

ARCADE —ATTACK RETRO GAMING NETWORK



Chris Sawyer (Transport Tycoon/RollerCoaster Tycoon) – Interview

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Two games that took up a lot of mine and Adrian's time when we were younger were made by this man. The legend of Transport and RollerCoaster Tycoon that is Chris Sawyer kindly gave Adrian some of his time to answer some questions, in a lot of detail. Enjoy!

Can you recall your earliest memories of video games and which consoles or computers did you own while growing up?

My earliest memory of video games is playing "Pong" on my neighbour's elderly Atari console as a child, though I can't remember being particularly excited about it. A few years later a school friend had a ZX81 and I remember trying to find excuses to go round to his house to see what it was all about, and around the same time I also remember standing in a W H Smiths store playing with the demonstration ZX81 they had on display and trying to write simple BASIC programs to display things on the screen – I guess that's where my love of programming started. I was quite late getting my own home computer but regularly invited myself over to a neighbour on one side who had a Texas Instruments TI99/4A and a neighbour on the other side who had a Commodore VIC20 to play games on them and try out a bit of programming – I was definitely hooked by then. Eventually after saving up pocket money and Christmas and birthday gifts I bought my first home computer – a Computers Lynx! (crikey! – Ed) It seemed an odd choice when friends were getting ZX Spectrums and so on, but at the time the Lynx seemed like a step up from the Spectrum with its proper keyboard and multi-colour bitmapped graphics instead of text-based pattern tables. I would have preferred a BBC Micro but it was way out of my price range sadly. Popular Computing Weekly magazine was a regular read

at this time and I recall the excitement of studying it from cover to cover each week and taking in all the technical detail of new hardware and software and trying to understand the “type in” program listings they published. I still have the very first issue from 23rd April 1982! Many happy hours/days/weeks were spent engrossed with playing games and then programming the Lynx, and even taking it apart and trying to understand its inner workings, though that usually resulted in breaking something which then required some amateurish soldering to get it working again. Eventually another new home computer came onto the market which excited me, so I ended up once again spending all my pocket money and savings, and took home a Memotech MTX500 – I seemed to have a tendency to buy the computers which nobody had heard of when friends were buying Spectrums and C64s! Amongst other great features though the MTX500 had a built-in Z80 assembler, which meant that unlike on the Lynx where I’d hand-coded some small machine code programs byte-by-byte I could now experiment much more easily with Z80 assembler code. That was really the start of my games programming career – within a year or two I was having MTX games published through Memotech’s own publishing label and then through Megastar Games.



You touched on it there but how did you get the opportunity to enter the video game industry and do you remember the first ever game you worked on?

The publication of my Memotech MTX games would have been my first experience of the games industry – I was a teenager at the time, and either just finishing high school or just starting at university. After sending a few cassette tapes of my games to Memotech I got a call back from someone who worked there, Jim Wills, who invited me down to Witney to meet the company and discuss publishing my games through their own label Continental Software. Jim eventually left the company and started his own publishing label, Megastar Games, and published several more of my MTX games over the next year or so. I think the first MTX game of mine to be published was “Missile Kommand”, blatantly based on a similarly-named game which I hoped wouldn’t be a problem because I’d mis-spelled the name slightly! It was part BASIC and part machine code, and although it didn’t make me a fortune it did cover the cost of a few blank cassette tapes at least. MTX game sales were never all that impressive and even though I eventually had nearly a dozen MTX games published the revenue was only enough to eventually buy a disc drive and a printer. And while Megastar Games were very honest and fair with the way they dealt with programmers it was also my first experience of the not-so-honest part of the games industry when another company published several of my games and after the first (small) royalty cheque I never received anything further from them despite the games apparently selling well for several years.

You seemed to earn your stripes with a lot of MS-DOS and Amiga conversions of classic titles. How do you reflect back on this stage of your career and which early conversion game did you most enjoy working on?

While studying at university I’d upgraded from a Memotech MTX500 to an Amstrad CPC6128 and eventually to an Amstrad PC1512 “IBM PC clone” (complete with internal 20Mb hard disc!) During this time I’d continued to have the odd game published for the Amstrad CPC, and even designed and programmed a PC game as part of my university course’s “work experience” requirement. The PC game was created for Ariolasoft, who had

published one of my CPC games, though in the end they never published the PC game, probably because it wasn't very good! Ariolasoft did however promise me a job once I'd graduated, working from home and programming games for them. So as the end of my time at university approached I didn't bother applying for any of the jobs my classmates were applying for (in the electronics industry), thinking I had a well-paid job lined up in the games industry. However after graduating I found that Ariolasoft was struggling and downsizing, and the job offer came to nothing, and now I'd also missed the boat with all the jobs in the electronics industry which had been filled by my fellow classmates. It was only through recalling a conversation with another programmer I'd had a chance meeting with a year earlier that I ended up cold-calling Jacqui Lyons, who I'd heard was a business agent representing some of the most well-known games programmers at that time. I still remember the phone call and my astonishment at hearing she had actually already heard of me! She took me on as a client and soon had me signed up with Logotron to do the first of many conversions of Commodore Amiga games to the PC – StarRay (aka Revenge of Defender) in 1988. It felt like a stop-gap at the time before I could get a "real" job in the electronics industry, a bit of fun just for a while... However I soon found I was good at the conversion work, and I really enjoyed the programming challenges of doing them when the PC didn't have the advantages of a graphic coprocessor and so I'd have to be quite inventive to get my PC conversions looking anything like as good and as fast as the original Amiga games. The only annoying thing was that often I was working in parallel with the original Amiga game's development and I'd quickly catch up and then have no work to do while waiting for them to get ahead again, and of course I'd only be paid once the project was completed. I solved that one in 1993 with my last two conversion projects (Dino Dini's Goal! and Frontier Elite 2) by doing them at the same time as each other! All those conversions were enjoyable and satisfying to work on but perhaps Frontier Elite 2 was the highlight, partly just because of the reputation of David Braben and the original Elite game but also because I was actually making my PC version of the game better than the Amiga original – I managed to add texture-mapping to the 3D system in the game by designing and programming the algorithms to plot the textures pixel-by-pixel and even used some tricky self-modifying code to make it work fast enough. Remember this was a long time before PC graphic cards had any kind of hardware to help with 3D texture mapping!



Transport Tycoon is rightly regarded as one of the most important simulation games ever made. What was your early inspiration in making this classic title and how did you first approach MicroProse with your idea?

I'd been having great fun playing Sid Meier's Railroad Tycoon in my spare time, and I'd also been working on a 3D isometric gameworld system just for fun while doing the last two conversions I was involved with, just because isometric graphics have always fascinated me. The two interests sort of collided and one day I decided it would be fun to try having little trains running around in my 3D isometric game world, and the game kind of grew from there. Early test builds were in low-res display modes with my own crude blocky graphics, but as it became more common that PCs had graphic cards capable of 8 bit high-res graphics the game evolved to take advantage of that. I was still working on my final two conversion projects at the time but was quietly getting the new game to the stage where I could see it being a commercial possibility rather than just a bit of a fun programming challenge. If you're lucky while playing Frontier Elite 2 on the PC (one of the conversions I was working on) you might come across an advertising hoarding inside a space port proclaiming "Coming Soon – Chris Sawyer's Transport Game!" (And yes I did have permission to put that into

the game!) I wasn't really thinking of it being called Transport Tycoon yet – it went by various names in development, including ITS (Interactive Transport Simulation). The game grew to include different modes of transport and large worlds to play in, but with a simple financial mechanic for earning money, possibly even more simple than Railroad Tycoon. Jacqui, my business agent, approached a number of publishers with the half-complete game, and after a meeting with MicroProse I chose to publish with them as I just felt more supported by their staff at the time. It also had the happy result that because MicroProse had published Railroad Tycoon they felt it would be appropriate to call my new game Transport Tycoon.

I must have spent countless hours designing intricate tracks and transport links on the amazing Transport Tycoon. Why do you think your classic title proved so popular and has had such a lasting legacy in gaming history?

I'm still trying to work that out – perhaps it was the game's simplicity and yet its vast scale? And it was quite a rewarding game to play, making money by transporting goods from one place to another which you could then spend on expanding your transport network and make more money.

Can you quickly run through how you made Transport Tycoon and did the finished game include everything you originally devised?

I think by the time I signed the game to MicroProse it was already well over half finished – certainly it already had the railway side of things virtually complete. I remember being told I had to work with a producer at MicroProse and having to set up a project schedule plan with him to show what still needed to be done in the game and how long each bit would take. Adding up the estimates of work required for each part came to over 2 years of work I think! So I just divided all the estimates by 4 to keep the producer happy... In the event I beat all the estimates anyway and we had the game ready to publish 4 or 5 months later. Some of my ambitions for the game probably did get cut down a bit during development, but I also added in things I hadn't originally planned – I've never been good at planning a game design in advance and often have the best ideas while actually doing the programming. Some of the ideas and improvements which didn't work out for the original game did however make it into the Deluxe version.



Glad you mentioned it, the Deluxe version expanded on a number of elements from the original game. If you could go back in time are there any other options or expansions you would have liked to include in this new version?

At the time I think I was struggling a bit for inspiration as to what else should go into the Deluxe version, so it didn't really move the game on much – it was easier to just keep the good bits as they were but just add more variety in terms of play-worlds and improve the interface and some of the train controls. Perhaps that's why the Deluxe version was so successful, because I didn't mess with it too much or try to change it? (could be! – Ed)

Do you have a personal favourite vehicle and mode of transport within your games and does this differ in real life?

Definitely railways – you can probably tell that by the focus on railways in both Transport Tycoon and Locomotion. Perhaps my interest in railways also prompted my eventual change of direction to rollercoasters, as they're basically just railways on steroids doing crazy things?

You famously started work on a Transport Tycoon sequel soon after the release of the deluxe version. How far was the original sequel in development and why did you eventually stop work and move on to RollerCoaster Tycoon?

I probably worked on and off on a Transport Tycoon sequel for 6 months to a year, with the major focus being on re-writing the 3D isometric game engine and world data handling so railway tracks and roads were no longer restricted to running at ground (or water) level. I got it to the point where I had multi-level bridges over bridges and little block-shaped trains merrily running under and over all these bridges while depth-sorting correctly. I think I had a crisis of confidence in the game at that point though, wondering if the new game would actually be enough of an advance over the original to be worthwhile, especially as I was struggling to come up with other workable ideas to add to the game. Around this time I was becoming interested in rollercoasters – I used to hate riding them but having been to a couple of small theme parks with friends in 1996 I was beginning to enjoy them and had become fascinated by the engineering involved and the way they looked. Bullfrog's Theme Park game had been published and was a really fun game to play, but quite honestly the rollercoasters in it were rubbish, and it got me thinking. And I had a book called "White Knuckle Ride" in which there were amazing photos of big roller coasters from around the world which looked fantastic, almost architectural in style with their characterful wooden supports or steel loops and corkscrews. It started me thinking about how fun it would be to be able to build something like that in a Transport Tycoon-like 3D isometric game world. Eventually I decided to take a breather from the Transport Tycoon sequel and just have a bit of fun seeing if I could adapt the isometric system to handle a simple roller coaster. The game just grew from there really – it was never intended as a commercial project and in fact those who I told about it at the time were adamant that if it was published it would only have a very limited appeal, perhaps only amongst rollercoaster enthusiasts.



The game is another masterpiece and adds a lot more depth to the popular (and still great) Theme Park. Were you always a huge fan of theme parks and rollercoasters and what was your big inspiration and objectives for this title?

My interest in theme parks and rollercoasters sort of grew hand-in-hand with development of RollerCoaster Tycoon – as I researched more and more about rollercoasters I found them more and more fascinating. What initially started as an ambition to get a wooden rollercoaster and a looping steel roller coaster into the game soon grew to become an ambition to understand all the many types and styles of rollercoaster and try to bring

the uniqueness of each into the game, so the player also has the challenge of understanding and designing each type to get the best out of them. The little guests in the park were also to become an important part of the new game, after all a rollercoaster is only as good as the enjoyment it brings to the guests, so the fundamental mechanics of the game were born – design and build good rides which guests enjoy and you then keep everyone happy and make money. Having the guests “uncontrollable” in the game appealed to me a lot – i.e. you can’t force them to do something they don’t want to do as they make their own minds up based on what they see and feel and experience. Programming the guests was a really fun challenge, and quite a satisfying one when you see the results of quite a primitive algorithm looking quite “human”. I remember testers criticising the guests’ ability to get lost far too easily if you built an odd-shaped park, perhaps one with a lake in the middle, but I pointed out that I’d managed to get lost myself in exactly the same circumstances in a real theme park so it was actually realistic!

Out of all the rides and attractions in the game, do you have a personal favourite and would you ever like to visit any parks you personally created within the game?

It would have to be the rollercoasters but it would be difficult to choose a favourite from amongst all the different types – most of them are fun to play with in the game and I like the challenge of designing and building them to be as exciting as possible while keeping the intensity low enough so the little guests enjoy riding them. I probably most enjoy building wooden roller coasters or steel giga coasters as the twisted nature of the track and “airtime” you can create with them just seems to make them more fun to design, while perhaps I’m imagining what they’d be like to ride in real life? And yes I’d love to personally visit most of the parks I’ve created in the game – I think that’s half the fun of the game, imagining what it would be like to visit them in real life.

RollerCoaster Tycoon was named as the best selling PC game in 1999. How do you reflect back on this title and did you ever dream it would become so popular?

When RollerCoaster Tycoon was published I felt quietly confident that it would at least earn back its development costs despite the warnings from everyone that it would be a niche product and wouldn’t be as popular as Transport Tycoon, and sales initially were quite slow but steady. But it was a shock a few months later though to find out that sales had ramped up considerably and the game was now amongst the top selling games for the PC for that entire year. What was most satisfying was hearing that the game appealed to such a wide audience – not just boys who liked strategy games but also girls, younger children, and adults and even grandparents too. And people enjoyed different aspects of the game – some liked the strategic challenges, some liked just building things, some liked interacting and looking after the guests.



Out of all the RollerCoaster Tycoon games and expansion packs do you have a personal favourite and which one did you most enjoy working on?

RollerCoaster Tycoon 2 is my personal favourite as for me it was always the “ultimate” version of the game I created, sort of taking the game as far as I could without losing the playability and structure of the original game. Looking back though I think the original game and its expansion packs might have actually been better “games” – there was a lot of pressure and expectation for RollerCoaster Tycoon 2 to be a bit more free-form and less structured, so players could create their own scenarios and play the included ones in any order they wanted, but what this added in terms of features and flexibility I think it also lost in terms of taking away the challenge and sense of achievement of the original game. The park scenarios I designed for the original game and its expansion packs were better too – I still look back very fondly at those parks. For the recent RollerCoaster Tycoon Classic version of the game (on iOS, Android, PC, and Mac), although it recreates the entire RollerCoaster Tycoon 2 game on the more modern platforms I also included the park scenario challenge structure from the original game to give players the challenges and the parks that were missing from the second game. It was amazing seeing that in total this meant 95 different park scenarios to work through – I’d forgotten how many and how good all those original parks were.

What was your exact role while working with Atari and how different was it from working at other large developers such as MicroProse and Hasbro?

In the days of MicroProse and Hasbro Interactive I was actually creating the games myself, and both companies were very supportive and understanding of what I was creating. Hasbro in particular just seemed the perfect company to go to with RollerCoaster Tycoon, as being a toy company they understood that my new game was much like a toy, a giant construction set. The working relationship with Infogrames and then Atari was very different though as by this time I’d decided I wasn’t interested in either leading or being part of a larger team working on newer RollerCoaster Tycoon games, but also didn’t want to hold back development of new titles. I was involved with Frontier’s RollerCoaster Tycoon 3 as consultant but let them lead the game’s design and development, but beyond that I decided it was best to let those with the inspiration and expertise design and lead the newer games themselves. My vision for RollerCoaster Tycoon never really moved on since the original games – I still think the character of the old isometric graphics and the rigidity of the gameplay makes those games almost perfect. So trying to work on somebody else’s vision of how the game should be expanded or updated or modernised just seemed pointless to me – better to give someone else a free hand to create their vision for the game themselves without me constantly interfering! I think I also realised how tough it would be to move the game forward without losing the playability of the original games, and I think that’s perhaps the challenge all of the newer versions of RollerCoaster Tycoon and even their competitors face – many look visually nicer and are less rigid in terms of gameplay, and have become excellent construction kits, but are they actually more fun to play?

Theme Park famously had a lot of little hidden touches and Easter eggs such as adding extra salt on the chips. Can you reveal some of your personal favourite Easter eggs or nice touches you added to any of your games?

I didn’t have much time to program hidden Easter Eggs into the RollerCoaster Tycoon games, and the “naming a guest” ones are probably all well-known about now. Perhaps the most satisfying “nice touch” I put into the games though was something that I put into RollerCoaster Tycoon 2 at the last minute – It involved only a few lines of extra code and a few extra frames of animation for guests but just seemed to add a magical touch to the game. It’s where a guest will occasionally stop and watch you while you’re building a new ride, take a photo, and think “Wow! A new ride being built!” Maybe it’s just me but I found that little touch added a whole heap of personality to the game and made it feel like the little guests were really living in their own little world and were personally admiring and getting excited about what you were building.

We like it! Chris Sawyer’s Locomotion was your long awaited and spiritual successor to Transport Tycoon. How did you aim to balance the latest graphics and technology with the classic feel and gameplay of the earlier transport titles?

It all felt relatively logical really – I had a vastly improved 3D isometric game world display system in RollerCoaster Tycoon 2 that begged to be used to improve the look and flexibility of Transport Tycoon’s modes of transport, and with memory not so much of an issue on PCs by then the scale and complexity of the game could be increased considerably. I also had ambitions to design nearly all the data the game used in such a way that additional vehicles, objects, and even modes of transport could be added later to the game without having to update the game code at all. And I always felt the competing companies in Transport Tycoon were very poorly handled and I felt with more modern computing power it should be possible to simulate them better.



Locomotion received mixed reviews. Do you feel the game was unfairly criticised and how would you like to respond to the games critics?

It was disappointing that Locomotion was never received as well as Transport Tycoon as I always felt it was a much better game in all sorts of ways. I still think it was the best piece of programming I’ve ever done – well designed, well planned, and well written with some incredibly complex algorithms to handle the competing companies’ AI in particular. The game was poorly marketed and supported by the publisher, certainly compared to RollerCoaster Tycoon, but that alone doesn’t account for its poor sales. I think it just missed the mark in terms of gameplay – it was bigger and more flexible and nicer looking than Transport Tycoon but it somehow lost out on the simple gameplay that the original game possessed with its restrictive grid-like straight track and roads. Perhaps it’s a bit like the challenges of creating newer RollerCoaster Tycoon games – a bigger and more detailed and nicer looking game doesn’t necessarily mean it’s more fun to play?

If you could step inside any of your games and live there for a day, which game would you choose and why?

It would have to be RollerCoaster Tycoon – Having spent years personally designing and programming the original games it would be fascinating to live inside one of the parks for a day.

Did you ever start work on any games that were never released and if you could release any of these game today, which would you choose and why?

During the time I was working on the isometric display system for Transport Tycoon I did also start work on a 3D isometric room-based platform type game too – I think I called it “Isogame”. It never really developed very far but it was fun working on it – It was very much in the style of the isometric platform games on early home computers, like “Knight Lore” or “Crafton & Xunk”. I actually looked at it again last year to see if it would be possible to release it somehow but it was too difficult to get it running on modern PC hardware – it was written to run using a processor mode that allowed access to extended memory and unfortunately there’s no easy way to get it running on modern hardware running Windows.

Do you have any desire to work on a new Transport Tycoon or RollerCoaster Tycoon title in the future?

Not at the moment but I'd never rule it out. I think with both games it's always been "all or nothing" for me – If I'm inspired and have a vision for the game I'll put everything into it and hopefully make a good game at the end of the day, but if I'm not personally inspired then better to let someone else take the lead and develop new versions of the games.

What projects and games are you currently working on?

The last project I was involved with was RollerCoaster Tycoon Classic, which has now made it onto desktop platforms as well as mobile devices. Once that was done I decided to take a back seat again and devote more time to other aspects of my life.

If you could share a few drinks with a video game character who would you choose and why?

Interesting question... How about Sabre Man from Ultimate Play The Game's "Knight Lore" from 1984? I'm sure he'd be a fascinating character to talk to, full of interesting stories and tales of adventure. And I think he'd understand my enthusiasm for isometric 3D graphics, having lived much of his life in an isometric gameworld. We'd have to keep an eye on the time though, as I'm not sure it would be as much fun meeting his night-time werewolf alter ego!

Adrian