No 1!! BIGGEST AND BEST

The best-selling 64 mag in the World!

MARCH 1993

£2.50

30

GOT A 64? ★ THEN GET THIS

Commodore FORMAT

LOOKY HERE

4 SMART games! 1 BRILL utility too!

BATMAN RETURNS™

...to the C64. Will it be the best Bat-game ever? The exclusive preview's on p.12!

POWERTESTED

MORE C64 REVIEWS THAN ANY OTHER MAG!

- FOOTBALL MANAGER 3 Kenny or Cloughie?
- CARNAGE Is it a game to drive by?!
- SPELLING FAIR Rite ore rung?
- SMASH 16 Bundlerama!
- TONS OF BUL

PLUS LOADS MORE...

BATMAN AND ALL RELATED ELEMENTS ARE THE PROPERTY OF DC COMICS INC © 1992. ALL RIGHTS RESERVED

SPECIAL BAT-MAG ISSUE

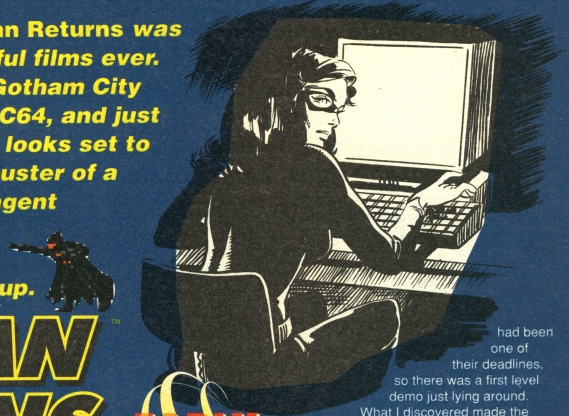
Future PUBLISHING

Your guarantee of value

9 770960 516026 03

PLUS GAMEBUSTERS ● CREATURES ● WINTER CAMP ● AND MANY MORE !

On the big screen, Batman Returns was one of the most successful films ever. Now the Dark Knight of Gotham City returns, this time on the C64, and just like the movie, the game looks set to be a blistering batblockbuster of a release. CF sent secret agent Kittyhawk on a special assignment to check out how the game's shaping up.



BATMAN RETURNS™

EARLY WARNING! SCANNER

Batman owes a lot to Bram Stoker. If Bram hadn't completely ruined the bat's public image by writing *Dracula*, then there's no way the image of a squeaky little rodent would strike fear into the hearts of hardened criminals. After all, they're only mice with wings – it's like being scared of flying guinea pigs or airborne hamsters.

Just because one pretty remote branch of the bat family prefers blood to licking the slime off cave walls, Bram blews the whole affair out of proportion and suddenly bats became the Hannibal Lecters of the small furry mammal world. I suppose it it might have something to do with the fact that they hang around spooky buildings a lot as well.

It was pretty spooky the other night when I went to case Denton Design's joint. The air was damp against my skin. Inky black clouds covered the sky, apart from in a few spots where moonlight broke through and struck the ground like frozen lightning. It was not a pleasant night and if the game I was investigating had been anything less than *Batman Returns* I would have turned down he assignment.

Finally everybody left the offices and I entered through a skylight. The day before had been one of their deadlines, so there was a first level demo just lying around. What I discovered made the effort of braving the elements worthwhile.

There were no enemies yet on the demo, but there was a controllable Batman sprite. What stood out more than anything else was the smooth animation of the main sprite as it performed a bewildering range of moves, the most impressive being a low sweep kick – great for tripping up the odd penguin.

When Batman jumps, to climb on to ledges or avoid enemies, his cape billows realistically, drifting down to cocoon the crusader in a barrier of black. There's also an

BATMAN™ RETURNS – THE PLOT

STARRING

The Dark Knight, Catwoman, The Penguin, The Ice Princess and a poodle named Kip. (If you've seen the movie, then you'll probably have a pretty good idea of what's going to happen 'cos the game follows the plot pretty closely. And if you haven't seen the movie, go rent the video *NOW* – it's brill!)

ACT 1

Gotham Plaza, Christmas time. The tree-lighting ceremony is about to take place. The Red Triangle Circus Gang launches its attack on the people of Gotham. One of the clowns takes Selina Kyle (Max Shreck's Secretary) hostage. Can Batman save her?

ACT 2

Gotham Plaza after the attack. Mess and mayhem everywhere. Enter the Penguin, floating on his umbrella and dropping bombs on Batman. A yapping poodle and strongman prove to be a real nuisance – or is it a strong poodle and yapping man?

ACT 3

A derelict apartment block, leading to the roof-tops of Gotham city. Batman has his first encounter with the Catwoman. They battle across the roof-tops, leaping from precarious ledge to precarious ledge. Do they jump or are they pushed?

ACT 4

Again the roof-tops of Gotham. The Ice Princess has been kidnapped by the

MY, WHAT A WEAPON!

Lifted straight from the film, all these Batweapons (and Catweapons and Penguin-weapons, for that matter) will make an appearance in the final game:

BATDISCS – Lethal spinning metallic disks that are ejected from openings on each side of the Batmobile.

BATARANG – A weapon based on the aboriginal boomerang. In *Batman Returns* the Batarang was equipped with a computer targeting screen, enabling Batman to make sure it hit its intended victim, and returns, every time (that's the theory, anyway).

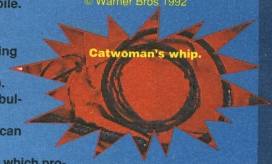
GRAPPLING GUN – A handy gun that doesn't fire bullets, but instead blasts out at very high speeds a grappling hook attached to a wire. With it Batman can climb up even the sheerest of walls.

BATWINGS – A gliding attachment to Batman's suit, which provides unpowered escape from dangerously high places.

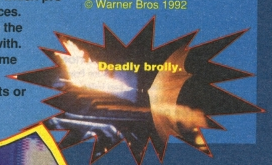
WHIP – An ancient but vicious weapon, the whip, in the hands of the Catwoman, is a force to be reckoned with.

UMBRELLAS – Most of the Penguin's weapons come in the form of umbrellas. They can be filed to a deadly spike or blast out flames, bullets, gas pellets or other things that won't do you any good.

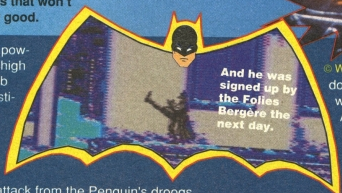
© Warner Bros 1992



© Warner Bros 1992



© Warner Bros 1992



impressively powerful-looking high kick (good job his suit's elasticated) and one hell of a right hook for him to defend himself against attack from the Penguin's droogs.

Most of the attack moves are kicks or punches, the only real weapons available on the demo I saw were chuckable bat-disks, so it looks like instead of being a bog standard shoot-'em-up this license is going to be a platform type beat-'em-up.

You know how folders marked 'Highly Confidential' just pop open, then your hand-scanner falls out of your pocket and sweeps down the page? No? Oh well it must be me... Anyway, that's exactly what happened and, gosh, there I was suddenly in possession of the game's storyline. Lucky me. It appears to keep pretty close to the film (but thankfully not quite as confusing). Level one starts off in the very Gothic-looking Gotham City Plaza at Christmas time and the game takes you all the way through to the Penguin's lair.

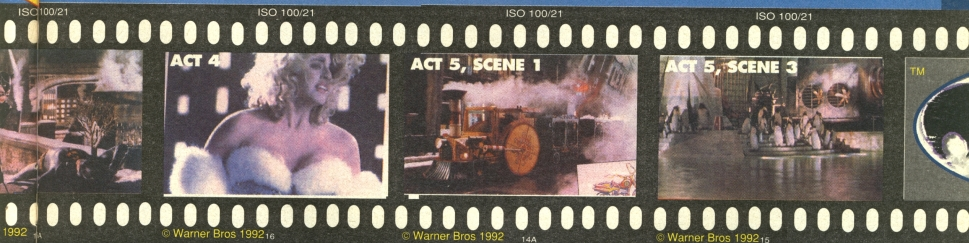
The documentation I scanned mentioned loads of pick-ups to collect on the way, including a set of batwings. I'd love to get hold of some of Batty's wonderful toys. A set of gliding wings would make my life so easy, and what I could do with a double-edged grappling gun would make your toes curl.

I also came across the original sprite sequences for *Batman Returns* and some early versions of that extraordinarily feline Catwoman, which were all designed on the Amiga. Talking of Catwoman, a little smudged lipstick is acceptable, you could even get away with a broken fingernail in dire circumstances. But to run around with your outfit in tatters and then to try and pass yourself off as a sex goddess. Well, it's really not on. (*Do I detect a touch of jealousy there, Kitty? – Ed.*)

Before I could search further, a security guard's torch flashed through the window. I switched off the desk lamp as quickly as I could and curled under Roy's desk. As soon as the guard had left, I made my escape.

Riding back to *CF* on my Hawkcycle (*nice try, but it doesn't quite have the same ring as Batcycle, does it – Ed*) the dark started to close in on me. Usually I like the feeling of freedom and anonymity the night brings, but that night the sheer density of the darkness was making me feel claustrophobic. I wonder if Gotham's like this? No wonder Batman's got such an attitude problem.

Batman and all related elements are the property of DC Comics Inc. © 1992 All rights reserved



Penguin and is being attacked by a flock of bats. Batman eventually sees off the bats only for the police to enter the scene, accusing him of kidnapping. Oh yeah, and to make matters worse, Batty bumps into yet more clowns and Catwoman (who's in a dead bad mood after their last meeting).

ACT 5, SCENE ONE

The circus train. The organ grinder is on the foot plate (and he doesn't drive too well). Batman's objective is to rescue the children from the train. Cue some traditional western train-leaping, bridge-ducking, hanging-off-of-the-side-of-the-carriages-type fun.

SCENE TWO

The sewers leading to the Penguin's lair. Batman must reach the lair without landing in the hazardous, noxious toxic goo squelching through the pipes – have you got any idea how tough it is to get stains out of those tights? Oh yeah, and some nutter-killer-robot-penguins are out to get the caped crusader by firing nasty rockets at him!

SCENE THREE

The Penguin's lair. Catwoman and Shreck are discussing loyalty. Should Batman save Shreck's life? Who is that masked Penguin in a big yellow duck? Wouldn't it be a good idea for Batman to jump clear of those huge melting icicles? We're not giving you any clues.

Batman™ Returns stills © Warner Bros 1992.

N RETURNING!

finally collared and mercilessly executed (oh, I love that scream!). Then I'm off strutting round the office with a smug grin on my face at anyone else with a nasty bug — well, they do it to me!

Throw in a few typing mistakes, the odd 'logical bug', stir for a while and you can get in a right mess unless you keep on top of the situation.

Like most games these days *Batman Returns* was written to a tight 'spec' (specification). Long before work got underway on the game itself, a detailed document was drawn up describing what the game was actually going to involve.

We started with the script of the film (the movie wasn't even out then) and picked out the juiciest bits for a platform/beat-'em-up style game. To see the script (which has 'Top Secret' plastered all over it), you have to sign a confidentiality contract. If one sniff of it gets out (even to your best mate), you have to read Commodore Format for the rest of your life!

We also procured the video for a fun night in, so myself, John (Amiga programmer) and Ally (Amiga graphics) went sat down to watch it. With an all-expenses-paid bucket of Kentucky Fried Chicken each (yum), we sat down ready to make notes.

The film, pretty obviously, followed the script but as it turned out, we were too busy stuffing our faces to make any notes! When it finished, we discussed our favourite bits and what we each wanted to implement in the game.

Some of the finer points still needed to be sorted out between the programmers and artists before the game itself could be started. What moves would Batman have? How big would he be? How many colours would he use? Who killed JFK? Why do smelly socks always stay under the bed?

We decided that to get Batman looking good he'd have to be two sprites tall and two wide. Using multicoloured sprites would only allow us three colours, and the pixels would be really chunky. This proved a bit restricting for the artists who like to have lots of colours involving clever things with shading (so they say) and small pixels to cram in the details. As I was feeling generous, I told Paul (C64 graphics) he could have a hi-res sprite overlay for each of the multicoloured ones. After Paul had raced off to get his teeth into the graphics, I did a few sums and came to the horrifying realisation that Batman was going to up 8 sprites! Oops, oops and triple oops!

The solution was to multiplex the sprites changing and defining them and consequently fooling the VIC chip. As far as the chip is concerned, Batman uses eight sprites but in fa I've still got four remaining (tee-hee)!

State of the artists

Artists are wildly extravagant with animation 'phases'. Most games use four (only two in the old days) different drawings of the main chara running, but Batman uses eight to make him lo smooth and sophisticated.

In life there's always a price to pay, and in th case it's memory. To figure out the total amou memory used the number of 'phases' (eight) a multiplied by the number of 64 (the number of bytes each sprite uses) which equals 512 byte that's 1/2k!

With Batman taking up over 17k, I'll let you f out how many phases he uses.

The VIC chip can only use 16k of Ram at a so the next problem involved cramming the ca

'THE HELL DO THEY THINK THEY ARE

driven adventure on the '64. It's a genre that's been swamped on the 16-bit machines in recent years, but rarely repeated successfully on the Commodore 64 (*Elvira 2* being a notable exception). Next up they opted for a totally different approach, with even more astounding success. Ocean snapped up a seemingly curious license — that of pop group Frankie Goes To Hollywood — and no one knew what to expect of the end product. As it turned out, the *Frankie* game dumfounded everybody when released and fully deserved it's 97% rating.

● Yeah, like let's steal the sign. It'll look great on the office wall, don't you think?

How, then, could they possibly follow these with equal success?

The answer came in the form of a follow-up to *Shadowfire*, continuing the adventures of the Enigma Team (heroes of the first game) called *Enigma Force*. Many of the original's elements were carried across along with several new ideas. For instance, the top part of the screen was replaced by an animated play area where you could see the action unfolding. In fact, you could even take 'hands on' control of your characters, and play the game as a shoot-'em-up/arcade adventure. But still, th best was yet to come...

An all-time classic emerged ar the middle of '87. *The Great Esc* was a wonderfully engrossing an atmospheric isometric adventure during WW2. Graphically excelle and with many possible escape routes, this kept many a person occupied for many an hour.

The Great Escape's design en was later used on the far larger, more involved, *Where Time Stoo Still* — a great game which, thou appearing on the Amstrad and Spectrum, inexplicably never ma to the C64.

After years of innovative and

BATMA

DIARY OF A GAME!

PART ONE!

Welcome to the weird, wacky and sometimes wonderful world of computer games development. Here at Denton Designs the company motto is 'You do have to be mad to work here, but it doesn't necessarily help.' What I always say is 'Fish! Blibble, blibble — is that you Aunty Sarah?' The rumble of passing trucks and the hectic clicking of keyboards almost masks the sound of brains working, or failing to work, whichever the case may be.

I've only been working at Dentons for a couple of years but it didn't take long to slip into the hyperactive, ultra-stressed atmosphere of the company.

This place is inhabited by many strange beasts (no, not the programmers!) all masquerading under the general name of 'bugs', of which there several types:

'Features' are mostly harmless things — you know what's happening and how to fix them, but it's comforting to keep a few around for those dark, lonely nights.

'Crashes' are mean little beggars that lie in wait for weeks before deciding to trash your machine and there's no place a crash can't hide. It could be in a seldom used piece of code that simply doesn't work, or a piece which works perfectly 99.9% of the time — such is life. 'Gotcha!' is every programmer's favourite phrase as the little devil is

JUST WHO

Denton Designs have produced some of the best — not to mention most original — pieces of software availible across many computer formats. They've developed programs for some of the biggest names in computer gaming, having worked for Ocean, Imageworks and Audiogenic, among others. With their eighth birthday coming up the bridle track at a swift canter, we thought we'd take a little peep at just exactly what's made them great over the years.

Innovation was the name of the game from the beginning. Their first C64 release caused some elation when reviewed back in the very first issue of ZZAP! 64 — *Shadowfire* received a not-to-be-sniffed-at 91% and claimed the distinction of being the first icon-

crusader into the sprite memory. The answer was to copy the right phase into some blank sprite slots every time he animates. Not too tricky in itself, but Batman still faced in only one direction (it would have taken 34k to face both left and right!). Now I had to mirror each byte of data before re-ordering and moving them into the sprite slots.

Several nervous breakdowns later, and there he was running, punching, kicking, jumping etc... hurrah!

The big job

The next big job was the background scroll, moving every character on the screen either left or right — dead easy. The hard part was filling up the edge of the screen with more characters (people are over-fussy if you ask me).

Paul was plugging away at the background graphics and it would have been hard to get too excited over the silly blobs that were moving about, but I knew it worked and that was good enough for me.

Batman Returns is to be a beat-'em-up right? So where are the baddies? Well that was the next thing on the agenda. Animating them wasn't too much trouble, but you wouldn't be particularly worried by a baddy who wandered aimlessly about the screen now, would you? I needed to give them brains — the acrobats had to know when to jump up to get Batman and when to duck a punch. They needed to know where Batman was and what he was up to. There's no 'cheating', they won't duck a punch until they see it coming and they've all got reaction times. It can't be too easy though, otherwise you'd race through the game first time.

Getting this balance just right is time consuming, as every time you change (or 'tweak') one thing, something else needs adjusting. If I change the running speed of Batman I have to change the speed of the clowns too, so you can't just run away (not that someone as brave as you would). This part of programming starts when you've got something on the screen and stops when the game is in the shops (with short breaks for eating and sleeping which us programmers are occasionally allowed).

Level One and Two are completed (except for tweaking) — or are they? There's still the little matter of the status to do. Ah, that wonderful bar across the bottom of the screen! You've got to know a lot of stuff to really get on with bashing those baddies and making Gotham safe for all the decent law-abiding citizens (as if you care!).

Lives, strength, combat mode and, most importantly of all, your score all need to be displayed. Up until the graphics arrived this was my 'monitor' — a programmer's greatest ally in the fight against the evil bug. Bold white text on a dark grey background (scrumptious!) that tells me everything I need to know. Batman's position in the map helped me type in the collision data for the platforms and power-ups. When the biker steadfastly refused to make an appearance, I could find out where he was and what he was doing.

WHO'S PROGRAMMING WHAT?

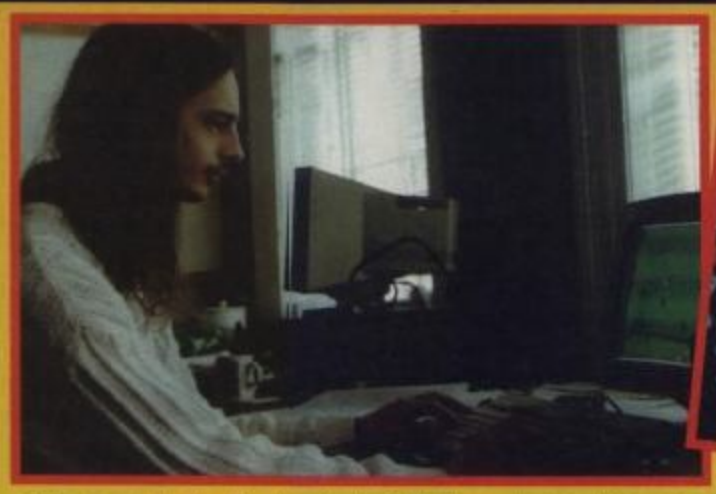
Just in case you were wondering, Denton Designs is run by Ally Noble (Director, art person) and John Heap (Director, programming person). There's Roy Bannon of course (Programmer, C64), and Paul Salmon, Dawn Jones and Fred Gray all do freelance work, producing C64 graphics, Amiga sprites and music respectively. Oh, yeah — the photographs of the team were taken by a talented fellow called Paul Hamboeton, so many thanks must go to him.

The information shown was of no use for playing the game, and I'll admit it didn't look too hot (it was a nice colour combination though) so more graphics were required by Pau and extra coding from me too. For a start, my monitor shows all it's numbers in hexidecimal and as 'I've just got a score of 2CF!' isn't going to impress your mum, I thought I'd better put it up in decimal. A score which counts up i so much more fun too, especially when you pick up the multiplier bonus!

Hang on, what's happened to my monitor? Well the truth is it's still there — well all the code is. Whenever I need it, all I do is change a flag (called 'monitor'!) from 0 to 1 then assemble my code and there it is — clever stuff! It all got a bit tiresome when I had a bug in my status... but that's another story.

So, level three is next, and it's multidirectional so a new scroll routine is needed. New baddies need to go in, most notably Catwoman (ooh, tight leather suits and all that!) so there's plenty to be getting on with while the graphics are being drawn. Where's Paul got too...?

Roy Bannon



original products, Denton turned their hand to the sports sim fraternity and teamed up with Audiogenic. With the Rugby Union World Cup in full swing, a swarm of computer rugger efforts were expected. In the end, it turned out to be no more than a trickle. Rugby had never been brought to the computer scene with much success, so hopes were none too high. Denton, however, defied all and came up trumps again. Combining basic management elements with exceptionally-playable arcade action, different plays, easy to master passing, rucks and scrummages *World Class Rugby* was a finely tuned representation of the sport which, incidentally, blew the official licensed game out of the contemporary fishpond.

So, with many legendary titles to their credit, rest assured that the upcoming mega-movie tie-in *Batman Returns* will be something to watch out for. Want to know more? Well, perhaps you'd better listen to Roy Bannon. He's the programmer, and knows everything there is to know about madness, bugs and demandin artists.

● Below: Ally, Jon and Roy decide to hide behind a pillar. Only the offer of cups of coffe and sticky buns could entice them away to finish the Diary.

DIARY OF A GAME!

PART TWO!

BATMAN R

Kapow! Whammo! These are just a couple of words you won't be seeing in any version of *Batman Returns*. Young boys in green stockings won't get much of a look in ether. To compensate, however, Level Three features a certain female dressed from head to toe in clinging black leather.

'Life's a bitch and then you turn into one' said Selina Kyle aka Catwoman. I like to think 'life's a btch' and then start coding one. The difference between turning into a super-baddy and talking tc invisible armchairs is not as great as one may think. Selina had it easy; falling from the top of a tall building and getting resuscitated by cats. Compare that to my tapping at a keyboard wondering what topic Sammy (invisible armchairs are called Sammy as a rule) has thought to talk about when I get home. You won't catch me complaining though — not unless you try anyway.

I think it was Bertrand Russell who said 'If Cartesian dualism is by definition remote in terms of perception then I'm a monkey's uncle'. Not very profound and not at all related to the matter in hand. Ok I must admit it. I didn't think my map data out properly before Paul started on the graphics, and when I eventually got them going I was way out of memory. At such times your best bet is to not panic — make a strong cup of coffee, sit down with a pen and paper and try to find a way around the problem. When this fails I pick all the lads brains to see if they've got any good ideas. Some of the printable suggestions were 'Give away a free PC with every game' (Tony), 'Compress and decompress the map — that's what I did on *Where Time Stood Still*' (John) and 'Have a Spicy Stick' (Paul T). I considered each one on its merits, then implemented my own master plan — to have another cup of coffee. As it was such a brilliant idea, I decided to go wifh it for a while and had several more. A few hours later — after I'd stopped running around the office gibbering hysterically — I came to the brave decision to change the block size. This meant the map could be stored in a quarter of the memory, although the blocks would take up to four times as much space as before. That was easily solved — I got Paul to use less blocks! He had to redraw the whole map anyway, so I thought it was a reasonable enough request...

Of course I had to redo my print to handle the new block size so it wasn't a completely biased decision.

It's Collision Data Entry Time! This is a game for one player whose task it is to type in lots of data like $6EF, $72C, $220, $228, STAIRS in as short a time as possible whilst holding on to their sanity and retaining as much visual capacity feasible. No conferring, your time starts now....

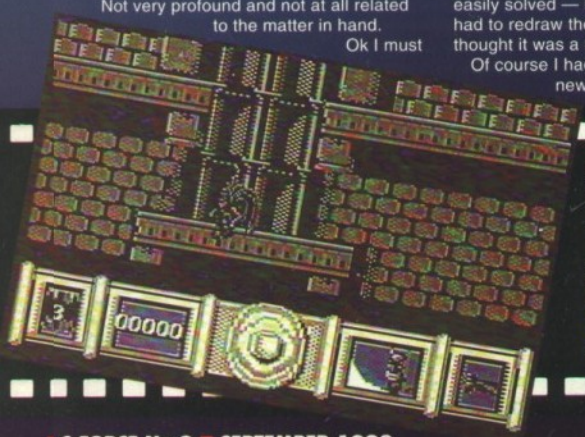
The average programmer takes about four hours per platform and a partially trained mongoose takes no time at all 'cause it's got enough sense not to play in the first place.

Stairway to hell

When's a platform not a platform? When it's thought up by an artist. Stairs are all very pretty, as are sloped roofs, but give me a flat platform any day — left, right, top and bottom edges will do nicely.

I could really do without stairs. To make them, I have to create a box that surrounds the whole area, figure out how far from the left edge Batman is, add this onto the bottom of the stairs and see whether this value for the vertical direction is where Batman actually is. If all works out according to plan he's able to scale the stairs.

With the backgrounds, bullets , power-ups and Batman all working with the new multidirectional



ETURNING!

scroll, it was time to concentrate on Catwoman.

She had to be smart to give you a tough time on this level. This means I had to simulate intelligence that took several million years of evolution in less than tens of thousands of years of C64 processing.

The code had to be quick, and the best way to get code to run fast is to work it off data which avoids having to make lots of complex decisions. Unfortunately, there was no memory left for huge amounts of data, which meant I was going to have to use some higher brain functions — never an easy thing at the best of times. You couldn't hear me complaining, though — not if you were wearing ear muffs, anyway.

Catnip

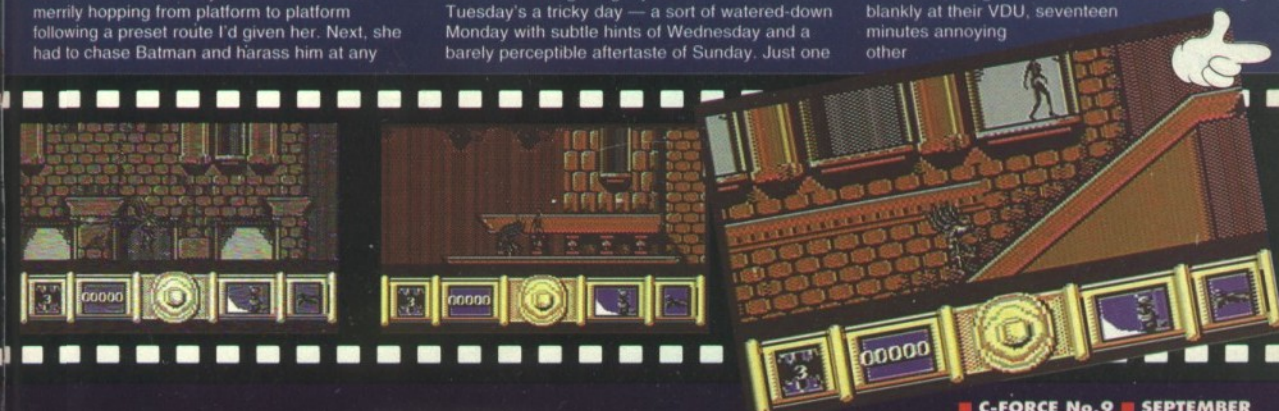
Despite Catwoman's early insistence on not moving (I'd forgotten to take out the bit which changed her screen position when I was setting up her sequence) the game was shortly afoot. Platform collision data was already in, and the code written for Batman needed only a little modification for use with the cat herself. In no time at all — well, a day — Catwoman was merrily hopping from platform to platform following a preset route I'd given her. Next, she had to chase Batman and harass him at any time — this wasn't easy. First she needed to move toward the platform Batman was standing on by walking left or right. Secondly, she had to jump if Batman was above her. Thirdly, she'd drop down if Batty was below her — if the platform he was standing on was smaller than the one she was perched upon, she needed to walk left and right looking very confused. Following this I had to make a cup of coffee and wander around sulking, before actually sorting the situation out. There were many things to consider — a particular problem was working out how to get her to jump onto a series of successive platforms in order to reach Batman. It took four days to get this sussed so imagine how long it would take me to explain it. I won't bother if it's all the same to you.

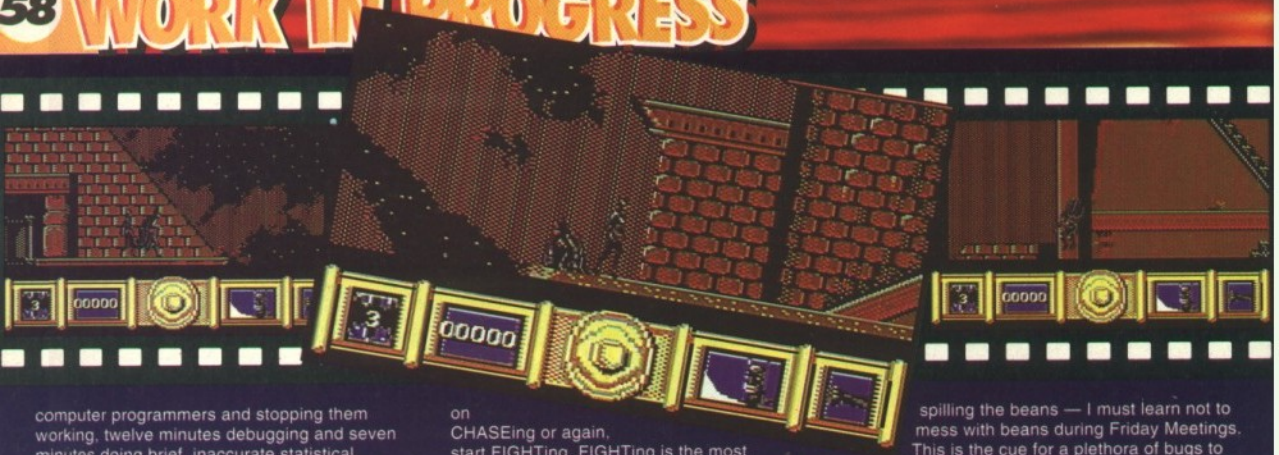
In the beginning there was nothing. Space and time simply didn't exist — a tricky concept, but take my word for it. Then lots of stuff happened — far too much to chronicle in this short space — which brings us nicely to the present day and avoids quantum physics, molecular biology, evolution and the concept of soul which aren't the easiest things to get your head round either. Tuesday's a tricky day — a sort of watered-down Monday with subtle hints of Wednesday and a barely perceptible aftertaste of Sunday. Just one more day in the exciting life of a computer games programmer. Where was I? Oh yes, I was on the previous sentence. Caffeine is a very pervasive drug.

Giant Haywire Stacks

Let's talk Bugs. When everything goes completely haywire for no apparent reason, almost instantly you'll find half a dozen programmers standing behind you rubbing their chins in a vain attempt to appear knowledgeable, saying 'Look's like a stack problem to me' or 'Is it your stack?' or 'I think it's the stack' This is not so bad if you're busy writing a computer game but if you're in the middle of an exam it's very annoying. It was, of course, the stack — one PLA too few, or one PHA too many, depending on your outlook on life.

Someone once worked out that for every hour a computer programmer spends writing code, they spend four minutes on the bog, eight minutes making a coffee, twelve minutes staring blankly at their VDU, seventeen minutes annoying other





computer programmers and stopping them working, twelve minutes debugging and seven minutes doing brief, inaccurate statistical studies. Out of six programmers questioned, one asked me to politely go away and five threatened me with physical violence. Too much caffeine, if you ask me.

Logical, well-considered thought has its place as a problem-solving method, but you'd be one Yank short of a major military intervention if you didn't just jump in with both feet sometimes. Get hold of your code by the scruff of the neck and give it a right good kicking — that's what I say. You've got to be cruel to be kind — so if this doesn't work, get your fingers on the delete key and ask, with your best Clint Eastwood impression, whether it feels lucky today. Sometimes it works, sometimes it doesn't, but at least you feel better for it.

Structure is important when it comes to AI (we like to make ourselves sound clever by calling our baddy code 'artificial intelligence'). Catwoman has three main modes of operation — PROWL, CHASE and FIGHT (that's what the routines are actually called). These can then be subdivided into smaller routines that can be shared across them all — JUMP, LAND etc. BATPROX is a simple but essential routine which figures out how close Batman is to Catwoman — it's a substitute for eyes. Whilst PROWLING, Catwoman will ignore Batman while he's still fairly close, but if he get's too close she'll use FIGHT code. CHASEing always takes into account Batman's proximity, where Catwoman can decide whether to switch to PROWLing if he's miles away, carry on CHASEing or again, start FIGHTing. FIGHTing is the most important part — specialist routines are needed to decide what offensive or defensive manoeuvre is going to be made. A typical Catwoman thought structure would be something like:

AM I DOING A FIGHTING SEQUENCE ? NO
IS BATMAN FAIRLY CLOSE ? YES
IS HE CLOSE ENOUGH TO SCRATCH ? NO
IS HE CLOSE ENOUGH TO BACKFLIP AT ? YES
IS HE ABOVE, BELOW, LEFT OR RIGHT OF ME ? LEFT
INITIATE THE LEFT BACKFLIP SEQUENCE
EXIT ROUTINE.

Next time round it would be something like —

AM I DOING A FIGHTING SEQUENCE ? YES
CONTINUE SEQUENCE
EXIT ROUTINE.

All sounds very simple, but with tweaking (and a few other bits I'm going to let you in on) it should make for a good old scrap.

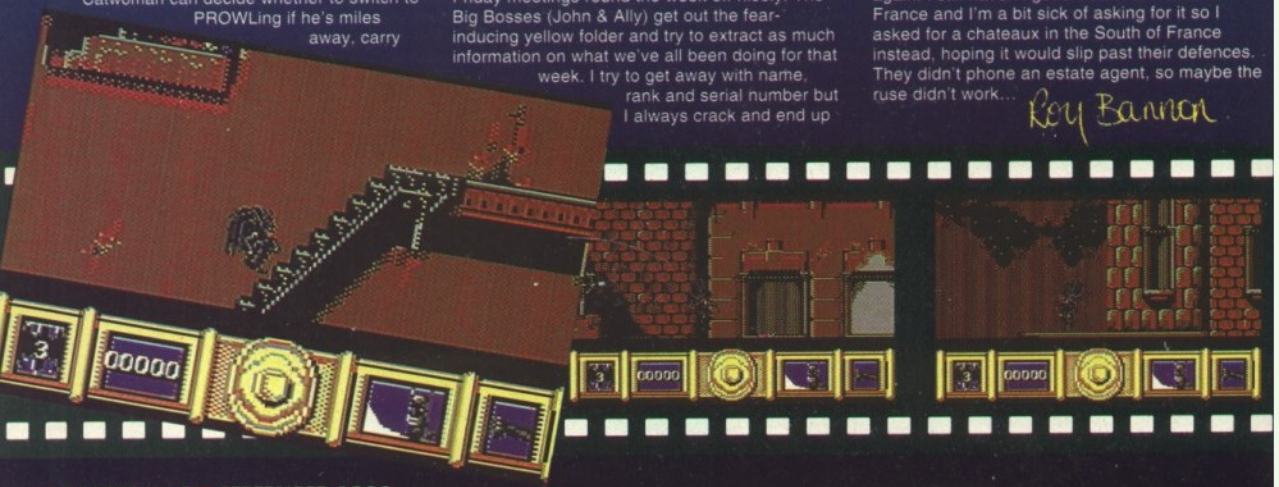
It makes perfect sense when you think about it. If you were asked to make a computer programmer a cup of coffee (mine's black with no sugar) your brain would probably think:

GO AWAY AND MAKE YOUR OWN (in a less user-friendly manner)

Pleased to meet you

Friday meetings round the week off nicely. The Big Bosses (John & Ally) get out the fear-inducing yellow folder and try to extract as much information on what we've all been doing for that week. I try to get away with name, rank and serial number but I always crack and end up spilling the beans — I must learn not to mess with beans during Friday Meetings. This is the cue for a plethora of bugs to make their appearance. Having spent all week in a sloth-like stupor they burst into life, and just as you're saying the scroll is working — cheerfully demonstrating it in all its glory — the screen goes haywire and a tiny high-pitched giggling sound can be heard. This is where the lines you've been practising all week come in handy 'Oh that's probably because of the fabbo-collision-detection-parameter-reduction-enabler code I've just written which isn't quite working yet.' Unfortunately, John's a programmer and normally cottons on that this isn't quite the truth. FIX SCROLL BUG is written down in the WORK FOR NEXT WEEK space. Then it's Ally's turn to spot lots of petty things only an artist is bothered about, like some of the sprite colours being wrong or the screen being full of total gibberish. No amount of cajoling, whimpering or throwing of tantrums will stop her noting them. What seems like hours later, but is in fact only about 120 minutes, it's my chance to get my own back. PROBLEMS ARISING is good fun — this is where I have a good whinge about anything I feel has hindered my coding during the week. The state of the nation and England's poor form in the World Cup Qualifiers are always safe bets, but a short while reading the international news the previous evening can help bring about a form of balance — coffee production levels in Bolivia being one of my favoured topics. Next up is REQUIREMENTS and their turn to sweat again. I still haven't got a villa in the South of France and I'm a bit sick of asking for it so I asked for a chateaux in the South of France instead, hoping it would slip past their defences. They didn't phone an estate agent, so maybe the ruse didn't work...

Roy Bannon



BATMAN RET

Games programming is often a tedious affair; the endless hours of codes, coffee and 'stack errors' become a little too oppressive after too many late nights. Apparently. Bearing this in mind, the Dentons mob went on holiday. When they returned, Roy Bannon decided that *Batman Returns* could take a hike this month, and he'd tell the world about his vacation instead. Never ones to restrict creativity, we let him relate his tale...

Batman Returns and games programming may be very interesting, but once in a blue moon or every other month of Sundays — whichever is the longest — something wildly exciting (to me at least) happens.

'We're all going on a summer holiday'. Is it a modern day credo, or a rather naff pop song — can anyone say for sure? Still, the fact remains we were all going on a summer holiday, all set for fun and laughter for a week or two — well, a few hours or so at least. A holiday is a holiday nevertheless; be it in exotic climes or just down the road in New Brighton — believe you-me, it counts all the same. Let no-one tell you that distance is a guarantee of excitement and proximity a recipe for boredom. Some of the most thrilling adventures one will ever experience are to be found on one's own doorstep. Take the pyramids, the Mardi Gras carnival, the Orient and leave me good old New Brighton — truly a shining, facet upon this gem of a land. New Brighton, where purest waters roll onto silken sands, where the pressures of life are lifted from one's shoulders by

URNING!

the gentle hands of serendipity and the seagulls serenade each soul that comes to experience its pleasures. Yes indeedy.

A squall gathered to the east and moved so rapidly towards us that I found myself leaning backwards, almost falling as I watched it approach. The grey blanket of cloud contorted, it's litheness hinting at the power locked within it, and passed above us to sit like some fearsome succubus upon our hearts. For a few short moments, beneath that dread veil, we stood silenced by it's majesty — then the rain fell. A tsunami of water thrashed at us, bending our heads to the ground where puddles formed instantly, merged in seconds and soon formed a boiling, frothing lake as far as the eye could see. We stood shocked, soaking, all conscious thought driven from our heads by the noise that could have been some unabating explosion or perhaps even Armageddon itself.

Meanwhile, back in reality, it was your average sort of not very nice but not terribly nasty day. The sun shone when it could be bothered and didn't when it didn't, the clouds lightened and darkened for similar reasons and fortunately the ground was content to just lie there and not do much at all.

Too see the sea...

The seaside can be a pretty interesting place after you've passed the boredom threshold and gone beyond the apex of ennui. Suddenly, even disgusting black seaweed seems interesting. Picking it up and chasing someone for half a mile down the beach seems like a really fun thing to do — even if you hate the touch of the stuff, and the person trying to escape couldn't care less if you rammed it down their throats. Still, you have to laugh, don't you? Crabs are a real hoot too — I spent a good half an hour watching one male it's slow, stately progress into the water before someone kindly pointed out that it was dead. Some people are just spoil sports.

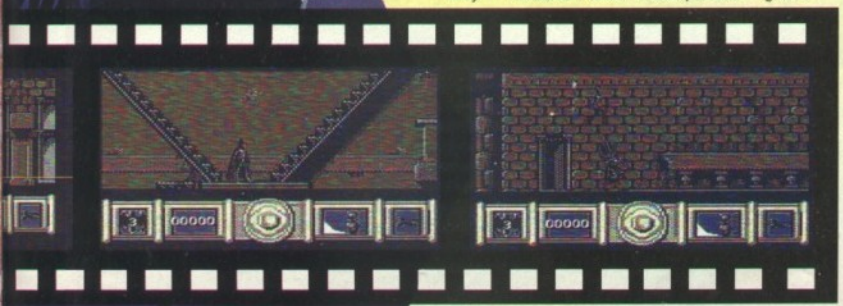
The major drawback with a day out at the beach is — of course — sand in your socks, shoes, hair, butties, ears, nose, eyes, lungs, lower intestine, spleen, ventricles, synapses, sinuses, sub-glutinous tissues, major arteries and, most terrifying of all, underpants.

Inevitably, someone suggested a game of frisby. Yawn! I pointed out that we didn't have a frisby, which was a bit of a mistake, because then we had to find one — I reckon we probably could have got away with a game of 'invisible' frisby. A few hundred or so shops later, we found one within our price range (50p) and made our way back four miles to the beach. I reckoned it'd take everyone about 10 minutes to realise just what a tedious thing frisby throwing is, but overestimated by a factor of 10 or so. The petulance started almost immediately. 'You're crap', 'The wind blew it off course', 'I'm not going to get that', 'This frisby's no good.', were familiar battle cries for as long as the game lasted. Almost exactly 60 seconds after we'd begun, an equine came into the equation. We all stood around a small, circular piece of blue plastic lying in what is best called a steaming mass, wondering about the sagacity of playing near the donkey trail. No-one was too intent on rescuing the frisby, and I thought that was that. Someone suggested buying another frisby and was comprehensively glowered at. Then, in a moment of misunderstood sarcasm, I proposed a game of French cricket. To my dismay this was heralded as a cataclysmically brilliant idea and with a budget we were off round the shops again. Luckily, (for me, anyway) £2 won't buy you even the most pathetic cricket bat and ball. I tried to hide my grin as we all sat on a wall outside Woolworth's, pondering inflation and getting all morose about how things had changed since we were kids.

Fish and Chips. It's got to be really. You may fancy a pizza or a burger but you've got to have Fish and Chips (and no, you can't have a pasty!). As an extra special treat (and because we were all cold and tired by now) we went to one of those places where you sit down to eat your fish and chips. The one we discovered was called something really witty — 'Seaside Plaice'. It was perfect — green and white plastic table-cloths, dirty cutlery, clogged salt and pepper pots, food stained menus and a waitress who exuded loathing for us tourists with a reassuring intensity. The fish was full of bones, the chips were cold, soggy and very artistically spread across the plate to give the impression that there was more than half a dozen of them. There was ample butter on the bread but unfortunately it only covered a very small area and resisted all attempts to spread it. Consequently we each got four mouthfuls of dry bread and one sickening mouthful of pure fat. The tea looked fairly nice but no-one dared risk putting their lips to the mugs, not knowing how close the nearest hospital was and whether you could bleed to death through your lips. Still, it made the cold world seem better when we made it out. Which, I'm sure, we only just managed — the waitress was holding a large knife as we paid the bill and there was a glazed look in her eyes. We left a sizable tip bargaining on the fact that we'd probably get out alive as long as we ran like hell whilst she fumbled around in the till.

In search of amusement(s)...

To the beach or to the amusement arcade? It was a tough decision — the beach was free and the amusement arcade wasn't . It started to spit so we plumped for the amusement arcade. First port of call for me was the Penny Falls — or the 'Pennies Completely Defy Gravity', as they should be more accurately named. Someone dragged me off then when I started ranting and threatened to break into another quid in my vain attempts to get any to fall. 'Just one', I cried. 'If just one falls, I'll stop. They move, why don't they fall?'. I'd barely taken two steps away from the machine when there was an amazing clatter, and I turned back stunned to see a little old lady casually stuffing her pockets with the pennies I'd been inadvertently priming for her. Bah. Skeet shooting next. Ten pence to point a lump of wood (that would almost resemble a shotgun if it wasn't the cello tape and the 45 degree kink halfway along) at a barely perceptible glow on a section of cloth painted with green things which were, presumably, meant to be trees. The large, red LEDs seemed to indicate I'd scored 175 points and, as a test, I parted with another 10p and scored 175 without even lifting the gun. Hmmm. All this time, calling to us silently but irresistibly, were the bingo seats all down one wall. We knew that the prizes were worth less than the entry charge, we knew we had minimal chance against the expert grannies, we even knew that Bingo was probably the most facile form of entertainment thought up since fish massaging, yet we couldn't resist. 6 minutes 47 seconds later... who knows? I may have won if I hadn't been looking at my watch constantly. Afterwards, we were all 50p worse off but quite relieved we didn't have to spend the rest of the day carrying around a brass flower vase that could single-handedly spoil the decor of any room in any house on the planet.

We left the arcade and with a deep regret (that it hadn't happened much earlier?) we made our way back to the car. We had a game of count-the-coloured-cars which I — rather surprisingly — won with dark grey, when several Panzer divisions passed us going through the Mersey tunnel.

I went to bed tired but content (although I couldn't tell you why) and started dreaming about bits, bytes, pixels and the strange inhabitants of Gotham City...