thanks to the little demons that like to drop on your head with barely any warning.

Mode 7 Heaven



The boss of the previous stage gave you some idea that Capcom was tapping into the capabilities of the SNES, but nothing could quite prepare you for the moment you stood on a platform and the whole room span around Sir Arthur, allowing new pathways as walls and ceilings became floors.

The Final Encounter



If you ever get to see the final boss of *Super Ghouls 'N Ghosts*, it's guaranteed that you earned it. Not content with making you play through a rock hard game once, Capcom demanded that you persist through a second loop before being allowed the happy ending you so richly deserved.

ULTIMATE GUIDE: POLE POSITION





With the possible exception of OutRun, there can be no classic arcade racing game that comes close to the fame and nostalgia of Namco's classic Pole Position. Sitting comfortably? Then prepare to qualify!

Words by Graeme Mason

» [Arcade] Team **RG** not getting off to the most roaring of starts there.

While arcade games had sported steering wheels before, as well as gear sticks and sit-down cabinets, it wasn't until 1982's *Pole Position* that the experience was refined to a degree which gamers fully embraced, catapulting the machine into the arcade bestsellers list. Rival game *Turbo*, released a year earlier, had laid down the groundwork, but lacked something aesthetically and realistically; *Pole Position* outclassed even this most recent of opposition, leaving the Sega game and all other rivals quaffing fumes in the slow lane. Namco's self-titled arcade board, with its superior sound and graphical scaling capabilities was the conduit for this rapid experience.

Pole Position began at Namco in 1981 with the Japanese arcade company still relishing in the outstanding global success of that carefree muncher, *Pac-Man*. The ethos, overseen by legendary designer Toru Iwatani, was to create an arcade racing game that replicated as best they could hope the actual thrill of flying around a Formula One track, beating off opponent vehicles in a race to the winner's podium. As befits the game's title, the first task is to secure your car's place on the starting grid thanks to a then-unique qualifying round; achieve a preset time and that coveted pole position is yours.

ORANGE OPPONENT



» [Arcade] Failure to make the grade results in game over.



The race itself follows, on an accurate representation of the Formula One race track in Fuji, Japan, complete with an appearance of the snow-capped mountain in the background. Billboards pepper the side of the road (presenting an extreme hazard for any driver careless enough to drift off of the tarmac) with the sporadic puddles also demanding extra care. Even by 1982 standards, *Pole Position* isn't the most complex of games, yet this makes light of a number of pioneering fundamentals that Namco infused into its game. It was the first racing game to be based upon an actual real track, lending it an authentic sheen, and this realism is accentuated with the use of the billboards, advertising the wares of genuine companies such as Pepsi and Canon in an early example of product placement. But perhaps *Pole Position*'s most important contribution is technically. Full colour backdrops provide the eye candy as the game's scaling sprites (which includes other vehicles and the road signs, as well as the player's car) zip around with frightening speed. And while *Pole Position*'s perspective, behind and slightly above, may seem familiar today, in 1982, there were few, if any, racing games that managed to engage the player wholly into the speeding race, simulating forward movement smoothly and quickly, and insinuating an impression of a real F1 competition.

» [Arcade] Things start off easy with a lovely straight.



WHITE OPPONENT

ADVERTISERS ANONYMOUS

POLE POSITION'S ROADSIDE BILLBOARDS CAN BE A LITTLE HARD TO APPRECIATE AT 185 MILES PER HOUR, SO HERE'S **RETRO GAMER**'S GUIDE TO THE SIGNS THAT WHIZZ PAST



AGIP

Standing for 'Azienda Generale Italiana Petroli', AGIP is a renowned and historic fuel supplier based in Italy and originally formed with assistance from the Italian government. It was taken over by Eni, an Italian multinational oil and gas company, in 2003.



CANON

"If anyone can, Canon can." So ran the famous Eighties advert that demonstrated the technology offered by the Japanese manufacturer of cameras and other optical devices. Canon embraced the digital era and remains a giant of the industry today.



CHAMPION

When it comes to sparkplugs, there are none more famous or renowned than this American company, formed right at the birth of the automobile industry in 1907. A longtime regular sponsor at racing events, Champion's in-game ads bring a degree of realism.



MARLBORO

The tobacco industry and Formula One racing has long had a close relationship, at least until the latter clamped down on the association in the mid-Noughties. Marlboro is the leader of the pack and still advertises on cars outside of the UK and Europe.

» [Arcade] Negotiating between two opposing vehicles, hazardous at the best of times.



» [Arcade] Overtaking on a straight is a sensible tactic.

▶ Yet despite the accessibility of a steering wheel and modest up/down gear change, *Pole Position* is a challenging game that rewards intimate knowledge of its track, rather than a devil-may-care attitude to approaching bends. The initial qualifying round itself provides a stiff test of driver credentials. In order to place on the starting grid, the player must achieve a time of 73 seconds or better, all the way down to 58 seconds, an impressive rate that will secure the sought-after pole position. The main race consists of four laps around the same circuit, with a strict pass time for each lap; fail to make it in time and you're out of the contest. A neat 50 points are awarded for each five metres driven with another 50 for passing rival racers. For every second remaining on the clock when commencing a new lap, another 200 points are given, thus ensuring that every metre and every second counts. Crashing into an opponent or the numerous signs and billboards results in a tumultuous explosion. Fortunately, the only downside to this is the loss of a few seconds, but endure too many accidents and there's little chance of making that deadline.

Arcade fans were able to experience *Pole Position* in two different flavours. The stand-up cabinet, complete with steering wheel and a sole pedal (accelerate), was available for space-conscious



» [Arcade] All collisions end in a burning fireball. It's probably best to drive a little more careful than we do…



» [Arcade] Qualify in pole position and there's a hefty score bonus.



PEPSI

Has there ever been a more heated brand war than: 'Which is better, Coke or Pepsi?' (It's definitely Pepsi, by the way.) During the Eighties, it was a tighter field for the battle of soft drinks, and Pepsi was the refreshment of choice for thirsty racing car drivers.



MARTINI

We've had cigarettes and soft drinks, so what about a tipple? Martini & Rossi has sponsored several teams over the years, and its emblem is synonymous with the sport. While not as popular today, the drink's consumption by James Bond will make it eternally cool.



» [Arcade] Watch out for those water pools, they'll ruin your lap.

"Pole Position's appeal comes in the game's simplicity and that what it does, it does supremely well

RACING FORWARD WITH POLE POSITION II

HOW DOES THIS SEQUEL SHAPE UP?



The runaway success of *Pole Position* made a sequel inevitable, and Namco did not disappoint fans with its follow-up. While the graphics vary a little from its predecessor – the cars have an alternate colour scheme and there are some new billboards – there's a definite sense of 'if it ain't broke, don't fix it' here from the Japanese arcade company. Available once more in upright and sit-down cabinets, *Pole Position II*'s biggest draw is its addition of three new tracks to compete on, each ranging in challenge. Suzuka is a nightmare of bends and sharp turns that will test any driver, while the test track offers only four gentle curves within its oval pattern. In between, there's the original Fuji track and Seaside, which bears more than a passing resemblance to California's Long Beach circuit. Once more, Atari nabbed the rights to the game in the US, although home ports were not as forthcoming this time around. The Atari 7800 received an excellent conversion in 1987 that was used as a pack-in for the console, mainly as a result of its impressive graphics. Ultimately, *Pole Position II* is little more than an update, but one that's well worth investigating for fans of the original. Namco's *Final Lap*, released in 1987, is considered a spiritual successor.



arcade operators. But it was the sit-down version, with its two pedals, hard plastic seat, extra rear speakers and exciting Formula One side art that captured the most imaginations – and coins. Inside the official user manual, the differences between stand-up and sit-down cabinet switch settings are noted, with the manufacturer recommending an extra coin for those wishing to get the full driving experience, an additional expense offset with an extra lap and more seconds per lap.

Pole Position's appeal comes in the game's simplicity and that what it does, it does supremely well. Cornering is clearly signposted, but this is only half the battle. Negotiating bends at high speed is hazardous as the player's car drifts, and is responsive to the minutest touch, an amalgamation of high-speed thrills and immersive graphics that persuaded Atari to license *Pole Position* from Namco in the United States. Along with *Dig Dug*, it was a smash hit, and the Namco/Atari combination followed up with *Pole Position II* in 1983 (more on that above). Inevitably, many of the western home conversions of *Pole Position* were handled by Atari itself, or one of its divisions, in what was quickly becoming a turbulent time for the American software company. Atarisoft took care of the BBC Micro, Commodore 64, ZX Spectrum and VIC-20 ports, while Atari Inc published the Atari 2600 and Atari 5200 games. Despite competition from rivals that took on the template of *Pole Position*, the majority of these sold well, even though they lacked the iconic peripherals of their arcade forebears.

When Atari's licence with Namco lapsed during its troubled period, some conversions were also distributed by Datasoft (in the US) and US Gold (Europe), and *Pole Position* even inspired a short-lived cartoon, first shown in 1984, and bearing little similarity to the Namco game other than its title and racing theme.

Namco capitalised on the success of *Pole Position* with a sequel, although *Pole Position II* is more of an expansion, literally, given the extra tracks on offer. Yet it is the original's legacy, a lifetime of influence on the popular racing genre that most speeds home today. Before 1982, the field was top-down games that uniformly failed to evoke the spirit and velocity of a breakneck Formula One chase, effectively distancing the player from the action. Sega, in dropping the ball when it failed to alter the formula to the required degree, provided a stepping stone for Namco to engineer one of the finest and most iconic racing games to grace both arcades and homes. Good driving!

MASTERING POLE POSITION

WE CHAT TO THE MAN BEHIND SEVERAL HOME CONVERSIONS OF POLE POSITION

CONVERSION CAPERS

WHICH VERSIONS DESERVE TO BE ON THE PODIUM?



ATARI 2600

With its all-grey display and blocky cars, this port by Atari itself isn't much to look at. Apart from this, however, the game's coders have done an admirable job in squeezing the arcade racer into the console, and there's an impressive sense of speed. No frills, but lots of thrills.



ATARI 5200

The green grass is back for Atari 5200 *Pole Position*, and vibrant vegetation aside, it's also one of the best versions of the arcade game. While lacking the odd aspect (such as the 'prepare to qualify' voice at the start), the speed, graphics and gameplay is recreated remarkably well.



ATARI 8-BIT

Similar to the Atari 5200 game, the Atari 800 struggles a little to hold the speed of the excellent arcade original, especially when overtaking. The start and checkpoint signs have gone, as have a few other trimmings, yet this is still a credible racing game for fans of the system.



BBC MICRO

We'll be generous and call the BBC's display here 'vibrant', and its bright green grass is certainly the polar opposite of the Atari 2600's dull grey. Otherwise, the player's car looks a little peculiar with its white border, and moves a bit too arthritically for this version to make the podium.

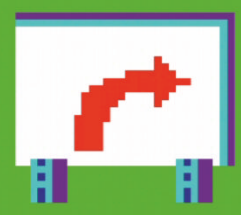


INTELLIVISION

Released by INTV six years after the game's debut, Intellivision *Pole Position* is the most dramatically diverse port of the racer with an elevated viewpoint and four tracks. While the new angle dissipates much of the appeal, there are still elements of a good game here.

"Pole Position got me coding on an Apple IIe and not on the Spectrum, so that was probably my first 'proper' coding job"

GRAEME DEVINE



RIGHT TURN SIGN

1. START

Make sure you're in low gear as it'll be a quick start from the CPU racers. Hit the pedal to the metal and *go*, because there's a nice little straight to begin with. Hit that high gear as soon as you can!

2. FIRST TURN

It's imperative to give yourself some breathing space by the time you reach this first – and quite sharp – turn, so try to pass cars or stay in front before it appears. Fortunately, there are warning signs it is approaching.

3. FIRST BEND

The track eases out a bit here, so remain in high gear, unless you crash. Stay to the left, though, as there's a sharp right turn approaching. Try to avoid shifting down or braking, but you'll need to slow down here or its curtains.

4. HAIRPIN LEFT BEND

This severe left is the trickiest part of the course, given that it follows a similar right curve. Make sure you're positioned on the far left of the track, and even cut the corner if you're feeling brave. Mind those signs!

5. SHALLOW CURVE

This long, shallow semicircle is both a blessing and a curse. It's a good opportunity to hit some high speeds, but straying to the wrong side of the track can cause blind crashes. Watch out for the numerous signs and adverts here.

6. FINAL STRAIGHT

The course meets up with its initial straight here, and it's a fast sprint to the finish line. Watch out for the 'pole position' sign that signifies the start of this section, and floor that accelerator!

7. THE FINISH LINE

Reaching the finish line grants you another 45 seconds to complete the next lap, unless of course you were on the final lap, in which case well done for completing one of the most punishing races in videogame history.

START



EXPLOSION



VIC-20

This VIC-20 cartridge game makes some necessary changes – the billboards are absent, for example – yet is still a credible attempt at recreating *Pole Position* with limited power, despite the cars appearing to be racing on water, and at a somewhat neutered speed.



ZX SPECTRUM

The lack of an accelerator control (the player's vehicle increases speed automatically) is the most obvious gameplay alteration, but otherwise this is a good effort by Graeme Devine that compares favourably to its peers. There's a decent sense of speed, and even a little ditty to celebrate qualification.



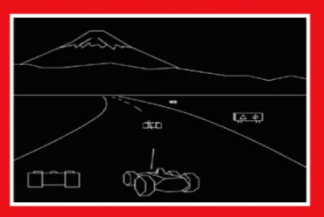
COMMODORE 64

With Datasoft/US Gold having picked up the rights following Atarisoft's troubles, this C64 port offers a slightly lower viewpoint, plenty of pace and some blocky sprites. Sticky controls hamper play to a degree, but there's a beautiful explosion to witness should your reactions let you down.



PC

This early PC DOS game at least has one good thing going for it: a lovely sunset vista for its qualifying round background. Other than that, however, this effort is too sluggish to be much fun, despite an overall honest attempt at replicating *Pole Position*'s display and sound.



VECTREX

Developed and released by the Vectrex's own GCE/Milton Bradley, the graphics here naturally vary hugely from the arcade game. It works well, however, despite the wireframe display, and contains a different, more circuitous track and a striking mount Fuji in the distance.



NINTENDO 64

Namco Museum has seen several iterations over the years and *Pole Position* has featured on many of these compilations. This excellent example is from the first, which debuted in 1999 on the Nintendo 64. *Pac-Man*, *Ms Pac-Man*, *Galaga*, *Galaxian* and *Dig Dug* complete the set.

Q&A GRAEME DEVINE

WE CHAT TO THE MAN BEHIND SEVERAL HOME CONVERSIONS OF POLE POSITION



Is it true that *Pole Position* helped you get a job at Atari?
I saw an advert in *Computing Today* and answered it. I made a little demo of the *Pole Position* racetrack on my Spectrum and went up to Slough for the interview, and got the job. I'd made *Firebirds* before that, and some games for the TRS-80, but *Pole Position* got me coding on an Apple IIe and not on the Spectrum, so that was probably my first 'proper' coding job.

Had you played the arcade original before tacking the conversion job?
Yes, I'd spent a lot of time playing it. There was a store that in my head is now a Starbucks, but it must have been a sandwich shop. They had several arcade games back then, and one of them was *Pole Position*.

Which conversions did you work on?
I did the ZX Spectrum one, and then helped on a lot of the others, too, because I'd kind of cracked the code on how the track could be rendered on 8-bit devices. At the time I think we were working on the MSX, Amstrad and Commodore 64 versions. Each had its challenges. The MSX had very limited sprite throughput, but, hey, at least it had sprites! The [cancelled] Amstrad had very slow memory and the C64 was being made in the States at that time, and with no internet, email or Skype, that probably made that one the hardest! Explaining really badly commented Z80 Spectrum code over the phone...

What was the hardest part of the game design to emulate?
The track, but in the end it turned out to be the easiest hack. It's actually a series of line drawing routines, each one a pixel shorter than the last, starting at 13 pixels long from the bottom of the screen on up, each aiming left or right depending on the road curves. That hack took all the need for any 3D code out of the equation. Other than that, the hardest part was making it feel fun – the acceleration, turning and change of gear all needed to feel responsive and at the 15hz to 20hz of the Spectrum version, it's tough.

How do you think you did, looking back at it today?
It set me on my way, I got expelled from school for taking a week off to finish it and it meant I never went to university. Atari collapsed weeks after the game was finished, Jack Tramiel purchased it, and the royalty contract was not honoured, so I never made any money from the game. But I think the game itself was fun, I have people remember playing it still today.

What did you learn from working on *Pole Position*?
Use a good computer to code on, always have backups and that soldering is part of a programmer's job. I should have commented the code more as I went because I didn't realise how much reference it would get, and while I knew it all, it was useless without me. This was also one of the first times, in a series of lessons, that you learn that not everyone around you has your best interests at heart, even at companies you love, like Atari.

» Graeme Devine used to play the arcade version of Pole Position at a local sandwich shop.


♫ For the rest o
I'll keep you n

Final Fantasy VI

MUSIC TO MY EARS



» SNES » 1994 » SQUARESOFT

Back in the early Nineties, you'd be forgiven for thinking sprites couldn't tell complex stories like your typical Saturday morning cartoons or movies. But then, in 1994, Squaresoft came along and said, "Hold my beer," and dropped an entire *opera* into the middle of *Final Fantasy VI*.

The sixth *Final Fantasy* game was already ambitious, with its gorgeous Mode 7 cinematic introduction expertly setting the tone, but this musical setpiece really shows the storytelling and technical prowess of the development team. There's sprite choreography, action, an emotional score and even 'vocals'. I can imagine the SNES trembles a bit in fear whenever you approach this moment in the story.

Sadly, I grew up too late to immediately appreciate what was going on here, and I didn't really care too much for *Final Fantasy VI* when I first played it in the Noughties… but that changed last year. As a birthday treat to myself, I suited up and attended the Distant Worlds concert at the Royal Albert Hall in London. It's a fantastic event where you get to hear a live orchestra perform *Final Fantasy* songs, and maybe even catch an appearance of composer Nobuo Uematsu.

About halfway into the show, conductor Arnie Roth addressed the audience saying, "Now, we're going to do something a little different!" (His own version of "Hold my beer," now I come to think about it.) As the orchestra started to perform the entire opera from *Final Fantasy VI*, complete with vocalists, and a narrator! My jaw dropped. The person I'd roped into coming with me gave me an icy, "Drew, what the hell have you brought me to?" look, but I waved it off. It was fantastic, magnificent even, and it made me appreciate this 16-bit scene – and the ambition of the game in general – so much more. In fact, when I was grabbing this screenshot I was transported back to my seat in the Albert Hall, frozen with awe. What a scene! What a soundtrack!

If you're at all curious, you can find a version of the performance on Spotify right now by heading to bit.ly/ff6opera.



THE MAKING OF

BITS



BITS ONCE ROAMED THE LATE-NIGHT TV SCHEDULES LIKE A FERAL ANIMAL THAT SPAT OUT VIDEOGAMES AND OPINIONS – AND ALSO HAD A BIG THING FOR DRESSING UP. TWO DECADES ON, THE PRESENTERS RECALL THOSE HEADY, ANARCHIC TIMES

BY LEWIS PACKWOOD

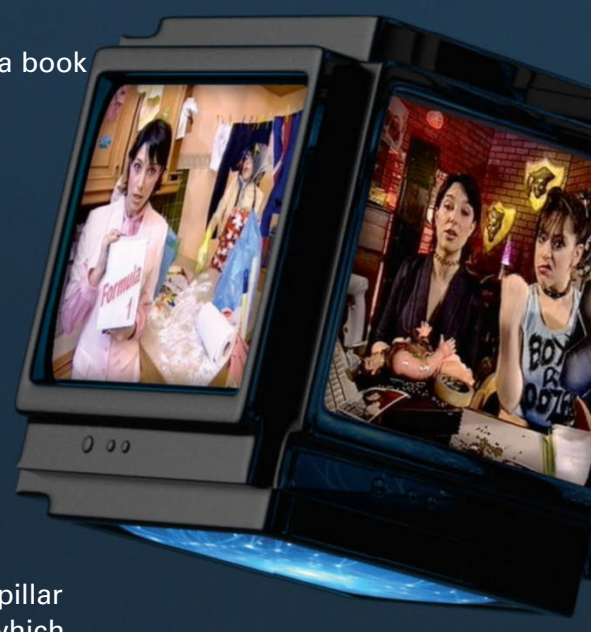
"Got no pals? Looking for luuurve? Don't go to those personal ads, where you risk trauma and disease," chirps Emily Newton Dunn, drawing out the word 'disease' into a kind of buzz.

"No!" barks Emily Booth. "What you want is a virtual friend!" In the background, a TV plugged into a Dreamcast displays the eerie image of a fish with a human face.

"*Seaman* is your man," deadpans Aleks Krotoski, "...fish. Fish man."

If you were hopping channels late at night back in the dying days of the Nineties and the dawn of the Noughties, you may well have stumbled across such joyous tomfoolery, delivered by three women who appeared to be having the time of their lives. And speaking to them some 20 years later, it turns out that they really were having the time of their lives. *Bits* was fun to watch partly because it was a labour of love for the presenters, and the huge workload of writing, presenting and filming a weekly show helped them to draw together in the face of adversity.

"We were in a wonderful anarchic bubble with a bunch of overtired, underpaid, young, hungry, creative people," remembers Aleks, **"so the long nights and the goo and the fake blood are good memories. We became good friends: Emily Newton Dunn and I are in a book group, so we see one another every time I get to London, and I'm still friends with Emily Booth, although I haven't seen her in person in a long time."** Emily Booth agrees that there was something special about working on *Bits*. "We were very close. We spent a lot of time together, particularly late into the night. Emily Newton Dunn was working full time during the week for a long time so we had to pack all our filming into the weekends. That, plus the isolation of filming in the local no-longer-functioning psych ward, bonds you."



Debuting in June 1999, *Bits* became a pillar of Channel 4's late-night programming, which was a melange of off-the-wall entertainment loosely gathered under the banner of '4Later'. *Bits* rubbed shoulders in the TV listings with shows like *Eurotika!*, a programme about European horror and sex films, and *The Trip*, which featured NASA footage put to drum and bass. These 4Later programmes, *Bits* included, were meant to be subversive, weird and edgy – and in the days before the anarchy of YouTube had inveigled its way into every home, they **most certainly fulfilled their brief. There was nothing else quite like it on TV.**

Image Credit: iStock / Getty Images Plus: Vertigo3d

OR YOU COULD WATCH...

ASIDE FROM BITS, THE HISTORY OF VIDEOGAMES ON TV IS GENERALLY ABYSMAL. BUT A FEW NOTABLE ATTEMPTS ARE WORTH A SECOND VIEWING

GAMESMASTER

It's strange to think that a generation of schoolchildren watched ageing astronomer Patrick Moore pretend to be a cybernetic, all-knowing videogames being and thought nothing of it. But the show's weirdness was arguably its greatest strength – that and Dominik Diamond's withering put-downs. Dexter Fletcher, not so much (sorry Dexter).



BAD INFLUENCE!

The pairing of cardigan-clad Andy Crane and spiky-blonde-haired Violet Berlin was surprisingly successful, even if the Saturday-morning-TV-style 'busy set' was a little bit clichéd. *Bad Influence* ran for four seasons and had some of the highest viewer ratings on CITV as well as some notable exclusives, like an early look at *Rise Of The Robots*. Nam Rood wasn't a patch on Patrick Moore, mind.



THUMB BANDITS

Aleks Krotoski copresented *Thumb Bandits* with Retro Gamer regular Iain Lee, and it occupied a similar late-night slot to *Bits* on Channel 4. In many ways, it was a slightly more serious sequel to *Bits*, with a mix of games reviews, interviews and competitions – but sadly it was a short-lived affair.



CHARLIE BROOKER'S GAMESWIPE

Charlie Brooker started out as a reviewer for *PC Zone* back in the Nineties, and his lifelong passion for videogames came across loud and clear in this one-off BBC show in 2009. *Gameswipe* was a heady mix of games reviews and enjoyable ranting, but although the idea of it becoming a fully-fledged series was mooted for a while, it currently remains a one-episode affair.



DARA Ó BRIAIN'S GO 8 BIT

Originally conceived by comedians Steve McNeil and Sam Pamphilon as an Edinburgh Fringe show in 2013, *Go 8 Bit* made a successful transition to the small screen in 2016, with Dara Ó Briain and *Eurogamer* writer Ellie Gibson as hosts. It was an excellent mix of comedy and insightful gaming knowledge, so naturally it was cancelled after three seasons.





Producer Aldo Palumbo was behind the genesis of *Bits*. He'd previously helmed the 4Later stalwart *Vids*, a series about movie subcultures that was partly inspired by the movie *Clerks*, and he was commissioned to come up with a show about videogames. When it came to finding presenters for the new series, Emily Newton Dunn was one of the first people he looked up. "At the time, I was working in PR and writing game reviews for small magazines," she recalls, "so I knew a few people in the industry. I was approached by Aldo who had asked around if there were any women who knew about games. Apparently some of the people he asked recommended me, which was nice of them. Initially it was me and another woman called Harriet who did game reviews for the *Evening Standard*. She dropped out, then Aldo found Aleks and an East German woman called Claudia [Trimde]."

Aleks Krotoski had gone for a presenting role on *Vids* not long after moving to Scotland, following the completion of her psychology degree in the United States. "I was working at the local arthouse film theatre and was being trained at the BBC for radio production," she says. "I auditioned, but didn't get the part." Luckily, when the commission for *Bits* came in, the production company, Ideal World, quickly sought her out. "I guess I impressed them at the *Vids* audition, and they knew I played games, so it worked!"

But Claudia didn't stay long, electing to leave the show at the end of the first series, which led to the arrival of Emily Booth. "The producer, Aldo, was looking for a replacement presenter when the German girl left," Emily Booth remembers, "and I think he'd seen me in a strange, quirky film called *Pervirella* and seemed to think I might fit the job!" (For the uninitiated, *Pervirella* is a cult film by Alex Chandon featuring a deranged Queen Victoria who seals Britain behind a giant wall. Emily Booth plays the titular Pervirella, a nymphomaniac who is overcome by lust whenever her magic necklace is removed. The film features cameos from Jonathan Ross and Mark Lamarr, and it is utterly, utterly bonkers.)

Emily Booth was working as a TV presenter at L!VE TV when Aldo approached her about

WHERE ARE THEY NOW?

LIFE AFTER LATE-NIGHT VIDEOGAME-RELATED SHENANIGANS



EMILY BOOTH

"I ended up doing a lot more TV presenting after *Bits*," says Emily Booth on her more recent career. "But I moved into an area that was more in my heart – horror and films. I got roles in the cult horrors *Evil Aliens* and *Doghouse*, and hosted *Out There* and *Shock Movie Massacre*. Now I have two children and have left London, but I became the face of the *Horror Channel* on Sky in 2007 and still work there, as well as doing feature films. My last film *Shed Of The Dead* just came out."



ALEKS KROTOSKI

Aleks hosted Thumb Bandits with Iain Lee straight after *Bits*, but then quit TV to get an MSc and PhD in social psychology. Now she's writer, researcher and presenter of the long-running BBC Radio 4 science series *Digital Human*, and also writes columns for the *Financial Times* and BBC. "I've not picked up a game in five years," she says, "although having said that, I taught my four-year-old daughter how to play *Pac-Man* last week, just like my dad taught me back in 1982. That was a very special moment."



EMILY NEWTON DUNN

Emily Newton Dunn continued her full-time job for a while after *Bits* finished, "before I eventually put my money where my mouth is and went into making videogames," she says. "I got my first proper job in the industry as a producer at Criterion working on *Burnout*. Today, I'm a systems designer, and I work at Media Molecule making *Dreams*."



"A LOT OF PEOPLE DIDN'T BELIEVE THAT WE KNEW WHAT WE WERE TALKING ABOUT OR THAT WE PLAYED AND REVIEWED THE GAMES OURSELVES" EMILY NEWTON DUNN

the *Bits* role. "I did a show called *Blue Review* where I rather seriously reviewed softcore," she remembers. She got the job, but was initially worried about fitting in with the other presenters: whereas Aleks and Emily Newton Dunn were both seriously into videogames, she was much more of a casual gamer. "We became quite close," she says, "although I must admit I did feel I had to do my very best to fit in when I first started. It was a very nerve-wracking, anxious and insomnia-inducing time for me, as I did not come from a gaming background, apart from playing a Spectrum with my brother, and I felt like an outsider taking over from someone! But after a while, we were all very close and supportive because when you work that closely with a team you end up living in a bubble with them, devoid of experiencing the real world."



Emily Booth quickly found her feet, and *Bits* became a ratings success for Channel 4, drawing in around half a million viewers at its peak – not bad for a show that typically went out at 1am. Still, its niche status meant that budgets were always tight – although Aleks thinks that the wonky props and abandoned-building sets were part of the show's appeal. "Scarcity was the true success behind *Bits*."

But despite its home-made looks, *Bits* was far from thrown together – in fact, it was a huge amount of work for all involved, and particularly for Emily Newton Dunn, who was also holding down a full-time job. "I continued to do PR and write game reviews during filming, and so we filmed at weekends. It was a pretty hectic schedule for me, as I used to do my regular job during the day, then go home and play games like crazy and write my reviews at night. Friday nights I'd fly to Glasgow, film all weekend and then catch the 6am flight back to London on Monday morning and go straight into work, then rinse and repeat that schedule for the however many months the series would last for. It was pretty mental."

The presenters also got a little narked at suggestions that they were just fronts for scripts written by someone else: uninformed comments typically motivated by misogyny. "A lot of people didn't believe that we knew what we were talking about or that we played and reviewed the games ourselves," says Emily Newton Dunn. "Whatever." In fact, Aleks says, the three of them had a hand in pretty much everything: "We would choose the games together, brainstorm with the director what we thought would be fun to do on-screen while we tried to remember our lines, and then write the scripts all together, with one of us driving the keyboard. That job rotated on a programme basis."

Still, Emily Booth reckons that it took a while for the viewers to get used to a videogames show presented by an all-female team. "I think at first the largely male audience was

hesitant and a bit bowled over by it, but after just a few years of constantly assuring and proving to everyone that, '*Yes, we play each game and write each review,*' they finally accepted and became huge fans."

And showing that women play games – at a time when most games marketing and media was aimed towards men – was one of the best aspects of *Bits* for Emily Newton Dunn. "The most gratifying reactions were on the rare occasions that I got recognised in the street," she says. "It was generally women that recognised me and said that they enjoyed the show, even though they didn't really think they were into games. At the time, the gender split in the games industry was terrible (it's getting better, but still not 50/50) and it was something that I was keen to change. I've always believed that games are for everyone, so it was really encouraging to be reaching women and hopefully letting them know that yes, it was okay for women to play and enjoy games."

The nascent interweb also gave the trio a way to connect with their growing fanbase, says Aleks. "It was strange to be part of this thing that rode the wave of the new internet – we had one computer in the whole office, and I remember looking at the totally unexpected and passionate comments on the early forums about the show. It was wild. It still is strange. I am still unable to go to the pub beyond 10pm because I am invariably approached by someone who watched the programme way back when who wants to talk at me about games I've not touched in 15 years! 10pm is the witching hour. It's my party trick with new friends."



"I JUST LOVED HOW INVENTIVE IT WAS AND THE EFFORT THE ART DIRECTORS WENT TO! WE HAD ENTIRE SETS BUILT JUST FOR CERTAIN GAME REVIEWS"
EMILY BOOTH

Part of the enduring appeal of *Bits* is its chaotic irreverence. "We were basically encouraged to smash shit up," as Emily Booth puts it. She says the anarchic feel of *Bits* was initially dreamt up by Aldo, but it was up to the presenters to deliver that "kind of post-punk, slightly ladette TV culture", adding that she thinks *Bits* captured the feminist mood of the nation at the time. "We came off the back of that culture depicted by *The Girly Show*, *God's Gift*, *The Word* – that kind of thing. So in a way it was a part of feminist TV at the time, but we didn't want to overtly make that point, obviously – it was just a gaming show that wanted to be fun as opposed to nerdy and boring!"

Not being nerdy and boring meant avoiding long and potentially dull gameplay clips: a trap that Emily Newton Dunn thinks other programmes fell into. "I think a lot of shows about videogames have been rather dry and just use the footage provided," she says. "I actually used to think: 'Who wants to watch someone else playing games, surely you'd rather be doing it yourself?'" Emily Booth agrees that the raison d'etre of *Bits* was to give an interesting look to videogames on TV, "We had to find ways to make the gaming footage engaging to watch because actually it's pretty boring visually to just watch someone playing games and then reviewing them. So we brought each game to life with our scripts, sets, props and just having that sense of the bizarre, the ridiculous – we loved taking the piss out of ourselves, and I loved the humour of it."



"I REMEMBER LOOKING AT THE TOTALLY UNEXPECTED AND PASSIONATE COMMENTS ON THE EARLY FORUMS ABOUT THE SHOW. IT WAS WILD. IT STILL IS STRANGE"
ALEKS KROTOSKI



That humour often took the form of fancy dress, notes Emily Newton Dunn: "We did a lot of sketches dressed up as grannies, which was always fun." And the silly props and scenarios became more elaborate as the shows went on, recalls Emily Booth. "I remember having to jump out of a huge fake birthday cake," she says. "I just loved how inventive it was and the effort the art directors went to! We had entire sets built just for certain game reviews."

Bits lasted for five series of 12 episodes aired between 1999 and 2001 – and the punishing schedule meant that the show's demise was almost a relief, says Aleks. "I think we were so exhausted at that point that we all just wanted to sleep!"

Still, Emily Booth has fond memories of the final wrap party. "We were all treated to champs and had a party in the office and dinner afterwards. Me, Alex and Emily [Newton Dunn] made an exclusive album of all the photos we'd collected, and I think there's only five of them – I have one, Aldo got one and Louise the director, and I think Em and Alex also have one. They're all the behind-the-scenes photos – mainly of us asleep on set in between takes at 2am!"

Afterwards, Aleks went to work on *Thumb Bandits* and Emily Booth took on various other roles, while Emily Newton Dunn continued in her full-time job. And there was never anything quite like *Bits* on TV again. "I think post-*Bits* maybe [videogame TV] had to go down a more 'sophisticated route'," says Emily Booth. "*Bits* is one of those things that belongs to its own era – its zeitgeist like that and won't be repeated."

Aleks thinks that the rise of the internet helped to hasten the demise of shows like *Bits*: "By 2002, the web had become the place to go to get games reviews and content, and the mono-media landscape had moved on." And whereas Emily Newton Dunn once thought there wasn't any point to watching other people play games, she now admits to watching people play on Twitch all the time. In fact, she thinks that streaming might be the natural successor to the irreverence of the show she worked on 20 years ago – and in some ways is even better. "Like *Bits*, successful streams have people presenting them with lots of personality and a strong take on whatever they're playing. And now you have the live element so you can interact with the host, which is cool and means you go on the journey with them."

THE BEST BITS OF BITS

ANARCHIC HIGHLIGHTS FROM THE SHOW'S FIVE SEASONS

DRUNK CHEERLEADERS



"The first show that Emily [Booth] appeared on was pretty memorable," says Emily Newton Dunn. "We were dressed up as cheerleaders (there was always a lot of dressing up) and Emily was the particularly enthusiastic one at the front. We were swigging out of vodka bottles and Aldo made the mistake of giving us real vodka. It took several takes, and needless to say that had to be the last scene of the day."

UNLEASHED ON THE PUBLIC



Bits was filmed in Glasgow, and every now and then the presenters would be released from the studio (or occasionally an abandoned hospital) and into the big city to film spurious links or generally harass members of the public. For Emily Booth, these outdoor excursions were a highlight: "I loved doing the street stuff where we got people to perform ludicrous 'hand to eye coordination' games in the name of videogames."

MESSY ENDING



The presenters spent the end credits mucking about – one memorable sequence saw them engage in a mock fight over who got to use a toilet. "We had a lot of fun doing the end credits," says Emily Booth, "where we'd throw paint over each other among other silly shenanigans, and just got very messy most nights." Booth recalls that those shenanigans weren't confined to the end credits, either. "I remember a lot of food fights [on set], most of which we were lucky enough not to have to clean up afterwards."

THE BITS THEY DIDN'T WANT YOU TO SEE



This notorious episode was dedicated to sex, drugs and violence – and, naturally, Sensible Software's never-released *Sex N' Drugs N' Rock N' Roll* had a starring role. The show also featured such infamous games as *Postal*, *Thrill Kill*, *Soldier Of Fortune*, *Kingpin* and American McGee's *Alice*, as well as the Commodore 64 perv-fest *Stroker*.

NAUGHTY SCHOOLGIRLS



"When each presenter got to lead a game review the other two girls were usually doing something stupid in the background, 'acting' as it were," says Emily Booth. "I loved the schoolgirls sketch where me and Emily [Newton] Dunn are in the background acting bored and making fake eyelashes – some of it made me feel like actually we were just doing comedy that happened to be about videogames."







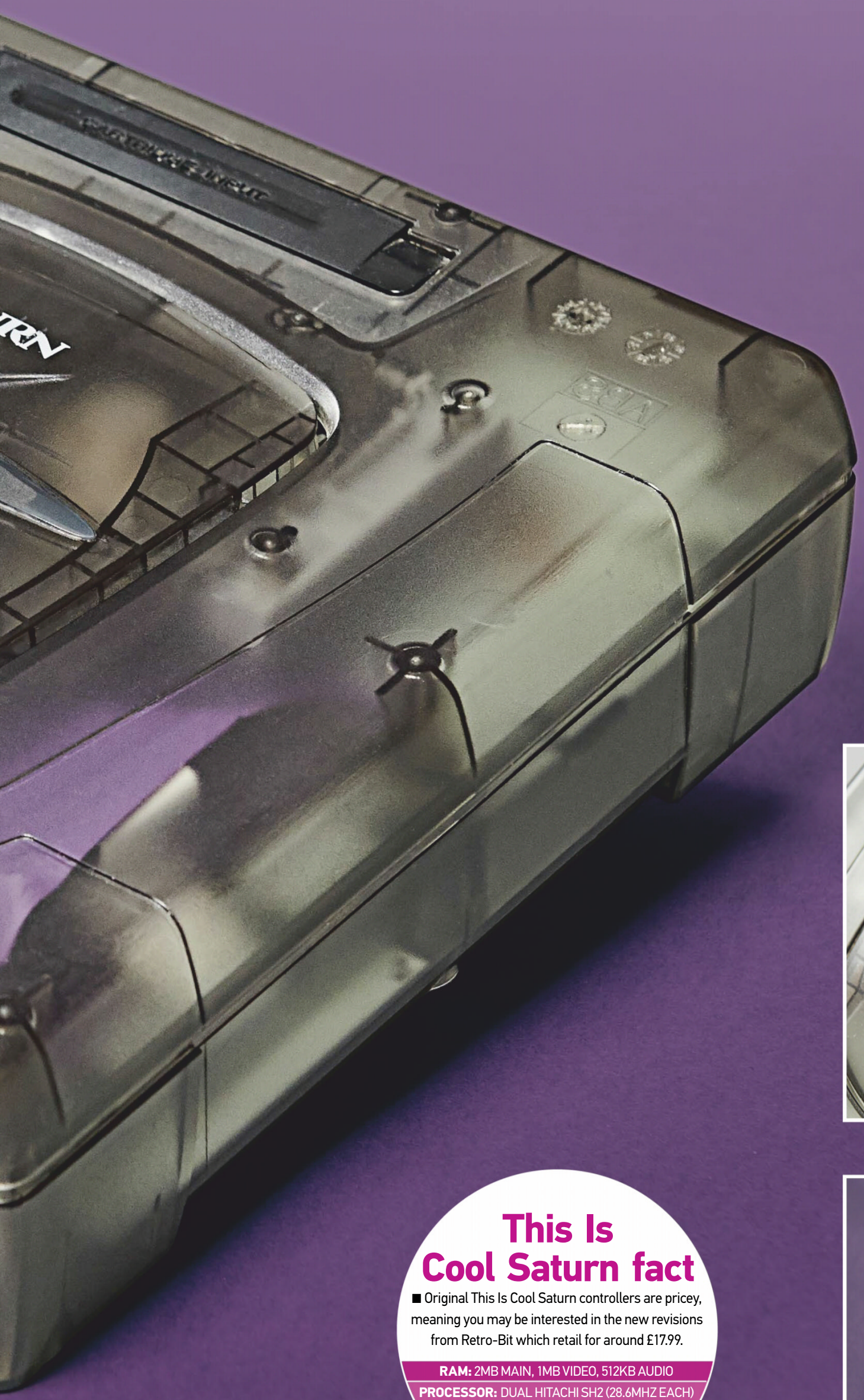
Special thanks to Kenz for his help with this article.

This Is Cool Saturn

» MANUFACTURER: Sega **» YEAR:** 1998 **»**
COST: ¥20,000 (launch), £150+ (today, unboxed), £350+ (today, boxed)

It's been well documented both online and within the pages of Retro Gamer that Sega's 32-bit console was not a very popular system in the west. While the Saturn may have failed to gain a foothold in countries like the UK and the USA, it was a different story in Japan and as a result there were not only plenty of great games, but also plenty of hardware revisions to choose from, including a white model and machines by Victor and Hitachi.

Our favourite models however are the two 'Skeleton' editions which were released: the This Is Cool edition we're covering here and the later Derby Stallion edition. Aside from their gorgeous translucent smoky grey shells and matching joypads, they also feature round power and reset buttons, as opposed to the oblong ones found on earlier revisions of the Saturn hardware. Of course, there's a cost to beauty, and in the case of the Skeleton Saturns it comes in the form of slight compatibility issues with games like *Space Harrier* and *Out Run* (fixed revisions of the games were released, but are now hard to find and more expensive). Created by Seiyo Denshi, 30,000 units were released for the This Is Cool Saturn, meaning it now fetches hefty prices online (you'll pay even more for the rarer Derby Stallion edition, which came out in 1999). We'd argue it's worth tracking down, though, as it really is as cool as the name implies. ✱



ESSENTIAL GAME

X-Men Vs Street Fighter

There are plenty of great Japanese Saturn games that highlight the strengths of the console, but Capcom's stunning arcade conversion is hard to ignore. It's a staggeringly accurate version of the popular game, it looks absolutely beautiful at times and it's a gigantic improvement over the disappointing PlayStation port which was released the following year.





This Is Cool Saturn fact

■ Original This Is Cool Saturn controllers are pricey, meaning you may be interested in the new revisions from Retro-Bit which retail for around £17.99.

RAM: 2MB MAIN, 1MB VIDEO, 512KB AUDIO
PROCESSOR: DUAL HITACHI SH2 (28.6MHZ EACH)
OPERATING SYSTEM: SEGA SATURN BIOS
FORMAT: CD-ROM





nihon Falcom

From the early days of home computers to the consoles of today, Falcom has been one of Japan's most prolific RPG developers. We take a look back at the company's history with its president Toshihiro Kondo

Words by Nick Thorpe



»Toshihiro Kondo promoting Falcom's latest game, *Trials Of Cold Steel III*.

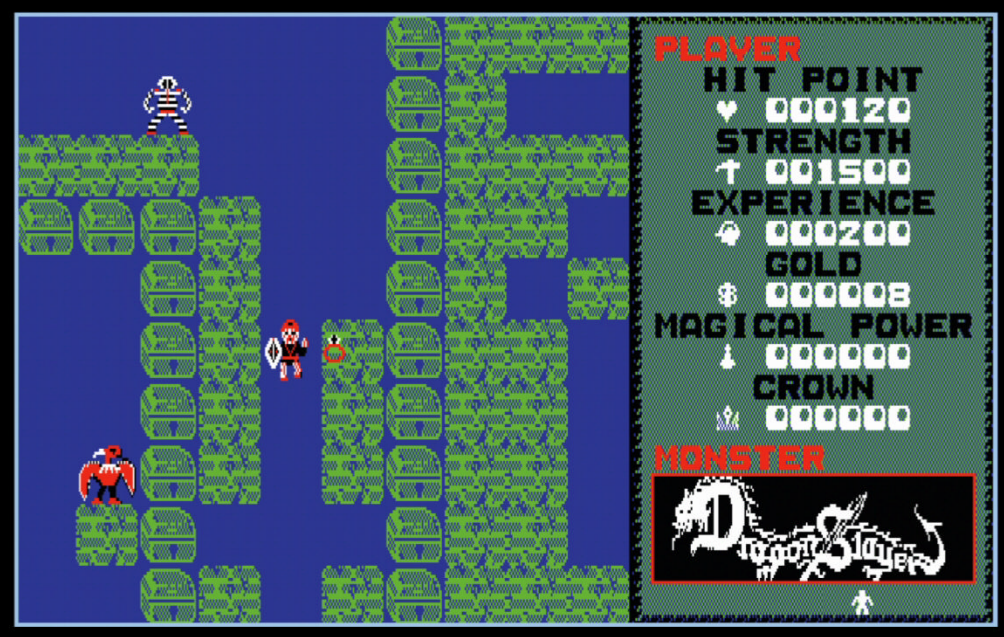
When most western players think about the titans of the Japanese RPG business, there are certain names that fairly naturally come to mind. Even before they merged, Square and Enix would both have come to mind due to their ownership of *Final Fantasy* and *Dragon Quest*, and the popularity of the *Persona* series might drag Atlus to the forefront of your mind. But if you're not a genre aficionado, we'd wager that Falcom wouldn't automatically come to mind – and that's a shame, since the company has been active since 1982 and developed some of the genre's most beloved and important games.

A large part of that has to do with the company's early history. Nihon Falcom Co Ltd, to give the company its full name, was founded in March 1981 by Masayuki Kato. The company dabbled in computer-related business ventures such as an Apple-style retail store for its first year of existence, and released its first game in the summer of 1982. During the Eighties, Japan was like the United Kingdom in that it had a vibrant home computer scene that was dominated by domestic manufacturers, and it was this field that Falcom chose to compete in. *Galactic Wars* was released for the NEC PC-8801 initially, and subsequent games would typically debut on that format or Sharp's X1, before making their way across the popular formats including the Fujitsu FM-7 and MSX family.

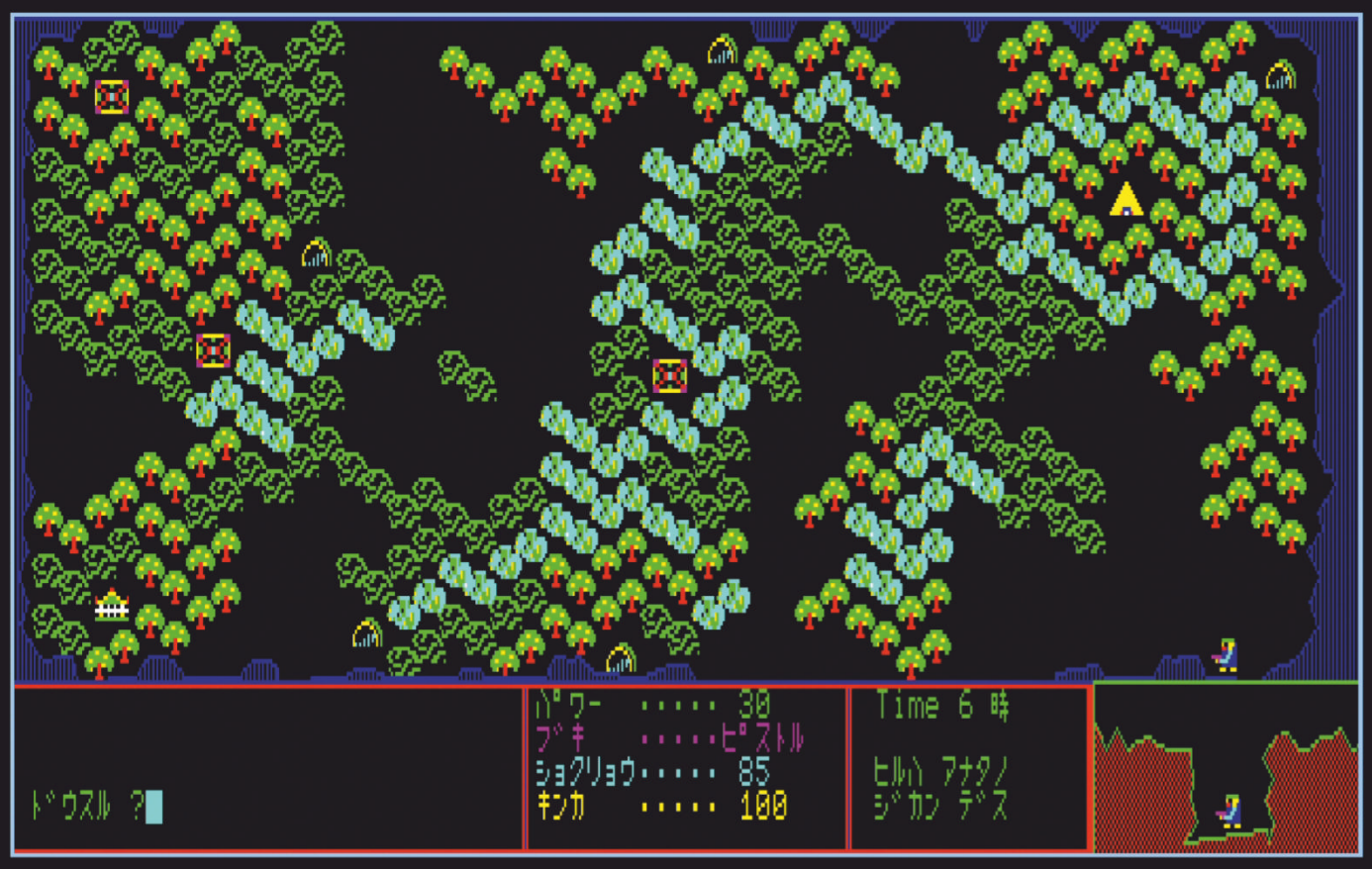
Falcom quickly became a popular publisher within the Japanese computer scene – though it's important to contextualise that. "Not many people had them because they were so expensive," says Toshihiro Kondo, president of Nihon Falcom. That made them rather more expensive than similar UK computers such as the BBC Micro Model B, and they were markedly less popular than the Famicom in Japan, with sales measured in the hundreds of thousands rather than the millions. "However, in grade school and middle school, out of the entire class there was usually four or five kids that were able to get their parents to buy one. And all of those kids liked the Falcom games." So while it wasn't swimming in the largest of ponds, Falcom was clearly a big fish. How did it achieve that



»[PC-8801] *Xanadu* was an enormously popular game in Japan, selling over 400,000 copies on home computer systems.



»[PC-8801] *Dragon Slayer* was one of Falcom's first action-RPGs, and the start of its first long-running series.



»[PC-8801] *Panorama Island* was Falcom's first RPG – if you want to play it, Japanese language knowledge is essential.

> "At the time, there was this thought amongst people that the more difficult the game, the better it was – that being really difficult was a good thing"
>
> Toshihiro Kondo

status? "I wasn't in the company at the time, so I can't give you a 100% answer," Kondo clarifies. "But I feel like there weren't many other players, so all the games that were released would receive a lot of attention. Talking to Mr Kato, who is the founder of the company, he did mention that it was a time period where pretty much anything that you made, sold."

It was during this era that Falcom gained its long-standing association with RPGs. *Dragon Slayer* moved the company into the action RPG space, and *Xanadu* became a monster hit and won multiple awards in the Japanese press. The company put more RPGs into production, and quickly began to treat the genre as its primary focus. "This is just my speculation, but within all of this they made *Ys I & II* and then the first couple of *Legend Of Heroes* games, and those were hits – they did really well," says Kondo, when asked why the company chose to pursue this genre. "Whereas before, it would take about half a year to develop one game, suddenly development time ballooned to one to two years, so I think probably because those games were hits, and they took more time to develop, they wanted to continue in that direction and the other games that they were making kind of fell off."

There were a number of qualities that helped Falcom games to stand out in the late Eighties. For Kondo, it was the company's willingness to follow its own creative path. "At the time, there was this thought amongst people that the more difficult the game, the better it was – that being really difficult was a good thing," he explains. "The *Ys* games were made in direct contrast to that, in that here's a game that anybody, if they try hard enough, is able to beat. I feel that that might be one of the defining characteristics of those early Falcom games – that even though the trend at one time might have been to do one thing, they could do the complete opposite." This wasn't just in relation to difficulty either, as he goes on to tell us. "Another example is the *Legend Of Heroes* series, as a matter of fact. This was a time period when everyone was heavily focusing on graphics – 'How can we improve graphics and make them better?' At that time, Mr Kato might have said, 'No, everybody is doing graphics, we're all heading in this direction, why ▶



»[PC Engine] *Ys IV* wasn't developed directly by Falcom, as the company was concentrating on home computer developments.

TIMELINE

1981 Nihon Falcom is founded by Masayuki Kato in March.

1982 Falcom releases its very first game in June, a PC-8801 strategy game called *Galactic Wars*.

1983 *Panorama Island*, Falcom's first RPG, is released in December.

1984 The first game in the *Dragon Slayer* action RPG series is released in November.

1985 *Xanadu* breaks Japanese computer game sales records, selling over 400,000 copies.

1988 Falcom launches its own CD publishing operation, to promote its game soundtracks.

1994 Falcom begins console game development, releasing *The Legend Of Xanadu* for PC Engine and *Popful Mail* for the SNES.

1995 *Revival Xanadu* becomes the first remake developed by Falcom.

1996 Falcom diverts focus away from developing games for the PC-98.

1998 A *Vantage Master* tournament is held in Taiwan, pitting Japanese, Korean and Taiwanese champions against each other.

2003 Falcom is listed on the Tokyo Stock Exchange.

Ys VI: The Ark Of Napishtim ends an eight-year series hiatus.

2004 *The Legend Of Heroes: Trails In The Sky* begins the *Trails* sub-series.

2005 *Sorcerian Online* becomes Falcom's first online game.

2007 The Falcom Live 2007 concert in Tokyo celebrates 20 years of the *Ys* series, and draws over 1,000 fans.

2009 *Trails In The Sky* is adapted as a manga series, and a comic version of *Ys* becomes available on Yahoo!'s comic section.

2012 Falcom releases over 4,000 tracks to Apple's iTunes store.

2012 *Trails In The Sky SC* releases on PSP in English after years of localisation work, with a script longer than *War And Peace*.

2017 Falcom develops *Trails Of Cold Steel III* exclusively for PS4.



TRAILS OF COLD STEEL III

TOSHIHIRO KONDO DISCUSSES THE LATEST FALCOM RPG TO HIT OUR SHORES



Though it's a new game, *Trails Of Cold Steel III* has serious heritage – as part of the *Legend Of Heroes* series, it goes back to the late Eighties. "The overarching series of which *Trails* is a part, the *Legend Of Heroes* series, began as a reaction to the trend of increasing graphical fidelity," says Kondo. "The idea was, 'Well, if we have even one person who is a talented writer, and have that person write the story and it be a good one, and use all of their knowledge and ability, that's something that could be unique." As a result, the series has become renowned for its detailed stories – the *Trails In The Sky* games each had over 1.5 million Japanese characters in their scripts.

Thankfully, you don't need to know everything that has gone on over the last 30 years, as this latest game follows up on the story started in 2013's *Trails Of Cold Steel*, and it has a handy guide to catch you up if you missed the previous entries in the series. "In terms of the overall story, it's a big time of change. One and two dealt with events that were happening within the empire of Erebonia itself – particularly the leader Osborne and his attempts to control things and take over, and the movement against him. Now, this has to do with Erebonia leading wars of aggression and trying to expand their territory," Kondo explains. "Within that, there's this idea that Rean [the protagonist] also needs to have a period of change within his life as well." Where the previous games follow Rean Schwarzer as a student of Thors Military Academy, in the third game we join him as he begins to teach at its new branch campus – a home for misfits and undesirable students.

Your time will be spent developing Rean's bond with his students at the academy, and training at the Einhel Keep facility. Of course, you'll also find the class sent out on vital missions, where you'll engage in rich turn-based combat. Mech battles return and have been expanded for this game, with Rean's students able to join him in battle. "We wanted to add a new system, but we even had people in the office who were saying, 'We have giant robots in this world, why aren't we using them?' Now we're more able to do that, so we did." There are also minigames to enjoy, including fishing and Vantage Masters – a collectible card game based on Falcom's original *Vantage Master* game from the Nineties.

Trails Of Cold Steel III is Falcom's first game developed specifically for the PS4. "Because of the power of the PlayStation 4, we were able to add a lot more expressiveness to the characters. Whereas before they would just be talking one to another, looking at each other, now we can have them have various expressions and really show off their personalities a lot more." As well as that obvious use of the hardware, the game benefits from control improvements made possible by the hardware. "Because previous games came out on handheld platforms, the number of buttons that were available to you was limited – so when you're in combat, even a simple command like attack or defend or using Arts took many presses of the directional keys and the buttons, so it ended up feeling kind of slow," says Kondo. "Because the PlayStation 4 has more buttons, we were able to assign a command to each button, so it moves along much more speedily."

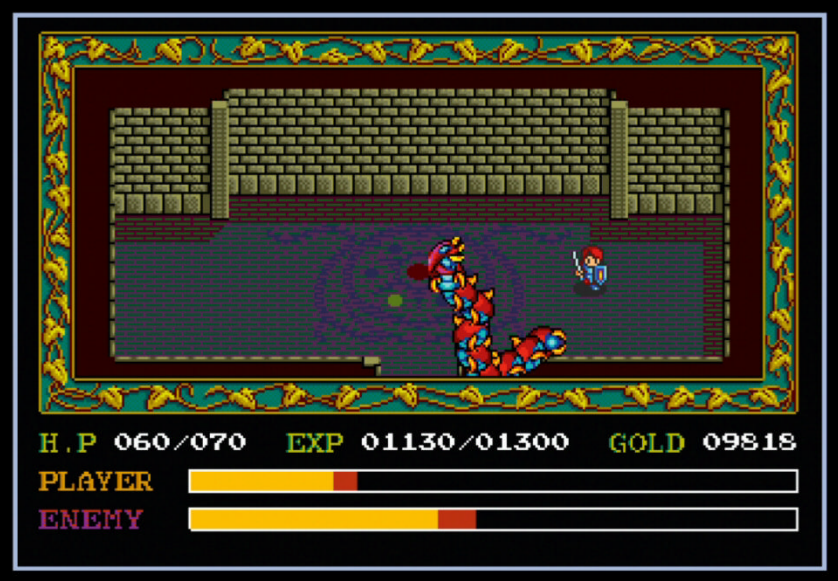
Trails Of Cold Steel III is out now for PlayStation 4, with a free demo also available for download if you fancy trying before buying.



don't we make a game that's focused on story?' This was, again, against that prevailing trend."

By the beginning of the Nineties, Falcom's games were being widely converted to home consoles, and its game soundtracks were popular enough to warrant CD releases. Falcom continued to develop RPGs throughout the early half of the decade, continuing the *Xanadu*, *Ys* and *Legend Of Heroes* series, as well as introducing popular new games including *Brandish* and *Popful Mail*. It was during this period that Kondo first encountered Falcom games. "I remember playing *Ys III* on the PC-88 at one of my friends' houses. The graphics were really detailed and I remember the music being especially noteworthy," Kondo tells us. However, it wasn't love at first sight. "*Ys III* was really difficult, and I couldn't even clear the beginning stages. So I thought it was a great game, but it was too difficult for me to play. Several years later, I had a PC Engine and I was able to play the first *Legend Of Heroes* games, and from those I finally understood, 'Oh, there's this company called Falcom and they make good games that I like.'"

However, this was where Falcom's growth started to slow down. There were two primary reasons for that. Firstly, the company was making RPGs – still considered a niche genre internationally, and though some games did make



»[PC Engine] *Ys I & II* are beloved games, and arrived on many platforms including this excellent PC Engine conversion.



»[Saturn] Remake projects like *Falcom Classics* show the company's respect for its own heritage.

the journey outside of Japan, they were often passed up for localisation. But that was arguably less important than Falcom's choice of platforms. The company preferred to keep developing its original games primarily on home computers, and chose to license conversions to the lucrative console platforms to other developers and publishers. Even when *Ys IV* was being developed for SNES and PC Engine, the development was outsourced, though Falcom did eventually dabble with the PC Engine and SNES in the mid-Nineties. This seems counterintuitive, but there were real business risks associated with those platforms. "I remember hearing this from Mr Kato, but getting your games out on Famicom and Super Famicom, you had to go through Nintendo's systems, including manufacturing and things like that. That's a very expensive proposition, so that's one of the factors," says Kondo. However, this limited growth as the PC-9801 series was suffering the same fate as the Amiga had in Europe – the last remnant of a once vibrant home computer market, squeezed out by the dominance of Windows PCs. Ultimately, Falcom chose to harness the superior capabilities of PCs for its games over the next several years.

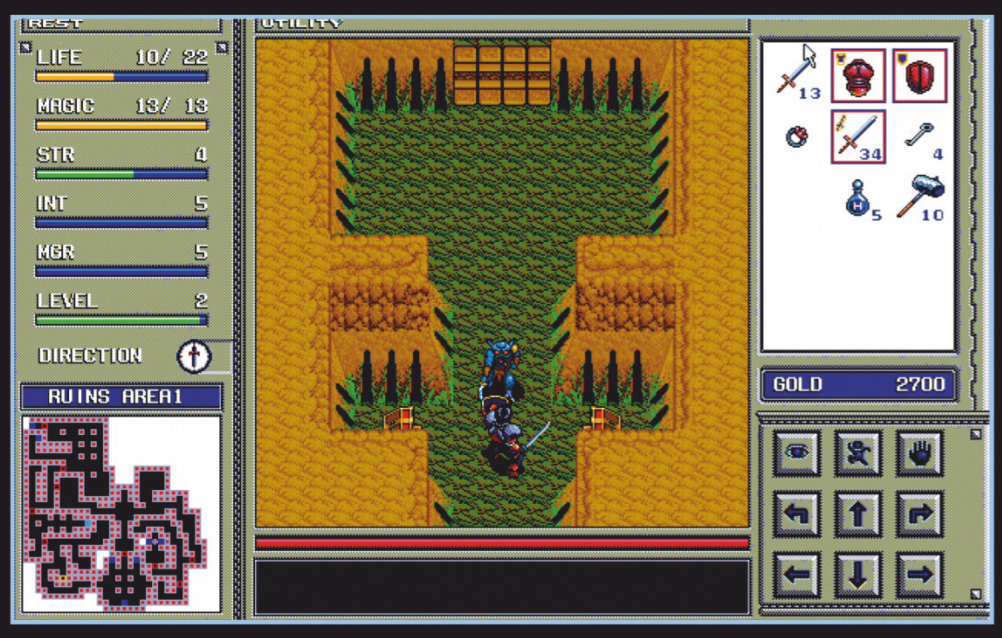
Around this time, Falcom began to proactively exploit its back catalogue, with projects like the *Ys Eternal* games, *Falcom Classics* on the Saturn, and *Sorcerian Original*. "If you look at the Nineties, you'll notice that we had a lot of remakes," says Kondo. "That was because we had a lot of young new employees and we wanted to give them an opportunity to learn the ropes." This approach continued well beyond the Nineties, but the reasoning behind it has changed over the years according to Kondo. "Obviously, there's still the goal of training new staff and getting them used to development, but on the other hand, we've reached a point where a lot of games – particularly games that are in series like *Trails* – if somebody wants to go back and play one of the older games, it's no longer on a viable platform so it's really hard to do. So the reason now is that we want people to be able to play these games on current platforms."

Many of these remakes have been fairly faithful to the originals, with good reason – Kondo is keen to avoid situations where the developers change enough that it's essentially a new game. "What we try to focus on is rather than trying to add these new features or let people make their dream version of the game, we focus more on quality-of-life features. For example, high-speed mode, event skip, things like that which just make the usability a little bit better for the player." Despite this, Falcom has occasionally taken the basic plot of a prior game and provided a new experience – for example, *Ys: The Oath In Felghana* and *Ys: Memories Of Celceta*, based on *Ys III* and *Ys IV* respectively – and it isn't a hard and fast rule. "For projects that we decide are specifically to train new staff, if they do have a certain love for the title then we listen to their ideas and try to implement as much as possible," Kondo says. "When I joined, we were able to work on the Windows version of a game called *The Prophecy Of The White Witch*, and as young staff we had a lot of ideas. We were allowed to implement them, and I think that became a big part of our careers for me and the people I did that with, and that's something I want to continue going forward." ▶



»[Mega-CD] *Popful Mail* was one of Falcom's games that did manage to receive an English language release.

> "I had a PC Engine and I was able to play the first Legend Of Heroes games, and from those I finally understood, 'Oh, there's this company called Falcom and they make good games that I like"
>
> Toshihiro Kondo



»[PC-9801] Games like *Brandish* benefited from the slow but detailed graphics of the NEC PC-9801 series of computers.

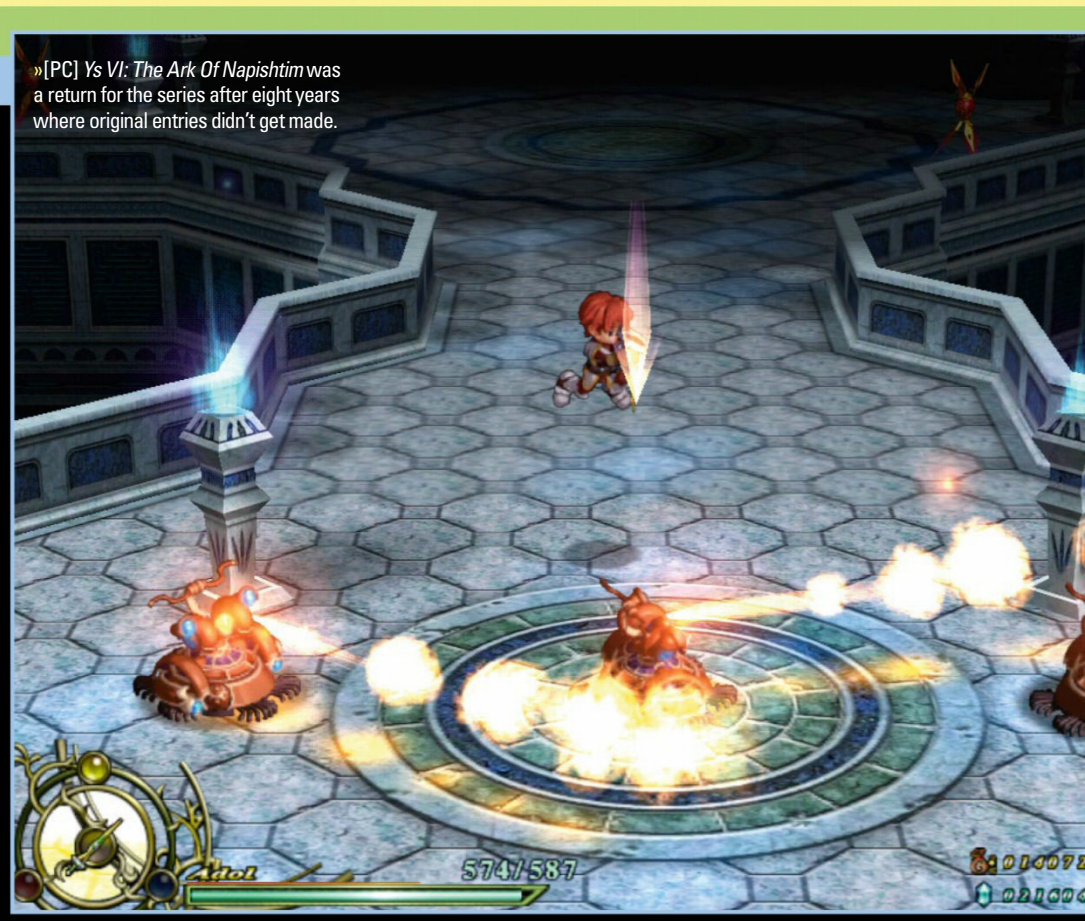


»[PC] Although the anime style is common in Falcom's games, *Xanadu Next* proves that it's not entirely ubiquitous.



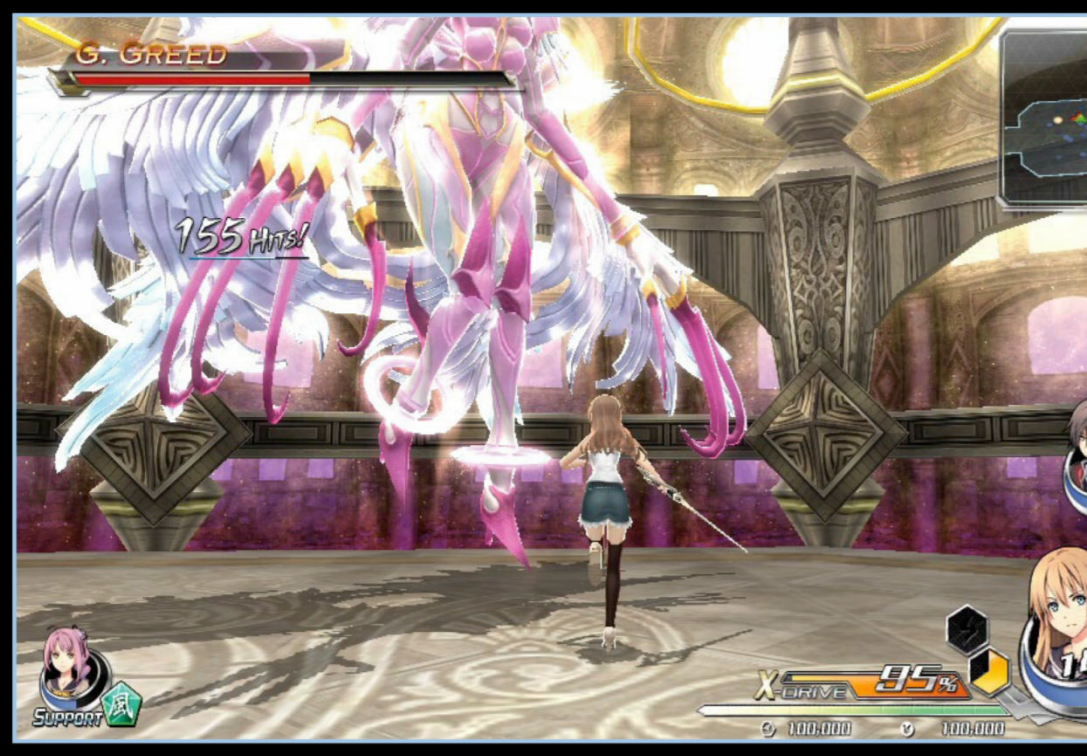


»[PC] *Trails In The Sky SC* is longer than most novels, which made it a complex and time-consuming localisation project.



»[PC] *Ys VI: The Ark Of Napishtim* was a return for the series after eight years where original entries didn't get made.





»[Vita] The *Trails Of Cold Steel* series enjoys solid popularity, and has been a real breakthrough for Falcom internationally.

THE DNA OF FALCOM



ROLE-PLAYING GAMES

■ Though it occasionally dabbles in other genres, Falcom is known first and foremost for its mastery of the RPG genre, which has been a primary focus for the company for over three decades. In that time, it has tried everything from first-person dungeon crawlers and action RPGs to the traditional turn-based games you'd expect.



HOME COMPUTERS

■ Although Falcom's games have been available on consoles for decades, the company's history is much more closely linked with that of the Japanese computer market. Almost all of its games from 1982 to 2008 were released on computers first, originally for home microcomputers before moving to Windows in the Nineties.



HANDHELD PLATFORMS

■ When Falcom pivoted towards the console market in 2009, it did so via the PSP. The company was a long-term supporter of both that system and its rather less popular successor, the Vita. The decline of that platform and capabilities of the PS4 seem to have ended the handheld-first era of Falcom's history, though.





▶ Falcom was still working on original games, too, and it was around this time that Kondo joined the company and became involved as a scenario writer on games like *Zwei!!* and the *Ys* series, before progressing to directorial roles. To get an insight into the development philosophy he employed during this time, we asked what he felt makes for a good RPG? "That depends on the type of RPG you're trying to make," he reasons. "To give you two representative examples from our catalogue, you have the *Trails* series, which is mainly focused on story – so that's what we place at the forefront of that series. The *Ys* series is all about action – good, fun action that you can essentially play forever without getting tired of it." By focusing on the strengths of their respective subgenres, both the *Trails* and *Ys* series flourished in the Noughties – the former with the *Trails In The Sky* series, the latter with new games like *Ys VI: The Ark Of Napishtim* and *Ys Origin*.

> "We make RPGs, they're very long games, so the idea of being able to play on a handheld – you can play anywhere"
> Toshihiro Kondo

After years of working primarily on computers, the PSP proved to be the pivotal piece of console hardware for Falcom – after a few years of doing good business with ports of its PC games, the company began to focus on Sony's handheld as its primary platform. Why handhelds over home consoles? "Because we make RPGs, they're very long games, so the idea of being able to play on a handheld – you can play anywhere," replies Kondo. "The other thing is that actually because we hadn't dealt with home platforms particularly, like platforms that are attached to your TV, we weren't used to the graphics and we couldn't put them up to the graphical standard that would have been expected at the time, whereas the handheld systems represented a nice medium and gave us an opportunity to learn and adjust to how to create games for these things." *Ys Seven* became the first Falcom game to debut on handheld in 2009, and the PSP and Vita would remain the company's primary platforms until the Japanese release of *Trails Of Cold Steel III* in 2017.

In recent years, Falcom's games have been created with the intention that they will be localised – though this often takes considerable time due to the large amounts of text involved. Taking the overseas audience into consideration has been eye-opening for the company. In some ways, players are more similar than expected. "In Japan, players mainly look forward to the story and the characters in the *Trails* series. Of course they enjoy the gameplay as well, but I figured that it would be the opposite in the west – that they would be more interested in the gameplay rather than the story and the characters," says Kondo. "However, I've been surprised to see that actually users out here and in America are just as excited for the story and characters as Japanese players are." However, there are differences to consider too. "On the other hand, when I've had a lot of interviews in the west, I'm often asked, 'Would you consider making the *Trails* games or the *Ys* games more open world?' That's really surprising to me. Obviously, we know the good points of open world games from lots of western games. But because our games are so story-focused, one event leads to another and there are certain flags in the programming – you have to go in a certain order to be able to see them, for us to be able to tell the story we want to tell. That becomes really difficult to do [in an open world] if you're trying to tell a really detailed story. With *Ys IX*, we've tried to make it as open as possible – this was a direct reaction to what we've heard from fans abroad."

WHERE ARE THEY NOW?



Toshihiro Kondo

■ Kondo's unusual journey into the games business began in 1998, when he was hired to run Falcom's company server, having previously overseen a Falcom fan site. "Within the accounting and finance programme I was studying at university, one of the professors was kind of... strange," he says with a laugh. "He had this seminar on web stuff and the internet, so I took that course and that's where I got the knowledge from." He quickly became involved in game development, taking on scenario writing and directorial jobs before becoming president of Nihon Falcom in 2007 – a role he still occupies.

Today, Falcom is still a relatively small company. It employs a little over 60 staff, up from about 40 when Kondo joined in the late Nineties, though few remain from the Eighties – only the founder Masayuki Kato, and Mieko Ishikawa, whose status as a star composer for the company goes right back to her work on the original *Ys* games. But Falcom has proven resilient and profitable over a very long period of time, and its 40th anniversary is approaching in 2021. Surprisingly, this isn't something that preoccupies the team. "We have a bad habit of focusing so much on games that we kind of forget things like this. I wouldn't be surprised if many people in the company have forgotten that we're going to have our 40th anniversary, so I need to remind all of them that maybe we should do something to celebrate," says Kondo. "The founding day of the company is 9 March, so the founder goes to the office and he'll ask people, 'Do you know what day it is?' People say, 'A normal day?' Some say, 'It's Hatsune Miku day' – the founder complains about that, that people don't know their own company history!"

So while Falcom has always treated its back catalogue with a lot of respect, the company's developers seem more concerned with what's going on in the present than they are with looking back on past glories. With that level of focus, we wouldn't be surprised to see Falcom's legacy extend well past that impending major anniversary – ensuring that classic games like *Ys* live on for many years to come. ✱



AUDIO EXCELLENCE

■ Falcom was one of the first developers to have a recognisable musical identity, as Falcom Sound Team JDK was established in the late Eighties, at the same time the company's music publishing endeavours began. The company's soundtracks can now be found on Spotify, going right back to its earliest CD releases.



PROUD HERITAGE

■ Falcom was one of the first companies to really recognise the value of its heritage, as its most famous ongoing series have decades of history behind them. Retro remake projects such as *Ys Eternal* began in the late Nineties, and Falcom has continued to revitalise its old games for old fans and new audiences alike.

SCORE 40
TIME 2:32
RINGS 0

RETROREVIVAL

Sonic & Knuckles

THE MADNESS MUST END?



» MEGA DRIVE » 1994 » SEGA

Even as a small kid, it was clear that there was a lot going on with *Sonic 3* that we players weren't privy to. Well before seeing the level select screen with its telltale references to missing stages, there was the small matter of Knuckles. He looked like a player sprite, you could play as him in multiplayer, and if you paused at just the right time, you could see a blue version of him on the stage end post. Every couple of weeks I'd get *Sonic The Comic* and hope to see the cheat to let you play as Knuckles, only to have my hopes dashed.

When *Sonic & Knuckles* came along later in the year, it had all those missing stages and you could play as Knuckles. Suddenly everything made sense – *Sonic 3* was only the first part of the story, and the lock-on cartridge allowed us to experience the whole thing in one go. While cynicism taints every fibre of my being today, back in 1994 I never thought of it as a way to break one big game into two smaller games to make more money. After all, they'd got it to work with *Sonic 2* as well, and that one was *definitely* finished.

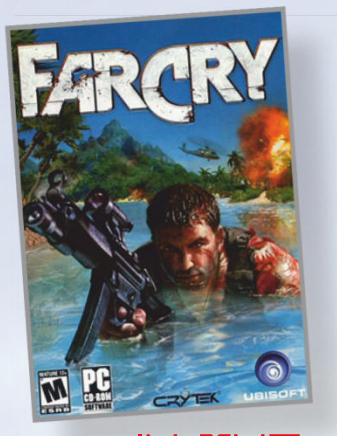
The only problem came towards the end of the game, in the Hidden Palace Zone. Never mind that the name comes with its own baggage when it comes to Sonic secrets – the big problem was that Sonic and Knuckles had a fight. Now, Knuckles had been positioned as an antagonist and made many attempts to thwart you on your journey through *Sonic 3*, so having a battle with him wouldn't have felt out of place. But once Knuckles became a playable character who battled Robotnik just like Sonic, it felt a bit weird and wrong, especially as the fight was non-standard in a few other ways. In time I came to understand what was going on (at this point in Sonic's game, Knuckles doesn't realise he's been tricked by Robotnik), but I'll never forget my 'I thought they were friends now?' confusion. ✱

THE MAKING OF FARCRY

WORDS BY ROBERT ZAK



WE DON OUR BEST HAWAIIAN SHIRTS AND GRAB A SUBMACHINE GUN AS WE DELVE INTO THE STORY BEHIND THIS AMBITIOUS TROPICAL FIRST-PERSON SHOOTER



IN THE KNOW

- **» PUBLISHER:** UBISOFT
- **» DEVELOPER:** CRYTEK
- **» RELEASED:** 2004
- **» PLATFORM:** PC, VARIOUS
- **» GENRE:** FIRST-PERSON SHOOTER

At one point in the 2004 first-person shooter *Far Cry*, hero Jack Carver slams his oversized hands to his head and growls, "What is this? A bad spy movie?" It's a well-observed moment of self-awareness with regards to the wantonly B-movie plot he's part of, in a game that wasn't worried about making fun of its schlockier elements.

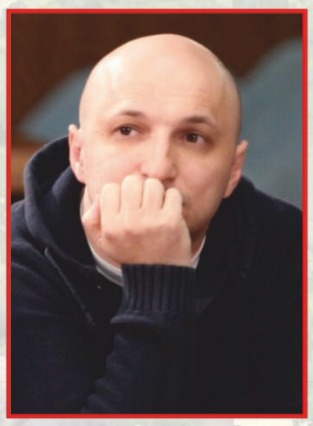
But not even such cheery tackiness could obscure the fact that the original *Far Cry* is anything but a B-game. It was a technical marvel for the time, made by an obscure but ambitious German developer called Crytek. While it's best remembered as a graphical tour-de-force, it's also a hotpot of bold design ideas that quietly shook up the first-person shooter genre.

Crytek was a new studio when it started work on *Far Cry*. Founded in 1999, it was made up of an international team of young developers whose unfettered creativity was nurtured by its sibling trio of CEOs: Cevat, Avni and Faruk Yerli. One of the first developers employed at Crytek was main programmer and level designer Petar Kotevski, who came on board in 2000 to work on Crytek's proprietary new engine, CryEngine, as well as the as-then-unnamed *Far Cry* that would be used to champion it.

Like many of Crytek's early recruits, Petar learned about the company through the 'X-Isle' tech demo that was used to showcase CryEngine at E3 1999. The demo depicted a vast jungle island populated by dinosaurs, with the camera gliding high above the canopies to show off the incredible draw distances, foliage and tantalising waters surrounding the island.

The demo wooed press and publishers, and soon after E3, Crytek landed a contract for X-Isle to be the tech demo for Nvidia's GeForce 3 graphics card (you can still download the demo today). Shortly after that, Ubisoft approached Crytek to turn X-Isle into a full triple-A game.

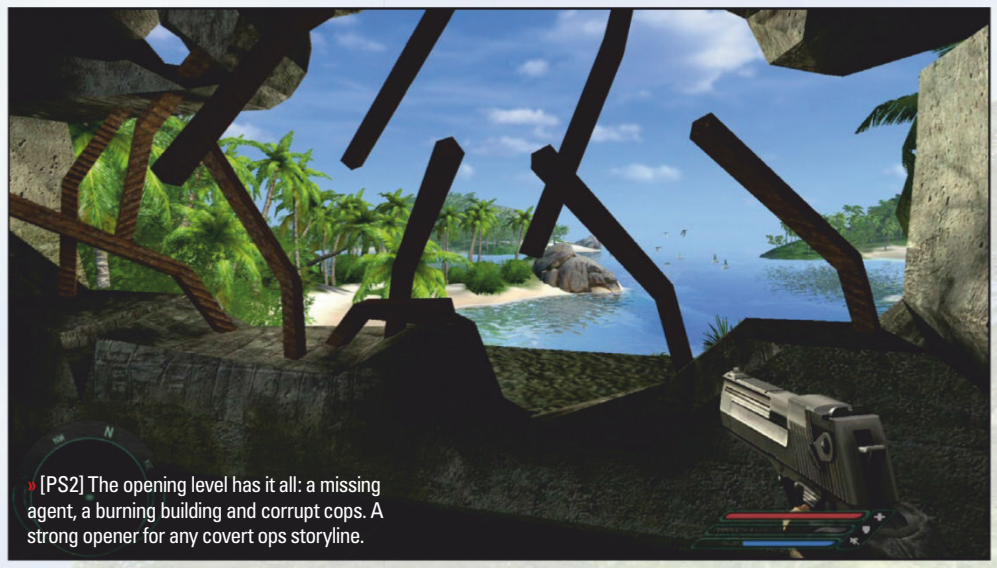
But Crytek didn't yet have any idea of what this game would actually be, while CryEngine was still just a bunch of code designed specifically for that tech demo. "There was no engine. There was no game. It was just code and a tech demo," remembers Petar. "It was supposed to be based off the X-Isle concept, so you'd be going on an island and dealing with dinosaurs. A few months to a year later, we'd moved on from the dinosaur concept."



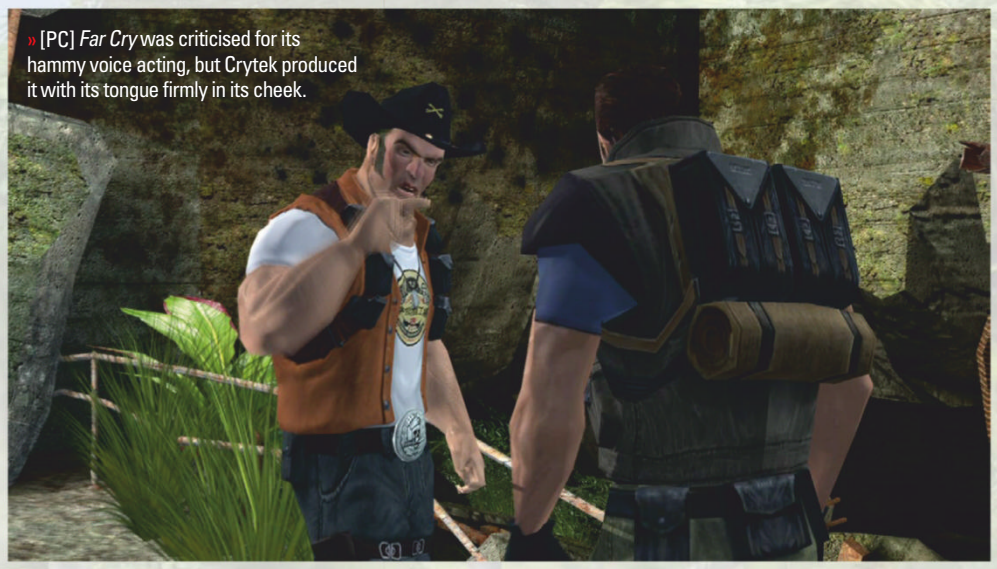
» Petar Kotevski joined Crytek early in its life, and was one of the main programmers on *Far Cry*.



» [PC] Vehicle mechanics took inspiration from *Halo*, as well as the *Half-life 2* build that leaked in 2003.



» [PS2] The opening level has it all: a missing agent, a burning building and corrupt cops. A strong opener for any covert ops storyline.



» [PC] *Far Cry* was criticised for its hammy voice acting, but Crytek produced it with its tongue firmly in its cheek.

Crytek initially employed a team of around ten programmers to work at the company office in the Bavarian city of Coburg. More accurately, it was a two-storey house. "It was actually a massage parlour before Crytek," Petar recalls. "For the first year or so we had people ringing the door asking to schedule massage appointments."

The international nature of the team meant that new arrivals in Germany would often stay on the second floor of the house while looking for more permanent accommodation. "We basically lived in that house. It was pretty much a fraternity."

And, like a true fraternity, there was little semblance of order during the early days at Crytek's office-not-office. Like many videogame startups at the time, development roles were fluid and everyone was welcome to contribute to different parts of the game. "Because we had so much freedom to experiment with different things, not just in how the game looked but how it played as well, we came up with this more free concept of playing," Petar recalls. In its own way, the freewheeling development process at Crytek permeated into the revolutionary freedom of approach offered in the final game.

Soon, the flat tree-covered setting of X-Isle evolved into a beautiful paradise of mountains, jungles and beaches, and the dinosaurs were ▶

> **"BECAUSE WE HAD SO MUCH FREEDOM TO EXPERIMENT WITH DIFFERENT THINGS, NOT JUST IN HOW THE GAME LOOKED BUT HOW IT PLAYED AS WELL, WE CAME UP WITH THIS MORE FREE CONCEPT OF PLAYING"**
> **PETAR KOTEVSKI**



DEVELOPER HIGHLIGHTS

CRYSIS (PICTURED)
SYSTEM: PC, XBOX 360, PS3
YEAR: 2007

RYSE: SON OF ROME
SYSTEM: PC, XBOX ONE
YEAR: 2013

HUNT: SHOWDOWN
SYSTEM: PC, XBOX ONE, PS4
YEAR: 2018



» [PC] The latter parts of the game weren't as meticulously designed, pitting you against mutants with fairly straightforward intelligence.

FAR CR-AI

The mercenary AI is deceptively clever, working in teams with specific roles to spot, flank and take down the player. Here are the foes you're up against



COMMANDER

Will bark orders and recruit other enemies into subteams. Shoot this shotcaller and squads will lose their cohesion.



SCOUT

Faster-moving enemies who focus on flanking, sneaking up and shooting you from unexpected angles while the rest keep you busy.



COVER

Units that advance towards you in a fairly straightforward manner, albeit darting from cover to cover wherever it is possible.



REARGUARD

These guys keep their distance, chuck grenades and generally harass you from afar while others advance on you.



» [PC] A high-res snap from Crytek's tech demo, which went on to become *Far Cry*.







» [PC] One of the better aspects of the late game was watching the mercs and mutants go up against each other.

replaced by mercenaries and outposts. A foundation for some kind of semi-open first-person shooter was laid.

But this was still very much the era of the corridor shooter, and engines of the time like id Tech and Unreal Engine catered towards that style of game. This FPS status quo meant that some new designers joining Crytek struggled to adapt to the company's open, systems-based approach. "Any designer we hired came from that school," Petar recalls. "What they'd do is erect a mountain on the left, a mountain on the right, and it was basically a corridor."

The CryEngine tech wasn't being used to its fullest potential, so in order to escape this old school of level design, the lush cerulean seas surrounding the island came into play. "We started thinking about how we can use more natural boundaries like the sea," Petar says. "How do we allow the player to not necessarily be funnelled, but give them a little bit more freedom so they can choose where they approach an encounter from?"

Suddenly, many of the outdoor levels offered almost 360-degree freedom of approach. You could scope out an enemy base from a boat at sea, from nearby islands, or from thick foliage dangerously close to the base. The tactical feel of these encounters was bolstered by the binoculars, which would tag enemies on your radar, giving you a full picture of their movements. This established the core gameplay loop of reconnaissance followed by any-angle base infiltration that defines *Far Cry* games to this day.

Far Cry was now forming into a shooter entirely unlike its contemporaries. It stood in contrast to hit first-person shooters of the time like *Call Of Duty*, *Doom 3*, and even the seminal *Half-life 2*, which were essentially linear, mostly limiting players to a single angle from which to take on enemies and progress through the game.

Not that Crytek was averse to learning from its rivals. Petar credits the largely forgotten *Project IGI* for the freedom it offered players when attacking outposts, but another unlikely opportunity allowed the company to peek beneath the bonnet of a far more prominent game. In October 2003, a young German hacker broke into Valve's networks and leaked an early build of *Half-life 2* online. Naturally, it caught Crytek's attention.

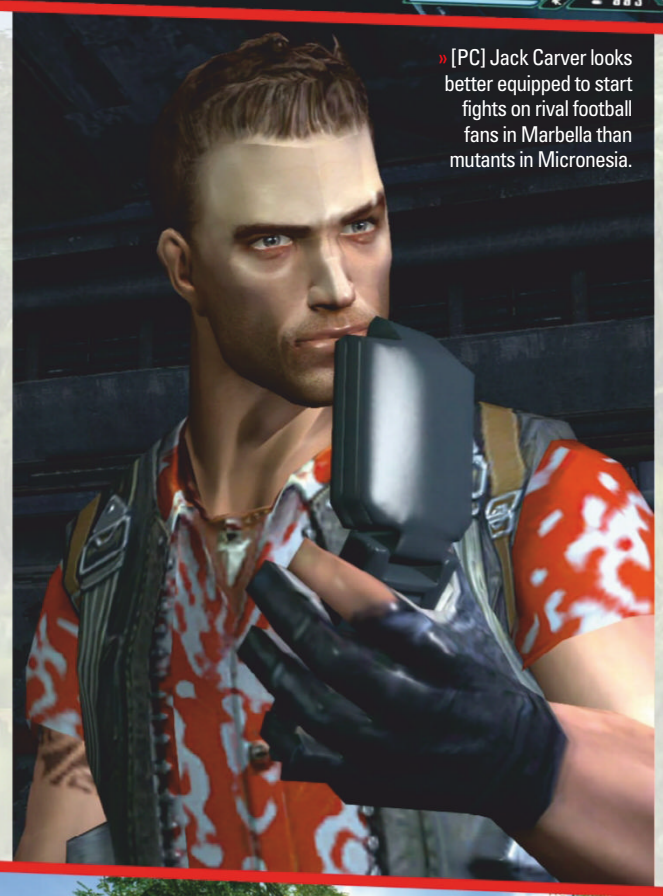
"We were all playing it. There wasn't a lot to actually play, but we looked at the gunplay, the vehicle handling. It was useful for us to see," Petar tells us. "We were struggling to make vehicles easily controllable, so we playtested *Halo,* too, for its driving mechanisms."

But a creatively liberal development process doesn't always sync with the number-crunching and safe bets that publishers often swear by. The Ubisoft formula of the early Noughties was much different to what it is today. This was an





» [PC] These late-game foes make up for their basic tactics by going invisible. Cheap tricks…



» [PC] Jack Carver looks better equipped to start fights on rival football fans in Marbella than mutants in Micronesia.



» [PC] Later in the game you team up with CIA agent Val, who didn't get the memo about the game's advanced AI.



» [PC] In a sequence weirdly prescient of *Far Cry 2*'s African climes, you get to ride this rubber dinghy down a river.



"HOW DO WE ALLOW THE PLAYER TO NOT NECESSARILY BE FUNNELLED, BUT GIVE THEM A LITTLE BIT MORE FREEDOM SO THEY CAN CHOOSE WHERE THEY APPROACH AN ENCOUNTER FROM?"
PETAR KOTEVSKI

era of heavily scripted and closely directed experiences, replete with so-called 'Wow Moments'. The *Ghost Recon* series was in full flow, and *Prince Of Persia: The Sands Of Time* and *Beyond Good & Evil* depicted spectacular story-led adventures. In comparison, *Far Cry* seemed a bit aloof and technically high-minded to Ubisoft, and even to certain designers within Crytek itself.

The studio pushed back against Ubisoft's 'Wow Moments' model, which in Petar's words led to "some really heated meetings between the publisher and developer". At the same time, Crytek was trying to win new designers over to a new way of thinking about AI. Simplistic ideas like shooting a stack of barrels so it rolled onto enemies at the bottom of a hill, or enemies firing from specific windows without seeking cover were whittled out. Replacing these action game platitudes was an AI system that would be incredibly realistic, even borderline punishing.

Because while on the surface *Far Cry* looked like a beautiful, if hammy, action game, under the hood it was absolutely brimming with complex systems. The damage dealt by bullets – whether hitting the player or enemies – was affected by factors like distance, how many materials the bullet passed through and what kinds of materials those surfaces were. So players hiding inside tents would quickly discover to their chagrin that they were getting gunned down through walls by unseen enemies who were firing blindly. A point-blank shootout, meanwhile, could be as deadly for the player as for the AI.

The teamwork exhibited by enemy AI remains impressive to this day. Mercenaries took orders from their squad leaders and would flag your last seen (or heard) position to their allies, spreading out and slowly descending on the flag from multiple angles. Kill the squad leader, and enemies would stop acting as a unit, making them more vulnerable.

"We had [sight] rays shooting from the eyes of enemies that penetrated a certain amount of bushes," Petar highlights. "Everything we did was to create a plausible implementation of how something would work in reality."

Even though Crytek eased up on the AI based on feedback from shellshocked playtesters, enemies remained notoriously assiduous at hunting down players hidden in the foliage. "When you're sitting in the bushes, one leafy polygon can obscure your entire vision as a player, but if you're thinking from the point of view of the AI, it's possible that you can't see them but they can see you," Petar says. "At the same time, you may think you were spotted by the guy you're fighting but it was actually his teammate who's now flanking you."

In a way, the *Far Cry* AI system was *too* good; the result of a young creatively liberated team that ▶



» [PC] Enemies have a peculiar way of crumpling, their upper bodies folding back while their feet remain planted to the ground.



UBI-QUITOUS FEATURES

Far Cry introduced several interesting innovations that would go on to feature prominently in Far Cry and Ubisoft games to this day. Here are our faves



HANG GLIDER

One of the most iconic gadgets of latter-day *Far Cry* games, the Hang Glider actually made its debut right here in the original, letting you feel the wind in your hair as you whooshed across canyons and between mountains. It was effectively replaced by the wingsuit in *Far Cry 5*.



BINOCULARS

The idea of tagging enemies before advancing is not only ever-present throughout *Far Cry* games, but Ubisoft games as a whole (like eagles in *Assassin's Creed*). Every subsequent *Far Cry* game features binoculars capable of tagging enemies, and it all started here.



FREEDOM OF APPROACH

Being able to attack bases from any angle you wanted – by stealth or by sheer firepower – was unheard of outside of niche tactical shooters. *Far Cry* effectively brought this style of gameplay into the mainstream, and we see it today in most Ubisoft games.



» [PC] There's plenty of water surrounding many of the outposts, giving you plenty of angles to attack from.

was perhaps was a little naive in finding the balance between fun and realism, particularly at a time when FPS players were often used to facing off against much simpler foes. "I think, in hindsight, we should've factored in the player perception of how visible they are into the whole calculation of whether they're seen or not," Petar admits.

> "WE HAD THIS CRAZY PRODUCER CALLED CHRIS NATSUUME WHO WROTE A LOT OF FUNNY DIALOGUE FOR THE MERCENARIES"
> PETAR KOTEVSKI

The already challenging gameplay was reinforced by a contentious decision not to allow quicksaves, relying on checkpoints instead, and an adaptive AI system that made the enemy solders' actions smarter or dumber depending on how often the player was dying. "The reason we didn't include quicksave was to make people think a little bit rather than attempt to brute-force encounters," Petar recalls. "We thought that people would miss all the work that we put into making these encounters approachable from different sides and giving all kinds of cookies if you just explored a little bit."

Again, many gamers and critics weren't quite prepared for such severe difficulty. Petar recalls being called into Cevat Yerli's office after a reviewer in a magazine docked two points off the game's score for not including quicksaves, "I remember Cevat saying, 'Do you see this? I told you this was going to happen!' We argued a lot about it and they published a quicksave patch later on."

Crytek was so heavily focused on the systems and technicalities of *Far Cry* that the story barely figured into the studio's roadmap. The plot saw ex-special forces agent Jack Carver infiltrating an archipelago where genetic experiments were taking place in underground labs. It was just "made to fit what we needed", according to Petar. Despite Ubisoft being more concerned with narrative than Crytek, it was left in the hands of the latter and never taken too seriously, as evidenced by mercenaries grunting lines like, 'I'm gonna open a can of whoop-ass on ya.'

"We had this crazy producer called Chris Natsuume who wrote a lot of funny dialogue for



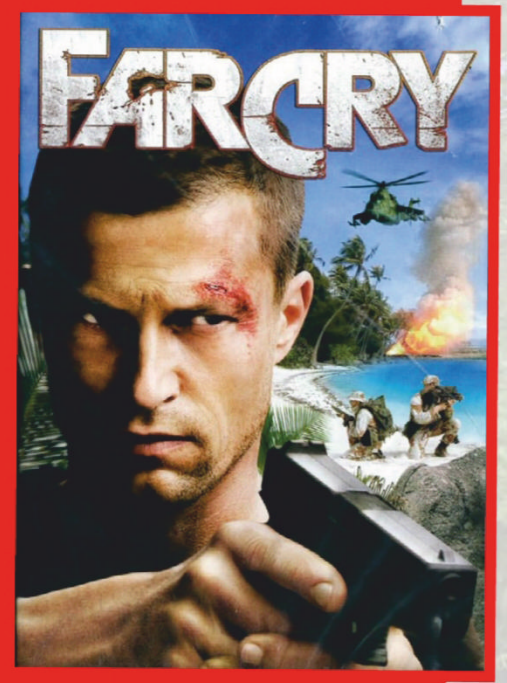
» [PC] A mutant monkey lurks on the horizon. Let one of these leap at you, and you're looking at a one-shot death.

UWE BALLS-UP

Uwe Boll is something of a household name among the crap film appreciation community. The German director created ignominious anti-hit movie adaptations of games like *BloodRayne*, *Postal* and *Alone In The Dark*, all of which were critically panned.

The *Far Cry* movie, released in 2008, stayed true to form. The best that can be said about it is that it at least sticks to the broad story of a man and woman going to a remote island to take on a mix of mercenaries and mutants. But considering that even Crytek was aware of how silly that story was in the first place, who in their right mind thought it would make for a good movie? Uwe Boll, is who.

If you want something *genuinely* entertaining involving Uwe Boll, you should check out the documentary *Fuck You All: The Uwe Boll Story*, which gives some insight into the man behind the madness.





» [PC] Much like in later *Far Cry* games, enemies will run to alarms, calling in reinforcements if they spot you.





» [PC] The plot is vaguely reminiscent of *The Island Of Dr Moreau*, but with the whole cast jacked on steroids.

the mercenaries," Petar tells us. "I think what was originally meant to be a more serious story became more and more cheesy and B-movie."

But there was a limit to Crytek's whimsy, and few at the studio were satisfied with the mutant enemies that were introduced later in the game. Petar admits that *Far Cry* was largely front-loaded with the more ambitious systems while the latter levels – with the less advanced mutant AI – were largely padding. "The whole thing with the mutants was tacked on fairly late in development," Petar says. "We had thousands of bugs to iron out, so not a lot of thought went into those parts of the game. There's always the production/statistic side of things where you read that 90% of players don't make it 80% through the game."

Right up until *Far Cry* was released to critical acclaim and excellent sales, it seemed that Ubisoft didn't have much faith in the IP. Convincing Ubisoft not to make it a spectacle shooter was a struggle, and Crytek was frequently missing milestones set by the publisher. "There was a part of the development in which Ubisoft exerted a lot of pressure on Crytek to do what they're told by withholding payments on milestones, sometimes for months and months," Petar says.

At one point, Crytek had to make seven prototypes of *Far Cry* to convince Ubisoft that the game would work in open environments. After weeks of being "worked to the bone", in Petar's words, the team was informed on a Friday afternoon that Ubisoft didn't accept the milestone and that they'd have to work the weekend. Crytek subsequently negotiated a three-week extension on the prototypes, which Ubisoft accepted. These prototypes, known as 'Valley Basic Jungle', became the framework for *Far Cry*.

Far Cry was a success upon release, but by that point it was clear that Ubisoft and Crytek wouldn't work together again. "I think by the time *Far Cry* was finished the relationship between Ubi and Crytek had soured beyond reasonable repair," Petar says.

Petar Kotevski left Crytek shortly after *Far Cry* launched, recalling his time there fondly, despite being overworked for around six months of development. He praises the studio for its bravery in launching one of the biggest IPs in gaming. "Crytek got a lot of talented people, gave them leeway and listened to them," Petar says. "A lot of company heads wouldn't be as receptive in helping the devs make the game they wanted to make, but Crytek helped us in confronting and convincing Ubisoft about it."

The story of the *Far Cry* IP is well documented. Ubisoft held onto the name, while Crytek held onto the IP and engine, and ran with the iffy themes of aliens and mutants for its *Crysis* series. Ironically, according to Petar, Ubisoft's *Far Cry 2* was closer to the game that Crytek wanted to originally make, but it was prevented from doing so at the time.

With Ubisoft's subsequent penchant for blockbuster open-ended games and freedom of approach, you have to wonder whether the inspiration for the publisher's latter-day business model stems from a certain game involving mutants, B-movie dialogue and a meatheaded hero with a Hawaiian shirt. ✱

Xbox Controller fact

■ This controller is commonly nicknamed the 'Duke' – but not due to its stately size. The name came from Brett Schnepf, then a hardware project manager at Microsoft, who named it after his son.

Xbox Controller

» PLATFORM: Xbox **» RELEASED:** 2001
» COST: £24.99 (launch), £15+ (today, boxed), £7+ (today, unboxed)

Microsoft didn't aim to produce anything revolutionary when designing the original Xbox controller, instead combining the DNA of other controllers to create an obvious hybrid. From Sega's Dreamcast controller, Microsoft took the 'thumbstick above d-pad' layout, analogue shoulder triggers and dual expansion ports (for accessories like memory cards and microphones). From Sony's DualShock 2, it grabbed built-in rumble, pressure-sensitive face buttons and the second analogue stick. Then, there were a couple of oddball additions – the black and white buttons, for an effective six-button layout, and the 'breakaway cable' which was designed to provide a safe disconnection when tugged by enthusiastic players.

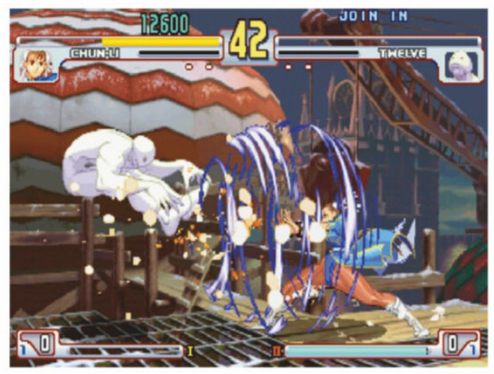
None of that is what the controller is best known for – the 'Duke' is primarily renowned for its enormous size. Some even felt that it was typical of American console engineering, and echoed the bulky designs of Atari's Jaguar controller and Lynx handheld. Sensing that this wouldn't fly in the Japanese market, Microsoft designed the smaller Xbox Controller S (amusingly codenamed Akebono, after the American-born sumo wrestler). Player demand saw the Controller S introduced as an optional accessory in western markets, before it usurped the original controller as the default in North America in 2002, and Europe in 2003. ✱





ESSENTIAL GAME

STREET FIGHTER ANNIVERSARY COLLECTION



The position of the black and white buttons on the Duke effectively gives it a six-button layout similar to that of the Mega Drive and Saturn – something that's best used for fighting games. While Capcom's *Street Fighter* series was fairly dormant throughout the life of the original Xbox, this anniversary pack gives you both *Hyper Street Fighter II* and the acclaimed *Street Fighter III: Third Strike*. While the Controller S arguably has a better d-pad for 2D games, the repositioned black and white buttons mean that the input layout isn't nearly as well suited to this type of game.

In the chair with...

BARRY LEITCH

Barry's fascinating career as a composer has taken him from a computer club in Scotland to an orchestral concert in Brazil, working with some of the top games companies on both sides of the Atlantic

Words by Andrew Fisher

"I've moved like 33 times since I left home," Barry tells us from his studio in Ohio, his Scottish accent revealing hints of an American twang. We ask if he had any musical training. "No, other than learning to play the recorder in school. In the end, they wouldn't let me take my music O Level because I couldn't play an instrument well enough. I was always interested in music but I was just too damn lazy to learn how to play the piano properly." Instead, he became interested in computers, his earliest experience typing in listings and trying to make games on a ZX81. "Playing *Flight Simulator* on the ZX81 – 'Oh my God, it's so real!'"



» Barry (top left) next to Rob Hubbard in a stellar line-up of C64 composers during Back In Time Brighton 2003. (Photo by Andrew Fisher)

What was it that made you start writing music on computers?
When I heard Rob Hubbard's *Synth Sample* demo, it was like, 'People are making music on these machines that sounds really good!' I borrowed a BBC Model B over the summer and programmed a bunch of music into The Music System. If you ever run into a copy of *Toccata in D Minor* in The Music System, that was five days of my life, putting that in note by note.

How did you get your first commercial gig?
I was 14 or 15 and I started making demos. We were in the Compunet era, just going to computer clubs every week and swapping our demos. If you had some new demos, people would give you games and demos in exchange. I sent tons of demos to every videogame company in Britain and pestered them all, and they all said, 'No kid, we don't want your music, stop calling us.' So I made more demos and sent them off, phoned them up again and said, 'You should really check out my new demos, they are much better than the old ones.' And finally Colin Fuige at Firebird said, 'That one tune… I think we can use that one.' Yes! I was an annoying little 15-year-old and I wanted to make music for games more than anything in the world, because it was that or go and do a real job – doctor, lawyer, accountant… ugh, I didn't want to do any of that shit. I wanted to be Rob Hubbard. It took a long time before I got better – a good five years, just writing music every day before I had that 'aha!' moment, that this works and this doesn't.

How did you join Imagitec?
We'd been at Catalyst Coders in Portsmouth, and they had severe financial difficulties. We were living on one Pot Noodle a day because we were so poor. We hooked up with Darren Melbourne,



» [SNES] Barry ready! Gladiators ready! Start jousting. Barry handled the music for *American Gladiators*.

and he was trying to swing a deal where we'd set up a little studio in conjunction with Imagitec. And they were like, 'You can come work in-house but we're not wasting money on an office.' Darren was geographically tied to London, I don't think he wanted to move up north to Dewsbury. We'd all left Portsmouth and were living in a bedsit in London, which was rented out by these gangsters – you don't pay the rent, you get concrete wellies. It was terrifying for 17 or 18-year-olds. I'd managed to do some freelance jobs, *Emlyn Hughes International Soccer* and *Super Dragon Slayer*. We had a few hundred quid come in, just enough to pay the rent for another couple of weeks. We were down to eating dry cornflakes. There was me and my girlfriend, the late Chris Edwards (the artist), Tom Pinnock



» Some of the games Barry has worked on are displayed proudly in his studio. (Photo by Barry Leitch)

> I sent tons of demos to every videogame company in Britain and pestered them all
>
> Barry Lietch

SELECTED TIMELINE

GAMES

- **ICUPS** [1988] C64
- **MARAUDER** [1988] C64
- **EMLYN HUGHES INTERNATIONAL SOCCER** [1988] C64
- **SUPER DRAGON SLAYER** [1988] C64
- **WEIRD DREAMS** [1988] C64, PC
- **XENOPHOBE** [1988] C64, ATARI ST, AMIGA, ZX SPECTRUM, AMSTRAD CPC
- **FEDERATION OF FREE TRADERS** [1989] PC
- **FERRARI FORMULA ONE** [1989] C64, ATARI ST, ZX SPECTRUM, PC
- **FIENDISH FREDDY'S BIG TOP OF FUN** [1989] C64, ZX SPECTRUM, AMSTRAD CPC
- **GEMINI WING** [1989] C64, ATARI ST, AMIGA, ZX SPECTRUM, AMSTRAD CPC
- **COMBO RACER** [1990] AMIGA, ATARI ST,
- **IMPERIUM** [1990] PC
- **KICK OFF 2** [1991] GAME BOY, NES
- **LOTUS TURBO CHALLENGE 2** [1991] ATARI ST, AMIGA
- **SUPER CARS 2** [1991] ATARI ST, AMIGA
- **SWITCHBLADE** [1991] C64
- **UTOPIA** [1991] ATARI ST, AMIGA, PC
- **GADGET TWINS** [1992] ATARI ST, AMIGA, MEGA DRIVE, SNES
- **HERO QUEST** [1992] C64, ATARI ST, AMIGA, ZX SPECTRUM, AMSTRAD CPC, PC
- **LETHAL WEAPON 3** [1992] AMIGA, ATARI ST, SNES, PC
- **TOP GEAR** [1992] SNES
- **TFX** [1993] AMIGA, PC
- **EEK THE CAT** [1994] SNES
- **INFERNO (WITH ALIEN SEX FIEND)** [1994] PC
- **WING COMMANDER III: HEART OF THE TIGER (DIALOGUE EDITING)** [1994] PC
- **ULTIMA: SAVAGE EMPIRE (JAPAN ONLY)** [1995] SNES, MEGA DRIVE
- **3D TANK** [1995, UNRELEASED] VIRTUAL BOY
- **SPIDER** [1996] PLAYSTATION
- **TOP GEAR RALLY** [1997] N64
- **RUSH 2** [1998] N64
- **BOSS PC RALLY** [1999] PC
- **GAUNTLET LEGENDS** [1999] N64, PLAYSTATION, DREAMCAST
- **GAUNTLET: DARK LEGACY** [2000] ARCADE, PS2, GAMECUBE, XBOX
- **BATMAN: RISE OF SIN TZU** [2003] GBA
- **KING KONG** [2005] GBA
- **GHOST PIRATES OF VOOJU ISLAND (VOICE ACTING)** [2009] PC
- **NEVERWINTER (VOICE ACTING)** [2013] PC
- **HORIZON CHASE** [2015] IOS
- **DARK QUEST 2** [2016] STEAM, SWITCH, PS4, XBOX ONE
- **HORIZON CHASE TURBO** [2018] STEAM, PS4, XBOX ONE, SWITCH

and his girlfriend, and Gavin Wade and his girlfriend. Because I was the loudmouth of the group, they were like, 'Let's phone Imagitec and see if they still want to hire us.' Side story: We did make a game in three days, *Battlefield* on the Commodore 64, just two tanks shooting each other…

I had to walk to the end of the street to the phone box. I phoned Imagitec and said, 'See, if you send a van to London to pick us up, we'll come and work for you.' Martin Hooley got off the phone and he turned to his brother, 'Get the van, go to London, pick up these kids and if they give you any shit dump them and take all their stuff.' That's how we ended up going to Imagitec, we arrived there in the van at seven in the morning, moved into the mill house which was just infested with vermin. Mice everywhere. But we thought this was great, we were living in the office, making videogames, what more to life could there be?

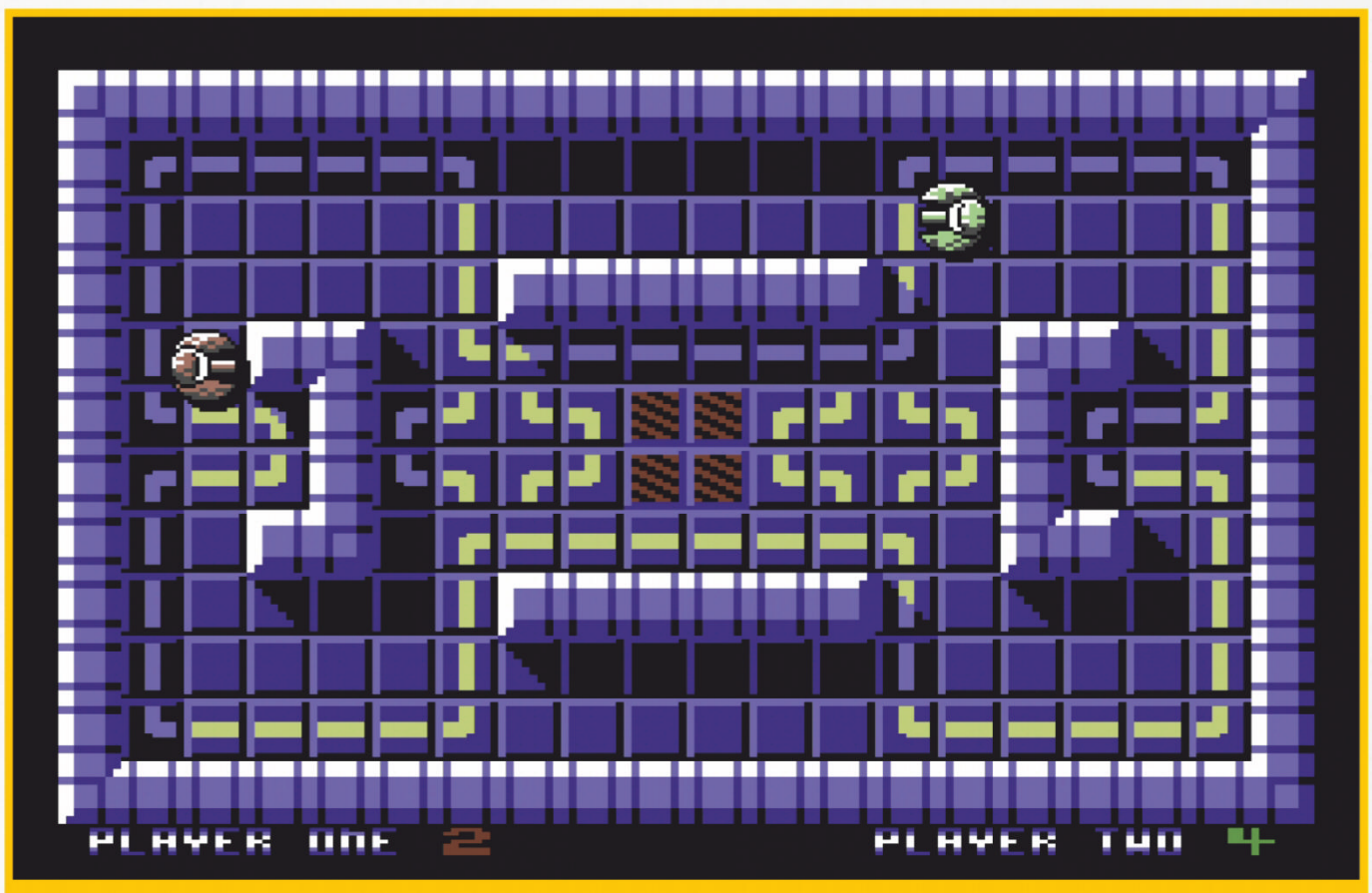
Xenophobe had an audio cassette of music with it, did you have fun making that?
That was actually played at Stringfellow's nightclub, for the launch. This is the difference between publishers and developers. Publishers have all these nice things, cars, houses to live in. Developers lived under the desk. We had the idea: 'What if we got more than one Amiga and fired them up with the mouse, we could just click play and start them all?' So I arranged *Xenophobe* for 16 channels. Even with a button that clicked all four Amigas in time there was some drift in timing, you can hear it on the cassette.

What was the move from working with 8-bit systems to 16-bit ones like?
All of a sudden you had Soundtracker, you could create music with real samples. Before that it was all about your music driver, especially on the Commodore 64 – you had to have a state-of-the-art music driver, and be technically incredible to try and work in all these effects into three notes. You look at Rob Hubbard's *Spellbound* piece and it's insanely good. Changing to having real samples, it just levelled the playing field because I was no longer tied down to having bad music drivers, I now had bad samples as well!

Did you have your own 8-bit music driver?
At Imagitec, yes. I came up with a 'unified data structure' for all the music drivers. Because Imagitec were mainly a conversion house, if someone had this game they wanted it on Amiga, ST, C64, Spectrum, Amstrad, and so on. Rather than having to rewrite the music for each one, or rearrange music, I would write it on the Amiga and convert it to data statements, and then adjust the instruments on each platform. The AY, the C64, and it just speeded up the process. So we could do music across five or seven formats in an afternoon.

What did you like or dislike about the Amiga?
It was great! It was four channels, and eventually it went up to eight channels with OctaMED. We actually used an Amiga with OctaMED to write the *Inferno* music with [the band] Alien Sex Fiend, controlling the MIDI synths and such. It was a real, constant evolution, those five or six years between 1986 and 1992 when CDs became accepted, it was just such a dramatic shift in technology. It was great riding that wave because things just got better and better. And the MT32 on the PC, that was an awesome piece of gear. Loved that sound card.

How did you come up with your idea for your iconic _Lotus 2_ tune?
It was actually a dream. I knew that Gremlin were doing another racing game and I was like, 'I'm going to have to write racing music tomorrow,' and I went home thinking, 'What am I going to write?' I woke up in the morning and I had an idea for a melody. 'Quick, get to work and get this down before I forget it.' The title tune was done in two hours, and



» [C64] Atlantis published *Battlefield* on the C64, based on an idea by Darren Melbourne and made in three days.



FIVE TO PLAY

Blockbusters from Barry you have to hear



MARAUDER (C64)

■ It may have been an early effort, but Barry Lietch's in-game tune for this lesser-known Hewson Consultants game has a lot going for it. After the slow and eerie opening sequence, the composition builds really well with its pulsing bass line. The *Zzap!64* reviewers did like this one, giving it 81% for sound.



TFX (PC)

■ Subtitled '*The Cutting Edge Of Aerial Combat*' *TFX* is a flight sim from Digital Image Design (a developer specialising in early 3D games that also created *Epic*, *Inferno* and *F29 Retaliator*). Barry's title tune has echoes of *Top Gun* (and *Danger Zone* by Kenny Loggins) in its distorted guitar and driving percussion.



LOTUS TURBO CHALLENGE 2 (AMIGA)

■ The *Lotus* series had some great music, and the title tune of *Lotus 2* ranks among the best. It is built up around samples Barry ripped from CDs around the office, with an electronic-sounding bass and synth chords evoking early Nineties dance tracks well.



TOP GEAR (SNES)

■ The whole soundtrack to this racing game, a spiritual successor to the *Lotus* games, is worth a listen. Barry singles out the Las Vegas track as one of his favourites, and we agree. The great Eighties-style synth sounds work perfectly. You can read more about *Top Gear*'s musical appeal over the page.



GAUNTLET LEGENDS (N64)

■ Barry put "blood, sweat and tears" into this one, his interpretation of John Paul's arcade soundtrack. It gains its place here for the technical skill of cramming two hours of epic music into an N64 cartridge: that ranks up there with *Resident Evil*'s audio achievements.

it turned out pretty good. At the time, we'd just got CD-ROMs and I still didn't have any samplers or synths, and I tried ripping sounds from CDs. *Pump Up The Jam*, that's where the chords came from. And the Yello samples, chick-chick-ah, *Oh Yeah*.

When did you start working on consoles?
The Super Nintendo, Gremlin, *Top Gear*… I had to go to Seattle, because the only way to make samples on the SNES was to use a £25,000 SUN workstation. Imagitec didn't have one, and Gremlin didn't, even Ocean didn't have one. So they were like, 'Why don't you go to Seattle and Nintendo's headquarters there, they have a sound studio there – take all your Amiga disks and see if you can convert them.' We got there and the guy at Nintendo, he's like, 'We don't have an Amiga.' So we ask around and eventually one of the testers says, 'I think I've got one in my garage.' So we got an Amiga, the samples didn't convert very well, I don't know, it's like 8-bit to 16-bit. And the Genesis… I hated the Genesis, because of the FM sound chip. I didn't like the AdLib sound cards, because by then the MT32 was coming in. And so it was like, 'We shouldn't do AdLib we should just do MT32.' But everybody's got an AdLib card.

That must have been difficult in that era, trying to work out how music would sound across different PC setups.
I used to just write it all on the Amiga. We had a custom program at Imagitec that we also went on to develop further at Ocean called Medit. One of my mates, Les Long from Imagitec – I told him exactly what I wanted to do, load in the Amiga module and then add all the extra notes for the hardware capabilities, the extra channels. He'd written this program and eventually at Ocean we expanded it to work on the Super Nintendo.

You moved onto the N64, was that very different to work on?
Not really. Because by then we'd got XM, extended module files, so I would just write it in a tracker and it would play the files. Before that, I went to Origin Systems in Texas, working on PC games, and I did *Ultima: Savage Empire* on the Super Nintendo. Apparently it's really quite rare, it's like a Japanese-only release. I had to edit all 11,000 lines of dialogue for *Wing Commander III*. These are new jobs that were coming around, because before that we never had to bother much with in-game dialogue. That was an interesting technical challenge.



» Ocean's *Lethal Weapon* tie-in drew on scenes from the first three films.

> "We were living in the office, making videogames, what more to life could there be?"
> Barry Leitch

And you did some voiceover work yourself…
I was actually cast as the lead for *Pirates Of Vooju Island*. A voice actress I worked with, Lani Minella, she's worked on so many games. I always work with her when I'm trying to get speech done. She phones me up one day, 'I've got this job but they're looking for someone with a Scottish accent. Do me a favour and audition for it.' So I auditioned for it and she's like, 'You've got the part! I'll be your session director, I'll tell you how to do the lines, it's easy-peasy.' So it sounds quite easy, doesn't it, you just go in front of a microphone and talk? But you've got to do it for eight hours, you've got someone in your ear saying, 'No, say it more varied, more excited, you need to be more dramatic with this.' You're saying the same thing ten times and in your head it sounds like you're saying it the way they want it, but it doesn't quite come out that way. And it's quite physically challenging, I could hardly talk and I was tired from standing up all day. It was very eye-opening into how much work goes into these things, and why a good voice actor is totally worth their money.

You also spent some time working with Fisher-Price, the toy company. Was that a very different spell in your career?
I think it was a logical change. At Atari you could see things were taking a bad turn. They are cancelling games, they are not really developing any new IP, the arcade market's going tits up, it was ▶

LIVE FROM RIO

Barry's music is rather quite popular in Brazil...



» Barry on stage in Rio with Tommy Tallarico for the Video Games Live finale in 2016. (Photo courtesy of Barry Leitch).

"People always told me, the *Top Gear* music's really famous in Brazil, *Super Mario* famous," says Barry. "We're down there and we started talking to people, and even a policeman telling him that I'd worked on *Top Gear* – 'Oh, *Top Gear*, I know that!' He starts whistling the tune. Even then it didn't really hit me until the concert. In Brazil audiences are fantastic. They're shouting out the tunes they want to hear. I'm standing stage-left waiting for them to play the finale, *Top Gear*. Tommy's built it up so big by this point, between every track he's teasing them. 'This next track is from a game that's not very popular outside Brazil', so they're all like, 'Is it *Top Gear*?' The audience are going nuts, and I walk out and they are all chanting my name... that's my ringtone now, 4,000 Brazilians chanting 'Barry! Barry!'. It was really emotional hearing that, at that moment it hits you that those people heard this tune a lot. As soon as they start playing, they all go so silent because they want to hear the music, you know. I liked that. That was nice, really, really nice."

horrible. I told my boss, 'We need to get out of here.' He'd been at E3 and this guy sitting next to him says, 'I'm an audio guy, at Fisher-Price toys. We're actually looking for some audio guys, I don't suppose you are interested?' He came back from E3 and gave me the card, 'Give this guy a call.' So I went out to Fisher-Price and had the interview. It was interesting because the technology in toys was just getting to that point where the Amiga was 20 years before. With a whole new set of limitations and rules, these little circuit boards... I was like, 'I'm going to get out of the games industry for a bit...' the original Xbox had just come out. I went to Fisher-Price and worked on toys for four years and then went freelance. I've been doing mostly toys for the last 15... 16 years.

You've been involved in a few games recently, most notably the retro-inspired *Horizon Chase*. How did you get that gig?

They messaged me on Facebook: 'Hey, we're Brazil's biggest games developer, we're going to remake *Top Gear*, do you want to do the music?' Quite often I'll get people contact me trying to find out, how much do you charge for a piece of music or if they can get a piece of music for free and stick it in their demo and put it on YouTube. So I was suspicious, and I talked to some buddies and they were like, 'They are Brazil's biggest game developer, but they're in Brazil.' I talked to them some more and found out they were really, really passionate about this game. I really only had one or two stills from the game when I started working on it, but I was really excited at the time. I don't know, I saw the potential for where it might go and these guys were organised, they weren't a couple of kids in their bedrooms sticking a game on mobile. These were guys who were going about it the right way.

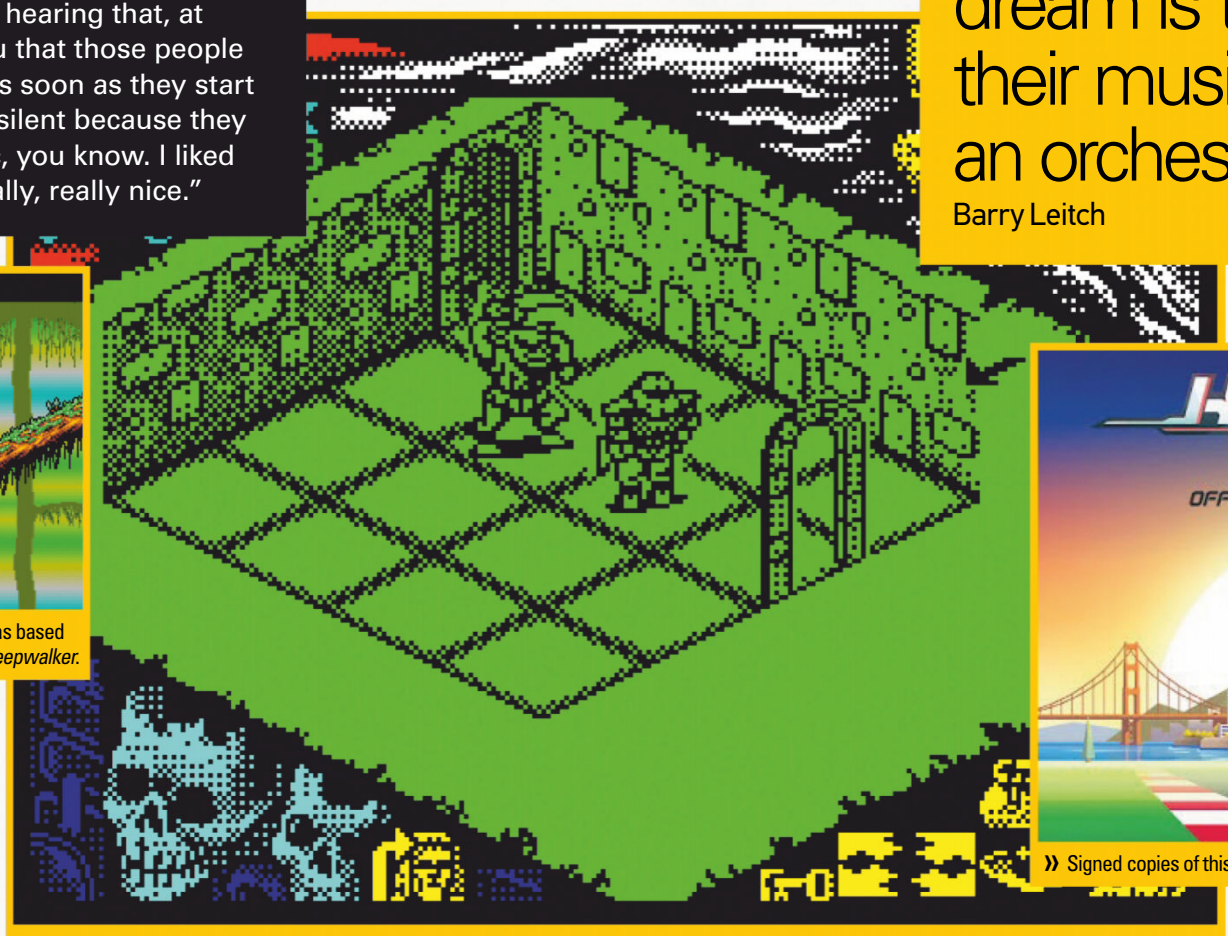


» [Amstrad CPC] You can read more about *Gemini Wing* in **Retro Gamer** issue 197. Barry wrote the music for six different conversions.

And that led you to working with a real orchestra in Brazil...

It was a crazy experience, with Tommy Tallarico and Video Games Live. I saw Tommy posted on Twitter, 'Every year I come to Brazil and they ask me to play *Top Gear*, we're going to play it next year.' He'd had people play it with the piano or violin, but he'd never done the full orchestral arrangement. And I'm like, 'I'm going to have to go to Brazil to hear my music.' Every composer's dream is to hear their music played by an orchestra. So I texted Tommy and said, 'Want to get together to talk about this *Top Gear* thing?' And he's like, 'Sure, come on down, I'll leave tickets at the front desk.' So we go down there and Tommy's like, 'How's your orchestra chops?' And I'm like, 'I've never written anything for an orchestra but I'll fucking try!' And he says, 'If you want to do the arrangement, go ahead and do it. I'll have my Hollywood orchestrator fix any mistakes you make so it won't sound shit. And we'll play it in Brazil.' I go away and spend a month doing this huge orchestral arrangement – I did *Top Gear* and *Horizon Chase* as a medley, mixed into one. We went down to Rio, I took my buddy Brian with me. I had just got married, my wife had moved from Scotland to here [the US], so she couldn't leave the country. We had a blast, man.

> "Every composer's dream is to hear their music played by an orchestra"
> Barry Leitch



» [ZX Spectrum] Barry wrote tunes for Gremlin's conversions of *Hero Quest* (pictured) and *Space Crusade*.



» [SNES] Cartoon tie-in *Eek The Cat* was based on Ocean's earlier Comic Relief game *Sleepwalker*.



» Signed copies of this soundtrack CD are available from barryleitch.com.



» [Amiga] Gremlin's isometric strategy game *Utopia: Creation Of A Nation* had music from Barry for its Amiga, Atari ST and PC versions.

Have you enjoyed being involved in the remix CDs over recent years?
Yeah, I've been having fun with them. I did a remix of *Harlequin* for the *Amiga Power* CD, which came out really good. And I did a remix of *Spellbound* on the C64, which is my tribute to the master himself. I don't think I could have done any better than that, I put my heart and soul into that one. Rob's never said that he liked any of my music, and I sent him the *Spellbound* remix and he's like, 'It's not bad.' So the irony that the only tune of mine he's ever liked was one of his!

Would you ever go back to the old hardware and make new music?
I had to do some Amiga MODs last month, for an Atari Jaguar game. And it surprised me how difficult it was, how am I going to get all these samples in there? The new samples don't sound as good as the old samples I had used.

Did you work on many unreleased games?
There's quite a few that got killed. There's one I was really gutted about, which was a toy project that had all these wonderful licensed ROMs for it. *Batman*, *Kung Fu Panda*… kind of like Pixter but more for drawing, with a projector. I wrote a lot of tunes for that, a couple of them have made it out into other products but that was sad.

How do you view composing for modern games, and how much it's changed?
It's a lot easier. You don't have to mess around with so many technical limitations; you can just write whatever you want. *Top Gear* I spent five days on the whole project, whereas with *Horizon Chase*, I think I spent more than five days just looking for the right sounds. These days you've got so many sounds to choose from, with plug-ins, VSTs, all of that fun stuff.

What's the toughest deadline you've ever had ?
When I was at Catalyst Coders, I did 72 hours straight once knocking out a bunch of C64 games that have never seen the light of day. These days I try and avoid crunch as it gets counterproductive after a while. I used to work to the wee small hours a lot more, just because the phone stops ringing and people leave you alone. And it's a great time of night to write lullabies, I write a lot of lullabies for kids toys.

What was your favourite machine to compose for?
I loved the MT32, just because we had the best music driver in the world for it. We would always compare ourselves to Origin Systems, because their music was great on the MT32. When I did *TFX* on PC, we spent a lot of time fucking around getting a really good guitar sound – because we were playing *Strike Commander*, and the guitar sound on that was really quite good. We found a little trick to make it sound like a distorted guitar. When I finally got to Origin I got to meet Nenad Vugrinec who was the composer for *Strike Commander*. We always used to argue about who had the best guitar sound on the MT32.

Was there a particular developer or publisher you loved working for?
I loved working at Ocean, the jewel in the crown of British software development. I loved working with Gary Bracey, I had such admiration for him. Growing up, working at Ocean's your dream job. And eventually I got to work in the catacombs of Central Street. I was working in Martin Galway's old office. I liked that, it was really the pinnacle of my career. Right around when technology was changing too, CDs were coming out, getting to work with Alien Sex Fiend. I really felt I could not go any higher in the British games industry. I felt like I had reached the absolute top.

YOU ASK THE QUESTIONS

Go to www.retrogamer.net/forum to get involved

MR JENZIE: What was the most unusual soundtrack you created?

Age Of Tesla was interesting, because it was 16 channels. Eight channels were for Fifites swing style, eight were electronica. As you progressed it would turn off channels to switch slowly from one style to the other.

ERIC: What was your setup for doing *Top Gear*'s music?

We didn't even have a Super Nintendo development kit. I had to go to Gremlin's office, so I was sleeping on the programmer's floor for a week. I phoned Kemco, 'Have your audio guys send over some instrument samples.' They sent over two floppy disks of shitty sounds, we'd asked for guitars and stuff. We had two different kick drums we could choose from, two snares. We just tried to pick the least annoying sounds and put the tunes together as quickly as possible so I could go home. It had eight channels but there was no way for me to create music in eight channels. We had the manual, but it's all in Japanese. We found a 'music.s' file so I started changing things to see how the data's stored. I found the DSP echo effect, I'm showing the programmer, 'Listen to that, that's cool.' He puts up some raster bars so he can see how much time it's taking. 'It's taking all the memory, you're not going to have that.' So that's why it's got a tiny little echo on the sounds, the longest one I could put in.

NORTHWAY: Why can't anyone do *Gauntlet* in 3D properly, and would you be up for a new spin on it?

Gauntlet Legends on the N64 was six months of my life. I put blood, sweat and tears into that one. There's two hours of music in 1.5MB of cartridge space. I'd be totally down for it, as long as we can get some funding, because I got to be paid to keep the lights on. If you're doing a Kickstarter, I'm in!

Shadow Of The Colossus

LOOK AT THE SIZE OF THAT THING!

» RETROREVIVAL



» PS2 » 2005 » TEAM ICO

What a bloody game *Shadow Of The Colossus* is! *Ico* never really excited me when it launched, but it was obvious that its follow-up was something very special indeed. For me, the brilliance of *Shadow Of The Colossus* can be summed up with its third epic encounter and it remains one of my favourite boss fights.

It starts off innocently enough, with you making your way through the desolate overworld, looking for your next colossal fix. After a lengthy climb you find a large outcrop, only to realise its actually your next opponent: Gaius. This third foe is absolutely huge and seemingly impervious to both your arrows and climbing, as every 'pathway' you try is soon blocked off by his impassable armour. As you desperately try to stay ahead of his dangerous downward sword swipes, you notice a part of the arena looks different, it's rock-hard, and you begin to formulate a plan.

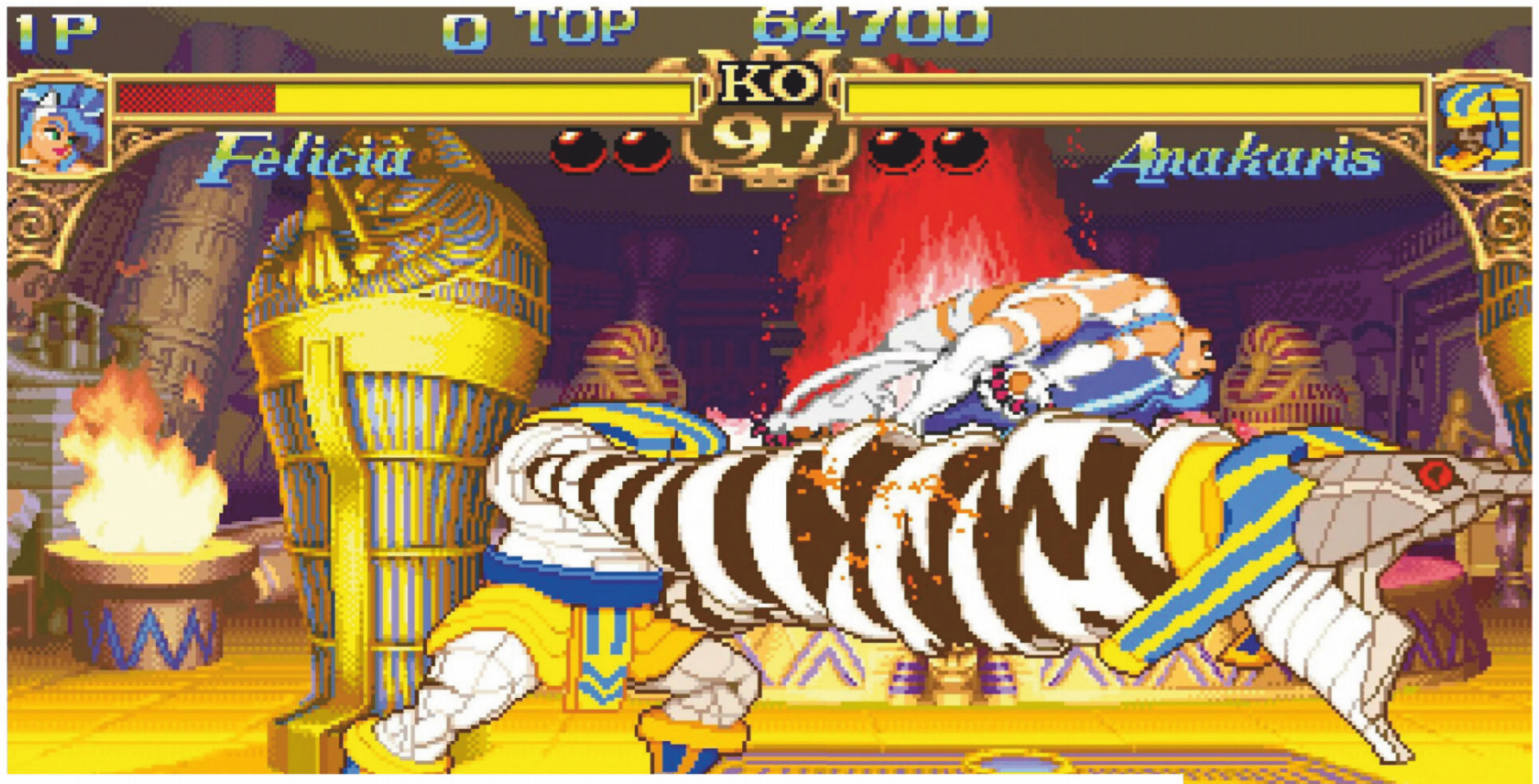
Whistling to gain its attention, you lure Gaius so that its next downward swipe comes into contact with that solid surface. A cutscene triggers, the music dramatically ramps up and Gaius' armour begins to crumble due to the impact. A few moments later you're running up his gigantic sword and hanging on for dear life as the beast tries desperately to shake you off. Gingerly holding on, you start slowly making your way up your huge adversary, grabbing handfuls of its hair and looking for safe passage as you seek out handholds amongst the broken remnants of its armour.

With a fall promising instant death (and therefore being completely out of the question) you systematically seek out key pressure points on Gaius so that you can drop your gargantuan foe with sword stabs as quickly as possible and reach the safety of terra firma. Eventually you succeed in your quest, but sadness soon sets in as you realise your triumph has just ended one of the most exciting encounters you've had in the game so far. It's a bittersweet moment that you'll experience several more times before you reach the game's dramatic conclusion. Personally, I wouldn't have it any other way.





>> This month we put the Capcom Home Arcade through its paces, check out new books from Sam Barlow and Andy Green, and learn if the remaster of MediEvil is worth owning



Capcom Home Arcade

DOES KOCH MEDIA STICK IT TO THE COMPETITION?

» [Capcom Home Arcade] Fighting games like *Darkstalkers: The Night Warriors* really highlight how desirable Koch Media's system is.

INFORMATION

- **RELEASED:** OUT NOW
- **PRICE:** £199.99
- **PUBLISHER:** KOCH MEDIA
- **DEVELOPER:** IN-HOUSE
- **PLAYERS:** 1-2



Koch Media's device has certainly caught a lot of attention since it was first announced in April. We had a hands-on with the system a few months ago, but now we've got to experience the final product, so let's dive in and see if it's worth the eye-watering price it sells for.

The most obvious thing to start with is the actual look of the device, as its ungainly shape and sheer size have drawn plenty of criticism. Should it have been two detachable sticks? Well of course, but we already know it would have been even more expensive as a result. Yes, it's certainly snug when you're using it with a second player, but let's face it, you were always jostling with your mates when standing in front of an arcade machine anyway, so in that respect we found it to be a surprisingly authentic experience.

That authentic experience is largely down to the decision to craft the device using authentic Sanwa arcade parts. As a result, it feels great in your hands with a reassuring tactile feel to each button and a stick that offers a lovely 'click' sound as it's used. From the moment your hands touch the Capcom Home Arcade it's obvious why the machine is so much more expensive than other mini devices (we're loathe to call this a mini console, but there's no denying that that's what many will compare it to) and while it's clearly designed to be used at a table we were able to play it on our laps with no difficulties. Granted, you need to play with your legs slightly apart to take the balance of the second stick when playing on your own but it never feels uncomfortable to use.

At the back of the device you'll find a power button along with a Micro USB port for plugging into your TV or the supplied plug socket, as well as a HDMI port. There's also a spare EXT USB port, but the instructions that come with the device make no mention of what it's used for (it's possible that it could be used for connecting to your PC for downloading updates instead of relying on the included Wi-Fi). The supplied cables are 2.5 metres long, meaning most gamers should have no issues finding a suitable space in front of their TV.

We mentioned a while back that the Capcom Home Arcade doesn't



» [Capcom Home Arcade] Nick noticed slight audio drops at home, while playing *Progear*, but Darran experienced no issues on his TV.



BRIEF HISTORY

» Capcom has created many hit arcade games since the early Eighties. Koch Media's Capcom Home Arcade Stick chooses to focuses on the CPS-1 and CPS-2 era, which saw Capcom pushing technical barriers with its impressive new arcade hardware. Interestingly, no CPS-3 games feature on this device.



» [Capcom Home Arcade] We're a big fan of the fullscreen option, as the games look gorgeous.



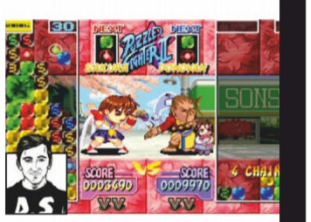
» [Capcom Home Arcade] It's a pity there's no online play, but then there isn't on other mini devices.

✱ PICKS OF THE MONTH



DARRAN

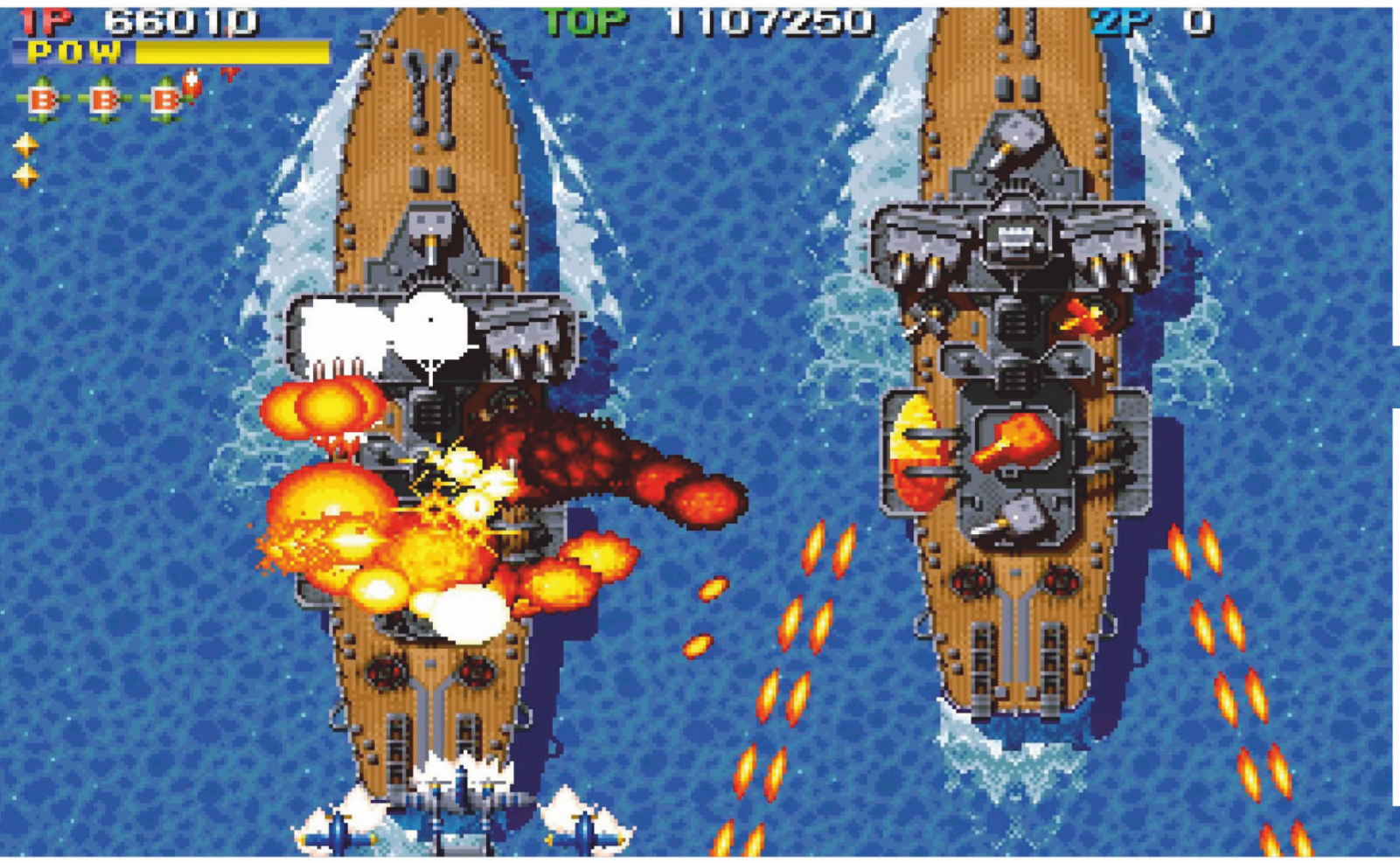
Luigi's Mansion 3
The latest game in Nintendo's ghostbusting series is a lot of fun, with some genuinely enjoyable boss battles.



DREW

Capcom Home Arcade
We've had great fun with this. A highlight is when Nick had a 'you made me bleed my own blood' moment on *Puzzle Fighter II*.

» [Capcom Home Arcade] Infinite credits mean many games can be quickly completed, but you won't have done it 'properly'.





» [Capcom Home Arcade] Here's a version of *Strider* with the blurry supplied filter…



» [Capcom Home Arcade] …and here it is without. 1080P ensures it looks nice and sharp, even at 4K resolutions.



» [Capcom Home Arcade] *Ghouls 'N Ghosts* is still super tough and you can't adjust dipswitches either.





feature scanline filters of any kind and the version we tested (1.3) is no different. This is disappointing to see when you consider the high cost of the device, and we'd have preferred more tweakable options against what's on offer. That said, Koch Media's decision to have games output at 1080p means that all the included games looked incredibly sharp, even when we were running them on a 65-inch 4K OLED TV. Screen options have been included and include the games' original arcade ratios, a fullscreen mode (which is far better than we were expecting it to be) and a widescreen option that we weren't too keen on. There's also smoothing options but we didn't like the effect it produced.

With regards to the emulation it appears to be rock-solid, although interestingly we noticed that our device randomly began to drop frames when we disconnected it from the internet (connecting it instantly fixed the issue). From a personal viewpoint it's disappointing to see that *Strider* is an early ROM with missing level soundtracks, but that's to be expected considering the *Capcom Classics Collection* also has the same issue. After experiencing the Mega Drive Mini, the lack of regional variations is also a shame. All our issues could potentially be fixed with a patch, but it's still disappointing to currently see them.

The 16 games are a great mix that cover a wide range of genres, from shoot-'em-ups and scrolling fighters to puzzle games and one-on-one brawlers. The highlights are arguably *Progear* and *Aliens Vs Predator* as this is the first time either have received official home releases. When you consider that arcade boards of both would cost you north of £500, that £200 asking price begins to look more reasonable. Most importantly, both games are still superb today, with *Aliens* being tremendous fun. The rest of the titles range from great to excellent, and only really *Mega Man: The Power Battle* lets things down. Sure we'd have preferred the final *Darkstalkers* game and the lack of an *Alpha* title feels odd, but there's no denying there's a great range of games on offer, even if the list is relatively small by 'mini system' standards.

It's obvious that the Capcom Home Arcade certainly isn't going to be for everyone - the £200 price tag practically guarantees that. Yes, it's presentation is rather basic and yes the ability to not play games online or download additional games feels like a missed opportunity, but there's no denying we've had a hell of a lot of fun with Koch Media's device, and ultimately that's what matters. ✱

In a nutshell

Koch Media has crafted a resoundingly well-built product, but it does cost £200, which may be too high a barrier to anyone other than stalwart Capcom fans.

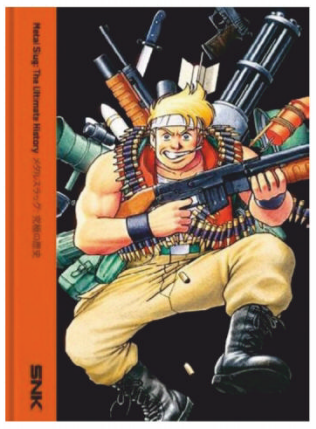


» The Capcom Home Arcade stick may look cumbersome to use, but it's build quality is excellent.

PICK OF THE MONTH

Metal Slug: The Ultimate History

» Buy it from: bitmapbooks.co.uk **» Buy it for:** £29.99



We always know when Christmas is just around the corner because we get inundated with countless retro books. The one that really caught our eye this particular month is Sam Dyer's fascinating tribute to the *Metal Slug* series. As you'd expect from Bitmap Books, its latest tome is absolutely chock-full of incredible artwork and there really is a fascinating wealth of content to unearth.

The book kicks off with an incredibly detailed look at how the original *Metal Slug* came to be and leaves no stone unturned, looking at everything from the earlier Nazca games that led to the creation of the series, to the more recent tower defence games that have been downloaded over 50 million times. It's weird, then, that those later games are not given the same full profiles as the other games in the series. That bizarre oversight aside, there's no denying that this is one of the most comprehensive books on the subject that you're ever likely to read.

Sam has had access to SNK's vaults and as a result he's uncovered all sorts of treasures, meaning there's a lot of new, rarely seen content. Every single main game in the core series is catered for here, from early preproduction concept sketches, to final cover artwork and arcade flyers. Interestingly there are also big sections on *In The Hunt* and *Gunforce II*, both of which led to the later games. There's some glorious imagery on show and it's backed up by some great behind the scenes information as well.

This attention to detail continues with the excellent insight at the end of the book with six team members, including Hidenari Mamoto, Sadaki Matsumoto and Kazuhiro Takeshita. The lengthy Q&As with each team member give you a great idea of how much love they have for the series and just how hard it has been to create over the years.

Metal Slug: The Ultimate History is a great read at a great price. Even those who've never given the franchise much time should get something out of it.



»Virtually every game in the *Metal Slug* series is given plenty of lovely coverage.



»The included interviews give great insight into how the popular series was created.



MediEvil

» System: PS4 **» Buy it from:** Retail, online
» Buy it for: £24.99

Sir Daniel Fortesque is back from the dead for the second time, and this time in a much more faithful remake than 2005's PSP attempt, *MediEvil Resurrection*. Other Ocean has created a big visual upgrade that delivers above and beyond what is expected at this budget price point, and the original game is a nice unlockable extra. But while we're not expecting *Bayonetta*-style balletics, the simple combat has aged about as well as the game's skeletal protagonist, and the wayward camera feels like it's straight out of 1998 too. Fans of the original may enjoy it, but it feels like the opportunity to really modernise this cult favourite was missed.

>> Score **67%**



Sega Ages: Ichidant-R

» System: Switch » **Buy it from:** Online
» Buy it for: £5.99

This collection of minigames is popular enough with Japanese audiences to have seen many re-releases, but we're getting it for the first time now. *Ichidant-R*'s 20 fast-paced games typically fall into either puzzle or action categories. Puzzle games include navigating a maze of warp pads or matching rocket parts by colour and shape, while action sequences see you rapidly sharpening a pencil or conducting an orchestra by repeating complex joystick sequences. The Mega Drive version is included as a bonus, too. While it doesn't have the variety of something like a *WarioWare* game, the online multiplayer capability and low price make *Ichidant-R* worth checking out.

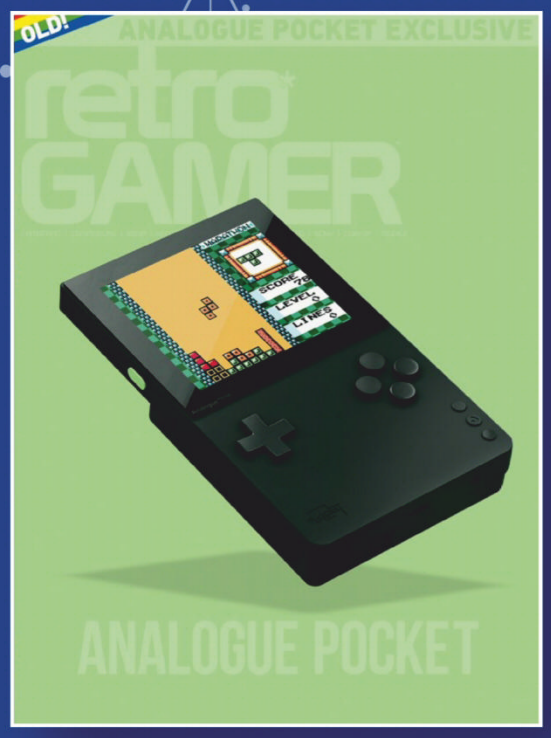
>> Score **80%**



Better Late Than Never: Andy Green Pixel Art

» Buy it from: amazon.co.uk **» Buy it for:** £32.99

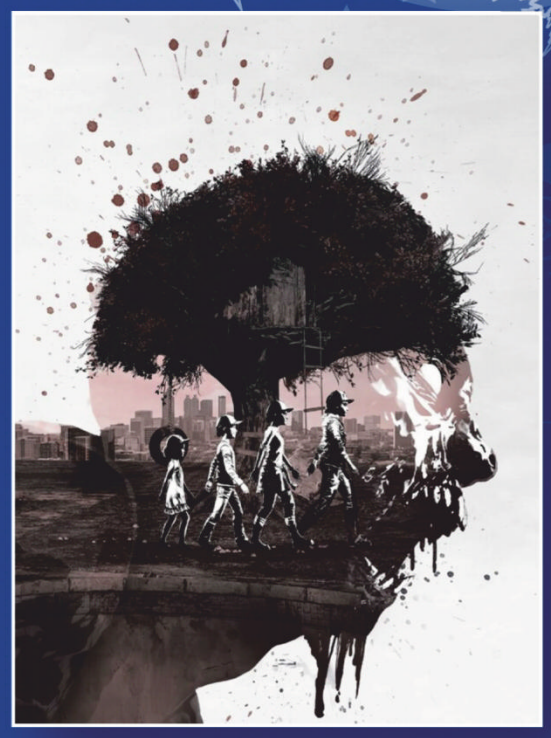
Andy Green has been creating pixel art for years, and clearly loves the ZX Spectrum. This collaboration with Richard Langford, with additional contributions from Shaun McClure and John Davies, highlights just how talented he actually is. The book itself is an interesting hodgepodge, split between Andy commenting on his past work, along with contributions from Richard and John. It makes for an interesting read and never gets in the way of the excellent pixel art. It lacks the value of the *Metal Slug* tome we've read this issue and doesn't quite go into the creation process as much as we'd like, but ultimately it's an art book and it does that very well indeed, more so if you love Sinclair's Spectrum as much as Andy does.



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Gamers HOMEBREW

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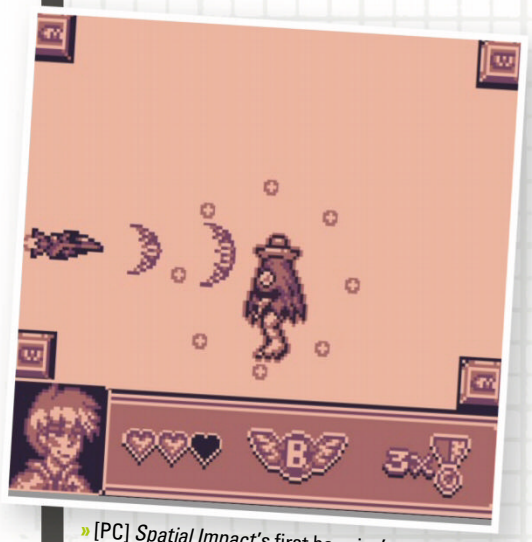


» [PC] Barrels can be used for some extra height in *Jester's Helper*.

Gaming NEWS



» [PC] Looking through some old family photos in *Please, Visit Grandma*.



» [PC] *Spatial Impact*'s first boss isn't exactly stingy with the bullets.

JAM-PACKED

The people behind the GBJam have recently held a seventh iteration of their event. Developers were challenged to produce new games for current platforms which conform to the majority of the original Game Boy's specifications for graphics. There were 115 entries in total this time, all of which are available to peruse at Kikstart.me.uk/gbjam-7.

There's resource management in *Mushroom Farmer*, with the player taking the titular role and looking after mushrooms, which need feeding, watering and attention to mature to the point where they can be harvested. Fans of platforming are well-catered for, too, with releases like *Plague* where the central character is a plague doctor who must deal with a supernatural invasion in the only way he knows how: by lobbing bombs at everything. The fool at the centre of *Jester's Helper* is, after annoying the king with terrible jokes, more concerned with self preservation and must keep his head while avoiding the executioners.

Shoot-'em-up fans should find something of note to play, too. A horizontally scrolling blaster called *Spatial Impact* was one that caught our attention mostly because the developers went out of their way to create a proper Game Boy-style experience. Some of the entries are more authentic than others in that respect and, while another GBJam game *Pocket Pilot* is a fun rail shooter, what's happening on-screen is noticeably beyond what the original Game Boy has under the hood.

Another game jam which finished recently was the 45th edition of Ludum Dare. For those who haven't heard of this now-regular event, programmers were tasked with turning out a game with the theme of 'start with nothing' in just 72 hours. As is always the case, some of the entries are still works-in-progress, but there should be something to suit pretty much every taste amongst the entries which took part – especially since there were over 2,600 of them – so it's worth exploring at the official website over at Kikstart.me.uk/ludum-dare-45.

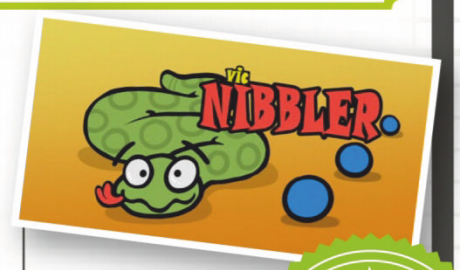
There's also Rainbow Jam 2019 at Kikstart.me.uk/rainbow-jam-2019 which aimed to showcase diverse creators and their projects while exploring LGBTQ+ themes so there's a wide range of interesting things to do from Positivitea's building of a community around the newly opened bubble tea shop or whimsical visits with the elderly woman next door in *Please, Visit Grandma* to more emotional experiences about trans identity from *Affinity*.

NEW GAMES NEEDED

If you have a homebrew project you would like to see featured then please contact us at: **retrogamer@futurenet.com**

HOMEBREW HEROES

Andy Hewitt was looking for a potential VIC-20 project and fell in love with the arcade game Nibbler, so we got in touch with him for a quick chat about snakes, mazes and coin-op conversions



THE BIG INTERVIEW

What was it about *Nibbler* that inspired you to convert it to the VIC-20?
I only discovered it recently when I saw a version Stephen Parkes was creating for the ZX Spectrum. I had been wanting to make a game for the VIC-20 and it looked like a perfect fit. It was only later I found out about *Nibbler*'s fascinating history and being the first arcade game to have huge scores of over a billion. I ran out of memory, so my scores are a tad shorter.

How long did *VIC Nibbler* take to program?
I surprised myself, taking just over two weeks to program in the evenings and at the weekends. I might have had it done sooner but I was also helping to expand the VIC-20 support in Turbo Rascal at the same time – available to download from Kikstart.me.uk/turbo-rascal – which was the tool I used to make *VIC Nibbler*.

So Turbo Rascal is a new programming language for classic computers, would you recommend that for making games?
Absolutely, it is easy to use and very powerful. Nicolaas Ervik Groeneboom originally created it to help him write Commodore 64 demos and it needed to be fast. It is a Pascal-like language that produces low-level assembler code for several computers based on the 6502 processor. Some knowledge of the target machine is needed, but like BASIC you can just start writing code that is easy to understand and see the results quickly.

It has loads of examples and tutorial code, too, including the full source code for *VIC Nibbler*. Nicolaas has big plans for Turbo Rascal and it is constantly being updated. There is even some early Amiga support.

What kind of feedback have you had from VIC gamers?
It has been extremely positive. A lot of people have said they started with a VIC before moving on to other computers and would have bought it if it had been made back in the day. In fact, thanks to The Future Was 8bit, you can now get *VIC Nibbler* on a cartridge to play on a real VIC-20 nearly 40 years on! [Head over to Kikstart.me.uk/vic-nibbler-cart.]

Finally, have you got any future plans that our readers might be interested in?
Creating *VIC Nibbler* was truly a labour of love and I thoroughly enjoyed writing it. I'm sure there will be a few more VIC games to come and most likely for the Commodore 64 as well.



» [VIC-20] Andy's Turbo Rascal source code, being supervised by the cat.



» [VIC-20] Nearly there with only a couple more snacks to consume.

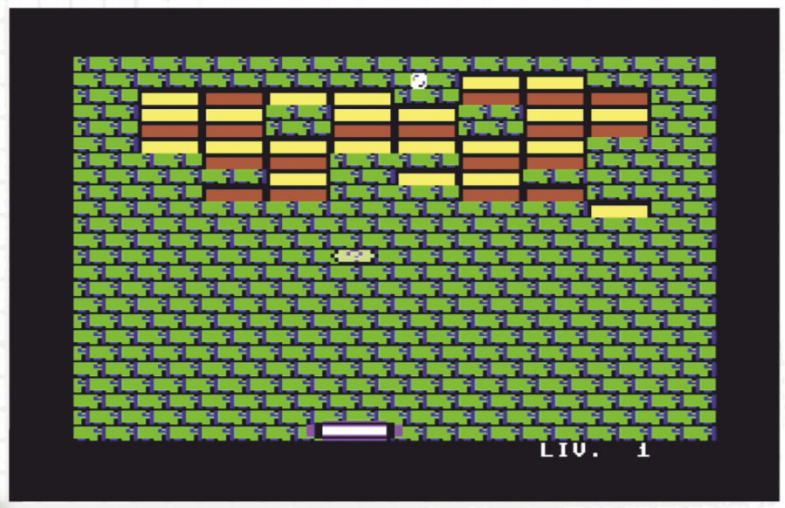


» [ZX Spectrum] Let there be light! Bruce has to gather lanterns to advance.

KUNG-FU KING

The legendary martial artist is back in *Bruce Lee RX*, a reworking of the original action game. Unlike some reimagined games we've seen recently, this wasn't started from scratch and instead shoehorns replacement graphics into the original code while adding some extra colour along the way.

Reworking US Gold's code is a potential legal issue, but hopefully the rights holders won't be upset because, along with still being a great game to play, this version looks really good as well. There's more information and the download over at Kikstart.me.uk/bruce-rx-spec.



» [C64] Here comes a warp item to whisk the player away to a minigame.

BALL-BOUNCING FUN

***Arkadenoid* for the Comodore 64 is a little primitive since programmer Arturo Dente is still something of a beginner, but it's a *Breakout*-style bat-and-ball game with power-up icons and a twist.** Collecting some of these goodies, which appear when bricks are removed, will warp the player away to a minigame where bonuses can be earned.

Arkadenoid can be downloaded from Kikstart.me.uk/arcadenoid-c64 and, while the action is a little clunky, there are some nice ideas in there so we're hoping to see good things from this developer in the future.



DO YOU REMEMBER?

Escape From New York **was developed by Lasse Öörni – who went on to create the *Metal Warrior* series and *Steel Ranger* – and was released in 1999 as part of a C64 equivalent of the CSS Crap Game Competition.** The player takes the role of Snake Plissken as he roams the streets of the titular city while trying to escape, pausing only to either avoid or (preferably) blast any inmates who might be standing in his way.

There's no complex plot, things are a little short at three levels, and it can be somewhat buggy due to the deliberately crap nature, but it's surprisingly easy to look past all of that because mowing down an endless parade of goons is wonderfully cathartic after a hard day at the office. Make your way to Kikstart.me.uk/efny-c64.



» [C64] It sounds like a knock off action movie: *Bikes On A Train*.



» [C64] They take a few hits, but the bikers blow up with a satisfying explosion.





» [Amstrad CPC] Trying desperately to blast off into space with the Ignition table.

PINBALL DREAMS

» **PLATFORM:** AMSTRAD CPC » **DEVELOPER:** BG GAMES » **DOWNLOAD:** KIKSTART.ME.UK/PD-CPC » **PRICE:** FREE

Developed by Digital Illusions – which is now part of Electronic Arts and is known as DICE – and published by 21st Century Entertainment in 1992 for the Amiga, *Pinball Dreams* amazed gamers by bringing to the table almost all of the bells and whistles from a real machine, including a good simulation of how a pinball would actually move during play. And, after a lot of work by developer BG Games, those thrills can now be experienced on the humble Amstrad CPC as well.

The main menu offers four tables to choose from, each with its own theme: the space-based Ignition is all about trying to launch a rocket and explore the universe, steam railways of the Wild West are the setting for Steel Wheel, there's a musical theme to Beat Box where the player must build their career in the pop industry and Nightmare has a horror theme and is set in an eerie graveyard after dark.

There are fantastic graphics on show for the tables themselves, and they're accompanied by tremendous in-game music and appropriately themed effects – bonuses are accompanied by chuffing trains and whistles on Steel Wheel, while Ignition has whooshing rocket sounds – which contribute to the unique feel of each table. Some are more challenging than others – Steel Wheel seems to be the easiest to get into – but sticking with all four and putting in the practice to earn higher scores will prove rewarding.

Pinball games on the 8-bit computers have previously been limited affairs and, although a preview already exists somewhere in development limbo of *Pinball Dreams* on the C64, when BG Games announced it was working on a version for the Amstrad CPC there were a few people in the community who felt that the developer was taking on an impossible task. But just as *Pinball Dreams* redefined what could be done when it was released for the Amiga, this conversion does the same for the Amstrad CPC by being technically adept, well presented and, most importantly of all, a lot of fun to play.

>> Score **96%**



» [Amstrad CPC] Having a very nice dream about score multipliers on Nightmare.



» [Amstrad CPC] A terrible shot while playing Beat Box, but at least the ball is in play.



JET SET WILLY 2019

» **PLATFORM:** ATARI 8-BIT » **DEVELOPER:** TEZZ
» **DL:** KIKSTART.ME.UK/JSW-2019-A8 » **PRICE:** FREE



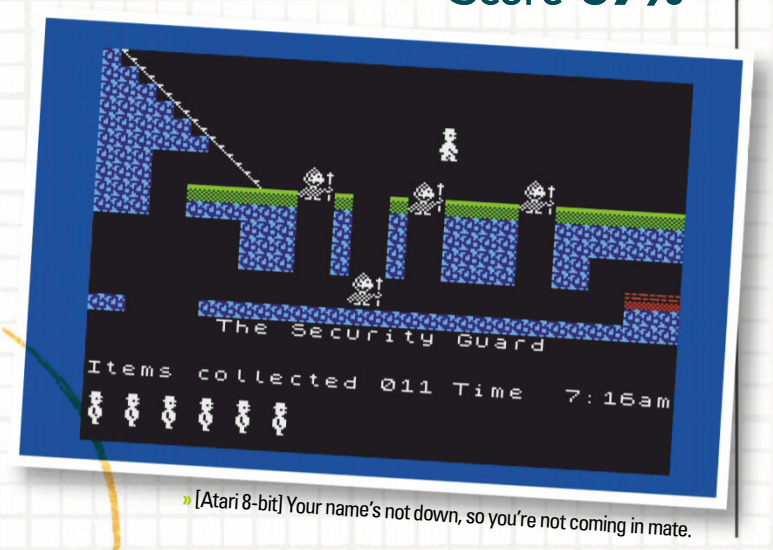
» [Atari 8-bit] Bet Tarzan couldn't pull this move off with a raging hangover.

It's the morning after the night before, and poor Willy, barely awake after hours of partying, is in deep trouble with his housekeeper. She's found the mansion in disarray and has no intention of letting Willy go to bed without cleaning up, regardless of how ill he feels or the dangers posed by the strange creatures roaming his house.

Jet Set Willy probably doesn't need an introduction, and there are already two versions for the Atari 8-bits – one very poor official conversion by Tynesoft and another, more authentic homebrew release from 2007 – but this new iteration has to be the machine's definitive version.

The developer behind this also converted *Manic Miner*, so similar techniques were used to get the original Spectrum graphics on-screen with a lot of colour. All of the major, game-breaking *Jet Set Willy* bugs have been fixed during conversion as well.

» Score **89%**



» [Atari 8-bit] Your name's not down, so you're not coming in mate.

VIC NIBBLER

» **PLATFORM:** COMMODORE VIC 20 (3K EXPANSION) » **DEVELOPER:** ANDY HEWITT
» **PRICE:** FREE DOWNLOAD, £14.99 CARTRIDGE » **DOWNLOAD:** KIKSTART.ME.UK/VIC-NIBBLER AND KIKSTART.ME.UK/VIC-NIBBLER-CART

Take control of a snake which has become trapped within a deadly maze and only one thing will allow it to escape: consuming all of the items dotted around the environment. The problem is that, as is common with videogame serpents, the VIC Nibbler expands each time it eats something, and bumping into its tail will lose the player a life, so care must be taken when choosing which items to eat first to avoid being trapped by the ever-expanding snake.

VIC Nibbler is more friendly to new players than the original, but still is a fast-paced game that gets the adrenaline pumping fairly early on. Long-term success will also require a lot of concentration and a bit of lateral thinking to deal with the ever-expanding trail, because the lives counter starts ticking down rapidly if the player skimps on either.

» Score **85%**



» [VIC-20] Being cautious and going around the houses, or at least the maze.

BERZERK

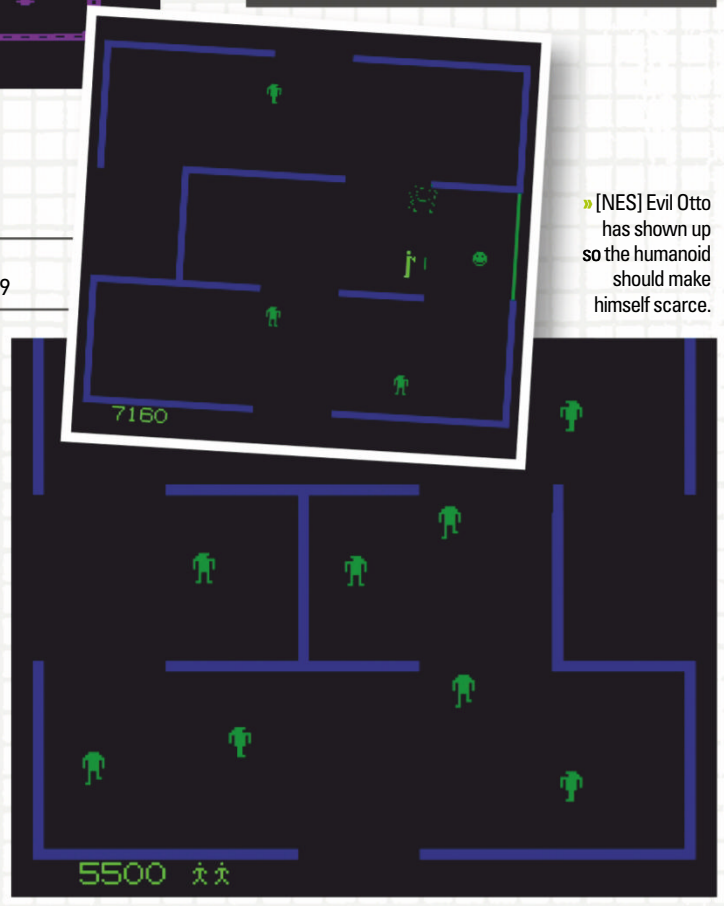
» **PLATFORM:** NES » **DEVELOPER:** PARISOFT
» **DOWNLOAD:** KIKSTART.ME.UK/BERZERK-NES » **PRICE:** $1.99

The kill-or-be-killed world of *Berzerk* is one of mazes, populated by robots which lumber slowly but inexorably towards the player while spewing electric death so it's fortunate that our hero is similarly armed with a handy eight directional blaster.

There's lots of these vicious machines on each screen but they aren't particularly bright, so they will wander into the line of fire regardless of if it comes from the player or their compatriots.

There's a lot of attention to detail in this NES conversion, including the menacing speech and a good rendition of the enemy AI, but the developer has also added a two-player mode to brave the mazes with a friend.

» Score **88%**



» [NES] Evil Otto has shown up so the humanoid should make himself scarce.

» [NES] Surrounded by a group of lethal but surprisingly chatty robotic assassins.

ROUNDUP

***Great Green Adventure 2: Prologue* for the Atari 8-bit sees a blob called Greg whose new career as a ghostbuster is off to a rough start.** The first house he has to clear belongs to his girlfriend and the company he's working for believe strongly in on the job training and haven't exactly gone overboard on supplying equipment either. Greg will need to search the house for helpful items while avoiding apparitions and his quest begins at Kikstart.me.uk/gga2-a8.

For those just wanting some no-nonsense, portable arcade-style action there's *Soviet Snake* on the Game Boy, a rendition of the classic eat-'em-up game with a Russian flavour courtesy of the background music. Kikstart.me.uk/soviet-snake-gb has a ROM image to download or a version that can be played in a web browser.

COLLECTOR'S CORNER

READERS TAKE US THROUGH **THE RETRO KEYHOLE**







BIO

NAME:
Mark Howlett

FAVOURITE GAME:
The Lords Of Midnight

FAVOURITE CONSOLE:
ZX Spectrum

LOCATION:
Epping, Essex

ESTIMATED VALUE:
Wouldn't have a clue. Priceless

TWITTER:
@Lord_Arse

A REAL ARSE-NAL

Mark Howlett shows us his impressive collection

Long before he became known as his internet alter ego, Lord Arse, Mark Howlett was happily building a retro collection the old-fashioned way. "Most of what I own is what I bought new, back in the day. Apart from my Spectrum collection, which I sold to purchase my Atari ST," he begins. "Everything else eventually found its way to my parents' loft and fortunately for me, it never got thrown out!"

Mark's collecting taste covers an eclectic range of systems, from the obscure to the common, so we were keen to know if there was anything he was particularly focusing on. "As I have a limited amount of space, I tend not to focus on systems with large libraries," he explains. "I've a way to go but I'd like a full Jaguar set and I'm close to having a full Vectrex set. One system I didn't own until recently is the Sega Master System, and I like to collect the games for those as they look fantastic on the shelf, and the majority aren't expensive or hard to come by." The Vectrex collection has become a particular favourite of Mark's, especially as he got a great deal on it. "The majority was an extremely lucky online auction find," he admits. "In the photo for the lot, all I could see was the Vectrex and a large cardboard box underneath. As it was, I got the Vectrex for a very decent £90 but when I opened the accompanying box to find eight boxed games and a boxed controller, I knew I'd struck gold!"

While Mark is having fun tracking down games to finish off his Vectrex and Jaguar collections, he still hasn't forgotten his first love. "My first computer was a ZX81, my second a 48K Spectrum and my third a 128+2, so Sinclair is very close to my heart," he tells us about his love for the 8-bit manufacturer. "Now I'm an adult and can afford to buy items I missed out on in my youth. Sir Clive has always been a hero of mine and his numerous inventions fascinate me. I've acquired a fair amount of Sinclair gadgets over the last few years (including a ZX80 and an unbuilt Sinclair Black Watch kit) but



TEMPEST 2000

"I managed to get my original copy of *Tempest 2000* signed at Play Manchester by a very amiable Jeff Minter. What a lovely guy he is. A true industry hero."

PAID: £50 IN 1994
SIGNATURE: PRICELESS



Got an impressive collection of your own? Contact us at:

RetroGamerUK @RetroGamer_Mag retrogamer@futurenet.com



ZX80

"I picked up this unbuilt Sinclair ZX80 in an auction lot. It's in immaculate condition and because I'm no good at assembling things, it's staying that way!"

PAID: £170

LORD ARSE CROSS STITCH

"One of my Twitter friends - @StitchFusion - made me this cross stitch of my favourite game, *The Lords Of Midnight*. Lord Arse enters the game!"

PAID: £0

SIGNED HAT

"At the premiere of *Spectrum Addict*, my wife persuaded the gaming legends in attendance to sign my hat. A one-of-a-kind memento from a special day."

PAID: £0

I'll probably stop at the C5, as my wife would certainly kill me!"

That fascination with computers continued on strongly as Mark moved over to 16-bit systems, which explains his impressive collection of big box games. "Most of my big box PC and Atari ST games are my original collection," he tells us. "I love everything about big boxes! The instruction manuals, the novellas, the maps, the feelies… just something that you rarely get these days, unless you want to pay silly money for collector editions." And that's a good point, as we all know that retro gaming isn't a cheap hobby anymore. "Sought-after titles are getting older and rarer and harder to find in the wild for a reasonable fee," Mark laments. "Sellers are becoming savvier and 'Holy Grail' items are demanding ludicrous sums of money. It's akin to collecting art and if you want to complete that full set, you'd better be prepared to pay through the nose for it."

So what advice does Mark have for anyone that wants to start their own special collection? "Start small!," he concludes. "If you're looking for a full set, concentrate on something doable rather than a complete ZX Spectrum collection or a complete SNES collection. Also, try and collect something that you'd want to play yourself. Games look great on the shelf but if the only time you touch them is to dust them, what's the point?" ✱

JEWEL IN THE CROWN

SINCLAIR ZX81

■ My first computer, a Sinclair ZX81. A Christmas 1981 gift from my parents. Not a pricey collector's item by any means, but the beginning of what has been a wonderful journey. I'm just glad they didn't buy me a VIC-20...

PAID: 0 (THANKS MUM AND DAD!)

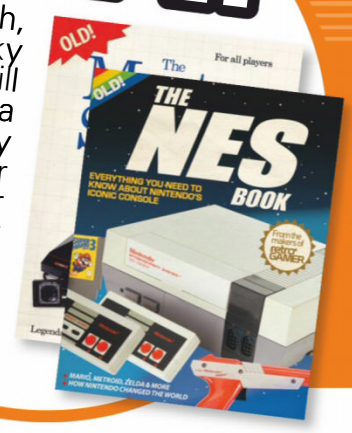


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STAR LETTER

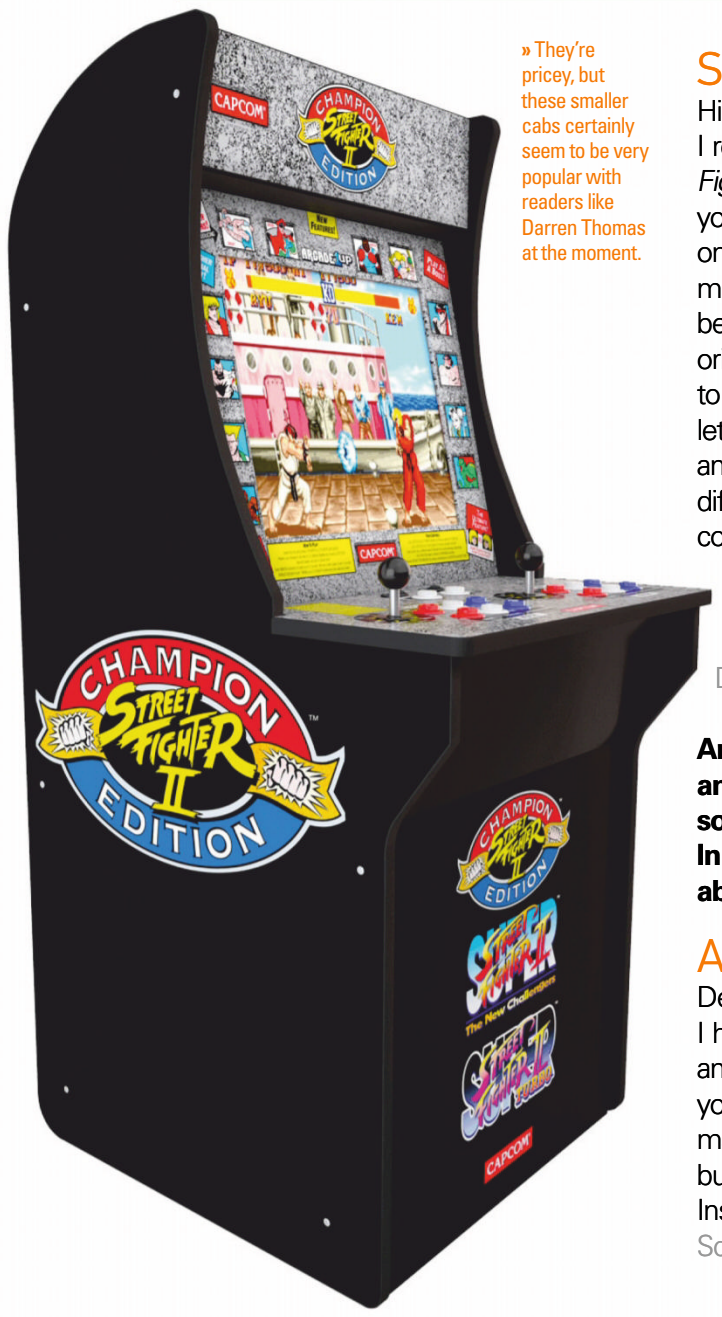
A MINI MISTAKE?

Hey **Retro Gamer,**
I was just wondering to myself if Nintendo, Sony and Sega were missing a trick releasing their mini consoles as one-offs with a limited amount of games. It's sure to result in people ruing the inclusion of some titles, and lamenting the lack of others. Imagine if they released them with online capabilities, which allowed them to connect to a digital store for that particular console, where they could offer their whole library for a reasonable price. Everyone could curate their own collection of games they actually want, and the companies would make bank reselling old, otherwise unavailable games! If they made their minis as dedicated emulation machines with the ability to download any game for that system, surely that would please everybody and give the minis a much longer lifespan?
Dave Clark

What a great idea, Dave, and it's something we've discussed since the NES Mini was first released. It would help stop the piracy that goes on with these systems and ensure everyone has their own unique collection of games. Well done, you've earned yourself a bookazine.



» We were impressed with the Mega Drive Mini, but we'd love to have one with *all* of the best Mega Drive games.



» They're pricey, but these smaller cabs certainly seem to be very popular with readers like Darren Thomas at the moment.

SMALL WONDER

Hi **Retro gamer,**
I recently bought an arcade 1Up *Street Fighter II* cabinet and wondered if you've thought about doing a feature on arcade machines at home. I love mine in my games room nestled between my mini consoles and original hardware. The UK seems to be slow in getting new cabs, so let's hope *Final Fight*, *Mortal Kombat* and *Turtles* get released soon. It's a different experience to playing on my consoles so I'd consider buying more and collecting them! Also, I'd love to share my collection on Collector's Corner how would I do that?
Darren Thomas

Arcade replicas like those by 1Up and Numskull seem to be popular so it's something we can look into. In the meantime you can read more about Quarter Arcades on page 13.

AROUND THE CORNER

Dear **Retro Gamer,**
I have a small collection of retro games and consoles and I'm wondering if you would like to feature it in your magazine? I've attached a few photos but if you wish to see more my Instagram account is 8_retro_gamer_9.
Scott Theobald



» Here's a little snippet of Darran Thomas' retro collection. He clearly likes the Neo Geo.

We have a lot of requests from collectors like the ones we've had from Darren and Scott. The best thing to do is to send high-quality images of your collection over to retro.gamer@futurenet.com, mark them Collector's Corner Submission and we'll take a look at them.

HEAR ME ROAR

Dear **Retro Gamer,**
Isn't it high time you covered the *Monster Hunter* series? It has been knocking around since the PlayStation 2, so it certainly can't be considered a new franchise and it's also been getting better and better with each iteration. I'd love to see a massive breakdown of the games, with all the key monsters and the best ways to take them down. Hell, you should put the series on the cover, it certainly deserves to be there.
Jason Turner

Glad to hear you love the series, Darran's a fan, too [Of course I am, it's full of dinosaurs – Ed]. If we can get the ball rolling with Capcom, it's something we'll certainly consider.



» [Xbox One] Darran loves *Monster Hunter*, but of course he does. It features retro birds.

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» Here's a picture of Paul's cake. Hopefully it tasted as good as it looks.

DISCUSSED THIS MONTH

Issue 200 feedback

One of the best things about creating Retro Gamer is seeing the feedback that comes back once an issue hits the shelves. The reception for issue 200 has been incredible and the team hasn't really spoken about anything else this month. Well, Darran's been banging on about *The Witcher 3: Wild Hunt* on Switch, but he's always going on about something.



» Iain Quin has fond memories of *Sega Power*, would anyone else like a feature about it?

POWER-UP!

Hi Darran and the **Retro Gamer** team. I'm really enjoying seeing articles on old gaming mags. Now that you have become part of the Future group, is there any hope of seeing one about *Sega Power* (the biggest circulation of any Sega-related mag in 1993)? The mag went from being a giveaway with registered Master Systems to becoming a Saturn cover disk mag. I believe it got much better after it transitioned to *Saturn Power,* but I had jumped ship over to the PlayStation at that point.

Iain Quin

Funnily enough, Iain, *Sega Power* came up while we were discussing extras for issue 200. We'll have a rummage around the archives and see what we can rustle up for 2020.

A SIMPLE FAVOUR

Dear **Retro Gamer,**

It would be great if you could my birthday cake picture in your magazine.

Paul Thompson

Your wish is our command Paul. We hope you had a great day!

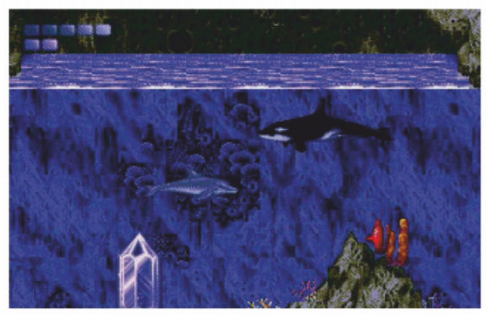
ECCO FRIENDLY

Dear **Retro Gamer,**

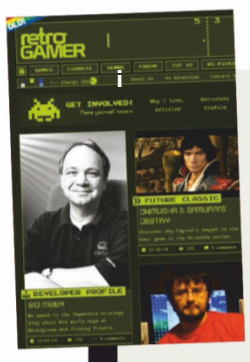
I'd love to see a history article on the *Ecco The Dolphin* game series. They really left an impression on me as a youngster and also helped raise awareness about the environment. I've enjoyed every single game in the series and was absolutely delighted to discover that the first game was included on the Mega Drive Mini. You could speak to the developers about the franchise and also find out why there have never been any new ones.

Jane Jacobs

That's a really good idea, Jane. Ed Annunziata is quite prominent online so it should be relatively easy to sort something like this out. We'd imagine that Boris Vallejo art would look nice on our cover as well. Leave it with us, and we will see what we can do!



» Jane would love a history of the *Ecco* series. Keep an eye out for an article in a future issue of **Retro Gamer**.



Your say

Every month, Retro Gamer asks a question on social media and prints the best replies. This month we wanted to know…

What's your favourite game to play on a portable system?

William Bargery
Final Fight – the one on the GBA. Loved the little things they added like the boss conversations, and the fact that you could play *Alpha* Cody and Guy was awesome!

@colonelFalcon
Advance Wars on the Game Boy Advance. Brilliant strategy game. I've put in so many hours, also on multiplayer.

Alan Mealor
Advance Wars, pick your version as they are all great. Train journeys and long flights will melt away in the face of this handheld classic.

@FrostyRogue
Super Mario Land 2 and *Killer Instinct* on the original Game Boy! I used to play them so much when I was a kid.

@Genou_kun
Tetris is the best game to enjoy on a portable system.

ely
I can't choose between *WarioWare* on the GBA SP or *Everybody's Golf* on the PSP. Both came in handy for passing time when travelling before I got a smartphone.

Ken Hosick
Puzzle Bobble on the Neo Geo Pocket Color got me through many a boring bus journey.

ncf1
Super Mario Land on Game Boy hit that perfect point for me, in terms of playability, lastability and difficulty level. It just got everything right.



» [GBA] Gamers need to understand the brilliance of *Astro Boy: Omega Factor.*

Adam Jones
Final Fantasy Tactics Advance. It's surprising how many hours I could put into that one.

@Lord_Arse
The *Legend of Zelda: A Link To The Past* plays very nicely on a handheld console.

Alastair Omand
Astro Boy Omega Factor for GBA. I think it is Treasure's best game.

antsbull
My all time favourite is *Ocarina Of Time* 3DS. Such a good game for taking away on long business plane trips.

RetroBob
I have big nostalgia feels for *Super Mario Land* here.

retro GAMER

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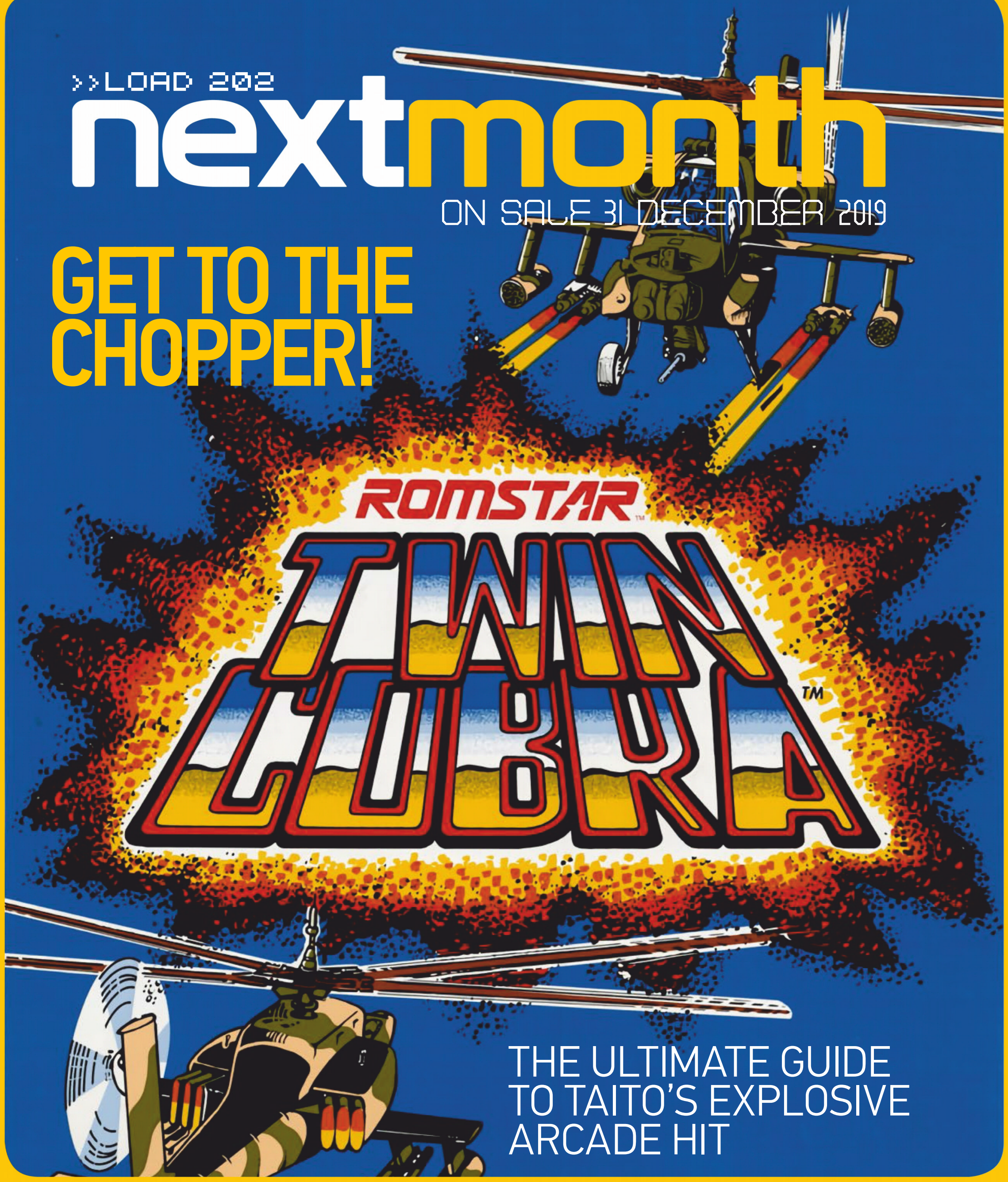
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ENDGAME

REAL BOUT FATAL FURY SPECIAL: DUCK KING'S ENDING



Fighting games are pretty great, because they have lots of characters with different motivations. This usually means that they each need their own ending, so we can keep dipping back into them on this final page. So here's Duck King – elected king of the ducks, despite not being one of them. He's gone to be the best fight man of all the fight men. Let's find out how that goes…

01



» Duck King has won the fighting tournament, and with all that aggression now out of his system, now is the time for love. So he's looking for a date, and since Tinder has not been invented yet, he has to ask.

02



» Of course, Mai flat-out rejects Duck King. He should have known that would happen, really – Mai only has eyes for Andy Bogard, a former student of the Shiranui school, and she has never made any secret of that.

03



» Undeterred, our protagonist decides to shift his attentions to another of *Fatal Fury*'s female fighters. This time, the target of his affections is Blue Mary. What is it with Southtown's parents and these weird names?

04



» As well as being wholly uninterested, Blue Mary is brusque, conveying her rejection in fewer words than Mai – and she only used three. Once again, it's complicated: Terry's kind of got a thing going on here. What kind of a jerk is Duck King to be asking her out in the first place?

05



» Having asked out the entire female cast and been rejected twice, Duck King is out of options. In a last ditch effort to try earning some kind of affection, he quotes his favourite film – weird flex, but okay. Unfortunately, it doesn't work because Duck King's favourite film is *Troll 2*.

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