

leisure lines

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Final Fantasy VIII

The latest chapter in the series that has already sold more than 25 million copies worldwide made a bit of a splash on the PlayStation late last year. The PC version of Final Fantasy VIII is due for release shortly and it looks set to be pretty impressive. It will be very similar to the PlayStation version, but the graphics engine has been tweaked to take full advantage of the superior graphics and sound offered by the PC.

The eighth instalment of this role-playing adventure maintains the distinctive Japanese look of the previous chapters, but increased detail is promised this time, with better facial expressions and movements.

The tradition of giving the characters bizarre names has been upheld. You play Squall Leonhart, a cadet at the local military academy SEED, who is thrust into a conflict between two adjacent countries. As part of his final exam, he's sent in to settle the dispute between the two warring nations. There's no chance



of a re-sit if things go wrong, though, and the fate of the two continents rest wholly on his shoulders.

Early reports suggest that the full-motion video sequences are a joy to behold, and we can't wait to see the finished version, due in a month or two. Developer Squaresoft has also invested a lot of time ensuring that the 3D sound helps enhance the atmosphere. It's inevitable that the game will come on a lot of discs, and the recommended retail price is projected to be as much as £45 – but this is bound to be discounted. Look out for a full review in *PCW* soon and keep an eye on www.eidos.com.

JASON JENKINS

Halo

Bungie Software's new title, Halo, is reaching its final stages of development and first impressions are great. Bungie has a reputation for wholeheartedly supporting the Mac, so it's no surprise that the game uses OpenGL to support both PC and Mac. Jason Jones, the creator of Myth and Marathon, is the brains behind this 3D action game. Granted, there are loads of these on the market at the moment, but this one looks as if it might be a little bit different.

First, the new graphics engine looks stupendous. It uses a system of inverse kinematics in real time to model each character on the screen. Each character essentially has a skeleton inside it, and each joint is assigned its own properties

and moves accordingly, giving very realistic action. The one example of this that has been widely demonstrated involves a jeep. The driver slams on the brakes and the characters inside are thrown forward in a very life-like way.

The background story to the game is that you are among a group of humans on a large ship that has crash-landed on a ring-shaped world (the 'Halo' of the title). The Covenant, a nasty enemy intent on your destruction, soon rears its head. You have to use guerrilla tactics to fight the technologically superior foe, picking up weapons and vehicles they



have left behind and overcoming the problems created because all your comrades are spread out over the ring.

There's still quite a lot of development work left to do, and release dates vary from anywhere between March and August. Whenever it does turn up, it's bound to cause a bit of a stir, though, and there'll be a full review in *PCW*.

<http://halo.bungie.com>

JASON JENKINS

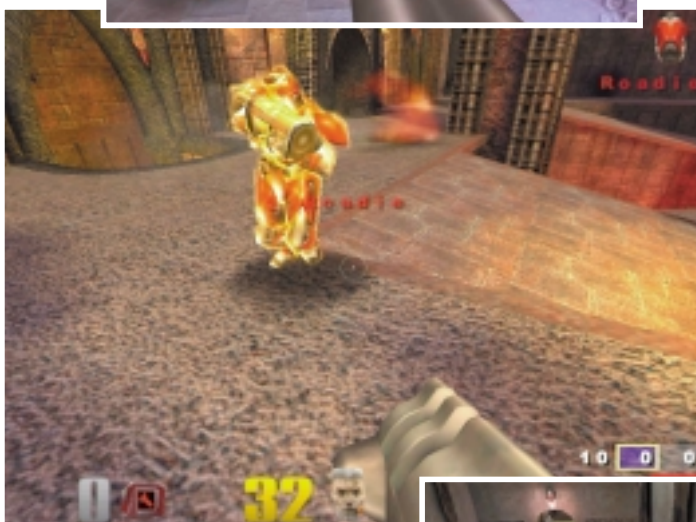
Quake III Arena

Get rid of all that tension built up during the great wait by **building up a few frags** in the Arena.

It's been a long time coming. After months of playing and discussing the merits of the test maps downloaded from the Quake III Arena website, we couldn't wait to get our hands on the finished product. One question dominated our thoughts as we played it for the first time: does it live up to our expectations? Thankfully, the answer is a resounding yes.

Virtually all games that are released at the moment come with some sort of multiplayer capability built in to them. Most software houses are currently having difficulty developing the single-player experience any further, but multiplay has come on in leaps and bounds over the past few months. Although Quake and Quake II both had multiplay capability, this latest version has been developed with the intention that this will be the normal mode of play rather than the exception. As such, it's no surprise that we consider it to be the ultimate expression of deathmatch gaming.

The new maps have been beautifully designed using a new engine that has the ability to render curved surfaces very effectively. Even the less dramatic maps look amazing with vivid colours and fantastic levels of detail. You won't have much time to stand there admiring the scenery, though, as the graphics move at a terrifying pace. There are less out-of-the-way, darkened corners to hide in here, and our best advice to you if you don't want to get killed is to keep moving. There are loads of pick-ups littered about each level, one of the most terrifying of which is quad damage. If you're unfortunate enough to come up



against someone who has picked this up, you'll see them glowing with a blue fire that gives their weapons a quadruple kick of nastiness.

Ladders have been completely abolished from all the maps. In their place have come ramps and bouncy pads that propel you through the air to another section of the arena. This makes gameplay a lot slicker and faster. Choice of weaponry is appropriate – there are no gimmicky toys in this version and you'll soon find the one that suits your style best. The rail gun, which inflicts massive damage in one hit, makes a welcome return. You can also choose from devices such as a rocket launcher, plasma gun and grenade launcher.

Novices can break themselves in gently by using the single-player setting

to fight against computer-controlled opponents. There are five different skill settings here – the easiest (I can win) is a good training ground as it's difficult to get killed in the early stages. The hardest (Nightmare) is a fierce test for even the most hardened Quake player.

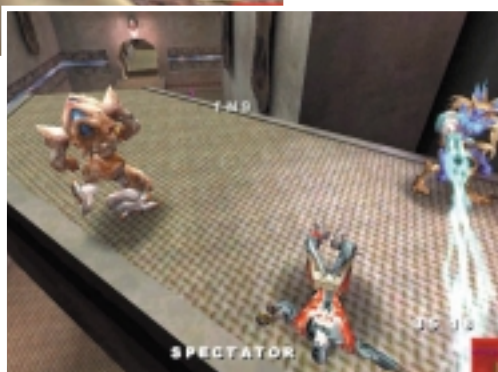
Once you've got the hang of it all, it's back to the same map for some deathmatch action over your LAN or the Internet. There are also four extra maps for capture the flag. You can play these with either humans or computer-controlled characters. It's at this point that we really started to appreciate the fantastic AI that has been written into the game. Your computer team mates can understand typed instructions, which makes it possible to play capture the flag without a full complement of humans.

There's no doubt that this game is fantastic, but the crucial question remains as to whether it is better than Unreal Tournament featured a

couple of issues ago in PCW. The answer is probably yes, but only just. Quake III Arena is deathmatch at its most refined. You don't get quite as many features as you do in

Unreal Tournament, but for sheer fast, furious and unadulterated rage against your fellow gamer, there is simply no equal to Quake III Arena.

JASON JENKINS



PCW DETAILS

★★★★★

Price £34.99 inc VAT

Contact Activision 01895 456 700

www.quake3arena.com

System requirements Pentium 233MHz, 64MB RAM, 8MB OpenGL graphics card, 28.8Kbits/sec modem or LAN, Windows 95/98/NT



Tomb Raider IV

Lara's back as a **16-year-old** in a stunning adventure to reverse a curse she's put on mankind.

The arrival of a new Tomb Raider game before Christmas is always a joyous occasion for me. My wife is a huge fan of the series and the thought of her spending the Christmas break without Lara to keep her company wasn't a pleasant one. That said, it looked like Core was running out of steam with Tomb Raider III. The game was nowhere near as polished as the previous titles and there seemed to be a worrying number of bugs in the code. I was therefore a little sceptical about the quality of Tomb Raider – The Last Revelation, but I soon found out that my fears were completely unfounded.

The Last Revelation is, without a doubt, the most impressive Tomb Raider game since the first jaw-dropping outing back in 1996. The game just oozes quality. Gone is the static options screen on start-up, replaced by a silky-smooth fly-by through one of the levels, ending with a shot of Lara busy adventuring. It actually takes some effort to tear yourself away from the options screen and start the game.

Also gone is the regular option of running around Lara's stately home on a training mission. Instead you are transported back in time and play Lara as a 16-year-old running around a tomb with her mentor. Unlike the previous training levels, this one has to be played all the way through. Anyone who's played the previous games may find the constant instructions a little annoying, but it does provide some interesting background to Lara's story.

The game is visually stunning, especially if you have a decent enough graphics card to run it at a high resolution and colour depth. Running it on a K6-III 450 with a Matrox Millennium G400 produced beautifully

fluid movement at a resolution of 1,024 x 768 with 32bit colour. The camera tracking is much improved as well, so you're far less likely to be stuck in a position where you can't see what you need to do. Also, if the camera is behind Lara when you press the Look key she becomes semi-transparent to give you an unrestricted view of the area.

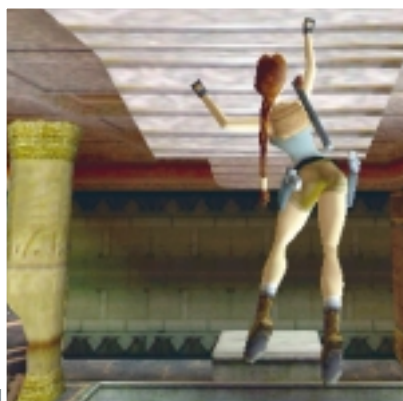
Controls are pretty much standard for Tomb Raider although there is the addition of a Sprint key. Pressing Sprint while Lara is running will give her an additional burst of speed, but only for a limited time. There are also ropes for her to climb and pressing the Sprint key here will allow Lara to swing back and forth to navigate large gaps.

In a strange twist of fate, Lara is responsible for releasing a catastrophic curse on mankind and has to spend much of the game trying to put things right. The feeling of interaction with the story line is high and the cut scenes are the best I have ever seen on a game. Not only do they look good, the sound and lip-syncing make it look like a high-quality animated movie.

The menu system has been completely changed. Rather than having the old rotating circles when you hit Escape,

your inventory now just scrolls across the top of the screen, while the quit game option is found under the pause menu, accessed by pressing the P key.

Ultimately, this is the best Tomb Raider game yet, not to mention one of the best games I've ever played. It's the closest that a game has ever come to a cinematic experience and this goes a long way to prove that Lara's got a fair bit of mileage left in her.



Some very unusual camera tricks are also used. Sometimes, when an enemy is tracking Lara, the camera takes the pursuer's view as it hunts for you and then switches back to a standard view once Lara is in its sights. This adds a great deal of atmosphere to the proceedings, as do the sweeping camera fly-bys that you get when you enter a special room.

RIYAD EMERAN

PCW DETAILS



Price £34.99 inc VAT

Contact Eidos 020 8636 3000

www.eidosinteractive.com

System requirements Pentium 233 (PII 266 recommended), 16MB RAM (32MB recommended), 3D accelerator card, four-speed CD-ROM, Windows 9x



Indiana Jones

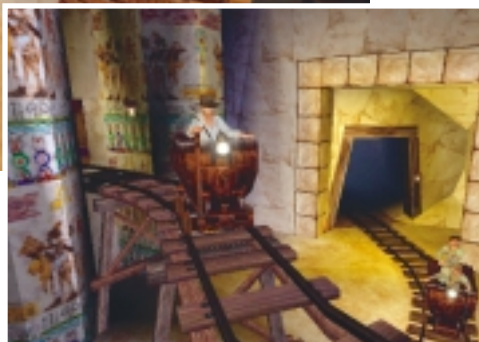
A 3D world beckons Indy but watch out for his **slow reverse speed** if you need a fast escape.

As if rekindling the fire of *Star Wars* fever with the release of *Episode I* wasn't enough for George Lucas, he's decided to bring his other great movie franchise to life again, *Indiana Jones*. If you don't know who Indiana Jones is you must have been living on a desert island for the past 20 years. Indy (as he's known to his friends) is a world famous archaeologist and adventurer. He travels around the world rescuing priceless treasures and damsels in distress in equal measures. As such, Indy is a great hero for both movies and video games and his previous point-and-click graphic adventures were a great success.

This new instalment, *Indiana Jones and the Infernal Machine*, is something different though. Instead of a point-and-click interface Indy now inhabits a fully 3D environment. You'd be forgiven for thinking that the visuals resemble *Tomb Raider* because they do. In fact the game could be *Tomb Raider* except the hero is a guy in a hat rather than a girl in a tight vest. Even the control method is an almost exact copy of *Tomb Raider*, with a couple of alterations thrown in for good measure. Of course, this isn't necessarily a bad thing. The *Tomb Raider* series has been very successful, and producing a similar title with a well-known character such as Indy into the bargain should be a winning combination. However, it doesn't quite hit the mark.

There's nothing particularly wrong with Indy, it has all the atmosphere that you'd want from a game based on the movies, the visuals are OK and the spot sound effects are entertaining. Unfortunately, the whole game seems very basic when compared to the superb *Tomb Raider IV*. If Indy had come out a couple of years ago it would have looked great, but Core has refined the gaming engine for *Tomb Raider* into an almost

seamless virtual environment that you can lose yourself in, whereas the Indy engine doesn't have that immersive quality. Even the character models are



unconvincing with your CIA contact looking like he has hammers on the ends of his arms instead of hands.

Even taking all its faults into account, Indy is still entertaining to play and if you can look past the rough edges you'll find a great game.

As with *Lara Croft*, *Indiana Jones* has an arsenal of weapons at his disposal, although at the start of the game he is equipped only with a revolver, his trusty bull whip and bare fists. The whip is more than just a weapon though; you can use it to swing across large gaps or to scale heights.

However, there is a problem when you're in a firefight. Whereas *Lara* will

happily run around while tracking her enemies with her weapon and firing, Indy finds this all a bit beyond him. What's most alarming, though, is his inability to make a hasty retreat. Instead of jumping back out of harm's way like *Ms Croft*, Indy insists on taking careful and painfully slow steps backward, which is particularly annoying when you're under a hail of bullets.

The puzzles are a good medium between taxing and easy and you're not left running around for hours trying to figure out what you're supposed to be doing. A great touch is a map button.

Once activated you're presented with an overlaid map so you can chart your progress as you move around the level. If you're desperately stuck you can activate hints on the map that show you where you should be heading next. You'll also find treasure throughout the level that earns you money, then once the level is completed you can spend your cash on

equipment such as ammo or medical supplies. It's worth noting that using map hints takes a chunk out of your bank balance.

Ultimately, *Indy* is a good game with a lot

of longevity, but with *Tomb Raider IV* out there it can't quite compete. That said, when fans of the genre have finished *Lara's* latest quest, they could do a lot worse than give *Indy* a try.

RIYAD EMERAN

PCW DETAILS

★★★★

Price £34.99 inc VAT

Contact Activision 01895 456 700

www.lucasarts.com

System requirements Pentium 200MHz, 32MB RAM, 3D Graphics Accelerator, Windows 9x

TrickStyle

City-surfers of the future unite in a slick and tricky PC version of a Dreamcast success.

TrickStyle was one of the first games to be released on Sega's Dreamcast machine and I've been playing it on that format since the console's release last October. TrickStyle was an instant success on the Dreamcast due to its playability and jaw-dropping visuals.

Based in the future, the game follows the sport of hoverboard racing, with a style not too far departed from snowboarding. One of the best aspects of the game is the locations of the races, spread across England, Japan and the US. The English tracks are especially entertaining since you can pick out London landmarks in the futuristic landscape.

Visually TrickStyle on the PC looks even better than its Dreamcast sibling, mainly because you can bump the



resolution up a lot higher on a PC monitor than you can on a TV. The movement is smooth as silk and a decent frame rate is achieved even when there's a lot going on. Of course you'll need a decent 3D accelerator card to get the best out of it.

I was initially concerned about how the control method would work since the analog Dreamcast controller is such a joy to use. Thankfully my fears were put to

rest when I started playing. Even using the keyboard as the control method was no problem, but if you want a similar experience to the Dreamcast you could invest in an analog gamepad.

The races are fast and frantic and you'll have to master your jumping and 360-degree spins to make it through some of the more tricky courses.

Ultimately, in a world saturated with stale genres, TrickStyle is original, beautiful to look at and fun to play.

RIYAD EMERAN

PCW DETAILS

★★★★★

Price £39.99 inc VAT

Contact Acclaim 020 7344 5000

www.acclaim.com

System requirements Pentium 233MHz (300MHz recommended), 32MB RAM (64MB recommended), 190MB hard disk space, four-speed CD-ROM, 3D accelerator card, Windows 9x



Force Feedback Wheel

The complete racing experience without the cost.

If you're a fan of the more realistic driving games then you'll know how frustrating it is when you buy an excellent driving simulation but have to use the keyboard to control your car. The solution to this has been to buy a steering wheel, but unless you could afford to pay a few hundred pounds they tended not to be force-feedback capable.

This latest Ferrari-licensed racing wheel from Guillemot is, but doesn't cost the earth. It has all of the controls you could possibly want in one unit. Located between the wheel and the base are two Formula 1-like gear-change paddles that are perfectly positioned for ease of access. On the front of the wheel itself are two buttons to which you can assign different functions depending on the game. To the left is a four-in-one button that is most useful for changing viewpoints in a game.



On its right is an eight-way D-pad.

One bonus is the inclusion of a gearshift lever to the right of the wheel which has a solid action for changing gears manually while driving. Two pedals are included on a separate base. The wheel itself is beautifully styled and feels very solid, giving you an extra degree of control over your game.

When playing a game that implements it well, the force feedback is

excellent, and brings you as close to a perfect driving experience as you can get without getting in a real car. It also comes with both serial and USB connectors on a single lead for added flexibility.

We were expecting a wheel with all of these features to cost a lot more than it does, but the £89.99 RRP is a real bargain. This is definitely a product we would recommend for people who have always wanted a good force-feedback wheel but couldn't afford one.

JASON JENKINS

PCW DETAILS

★★★★★

Price £89.99 inc VAT

Contact Guillemot 020 8686 5600

www.guillemot.co.uk

System requirements Windows 95/98/NT, free serial or USB port



➤ A laboratory condition

Dr Dolly is a scientist. He's been working non-stop in the labs for several weeks when his wife breaks in to find out exactly what's been going on, only to find that he has cloned himself. There are now three, apparently identical Dr Dollys, and Mrs Dolly must find out which is the real one.

After reading through the doctor's notes she discovers the distinguishing characteristic of the clones is that they always lie. So she asks the first Dr Dolly if he's the real Dr Dolly, but unfortunately she doesn't quite hear his answer. She asks the second man what the first had said. The second doctor replies 'Yes'. She now knows which of the three is the real Dr Dolly. How?

Find the solution and you could have a chance to win a mystery software prize. Send the solution, your name, and an

address where the prize can be sent on a postcard to: PCW Prize Puzzle (March 2000), VNU House, 32-34 Broadwick Street, London W1A 2HG or by email to: letters@pcw.co.uk. Answers should arrive no later than 20 March 2000. Please note we DO NOT open attachments.

➤ Winner of December's Prize Puzzle

The December puzzle was controversial. It was published with a paragraph missing. We apologise for this. Those who contacted us were given the correct problem, which should have read:

I dreamt the other night that my brother and I were in a huge marathon race in which all competitors were given numbers – assigned sequentially, starting at one. The elite runners in the race (which we were not!) had numbers less than 100. My brother's number was lower than mine.

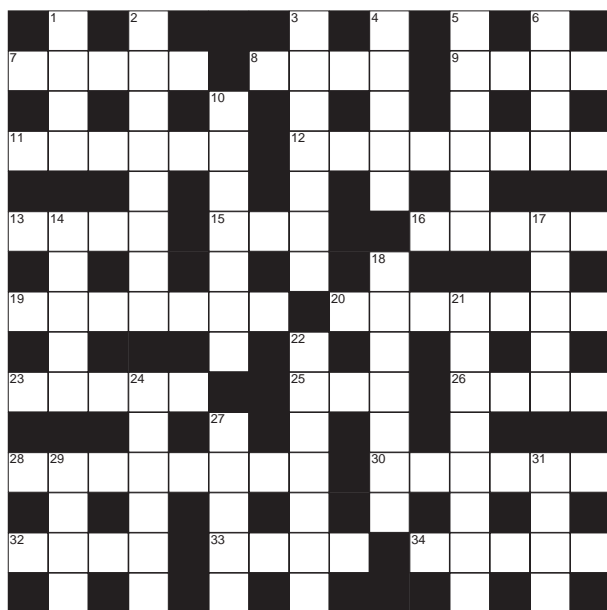
I calculated that the sum of all the numbers less than my brother's number differed from the sum of all the numbers greater than my number by less than 10. Surprisingly, each of these sums also differed by less than 10 from the sum of all the numbers between us, ie all those numbers greater than my brother's and less than mine.

Given that there were fewer than 100,000 taking part, just how many runners were there?

By the way, the answer to the Quickie was also given in this problem – a word ending in MT – you can easily see it.

A total of 27 entrants got and solved the correct problem. The answer is there were 8,591 entrants – my number was 7,015 and my brother's was 4,960. The winning entry came from Peter Forty of Ipswich. Well done Mr Forty, your prize is on its way.

prize crossword



ACROSS

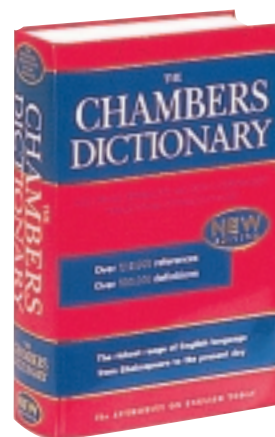
- 7 See 12 Across
8 Indulge in Internet banter (4)
9 Interactive TV platform (4)
11 Printer, modem or scanner and so on (6)
12 & 7 Computing notation in the form $a \times b^n$ (8-5)
13 Surfer's first page (4)

- 15 Numerical security code (abbrev) (3)
16 'Assumed name' icon (5)
19 Regenerate a page (7)
20 Like data that's damaged or unusable (7)
23 Simple language (5)
25 Old colour screen standard (abbrev) (3)
26 Set of letters, numbers and symbols (4)

- 28 The C of PCW (8)
30 Blinking indicator (6)
32 New high-bandwidth copper-wire technology (abbrev) (4)
33 Put an application or file onto a system (4)
34 Answer an email (5)

DOWN

- 1 Adoration (4)
2 Mechanical expert (8)
3 Rubbing harshly (7)
4 Backless seat (5)
5 Not living for ever (6)
6 Observed (4)
10 Storm (7)
14 Musical drama (5)
17 Colorado resort (5)
18 Supreme ruler (7)
21 Alluded (8)
22 Have too much food (7)
24 Pushes forward (6)
27 Market table (5)
29 Betting chances (4)
31 Painting medium (4)



Each month, one lucky PCW Crossword entrant wins a copy of the new *Chambers Dictionary*. The winner of January's puzzle is: **Paul FitzPatrick of Romford, Essex.**

This time, it could be you. Send your completed crossword to: 'PCW March – Prize Crossword', VNU House, 32-34 Broadwick Street, London W1A 2HG, to arrive not later than 20 February 2000.

• Please state clearly on your entry if you do not wish to receive promotional material from other companies.

Solutions to February's crossword

ACROSS

7 Emoticon 9 Domain 10 Beta 11 E-commerce 12 Ascll 14 Newbies 18 Cookies
19 Virtual 22 Traffic 24 Modem 26 Sound card 28 Drag 29 Access 30 Machines

DOWN

1 Immersion 2 Stoa 3 Acted 4 Adam 5 Emerge 6 Mice 8 Nooses 13 Ink 15 Brim 16 Beef 17 Lacerated 20 Two 21 Disarm 23 Roused 25 Edict 26 Sack 27 Dash 28 Drive

Will Head looks back at those who **ran the country**, drove C5s and survived BT's number change.

20 YEARS AGO March 1980



PCW covers have come a long way since 1980, when March's featured the Chancellor of the Exchequer complete with red briefcase but, alarmingly, a computer for a head. This was in

reference to a computer simulation of the country's economy that let readers, have a go at running the country for eight years. The article included not only the full 190-line listing for the program in BASIC (you had to type it in yourself in those days) but also explained all the equations used in the routine.

Panasonic provided the machine to be scrutinised in the benchtest, a JD-700U. The machine was no lightweight, weighing in at 30Kg, although the main unit did house the keyboard, processor and monitor. A 2MHz 8085A CPU had been chosen to power the machine coupled with 32KB of RAM. The 12in screen could display 24 lines, each of 80 characters, and the dual disk drives took single-density 5.25in floppies (the type that really were floppy). The price for this, I hear you ask? A modest £3,985. Although primarily designed for the business market, we concluded that 'it will probably end up as the basis for a variety of turnkey business systems, where its uncompetitive price can perhaps be disguised in the overall cost'.

At the back of the issue Sue Eisenbach and Chris Sadler had reached part seven of the 10-part series 'Complete Pascal'. At the time Pascal may have looked like it had a bright future, unfortunately now it has been relegated to the same league as Latin. It's one of those languages that people insist on teaching even though no-one in the real world actually uses it.

15 YEARS AGO March 1985



In 1985 the cover of PCW featured the strap line 'Let Battle Commence', referring to the fight for supremacy between the Atari ST and the Commodore C128.

Although not quite as monumental as the clash between the Amiga and the ST, the article found that, despite being very

different machines on paper, they were competing for the same, rather confused market. Both machines offered business and home capabilities and, as a result, weren't ideally suited to either market.

A rather miffed Guy Kewney also looked at the Sinclair C5, starting 'My original intention was not to report on Sinclair's C5 vehicle: apart from commenting wryly that it's truly amazing.' He continued: 'The editor, however, disagreed. Hence the picture story that appears later.' For those who haven't had the experience of almost running one over, the C5 was an electronic vehicle that relied on a combination of peddle and battery power. The rider assumed a sitting position to operate the machine, hence its limited visibility to other road users.

This issue's benchtest looked at the North Star Dimension. At a time when we were seeing the first cheap IBM PC/AT clones the Dimension presented a different angle: a multi-user system offering a lower cost per user than using separate machines. The Intel 80186 16bit processor was clocked to a whopping 6MHz, with memory coming in at a mere 256KB. While a two-user configuration would set you back £5,875, North Star claimed that a five-user system would cost 40 per cent less than four IBM PCs networked together.

10 YEARS AGO March 1990



'The Future PC? Intel's DOS/Unix Power PC from £3,995' asked the cover of 1990's March issue. At the time the question was a serious one but with the benefit of

hindsight now looks a little unlikely. The system we reviewed was a 25MHz 386 with 4MB of RAM. However, systems based on the 486 and 386SX were also available. To compensate for the fact that Unix alone could tie up most of the processing power of the 386 chip and accompanying maths co-processor, a Unipower graphics board was available for those who needed powerful graphics capabilities. With a Unipower card on board, the system could stretch to a maximum resolution of 1,280 x 1,024 with a palette of 256 colours. Andrew Taylor concluded: 'The MicroSystem

Series 3000 [is] one of the most robust low-end Unix workstations I have seen. At £8,384 the machine does not break any records in the price/performance stakes, but for most the benefits of being able to run PC applications with little loss of performance easily outweigh this.'

On a lighter note Finnbar Murphy delved into the intricacies of the TCP/IP protocol that everyone was talking about. The article explained how data was transmitted across the network in packets as well as delving into SMTP, FTP and TelNet in operation.

5 YEARS AGO March 1995



March 1995's cover boasted a 'Notebook Supertest', including '40 Colour Portables - one for every pocket'. Other items of interest included a 110MHz PowerMac, the fastest

available then, and the Cyrix 585 chip that was set to take on Intel.

The news pages included a warning about the impending BT number changes. Five years later we are on the brink of another fairly significant change. Back in 1995 'One Day' was the issue - the addition of an extra '1' to most area codes with the deadline for compliance being 16 April.

Intel's now famous floating-point Pentium bug also made the news, with the company offering a no-questions-asked replacement policy for faulty chips. Previous to this Intel had only offered replacements to users of 'vulnerable high-precision applications'.

The Matrox MGA Impression Lite graphics card caught our eye in the reviews section. Today 3D graphics acceleration is considered a necessity not a luxury but in 1995 things were distinctly different. For £245 you could secure a competent graphics card, supporting resolutions of 1,280 x 1,024 at 16bit colour, more than adequate when 14in and 15in monitors were the norm.

Editor's Choice in the notebook group test was won by the Texas Instruments' TravelMate 4000. The 486 DX4-75 processor coupled with 4MB of RAM may have gobbled up £4,509, but the superior keyboard and TFT screen meant that the TravelMate beat the big boys to the crown.

Sinclair ZX Spectrum

A sleek black box that turned a generation of schoolkids on to computers – it must be the Spectrum.

In 1982 an advert appeared in the computer press with the headline, 'Colour and sound... full-size keyboard... 16K or 48K RAM... high-resolution graphics'. It was Sinclair's advertising spread for the ZX Spectrum warning the unsuspecting computer-using public that Uncle Clive was about to do it again. While Sinclair continued to describe the ZX81 as 'the ideal introduction to computing', it was the Spectrum which would set the UK's enthusiasm alight and become the best-selling home computer in the country.

The Spectrum suffered from Sinclair's infamous delays, but eventually emerged to mail-order punters in July 1982. Unlike the ZX80 and ZX81, it came ready-made in two memory configurations: 16K for £125 and 48K for £175.

Once again, Sinclair had opted for an 8bit Z80A processor, which the Spectrum drove at 3.5MHz. Joining the CPU, RAM and ULA (handling display and I/O) was a 16K ROM, twice the size of the ZX81's.

High-resolution graphics translated into 176 x 256 pixels, but colour could only be applied in coarser blocks one character at a time at 24 x 32 resolution. Each character was limited to two colours, which resulted in terrible colour-clashing attribute

problems. Programmers had a choice of eight colours, although a BRIGHT and FLASH attribute could be applied.

Sound was aptly described by its command BEEP, which also neatly froze the processor in its tracks. Games programmers got around the problem by alternating bursts of sound with updated action. Mathew Smith, the genius behind Manic Miner and Jet Set Willy, used this trick to great effect, and the dulcet tones of *Hall of the mountain King* and *If I were a rich man* still ring in my ears.

While Sinclair did an admirable job on the hardware, it was the games programmers who were really responsible for the Spectrum's huge following. *The Hobbit* from Melbourne House brought

Zork-style text adventuring to a wide audience, while Automata's Pimania had the population searching for a genuine golden sundial worth £6,000. The aptly-titled magazine *Crash* was indispensable for Spectrum gamers, who regularly followed the antics of (fictional) letters editor Lloyd Mangram.

One of the best-known games companies was Imagine ('the name of the game'), which became infamous for tabloid stories describing the lifestyles of its wealthy teenage programmers. Responsible for the classics *Arcadia*, *Zzoom* and *Alchemist*, Imagine went bust while developing its massively hyped mega games *Psyclapse* and *Bandersnatch*.

On the subject of hyped games, the Spectrum story cannot bypass Ashby Computers & Graphics, the company behind *Ultimate Play the Game*. However, unlike many others, *Ultimate* really lived up

adventures.

Legend has it the pioneering isometric 3D *Knight Lore* was completed before *Sabre Wulf*, but held back as the final part of the *Sabre Man* trilogy. *Sabre Wulf* was *Ultimate*'s first game costing a not inconsiderable £9.95, and began the company's strategy for secrecy and teaser-style ad campaigns. *Ultimate* is currently alive and well, programming modern classics such as *Goldeneye* for the N64 under the name of Rare.

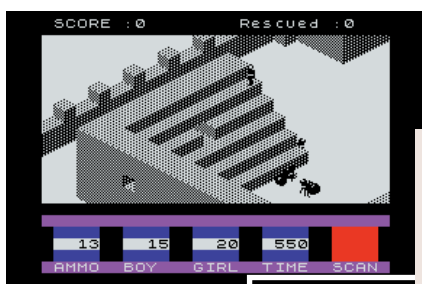
It wouldn't be appropriate to forget the wealth of peripherals for the ZX Spectrum either. Just take Sinclair's own Interface 1 & 2, the former necessary to connect the infamous tape MicroDrives. The ZX Printer (AKA the Astronaut's bog roll) also won many hearts, as did the legendary Kempston joystick.

The Spectrum story continued later than many remember. The Plus version was launched in 1984, followed by the 128K in Christmas 1986. Rarer Plus-2 and Plus-3 versions with built-in cassette deck or floppy disk drive arrived in 1987.

Of course, the Spectrum lives on in the Internet. Relive the classic games with the online Java emulator at www.spectrum.lovely.net/ and check out where all the personalities are now at www.kendalls.demon.co.uk/cssfaq/index.html. The Commodore 64 may have bullied its way into many playground brawls, but for my money, the ZX Spectrum was without a doubt the best home computer of all time.

GORDON LAING

THE SPECTRUM'S RUBBER KEYS MADE FOR SOME SPONGY TYPING AND DIFFICULT RAPID FIRING IN GAMES



THE 3D ENVIRONMENTS OF ANT ATTACK AND KNIGHT LORE WERE BOTH INNOVATIVE AND IMMERSIVE, IF NOT GRAPHICALLY STUNNING



to its hype, producing the most remarkable games ever to grace a TV in the early 1980s. Led by the brothers Tim and Christopher Stamper (along with sister Louise and Tim's wife Carol), *Ultimate* cut its teeth on arcade classics such as *Jet Pac* and *Atic Atac*, going on to produce sophisticated graphic