

SAM Community

Issue 3

Feb/Mar 2000

Meet the stunning new SAM game...

CHROME



Also inside...

Open 3D - SAM's open source PD 3D system

Spotlight - featuring Colin Piggot

Also...SCFL Updates, Top 5 Chart, your letters...

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SAM Community is printed 6 times a year (or at least that's the idea!) It is available throughout the world to anyone who owns a SAM Coupé, or to anyone who is interested in, well let's just say, alternative computing. To subscribe for a year, simply send a cheque, postal order or cash (all Sterling only!), for £5 (UK and R.O.I. readers) and £8 for International readers.

**SAM Community,
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Please state which issue you want your subscription to start from.

Editorial



Last issue I asked for your opinions on SAM Community. I wanted to know if you wanted it to remain as a Newsletter or become a full magazine. I'm pleased to say that I received a lot of letters on the subject, all mostly positive. Thanks a lot to all those who wrote in! You can read some of the comments on the Letters page. I must apologise for not replying to the letters directly but there were just too many!

As you may know, I'm starting a small software business, for which I've been (finally) approved government funding (cheers Tony!). I am working on a few games for the PC and Mac markets and hope to borrow (well, steal) some ideas from the good old Speccy days, when games were good, the sun shone every day, and we all thought the SAM Coupé would sell millions. How we laughed. (Yikes, mustn't start using YS language already...) Anyway, now and then the old SAM has to take a back seat so that I can concentrate on the business (and therefore make my millions and relaunch the Coupé) so I apologise if you needed a reply to your letter before now or if your disks from the File Library were late. I will try my best to get your disks out as soon as I receive your order from now on. As for the mag, it is definitely a priority to get it out roughly on time each issue - there was an unfortunate one month delay with this issue.

Okay, next the usual plea for material and writers. Magazines such as SAM Community can only survive if there are contributions. I know some of you are very busy and may have little time, but a letter with opinions or information would be something that surely everyone can send in. See page 11 for more information. It's easy, and you'll feel a warm, squishy glow when you see your work in print read by all the keen SAM enthusiasts!

Enjoy the issue and it's my birthday in early March (hint hint...)

Gavin

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News

Wincoupé new version

A quick note from Simon Owen tells us that a new version of Wincoupé will be available soon, along with the source code.

B-DOS and new GUI?

Martijn Groen also dropped us a quick note to let us know of a new version of B-DOS, which is now up to 1.7b. Release notes don't make clear what is new, apart from displaying your CD-ROM drive's ATAPI version on the logo screen. Much more excitingly, he also hinted that Robert van der Veeke and him are considering working on a new GUI for SAM. Nothing to report yet, perhaps we'll have more information next issue.

Radio Amateurs meet Amrad

Ian Spencer recently sent an email to the SAM-Users emailing list, regarding some software he uploaded. In his words (mostly cos it's a bit over my head...) Amrad "is a bit specialised as it's a program for Radio amateurs and short wave listeners to send and receive Slow Scan Television (SSTV), FAX, Radio Teletype (RTTY) and CW (Morse), some modes need the Samburg clock as it runs in test mode and delivers the timing signals. Amrad can also control a TNC which is a sort of microcomputer controlled radio terminal. Though this mode can also be used to communicate through a modem (at a push) and has

been used to link two sams with the other running COMIX. The TNC mode has the advantage that it has local echo which I think was missing on COMIX. The package also contains a logging program for radio contacts (and it's Y2K tested wow!)" Hopefully the SCFL will include this next issue...

Rise of the Robot

Although I haven't seen it myself, the little SAM robot appeared in the Feb issue of Computer Shopper, on page 563 in a collage about the millenium. Good to know that someone still remembers the Coupé!

Chrome!

As you'll no doubt have noticed, due to it being everywhere this issue, Colin Piggot of Quazar is working on a brand new 3D game on the SAM! Check out the preview and also the interview with the man himself, inside this issue. I've also been asked to let you know that Colin is on the move at the moment, and if you want to write to him for any reason or to order software or hardware, please phone him first on 07967 118132. Good luck Colin, I still haven't finished unpacking boxes since my move over a year ago...

*Got any news that might interest us?
Send it in to the usual address!*

Sinclair Online

Sir Clive Sinclair stated in an interview a while ago that he hadn't been on the Internet and was not interested as it was too slow. However, his company, Sinclair Research have had a website up for some time now. Not much to be found on it in relation to the ZX Spectrum, but you can buy the X1 and Z1 Button radios and the Zeta 2 Drive Unit for bicycles.

Perhaps some day we'll see Clive's next computer. He has mentioned this several times in the past, hinting that it may use the Linux OS in some form or other although recent rumours have said he has now changed his mind about the OS. <http://www.sinclair-research.co.uk>

Pay up you bastards

A letter from Dave Fountain of Crashed reports on good news and bad news at Crashed. Crashed is sold in several retro shops, but some of them have yet to pay up for issues sold. Issue 29 has been delayed until February because of this - it's all ready to go to the printers though. The good news is that readership is on the increase and that there is a brand new SAM Coupé coding article coming! Get in touch with Dave at Crashed Magazine, 11 Camel Road, Silvertown, London, E16 2DE.

Subscribe to the next 3 issues for only a fiver or the next 7 issues for a tenner. Go on, it makes a great read, and this new SAM column will make it even more worthwhile.

As if the mag didn't take enough time...

By the time you read this, SAM Community should have a (probably fairly basic) website. It should be a good starting place if you're hunting for SAM information on the net. Visit <http://www.samcommunity.co.uk>

TCP/IP please

TCP/IP (Transmission Control Protocol/Internet Protocol) is, very basically, the language of the Internet and most other networks as well. There has been much discussion on the comp.sys.sinclair Internet newsgroup about whether the poor little Speccy could handle it - mostly, feelings were that the memory requirements would be too much for it. However, there are several TCP/IP stacks available on 8-bit computers, including the BBC, the Sinclair Z88, the MSX, the Amstrad CPC and the Oric. The CPC stack is being worked on as I write, and as the CPC is Z80 based, surely a port would be possible to the SAM? We certainly have the advantage of all that extra RAM compared to the other 8-bits. Plus, these days, we have a hard drive which could be used to store Internet applications. Once the stack is completed, basic email and ftp clients could be written. Perhaps even a text based web browser? Come on you guys, it's time we got the SAM on the net. So what brilliant coder is up to the challenge?

<http://www.nenie.org/cpcip/>

CHROME

The preview!

Well, if proof was ever needed that the SAM isn't quite dead yet, this has got to be it! As exclusively revealed in this issue's interview, Quazar is working on a 3D shoot-em-up game for the SAM! Not only is this the first game to be announced for the SAM in the year 2000, but it's SAM's first ever game of this genre! What we're talking about here, is Doom or Quake, on the SAM. We're talking about a potential stunner!

In case you've been hibernating for the last 10 years or so, a 3D shoot-em-up is one in which you see the world through your own eyes. You move around the playing area, hiding behind walls, sidestepping left and right to dodge gunfire, turning round 360 degrees to view all around you, just as you might in real life. You seek out your enemy, trying to outsmart him, knowing he is doing the same. You both have several weapons at hand - you must choose the right one to finish him off...Chrome puts you in such a world, right on your SAM.

Doom and Quake come as level based games. What this mean is that you enter the playing arena to kill off as many bad guys as you can, and reach the exit, so you can enter the next level. Another way to play these 3D games, is to compete in a "Deathmatch" (much like PC/Mac Quake 3 Arena, for those in the know) - this is the way you will play Chrome. Rather than playing against monsters who are just put there to be killed and have little or no real intelligence, you play against "bots" - players controlled by artificial intelligence, who run around picking up weapons and trying to kill you, in the same way as you are trying to kill them. There are three deathmatch modes in Chrome -

- 1) Standard deathmatch - You play against several bots
- 2) Team deathmatch - 2 teams, one of which you are a member - watch you don't kill your ally!
- 3) Tournament deathmatch - You are pitted against a single bot - tension in the air!

Artificially intelligent bots in a 3D world? Beginning to see why this could be so incredible?

And just because you're on a SAM, Quazar doesn't think that's a reason why you should have limited weapons at your disposal! Check out the list below!

Blaster (your most basic weapon)

Shotgun

Chaingun

Grenade Launcher

Rocket Launcher

Plasma Gun

Rail Gun

As in other 3D games, the most powerful weapons are likely to be the hardest to find, perhaps hidden in a concealed part of a wall. If you take a couple of hits, don't worry, Chrome has health packs scattered around - just collect one and you'll feel better. You can even pick up Armor which gives you added defence against your enemy's attack. As far as features go, Chrome certainly isn't lacking! If you've played Quake, you'll know what Quad Damage is - it's basically a power-up that makes your weapons four times as powerful for a limited time - get it, and you'll have your enemies running for cover. In Chrome we get a similar feature, called Triple Damage - perhaps a rename to avoid the wrath of ID (Quake's publisher).

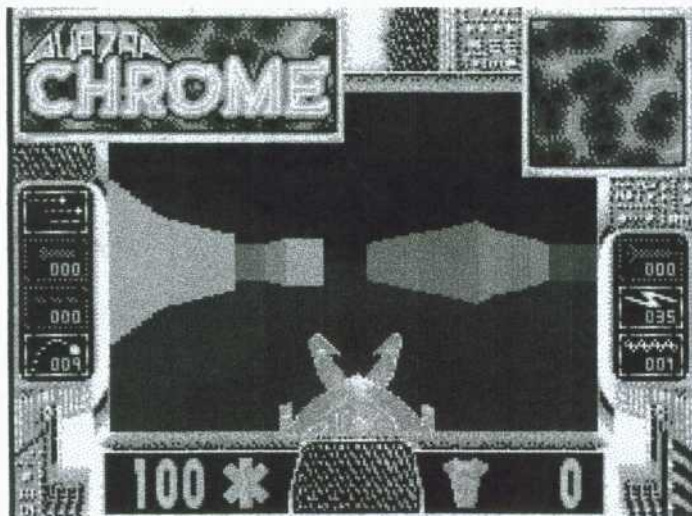


If you're anything like me, you'll be a little sceptical that programmer Colin Piggot can pull this off! Stratosphere was pretty impressive, but this sounds like it's in another league. He's confident he can do it though - he's even planning some nice little touches, including flickering lights and dynamically located sounds (which basically means that as you walk towards something, the sound it is emitting will get louder and vice versa).

Some add-on packs are planned as well, including level packs, the best of which is Night Hunters - basically, picture yourself in a dark playing area. As you run around, torches light the way a little but darkness is still all around you. In the distance you hear running footsteps approaching but where? Do they know you're there? Do you fire your gun and give away your position or do you hide? Pretty atmospheric eh?

I also want to give a quick mention to the Map Designer that is being planned - design your own levels and then enter those very corridors in 3D, through your own eyes! I personally can't wait for this add-on pack, especially as the maps themselves can apparently be very large.

Well, I'm positively poo-ing in my pants at the prospect of it all! Why couldn't we have had games like this at the beginning of the Coupe's life? We'll hopefully have more updates for you next issue, so stay tuned!



Letters

SAM Community, 34 Craigowen Road,
Carrickfergus, BT38 7NE.

Dear Gavin,

I saw from the SAM Users Group on the net that the second newsletter is now available. I also saw your comments regarding a possible bimonthly disk, I would be interested in this if it becomes a reality. I used to write the help section for SAM Supplement for a while until its closure earlier this year and if you require any similar input for your disk, I would be pleased to oblige. If you need something to get a disk going, I will ask Dave Tonks if some of the Supplement Help articles could be reused.

I have had a SAM since December 1989 and currently have a 512k with Atom hard drive system and mouse. I also have one and a half spare machines and other assorted bits and pieces. Looking forward to receiving the newsletter.

Yours, Geoff Bridges

Geoff I'm afraid you must have misread the article - I was proposing that the newsletter be evolved into a bi-monthly paper magazine, not disk mag. However, we would indeed love to have you as a regular writer as I remember you from SAM Supplement. See seperate letter on the subject Geoff.

Dear Gavin,

I am writing in response to your article in the newsletter regarding expanding same into a magazine. I have to say I think this is definitely the way forward, and I for one would be happy to subscribe.

Keep up the good work.

Yours sincerely, Bob Marsden

Dear Gavin,

...As for the idea of a new magazine, will there be enough material, games, hardware out there to sustain a magazine? Format near its end was getting pretty thin and boring and Crashed is amusing but there's only the space for one SAM/Spectrum magazine like that.

I'd buy the magazine if it was out there, but the material needs to be out there as well.

Jim Loder

Thanks for your letter Jim. Yes, Format was getting pretty thin near its end, but I think you'll find SAM Community is even thinner. What you must remember is that

Format was profit making, whilst SAM Community is not. (quite the opposite actually!) You may also notice that Format had a number of adverts which took up a surprising amount of room. Hopefully you'll think there is enough material to keep you interested though and the more writers we get, the easier that will be to achieve.

Along with this letter, Tobermory enclosed his Open3D article which you can find elsewhere this issue.

Hiya Gavin,

Sorry this isn't on a PC disk, but as usual, I can't get to a PC when pushed. Perhaps you can use this in your next issue! I've covered all the major aspects of the 3D project, but haven't done the "Graphics Environment Open System", as that makes more boring reading - it's a lot nearer completion than GEOS.

I also don't know if you're actually running the File Library - remember I ordered stuff in my last letter? (Chris Pile's Defender for one). Tell me if it's worth sending my stuff in, or should I self-distribute...

Anyhow, that's all for now. I look forward to the revamped SAM Community magazine - I recently found out about WOMO's magazine - some excellent reading even if I can't speak German!

Cheers, Tobermory

Thanks a lot for the article, it is much appreciated! I apologise for the delay in sending some disks out to a few people, I've been so busy lately that it's been hard to stay organised. Yes, I would be very happy to distribute anything you have to offer, please do send it in.

Dear Gavin,

Thanks for the newsletter, it's good to know that there is still some life left in the SAM.

The magazine - go ahead. Apart from a small section in Crashed, there is no way of receiving SAM news. Unfortunately, I can't afford to go on the Internet.

Chris Pile - tell him to continue with the chess game. I, for one, will certainly buy it.

Once again, a bi-monthly SAM magazine would be greatly welcomed. I do have other computers (C64, Amiga A500, and PC) but I stick with the trusty old SAM; the rest are used mainly by my two sons. They do use the SAM at times to play their favourite Spectrum games but mainly it's down to me.

Well, I think that's about all for now.

All the best, Barry Spencer

Several people have enquired about the chess game, I've nothing further on the subject just yet, but don't give up hope!

Gavin,

Please place an advert in the next issue of your SAM mag. Something like "I am looking for a SAM and accessories. Contact email is lukacs.albert@ln.mata.v.hu

Thanks, Tom Keresztes.

There you go, you heard the man! I notice the .hu in your email address, that's Hungary isn't it? See readers, our evil plan for world domination is in full swing! Anyway, this brings me onto something I have been thinking about (and I don't mean world domination). Recently I've noticed quite a few people looking to buy a second hand SAM, so I am considering setting up such a service. Basically it would mean buying SAMs from car boot sales etc, at a low price, and then selling again, tested and cleaned up, at a small profit (which would go straight back into producing SAM Community). It could of course be helped by you lot in that if you see a SAM for sale for a low price (under £25), I could then buy it off you. Just something I've been thinking about! It would be nice if there was a central location to buy second hand SAMs and know that they were tested etc. Any readers have any opinions on the subject?

Gavin,

Thanks for the mags. Looking good! Keep 'em coming...

Colin MacDonald

Thanks Colin, good to hear from you!

Write for SAM Community (no, really, please)

I enjoy putting together SAM Community - it's hard work but I enjoy it. To keep it fresh and interesting, we really need some regular writers. It isn't a big job to ask for - think about it - the magazine only comes out every two months, and I'm only asking a couple of pages or so of text. Regular columns that I'd like to see include -

- ◇ Machine code column
- ◇ BASIC column
- ◇ Hardware projects
- ◇ Info on SAM hardware
- ◇ Reviews (games and applications)

What I would like for the programming columns is not another "Beginner's guide to Machine Code" etc. We have enough of those already, and I don't think a bi-monthly mag is the best place for such a tutorial. Rather, I would like to see a column covering a specific area each month, with a program listing for illustration, with each line commented on.

Of course, if you haven't the time for a regular column, one-off articles are just as welcome. They can be on any subject that interests you. If you really can't do any of the above, please do write in with the odd letter with your opinions and views on any subject. Thanks and I look forward to hearing from you!

Spotlight

This issue's Spotlight features an interview with Colin Piggot of Quazar! It took place on the Internet at the end of January 2000.

SAM Community:

The question we have to start with...what was your first computer? Did you do any programming on it?

Colin:

The first computer I had was a humble rubber-keyed ZX Spectrum 48k. Programming, well... played around with BASIC a bit, progressing onto the extended LASER BASIC from Ocean, but that was about as far as it went.

SAM Community:

So like most SAM owners, you came from a Speccy background. What made you interested in the SAM?

Colin:

Well, I saw the coverage in the Speccy magazines, but I never (and still don't) see the Sam as an enhanced Spectrum - it isn't! It's a completely different machine as far as I'm concerned! I was attracted to the Sam as I didn't want to 'go with the flow' towards the Amiga which was the most popular computer at the time. The Sam looked a great machine even compared with the 16 bits that were around.

SAM Community:

Agree with your Speccy sentiments, I've always thought the compatibility between SAM and Speccy was overhyped, and rather untrue! I got the impression from the advertisements that you could simply load a speccy game as if it were meant for the SAM - didn't realise you needed an emulator! When did you buy your first SAM and did your initial few months of using it live up to expectations?

Colin:

I bought my first (of three) in March 1993, from Blue Alpha at that time, after the successive MGT and SAMCo crashes. Having been used to what the Spectrum was capable, I was amazed by even the demos on the introductory disk, and the programs from YS cover tapes. I looked forward to buying some real software to see what the Sam could do!

SAM Community:

When did you start learning to program the SAM and what was your first program?

Colin:

I started using BASIC on the SAM straight away, my first program was the puzzle game 'Towers of Hanoi' which was written within a fortnight of receiving the Sam. This appeared on issue 33 of Fred the following month. In April 1994, I took the plunge into Z80 assembler! It was quite a quick process learning Z80, although previously I had been put off by its supposed complexity... but I got a firm grasp of it within a few weeks. Learning it was quite a strange process... I had bought Rodney Zak's 'Programming The Z80' and along with the Sam Technical Manual I sat down and experimented! That's the only real way to learn assembly.

SAM Community:

As well as being a programmer, you're also a bit of a hardware wizard. What were the reasons behind you designing and eventually selling, the Quazar Surround?

Colin:

Computer music had fascinated me, how sound could be stored and played back. I had heard samples on other computers such as Apple Macs and Amigas, and to an extent 4 bit samples on the SAM at a very low quality. I felt SAM had to have better sound than this, as it could really add something to games and demos. The Quazar Surround was designed in 2 days, and part built within a week for initial testing, with it being fully complete within another fortnight. I tried to incorporate the best features I could think off - multi channel to allow many sounds to play at once, full 16 bit sound - matching the latest PC soundcards and from the outset I had decided to make it support full surround sound - it really is truly amazing when you can hear sound all around you, and at the time this was really unheard of on soundcards, let alone on an 8 bit computer.

**SAM Community:**

Apart from the Quazar Surround Sampler module, are there any other hardware

projects that you have worked on, that haven't been seen by the public?

Colin:

Yes.

SAM Community:

Oooh secretive! Although you have programmed several games, the one you are most famous for is Stratosphere. In a review I even called it "The Best Game Ever on SAM"! Where did the idea for Stratosphere come from?

Colin:

I wanted to come up with a game to really use the full power of the SAM - the idea for Stratosphere stemmed from various things, at the time I was really into the Apple Macintosh game 'Spectre', on which Stratosphere is heavily inspired by.

Also, 'Elite' had just been released for the SAM by Revelation Software - but that turned out to be the Spectrum game, still with its slow monochrome MODE 1 line vectors - and we all know the SAM can do so much more than that! Stratosphere evolved to make full use of the SAM: Fast, colourful MODE 4 line vector graphics etc... I could go on and on... !

And to turn the tables on this interview for one moment, why did you feel that Stratosphere was, and I quote you here, 'The Best Game Ever On Sam!'?



SAM Community:

Well, apart from the 50 quid cheque you sent me as a bribe, it was something totally new on the SAM. Technically impressive but also a game with depth. It remains the best game I've ever played on my SAM. I was very addicted to it for several months - I still play it now! As well as being a good game, Stratosphere also shows off what the SAM can do. When you were programming it, were you

worried that the SAM couldn't handle it? Or were you intentionally pushing the SAM's hardware?

Colin:

I was intentionally pushing the SAM... I wanted to create a breathtaking game! But with SAM programming you learn just how much you can get out of the machine, speed is always a crucial concern - I always write the code to work first, check it works, then optimize it fully, keeping track of every processor cycle that can be saved!

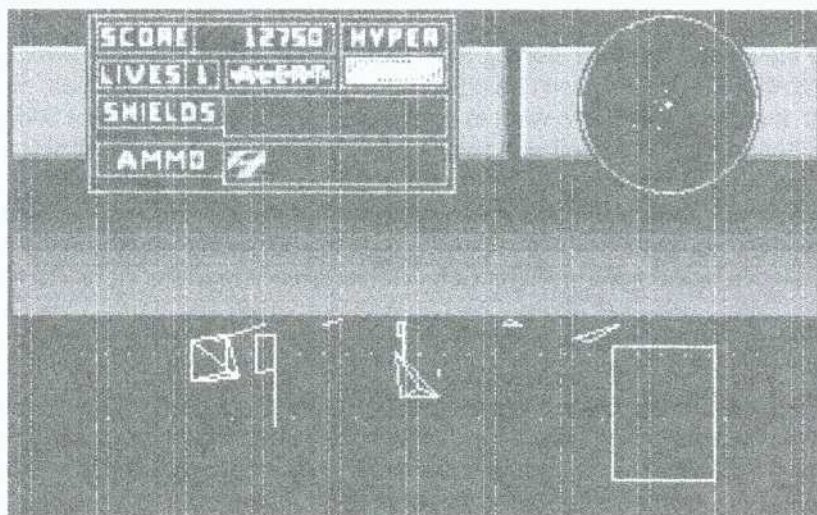
SAM Community:

Has Stratosphere sold as well as you had hoped?

Colin:

I have had phenomenal reports back from those who have bought Stratosphere, and it's always gone down tremendously well at the various Sam shows at Gloucester, and the reviews say it all. But to answer, Stratosphere has not sold as well as I had hoped.

One thing I find is that people who read about it, seem to assume that they must have the Quazar Surround soundcard for Stratosphere (and some of my other games to work) but that is not the case! Stratosphere will run without it so no-one misses out on the game!



SAM Community:

Did you find the various SAM publications keen to support and cover your products? It has often been said that Format did very little to cover products from certain companies (notably Persona), although to be fair you did get some coverage.

Colin:

In August 1995 when I released my first product - the Quazar Surround - I did find some publications very keen to support and cover news. David Ledbury at Phoenix Software was very keen, Micheal Stocks too, I even had my own column in his magazine 'Zodiac' to cover all the news! Format covered the main pieces of news. However, soon after the launch of the Quazar Surround, nearing the end of 1995, I was told by Colin MacDonald (and I quote here) 'I won't print your news, news is plugging and I can't be seen to be plugging other people's products.'

SAM Community:

He said that? Blimey! Why?

Colin:

Why? I've no idea. But that is what he said: 'I won't print your news, news is plugging and I can't be seen to be plugging other peoples products.' That's one phrase I won't forget in a hurry. Although, two and a half years later, when Darren Wileman took over the general running of Fred, news was covered - he was a keen supporter of my products - especially the Soundcard, which he was planning to release software for. Still, I've shown them all and gone on to become the largest Sam company today, with the most widely supported piece of hardware and the most stunning game Stratosphere :)

SAM Community:

One of the reasons behind starting SAM Community, was to try and cover products that I thought weren't being covered fairly by some magazines, mainly Format. It always seemed to want to print news on any subject, except SAM related items. I was annoyed with nearly every issue, knowing full well that there were new items being produced, but rather than cover them, news items appeared about train stations and complete waffle. Very sad to see. I wouldn't have thought the same of Fred to be honest with you, it was always my favourite SAM disk mag but maybe we'll get Colin McDonald's side of the story in a future interview! Were you ever approached by Bob Brenchley about using the Quazar Surround in a future SAM?

Colin:

Nope. But, the Quazar Surround can really be regarded as a standard these days, with masses of software it's the most widely supported piece of SAM hardware. For example, Soundbyte (the monthly disk I produce for it) is now on issue 56 at the moment. And don't forget about the sound support in a lot of games from other companies.

SAM Community:

Despite never even nearing the size of the Spectrum market, the SAM scene has survived into the year 2000 and, I hope, pulling together a little with SAM Community. Are there any future products from Quazar you can tell us about?

Colin:

Well, yes, I do have a new game in development at the moment. It's called Chrome.

SAM Community:

Chrome? Tell us more!

Colin:

Well, I have to say that my favourite games of all time are the three Quake games on the PC (and the original Doom / Doom II as well!). Chrome is heavily based on these games.

SAM Community:

What? A first person 3d game on Sam? Blimey!

Colin:

Correct! If all goes according to plan it's going to be really special.

SAM Community:

Can the humble SAM really handle such a game? As powerful as the SAM is for an 8-bit computer, this really would be pushing it!

Colin:

Well that's part of the plan, to really push the SAM to its limits. It's been a while since I wrote Stratosphere so I'm curious to see what else I can do with the SAM now, and I think Chrome would be a great way to find out. I'm confident the SAM will be able to handle it, and with the amount of work I've put into it, it is progressing well.

SAM Community:

This is pretty amazing stuff, I'm trying to picture playing such a game on the SAM! I hope you will keep us updated!

Colin:

I Certainly will. I'll send you some screenshots for the next issue of the mag [Check out the preview on page 6. Gavin.] and I'll give you full updates on how it's all progressing.

SAM Community:

I trust it will be like Stratosphere in that there will be advantages if you have the Quazar Surround soundcard, but it won't be necessary?

Colin:

That's right, you won't need the Quazar Surround to run Chrome, but if you do then you will be treated with masses of additional sound.

SAM Community:

Thanks a lot for your time Colin, and good luck with Chrome!

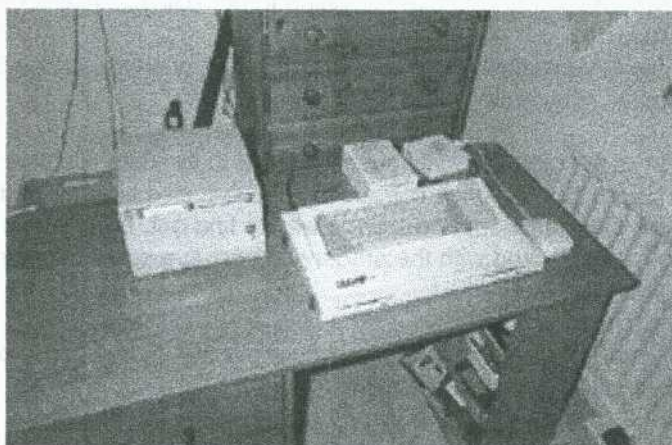
Let us know who you would like to see under the Spotlight next! Write to the usual address and we'll see what we can do.

Opinions expressed in Spotlight are not necessarily those of SAM Community or of Gavin Smith!

SCFL

SAM Community File Library

Things are finally getting sorted out on SCFL front! A pleasingly large number of readers ordered disks last month, great to know all those Coupés are still in use. Unfortunately a few of you had to wait a lot longer than others to receive their disks, and I apologise for that.



The trusty old SAM waiting to serve

Now that the Library is a little more organised, I'll tell you how things *should* work. Each issue you will find updates to the SCFL and every three issues you will receive a full SCFL catalogue. You can order disks at any time, and you may order anything that has appeared in the updates or in the latest catalogue.

To order from the library

You have two options:

- 1) Either send a blank disk +50p for each disk's worth of files **or**
- 2) Send £1 for each disk's worth of files

Choose the files you want and add up the size of the files in kilobytes. A SAM Coupé disk holds 766k (after allowing for the DOS) and you can put as much (or as little) as you want on each disk. Disks *will* be sent out same day - promise!

Current full catalogue

Applications

- | | | |
|---|------------------------|------------------|
| ◇ Banzai Demo and Utils | Dan Doore | See Demos |
| ◇ Mork Disk | William McGugan | 480k |
| Assorted bits and pieces and demos - some very useful applications included | | |
| ◇ Morse Tutor | Bob Wilkinson | 33k |
| As the name suggests, a Morse Code tutor | | |
| ◇ Outwrite 2 | Bob Wilkinson | 524k |
| Excellent SAM word processor - highly recommended | | |

Demos

- | | | |
|--|------------------------|------------------|
| ◇ Banzai Demo and Utils | Dan Doore | Full |
| Superb disk of demos and some very useful little utilities - get this! | | |
| ◇ Lyra 3 | ESI | Full |
| One of the best demos available on the SAM | | |
| ◇ Mork Disk | William McGugan | See Apps. |
| ◇ Sample 2 | Unknown | 542k |
| 8-bit Sample demo (untested) | | |

Emulation

- | | | |
|-------------------------|-----------------------|------------|
| ◇ SAM 81 | Stefan Drissen | 28k |
| Excellent ZX81 emulator | | |

Games

- | | | |
|---|------------------------|-------------|
| ◇ Banzai Games | Dan Doore | Full |
| Superb disk full of great little games, including Fruit Machine - another must! | | |
| ◇ Defender | Chris Pile | Full |
| Extremely faithful version of the arcade - previously sold by Persona! | | |
| ◇ Occult Connection | David Munden | 180k |
| Text adventure written using the SAM Adventure System | | |
| ◇ Ore Warz 2 | William McGugan | 268k |
| Turn based game like Space Crusade - great! | | |
| ◇ The Sad Snail Collection | Tim Paveley | 355k |
| Nice collection of Tim Paveley's main work on the SAM | | |

There are **many** items still to be added to the catalogue. When completed there should be around 100 items for you to order. Items in the catalogue are assumed to be in the public domain, but if you are the author and wish them to be withdrawn, please let me know. Also, if you have any items either programmed by yourself or which you know to be public domain, please send them in!

Open3D *by Tobermory*

As endorsed by the Pope! (Eh?! Ed)

Welcome to the Gulag Archipelago. My name's Tobermory and I've been asked to tell you about the wholly wonderous phenomenon, Open3D.

For those who haven't heard the rumours, Open3D is a SAM PD 3D system with a difference. It is SOLID 3D, in realtime, with a wealth of options which make it one of the more exciting projects coming out this year on the SAM.

The best thing about the project, though, is the politics surrounding it. Because I'm not exactly the world's greatest coder, I'm turning the source code into the Public Domain in the form of Open Source. This means that, rather like Linux, the code is unprotected, free and freely distributable, and other people are encouraged to improve and expand it.

As you can imagine, this helps beginners take advantage of a fully functional 3D system, while the more experienced coders can work on speeding up and expanding the code. At the moment, there is no GUI editor to this, but that's already in the pipeline in the form of GEOSystem. It forms a Windows-like front end to any program and therefore will allow you to create your worlds in a safe environment. (But more of that nearer the time!)

What can it do?

To begin with, I've been asked to give you "lots of techy info" about how Open3D works, to whet you appetite. Are you ready? Here it comes!

- ◇ Lightsourcing to a redefineable vertex
- ◇ Extra-fast print and clear routines based on the SP register
- ◇ Full motion video recorder and displayer
- ◇ Full speedy 3D rotation and scaling routines
- ◇ False gonrand shading, so objects darken in the distance
- ◇ Wireframe, flat colour and lightsource options of rendering
- ◇ Transparent and blurred edged polygons for "action" shots
- ◇ All in 8-12 frames per second!

To do this, the main code may only be a few Kb big, but perspective and rotation has to be pre-calculated, so 128K of tables are used to save masses of time.

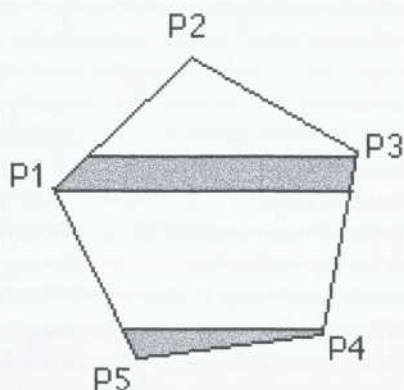
With the main source code you get a couple of BASIC programs which generate these perspective and rotation tables, so you can mess around with the extremeness of the 3D too and because the program should be continuously improving, there's also some information files on how the program works. But how does the project actually deal with working in 3D?

All objects are stored as polygons, with each vertex (point) stored in 3 dimensional co-ordinates. Each object also contains information about the colours of each polygon, the direction it's facing and how it should be drawn. All the major problems of drawing each polygon are solved before the program even begins to work.

The three main sections

The actual program is split into 3 main sections:

The Display program receives 2D co-ordinates from the rest of the program and draws the polygon as a set of trapezia:



The trapezium bottom line is parallel to the first point vertically that the program comes to.

As you can see, there are always $\#points - 1$ trapezia to draw, one on top of another, and only concave polys are allowed. The program always draws horizontal lines for the polygons, and I use ultra-optimised divide and increment operations to work out these calculations, and the SP register to draw these polygons dead fast.

The Perspective program is what feeds the display program with the 2D polys. As the perspective calculation is always the same, it was possible to compile a table of calculations beforehand, saving loads of time at the expense of a 64K table. Note that the FMV player stores the "frames" in 2D format, so there is no need to have these tables. As it is not doing all the background calculations either, there is a noticeable speed increase in FMV playback.

The 3D Manipulation Library is what brings 3D in general into its own. Open3D comes with the standard rotation, scale and animate routines so you can create anything your mind can cope with. Options include lightscouring, transparent and blurred polygons and STOP PRESS! I've got a dead good idea for spot-lighting. Using the system of a "world map" with seperately defined objects, it is possible to create large, detailed worlds without slowing down the animation speed.

In summary

All through the program, I've tried to keep speed up without optimising the code so completely that it no longer makes sense. At over 275 pages of COMET source code (split over several files), it's no picnic for beginners, but anyone with a desire to work it out, should find it EASY - especially as there are comments all through the code. Once you've worked out the main structure, it's a doddle.

Open3D will be out as soon as I can finish a few pieces off and make the code readable, which is about a month at the worst. Make sure that wherever you get it from, it's free and comes with the source code included. Pass it on to your mates and generally have a good time. After all, the future's bright. RIDE FREE CITIZEN!

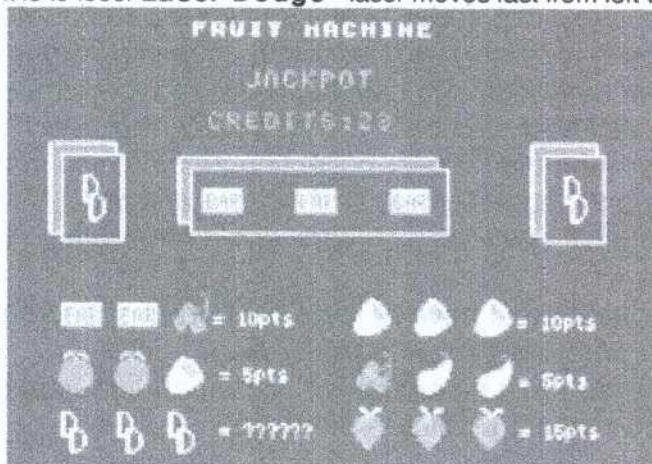
Later on, you'll have that GUI design/animation program in your arsenal, and a lovely high-resolution option available pretty soon...but wait, I've said too much...

Great stuff Tobermory! I'll no doubt be pestering you for updates soon! If you would like to write about one of your projects (past or present or future), please do so! Articles can be of any length and are ideally accompanied with a screenshot/photograph (if applicable) and on disk, but this is not necessary. Please get writing!

Quick Reviews

Banzai Games (Dan Doore) - Available from the SCFL

Fruit Machine - nice and simple, sadly no nudges, and it's easier to win money than it is to lose. **Laser Dodge** - laser moves fast from left to right



you only have one control, the space bar, with which to avoid the rocks - surprisingly addictive! **Yahtzee** - never played it before, but it's mouse driven and looks lovely! **Drac Attack** - two player game, another game in which you choose the velocity and angle of your missile and hope it hits your enemy. **Worm's World** - a good example for the Coding Challenge (see back page). It's your basic worm game, in which you try to avoid some things, and try to pick up other things. Features Speccy like colours and is level based unlike most worm games. Plus you can double back on yourself, which you can't on most worm games. Tsk. **Dead Ducks** is similar to Drac Attack but ain't is good. Nuff said. **Dan's Diamonds** is basically Columns from the Game Gear and from several other Tetris like games - a decent version. **Solitaire** isn't the card game, it's the game in which you leap-frog pegs to remove them from the board, trying to leave one peg left at the end. I remember playing this as a kid on a board game, I still haven't completed the damn thing. **Simon** is great fun but so annoying. Again you may remember it from your childhood - four coloured segments on the board, Simon plays a tune which you have to copy, getting longer each time. **Annoyance** - from an old Fred disk. It's a tile game in which you are shown balls on the grid for a few seconds, and then you have to remember their positions when they disappear. Nice little game. **Bonus game** turns out to be Spec Tiles - a nicely presented mouse driven game. One of those games in which you turn over tiles in pairs, trying to match them off. This one is particularly nice though - you get to play against the computer (you even get to choose its skill level) and the tiles are from Manic Miner on the Speccy, for some added nostalgia. **Overall - 84% Nice collection** ②③

Coding Challenge

Alright you lot, here's your chance to prove yourselves! Think you're a top coder? Let's see what you can do then! Your first challenge, if you accept it, is to program in whatever language you choose, a Worm type game for the SAM. You know the sort of thing! You control a worm moving round the screen, collecting items which makes the worm grow longer. Simple stuff! There are only a few rules:

- 1) The game must keep a score and a feature a high score chart
- 2) The game must have at least 5 different speed settings
- 3) The game must clearly display your name
- 4) The code must be entirely your own and you must be willing to make it public domain

That's it! It can be as simple or as complicated as you want as long as it plays like a Worm game. It can be a few lines of BASIC or megabytes of machine code. It's entirely up to you. Go on, give it a go, see what you can come up with and send your entries to the usual address on a SAM disk. The best entry will not necessarily be the flashiest! Next issue will feature the winner of the challenge and any notable runner-ups.

On your marks, get set....go!

Top 5 Most Requested SCFL Items

- 1) Defender
- 2) Outwrite 2
- 3) Ore Warz 2
- 4) Lyra 3
- 5) SAM81

Breathes sigh of relief...

And finally, this issue is all done. Hurrah! It's been a lot of hard work, most of which was probably unnecessary due to using the worst DTP program known to man. Anyway, the next issue will be with you in April (really!) and hopefully will include that article you're going to write for it! So get to it now! As for me, I'm off down the pub for a few pints after all that. (Pulls on coat and slams SC door).