THE SPECTRUM SHOW
Magazine

RECREATED
SPECTRUM

MICRO-PROLOG
ANOTHER LANGUAGE EXPLORED

PLUS
MAKING CODE ZERO
part 2

Includes material not in the video show!

PLAY BLACKPOOL
Report from the event...

FLASHBACK 87

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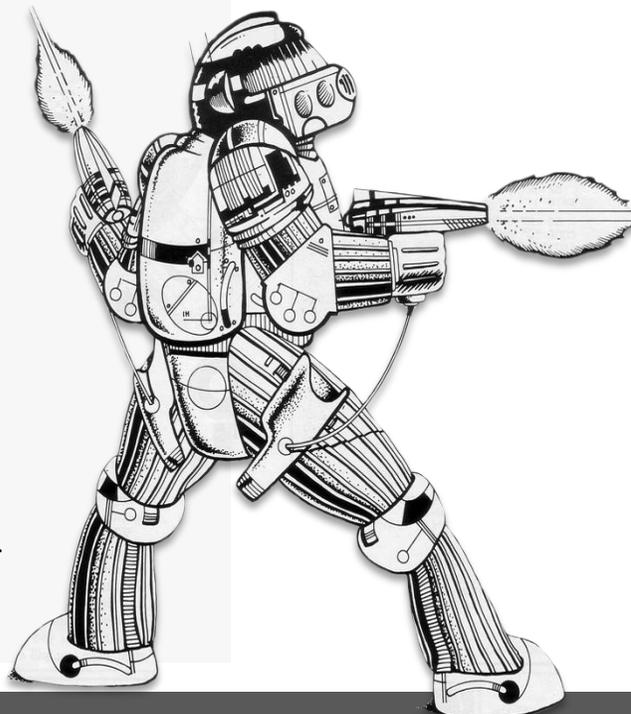
Welcome to issue 23 and thank you for taking the time to download and read it.

Those following my exploits with blown up Spectrums will be pleased to hear they are now back with me thanks to the great service from Mutant Caterpillar Games. (see P29)

All machines are now back in their cases and working fine ready for some filming for the next few episodes.

This issue has been delayed due to a number of factors, none of which I'll mention here as they are not really related to computing or the show. Nothing bad, in fact something brilliant - enough said ;-)

Play Blackpool is on us again, and I was there again, this time Geoff came along and we set about playing as many arcade games that were converted to the Spectrum as possible.

We wanted to see which were the best and worst. And we had a fine time doing it.

There were plenty of arcade cabs as usual, and I grabbed a few games on Galaxians, Asteroids, Gyruss and Star Wars, Commando and Pole Position.

The atmosphere in there was great, and reminded me of those dingy arcades at the seaside when I was a young lad. Not that the place was dingy, it was more the sights, sounds and feelings.

Those who saw the review of the TZX Duino in episode 76, and my subsequent tweet will know I found that this great little device could also load ZX81 games.

With that info, I set up my little micro and began to play some games. I will be putting together a Patreon special about the ZX81 as a result, so keep an eye out.

I was amazed at how many games on that little machine were actually later released on the Spectrum. I knew about the well known ones like Pimanian (Automata), Invaders and Galaxians (Artic), Space Raiders (Psion) and Mazogs (released as Maziacs). I didn't know Oracle's Cave was released on the machine though!

Talking of Patreon, I must thank all those who support me and help with the show. It really does make a huge difference - THANK YOU.

Now, over to you, let's see how many of you read this thing, and if it is even worth me continuing if there are only two people downloading!

Write To Me

I want your letters. Just like the old mags. It doesn't matter what they are about as long as it's computing related (hopefully the Spectrum - but lets leave it open for now).

I'll publish the ones I can, and provide answers where fit. Let's try to get enough just for one issue at least, that means about five. There is your challenge.

The old school magazines had many sections as well as game reviews. They had interviews, previews, adventure helplines, game tips and maps. I am not sure any of this is possible in this magazine.

Previews are tricky, as not everyone shows what they are working on. Help, tips and maps are always available on the internet, but I suppose it may be worth adding a few for the newer games?

Again, let me know what you think. You can get in touch via the website.

Fancy writing a game review or special feature?
I am always looking for new content and all contributions are welcome.

Want to support the show and this magazine?

Patreon/thespectrumshow

PLUS3 HERE - SORT OF

Amstrad's latest and much hyped new Spectrum, the Plus 3 will be available to buy in July, so claim the manufactures.

The new machine is based on the previous plus 2 model but will replace the tape deck with a 3 inch disc drive. It will come with six free games including Gift from the Gods, Cosmic Wartoad and Daily Thompson's Supertest.

The asking price is said to be higher than anticipated, costing £249.

Locomotive Software have also confirmed that it's operating system, CP/M, will be available for the machine at release. The company wrote the disc operating system for the new Spectrum and added in compatibility for the Amstrad discs. They will also be supplying Mallard BASIC to run on CP/M.

SPRINT PROBLEM

Codemasters and Activision are embroiled in a tussle about the budget game Grand Prix Simulator. The game released by the UK software house, according to Activision, bears a striking resemblance to their game, Super Sprint. So much so that the American giant has threatened legal action if the game is not withdrawn.

Codemasters so far have refused to be bullied, saying the only similarity is that they are both top-down racing games. Other than that there is nothing that can be said to have been copied.

The lawyers have stepped in and are now arguing through the matter until they have earned enough to buy a new Aston Matrin … each.

MORE Z88 DELAYS

It seems to be a recurring problem for Sinclair, with most, if not all of their hardware having some kind of delay, and the Z88 will follow that trend.

This time Clive Sinclair claims the delay is being caused by last minute software problems. He said they have all the individual components and now need to put them together so they can be added to the machine.

Units are not expected now until mid May, but that hasn't stopped the advertising standards authority from firing warning shots at Sinclair for not having the release date on its mail order adverts.

GADGET DROPPED

With the buy-out of Melbourne House by Mastertronic, the much advertised game Inspector Gadget and the Circus of Fear has been shelved. The game, which was almost complete, and even review copies had been sent out, was not, according to Mastertronic, good enough to be sold.

The game, written by Beam Software was based on the kids cartoon, but it seems even the authors agree with the decision, stating that Mastertronics choice was ' a fair decision'.

All is not lost however, as Beam still hold the licence and plan to make a new game soon.

Cascade Games 1989

A clever (or in my opinion crazy) professor has injected a growth accelerator into his own brain in the hope of becoming super intelligent. Obviously it all goes wrong and an explosion causes him to drop into a coma. The only way to save him is to jump into your assault craft, shrink down to minute size and get injected into his body.

Sounds like the plot to Fantastic voyage to me! Once in the blood stream you have to fight your way through the body, but because the crazy fool has inserted other things into himself these must first be neutralised by collecting certain keys that open up new areas.

You also have to collect the eight pieces of the inhibitor (which look like a snake that's swallowed an egg) to be able to finally reach the implant and stop it.

So.. as you have guessed by now.. it's a shoot-em-up...

You fly around shooting things, but on rails. You fly to the end of the level, collect a key, turn around, fly back and jump through gaps in the roof or floor to the next stage. Rinse and repeat...

The scenery does change every now and again and there are power ups,

the usual things like speed up, vertical fire, rapid fire , you know the stuff.

The graphics are large and smooth with a variety of backgrounds, but with similar things to shoot on each level, It is inside the body after all!

Control is responsive and the game play is fair. It's not too difficult to get into but some sections like the white blood cell meteor storms can be tricky.

Sound is a bit poor, even on the 128k machines, with basic beeps only for firing and collecting power-ups. There

is nothing for explosions, section transfers or the ground based lasers.

Hang on... ground based lasers inside a human body! That must have been some crazy professor!

As you know, I like shoot-em-ups but for some reason I am not too enthusiastic about this one.

An average shooter then that you might want to give a try.

Zorba, Kyv, diver4d, Quiet, nq, karbofos 2018

BOBBY CARROT

When I was younger, puzzle games weren't my cup of tea. I played a few classics like Lemmings or Tetris but preferred arcade and simulation games. A few years ago things changed and now puzzlers are my favourite games. There are many titles of this genre for the Spectrum, most of them were made in the past but there are also new puzzle games. The one I'd like to review was released this year, 2018.

Bobby Carrot is a Spectrum version of a game you may know from mobile phones. You control a rabbit called Bobby and your task is - depending on the selected type of game - collecting all the carrots or placing Easter eggs in the nests.

The first levels are easy but the difficulty level gradually increases and new things appear: switches to operate, padlocks to open, conveyor belts and rotary stones. Some of the levels are really hard and require a lot of thinking. Fortunately there is no time limit, so you don't have to hurry. At the beginning you have only one life but completing a level is rewarded with an extra life. Lives can be lost when Bobby falls into the trap or when he can't make the next move (for example when a padlock blocks the way out and you don't have the key).

If completing a level is not enough for you there is also an additional challenge - you can try to complete every

level with the minimum number of steps and in the shortest time. Best results are kept in a High-score table.

The quality of graphics and sound depends on the capabilities of your computer. On the standard Spectrum with 48k of RAM the visible area is small and sound is reduced to a very simple beeper tapping. Adding an AY chip improves sound a lot - there are good effects and in-game music. On Spectrums with 128k of memory the game area is displayed full screen. In general the graphics are very good and faithful to the original game.

Bobby Carrot is a very addictive title with 50 puzzles to solve. I enjoyed playing it and if you like puzzle games you'll probably enjoy it too. The only disadvantage is the lack of level codes or save game option. But if you can make snaphots it won't be a problem.

Reviewed by Piotr "PopoCop" Szymanski

DEVILS OF THE DEEP

Richard Shepherd Software 1983

STRENGTH 100 OXYGEN 50 MINUTES
You see a rope leading up

This game claims to be a stunning 3D graphic adventure where you take the part of an intrepid underwater explorer, looking for treasure in the underwater city of Atlantis. It all sounds exciting but upon loading, I couldn't help thinking "have I loaded the right game?"

The screen draws really slowly, starting off with items at the back of the screen, and placing objects that are 'closer' to the front in steps. The whole screen takes about 10 seconds to draw.

Then the player is placed on screen. A large, red odd looking figure with a round head, presumably a diving helmet. You move about, slowly, picking up useful items like knives, spears and if you can find it, a spear gun.

The knife is used to cut seaweed for you to eat to keep your strength up. It seems you can stuff the seaweed through your helmet without drowning too.

You can jump to adjoining screen by holding down the SHIFT key, which is the best way to move about until you spot something you need, or get bored.

You have a limited amount of oxygen and this can be replenished by picking up oxygen cylinders that someone has scattered about on the ocean floor.

All the time you are using strength and oxygen as you shuffle around the various screens that all look the same apart from the different height and number of square blocks. All this and you haven't even found the spade yet! The spade is used for digging, and digging finds the treasure.

The graphics are not what I would call stunning as claimed by the inlay, in fact they are terrible. The sea bed is pretty much the same regardless of which screen you are on with random placed items added.

The gameplay is dull and slow as you plod about and as I suspected, this game is written in BASIC.

Richard Shepherd did this with Transylvanian Tower. The game loads BYTES instead of CODE and there is a special code to drop back to basic.

This game also loads BYTES and pressing BREAK at the right time sure enough gets you into the listing, which was more interesting than the game.

Back to treasure hunting then and eventually you will meet the 'Devil of the Deep' - a huge electric eel. If you meet this chap you can either shoot it if you have the required items, or run like hell or hide behind a column until it goes away.

As you move you slowly watch as your strength drops knowing you are never going to get that seaweed and inevitably you die.

What a relief... I can move on to something a little more... exciting... like painting the shed...

SPAWN OF EVIL

DK'Tronics 1983

You can fire normal lasers by hitting the fire key or cluster bombs by holding the fire key down. The cluster bombs are not as accurate as the lasers though.

The graphics are ok for a 16K 3D shooter and things move smoothly around the screen. Sound is used well with some nice firing and explosion effects.

Control is responsive and this game can be challenging, especially if you opt for the game keeper approach.

You have to be careful though, if you allow three eggs to form, they enter seek and destroy mode and come hunting for you!

Overall a nice simple game that can be played in different ways, each of them enjoyable.

The plot, and yes there is one, is very complex but I'll try to simplify it if I can. Huge alien eggs are spewing out smaller breeding aliens. If these meet they turn into larger aliens. If these meet they turn into eggs and the cycle continues. It is your job to keep them under control.

You have two strategies here, take out everything as quickly as you can and complete the game with a low score (which can be done in about 6 seconds) or wait for more aliens to be produced and act as a kind of game keeper. The trick is not allowing too many to breed thus getting a massive score when you destroy them. All this is explained in a nice manual on the tape.

Once into the game and we get a rather nice 3D space shooter, especially considering it's a 16K game.

If you do not touch any keys for a few seconds you will go into scanner mode. Here you can locate the eggs, aliens and fusion points. Press a key and you are back in the action.

Hibernated 1: This Place Is Death

Pond Soft 2018

```
LABORATORY

When the ship was built, great importance
was attached to equipping this place with
the latest technology. Today much is
probably obsolete. Nevertheless the lab
supports a range of focal points such as
medicine, biology, chemistry and
technology. A door to the EAST is the sole
exit.

You notice:
Lab computer
specimen cube
interface cube
medicine cabinet

What are your instructions?
>
```

Hibernated 1: This Place Is Death is the first part of a trilogy of interactive adventures written by Stefan Vogt. You take on the role of Olivia Lund whose hyper-sleep is interrupted when her ship, the Polaris-7, is caught in the tractor beam of a mysterious alien vessel. With no evidence of life on the alien vessel and little chance of the Polaris-7 being released, Olivia's only choice is to start exploring the mysterious ship. The game crosses the boundary between novel and adventure, with a rich descriptive text and detailed, well-thought-through background story, which is revealed as you progress through the game.

Hibernated 1, which is developed using an evolution of Gilsoft's Professional Adventure Writer called DAAD, uses the standard two-word command-entry system plus the usual abbreviated for movement (N,E, S, and W), listing your possessions (INVENTORY), and so on. The interpreter is very good, so there is little chance of getting frustrated trying to find the right form of command to perform an action, plus the game gives useful hints for when you need to do something a bit more unusual, or when you have given a reasonable command, though at the wrong time.

If you read my previous review of "Adventure A: Planet of Death" [Spectrum Show Magazine, Issue 22], you may remember that I am not an experienced adventure-game player. However, spurred on by my success with Adventure A, I decided it was time to progress to something a little more sophisticated, and Hibernated 1 is a suitable next step. The game is much bigger and more complex than Adventure A; though that is not a criticism of Adventure A, which was written in the early days of computer gaming for the constrained memory of a 16kB ZX81.

A good first step is to properly explore your Polaris-7 spaceship. There is lots of useful equipment (and information) that will help you and your trusty communication droid, Io, to explore the alien vessel and work out how to access restricted areas deeper within the ship. As you progress through the game, you will unravel an intriguing tale about the fate of the ship's crew, and get a glimpse into the aliens' culture and civilisation.

The puzzles in Hibernated 1 are logical and well thought-out. With the trusted techniques of drawing a detailed map and of examining everything, you should be able to piece together the solutions in a reasonable time, though it will probably require multiple sessions. Further, the HINT command will give a clue as to how to progress past the next major obstacle. If you are real-ly stuck, you could try sending a tweet to the author or looking at the solution available on the Internet. However, I suggest you avoid looking at the solution, if at all possible: one of the biggest pleasures in playing text adventures is the moment when you solve a puzzle and learn something new and important. You won't get that same rush of satisfaction if you resort to someone else's solution.

As well as having an engaging narrative, the game also has some considered touches. For example, to return to the Polaris-7 ship (as I hinted before, something you need to do frequently), you can simply enter GO POLARIS, rather than navigating step-by-step out of the alien vessel. Providing you are wearing your spacesuit, this will take you immediately back to your ship. Also there is a RAMSAVE (and RAMLOAD) option to allow you to quickly save your position, before you try something risky or dangerous.

Being written with the DAAD system, Hibernated 1 is available for a range of

1980's micros. This includes a Spectrum 48k/128k tape version and a Spectrum +3 disk version (sadly, saving your progress to disk is not supported in the +3 version, though this is planned for a future upgrade). It is also possible to run a CP/M version on the ZX Spectrum +3, provided you have a copy of (for example, Locomotive Software's) CP/M Plus. This version does support saving your progress to disk, so works around the limitation of the native +3 version. As distributed, the CP/M version is set up for the 80-column Amstrad CPC display, so to run the game properly on the Spectrum, you either need to use Locomotive's split-screen, 80-column mode or—better still—configure the game for the 51-column display using the PAWINST program that is distributed with the CP/M version of Professional Adventure Writer[1]. The native Spectrum +3 version is probably better than the CP/M version: it includes an easy-to-read, 40-column display mode and has faster screen updates. However, if you have an irrational fondness for CP/M, like me, or if you want to plan on real hardware, then it is an option.

Hopefully I have inspired you to give Hibernated 1 a go. The game can be downloaded from the web [https://8bitgames.itch.io/hibernated1]. You can play it for free though, if you like it, I would encourage you to make a small donation to help support Stefan to write more games. Alternatively, you could buy a real-media version of Hibernated 1, due to be released in the near future. The real-media version will include a bonus game, called Eight Feet Under, which focuses on one of the lesser characters who helps out Olivia in Hibernated 1.

At the time of writing, parts two and three of the trilogy are still being written: Stefan tells me that the games are written on paper, though still to be coded into a computer. I think your appetite will be whetted by part one.

Review by: George Beckett

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[1] If you use PAWINST to reconfigure Hibernated 1 for Locomotive's 51-column display mode, then you should also set the screen-clear sequence to be '1B45', so that the screen updates correctly.

Activision 1989

Time scanner was originally released into the arcade by Sega in 1986, and was different from the usual arcade games in that it was actually an electronic pinball game. It simulated pinball, but there was no mechanical parts, it was, a pinball simulator.

In 1989, Electronic arts released the Spectrum version, mimicking the tables, play and sound, at least to the best ability of the Spectrum.

The game features several tables but to get to them, you have to complete certain tasks, so you can't pick which one you want to play. If you want to win the game, you have to complete all the tasks on all three tables.

The first table is the volcano. Here you have to simply light up all the letters to spell volcano.

To do this, you have to fire the ball into the central ramps, these in turn are blocked by bumpers. So, hit the bumpers to drop them, fire the ball into the ramp and one letter lights up.

I think you get the idea.

To release the ball, there is no emulation of the plunger, you simply hit one of the flipper keys when the plunger is in the place you want it and the ball
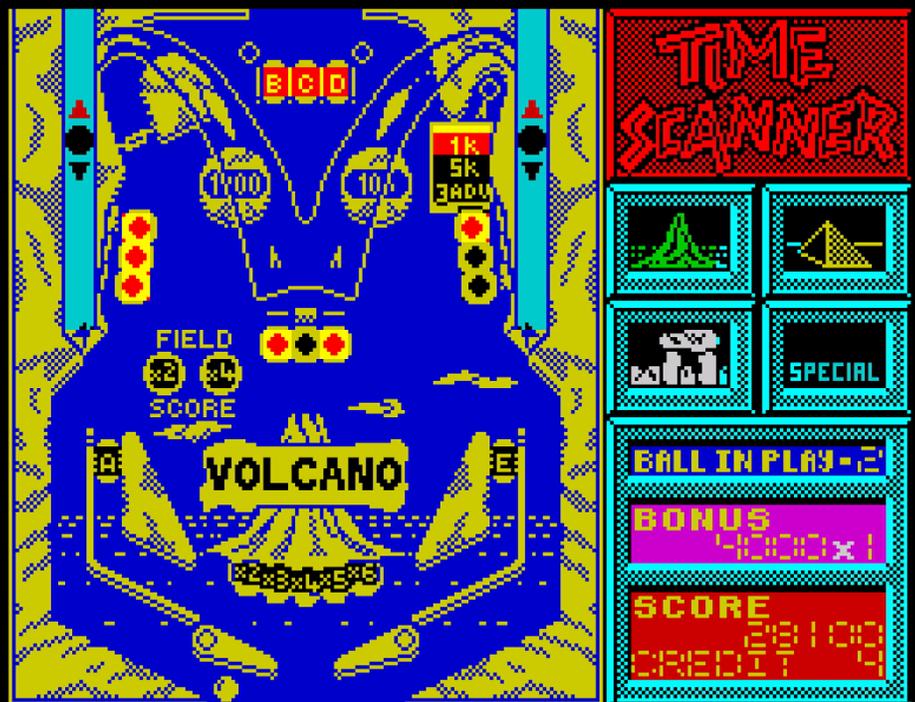
goes shooting off to the top of table and its time to play.

The tables are two screens high, and scroll up or down when the ball moves onto that section. There is no constant scroll we have come to expect from modern tables, just a push scroll when the ball leaves the bottom of the screen, to reveal the bottom half of the table. This can be a bit off putting, as you don't know what the other half of the table holds until you get there.

The ball movement is sometimes a

little odd, slowing down and speeding up, which can sometimes mean the difference between a good shot, and losing the ball.

The graphics are great. Well drawn tables that resemble the arcade, although the second table, Egypt, is a little cluttered due to the textured background. That is, if you can get there. It took me a long time to complete the first table!

Game play is excellent, this really is a great pinball game for the Spectrum.
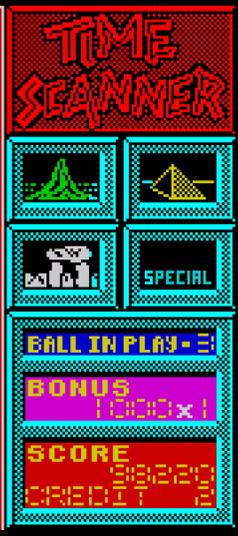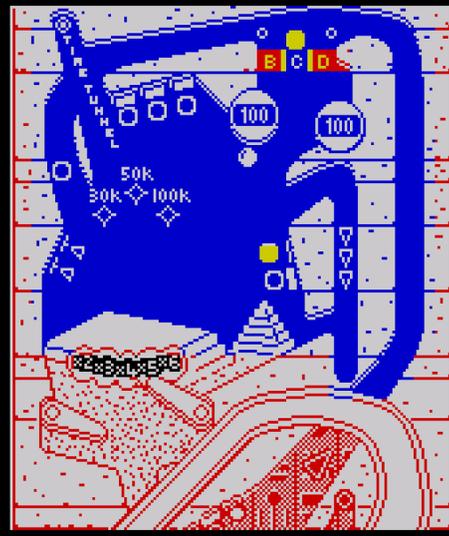
There are bumpers, ramps, cushions, lights, buzzers and the usual array of things to be found on real tables.

The sound is also good, with nice music playing in the background and some great sound effects.

If you like pinball games, then this is certainly one of the best I have played on the Speccy. The variety of tables is good, and each one has a different challenge.

Everything comes together to make a great game, and one I spent a long time playing.

The only bad thing I can say, apart from not being able to play which table you want, is that it seemed not to like my divIDE. It refused to load and crashed the machine. I had to go back to good old fashioned tape loading… ah the memories…

Overall then, a great game that comes highly recommended.

Making Code Zero

The full un-abridged version—Part 2

Building The World

Continued from issue 22….

With the basement now complete and looking really nice, I moved on to the next floor and quickly started throwing graphics at it.

I had much more control over how each floor and room looked compared to the BASIC version and I wanted this floor to be a processing plant of some kind. I added vats of liquid and some animated bubbles to add a bit of motion. I also planned on adding some kind of dripping acid, so this style of background would be perfect for that.

The original BASIC version had multi-coloured pipes, but I tried to keep things dark blue here, to maintain the dingy atmosphere. I did, in the end, add some red pipes though because there was just too much blue!

Keeping faithful to the original, some rooms had areas, for example the entire top level, that could not be used and was there for decoration.

I continued working on the first floor, planning how each door would work, how each ladder would work and where any enemy sprites could be.

New version

Countdown. The BASIC version from 1987. First floor pipe work and bubbling vats.

CARD=   TIME LEFT=147
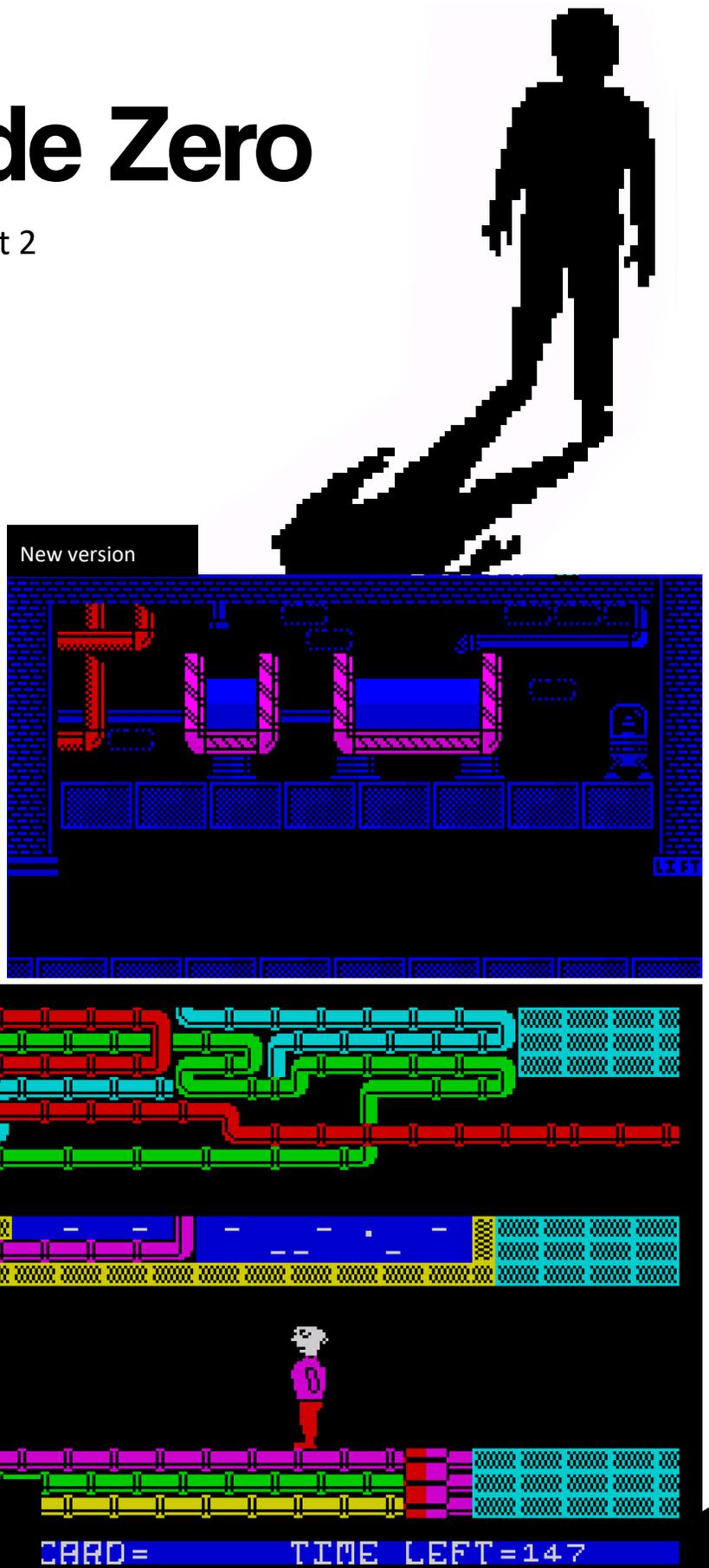
As I was testing the rooms it became apparent that you could walk around without too much peril. There was no enemies to avoid or traps to catch the player out. Staring at a large blue vat of liquid I came to the conclusion that it must have a leak and therefore it would be dropping acid or other lethal material. This would act as something to dodge and slow the player down, which is a good thing in a game with so few actual screens.

The drops of acid were quickly added along with the simple code of moving them down at different speeds until they hit the bottom floor at which point they would re-spawn at the top again. A pretty simple idea that works well and adds some danger to the journey.

Eventually the first floor was complete and it was time to move onto the second floor.

I wanted each floor to be different, getting lighter the higher you went, with the top floor being the penthouse or executive offices.

It was time to add some more nasty sprites to get in the way of our hero. With the dropping acid already in place I wanted some kind of roving enemy, originally planned to be a guard dog. Having an animal not only makes animation tricky, but also limits the
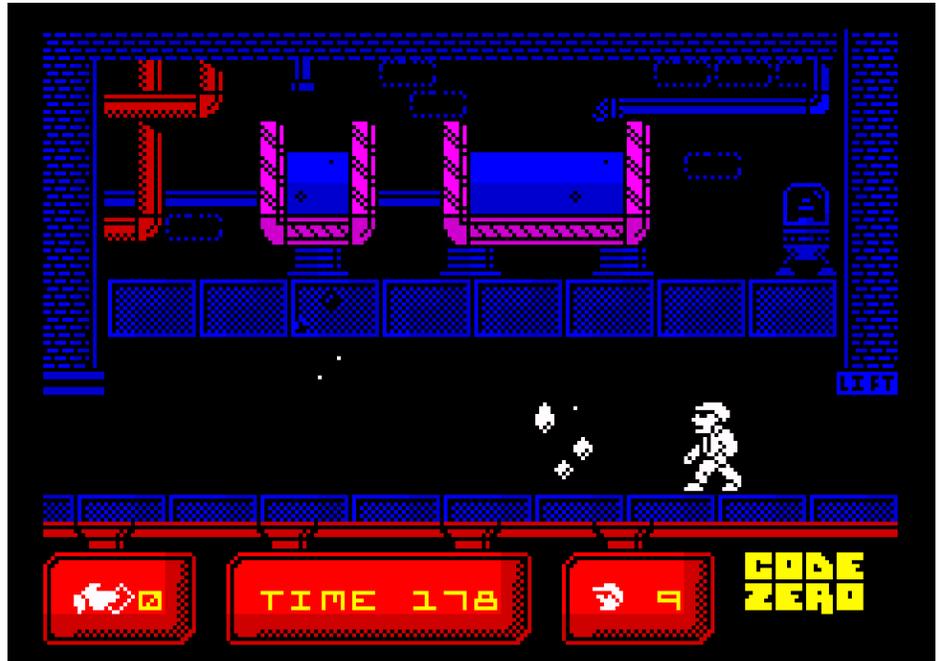
boundaries of movement. The animal has to be on the ground with no obstacles. I opted instead for a hovering robot.

I quickly drew up the main body and modelled it on the twin propeller modern drones you can buy. I added a large camera on the bottom and added a few simple animation frames. Adding this to the game with a left/right movement,

and it was ready to place into any room.
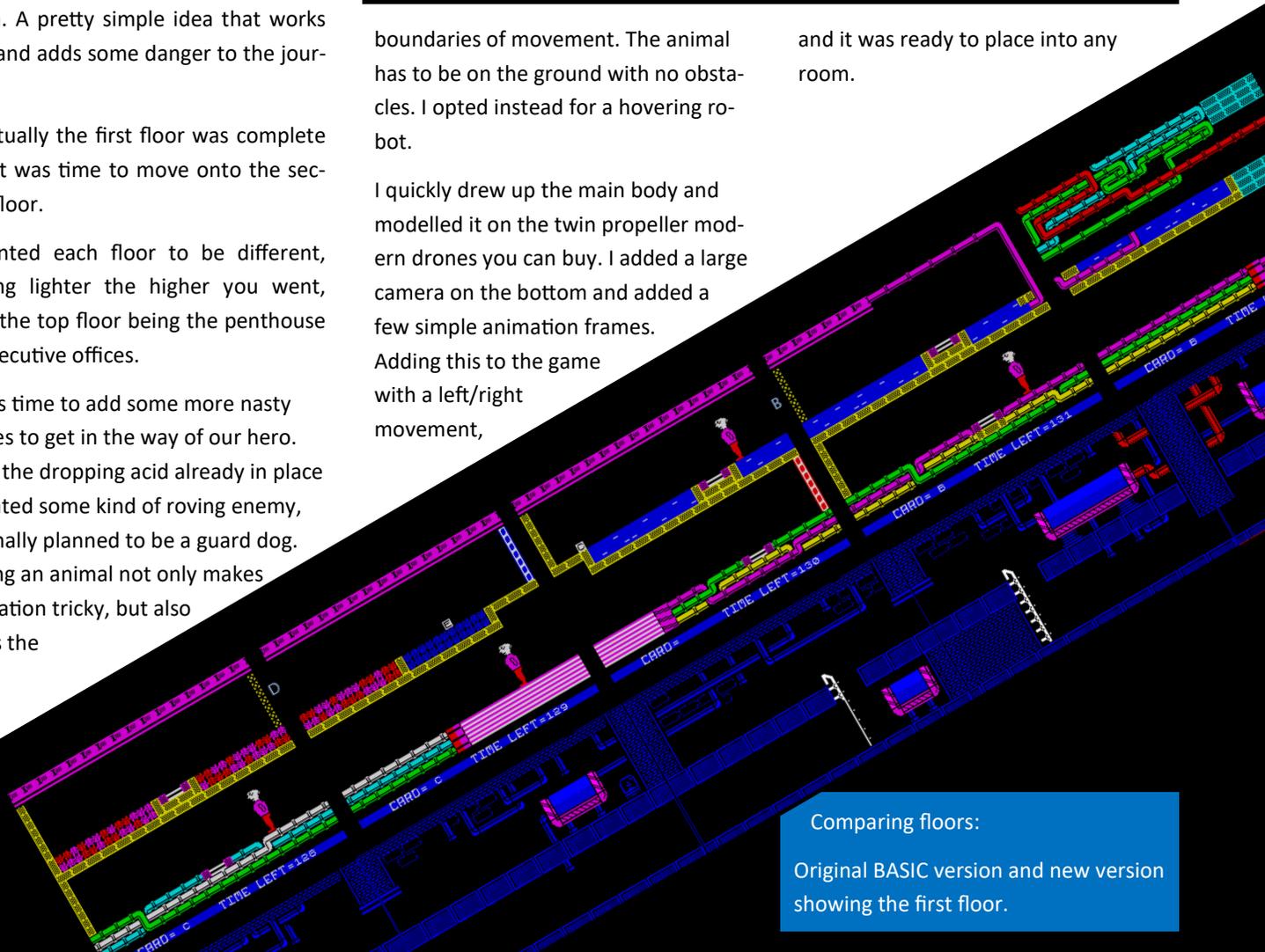
Comparing floors:

Original BASIC version and new version showing the first floor.

Making Code Zero

As I worked on more rooms, I gradually grew to dislike the image. It was too small and not imposing enough. I had used the large sprite option in AGD, so why not make the enemies large too?

I changed the sprite quite late on in the development cycle, but the new version looks much more dangerous.
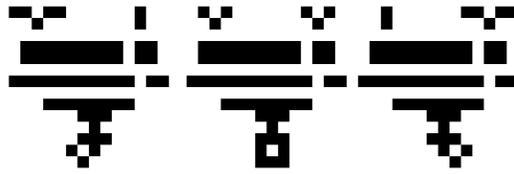
Original design for hovering drone above, and new version below.

The Name

Around this time the name of the game ventured into my brain and I knew I could not call it Countdown. I opted for the working title of Cyber Dan – OK, stop laughing!

Because this was the best I could come up with, I moved onto some enemy sprites with simple movement patterns. I was keeping things simple at this point as memory was going down rapidly and at some stage, I might have to start taking things out of the game. I wanted to add so much and a few ideas never made it.

Moving CCTV cameras with laser guns, collapsing floors, collapsing roof, escaping gas, guard dogs and electricity flashes were just a few things I had pencilled in for this game, but sadly only two made it to the final release.

Because the game was set in a building, that was starting to decay, the next danger I added was electricity.

I had already added hanging lights as part of the background, and even (if you spotted it) changed the colours of the bricks around them to give the impression of light. I even changed the colour of the sprite if he walked underneath one.
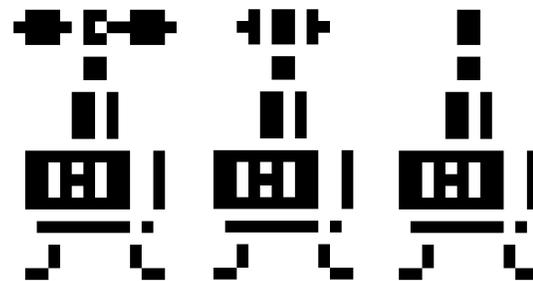
I changed a few of the bulbs to broken versions and these would be the points where the electricity would spark from. I chose to swap the position of the spark between two broken bulbs on a timer.

This simply counted down and when a certain time was reached, the horizontal position of the sprite was flipped to the bulb. To save memory (and because it didn't really need more) this sprite only had two frames of animation.
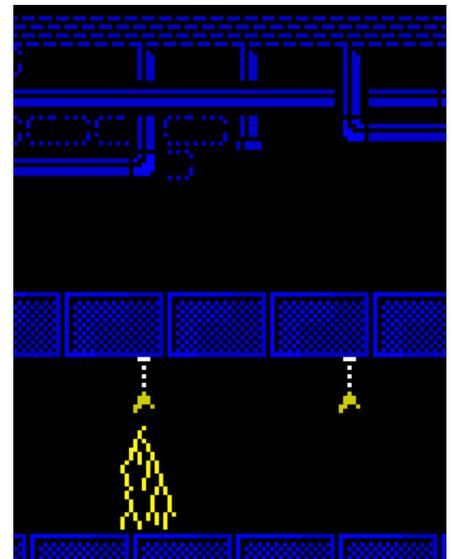
Death and other boring things

With the first three floors complete I set about the mundane task of adding lives, collision detection, death routines and end game routines. It is a dull task but something that has to be done, usually after a few drinks to strengthen the resolve. This used up


```
SPRITEINK 7
ANIMATE
IF M = 30
    LET Y = PARAMA
    SOUND 3
ENDIF
IF M = 59
    LET Y = PARAMB
    SOUND 3
ENDIF
SPRITEINK 6
```

another 800 bytes of memory and I was starting to get worried about the rest of the floors.

I chose to use the health reduction model for death, rather than instant death upon collision. This meant the player could collide with a few things and still continue with the game.

To make it a little bit more difficult, the players movement is slowed down after a collision, so they have to get away fast to avoid a second hit.

The end game would be the same as the original, just requiring you to get to the main computer room.

For this to happen I had to have the room itself, and so with memory running low I started creating a few more floors.

I used lighter colours as each floor was added, with the top floor being cyan and white with large windows overlooking a city. I used a few more precious bytes creating some furniture and bookshelves, but it all added to the game atmosphere.

I had to add a sprite to the room in the shape of an old fashioned computer, with large reels, and then add a few lines of detection to end the game.

With all the rooms more or less complete I added a short intro and then disaster struck. I had missed out some code and the whole thing went into an infinite loop that I couldn't break out of. That cost me about two hours!

I had to go back to a previous save and try to put back in all the things I had lost.

As each bit of code was added, the memory was getting tighter. As I reached the penthouse and completed the final room, there was just 2k left, and I hadn't added any gas vents – something I really wanted to do.

It is always worth checking every line of code, every graphic block, every aspect of the game in case you find something no longer needed, and this was such a time. I was flicking through the sprites when I discovered one I had not used. It was one for the player climbing a ladder facing the other way, it was still there, complete with four frames of animation. I reduced this to two, saving a bit more memory, drew the gas and could now place it on the required screens.

With just 1.7k left, it was now down to playtesting. I did a lot of this, playing both the very slow original and the new version. I was glad that I had managed to keep the same feeling in the game and was pleased with the new shiny graphics. I did spot a bug, but fixing it would mean changing every single room, and probably using up more memory than I had, so it was left in. It is not a serious bug and does not crash the game or cause it to become unplayable.

At this time it was still Cyber Dan, and I knew I had to come up with something else quickly. I had limited space
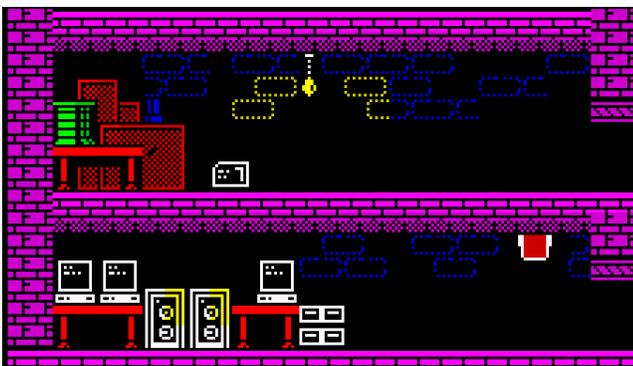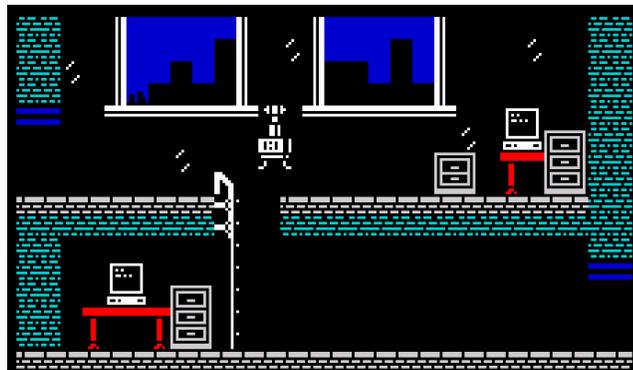
to add it to the game screen and did like the word Zero. A quick word juggling session brought Code Zero, and the game was complete.

I hope you enjoy it.

Where to get it...

The game is available to download free of charge (see URL on page footer) or can be purchased as a real cassette. (see back cover)

PLAY BLACKPOOL 2018

These events come around quickly, and it was soon time to visit Blackpool again for Play Expo 2018. Despite the chilly October day, hundreds of retro fans arrived at Norbreck Castle for the annual gaming fest.

As with previous years, there was a good spread of arcade game, all set to free play, and these were easy to get onto. The games ranged from the old classics such as Asteroids, Galaxians, Gorf, Tempest, Frogger and Commando, up to newer games like Dance Dance Revolution. Needless to say I kept well away from the later.

The hall was spacious with a few side rooms, and the usual lines of tables filled most of it, hosting a wide variety of consoles and computers. Sound levels were quite high with only a few machines being audible above the throng of other sounds. There were a few Spectrums set up, but again, a poor showing for such an event.
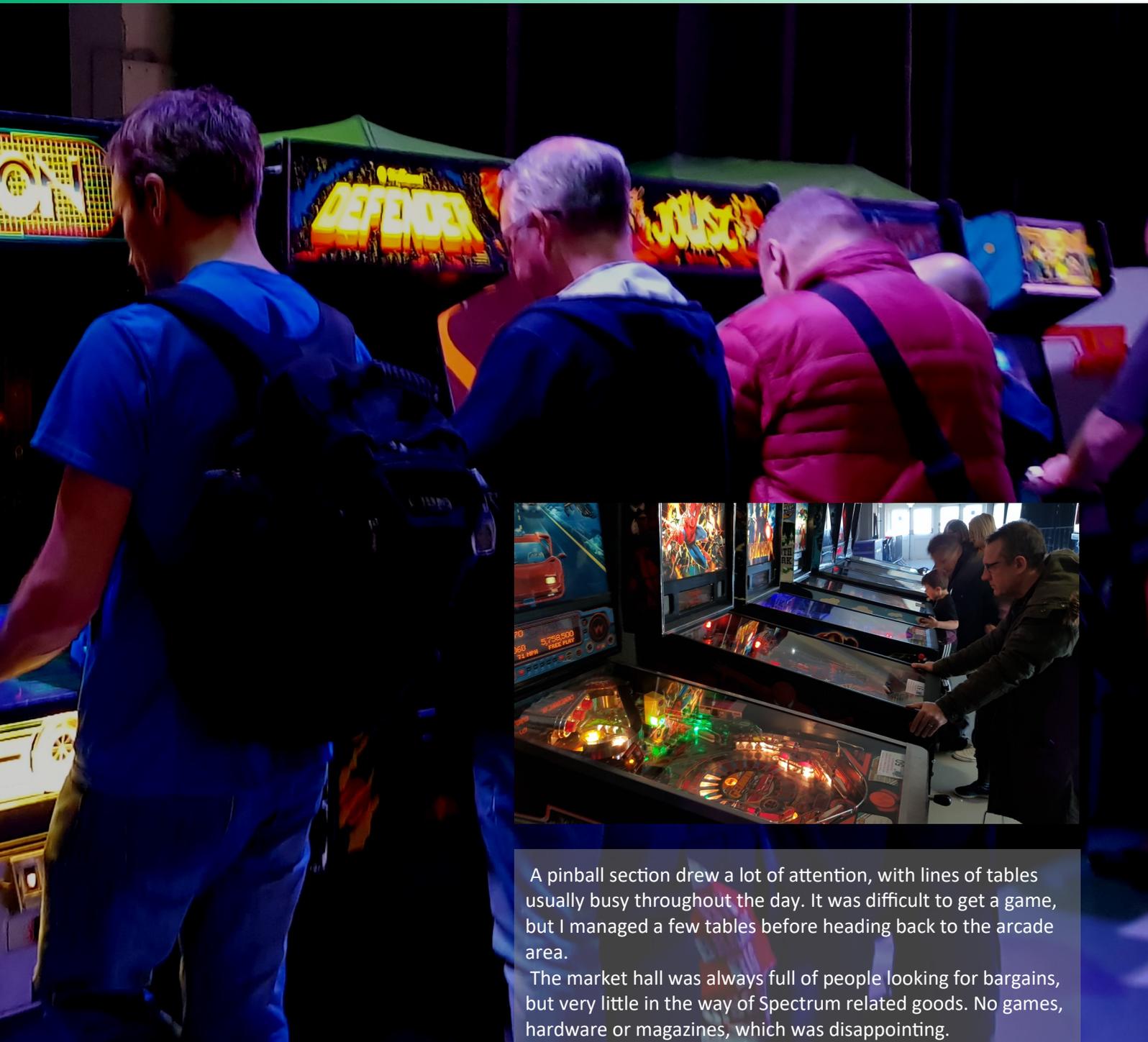
A pinball section drew a lot of attention, with lines of tables usually busy throughout the day. It was difficult to get a game, but I managed a few tables before heading back to the arcade area.

The market hall was always full of people looking for bargains, but very little in the way of Spectrum related goods. No games, hardware or magazines, which was disappointing.

There were break-out sessions for those interested, and if you were lucky you may have bumped into some well-known Youtubers. Kim Justice, Retro Man Cave, Octavious Kitten and DJ Slope were in attendance.

Overall, a good day out. It was great to play some of those arcade games again, and this sets things up for the events next year.

Maziacs

DK'Tronics 1983

Originally released as Mazogs on the ZX81 by the same author, this was one of my all time favourite games on both the ZX81 and the Spectrum.

Once the game loads you can view the instructions and you get a variety of options to make the game easier or harder. You can also chose the keys, or use a joystick.

The game is a brilliant mix of path finding and strategy, where you have to navigate a random maze in search of treasure.

To help you find your way there are prisoners, who when bumped into, will show you which direction to move in.

All is not well though, for guarding the treasure are the evil Mazogs.. sorry.. Maziacs. These beasts roam about in search of unwary adventurers and will attack on sight. Don't worry though, if you have a sword and good health, you may just come out the winner in a fight.

Swords are collected from the maze walls, but can only be used once and to replenish your health, food items are also to be found. Your health, which can be seen on the right hand side of the screen is important so keep an eye on it.

As you wander about the maze, it scrolls in character squares, but this does not detract from the game at all.
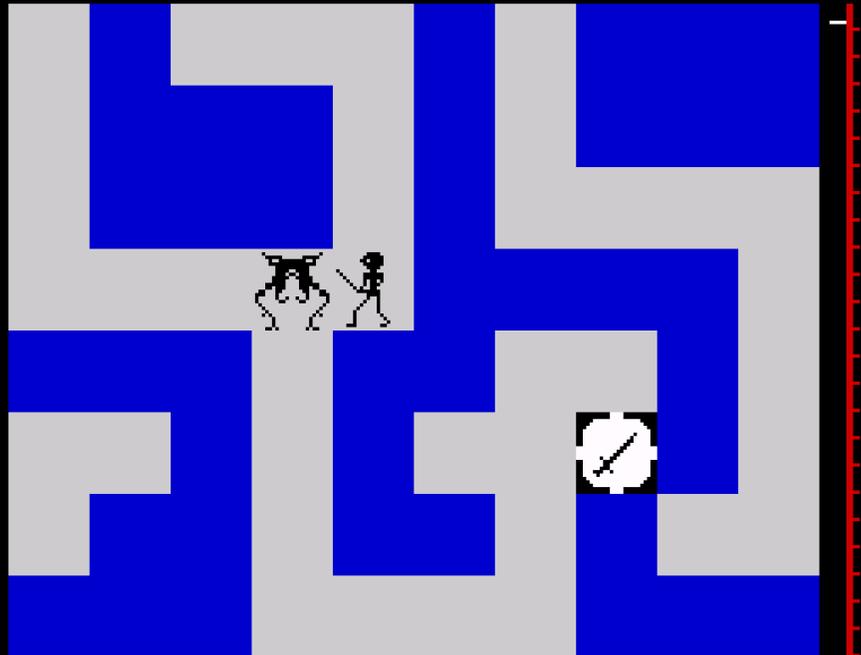
New areas of the maze become visible, and you have to creep around to make sure you don't go charging into an angry Maziac.

The graphics are large and well animated and the fights are brilliant. Comical and yet scary at the same time, especially if you are low on health.

The sound is used really well throughout, and the game is just so engrossing.

You can view the maze during play as well, or at least a part of it, this helps locate prisoners, food and Maziacs.

Once you get to the treasure, you then have to get it back to the start point, and the Maziacs are back. This means you have to drop the treasure to pick up a sword. Fighting a Maziac with a treasure chest is just not a good way to stay alive.
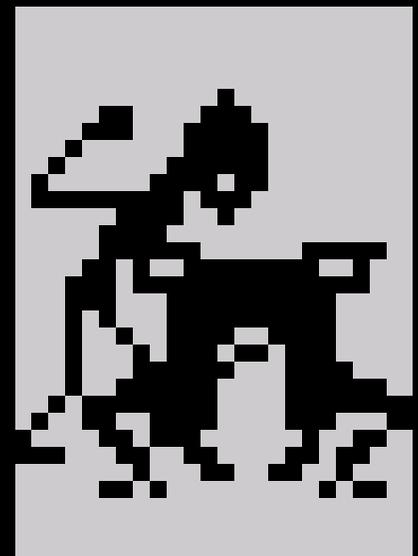
puter and I can spend hours playing this game. In fact I did when reviewing it.. superb…

There is definitely tension in the air as you head back with the treasure, hoping not to come face to face with a Maziac and the game isn't easy, but it is very enjoyable.

Both this and the ZX81 game were written by Spectrum legend Don Priestly, and both are wonderful to play.

Sadly the Spectrum version does not give the different levels of play like the ZX81 did, I particularly liked the descriptions, especially the Maniac Mobile Mazogs, which is more or less the Spectrum version, with free moving Maziacs.

A brilliant game then, on either com-
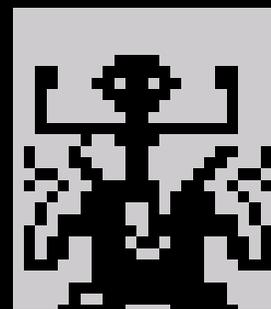
GIFT from the GODS

Ocean Software 1984

STAMINA 96

appear sometimes and lead you to one of the items.

Without her, the rooms that hold objects contain illusions, and you would probably get the wrong one.

Once you have one, you have to take it back to the Guardian chamber and then go get another one until you have all 6.

STAMINA 87
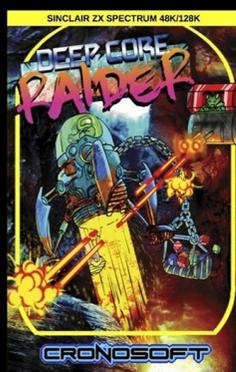
This is Gift from the Gods. It was released by Ocean software in 1984, and was created by Denton Designs – a company formed from ex-Imagine programmers. This has often raised the question about connections from this game back to Bandersnatch, as many of the team were working on that at the time Imagine failed.

From what I have seen of Bandersnatch, the gameplay and mechanics are quite similar.. but onto this game.

You control Orestes who has to prove himself by recovering 6 Euclidian Shapes from a labyrinth.

You can walk or fly around the rooms, move up or down through holes in the floor and roof, and also travel "into" levels of the maze by using doors.

You have a set amount of stamina, which slowly runs down as you move around, but it can be replenished by standing under water drops that you find from time to time.

To help you, your sister Electra will

Things are made difficult by the many evil illusions to be found and these range from skulls, worms, spiders and dragons, all beautifully drawn.

You can destroy these by first getting the right distance from them, then using the scythe attack until you hear a noise, and then thrust your sword into them. Once they vanish, this also means the other Euclidian illusions vanish, so if you can find a room that holds them, then it will only show the real ones. This causes you to rush around, after defeating one of these monsters, urgently trying to find a room containing shapes. A map helps greatly here.

Much of the game is walking about looking for Electra who will lead you to

real items. You can of course go around killing things, but this is not easy.

It is a large game and definitely needs mapping skills, and with all that walking about it can become boring. Also because of the random placement of deadly monsters, you can often drop into a room with two of them blocking the path Electra is showing you, this is really annoying.

There is hardly any sound in the game, which is a bit of a let down. There are a few effects when you fight or bang your head (which is accompanied by a nice animation), but little else.

The graphics and animation are very good, as you can see from the screen shots. They are well drawn and move smoothly, but without sound it feels a little displaced.

You also have Icarus's tears, 7 of them, that can be dropped or picked up. These can be used as markers to help find your way around, although I never used them.

A great looking game that will take a long time to complete, but the gameplay can soon wear thin.

MIND YOUR LANGUAGE

George Beckett continues his voyage through Spectrum programming languages

Artificial Intelligence and the ZX Spectrum

The ZX Spectrum Software and Peripheral Catalogue, which most early Spectrum owners received a copy of when they bought their computer, gave a taste of the range of software that was available. As well as games, educational programs, and business applications, the catalogue had a section entitled 'Languages and Utilities'. Alongside the Zeus Assembler and Artic Forth Compiler, which we have looked at previously, it also listed an application called Mico-PROLOG, written by Logic Programming Associates Ltd, which was pitched as "For the first time ever, logic programming on a home micro-computer".

Prolog is a language that attracted lots of attention in the 1970s and early 1980s, as it advanced the emerging domain of artificial intelligence (AI)—

the pursuit of a way to make computers smarter and better able to reason like humans do. Prolog is an abbreviation for Programming in Logic and is based on predicate calculus, a notation used by mathematicians to write down complex theorems. Prolog was initially developed in 1972/73 by scientists at

the University of Marseilles, though later work was mostly undertaken by UK-based teams. It was a complement to another, more established, language called Lisp, which had gained lots of traction with the AI community in the United States.

Prolog is very different to the other

Spectrum programming languages, both in its form and its application. Most languages, including BASIC, FORTH, and machine code, are procedural. They break a task down into a sequence of instructions, which explain to the computer how to complete the task—be it playing a game of Space Raiders or completing an annual tax return. In contrast, Prolog is a descriptive language. The programmer describes the system they are interested in as a model—something as simple as a family tree or as complicated as a car engine—and then interrogates the model to learn subtleties of how the system works. The key is that Prolog, rather than the programmer, works out how to answer questions, based on the knowledge it has.

Today, it would be more accurate to describe Prolog as a language for writing expert systems rather than for AI. By providing basic information about a system, such as how the components of the engine are connected and how they normally perform, a Prolog program can be made to report whether the engine is running normally and, if not, how to fix it.

Micro-Prolog—as the name may suggest—is a variant of the language suitable for the limited resources of a microcomputer, and has features that help people who are learning Prolog. It includes a front-end module called SIMPLE, which provides a simplified syntax, and the version published for the ZX Spectrum was accompanied by a detailed book by K L Clark, F G McCabe and J R Ennals called 'Micro-Prolog Primer', which someone unfamiliar with Prolog could use to learn the lan-

guage.

The Micro-Prolog Primer is difficult to come by. Occasionally it will appear on auction websites but usually sells for a high price. However, there is an alternative book by K L Clark and F G McCabe, called "micro-PROLOG: Programming in Logic" which is very similar and easier/cheaper to obtain. The only difference is that it is not ZX Spectrum-specific, instead addressing the range of microcomputers on which Micro-Prolog was available.

The model that you program in Prolog is commonly called a knowledge-base. It consists of objects, facts (truths about the objects), and rules (deductions that can be made from facts, when generalised). For example, to create a family tree, using Micro-Prolog with the SIMPLE front-end, we could add facts to our database, as follows:

```
add(Henry-vii parent-of Henry-viii)
add(Henry-viii parent-of Mary)
```

The command 'add' is used in Micro Prolog [1] to insert an element into the knowledge-base and, in the example above, we insert two facts pertaining to objects Henry-vii, Henry-viii, and Mary, and the relationship parent-of. Based on the names used, it is likely you think first of three people within a family unit, though this is simply a human interpretation of the facts. Prolog simply sees an object (labelled Henry-viii) is connected to another object
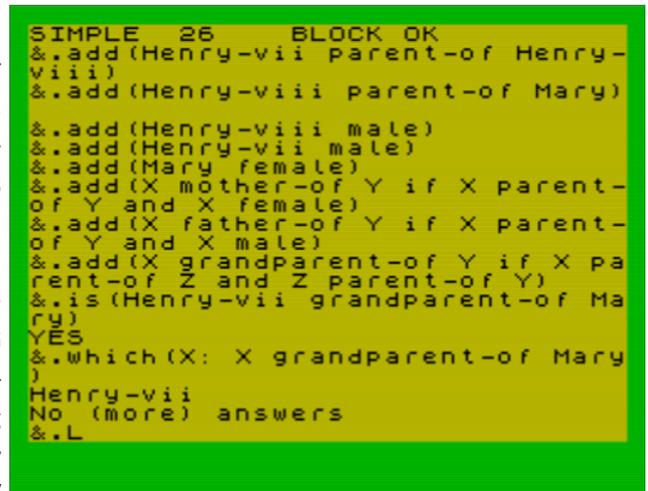
(labelled Mary) by a relationship labelled 'parent-of'. It could as easily be "add(Paris capital-of France)".

The above facts involve a binary relationship 'father-of' that links two objects. However, it is possible to define relationships for any number of objects—though it is unusual to involve more than three objects in a relationship. An example of a unary relationship is:

```
add(Henry-viii male)
```


1. Technically 'add' is a macro defined in a Micro-Prolog module called 'SIMPLE', which you usually load at the start of a Micro-Prolog session.

Artificial Intelligence and the ZX Spectrum

On entering this statement, Micro-Prolog will define a new relationship 'male' but will recognise that it already has an object called 'Henry-viii' for which it now holds two facts.

Having defined some basic facts, we can boost the capabilities of the knowledge-base by defining some rules. This is a very powerful feature of Micro Prolog: whereas facts apply to specific objects, rules can generalise the meaning of relationships quickly and significantly. For example, the two rules:

```
add(X mother-of Y if X parent-of Y and X
female)
add(X father-of Y if X parent-of Y and X
male)
```

—defines two new relationships 'father-of' and 'mother-of' based on three existing relationships 'parent-of', 'male' and 'female'. However, unlike for the facts defined earlier, X and Y are not objects but variables that will be substituted with actual objects when the rule is applied.

You might ask how Micro-PROLOG knows that 'X' is a variable but that 'Mary' is not. Well, Micro-PROLOG (SIMPLE) reserves the names 'X', 'Y', 'Z', 'x', 'y', 'z', plus variations of these that are post-fixed by integers (for example, 'X1' or 'z9') as variables. Any other names are treated as specific objects.

The rules above are relatively simple, though it is possible to do more. For example:

```
add(X grandparent-of Y if X parent-of Z
and Z parent-of Y)
```

Here, as well as variables X and Y that will be replaced by objects when the rule is resolved, there is a third free variable Z that Prolog will need to check for. The rule effectively reads X grandparent-of Y if there is some object Z for which X is parent-of Z and Z is parent-of Y.

Once you have entered some rules and facts (effectively, written a program), you can interrogate the knowledge-base by entering a query (effectively, running the program). A query is a question that you hope Prolog will be able to answer using the facts and rules. A simple query is a truth test:

```
is(Henry-vii grandparent-of Mary)
```

—which, based on the rules and facts above, will return the answer 'Yes'. We could just as easily have worked that out for ourselves, though with longer and more complicated models, these answers will not be immediately obvious.

We can also ask Prolog to tell us which objects fulfil a query:

```
which(X : X grandparent-of Mary)
```

—which will return the answer 'Henry-vii'.

We can also use multiple variables:

```
which(X Y : X father-of Y)
```

—which will return two answers: 'Henry-vii Henry-viii'; and 'Henry-viii Mary'.

To complete these kinds of question, Prolog conducts a search of the knowledge-base, trying possible combi-

nations of objects to satisfy the query. For example, to complete the query "which (X : X grandfather-of Mary)", Prolog consults its list of objects—Henry-vii, Henry-viii, and Mary—testing each in turn to see if it satisfies "X grandparent-of Mary". In turn, for each value of X, Prolog has to try substituting each object for Z in "X parent-of Z and Z parent-of Mary". Even with only three objects, this simple query involves nine different checks (as Prolog will check assertions such as "Mary parent-of Mary").

As you may imagine, with large models (lots of objects and complex rules), it can take a long time to check all possible matches for a query. Therefore, there is a variation of "which" called "one", which will pause once it finds a combination of objects that fulfil the query. So, the command:

```
one(X Y : X father-of Y)
```

—would give the answer "Henry-vii is the father of Henry-viii", and then stop. A "More" prompt allows you to search for any further matches to the query, one at a time.

```
of Y and X male)
&.add(X grandParent-of Y if X pa
rent-of Z and Z parent-of Y)
&.is(Henry-vii grandParent-of Ma
ry)
YES
&.which(X: X grandParent-of Mary
)
Henry-vii
No (more) answers
&.add(X ancestor-of Y if X paren
t-of Y)
&.add(X ancestor-of Y if Z paren
t-of Y and X ancestor-of Z)
&.is(Henry-vii ancestor-of Mary)

YES
&.which(x : x ancestor-of Mary)
Henry-viii
Henry-vii
No (more) answers
&.█
```

The process of finding a combination of objects that satisfies a query is called 'unification'. It is a powerful process at the heart of Prolog, which we have only really scratched the surface of here.

Another very powerful process in Prolog is 'recursion', which significantly expands the scope of rules. For example, if we wanted to generalise the 'parent-of' and 'grandparent-of' relationships defined above, we could create a relationship called 'ancestor-of'. However, since we do not know how many generations we need to check through to be sure whether or not one person is an ancestor of another, we need to do something different; and this is where recursion comes in. Look at the following pair of rules:

```
add(x ancestor-of y if x parent-of y)
add(x ancestor-of y if z parent-of y and
x ancestor-of z)
```

The first rule defines a single-generation ancestral case, which is straightforward. However, the second rule explains how one generation of ancestor is related to the next. A grandparent is an ancestor of an individual, because one of the grandparent's children is already an ancestor of the individual. To check if one individual is an ancestor of another, Prolog will check as many chains of parent-of relationships as is necessary. So:

```
is(Henry-vii ancestor-of Mary)
```

—will return 'Yes', and:

```
which(x : x ancestor-of Mary)
```

—will return all of the ancestors of Mary that we had defined.

The order that Prolog uses to complete its search is predictable. An experienced programmer would know that the above query is efficient and would be resolved quickly. However, a word of caution for the apparently similar query:

```
which(x : Henry-vii ancestor-of x)
```

—which could be used to find the descendants of Henry-vii. While it would work, it is not efficient. The reason is related to the order in which Prolog substitutes the variables, which you will learn about as you gain experience of Prolog. A good explanation of the issue can be found in Clarke and McCabe's book.

Unification also supports Micro-PROLOG's modest mathematics capabilities. For example, to multiply two numbers together, we would write a query something like:

```
which(x : TIMES ( 7 4.5 x ))
```

TIMES is a built-in relationship which takes three arguments. It is satisfied if the third argument is the result of multiplying the first two together. The above query gives the answer 31.5, as you would expect. While it may seem an odd way to multiply two numbers, it is the Prolog way: you have to say what you want, rather than explain how to get it!

Unification can do more. We can also ask:

```
which(x : TIMES ( 7 x 31.5 ))
```

—which will return the answer '4.5'. That is, we can replace any (one) of the arguments to TIMES by a variable, and ask Prolog to fulfil the query. However, we cannot enter something like:

```
which (x y : TIMES ( x y 31.5))
```

This would throw up an error; reasonably, since there are infinitely many pairs of numbers that could be multiplied together to make 31.5.

You may have spotted that something unusual is happening here, since up until now Prolog has only substituted known objects into relationships to fulfil a query. None of Mary, Henry-vii, nor Henry-viii would satisfy this relationship, and none are worth trying. TIMES is one of four built-in relationships in Micro-PROLOG (the others being SUM, LESS, and INT). When the interpreter encounters one of these, it recognises that it is a numerical relationship and behaves accordingly.

Unlike the queries we have seen up until now, Prolog does not run the usual exhaustive search to fulfil these arithmetic relationships. It has an optimised machine-code implementation, which evaluates the answer in a similar way to other languages. It is only the presentation of the expression that is Prolog-like.

Recursion can also be used with built-in relationships. So, for example, to define the factorial operation (which multiplies an integer by all of the integers that are smaller than it; so, the factorial of 4 is 1×2×3×4 and the factorial of 7 is 1×2×3×4×5×6×7), we could create a pair of rules:

```
add(1 factorial 1)
add(x factorial y if 1 LESS x & SUM(x1 1
x) & x1 factorial y1 & TIMES(x y1 y)
```

This is a reasonably complicated pair of rules, which it is worthwhile to try to understand (an explanation can be found in Clarke and McCabe's book). Remember, you have told Prolog what a factorial is, not how to compute it.

CPL's Micro-PROLOG is an excellent program. Of all the language tools I have looked at so far in this series, I think it makes the most impressive use of the humble ZX Spectrum. However, as with other titles in the early Sinclair programming-language series, it only supports tape storage. It would have been great if CPL had added ZX Microdrive support, though sadly they did not.

In search of a disk-compatible version, I once again looked to CP/M Plus on the ZX Spectrum +3 and found a Prolog compiler called E-PROLOG, written by G A Edgar [http://www.cpcwiki.eu/index.php/E-Prolog]. This runs without issue on Locomotive's CP/M Plus system (in either 51-column or 80-column mode).

E-PROLOG is a lightweight version of Prolog, which fits into less than 6 kilobytes. Unlike Micro-PROLOG, it does not include a SIMPLE module, so Prolog rules need to be entered in standard notation (called prefix notation), in which each clause is entered as a list, beginning with the relationship and

```
((parent-of Henry-vii Henry-viii))
((parent-of Henry-viii Mary))
((male Henry-vii))
((male Henry-viii))
((female Mary))
((mother-of ?parent ?child)
    (female ?parent)
    (parent-of ?parent ?child))
 ((father-of ?parent ?child)
    (male ?parent)
    (parent-of ?parent ?child))
((grandparent-of ?grandparent ?
grandchild)
    (parent-of ?grandparent ?parent)
    (parent-of ?parent ?grandchild))
((ancestor-of ?x ?y)
    (parent-of ?x ?y))
((ancestor-of ?x ?y)
    (parent-of ?z ?y)
    (ancestor-of ?x ?z))
```


Figure 15: Sample E-PROLOG session on ZX Spectrum +3, running CP/M Plus.

followed by the arguments.

The family tree, we created above, using Prolog's prefix notation, looks like:

```
(grandparent-of ?x ?y)
```

—and to query this model, one would enter expressions of the form:

-or:

```
(father-of henry-vii mary)
```

The model is the same in both E-PROLOG and Micro-PROLOG. However, E-PROLOG's syntax is somewhat less user-friendly than Micro-PROLOG's (with the SIMPLE module), though works just as well once you are used to it.

In the next article, we will delve further into Prolog. We will look at the list: the fundamental data structure of Prolog; and examine several more sophisticated Prolog models, to hopefully demonstrate some of the power of the language. We will look at a very compact implementation of the classic Farmer, Fox and Chicken puzzle, and write a Cluedo helper, which should greatly improve your chances of winning at Cluedo.

More from George next issue.

NAME THE GAMES

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Ah diddums

Imagine 1983

It is a sad day. Teddy has been separated from his owner and needs to get back to comfort the child. To do this he has to navigate through 99 toy boxes, each filled with deadly toys intent on his destruction.

Controlling Ted, you first have to build some steps using different coloured building blocks. This part is often tricky as the blocks, although easy enough to pick up, can be awkward to put down. To drop them in the right place you have to position Ted accurately, before dropping them. Often this fails and you then have to continually stab the pick up and drop key until they line up in the outlined square at the top of the toy box.

The toy box itself is inhabited by various toys, and contact with these will mean instant death.

First there are the roaming toys. These have different movement patterns from vertical paths, horizontal paths to random movement, each with different speeds. Initially there are only a few solders to worry about, but as you complete each box, more are added and the screen can become very full.

You can get rid of them though, by using a pea shooter, which needs accuracy, two boots that can be thrown or a beach ball, that bounces off the walls. The beach ball can only used a few times though before it bursts, but

is the best method to get rid of multiple toys in one go.

There are other things scattered about too, collecting these will give you extra points.

After level three, a steam train appears top right, and if not destroyed quickly, can trundle across the screen and knock out any block you have already dropped on the steps.

Another thing to help Ted is the Jack-In-The-Box, bottom right. If Ted runs into this, all toys are frozen for a short time, allowing Ted to shoot them with his pea shooter or use the beach ball.

One more thing to be careful of; if you destroy all the toys, a large lump of plasticine arrives and chases Ted. This cannot be killed, so it is always best to leave at least one toy in tact.

The graphics are large, colourful and quite well drawn, with basic animation, but Ted does flicker quite badly. Movement is smooth and control is good apart from the dropping blocks part, which has already been mentioned.

Sound is used well, with some nice effects, and overall not a bad little game for 16k.

If you can get over the flickering graphics, this is worth a quick play.

SNAKE ESCAPE

Einar Saukas 2016

This platform puzzler uses the Nirvana multi-colour engine which gives brilliant graphics, that really show off the Spectrum, and make the game look excellent. The movement is limited somewhat to enable the multicolour mode, but for this game it does not really matter.

The idea is simple, guide your snake around the maze to reach the apple. This might sound overly simple, but the challenge lies in the snake's restricted movement.

It can't climb directly upward more than a few segments of it's body, therefore to reach the higher ledges, you have to climb back on the steps you create using the body movement.

You also can't go back on yourself, so you have to plan each level carefully to make sure you don't block yourself in.

Later levels have boxes that can be pushed to fill holes so the snake can move over them, and this adds more challenge.

Throughout play there is some great music playing that really suits the game, and the control is responsive.

A neat little touch is the colour of snake head. It changes based on how high it is off the body, giving an indication of the limits of movement, a great idea.

This is a brilliant puzzle game and definitely worth playing.

Zeppelin Games 1989

Yes, this is a game where the ninja is a robot… or is it the other way around?

Anyway, the Icarus Earth defence base is under attack, and you, playing as the Bionic Ninja, have been sent to infiltrate the base and eradicate the alien infestation.

This is a side scrolling beat-em-up and my first impressions are that the graphics are large and well drawn, however, the running animation only has two frames so it does look odd.

The backgrounds are average, and can sometimes get in the way because the game is monochrome.

The screen scrolls well enough and using the four directions and fire allows you to pull off various moves such as a low kick, high kick and punch.

You have weapons too, a throwing star and a sword, however, they don't seem to be needed for specific enemies, as they all can be killed by using just your fists.

The enemy, or as the game calls them, alien infestations, come in various guises. There are human looking men that walk or float on hovering platforms, these often have knives or guns. There are robots that fire at you and robots that just float about.

At certain sections you have to jump up or down to different platforms for no real reason I could see and things move along slowly.

Sound is very poor with just a noise when you hit something, even when you reach the end of a level it's glorious silence.

You are given enough lives to get quite far, but I never got off of the first level which has several sections that all look identical.

According to the game inlay, there are 4 distant levels; Jungle Terrain – which I think is the first one, cavern entrance, armoury and control centre. I could only see the last two using a poke to get infinite time and lives but at least the game let me get that far.

The mission has a set time limit too, so you can't hang around.

The game is, to be honest, a bit dull. You plod on and on, fighting things, and it soon gets repetitive. Same scenery, same enemies, at least on the first level, which is far too long.

Controls can sometimes be a bit tricky and many times I got hit because the fire and down key did not respond at the same time.

Overall then, a below average game, but it was a budget title… so you can't expect brilliant titles all the time.

GROUND ATTACK

Silversoft 1982

Like many early games, this is an arcade clone, in this case Scramble.

The first level gets off to a somewhat pedestrian speed. The ground moving in character squares and the control of the ship being temperamental. Once you get used to the lag, it becomes easier to control and in most cases you don't need forwards or backwards.

You have two weapons, a laser and bombs. You can drop two bombs at once and your laser can only reach a certain distance however, it is useful to use this to gauge your height in comparison with the landscape.

As the levels move on the cave roof is added, and as each new section is cleared, the colour changes and the passageway gets narrower.

In the later levels, for example level J and beyond, it really is very tricky to navigate.

The missiles launch upwards and there are some asteroids, but these do not move at a different speed to the landscape like the arcade game. They just sit there getting in the way.

Unlike the arcade, there is no fuel limit. There are fuel tanks to bomb, but this just gives you extra points.

At the start you are given a choice of game speeds, so if you find it too easy on the first one, you can always ramp it up.

On speed 1, I can usually get to level M or there abouts, which gives me

enough of a challenge without being too frustrating.

Graphics are 8 pixel character sized UDGs, and sound is very limited – but this is a 16k game remember.

It's not arcade perfect but it does give a nice game as the caverns get narrower.

If you can get over the jerky movement and sticky keys it's not a bad game and worth a try if you like Scramble.

RECREATED
ZX SPECTRUM

There are many ways you can play Spectrum games; on your desktop computer, on your laptop, on your phone, on your tablet and obviously on the real hardware.

With the exception of the last one, despite being convenient, using emulators only gives you the visual sensation, and lacks the authentic feeling of playing your favourite games again.

In 2014, much to the initial delight of fans, the Recreated Spectrum was announced by Elite, but the company had been making noises about this project since 2013.

Originally crowdfunded from Kickstarter, the unit and the campaign were being managed by Steve Wilcox, and his company Elite Systems. A name that may be familiar with Spectrum fans.

Elite have been in the Spectrum world from way back in the 80's releasing a series of games including Blue Thunder, Commando, Buggy Boy and Bomb Jack. However, the company became known for dodgy dealings and possibly fraud in 1986 when they launched a new budget company called 299 classics.

Starting on July 21st 1986, the 299 classics label promised to publish one game every week, and their first four games were 3D Deathchase, Skool Daze, Full Throttle and Valhalla. More games followed, however, it seems some of them were released without asking for permission

from the original authors. This obviously caused problems.

The end result, after several court cases and threats, was the label being closed down in November of the same year, lasting just 5 months.

Storm breaks over Elite's budget label

THE budget label 299 Classics, administered by the team which runs Elite Systems, is being discontinued, amid allegations of contract breaking by third party licensors.

The label was set up by Foundry Business Systems, from the same premises as Elite, to release back catalogue product from a number of independent companies at £2.99.

Microsphere's *Skooldaze*, Durell's *Scuba Dive* and Mi-

action against the company. "We made three of our titles available to 299 Classics on the understanding that they would be released within six months," said Luke Andrews of Vortex. "One, *Tornado Low Level*, was released, but the other two were not. We have issued a summons and it is now in the hands of our solicitors.

Additionally, I was not aware that we had been dealing with Foundry Business Systems — I had thought the

Elite gave all kinds of reasons to try and mitigate any blame on themselves, but they still did not pay all the royalties they owed, leaving game authors frustrated and out of pocket.

This kind of business ethic seemed to haunt the company, and fast forwarding to 2014, people that knew them were very cautious about their involvement in this new idea. Sadly, many enthusiasts jumped straight in, hyped on nostalgia, and the campaign was funded with more than 60k pledged.

Rumours began to circulate that the device was just a Bluetooth keyboard in a Spectrum case, which turned out to be true, not so bad you might think, but then people started claiming that limitations in Bluetooth restricted the number of simultaneous key presses that could be used, meaning some Spectrum games would not be playable.

It was also claimed the unit would be locked to just the Elite app being developed, which was also true, and put off many would-be buyers. Why would you buy anything that was locked into something that may not always be there?

Despite these issues, Elite had grand plans, but it wasn't long before things started to unravel. Some backers did not receive their device and Elite had a habit of going quiet for long periods of time.

Mid to late 2014 and things seemed to be going well and in December, Steve Wilcox gave the world a glimpse of the pre-production unit – even getting a slot of the Gadget Show.

The device went on sale 7th September 2015 but still some backers had not

received their devices, and did not for several months after.

Part of the campaign was a special Manic Miner signed version, signed by Mathew Smith, the author of the original game. This was mysteriously cancelled so people who pledged more to receive this, were let down and offered a normal device.

Even users who wanted the normal version from online channels were having trouble, the stocks were just not there, and it seems Elite were having problems with the manufacturer. Or rather the manufacturer were not being paid, and had called in the solicitors. In the foreground however, things were moving on.

They wanted to drive the unit via an online service, offering titles at cheap prices that could be added to the device or played online. They created an app for IOS and Android devices and got many games ready to be purchased. Yes, they wanted to charge for games you could get free already, just

for the convenience of using their device. And, they locked the unit, as rumoured, to only allow it to be used this way.

They did get Mathew Smith, author of Manic Miner and Jet Set Willy, onboard, but this didn't do much other than to generate sympathy towards Mat himself, for being involved in this thing.

In a kind of time warp, it seems they didn't get the author permissions again, and this led to legal threats from the game authors. Eventually this resulted in the games and the app being removed from their store.

With no games or app, this obviously rendered the unit useless.

Around mid 2017, from the various comments I estimate this would coincide with the legal statement on the

Re Created ZX Spectrum

Continued...

Kickstarter page about a settlement between Elite and the keyboard manufacturers. The app came back to the stores meaning the keyboard could be used again. However, there is no guarantee this would not vanish again.

Elite did release a tool to unlock the device to allow it to be used correctly with any Bluetooth device and although many people say it is no longer available, visiting their website and choosing to play a game online, will give you a menu that allows you to unlock the device.

At the time of the crowdfunding, I stayed well clear of Elite Systems and refused to buy anything from them at such an extortionate price. In 2017 though, you could pick them up for around £34, supplied by the original manufacturers, who themselves had a bit of a legal battle with Elite.

My unit arrived, and to be honest, it was exciting to unwrap it. It was almost like getting a new Spectrum for the very first time.

The unit comes packaged in a small box, with the immediately recognisable Sinclair rivalry.

The back too looked familiar, with the wire diagrams showing the box contents.

Inside there is a USB lead, a coaster and the unit itself. Underneath we get a mouse mat, a small user manual and an even smaller instruction sheet.

The keyboard itself is identical to the real thing, and many would find it difficult to tell them apart without close examination. The keys as almost identical, they look and feel authentic and the faceplace and case look the same. The only place it is obviously not a real Spectrum, is on the back. No edge connector or earphone sockets here.

We get an on/off switch, a status light, a pair button, a layer switch and a USB power connector.

You can run the unit off of batteries, using the battery compartment on the bottom.

Because the unit is a Bluetooth keyboard, it can of course be used as a normal keyboard for any device that has Bluetooth, for example phones, tablets, televisions or computers. There is a helpful guide on how to swap modes using key combinations provided.

The first thing I did was plug it into my PC using the USB power lead. With this in, the keyboard seemed to work fine. I could type into notepad no problems, even using the symbol shift and caps shift. I then put in some batteries and connected via Bluetooth. Because I already have a Bluetooth dongle I paired the device quickly by simply pressing the Pair button and then detected it on the PC. Again the keyboard worked fine when set to layer B – which is QWERTY mode.

I am not sure if my keyboard was already unlocked so I went to the Elite website and first loaded a game in the browser. Set the keyboard to layer A – which is Game Mode and the game played as I would expect, no problem here apart from some sound issues and the fact the game looked rubbish with graphics that looked like they had been compressed using the very poor setting in Jpeg format.

I then chose the option to unlock the keyboard after some

legal mumbo jumbo I clicked agree, switch to Layer B and pressed the caps lock as instructed – and nothing happened!

I assume this is because my keyboard is already unlocked based on the previous tests I had done.

I loaded up Spectaculator played a few games with the keyboard set to QWERTY mode, and everything went well. In QWERTY mode the keyboard acts like a normal PC keyboard, so no surprises here.

I then tried to play Invaders by Artic Computing. This game uses the Cap-shift to move left and the game refused to acknowledge the key press. I tried the different key switching combinations and none seemed to make any difference. This was a bit odd, because in Notepad, the caps shift worked.

I know there are only a few games that need the shift key and most of those have key change options, but for the odd ones, like Invaders, well, it's just

tough luck.

Because the caps shift and symbol shift are used to switch modes, they are not available in most emulators, meaning you can't go into extended mode for programming, or even enter quotes to load a game. If you are just playing games though, all emulators will allow you to load without touching the keyboard, so I don't think this is an issue.

For the vast majority of games, if you're looking for that authentic experience, then this certainly does the job.

If you absolutely need the caps shift and symbol shift, some emulators support the keyboard in Game Mode, in particular Fuse, which is available on many systems.

Using this emulator allowed the use of symbol shift and caps shift, so Invaders worked fine once the option was set to use the keyboard.

It looks great and works and feels, just like the real thing.

For £34 it's not a bad purchase really, and they have been cheaper on other websites. It is much less than a real machine and can be used on a variety of different equipment. And because it is using newer technology, it should hopefully last quite a while.

I would have never bought it from Elite, but buying from the manufacturer in an unlocked state, I am happy with.

GRUMPY OGRE'S
Adventure Page

Welcome back to strange places where your mind wanders freely and your brain shifts into a higher gear.

I like a laugh as much as the next Ogre, but when authors try to force humour into adventures it either fails spectacularly or raises but a brief smile. There have been many attempts at humorous games for the Spectrum, with a large majority coming from Fergus McNeil and St Bride's School.

Hi, I'm Trixie, Spelunk Me.

The Very Big Cave Adventure is one of the better comical games to be played, as it's title suggests, it is a parody of the grand daddy of adventures, Colossal Cave.

The game is written using The Quill and includes graphics for some locations. The game is narrated by Trixie, who occasionally helps but more often than not just makes statements about your game playing. The graphics too can often be funny, with a secret location near the start of the game showing a huge flashing arrow.
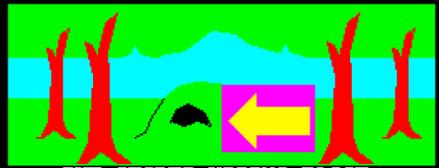
Text descriptions and message too are littered with funny lines and jokes, examining the door of the small house produces a titter inducing reply. Elsewhere you will find a penny, being guarded by a bull, situated in a gully. After a brief conversation, the bull leaves after you tell it you are not actually there. It is, after all, a gully-bull. Yes, this is the type of humour in this game, some like it, others don't.

Returning to the same gully after wandering about a bit sees the bull returned, this time with a new description;

A rampaging bull with the distinct air of a bull who doesn't mean to be caught out a second time.

At this point, I tried a lot of things to get past it, now having the wellies to negotiate the wet field beyond. Kicking, feeding, dropping food, all to no avail. As a last resort I decided it would be a good idea to try and blow up the bull with the bomb. I cautiously typed DROP BOMB. This didn't go well.

A second attempt several minutes later and I tried a different approach; THROW BOMB. This resulted in…

The bull eats the bomb and promptly explodes in a most inelegant manner. It is a Bomb In A Bull.

Yes, the humour continues, even when exterminating make-believe animals in a pretend world that only exists in the circuits of a small home computer. Still, it made me laugh though.

I was eager to see what else of the original game was present so pressed on. Sure enough I quickly found the fabled locked grate and in a jiffy, opened it and descended into the cave.

The low cobbled crawl was present, and felt like I was back in familiar territory. A gilded cage, a black rod soon came into my possession. In the original game these are used to catch the bird to scare the snake and to create a magical bridge over a ravine. What were they used for in this one?

XYZZY, the famous magic word used to teleport players back to the well house has been replaced here, and is described as a rude word. I shall not reveal it here, it would be far too rude! It has the same affect though, which is a nice handy short cut back.

The dwarf of the original has been replaced by, well shall we say something that looks vaguely familiar and instead of throwing an axe, hurls a sharpened ZX81 at you.
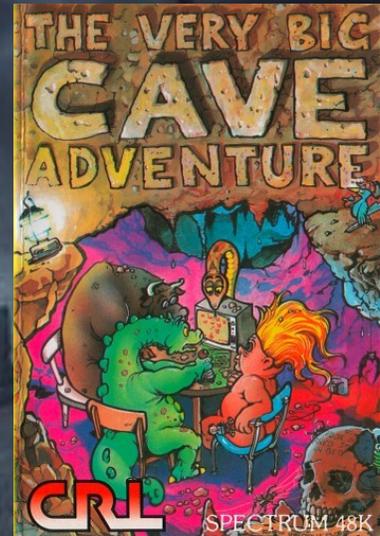
```
You are in a splendid chamber
thirty feet high.
And you can see:
A cheerful little songbird




          Press a key
```

The game is fun to play, and the comedy is pleasing and surprising. Anyone who has played the original will feel both at home, and strangely intrigued as to what will happen next. This mixture of feelings make you want to press on as you did originally. Seeking out new caves and monsters and trying to find some treasure to take back to the house.

The bird that appears soon after also has a little message for experienced players, and you can almost feel the game taunting you.

Just as I was enjoying this little romp, I entered a room that suddenly took the guise of a Space Invader game. Here you move left or right and could fire. This was annoying, nearly as much as a maze! I couldn't see the reason for this to be here, it was just a pain, and eventually I quit and restarted.

After getting nowhere I had to look up the answer, and yes, you

do have to play the terrible Space Invader game. Once completed (by continually moving and firing) you finally get to more locations and more objects required to complete the game.

What a waste of time! Even worse, if you leave the room and then go back in, it all starts again!

The graphics of the early caves are pretty much the same apart from a different patterns on the floor. I suppose memory restrictions forced this, but later on things do change.

This game has a lot to offer, many more locations and puzzles that differ from the classic. Things like space ships, Triffids and even Jeff Minter!

If you have enough patience and a lot of time to spare, this will keep you happy for ages, but that Space Invader sequence is just a pain. Get past it, save, and you should have a great time in this lovely game.

Tarra!
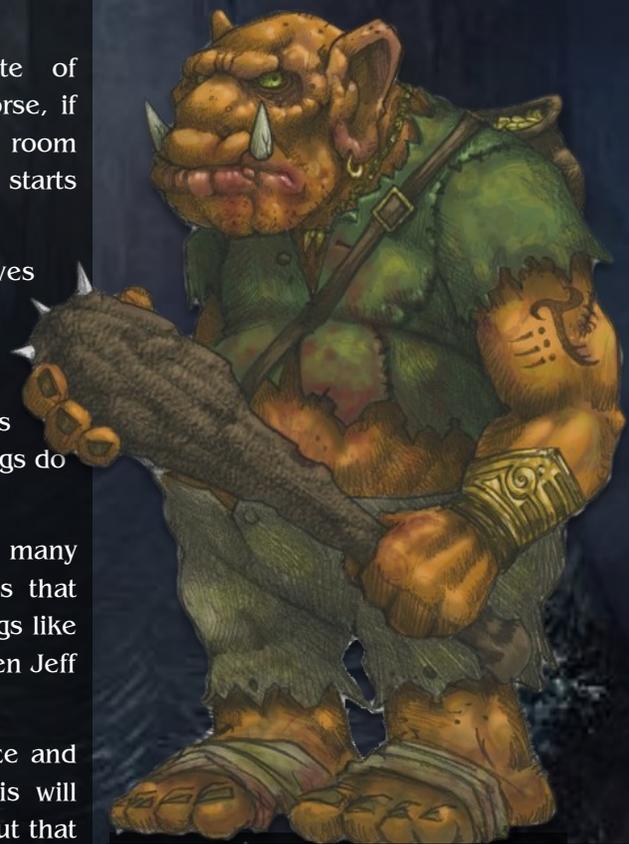

```
You are in a gully in the
forest. It is rather wet
underfoot.
And you can see:
A rampaging bull guarding the
gully
One penny(old style)
```

my life in ADVENTURES

Of all the genres of games available on the Spectrum, adventures are probably the most niche alongside possibly war games. They seem to cast a shadow of geeks gathered around small screens in a dingy room trying to kill trolls and steal treasure. Some of this is only partly true.

I was introduced to adventure games by my tiny local computer shop, Dragon Byte in Morley (Leeds), which was owned and run by two Dungeons & Dragons players. They were enthusiastic about computing in general and squeezing into that small shop every Friday was a delight.

There were shelves stacked to the ceiling with all types of games. New and old, classic and abysmal, and the choice was bewildering when I first started out with my ZX81. I had played Black Crystal from Carnell Software on that humble machine and wasn't too impressed to be honest, so my focus was on arcade games, of which there were plenty.

When I got my Spectrum shortly afterwards, it was time to start building my collection, with the usual arcade clones being first on the list. Gobbleman from Artic Computing, Centipede from DK Tronics and Orbiter from Silversoft were amongst the first to be handed over to my eagers hands, but even with new releases coming thick and fast, I soon became wary of buying anything and everything.

Leaning on the counter one day, I was perusing the large boxed games that often festooned the upper shelves, out of reach by a long way, but still visible and easy to read. These games were intriguing. They had elaborate covers and enticing names, and I later discovered they were mainly adventure games from Level 9 or Carnell Software.

Colossal Cave, Dungeon Adventure, Black Crystal and Volcanic Dungeon always greeted me as I looked around, trying to locate my next purchase. Eventually I asked about these games, but the answer confused me. These were, apparently, games where the computer accepted your commands as you roamed around mystical places. It carried out your actions and presented challenges and puzzles. It took you to strange, mysterious and often dangerous places and let you explore dungeons, caves, islands, castles, star ships, planets and alien worlds, all from your Spectrum.

I was interested until they told me the price of them, which always seemed to be nearly double the average arcade shooter. They could see I was partly interested and also that I thought paying £12 for a single game was a bit much, even though at times I was buying three games a week from them.

One of the men picked a cassette from another shelf and handed it over to me. A normal priced game, he assured me, that would confirm whether I would like adventure games. It was a plain white cover featuring what looked like an elf dragging a dragon, and the title written across the top; Adventure One.

Upon arriving home, I loaded the game and stared at the screen full of text. No graphics! I read the instructions and knew I had to collect treasure from a nearby cave system and return it to the well house. It all seemed easy enough I thought, and after quickly wondering about, finding a locked grate and wondering what to do next, I began to examine everything. Using the keys I found, the grate was quickly opened

and I descended into my very first

```
You are in a small chamber
beneath a 3x3 steel grate to the
surface. A low crawl over
cobbles leads inward to the
west .
```
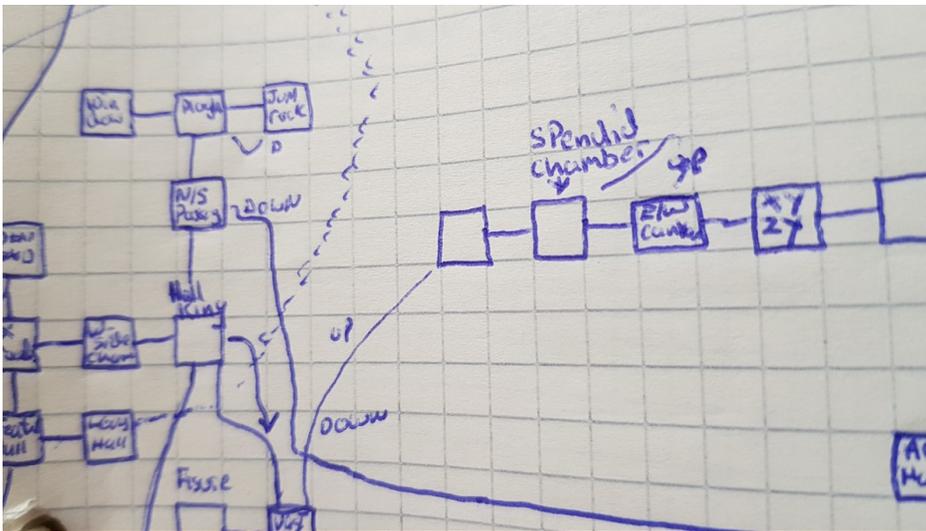
cave.

The game was a copy of the original adventure game written by Crowther and Woods way back in 1976 called Colossal Cave and had most of the locations, objects and puzzles. From that very first play I was hooked, I wanted to see what else I could find in these twisting passages and massive halls. I played most nights after work, exploring, mapping and trying to work out how to get rid of the huge snake in the
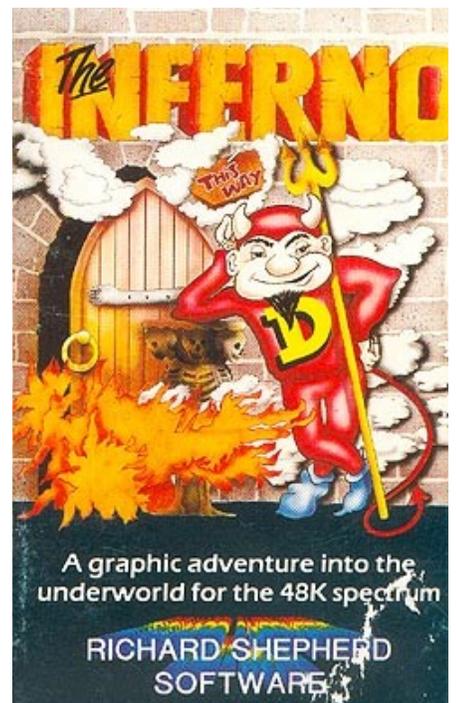

My original game map (or part of it)

Hall of the Mountain King.

At this point I was stuck, unable to progress. It wasn't because the puzzle was too hard (in fact it was easy), it wasn't because I couldn't find the right words to use and it wasn't because I didn't have the right object, it was embarrassingly because I mistook an object for a location.

Somewhere close by the text described an Eastern Flute. I thought this was, foolishly, a passage leading east, but was confused that I couldn't actually go down it. After a few weeks I returned to the shop and was told, again to my great embarrassment that I had to charm the snake with the flute. The flute! Of course, why had I not realised before!

With that sorted, I enjoyed a lot more of the game over the next few months. The Plover Room, the Y2 rock, the mysterious figure waving at you, all so atmospheric. I had the game map in my brain like a street atlas and could walk about often without looking at my hand drawn scrawls. The battery in the lamp was a problem, which often meant starting again, but this was like visiting a favourite place again, and I quickly got to the next un-solved puzzle. It was many years later, in fact sometime in the mid 90s when I finally completed a version of Colossal Cave, but that's another story.

More adventure games followed; Plan-

et Of Death, Ship Of Doom, The Hobbit and Jewels of Babylon all got played heavily, but the time you had to invest in them was limited and other things in my life moved on.

I recall one incident that stands out for me, and that was my time spent playing Inferno from Richard Shephard Software. The game had just come out and both myself the guys at the shop were playing it at the same time. Each week we swapped tips and ideas about puzzles and I even managed to tell them how to get past something they had been stuck on for ages. That was like the pupil teaching the teacher, and it always makes me smile.

At this time there was no internet and the only way to get help was to read magazines that often ignored these types of games. There were no walkthroughs, you had to sit and work it out for yourself, which gave immense satisfaction when you finally had the

'light bulb moment'. You would be sitting at home, or in your office, or driving your car and suddenly you would say out aloud 'I need the fish to get past the lion'. Anyone around would think you were mad or had mental issues, but this was all part of adventuring.

Adventure games have always been an element of my gaming. Sometimes so small as not to be worth even a mention, playing maybe a total of 1 hour over a 12 month period, other times playing weeks or months.

Sometimes they were brought to the fore in the most strange ways, and again the genre moved to the top of my gaming time. While working at a company that provided bedroom furniture, I was in someone's house when I noticed a computer on a nearby table. The owner noticed my glances and asked me what my interest was. We talked about computers and games, and I found out he was a big Atari fan, and he enjoyed adventures. We swapped stories of orcs, wizards and aliens for quite a while, eventually leading to Infocom. At this time I had never heard of them, but he took the time to show me boxes and print outs of the games. Sadly, as I found out, these magnificent works of fiction were

not available for the Spectrum.

Here was a wealthy man in a large expensive house, driving a top of the range car and obviously very important, chatting about adventure games with a young (probably un washed) youth who was unloading a lorry fully of furniture into his house. That divide didn't matter though, it was adventure games that bridged that gap. Later in life when I got my Amiga, I eventually got some Infocom games (one of which I still have) and could

finally experience these for myself.

Things moved online with MUD and later Shades, and then an explosion of online multiplayer games. I spent far too long on these!

Today there are new games coming out all the time for most platforms, and you will probably know that I have
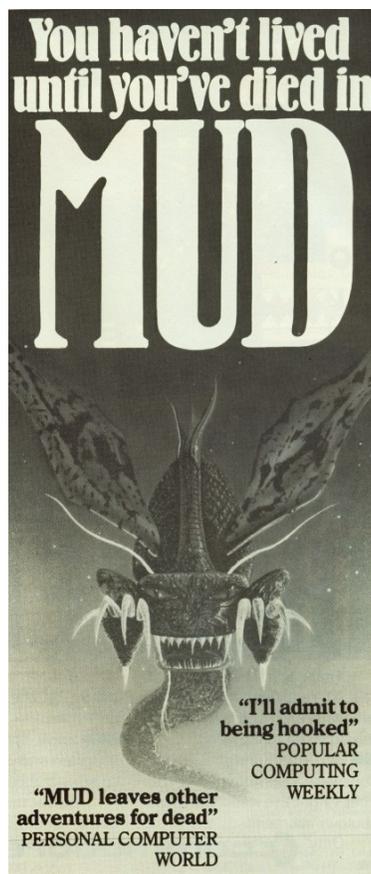
written a few myself. Adventure games are like no others, especially well written text adventures. Sadly, the gaming world now looks to life-like graphics, 8k resolutions, cut scenes and surround sound as their quality markers. For some though, text based adventure games produce the best graphics – the ones in your mind where there is no limit.

There is no feeling like suddenly realising that the problem you have been trying to solve for the last few days or weeks was staring you in the face all along. A real head-slapping moment, and something missing from most of modern games.

Adventures are not for everyone, I realise that. But for me they are as important as any other genre. They have their own high points, the stand out games, the historic games and outrageous games and games that make no sense. Games that have bugs and games that are funny, children's games and adult games. They challenge in different ways, exchanging hand-eye coordination for logic and object orientated puzzles. Swapping fast action for slow, easy paced progression at the player's discretion.

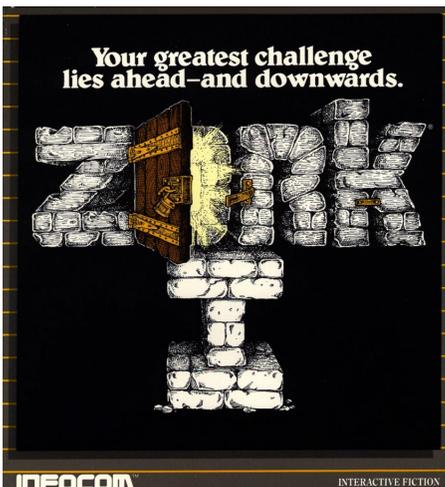They are definitely a part of my past, present and future gaming.

If you are in the slightest interested in text-based adventures, I would recommend you track down a film call Get Lamp. This long documentary covers adventuring right from the start and offers a lot of insight into the making and playing of these games. I think it can be found on YouTube, but I have the full DVD set.

BEFORE THE FIRST PERSON SHOOTER
THERE WAS
THE SECOND PERSON THINKER.

GET LAMP
A DOCUMENTARY ABOUT ADVENTURES IN TEXT

Get Lamp

In the early years of the microcomputer, a special kind of game was being played.

With limited sound, simple graphics, and tiny amounts of computing power, the first games on home computers would hardly raise an eyebrow in the modern era of photorealism and surround sound. In a world of *Quake*, *Half-Life* and *Halo*, it is expected that a successful game must be loud, fast, and full of blazing life-like action.

But in the early 1980s, an entire industry rose over the telling of tales, the solving of intricate puzzles and the art of writing. Like living books, these games described fantastic worlds to their readers, and then invited them to live within them.

They were called "computer adventure games", and they used the most powerful graphics processor in the world: the human mind.

Rising from side projects at universities and engineering companies, adventure games would describe a place, and then ask what to do next. They presented puzzles, tricks and traps to be overcome. They were filled with suspense, humor and sadness. And they offered a unique type of joy as players discovered how to negotiate the obstacles and think their way to victory. These players have carried their memories of these text adventures to the modern day, and a whole new generation of authors have taken up the torch to present a new set of places to explore.

Get Lamp is a documentary that will tell the story of the creation of these incredible games, in the words of the people who made them.

Issue #2 December 1983

Here we are at issue two, and after the menu screen we get straight into things with Vampire. BUT, before that there is a blatant advert for Cheetah products. I presume Cheetah gave them some money to do this!

Onto the first game then, and Vampire sees you running around a haunted house trying to collect four items needed to kill the count.

The layout shows the count top left in his red coffin, and five question marks. Four of these are the items you need, and one causes things to get dark and releases the vampire bat.

If you collide with the bat and have the cross, you will survive, but another bat soon appears, and death follows if you collide.

The items are placed randomly each game, so you may get lucky!

Up next is news, and 16/48 report they have received Sinclair's Interface One and Two for review. They liked the Microdrives so much that every issue from now on will have the option to save things to cartridge.

They didn't like the joystick port setup in Interface 2 though, but then who did?

Next is a letter, written using some of the machine code routines from issue 1, asking for them to be explained to readers, and sure enough, the next article does just that.

Moving on and it's time for some serious stuff, an amplifier simulator. According to the text this program simulates the behaviour of a single stage transistor amplifier.

After the diagram, you get to change the values and see the results in text format followed by a nice graph.

Next is competition time. Using the program supplied, you have to create an image for use in a future issues. This is just a simple art program.
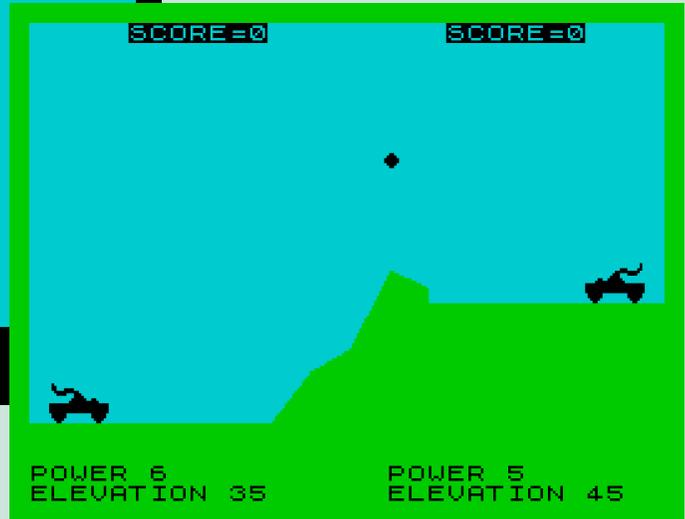
Next we get game reviews. This issue had ZZoom from Imagine and Ant Attack. The reviews show screen shots of the game with text 'typed' over the top. This is a neat idea.
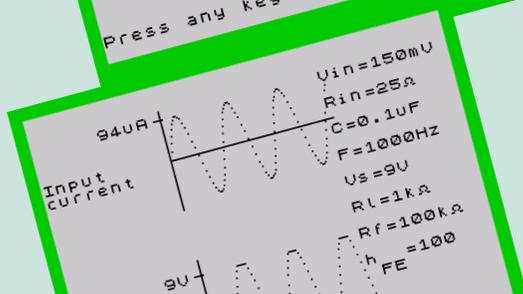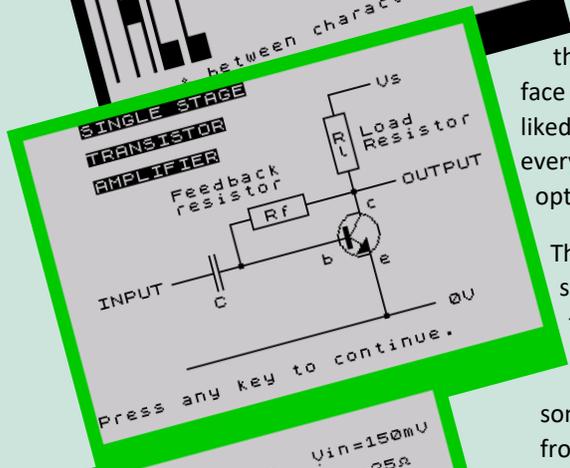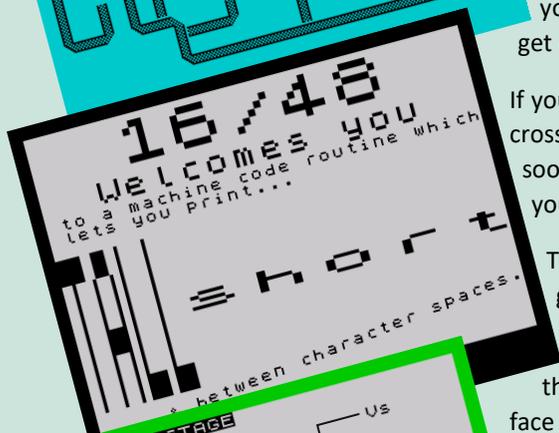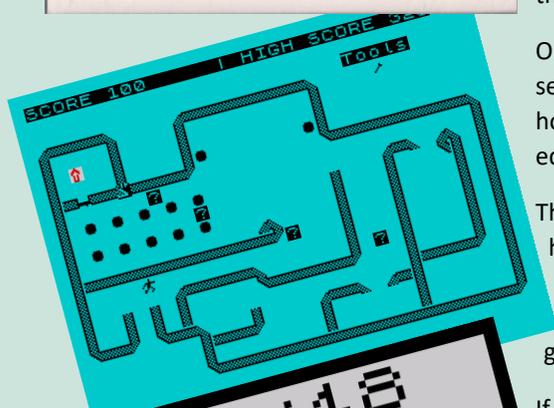
OF DUNGEONS AND GREEN MEN

Adventure help from James Dann.

```
A  Can't see a thing?.
B  Trench.
C  Monster.
D  Rats.
E  Bronze statue.
F  Escape.
Q  Quit menu
```



```
SCORE=0          SCORE=0
```

```
POWER 6          POWER 5
ELEVATION 35     ELEVATION 45
```

On to side two now, and my favourite, Dungeons and Green Men - the adventure help section. This issue covers Smuggler Cove, but to get hints you have to enter the date shown on the coin on the game's cover (1753).

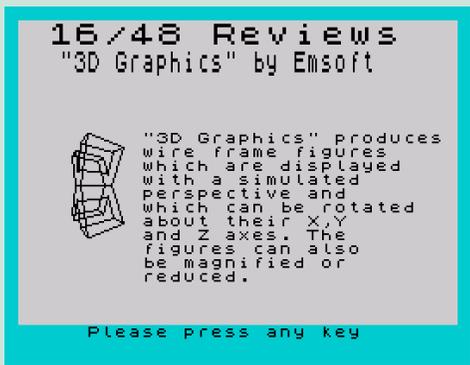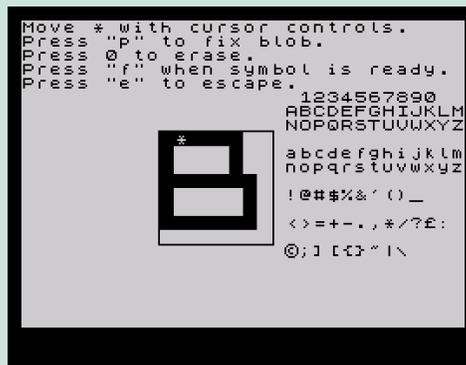After this we get hints for The Hobbit as an extra bonus.

Ballista is a game for two players and has you setting power and elevation to try and throw bombs on each other.

A nice simple game with decent graphics.

Next we get a utility to design what the magazine calls a script. What they mean is a character set designer. This also forms the second competition, with the reader who makes the best font winning an Interface 2.

3D graphics are next on the agenda, with reviews of two programs. First is 3D Graphics that lets you design images in 3D and rotate them on screen. The next is Vu3D and Viewpoint.

Oh no, educational things! Do we really need to persuade parents that our beloved Speccy can be useful? Well, if you do, then this will let you learn your times tables!
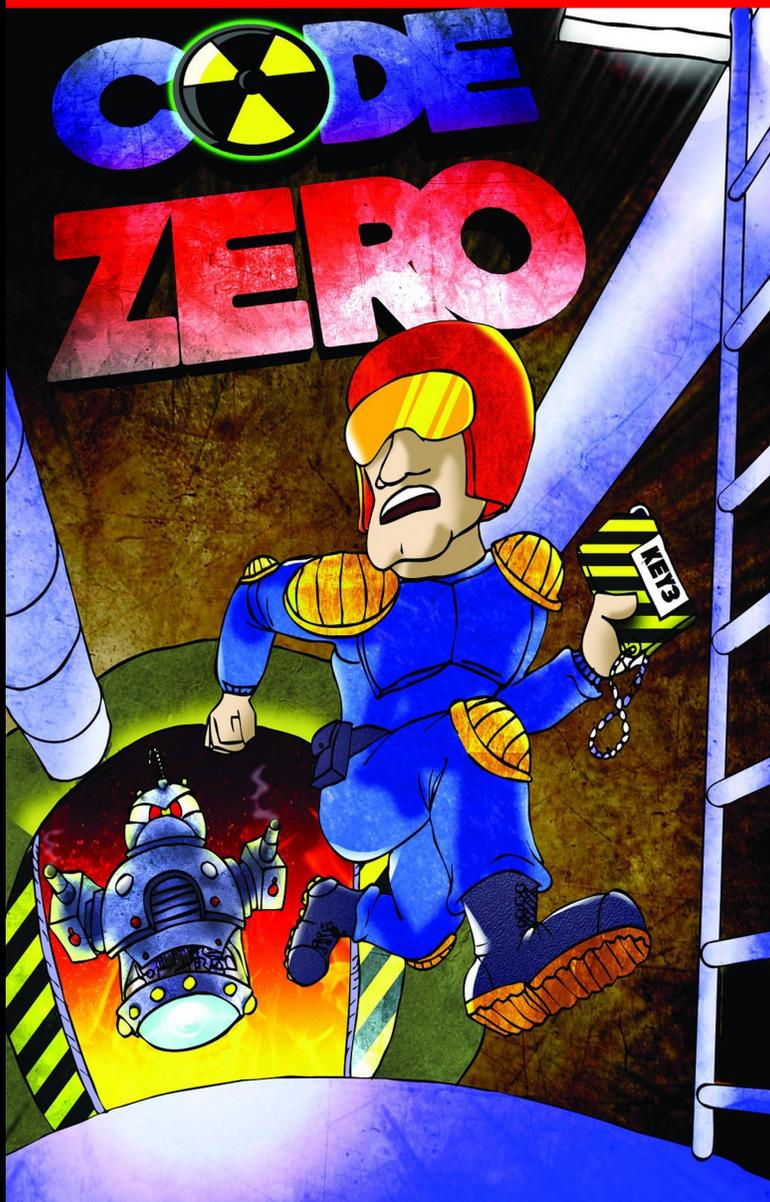
```
Move * with cursor controls.
Press "p" to fix blob.
Press 0 to erase.
Press "f" when symbol is ready.
Press "e" to escape.
            1234567890
            ABCDEFGHIJKLM
            NOPQRSTUVWXYZ
            abcdefghijklm
            nopqrstuvwxyz
            !@#$%&'()_
            <>=+-.,*/?£:
            @;] [{}~ |\
```

16/48 Reviews
"3D Graphics" by Emsoft

"3D Graphics" produces wire frame figures which are displayed with a simulated perspective and which can be rotated about their X,Y and Z axes. The figures can also be magnified or reduced.

```
Please press any key
```

16/48 REVIEW
VU3D by PSION
VIEWPOINT by A.C.S.

Viewpoint is a similar program to Emsoft's 16K program. Vertices are entered to a table and diagrams can be rotated about any axis. Alas there is no control over size as all figures are automatically scaled to about this.

```
press any key
```

PauL
you score
53%

```
A  for another go
N  for someone new
M  to move on
```

ABOUT 16/48

16/48 was a tape based magazine that began publication in November 1983. It wasn't the first magazine of this type for the Spectrum, that was Spectrum Computing.

16/48 came attached (with glue) to a large A4 sized card with a paper magazine like style on the front, and a list of contents on the back.

The magazine ran from November 1983 to June 1985.