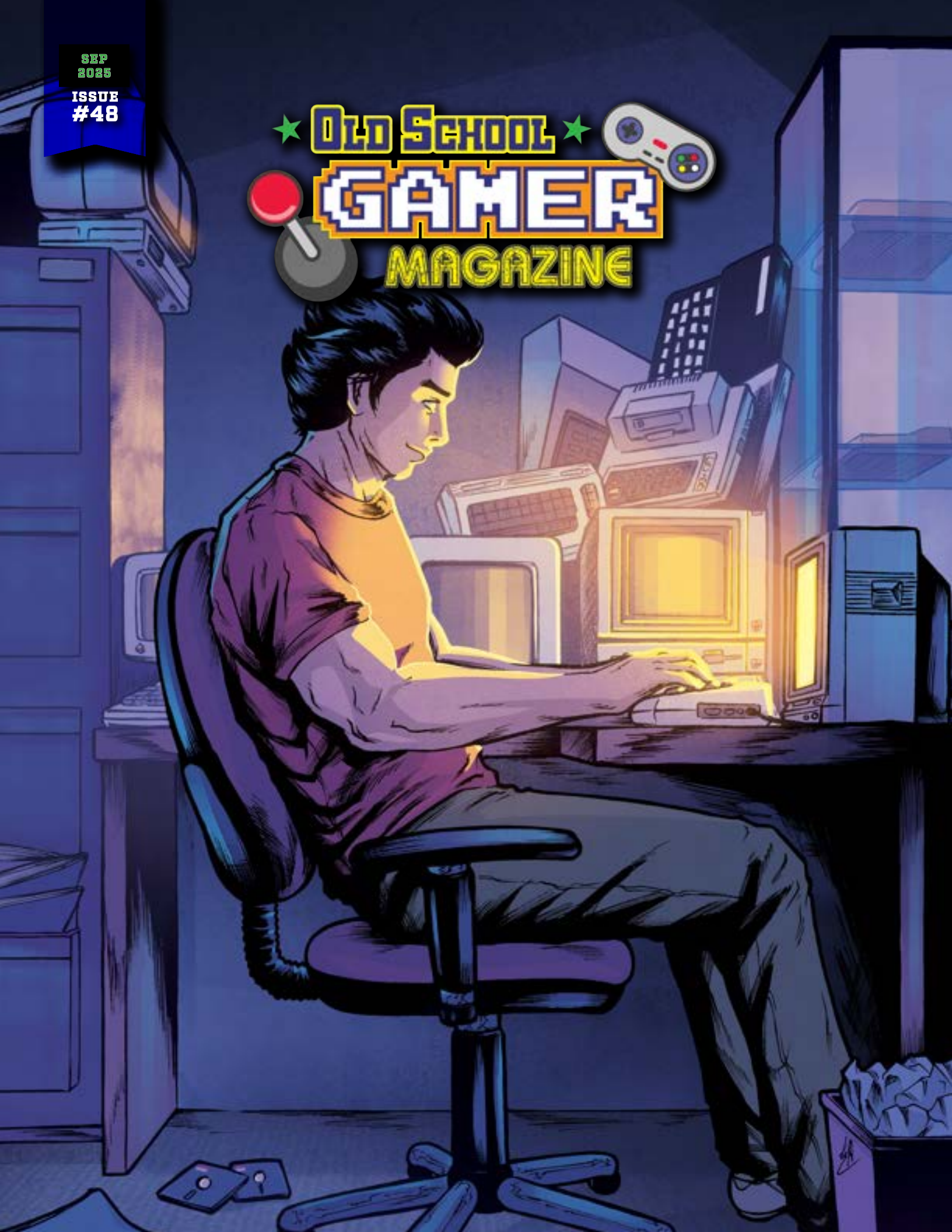
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Old School Gamer Magazine
(ISSN# 2574-8076 ONLINE/2574-8068 PRINT)
is published by BC Productions, Inc.
807 NE Park Street • Grimes, IA 50111

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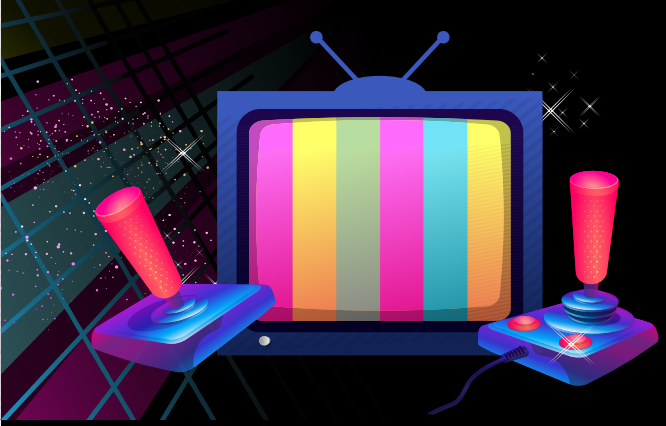
My personal home gaming history started with a TI99-4a and an Intellivision, but around 1985 my parents bought me an Apple IIc. That really made things fun and changed the dynamic, because most of my friends had Apple-related computers, and they were at my school as well. Dave, Dwight, Jeremy, I, and others would regularly get together at various homes and copy floppies for hours at a time, plus we would try out the latest products that came in at Babbage's. Ah yes, Babbage's, a great job that had the extra benefit the manager considered "product research." See, as long as there were several copies of a particular game currently in stock, we could borrow one of them and take it home to play it, to learn about the game so that we could answer questions for customers and do a better job selling it. Oh yes, dear readers: We absolutely did this, and with the help of Copy][+ we could, ah, "extend" our product research time indefinitely, all while returning the games to the store on our next shift, shrink wrapping them up, and putting them back on the sales floor.

We're Old School Gamer, so of course every issue is a blast from the past, but this one really hit home for me. Reading about the experiences we all had on in parallel on Commodore, Atari and Apple computers across the country really highlighted how fantastic gaming in an 8-bit world was. Enjoy the memories we will bring back with this issue, along with all the other columns and articles we have put together for you here in Issue #48!

Ryan Burger - Old School Gamer Publisher, Old School Gamer.



THE CREW

Ryan Burger is the Publisher of Old School Gamer. He's an avid gamer, a dedicated husband, father, and teacher and an all-around good guy! He didn't write this...

Michael Thomasson is one of the most respected videogame historians in the field today. He also authored Downright Bizarre Games and nearly a dozen textbooks.

Eugenio Angueira has contributed retro game and system articles to the Retro Video Gamer forum (he is also an administrator), The Retro Gaming Times, and more.

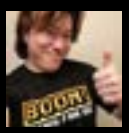
Mat Bradley-Tschirgi is an author based out of Portland, Oregon. His books include Star Trek Video Games: An Unofficial Guide to the Final Frontier.

Brian Chansy works in customer support for an electronics retailer. In his free time, he plays as many fighting games as possible. Even titles such as Full Contact on Amiga.

Todd Friedman is heavily involved in the retro gaming community and has co-promoted the Video Game Summit in Chicago, IL for the past 16 years.

Anthony Ripo's hands have held game controllers since he was six, and he has played the best (and worst) consoles in gaming history over the last four decades.

Marcus Albers is a tech services engineer by day and gamer since the early 80s. Outside work he listens to music, edits videos in Final Cut Pro, & plays retro games.



Chris Tang is the voice of competitive *Tetris*. Chris is also known for his design work on the *Street Fighter, Primal Rage*, and *Tetris* franchises.

Tristan Ibarra is OSG's Layout Designer, Author of *The Video Game Collector's Field Guide*, and does freelance graphic design on licensed games for physical publishers.

When Bill isn't editing OSG, he's playing in two bands: Chewtoy & the Abounding Grace band. He still finds time to game. Favorites? SB2, of course, but lately it's Rage Racers.

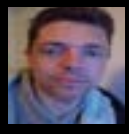
Jarrod Kailef is a computer network engineer, retro gamer, and the founder of Epic Rock Radio. He moonlights as a video game developer and martial arts instructor.

8-Bit Steve has been an absolute fanatic for the NES since he first set eyes on it in 1986. He has completed over half the NES library and is ranked #1 for high score on NES.

Brian Lesyk is a life-long video game collector, archivist, and historian. He's been a frequent contributor to multiple video game books and publications.

Leonard Herman is regarded as "The Father of Video Game History". He has written articles for Old School Gamer Magazine, Pocket Games, and many other publications.

Jeremy Parish has been writing loving missives about the NES since the days when you could still find the console and its games at retail.



William Schwartz is a book, film, and TV critic who's branching out to retro video games as a comparable artform. He lives in Carbondale.

Bill Lange is a cloud architect by day. In his spare time, he likes to playtest games. He is a frequent exhibitor at Vintage Computer Festivals and hosts Atari Party East.

Walter Day is the founder of the Twin Galaxies Scoreboard, the International Video Game Hall of Fame, and the Walter Day Collection of video game trading cards.

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Retcoming a Brand

by Brian Lesyk

READY

Right now, you're wondering what *retcoming* is. Being as the term was first coined only moments ago by yours truly, I'll be happy to explain. It's a made-up word, of course, because as Thor so deftly proclaimed in 2018's *Avengers: Infinity War*, "All words are made up."

Retcoming is the present tense verb form of retcom, which in turn is derived from the more familiar term, retcon. Short for "retroactive continuity", retcon is a term used to describe the act of consciously altering an established story or historical account after said story or account has been told, usually to alter things for a preferred outcome or rewrite a mistake. Hence, retcoming is when a concerted effort is made to retroactively correct a misstep in the computing world. Get all that?

As you read this, Commodore is actively retcoming its name and brand - a brand that was crucial in defining the home computing experience throughout the 80s and into the 90s. Between 1982 and 1994, Commodore's flagship computer model, the legendary Commodore 64 (or C64 for short), sold between an estimated 12 million to 30 million units globally (exact figures are fuzzy), thus crowning it as the best-selling computer model of all time. Over 30 years later, the C64 still boasts this amazing record.

When Commodore shuttered its doors in May of 1994 after filing

Peri Fractic (Christian Simpson)

for bankruptcy, it appeared as though the world would never again witness the likes of this one-time giant of the home computing realm. Just as the fate that befell Atari and the gaming industry over a decade prior, a lack of significant innovations, subpar corporate management, consumer shifts, and sweeping financial problems led Commodore to its eventual demise... and there it lay.

Until now.

10 RETURN

Peri Fractic (Christian Simpson)

Yes, good readers, Commodore is coming back! In a buyout effort spearheaded by YouTube sensation and new Commodore CEO, Peri Fractic (Christian Simpson), the legacy brand has found its way into a fresh set of hands along with an ambitious vision for the future.

On July 31, 2025, it was revealed that Commodore International Corporation had officially completed the acquisition of Commodore Corporation BV and all 47 original Commodore trademarks, some of which date all the way back to the early 80s. Fractic punctuated the event by proclaiming, "Commodore has been asleep for over 30 years, but today marks the moment millions of fans dreamed of yet never thought possible."

Fractic would further explain in an interview with COMPUTE! Gazette, "So many fans like us wish Commodore had never gone away... we still felt like the brand had been crying out to be saved for decades."

Old School Gamer Magazine was fortunate enough to spend some time with Fractic, where he filled us in on Commodore's retcoming efforts.

20 OPEN

Old School Gamer Magazine: First and foremost, thank you so much for sharing your time with us. We're very excited about the prospects of Commodore's revival and what it means for fans like us. Obviously, we're interested in your background with regard to both yourself

and your history with the Commodore brand.

Peri Frantic: My Commodore story starts like a lot of people's - a C64 (from Dixons) in the 80s that completely changed my world. It taught me to code, to create, to imagine. Oh, and a *lot* of play. Fast forward a few decades, MyRetroComputer licensed the brand for the C64X relaunch, asked me to do a review video which got a million views, and that led to something I never thought possible - the opportunity to take over the brand itself.

OSGM: Why do you feel this is the ideal time for a proper Commodore revival?

PF: There's a huge retro wave right now that is still growing, but more than that - the community is alive and making more C64 software than ever. The only thing missing was Commodore itself being run by people who actually love it. Add to that the separate growing wave of people wishing to dial back tech that's gone too far, and Commodore is perfectly positioned like no other brand, to come back from the 90s to give people that 90s and 2000s tech simplicity they are craving... and I don't just mean Commodore 64s.

OSGM: Would you kindly give us an idea of the scope of this acquisition?

PF: We now own every one of the 47 surviving original "Commodore" trademarks going back to 1983. This means the C= logo and Commodore wordmark, in various territories, worldwide. There are other assets that came along with the acquisition of Commodore Corporation BV, too. That means we can finally make official products, merchandise, and collaborations under one banner again - and bring the whole Commodore family back together.

Commodore 64 Ultimate Starlight Edition

OSGM: What attributes from the original Commodore era do you feel can be best re-encapsulated in this new venture?

PF: The magic mix of affordability, accessibility, and fun with a retrofuturistic twist. Commodore was about putting powerful tech into everyone's hands and letting them play, learn, and create, free of toxicity and distractions. That's exactly the energy I want us to be bringing back.

OSGM: In recent years, we've witnessed attempted resurrections of several legacy properties (e.g., Atari VCS, Intellivision Amico, Coleco Chameleon), each with varying degrees of success. What is Commodore doing differently?

"C=" Logo

PF: We're building first, talking second. You may have noticed I do not comment on a lot of questions out there, particularly those of a negative slant. Our approach is to launch real, working products before the hype... to answer skepticism with actions. To address rumors with facts. We've got original Commodore legends on board to make sure we're not just borrowing the name - we're carrying the torch, and embedding that original DNA into Commodore again. Some say, "It'll never be the *real* Commodore", but at some point, with original branding, original products, and original management and engineers, one has to ask, what is left before it *does* become real? I've heard some say, "It's not Commodore without a Tramiel!". Well, we have that too, as Leonard

Tramiel gave the project his full endorsement, and went as far to ask us to list him as our CTO or "CTrO" (Chief Tramiel Officer). That isn't a fun Easter egg - I genuinely ask him regularly for advice, and he always graciously gives it. In a way, Jack Tramiel is still steering the ship.

OSGM: For those of us familiar with Commodore technology, what can we look forward to experiencing?

PF: The C64 Ultimate is our flagship - a true FPGA (field programmable gate array) recreation of the original C64, cartridge-ready, HDMI out, USB, Wi-Fi, and modern menus, plus glorious lighting options that react to the SID (sound interface device) chip (or to the eight on-board FPGA UltiSIDs). It's the C64 you remember, but with the quality-of-life upgrades you've always wanted. Beyond that... well, we have more projects in the planning than you might ever imagine, but naturally I can't say too much. Rest assured, there will be retro and futuristic items bearing the Commodore name, each of which will have something truly special about it.

OSGM: For those unfamiliar with Commodore technology, what are some of the more alluring aspects that might entice them to jump aboard?

PF: Commodore was the original home computer revolution. It wasn't just a gadget - it was your music player, your games console, your word processor. It ushered in an era of "the family computer". We're keeping that simplicity, that "switch it on and go" feeling, but making it modern and accessible. Each product will have that feel. It's important.

OSGM: We understand you've reached out to some of the original Commodore team to include them in this new vision. What insights can you share?

PF: Yes, as I alluded to, people like David Pleasance, Bil Herd, Dave Haynie, Albert Charpentier, Neil Harris, RJ Mical, John Feagans, and even more modern makers like Jeri Ellsworth know exactly what made Commodore special. They're helping us keep the heart of the brand alive, while encouraging us to explore ideas even the original team couldn't have imagined back then. We have a "Founders Sandbox" where they can all discuss new project ideas, and maybe a new product altogether will result. Watch this space.

OSGM: What does an ideally successful Commodore resurgence look like to you?

PF: It's a world where old fans, new fans, and creators all feel part of the brand. Where you can walk into a store - or click online - and see Commodore products you actually want to use every day. It's where we can help people stop doomscrolling on smartphones whilst receiving abusive messages on Snapchat. Simply, to bring back that feeling when tech felt optimistic. When it was meant to serve us, rather than enslave us.

OSGM: The name "Commodore" evokes so many distinct memories for so many of us. We'd love for you to share some of your unique memories of the C64 era with us.

PF: For me it was sitting for hours typing in game listings from magazines. Half the time, it wouldn't work because I'd mistyped something... but when did it work? Pure magic. That feeling of turning code into life is something I'll never forget. But also other people's code... The Commodore Christmas Demo, for example, is something I would load up every Xmas - and still do once a year, today.

OSGM: For those of us interested, how can we get involved in Commodore's future and learn more about upcoming events?

PF: Keep an eye on Commodore.net and our YouTube channels - that's where we share product launches, behind-the-scenes updates, and ways the community can help shape what's next. Long live chickenlips!

30 END...?

Per their press release heralding the acquisition of Commodore and its planned retcomming, they also describe their mission, in part, as being "The Digital Detox Brand™". While there is clearly a dedicated aim to honoring Commodore's esteemed history, there is also a concerted focus upon cutting through the perceived noise, toxicity, and barriers to entry related to the prevalence of modern home computing solutions. If Fractic and the legions of steadfast Commodore fans have their way, there's simply no end in sight for one of history's most beloved tech brands.

8-BIT GAMING ON THE COMMODORE 64

by Marcus Albers

When Commodore Business Machines decided to move from typewriters and calculators to microprocessors, it was a decision that would change home computing forever.

After Commodore's lukewarm introduction of the PET/CBM-II series of computers, they quickly progressed to what would be their first real home computer hit, the VIC-20. While it sold over 2 million units worldwide, its success was eclipsed by their next release, the 12.5-million-unit seller, the Commodore 64.

COMMODORE 64

The C64 was a true powerhouse, boasting 64k of memory, compared to the 48k of unexpanded memory for both the Apple II+ and Atari 800. Its MOS 6510 CPU was slower than other CPUs of the time, but it was helped by the machine's ability to offload both graphic and sound work onto its custom chipset, the VIC-II graphics chip and the SID sound chip.

The 64's VIC-II graphics chip offered 16 colors and 8 hardware sprite objects. Though the sprites were limited in how many colors could be utilized at once, clever designers and programmers were able to do amazing things that rivaled arcade games of the time. With hardware screen scrolling and raster interrupt effects, the Commodore 64 could create gaming experiences ranging from graphic adventure games to fast-paced racing games to action-packed shoot-'em-ups.

The Last Ninja 2 (below)

High-quality graphics were only part of the equation of success. In a world of Apple clicks and PC beep speakers, the Commodore 64 really showed up with its advanced SID sound chip. Standing for Sound Interface Device, the SID chip boasted 3 independent voices that supported 4 waveforms per voice. This allowed the 64 to produce advanced music (that is still popular with the electronic music scene to this day), a wide range of sound effects, and even voice synthesis. While the Atari's POKEY chip produced decent sound, it just couldn't compare with the mini synthesizer that is the SID.

Of course, none of this matters if the public can't afford to bring it home. With IBM PCs running over $1,500 without advanced graphic or sound capabilities, the Apple II+ clocking in at over $1,200, and even the Atari 800 costing nearly $900, the Commodore 64's starting price of $595 was much more palatable. With a price decrease to $399 within a year of the machine's release, the economics became a no-brainer. Commodore's inclusion of two DE-9 Atari-compatible user ports allowed gamers to use the peripherals they already owned for their Atari consoles, making the move to computer games that much easier.

PLAY THE GAME

With estimates of between 2,000 and 2,500 commercial game releases during the computer's life, and well in excess of 20,000 shareware/freeware/homebrew games

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released, the 64 had one of the most extensive and varied entertainment libraries of the time.

Elite (below)

I considered exploring the most influential games for the Commodore 64 in this article. Games like *Elite*, *Ultima IV: Quest for the Avatar*, *Pitstop II*, and *The Bard's Tale* often end up on these lists. While I did have fun playing many of these games, the titles that most stuck with me—the ones I think about when I reflect on my personal experience with the C64, and the ones that I continue to come back to even today—often don't make these lists. So I've chosen to delve into five titles that I would personally recommend to someone looking to have a good time gaming on the Commodore 64.

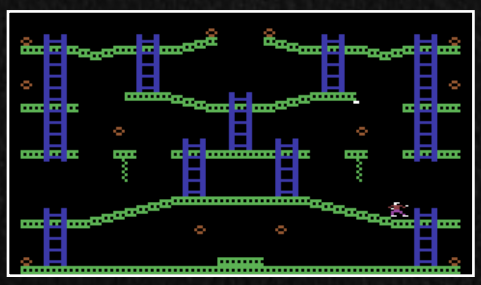
Ghosts 'n Goblins (below)

When it comes to arcade ports of games contemporary to the Commodore 64, they can often be a mixed bag. The fact of the matter is, with all of the graphic and audio power the 64 possessed, when compared to arcade games of the mid- to late-80s and beyond, it was difficult to provide an arcade-perfect experience at home, but a talented developer could still produce an arcade port that evoked the feelings of playing the original in the arcade. Such was the case with the C64 port of Capcom's classic side-scroller *Ghosts 'n Goblins*.

Chris Butler did the conversion for Elite Systems. Due to the fact that Butler wanted the game to run entirely from memory, the port contains just four of the eight levels of the arcade original, but what is here is a sight to behold. The graphics, though cut down from the original, are colorful and detailed. The screen scrolls smoothly both horizontally and vertically in the levels that support it. Mark Cooksey's musical soundtrack sounds great and is very memorable. To this day, I can hear the tune from the first level of the game in my head.

While I loved playing and replaying this game, I found it particularly challenging, but never in an unfair way. Levels had definite patterns that could be learned, and nothing in the game seemed to be completely impossible. Outside of the missing levels, it's hard to point to anything in the game that affects it negatively. Everything came together to create a package that kept me coming back for just one more game, just one more attempt to get Arthur to the end of the last level. I'll take that over a broken attempt at an arcade-perfect port any day of the week.

Jumpman (below)



When it comes to platform games, people will often gravitate towards titles like *Super Mario Bros.* and the like, with their large scrolling worlds, but some of the most satisfying platform gaming experiences, especially on the C64, were single-screen games. *Jumpman*, by Epyx, was one of the first platform games I ever played, and one that I come back to time and again.

The game mechanics are simple. You are Jumpman. Your goal for each of the game's 30 levels is to collect all of the bombs scattered about the screen. In order to do this, you must navigate the various platforms, ladders, and ropes, all the while avoiding the adversaries sent to stop you. Enemies varied from blocky groups of pixels that would float across the screen until they locked onto you, robots that would traverse the levels, and even bats that would use their sonar to locate you.

In many of the levels, as you retrieved the bombs, parts of the playfield would disappear, move, or fall away, making it that much harder to pick up the remaining bombs. This gameplay mechanic encouraged replaying levels, looking for the most efficient order in which to collect the bombs.

As the levels progressed, they became harder and more complicated. Though you were provided with a generous amount of extra lives with the opportunity to earn more as you collected points, you would be hard-pressed to make it through the entire game in a single sitting.

Epyx followed the game up with *Jumpman, Jr.* later that year. While the game mechanics remained largely unchanged, there were but 12 levels compared to the original's 30, and the levels were considerably harder. The game was presented exclusively on cartridge, which

removed the load time between levels that players of the original experienced. While I played both, my affinity for the first one keeps it much higher on my personal list.

Phantom of the Asteroid (below)

A substantial percentage of my collection of Commodore 64 games would be considered budget titles. While games from major publishers like EA, Epyx, and MicroProse would often be priced as high as $30, these budget lines generally came in between $5 and $10, and often contained multiple titles on a disk. One of the most prolific budget publishers at the time was Mastertronic. Some budget lines could be easily identified from the quality of the titles. Simple graphics, lackluster sound, and limited gameplay were not uncommon. Mastertronic, on the other hand, consistently released titles that often rivaled full-priced games from other publishers, at a budget price.

Of all of the Mastertronic games I managed to collect for my C64, *Phantom of the Asteroid* stood out as one of the most memorable. This game was an action-adventure title that leaned heavily on exploration.

You play as an astronaut tasked with exploring the depths of the eponymous asteroid, searching for 36 cubes of uranium. As you navigate the maze of underground caverns, you are constantly harassed by alien Phantoms. You can run, but they are relentless, and the only way to get rid of them is to shoot them with your gun. Along the way, you encounter a number of colored barriers that will either cycle on and off automatically, or must be deactivated by locating a similarly colored pad nearby. On top of all of this, you need to keep an eye on your resources: your oxygen, your energy, and your jetpack fuel. Energy is sapped when a Phantom touches you, or when you shoot your weapon. Jetpack fuel is depleted as you use it to navigate the asteroid, and of course oxygen goes down slowly as you, well, live. Fortunately, each of these resources can be replenished by locating various regeneration stations scattered around the asteroid.

Assuming you are able to survive the Phantoms, the various obstacles, your ever-dwindling resources, and manage to locate all 36 uranium cubes, you will then have five minutes to exit the asteroid before it explodes (because, why not?). If you can't make it, it's game over, and you need to start all over again. If you do, you win!

This game is a blast to play, especially if you are into exploration games. It can be frustrating, but it was never such that I wanted to quit playing (though, a controller or two may have been tossed in exasperation).

Probably the single most memorable thing about this game, however, is the music. The tunes here were composed by none other than SID music god Rob Hubbard. Sometimes I will boot this up just to listen to the intro music for the game. With a game as difficult as *Phantom of the Asteroid*, Hubbard's "game over" music will become seared into your brainpan. Add in the atmospheric background loop, and you've got a top-notch score that will impress anyone who thinks chiptunes are all bleeps and bloops.

Parallax (below)

Before they became famous with the likes of *Sensible Soccer* and *Cannon Fodder*, Sensible Software started out on the C64 with a shooter/adventure game titled *Parallax*. The title, unsurprisingly, came from the use of parallax scrolling in the game.

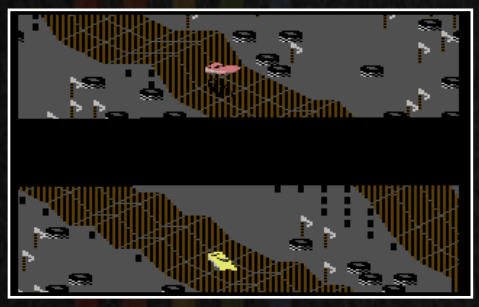
The story is as follows: you are part of a group of five astronauts exploring a seemingly friendly planet, but when your group discovers a plan to invade Earth, the robot inhabitants turn on the team and capture four of the five astronauts. You play the fifth astronaut, tasked with locating and rescuing the others and shutting down the invasion. You do this by flying around, shooting down enemies, and destroying turrets mounted on each complex.

You will come across many hangars in each area. When you find one, you can land your ship and exit on foot to enter the hangar. Inside you will usually find a scientist that holds a keycard. Use your stun gun to incapacitate the scientist and take their keycard. The first scientist you come across will also double as a rescued astronaut, so you will want to lead them back to your ship. Each keycard can be either used to retrieve part of the code required to exit each level, or can be used to retrieve credits. The credits can, in turn, be used to purchase supplies, allowing you to continue on your quest. After you have unlocked the

passcode, you can exit to the next level, and you start again with the exploring and the rescuing.

While each level is more difficult than the last and adds more obstacles to avoid and enemies to dispatch, the gameplay loop is not extremely varied. With only five levels to conquer, the game can be completed quite quickly, but the experience is worth it. The game runs extremely smoothly. Your ship handles like a dream. If you happen to fly into an obstacle that you cannot avoid, your ship bounces off instead of coming to a dead stop, which keeps the high-speed gameplay flowing. Controlling your pilot outside of the ship adds an interesting aspect to the standard shooter formula. For all of these reasons, it's easy to recommend Sensible Software's first outing.

Racing Destruction Set (below)



One of the selling points of home computers over video game consoles of the time was the ability to create. Electronic Arts took advantage of this and released the Construction Set series of titles for the C64 and Atari 8-bit computers. The series consisted of *Pinball Construction Set*, *Music Construction Set*, *Adventure Construction Set*, and the star of this part of the article, *Racing Destruction Set*.

As you can see from the name, *Racing Destruction Set* took a more combative turn. Far from a simple racing game, it gave the player some great tools to create unique gameplay experiences.

To start, you can either play against another human or the computer. Regardless of your decision, gameplay is displayed as a split-screen horizontally, with player 1 on top and either player 2 or the computer on the bottom. Racing is presented in an isometric view, similar to games such as *Super Off-Road* and *Power Drive*, which helped it stand out from the strictly top-down and behind-the-car racing titles of the time.

Setting up each race was where the fun began. You have a number of vehicles to choose from, such as a sports car, a dirt bike, an F1 racer, and even a lunar rover. You can customize aspects of each vehicle, like the engine, tires, and how much ammo and armor you would get to complete the race. Track selection comes next. You can load a pre-created track from disk, or you can create one from scratch using the track editor. If you choose to create one, you are dropped into the track editor, providing you with a plethora of different pieces to combine together to create the ultimate raceway. You can set the surface type of the track, and you can even set the type of gravity to be used during the race, from the strong gravity of Jupiter to the super-jump-inducing low gravity of the moon. Finally, decide if you are going to race or destroy. If you choose a standard race, you will race your opponent a set number of laps to see who comes first. If you choose destruction, you will race each other, using mines and oil slicks to damage each other, until only one remains. Then, load up or construct another track and do it all over again!

This game was an amazing two-player experience. My brother and I played it for hours, trying to construct tracks that would challenge each other, and putting in massive jumps that would throw vehicles high into the air with moon gravity. I played many racing games on the C64, and even played some of them more than this one, but the experience of playing *Racing Destruction Set* is the one that has stuck with me all these years. An easy recommendation for those that want a little creativity with their explosions.

PLAYING AT HOME

In 2025, there are a number of ways that you can experience the vast collection of Commodore 64 games for yourself. Of course, you can always play on original hardware. eBay and Facebook Marketplace are flush with Commodore equipment in various conditions. Depending on what's included and the shape the system is in, prices range from reasonable to collectible levels.

A couple of years ago, Retro Games, Ltd. burst onto the scene with The C64 Mini, a mini-console version of the Commodore 64 in the vein of the Nintendo Classic Mini. It uses emulation on custom hardware to allow users to play classic C64 games. One of the negatives of The C64 Mini was the fact that the keyboard on the device wasn't functional. You had the option of connecting a USB keyboard, but the experience just wasn't the same.

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Retro Games soon rectified this with The C64, a full-sized system with a fully functional C64-style keyboard. It's a nice way to have access to the original keyboard for your gameplay sessions, or even to be able to try your hand at writing your own games.

The C64 Mini (previous page)

Of course, if you already possess a system capable of emulation, you can go download an emulator right now. VICE is by far the most popular option, but there are a number of other Commodore emulators that offer a variety of different options to suit your emulation needs.

A more interesting option is to effectively build your own Commodore 64. There are complete motherboard replacements available for purchase that supercharge your C64 experience, giving you options that were either cost-prohibitive for Commodore users at the time, like the RAM Expansion Unit, or made possible by new innovations, like faster CPUs and dual SID chips. While these options can get costly, if you are a true tinkerer, this may be your entry into the world of Commodore.

In my opinion, the most interesting option not quite available yet is the Commodore 64 Ultimate, coming from the newly reformed Commodore International Corporation. The story of Commodore once again rising from the ashes is for another column, but suffice it to say, this will be the first official Commodore-branded C64 made in over 30 years, and it will be a powerhouse. Modern features like support for USB storage, Wi-Fi, and LED lighting combine with 8-bit nostalgia to create a tempting package. Keep an eye out for it.

Commodore 64 Ultimate *(below)*

(from left to right) Founder's Edition, Slarlight Edition, Basic Beige Edition

COMMODORE 64 GAMING TODAY

I think it is safe to say that, for those of us that grew up on the Commodore series of computers, and the Commodore 64 in particular, it has defined what we think of as an enjoyable gaming experience. So much so that there is still a thriving homebrew scene for the venerable system. Original games such as *Sam's Journey*, *Attack of the PETSCII Robots*, and *Rogue64* show that the system is still fertile ground for new experiences, while new arcade ports like *Burger Time*, *Galaga*, and *Dig Dug Revival* give nearly pixel-perfect arcade experiences on the system, and unofficial ports of both *Super Mario Bros.* and *Sonic the Hedgehog* prove that, with a little hardware help, the system can hold its own with the 8-bit consoles of the time.

Sam's Journey* by Protovision *(below)

Galaga* by Arlasoft *(below)

Sega's *Sonic the Hedgehog* by Mr. SID *(below)*

Love for the Commodore 64 isn't just nostalgia; it's an understanding that the system provided a unique gaming experience that is still exciting and fun to this day. Retro gaming is big business, and 8-bit computers from the 80s are a big part of that. Long live the Commodore 64!

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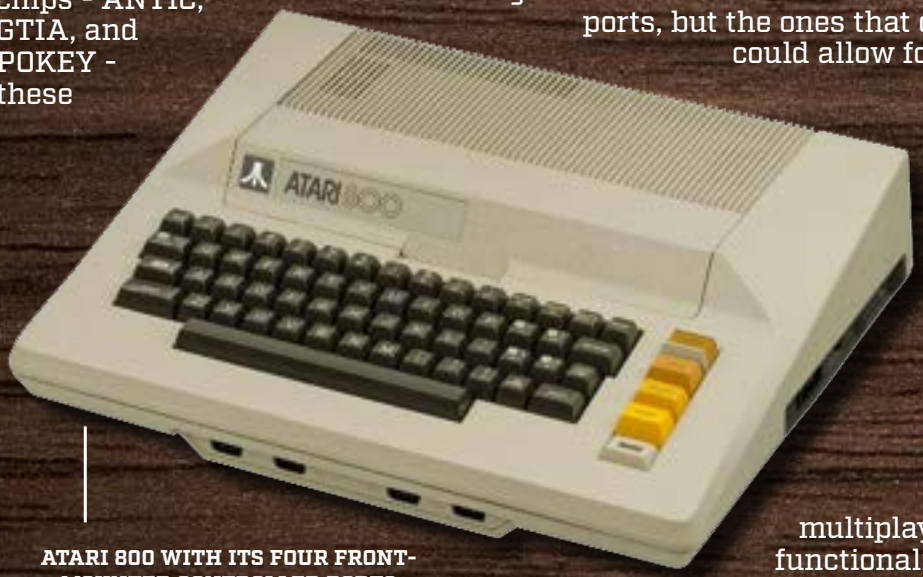
GAMING ON 8-BIT ATARI

by Bill Lange

From its debut in 1979, the Atari 8-bit computer family set a new standard for home computing by combining cutting-edge graphics, rich sound capabilities, and a design philosophy rooted in arcade gaming expertise. Powered by a trio of custom chips - ANTIC, GTIA, and POKEY - these



ATARI 800 WITH ITS FOUR FRONT-MOUNTED CONTROLLER PORTS

machines delivered features like hardware sprites, smooth multi-directional scrolling, customizable character sets, and four-channel audio that made them a dream platform for both game developers and players. With robust hardware, easily accessible cartridge slots, multiple controller ports, and direct input from Atari's own arcade engineers, the Atari 8-bit line offered an authentic arcade-like experience at home. What followed was a golden era of unforgettable games, innovative peripherals, and a passionate community that would sustain the platform's legacy long after its official retirement.

The two earliest models in the Atari 8-bit line, the kid-friendly Atari 400 and the higher-end Atari 800, both had four controller ports. Not many games made use of all four ports, but the ones that did could allow for multiplayer functionality using up to four joysticks or eight paddle controls at a time. The port of the Atari video arcade game *Asteroids* was one such game that allowed for all four players on the screen at one time. Atari's *Super Breakout* allowed for up to eight paddle controllers. The games *M.U.L.E.*, *Ali Baba*, and *Return of Heracles* all allowed for up to four joystick controllers. I covered the games *Ali Baba* and *Return of Heracles* in the article "The Adventures of Stuart Smith" way back in issue #7 of OSG. Sadly, all later models in the Atari 8-bit family would have only two controller ports.

In addition to joysticks and paddle controllers, the Atari 8-bit also supported the Atari CX22 Trak-Ball controller for games such as *Missile Command* and *Centipede* for the arcade gameplay experience.

I played hundreds of other games on my Atari 400, and later, on my Atari 800XL, first from ROM cartridges and slow-loading cassette tape using the Atari 410 program recorder. Once I was able to afford the Atari 810 disk drive, I would move on to floppy disk-based games such as the *Ultima* series by Richard Garriott, the Infocom text adventures like the *Zork* and the *Enchanter* series and Omnitrend's incredibly detailed space exploration game *Universe*, as well as many other advanced disk-based games.

Montezuma's Revenge (below)

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A few of the games that I would return to again and again were Parker Brothers' *Montezuma's Revenge* by wunderkind Robert Jaeger, Synapse Software's *Shamus* and ANALOG Software's *Buried Bucks*. I particularly enjoyed *K-Razy Shoot Out*, a *Bezerk* clone, and Broderbund Software's *Choplifter*. I originally played *Choplifter* on an Apple II at the long gone Atlantic Computer store in Toms River, NJ, and the controls worked better with the two-button analog joystick on the Apple, but it was still a fun game on the Atari.

Many classic games could be had from Atari's APX catalog, a user-created app store well before its time, such as Caverns of Mars, Eastern Front 1941, and Getaway!. Some of these games make extensive use of the Atari's player-missile graphics, redefinable character sets and four-way fine scrolling.

I asked a few friends for their unique take on gaming on the Atari 8-bit, and here's what they said:

Peter Fletcher, host of the annual Atari Party in Quakertown, Pennsylvania, tees up the following.

If the Atari 8-bit line of home computers is known for anything, it is the amazing home conversions of the arcade classics. Sometimes though the best versions of those games are not the direct ports, but the games that those arcade classics inspired. In my case, I find it hard to beat Preppie!, a 1982 release programmed by Russ Wetmore and published by Adventure International.

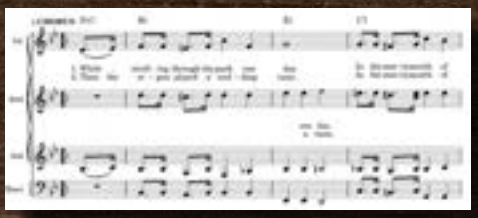
Preppie!

In *Preppie!* you play college freshman Wadsworth Overcash who unfortunately lost an initiation contest. As punishment, Wadsworth is sent to help the cruel groundskeeper retrieve golf balls. Starting the game it is immediately apparent that *Preppie!* is inspired by Konami's 1981 arcade smash hit *Frogger*. The screen is divided into two main sections. The lower section features people lawn mowing, operating heavy equipment and driving about in golf carts. The upper section features the *Frogger*-inspired logs and alligators as well as canoes.

You navigate Wadsworth around the screen with the joystick collecting golf balls and returning those safely to the bottom of the screen. Early levels feature only a single golf ball for retrieval, but as you advance more balls are strewed around the playfield. As you go about your work a timer counts down making the ball retrieval more frantic.

The graphics are colorful and bright. Wadsworth's sprite does have a preppy boy appearance, well, as best as one could with the Atari's limited screen resolution. All of the sprites are equally fun and colorful. For me though, the real standout is the music. Wetmore takes full advantage of the Atari's four channel POKEY sound chip playing classics like Dvořák's "Humoresque No. 7 in G-flat Major" and Ed Haley's "While Strolling Through the Park One Day" throughout Wadsworth's adventures.

Preppie! *remains one of my go to Atari 8-bit games. The* Frogger*-inspired play, the whimsical and colorful graphics and the charming musical score keep me coming back all of these decades later.* Preppie! *is just as fun as the arcade classic in which it was inspired.*



"While Strolling Through The Park One Day" by Ed Haley

Jamie Lendino, author of the book "Breakout: How Atari 8-Bit Computers Defined a Generation" and many other Atari and retro-computer-related books weighed in on the topic as well, and here's what he had to say:

The Atari 800 was my first computer. I first learned to program on it, and I ran a BBS with it... but for me, the 800 was most of all about gaming. Nothing else at the time had the 1-2-3-4 punch of the 6502, GTIA, ANTIC, and POKEY chips.

Caverns of Mars (below)

It's basically cliché at this point to mention Star Raiders, but it stunned me right out of the gate on my 800, and I will never get over how it's only 8K of code. I loved the arcade-like ports of Missile Command, Pac-Man, and Defender; they were closer to the arcade than anything the Atari 2600 could do. Caverns of Mars was another early favorite.

Mountain King (below)

But it was the next wave of Atari 8-bit games that truly hooked me. I was enthralled with the sheer speed of Archon, all the different mini-games in Alley Cat, the tension and music of Mountain King, and the sense of the vastness of space in Survivor. I soon played more detailed and involved games, like Realm of Impossibility, Boulder Dash, M.U.L.E., Stealth, and Dropzone, the last two with truly impressive graphics and animation.The arcade conversions also kept coming; my favorite coin-op port of the entire lot was Gyruss. And Ultima III: Exodus, with its soundtrack on the Atari 8-bit, introduced me to and set me up for a lifetime of enjoying CRPGs for their story and atmosphere.

Dropzone (below)

The thing is, these games all hold up. With the exception of a few flight simulators because of the low frame rate, I still play all of these Atari 8-bit games today.

Jason Moore, author of the book "Atari Projects" also gives us a bearing on his experience:

My love of submarine games started in the late 70s, when my father would take me to the local arcade on Saturday afternoons. Among the coin-op cabinets and the chorus of electronic bleeps stood my dad's favorite machine, Sea Wolf, which featured a periscope controller that you peered through and launched torpedoes at enemy ships. This was always the first, and often the only game we would play at the arcade.

Sea Dragon (below)

That love of submarine combat followed us home a few years later, when we picked up Submarine Commander from Thorn EMI for our newly purchased Atari 800 home computer. This sub simulator, like other simulators such as Jumbo Jet Pilot, was interesting and fun but could be a bit slow and tedious. My then-unknown desire to play a faster-paced sub game was awakened when I discovered Sea Dragon that was programmed by Russ Wetmore, the same talent behind the Frogger-like game Preppie!. Sea Dragon was something special. The moment I loaded it up, I was hooked. The game scrolled sideways at a deliberate, almost cinematic pace, letting you take in the beautiful undersea world. There were twisting caves, towering rock formations, and lurking dangers such as mines rising from below, rocks tumbling from above, and even deadly lasers guarding narrow passageways. Every pixel felt carefully placed, every hazard a test of patience and skill.

Sea Dragon wasn't about twitch reflexes. It was about timing, precision, and that pulse-quickening moment when you squeezed through a narrow tunnel with only inches to spare before running out of air. It captured the tension of submarine navigation in a way no game had before, blending arcade thrills with the slow-burn suspense I'd first felt back in the days of Sea Wolf.

I still play Sea Dragon often and am still quite good at it. Those strategy and gameplay muscles I developed as a kid remain strong. Each time I play, I remember the days when the Atari was in my bedroom to free up valuable space in the dining room. I would sometimes wake up at 2 a.m. on a school night to the familiar ping of the sonar that defined the sound effects of the game. Through sleepy eyelids, I'd see the glowing silhouette of my dad, joystick in hand, making his way perilously toward the final "boss mine." Drifting back to sleep, my subconscious would already be working on my next playthrough.

Crossbow, An XG-1 Light Gun Game (below)

One of the last models in the Atari 8-bit family, the Atari XEGS, a repackaged Atari 65XE, came with the XG-1 Light Gun for games such as *Barnyard Blaster*, *Bug Hunt*, and *Crossbow*. The more strategic *Crossbow*, ported from the Exidy arcade game, with its

multiple colorful and scrolling backdrops, is the better of the light gun games.

In 1992, Atari officially dropped all remaining support for the Atari 8-bit line, but the fun didn't end there... not in the least bit. Over the past 30+ years, additional upgrades to the platform such as the VBXE graphics card, which enabled a rich 320×192 resolution with 256 colors, and the dual-POKEY audio enhancement for stereo sound, allow for the creation of some excellent homebrew games.

One such game, *Tempest Elite*, a 2018 homebrew adaptation and enhancement of the iconic 1981 arcade game *Tempest*, originally designed by Dave Theurer, was ported to Atari 8-bit by developer Peter J. Meyer. The game uses the VBXE enhancement and supports using the Atari CX20 Driving Controller, originally packaged with the Atari 2600 game Indy 500, for continuous rotation in either direction.

Another project, FujiNet, a modern, open-source hardware peripheral for Atari 8-bit computer (and many other retro platforms) acts as a universal network adapter, disk drive emulator, and device bridge. It dramatically expands the Atari 8-bit's capabilities without modifying the computer and is allowing for internet-connected, multiplayer game development and competitive online "high score leaderboards" which track and display the highest scores achieved on various games.

The Atari 8-bit family may have been officially retired decades ago, but its gaming legacy continues to thrive thanks to the passion of players, developers, and collectors who refuse to let the platform fade into obscurity. From faithful arcade conversions and inventive original titles in its heyday to the impressive homebrew creations of today, the Atari 8-bit remains a testament to how much joy and creativity can be packed into 8-bit silicon. Whether reliving old favorites or discovering hidden gems for the first time, the system's combination of technical prowess, charm, and community spirit ensures that its games will keep captivating generations of players for years to come.

The OG Atari 400 and its Little Brother, The Atari 400 Mini (below)

So fire up your original hardware, your Atari 400 Mini or the Atari 8-bit emulator Altirra, head on over to atarimania.com and start gaming Atari 8-bit style!

HAVE YOU PLAYED ATARI TODAY?

Apple II GAMING FIRSTS

How a quirky, beige 8-bit box launched genres and legends.

by Jarrod Kailef

Most people remember the Apple II for classrooms, word processors, and maybe *Oregon Trail*, but that is only half the story. From 1977 through the late 80s, the Apple II was also a serious game machine. It launched careers, birthed franchises, and set blueprints for entire genres. It did all of this with quirky color, a single-bit speaker, and very little memory. The limitations did not hold it back however; they channeled a wave of creativity.

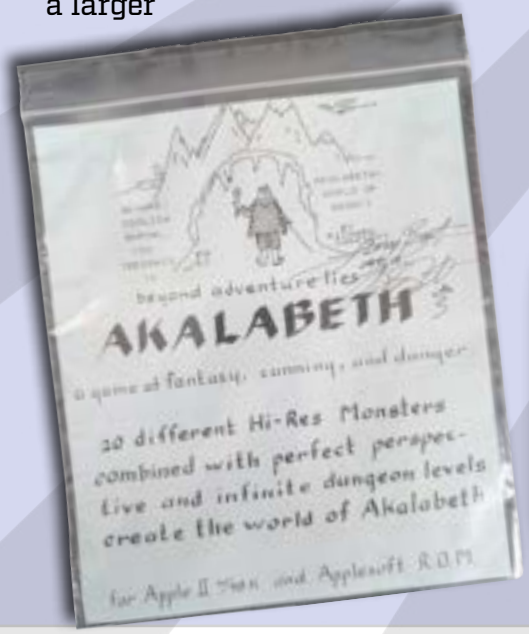
The Stage, Late 70s to Early 80s

The Apple II arrived in 1977 with something unusual for the time: openness. There were expansion slots for add-on cards, a friendly BASIC programming language pre-loaded in ROM, and graphics modes that, while idiosyncratic, were available to anyone willing to learn them. Color on the Apple II came from the NTSC video signal, so what you saw on screen depended on how pixels lined up with the television's color carrier. That quirk produced the now famous purple and green fringes in high-resolution mode and, with careful patterns, more color than the specs suggested. Sound was just a click of a speaker toggled on or off, yet developers still coaxed music and effects from it by timing those clicks with cycle-level precision. I realize that none of this sounds like a recipe for landmark games, but it was!

Era One, 1979 to 1981: Homemade epics emerge

The earliest Apple II games were often written by a single person at home. However, that did not stop them from being ambitious. I'll focus my list of games not on arcade ports and "shotgun" games that were released on multiple platforms at once, but specifically on games developed for and released first (or sometimes only) on the Apple II platform, so that you can see how the Apple computer differentiated itself.

- ***Akalabeth: World of Doom*** began as Richard Garriott's basement project. Sold in ziplock bags before getting a publisher, it pushed beyond simple arcade clones and pointed the way to persistent worlds, stats, and progression. The following year, *Ultima* (later re-released as *Ultima I*) landed on the Apple II and gave players a larger world, a mashup of overhead exploration and first person dungeons, and a taste of the role playing shape of things to come, which I have previously written about in great detail back in issue 33 of Old School Gamer. If you don't have that issue in physical print, you can still read at oldschoolgamer.com!



- ***Mystery House*** from Roberta and Ken Williams, the founders of Sierra On-Line, turned the humble text adventure genre into a graphical one. Simple black and white line art on the Apple II instantly changed how adventures felt. The game was small by modern standards, but it gave the medium a new language, "look at the world, not just read about it."

Mystery House (1980)

- ***Wizardry: Proving Grounds of the Mad Overlord*** codified

Wizardy (1981)

the first person, party-based dungeon crawl. Tight resource management, grid movement, permadeath that felt savage, and the thrill (and sometimes frustration) of deeper floors. *Wizardry's* influence traveled far, especially to Japan, where it helped shape the DNA of early console RPGs

- **Castle Wolfenstein** did something unexpected on humble hardware, singlehandedly inventing the stealth shooter genre, and making gaming feel tense.

Castle Wolfenstein (1982)

Silas Warner used line-of-sight, limited ammo, and the threat of alarms to force players to think before they moved. The Apple II had no hardware sprites and no fancy sound chip, yet the game built dread anyway. It was less about pixel pushing and more about design priorities. It always genuinely scared me when an SS Stormtrooper burst into the room! No joke, I would often avoid playing this game in the dark, late at night.

Throughout these early years, the Apple II's oddities were not hindrances, they were tools. High-res artifact color allowed artists to coax extra hues out of the color palette. Designers learned that diagonals shimmered and that tight patterns could suggest shading. On the audio side, timing loops and clever code made chords and even multi-voice illusions possible. Programs like Electric Duet taught the community that the speaker could sing if you treated time like gold.

Era Two, 1982 to 1984: Arcade Sensibilities with Apple Personality

By the early 80s the homebrew feel began to give way to professional releases. The Apple II remained a leading platform, often the first target for developers because of the open nature of the architecture allowing for greater innovation. It also helped that unlike the competing Atari and Commodore computers, the Apple II featured a fully analog two-button joystick allowing for a much higher degree of control versus the single button, 8-way "all or nothing" joysticks of the time.

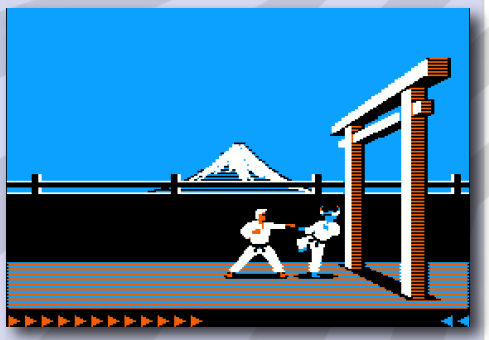
- ***Choplifter*** was born on the Apple II as a rescue-action game with personality. Its theme was human, not just score chasing, and that struck a chord with players. It did so well that it jumped to the arcade later, which was the reverse of the normal direction at the time. This was also one of the games that really showed the advantage of the Apple joystick, with fine control of the helicopter allowing for a vast gradient of movement speeds rather than just 'go' or 'stop'.

Choplifter (1982)

- ***Lode Runner*** paired smooth controls with a built-in level editor. The editor mattered. It let players make and trade their own content long before that became common practice, and it showed that the Apple II audience was not just consuming games, it was participating in them. Lode Runner was also ported to the arcade!

Lode Runner (1984)

- ***Karateka*** arrived with cinematic ambition. Jordan Mechner used rotoscope-like methods to give the protagonist a sense of weight and timing that felt new on 8-bit machines. Screen framing, musical stings, and deliberate, cinematic pacing showed a different way to think about action, less twitch, more drama. On Apple II hardware with a 1-bit speaker, that was no small trick.

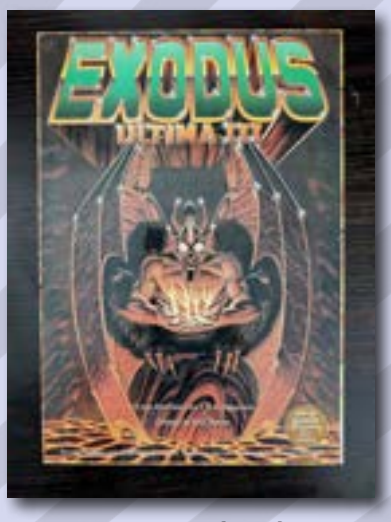


Karateka (1983)

- ***Ultima II*** and ***Ultima III*** expanded scope, integrating more coherent worlds, ships, time travel, and party-based systems. The series grew up on the Apple II, and the platform's audience grew with it.

All of this happened on a machine that, on paper, looked outgunned by some rivals. The Commodore 64 had sprites and a dedicated sound chip, the Atari 8-bits had hardware scrolling and player-missile graphics. The Apple II countered with a developer-first mindset and a community that learned to turn

quirks into style. If you wanted more sound, you could plug in a Mockingboard. If you needed disk tricks, you wrote your own. The machine did not promise flash, it promised control, an open environment that challenged developers to use their ingenuity and creativity to push the boundaries of what was possible.



Ultima III (1983)

Era Three, 1985 to 1986: Refinement and Reach

By the mid 80s, Apple II games were both maturing and spreading to other platforms. By now there were lots of arcade ports on the Apple II, but it was still home base for several of the biggest series of the time.

- ***The Bard's Tale*** refined the first person party RPG for a wider audience. Smarter mapping tricks, big monster rosters, sharper visuals and a musical identity gave it weight. Michael Cranford wrote this for the Apple II, and it was later ported to other platforms. When I first played it, I felt like it was the next generation of Wizardry, as it had the same basic framework, but with everything "turned up to 11."

The Bard's Tale (1985)

- ***Ultima IV*** raised the bar for narrative purpose. Rather than another run at "kill the big bad," it built a system of virtues and asked the player to live by them. It was an early statement that computer role playing could be about more than stronger gear and higher stats. That idea grew into a core strand of RPG design going forward, as it was the first role-playing game to make a formal virtue system at its root, tracking your actions across eight virtues and requiring ethical conduct to win.

Both of these games (Ultima IV and The Bard's Tale) show up on many 'top ten' style lists, even on other platforms. But, like all the games I am listing here today, they were born on the Apple II!

Ultima IV (1985)

In this era, the publishing scene was stronger too. Companies like Origin, Sir-Tech, Interplay, New World Computing, and Broderbund had muscle and distribution capabilities, and were producing a lot of Apple II software. Large games were no longer one person laboring alone, but the Apple II's spirit, developer control and clever coding, remained in the DNA.

In my opinion, this is one of the reasons that the Apple II was (and is) so amazing. Using only the 1 mhz CPU, 64k RAM and floppy disk drives that the Apple II line had from 1979 forward, the improvement of the quality of the games was immense, night and day changes over just a few years. The amazing part though, was that these games were better not due to more powerful hardware, but rather the skill and talent of the developers writing those games. (It's worth mentioning for accuracy that the Enhanced Apple //e was released in 1985, and while it normally shipped with 128k of RAM, most games of this era were still written with the expectation of only 64k being available)

Era Four, 1987 to 1989: Lasting Blueprints

Late decade Apple II titles read like "how to" manuals for later generations.

- ***John Madden Football***

John Madden Football (1988)

Madden launched on the Apple II in 1988. This game turned out to be the very first of EA's *Madden* series, which is widely recognized as the most successful football video game of all time. Before it became a console titan, it took shape here on the Apple II as a more simulation-minded football game. It modeled playbooks and line play in ways that foreshadowed the entire Madden franchise's later identity. "It's in the game."

- ***Prince of Persia*** in 1989 is a pinnacle of 8-bit craft. Mechner refined his rotoscoping approach from Karateka into animation that still reads as human today. The result was a game about timing and precision that many later action-platformers studied. Design on Apple II hardware shaped the strict timing window and level structure, which turned into strengths rather than constraints. An entire series of successful video games and movies spawned from this game, which was developed and launched initially on the Apple II!

Prince of Persia (1989)

- ***Ultima V*** is my favorite of the 8-bit Ultima series. There are so many innovations in this game, but my favorite was that it was the first game to have full NPC schedules that followed the day/night cycle. Shopkeepers actually went home at night and went to sleep! Yeah, I know, I probably like the Ultima series a little bit too much. But that's because it's awesome!

Even as glossier home computing platforms appeared, developers kept shipping Apple II versions. The audience was loyal, and the core machines, especially the IIe and IIc, stayed in homes and labs longer than expected. My own Apple //e stayed on my desk until 1993! It was a late run powered by craft and community.

How the Quirks Shaped the Games

I want to take a quick detour into the two most famous constraints, color and sound, which explains much of the Apple II's character.

Color through NTSC artifacting. High-resolution mode on the Apple II did not store color values per pixel the way later machines did. It stored patterns that the NTSC television decoded into color depending on phase. Place pixels on one column and you get a purple tint, shift by a single dot and it turns green, use tight checkerboards and you can imply oranges or blues. Artists learned to control those interactions. The side effect was visual personality, vertical edges looked clean, diagonals shimmered, and certain hues felt unique to the Apple II. Screenshots never told the full story, you had to see it on a composite display to appreciate the effect.

One-bit audio that still made music. The machine had a single I/O line tied to a speaker at memory address $C030. Flip it on and off quickly, you get a tone. Flip different patterns at specific cycle counts, you get harmonies. Programmers treated the CPU like a conductor, budgeting exact instruction timings to hit notes. Music drivers emerged that could fake multiple voices by interleaving wave toggles, and sound cards like the Mockingboard gave composers real channels when the Apple had one installed. The result was a signature sound, crisp clicks turning into snare hits and square waves, surprisingly expressive inside the constraint.

These two quirks encouraged a style. Apple II games often leaned into readable silhouettes and rhythm-driven feedback. Designers made levels that worked with color patterns rather than against them, and they tied challenges to timing and planning because the machine rewarded precision.

Today's Apple II scene is still going strong

If you have not checked in on Apple II gaming lately, you might be surprised. The platform is not simply a museum piece.

- **Nox Archaist** is a full-scale, new Apple II RPG released in 2020 that runs on real hardware, complete with a boxed edition and in-world manual. It is a love letter to early CRPGs, but it also shows how far craft has come. World streaming, custom toolchains, and decades of community know-how went into making something that is amazing today, but would have been absolutely jaw-dropping in the mid 80s. Full disclosure, I worked with 6502 Workshop on the development of *Nox Archaist*, and being part of making that game come to life on actual Apple II hardware was a dream come true for this particular Old School Gamer. *Nox Archaist II* is in development as we speak, as well!

Nox Archaist (2020)

- **Total Replay** is a curated, searchable anthology of Apple II games that you can run on original machines or via emulation. It smooths over the friction, consistent loaders, good joystick defaults, and bug-fixed cracks where needed, so players can experience the

Coming this October from Bitmap Books

BITMAP BOOKS

best versions of classics. More importantly, it keeps history playable, not just documented.

There are a surprising number of people still developing for the Apple II platform. The Fijunet hardware, which is available for many retro computing platforms, allows Apple, Atari and Commodore users to compete online against each other in *8-Bit Slicks*. Michael Packard's Snacking On! Software regularly releases new Apple II arcade games, and 8-Bit Shack has an immense catalog of new Apple II games, with a new one, *Skull Island*, being released shortly! There's a lot more, too.

There are other hardware mods and tools like the Fujinet that keep the door open as well, and there's a lot to choose from. Solid state storage solutions let you load massive catalogs quickly. Composite-to-digital scalers and modern monitors make the artifact color visible without hunting down an old CRT. Developers still release demos, utilities, and quality-of-life upgrades. The ecosystem is alive because people are building in it.

Why the Apple II Matters as a Game Platform

Okay, I admit: The Apple II was not the flashiest 8-bit machine. The C64's SID chip was a 3-voice synthesizer that didn't eat CPU cycles. The Atari 8-bit graphics scrolled like butter, and later systems handled sprites like candy. The Apple II won differently. It put power directly in the hands of designers and asked them to be clever. That bargain paid off.

It launched series that we still talk about today. *Ultima* set expectations for open worlds and moral systems. *Wizardry* defined the party-based crawl and changed the trajectory of RPGs in Japan. *The Bard's Tale* brought dungeon delving to a broad audience with charm. *Castle Wolfenstein* showed that tension is a design choice, not a hardware feature. *Choplifter*, *Lode Runner*, and *Karateka* proved that Apple II originals could lead, not just follow. *John Madden Football* and *Prince of Persia* served as blueprints for sports simulations and precision platformers literally for decades to come.

It also created a certain kind of developer. The Apple II forced you to know what was really happening inside the machine. Artists learned how a CRT monitor 'thought' about color. Musicians learned that time itself is an instrument. Programmers learned to budget cycles like money. When those people moved on to newer systems, they carried that discipline with them, making them dramatically better developers than they would have been without the Apple II.

Before we wrap, a quick nod to more Apple II-centric standouts I could not fit above, including *SunDog: Frozen Legacy*, *Aztec*, *Star Maze*, *Skyfox*, *Dino Eggs*, *Rescue Raiders*, *Captain Goodnight and the Islands of Fear*, *Sabotage*, *Swashbuckler*, *Raster Blaster*, *Pinball Construction Set*, *Bolo*, *The Bilestoad, Star Blazer*, *Sheila*, and *Airheart*. Each of these was a popular game which either debuted on Apple II before being ported elsewhere, or was exclusive only to the Apple II.

Closing Thoughts

The easy version of Apple II history says it was the school computer that happened to play games. The real version shows that the Apple II was a crucible for game design. It taught early developers to turn constraints into creativity and style, and it launched ideas and series that still shape what we play today. If you load up an Apple II right now and drop into *Choplifter*, *Ultima* or *Prince of Persia*, it does not feel like a relic so much as a reminder that creativity beats specs when you put the right tools in the right hands! Those six artifact-driven colors and that one-bit clicker did not limit Apple II games, they challenged a generation of developers to invent, and that same spirit is alive today in projects like *Nox Archaist* and preservation efforts like *Total Replay*.

The Apple II that I know is not just a beige box on a cart at school that I played *Oregon Trail* and *Where in the World is Carmen Sandiego?* on, but also a surprisingly capable gaming machine. It deserves a place in the conversation any time we talk about what made the 8-bit era special, and why those games still matter.

SIDEBAR

Humble Apple II Origins

Richard Garriott: *Akalabeth* on Apple II led directly to the genre defining *Ultima* series, and the founding of Origin Systems.

Ken & Roberta Williams: Released *Mystery House* on Apple II, widely cited as the first graphical adventure, and founded Sierra.

Brian Fargo: Wrote *The Demon's Forge* for Apple II in 1981, then founded Interplay and shipped many early Apple II hits.

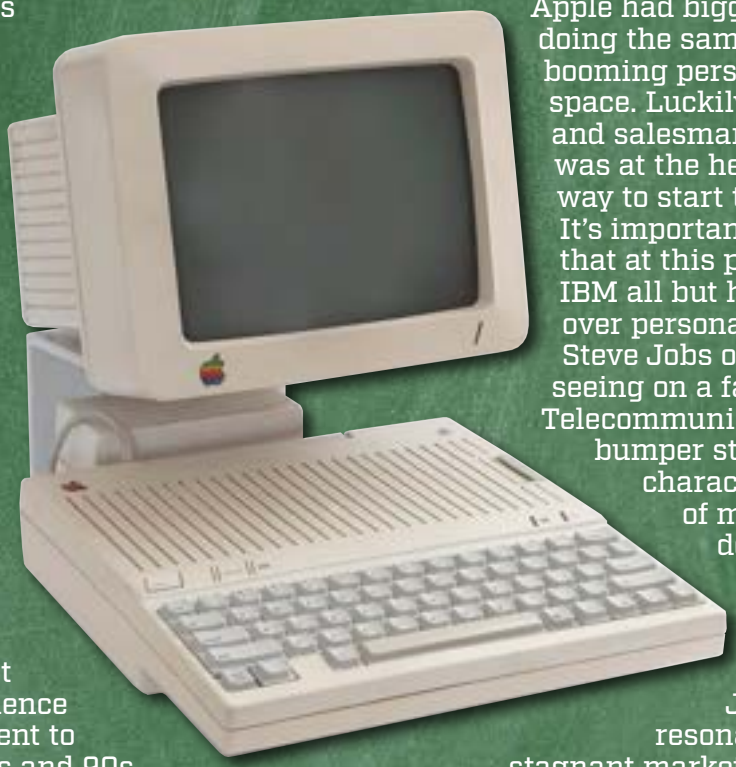
John Romero: *Doom* and *Quake* developer who began his professional programming career on the Apple II in 1980 before founding id Software and Ion Storm.

Jon Van Caneghem: Debuted *Might and Magic* on Apple II in 1986 before it spread everywhere, founder of New World Computing.

Apple for the Students

by Tristan Ibarra

Every Wednesday from 4th to 8th grade there was no school period I enjoyed and looked forward to more than the hour we got to spend in my school's computer lab. Not only was it a welcome change of pace from the often boring classroom lecture we had to sit through the other 97% of the school week, we also got to do something that my world revolved around at the time: playing video games. It helped that I was a good student and I took to Math and English as well, which will make more sense at the end of this article. For those of you with any experience playing educational games on Apple computers, you probably already know where I'm going with this. Admittedly I haven't looked into the demographic statistics of the average age for an Old School Gamer Magazine reader, but given the title of the magazine and our subject matter, I think it's safe to say that some of you, if not most, had a similar experience in school to mine if you went to school in the US in the 80s and 90s. Graduating class of 2000 here ;).



Before we dive into that experience, I think it's important to set the stage of what life was like back then when it came to everyday use of the technologies we utilize everyday without thinking about it. We're now so far removed from the infant years of personal computing that I find it hard to wrap my head around it sometimes.

I grew up in Northern California, in Fortuna to be exact. It's always bothered me that when I say Northern California, people think San Francisco, when in fact San Francisco is a four hour drive south on Highway 101 from where I grew up in the redwoods of Humboldt County. The state of California, as every Old School Gamer knows, was the birthplace of a few of the juggernauts of electronic computing's Mt. Rushmore: Atari in Sunnyvale, and Apple in Los Altos (now Cupertino). While Atari was busy soldering itself to the American gaming and entertainment movement, Apple had bigger aspirations by doing the same, except in the booming personal computing space. Luckily for us, visionary and salesman Steve Jobs was at the helm and saw a way to start them young.

It's important to understand that at this point in time, IBM all but had a monopoly over personal computing. As Steve Jobs once recounted seeing on a facetious Bell Telecommunications Systems bumper sticker that so aptly characterizes the nature of monopolies, "We don't care. We don't have to." It was in fighting against this monopolistic attitude where Jobs and company resonated with a stagnant market. But rather than just go after IBM's business market share, Jobs saw an opportunity for Apple to implant itself in the lives of every American family.

THE KIDS CAN'T WAIT

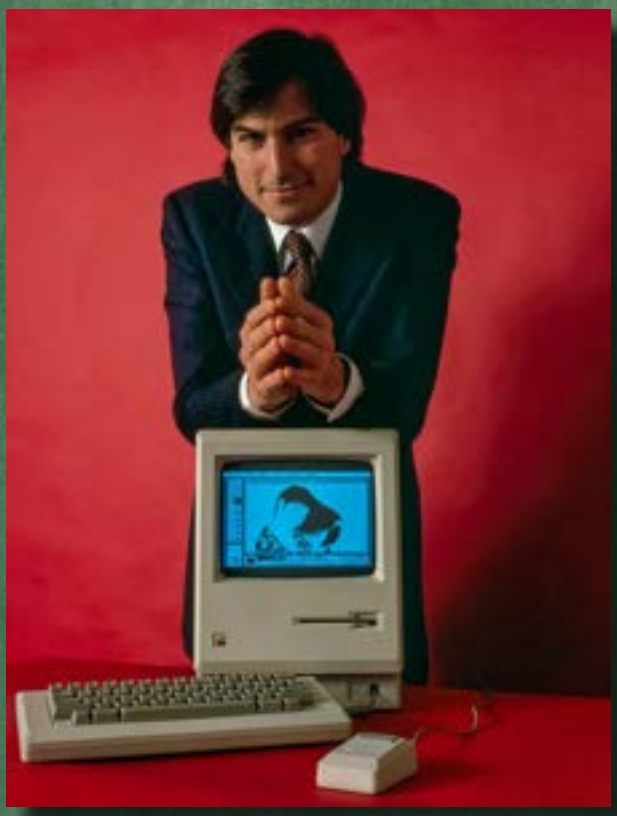
In the early 80s, Apple created a nationwide program through which schools could populate computer labs with Apple Computers by donating one to each school and offering steep discounts on top of that. By giving away the computers and partnering with developers to give away software, schools lined up to allocate space where children would be able to use their platform for any number of

educational purposes. Not only did this give students a new and exciting way to learn, it also cemented Apple in the brain of every grade school child whose first introduction to computers was facilitated by Apple.

In 1995 Steve Jobs sat down with Daniel Morrow of the Smithsonian to cover a myriad of topics that included Apple's initiative to get computers into schools. The following is an excerpt from that interview.

(Transcript editor Thomas J. Campanella, Computerworld Smithsonian Awards - Interviewer: Daniel Morrow, Executive Director, The Computerworld Smithsonian Awards Program. Date of interview 20 April 1995 at NeXT Computer Headquarters)

Steve Jobs (SJ): There were two kinds of customers. There were the educational aspects of Apple and then there were sort of the non-educational. On the non-educational side, Apple was two things. One, it was the first "lifestyle" computer and, secondly, it's hard to remember how bad it was in the early 80's. With IBM taking over the world with the PC, with DOS out there; it was far worse than the Apple II. They tried to copy the Apple II and they had done a pretty bad job. You needed to know a lot. Things were kind of slipping backwards. You saw the 1984 commercial. Macintosh was basically this relatively small company in Cupertino, California, taking on the goliath, IBM, and saying "Wait a minute, your way is wrong. This is not the way we want computers to go. This is not the legacy we want to leave. This is not what we want our kids to be learning. This is wrong and we are going to show you the right way to do it and here it is. It's called Macintosh and it is so much better. It's going to beat you and you're going to do it."



Steve Jobs and Macintosh Computer (1984)

That's what Apple stood for. That was one of the things. The other thing was a little bit further back in time. One of the things that built Apple II's was schools buying Apple II's; but even so there was about only 10% of the schools that even had one computer in them; in 1979 I think it was. When I grew up I was lucky because I was in Silicon Valley. When I was ten or eleven I saw my first computer. It was down at NASA Ames (Research Center). I didn't see the computer, I saw a terminal and there was theoretically a computer on the other end of the wire. I fell in love with it. I saw my first desktop computer at Hewlett-Packard which was called the 9100A. It was the first desktop in the world. It ran BASIC and APL I think. I fell in love with it. Looking at these statistics in 1979, I thought if there was just one computer in every school, some of the kids would find it. It will change their life.

We saw the rate at which this was happening and the rate at which the school bureaucracies were deciding to buy a computer for the school and it was real slow. We realized that a whole generation of kids was going to go through the school before they even got their first computer so we thought *the kids can't wait*. We wanted to donate a computer to every school in America. It turns out that there are about a hundred thousand schools in America, about ten thousand high schools, about ninety thousand K through 8. We couldn't afford that as a company. But we studied the law and it turned out that there was a law already on the books, a national law that said that if you donated a piece of scientific instrumentation or computer to a university for educational and research purposes you could take an extra tax deduction. That basically means you don't make any money, you lose some but you don't lose too much. You lose about ten percent. We thought that if we could apply that law, enhance it a little bit to extend it down to K through 8 and remove the research requirements so it was just educational, then we could give a hundred thousand computers away, one to each school in America and it would cost our company ten million dollars which was a lot of money to us at that time but it was less than a hundred million dollars if we didn't have that.

We decided that we were willing to do that.

It was one of the most incredible things I've ever done. We found our local representative, Pete Stark over in East Bay and Pete and a few of us sat down and we wrote a bill. We literally drafted a bill to make these changes. We said "If this law changes we will donate a hundred thousand computers at a cost of ten million dollars to us." We called it "the kids can't wait" bill. Pete Stark introduced it in the House and Senator Danforth introduced it in the Senate and I refused to hire any lobbyists and I went back to Washington myself and I actually walked the halls of Congress for about two weeks, which was the most incredible thing. I met probably two-thirds of the House and over half of the Senate myself and sat down and talked with them.

It was very interesting. I found that the House Members are routinely less intelligent than the Senate and they were much more kneejerk to their constituencies - which I found initially quite offensive but came to understand later to be a really good idea. Maybe that's what the framers wanted. They weren't supposed to think too much, they were supposed to represent. The Senators are supposed to think a little more. The Bill passed the House with the largest favorable majority of any tax bill in the history of this country. What happened was it was during Carter's lame duck session and Bob Dole who was then Speaker of the House killed it. He would not bring it to the floor and we ran out of time. We would have had to have started the process over in the next year and I gave up.

However, fortunately something unique happened. California thought this was such a good idea they came to us and said "You don't have to do a thing. We're going to pass a bill that says 'Since you operate in the State of California and pay California Tax, we're going to pass this bill that says that if the federal bill doesn't pass, then you get the tax break in California'. You can do it in California, which is ten thousand schools". So we did. We gave away ten thousand computers in the State of California. We got a whole bunch of the software companies to give away software. We trained teachers for free and monitored this thing over the next few years. It was phenomenal. One of my great experiences and one of my biggest regrets was that I really tried to do this on a national level and got so close. I don't think Bob Dole even knew what he was doing but he really unfortunately screwed up here.

Daniel Morrow (DM): That's a great story.

SJ: That's part of what Apple was about.

DM: On the business side, I was at the *Washington Post* when the Macintosh was introduced. The *Post* was an IBM Big Blue Shop and nobody was going to play with it and then the Macintosh infiltrated. There was almost a guerilla movement. It started with ad artists and now the whole front end of the newspaper is being done on Apple machines. Was that fairly common, this guerilla movement?

SJ: Actually we had no concept of how to sell to corporate America because none of us had come from there. It was like another planet to us. Unfortunately I had to learn all that stuff. If I only knew then what I know now we could have done a lot better. Our attempts to sell to corporate America were just bungled and we ended up just selling to people who just sort of (liked) buying a product for its merit (and) not because of the company it came from. I mean everybody was very hooked on Big Blue back then and they bought IBM. There was that famous phrase "You never get fired for buying IBM." We fortunately were able to change a lot of that... and Apple as you know, I believe, is a bigger supplier of personal computers than IBM.

FRACTIONS, COMPOUND WORDS, AND DYSENTERY

Jobs mentioned in the interview that they struck partnerships with software developers to provide cheap and/or free educational software to school computer labs, and there was none bigger than the Minnesota Educational Computing Consortium (MECC).

MECC was founded back in 1973 by the Minnesota State Legislature to provide educational software throughout the state, but it wasn't until the '80s when MECC found the partner they needed. Other personal computing options at the time included the TRS-80 and the Commodore PET, which really made Apple stand out with its relative ease of use, versatility, and excellent graphics for the time. There are a lot of games that shaped me into the well-rounded gamer that I am today, but

there are only a handful that I can say actually taught me practical things. For instance, I know because of the game *Fast Food* on Atari that if I eat... um, fast food, I will indeed get fatter. I had to test out that one for a while, and I'm still trying to rebound from too much testing. But it was MECC's lineup of amazing educational games that really gave me a mathematical and grammatical foundation for learning.

The MECC software loading screen is infamous (seen above), and if you were a grade school child like I was, sitting in front of a computer seeing this screen, you were about to be tricked into learning. *Number Munchers*, *Word Munchers*, *Odell Lake*, *The Oregon Trail*, *Murphy's Minerals*... I can go on and on about how amazing that hour of games was once a week, with a big library of games to choose from, thanks to Apple and their partnership with MECC. There's an entire generation of students who share the same sentiment.

As a child, Steve Jobs experienced excitement during his first exposure to computers and understood, as an adult and businessman, the importance of giving every child that same opportunity he was afforded growing up in what is now California's Silicon Valley. Getting kids excited to learn in school is imperative because it's that newfound enthusiasm that fuels curiosity, persistence, and gets us truly passionate about life's offerings. For me, playing educational games in our school's Apple computer lab was a powerful gateway to engagement, blending my love for gaming, problem-solving, and the thrill of achievement. I didn't realize it back then, but while "munching" numbers and dodging "Troggles," I was quietly laying the groundwork for a lifelong passion for learning, eager to absorb anything and everything I can to this day.

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G'AIM'E

MODERN LIGHT GUN DEVELOPMENT and REVIEW

by Ryan Burger

Kickstarter is an amazing website. It helps bring to light new ideas from people and companies that want to release something but need funding and research support through its unique system. In this case, Tassei Denki/Dashine Electronics, which is a company behind many products gamers use all the time, marketed under other brands, has created G'AIM'E. Pronounced "game" the clever wordplay here is the "AIM," a nod to what this brand is all about: light guns!

Currently nearing the one million dollars funding mark, this Kickstarter had a goal of around $50,000 and exceeded it very quickly. Old School Gamer found it while it was making a splash on social media. We approached them about joining the fun, and they let us in. By the time you read this, the Kickstarter will be closed, but orders will still be taken for shipment this year, since the product is in final manufacturing now.

Let's go back to the mid-1990s

NAMCO Developers Sharing Stories

Hirofumi Kami and Shinya Yamada had each joined Namco Ltd. (now Bandai Namco Entertainment) several years earlier. Tassei Denki, the company releasing G'AIM'E, interviewed the original developers of *Time Crisis* earlier this year:

Hirofumi Kami: "Back then, arcade games were in their golden era. We were releasing a lot of new ideas, Ridge Racer, Alpine Racer, and so on. Gun shooting games had already become a standard genre starting from Steel Gunner, and Namco was releasing a new one almost every year."

Shinya Yamada: "It was around the time when the PlayStation was just about to be released, so if you wanted to play something really exciting, you had to go to the arcade. There was an intense desire within the dev team to push technical limits and show off amazing visuals. It was a really passionate time."

In the full interview that you can find at MyGaime.com, they talked about how polygons were just starting to become the standard, allowing texture mapping and more. Yamada had just made *Point Blank* (which is included in this release), but they wanted to go way beyond the amount of polygons on the screen at one time with the environment and enemies, so some magic had to be done.

SY: "So you hedged your bets like that! (laughs) Well, we made up for the polygon shortage with game system design. Since it was a rail shooter, the player's path was predetermined. That meant we didn't need to render areas outside the player's view, so we could allocate more polygons to characters. You can't make a gun game exciting with just three enemies - you need at least six. Ideally, we wanted more camera movement and zoom effects, but we had to cut those to prioritize character rendering."

AK: "We initially considered implementing hit detection in 3D, too, right?"

AY: "Yes, but we had to scrap it. The CPU was only 25MHz, and when it had to handle 3D rendering, character movement, and hit detection all at once, the processing power just wasn't enough."

AK: "I remember you told me you'd found a more efficient method, and thanks to that, we managed to hit 60fps. You showed me both 30fps and 60fps versions, and the difference was clear. I insisted - we have to go with 60fps."

AY: "Yeah, that nearly killed me! (laughs) At first, we prioritized rendering more characters, so we were told 30fps would be fine, but I just couldn't accept the choppiness - so I said no, it must be 60fps. To achieve that, we had to simplify the hit detection to 2D."

The pedal system also came up with some very interesting discussion when they asked, "Among those innovations, the use of a foot pedal in *Time Crisis* stands out. That must've been a big development?"

Development Sketch

AK: "The concept of hiding and emerging was there from the start. I proposed the pedal idea for that, but I didn't have full confidence, so I also suggested adding a button on the cabinet that would do the same thing."

AY: "The pedal was something I was really adamant about. When you shoot a gun, you naturally take a stance with one foot forward. I wanted players to experience that physically, so I thought the pedal was the most natural way."

AK: "At the time, most gun games just had you shoot enemies as they appeared, in sequence. That felt lacking to me - something was missing."

AY: "Exactly. If you're in a shootout, you'd instinctively want to dodge. To simulate the real feeling of shooting, the pedal made more sense. Shooting and dodging needed to be part of the same immersive experience."

AK: "In action films, it's not just about shooting - there's thrill in being pinned down or narrowly avoiding danger. We wanted to capture that feeling."

Storytelling was kicking in strong back in the 90s, with much deeper movie-like narratives in games, and Namco definitely tied it in here in *Time Crisis*:

AK: "At the time, I was watching a lot of movies, and I vaguely remember thinking that making the villain East Asian could be interesting. I do think we made him older than my original concept, but I honestly don't remember what the exact inspiration was."

AY: "We were probably influenced by things like A Better Tomorrow or Lethal Weapon. What we absolutely wanted was a clearly evil character - one that the player would want to take down as Richard. We made him feel really 'evil' through his clothing, his actions, everything."

Tassei Denki (Interviewer): "When I first played, I thought Sherudo Garo was the final boss, but then there was an even stronger enemy. Was that structure planned from the start?"

AK: "I think that was intentional. In our early storyboards, the plan was to defeat Sherudo in Stage 2 and rescue Rachel, then escape together in Stage 3, but things changed, and she ended up not coming with you. So the narrative misleads you into thinking you've finished the game at Stage 2, only to hit a twist - that's something we wanted."

Check out more of the interview on their MyGaime.com site.

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As an all-in-one unit, everything you need is included, with the differences between offerings determining whether there are multiple guns, games, and so on. This is a standalone unit that doesn't interact with any separate consoles or games.

Tassei Denki/Dashine tells us their goal for this was "to bring the thrill of traditional lightgun gaming to modern displays." While there have been other technologies that have tried to replace the lightgun tech that previously reached its infiltration in the mid-90s, this is the first time that—without other devices to assist or changes in wrap-around systems (borders and other tech)—we at Old School Gamer have personally seen lightgun tech work like it should.

The way the tech was explained to us is that the AI now built into the gun was trained to understand the video game's screen—the parts of the screen, and more. While it does come with a "console" unit that is tied to the gun, our understanding is that the technology is inside the gun, and the console simply controls the game the gun interacts with.

Mini Review

G'AIM'E at the 2025 Long Island Retro Gaming Expo

While not an extensive review, I was able to spend some time on the G'AIM'E unit at the Long Island Retro Show, which we helped launch in the U.S. back in August. Look for more on this coming in the November issue of Old School Gamer. Available in three different options, starting with a gun, the "console" or base unit, and *Time Crisis* single-player mode, the Basic Edition starts at around $100. The Premium Edition, about $140, adds a pedal and more games, including *Point Blank* and *Steel Gunner* and *Steel Gunner 2*. The Ultimate Edition is the one I'm most interested in; it comes in around $200 with two guns and everything already mentioned.

The hardware is built very solidly, and the interface for getting to the games is well thought out, with a configuration/calibration menu where you align the gun and that's it. Nothing heavier than that before playing the games. No extra sensors, IR blasters, cameras, or borders around your games. Previous solutions we've seen had to use some or all of these to work and were much more expensive.

The games—while I only had a couple of minutes in between demos for attendees at the LIRetro show—were a blast. I'm looking forward to playing this on a 50-inch or larger TV, and even setting it up with a 100-inch projection system and giving it a spin. As to the game leading the release, *Time Crisis* is the perfect choice. The inclusion of *Point Blank* is fantastic, as it's a non-realistic video game where you aren't killing people.

Look for more in the November issue on this impressive hardware/software combination from G'AIM'E.

MyGaime.com

ARCADE GUN GAME MEMORIES

By Mat Bradley-Tschirgi

NAMCO GUNCON (PS1 & ARCADE)

Operation Wolf, T2 Arcade Game, Mad Dog McCree, House of the Dead

As someone who grew up in the 80s and 90s, arcade games were not a hard thing to find. Whether it was in a grocery store, at a pizza parlor, or at a dedicated arcade, there was always a place where you could plunk down a few quarters.

Operation Wolf (Arcade)

My Dad was never one to play many video games at home, but at the arcade he was always up for some of the arcade gun games. As a former Marine, he had experiences with guns so perhaps the gun controllers felt more relatable to him than a regular joystick.

The first one I remember catching his eye was Taito's *Operation Wolf* (1987). I would have been in first grade at the time, barely even tall enough to hold onto the Uzi controller. When Dad first saw this game from afar, he said, "Aww man, I have to try this one!" The game took place in a vaguely Latin American setting where players had to survive six terrorist strongholds by eliminating the enemy and rescuing prisoners of war. There was a bit of strategy as you had to avoid hitting children, civilians, and prisoners. Pulling the trigger lets you shoot bullets from the magazine, and pressing a red button on the side launched the more powerful mortar rounds.

Operation Wolf was a really hard game, a true quarter muncher. Dad would sometimes lift me up to pull the trigger as he did the aiming. The most fun for me was firing the mortars to see the big explosions! The large pixelated graphics rivaled anything I had at home on my NES. Weirdly enough, when the NES later got a port of *Operation Wolf*, its visuals didn't hold a candle to the arcade original.

A few years later, we would play a two-player gun game in the arcades based on a popular movie: *Terminator 2: Judgment Day* (1991). Released by Midway and featuring graphics looking like they were ripped straight from the movies, *T2* featured 2 submachine gun controllers so 2 players could play together. Arnold Schwarzenegger recorded some exclusive audio for the game, including an iconic "Reloaded" when you picked up ammo. Just like in *Operation Wolf*, a button on the side launched an alternate, more powerful weapon (in this case, bombs) at the enemies.

T2: The Arcade (Arcade)

Playing this game after watching the movie on VHS was a real treat because it started in the future war setting where Skynet had won and players had to battle their way to the time machine to go back to where most of the movie takes place. In retrospect, it felt like interactive deleted scenes from a DVD! In a weird touch, over half the game takes place in the future section.

Playing this multiplayer with my Dad was a lot of fun, even if we never got very far in the game. There's an early level where we'd get stuck: John Connor is driving a truck and you have to protect him from the flying HKs and golden T-800s shooting at you both. Fail to protect the truck, and you have to start the level over from the beginning!

Eventually, a Dave & Buster's opened up not too far from our house. More upscale than a regular arcade, it also had a bar and a dining room with a stage. A game on display near the entrance on a giant screen was *Mad Dog McCree* (1990). Featuring a gun controller and full-motion video clips for all the sequences, this interactive Western featured shoot-outs with some fun stunt work as you shot robbers on the screen. If you died, the undertaker would taunt you with some cheesy jokes.

Dad loved his John Wayne and Clint Eastwood movies, so he got a real kick out of the slow-motion stunts that would play after people got shot. One memorable sequence had a guy falling off a two-story balcony! This game was more replayable than the others ones featuring branching paths to let players choose which level they could do next. *Mad Dog* required a lot more accuracy than Operation

Mad Dog McCree

Wolf or T2. Even worse, you only had three lives! If you got shot, you lost a life. Gamers had to have perfect runs to get through a level. Crowds would gather around watching people play the game because it was projected on a large screen where people could watch it like a movie.

The final big gun game Dad and I would enjoy was a 2-player game focused on zombies: *The House of the Dead* (1996). This had faster paced gameplay and was the most forgiving of the bunch. Depending on what arcade we went to, sometimes the blood was censored to be green instead of appearing in its default red.

House of the Dead (Arcade)

Featuring a threadbare plot, branching paths, and some tricky bosses, *The House of the Dead* was of less interest to Dad because of its fantastical horror theme. As arcades became a rarer thing, so did the gun games, and *The House of the Dead* was one of the only consistent ones we could find to play. The cheesy voice-acting made things a bit more fun, even if the small enemies like the worm Murrers or the bat-like Devilons could be awfully tough to target. *The House of the Dead* later inspired two live-action films, one of which was directed by Uwe Boll. A third movie set to be written directed by Paul W.S. Anderson, best known for his *Resident Evil* movies starring Milla Jovovich, is in the works.

No matter what game Dad and I played at the arcades, we always had fun. Every once in a while, he liked playing as Homer Simpson in *The Simpsons* (1991) or would do a round of pinball, but we'd keep going back to the gun games. Nowadays when going to a barcade, we still try to seek those out. The newer gun games might have better graphics, but they aren't as fun as the oldies or our memories.

THE @!#?@! MAKING OF THE ANGRY VIDEO GAME NERD 8-BIT

HOW I LEARNED TO @!#?@! LOVE THE NERD

By Brian Lesyk

In the interest of complete transparency, it must be expressly understood that my adoration for The Angry Video Game Nerd (AVGN) knows no bounds. Created by YouTuber and video game aficionado James Rolfe, the AVGN name is most commonly associated with a long-running series of videos wherein the titular character ("the Nerd") lambastes subpar retro video games in expletive-filled diatribes and aneurysm-inducing rants. Fueled by his palpable disdain for games that "suck ass" and a steady river of Rolling Rock beer, the Nerd pulls no punches in his ongoing quest to eviscerate the games of yesteryear that stole money from our pockets and gifted us nothing but agony in return.

The Angry Video Game Nerd (James Rolfe)

Almost as if by accident, I first stumbled upon AVGN in 2004. His YouTube channel was actually known as The Angry Nintendo Nerd at the time, but later changed to The Angry Video Game Nerd to avoid any potential copyright issues. Serendipitously, this opened the Nerd up to critiquing games on other platforms such as Sega, Atari, and PlayStation, as well as Nintendo titles. At the time I discovered AVGN, Rolfe had only produced three videos, but it was love at first sight nonetheless. Rolfe's videos instantly captivated me. They were creative, insightful, bombastic, and hilarious! For the first time in my recollection, someone was finally saying the quiet parts out loud—VERY loud—when it came to calling out the games that proved to be a steady source of angst and stress in our youth.

As years passed and AVGN's popularity grew exponentially, Rolfe continued to introduce new, original characters in his videos, including Shit Pickle, the Game Graphic Glitch Gremlin, Super Mecha Death Christ, and more. He also featured a multitude of notable celebrity guests like Troma Entertainment President Lloyd Kaufman; actor Macaulay Culkin; legendary metal band Gwar; and even the late, great comedian Gilbert Gottfried. Over the course of AVGN's 200+ episodes, the Nerd has lampooned a staggering array of objectively terrible video games—*Rocky* (Sega, 1987) for the Sega Master System, *Superman 64* (Titus Interactive, 1999) for the N64, and *Dragon's Lair* (Motivetime, 1990) for the NES, to name a few... not to mention the entirety of the LJN library!

As a mainstay of the retro gamer zeitgeist, AVGN's popularity spun off into a number of side projects, including 2014's full-length AVGN movie where the Nerd finally takes on the infamous legacy of *E.T. the Extra-Terrestrial* (Atari, Inc., 1982); the formation of Rex Viper, a rock band that specializes in mashing up iconic video game music with popular '80s movie soundtracks; and even a pair of officially licensed 16-bit–style platforming video games, *The Angry Video Game Nerd Adventures* (FreakZone Games, 2013) and *The Angry Video Game Nerd II: ASSimilation* (FreakZone Games, 2016)—both of which were later repackaged as *The Angry Video Game Nerd I & II Deluxe* (FreakZone Games, 2020).

But perhaps the most exciting AVGN project of all is the upcoming video game, *The Angry Video Game Nerd 8-Bit*. Yes, friends, the Nerd we all know and love is finally getting his own official 8-bit adventure!

Developed by Retroware and Mega Cat Studios, AVGN8B doesn't just mimic the look and presentation of an 8-bit game, it IS an 8-bit game! Built on and designed for NES hardware, AVGN8B follows the high-action exploits of everyone's foul-mouthed, beer-swilling Nerd as he rips his way through some of AVGN's most notorious boss enemies to save the video game world from a nefarious entity. As a love letter (and hate

letter) to the notorious 8-bit games of yesteryear, AVGN8B takes inspiration from the *Mega Man* and *Castlevania* franchises while mixing in notable tropes from the world of AVGN that are sure to make the Nerd's blood boil.

Angry Video Game Nerd 8-BIT Stage Select

Mega Cat Studios' Senior Developer and lead developer on AVGN8B, Alex Lazar, was generous enough to chat with *Old School Gamer Magazine* about the project.

The @!#?@! Interview

Old School Gamer Magazine: Thank you, Alex, for agreeing to take some time with us and our readers. Please share some background on your history with Mega Cat and prior?

Alex Lazar: My background is actually in embedded systems and security, but retro gaming plays a part, I guess.

What I was really interested in at first, and that was my intro to systems programming, was emulators. Back then (2001 or so) this was mostly [an] enthusiast niche though, it wasn't really a "market". But I was already hooked on bit twiddling, and at the time the best way to keep doing that was to go into embedded systems.

I started working with Mega Cat about six years ago. I didn't take that left turn at Albuquerque and I ended up in a series of increasingly unchallenging corporate jobs. It wasn't so much burnout as brainrot that caused me to look for something else to do.

When [co-founder and CEO] James Deighan asked me if I didn't want to make games with Mega Cat, it felt like the challenge I was looking for. I'd never made games before, but I'd always wanted to, and retro games were kind of a natural fit, since I was familiar with 8-bit systems, both from emulating them and from building them. Plus, I already had experience with resource-constrained, special-purpose environments from my embedded days. The NES is kind of a special purpose system. In many ways it's really a Super Mario machine, we just found ways to write other titles for it, too.

Alex Lazar (Mega Cat Studios)

OSGM: What are some of the other video game titles with which you've been involved?

AL: *AVGN8B* pre-empted my first big NES project, a hockey-themed RPG. Think *Zelda II* but with zombies playing hockey. That went on the back burner for this entire time. But it's probably the most interesting one, even though it's something to watch out for, rather than something you've already seen.

OSGM: When did you first become aware of The Angry Video Game Nerd?

AL: Oh, wow, that was forever ago. I think it was actually back in the first season. The first episode I saw was the *Teenage Mutant Ninja Turtles* review. Teenage Mutant Ninja Turtles was huge when I was a kid, and I was, at once, intrigued that someone was so fascinated by it but also being so irreverent to one of my favorite things ever.

OSGM: Many of us have played *The Angry Video Game Nerd I & II* from years past, but what can you tell us about the upcoming 8-bit iteration?

AL: I think the biggest difference is that it's not a modern game that "feels like" an 8-bit game, it's an 8-bit game. It's probably closer to the games that the Nerd has been reviewing than any of the previous titles. Hopefully in a good way!

It's entirely free of any art quirks that are meant to faithfully recreate some retro quirks. That's because it has all the retro quirks, and not by choice, that's just how the NES is. That doesn't mean we're oblivious to 40 years of gaming evolution, of course. But it's a tribute to the previous titles just as much as it's its own thing.

OSGM: What are some of the challenges and goals when adapting something like AVGN to an 8-bit format?

AL: Even though product-wise it "feels" like adapting AVGN to

a new format, it's crucial to resist the temptation of taking an existing game and just adapting it for a new system. That rarely ends well. The graveyard of gaming history is littered with failed ports.

So the frame of mind we worked in from the very beginning was that we're making an AVGN game for the NES. Not adapting another game, but a new game that stands on its own two feet and is fun to play in its own way. It references a bunch of other games, both older console games and other games in the AVGN series, sure. But we always thought that the NES and the PC variants should complement each other, not copy each other insofar as the hardware lets us.

That's a goal as much as it is a challenge. You've got to play all these other titles, and intermediary builds from each platform, because you need everything to be relatable and consistent. But all this time you have to remember that you're working on a fresh game, not a clone.

Angry Video Game Nerd 8-BIT

Easily half of our design meetings were spent making sure we're not falling into our own trap like that and talking through every single art and mechanics choice. Like, is this particular effect, say, knockback done in a particular manner, something that NES players would like? Is this particular attack pattern challenging, but not impossible for someone playing with a NES controller, rather than a modern gamepad or a keyboard?

This is the biggest challenge when you're targeting multiple systems. It's not something specific to the NES. The NES is "special" only insofar as it's old enough that when you think about what NES players like, you're thinking of two or three generations, from young retro gaming enthusiasts to people who've seen video games grow with them.

At the risk of being forever chastised by the retro development community, the technical aspects of the 8-bit part really aren't as hard in the grand scheme of things. Sure, there are all sorts of weird technical limitations, like only so many sprites you can show on the same line. But that's just things us tech heads like to worry about. What really matters is understanding the living culture and the dynamics of 8-bit games, so you can come up with a new game that's good and refreshing, not just one that looks like it belongs in a museum.

OSGM: Besides simply playing NES games, what sort of research and experience is required to ensure you get the "feel" of the NES just right for this game?

AL: There are two things that I think are... Well, maybe not lost, but that have become less obvious as we have grown used to non-physical media and to more anonymous hardware, and as we've acquired that greater tolerance for the conformity that decades of growth and popularity inevitably bring in any field of entertainment and media.

First, the whole culture around Nintendo's platforms is important. It's not just the games, as in just what you see happening on the screen, it's the entire atmosphere around that. It's whimsy, but not in the infantilizing sense, it's free, unconstrained, and daring.

That permeates the physical experience, too, the cartridge art, the manual. And it's in the community spirit, too. Despite being centered around decades-old hardware, the retro gaming community is extraordinarily fresh and creative. Some of its members are more focused on preservation, sure, but the one thing that brings us together is this intense curiosity.

And this is the other thing that is less obvious today: with most good retro games, the thing that keeps people going through a game is curiosity, not addiction.

So what sort of research and experience do you need? First, you have to talk to people who play games. This is the most important thing. Players are the whole reason we write games in the first place. A game that nobody plays is the saddest thing in the world, like a forgotten toy. Second, you need to understand the culture around the platform you're targeting. Magazines, old and new, box art, even things like walkthroughs posted on USENET 35 years ago, or modern playthroughs, offer important clues about what makes a good game.

OSGM: What are some aspects of AVGN 8-Bit that you're most excited for gamers and AVGN fans to experience?

AL: Lots of things in AVGN 8-bit are a nod at some of our favorite games or some of our favorite AVGN episodes. But what I love about it is that they're not just straight-up copycats. We're not visually name-dropping them for nostalgia's sake, we want to extend an invitation to rediscover and reinterpret them. I think this is what I'm most excited about. We want to convey this idea that it's not "retro" as in "dusty", it's "retro" as in continuing from where we left it off a long time ago.

OSGM: Tell us about how you liaise with your other creative team members at Mega Cat?

AL: There are both formal and informal aspects to it. "Formal" as in we have a general, team-level agreement and it's written down somewhere, not as in wearing ties.

Angry Video Game Nerd 8-BIT (Cutscene)

The formal part is like this: I post a ROM every Friday, we all play it on Friday evening and throughout the weekend, and then someone from production, someone from the art team, and yours truly — for the longest time that was usually Nate, Andrew and I — would meet on Monday to discuss every new feature. Depending on what was going on, we'd be joined by someone who was working on the levels, and later on by our colleagues doing QA and UX.

We use these short meetings to hash out the nitty-gritty, things like "is this enemy shooting fast enough" or "is this jump too annoying". These are pretty short. It's usually 15 minutes, unless Andrew and I start talking about our favorite direct-to-video hits.

Once in a while, when we think we need to discuss wider design topics we have a longer talk, with an actual agenda and some prep. That happens maybe once every couple of months and we tackle things like how we want the overall difficulty to be balanced, the sort of questions that you need to sleep on for a bit.

The "informal" part was where most of the sausage is made though, and that's as boring as it gets: we just talk things out on Slack.

I think one of the most important things a developer can do is make as much of the tech as possible invisible to the art team. You can't hide all of it on a retro platform, but the more you can, the better. So I try not to liaise as much as straight-up work with everyone doing art, to understand their process and ask for as few restrictions on tools and format as possible.

One of the good things about working with retro platforms is that you get to make a lot of your own tooling. Elie, our level design magician, mainly uses Tiled to draw up the maps. But the tooling that converts a Tiled map to an actual NES level is entirely our own, so we can make up our conventions as we go, depending on what everyone needs.

OSGM: We understand AVGN 8-Bit will be released in an NES cartridge format. What programming considerations had to be made, if any, to accommodate the game being playable on Nintendo's hardware?

AL: I think the unhelpful answer here is "all considerations", but let me try to make it helpful by providing what I suspect is a missing piece in this puzzle: there is absolutely no common code between the NES and the PC variants. Both are written from the ground up. Neither is an adaptation of the other. We literally wrote two games.

They are similar in a lot of ways but they aren't identical. And that's not because there are things the PC can do and the NES' 1.79 MHz CPU can't so we had to slash them or adapt them for slow hardware. They differ because we set out to write a good NES game in the first place, so we only made things that feel good on the NES in the first place.

Here and there we managed to use some of the artwork in both variants. Smaller sprites, mainly. But we didn't specifically set out to do it. We deliberately set out to make art that matched the spirit of 8-bit platforms, and in some cases that

turned out to be good NES art as well.

But that's not a given. There are way too many differences between the NES and a modern machine. For instance, pixel art (or just pixelated, "blocky" art) that looks good on a modern display isn't necessarily good pixel art for an old machine, with old machine resolution and sprites-per-scanline limitations.

OSGM: In the spirit of the NES era, are you including any fun Easter eggs or cheat codes?

AL: Well, if I gave that away, they wouldn't really be Easter eggs now, would they? [OSGM: I tried, friends!]

OSGM: When will the game officially launch and where can gamers look to grab a copy?

AL: We haven't marked the date in the calendar yet, but it's coming later this year, and it's going to be available through LRG (Limited Run Games).

OSGM: Where can gamers follow Mega Cat Studios, Retroware, and AVGN 8-Bit's progress?

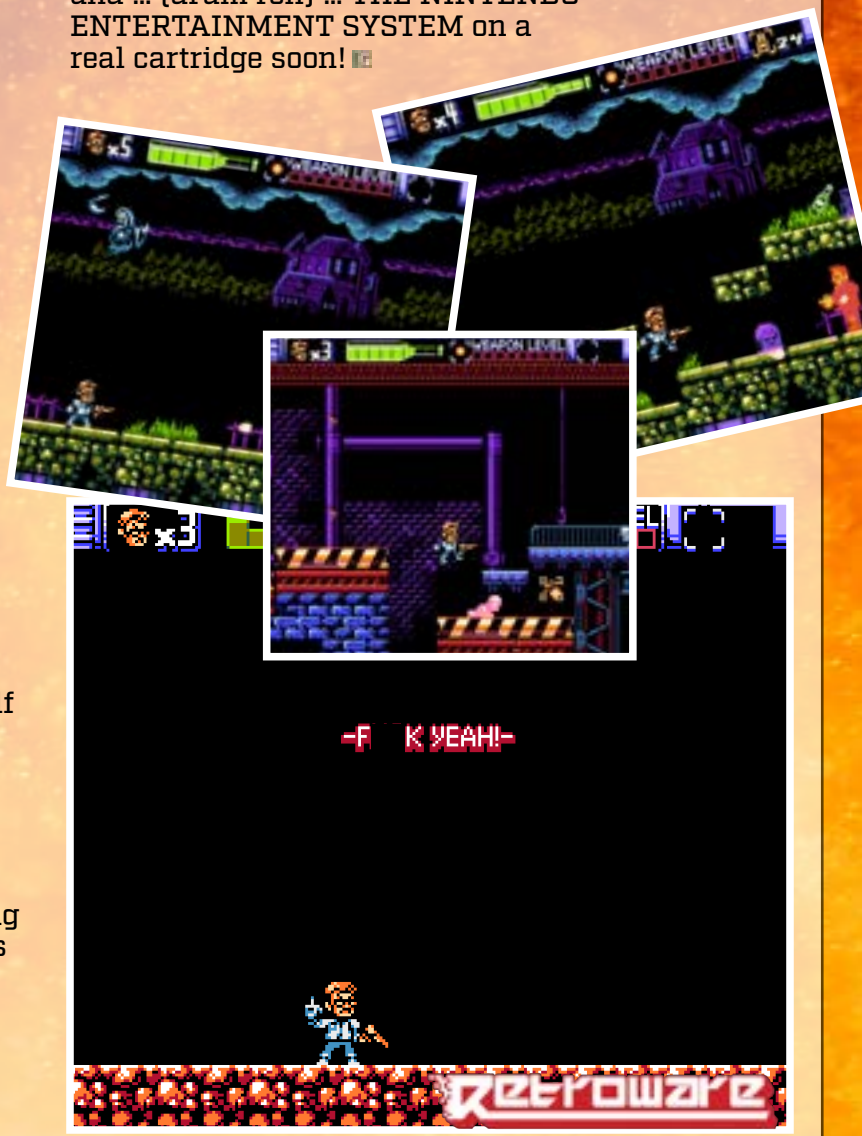
AL: You can always join us on Discord (https://discord.com/invite/megacat), and we're on Instagram (https://www.instagram.com/megacatstudios) and X (https://x.com/megacatstudios). Oh, and I'm sure we'll have some cool 8-bit news on the YouTube channel, too (https://www.youtube.com/@JamesNintendoNerd)!

Coming @!#?@! Soon

After getting my hands on a very early demo of AVGN8B, I can confidently say that there's a lot here for AVGN fans to enjoy: lots of running, jumping, shooting, cursing... all appropriately punctuated with the Nerd's hallmark comedic temper tantrums. And having the Nerd appear in his very own NES game just feels so right! Playing through the first two stages of the demo was an absolute joy, jam-packed with plenty of recognizable AVGN characters. He's gonna take you back to the past to play a game that's a blast! Don't believe us? Here's what James Rolfe himself had to say:

"Playing AVGN8B feels like you're entering my subconscious mind as the Nerd, encountering all the enemies and stages that I've reviewed on the show. It's an amalgamation of all your NES dreams and nightmares. From Retroware, teaming up with Mega Cat Studios and Programancer, this is sure to bring back all those retro memories of gripping the controller, screaming and fist pumping. As a child playing NES, I never would have imagined one day I would be in an actual NES game. Retroware teamed up with Mega Cat Studios and Programancer to trap me inside of a cartridge, as the Nerd, plowing through several maddening stages inspired by the games I've reviewed on the show. They bring you the full Nerd experience into your own hands, as you grip the controller with insanity, reliving every crazy 8-Bit battle from your dreams."

The Angry Video Game Nerd 8-Bit is slated to launch on PlayStation, Xbox, Switch, Steam, and ... (drum roll) ... THE NINTENDO ENTERTAINMENT SYSTEM on a real cartridge soon!



By Eugenio Angueira

Arcade

It was 1982. I walked into my local arcade and there was this game I had not seen there before. That game was *Dig Dug*, a game that mesmerized me the moment I set eyes on it and a game that I still love to this day. *Dig Dug* was a Namco game that Atari distributed in the United States in 1982. The game was designed by Masahisa Ikegami and Shigeru Yokoyama, with programming by Shouichi Fukatani and Toshio Sakai. *Dig Dug* is a maze-digging game in which the player controls the titular character, Dig Dug (aka Taizo Hori), as he digs tunnels in the ground to attack his enemies by pumping them until they explode or by crushing them with rocks. Dig Dug must clear the screen of all enemies to complete a level. The enemies include red creatures with goggles called Pookas and green dragons called Fygars. These dragons do breathe fire, which they can use to kill Dig Dug!

When the game starts, Dig Dug walks above ground and moves into a pre-drilled tunnel that takes him to the middle of the playing field. Pookas and Fygars are found in smaller, closed tunnels within the layered soil, with deeper layers being darker

than upper layers. When the action starts, Dig Dug must dig through the soil to reach the Pookas and Fygars in order to inflate them with his air pump to make them blow up. When Dig Dug is doing this, he cannot move and the enemy being inflated is frozen in place. Should Dig Dug not blow up the enemy, it will remain frozen and slowly deflate before it goes back to hunting Dig Dug. Both the Pookas and Fygars can transform into a sort of "ghost" form that lets them move through the solid ground until they reach an open tunnel and return to their normal state. This is how they are able to chase Dig Dug faster and also how they try to escape should one of these creatures be the last one in the ground. Fygars will breathe fire that can make it through thin soil walls and can kill Dig Dug if not careful. They do flash before breathing fire, so it is safer to pump them into oblivion from behind! Besides inflating the enemies to death, Dig Dug can also use one of the several rocks that appear in the dirt to drop them onto his enemies. To do this, Dig Dug must dig under a rock and quickly get out of the way or he will be crushed himself! More points are earned if more enemies are crushed by a rock. Also, more points are granted if the enemies are blown up horizontally and the deeper they are in the ground. If Dig Dug gets all the enemies, bonus points are granted, but no bonus is granted if the last enemy manages to escape. There are also bonus items that appear in the middle of the screen, in the shapes of fruits, vegetables, or a *Galaxian*, whenever two rocks are dropped in the maze. *Dig Dug* has 256 stages, with advancing stages indicated by

changes in the color of the dirt.

Dig Dug was well received by gamers. The game's gameplay was considered to be addictive with cute characters and a nice musical score. It became the second highest-grossing arcade game in Japan in 1982, and it led to the development of a variety of sequels and spin-offs. In the US, the game was number six in top-grossing lists by 1983. The popularity of the game and its critical success made it one that promptly received home conversions. The first of these was the Atari 2600 port, followed by ports to the Atari 5200 and Atari 8-bit line of computers, Commodore 64, Apple II, NES, and Game Boy. The game has also appeared in the Namco game compilations over the years for PlayStation, Xbox, and Nintendo systems. I will cover the console ports of the game.

Atari 2600

Published in 1983 by Atari, this port was programmed by Ava-Robin Cohen and Doug Macrae, who worked together as part of General Computer Corporation (GCC). This was part of a settlement between Atari and GCC, which was a win for us gamers. Despite the limitations of the 2600, this port is excellent. While the ground is not granular like in the arcade, it does have four different colors for each level. The ground is broken by black lines and the rocks are completely square until you drop them, at which point they will become animated before falling. Almost all the arcade elements are here, including a nicely animated title screen. Though Dig Dug, the Pookas, and the Fygars are only rendered in one color, they are recognizable and their behavior is spot-on. The Fygars' fire is just as deadly as in the arcade. Of note, when you inflate either the Pookas or the Fygars, what they do is stretch and become larger horizontally. I should also mention that the ghost forms for the enemies as they traverse the soil are a good match to what was presented in the arcade version. The sound effects and the game music are also all here, pretty well rendered. The music is a bit out of tune but is still recognizable. Missing, though, are the flowers in the top right from the arcade to indicate levels. The round number indicator remains at the bottom right of the screen. Lives left are also represented by squares instead of Dig Dugs, but that's fine. This game excels at capturing the gameplay very well and, to this day, it is one of my favorite home versions.

Atari 5200

This port was also published in 1983 by Atari. This version may have been programmed by Chris McQuilkin and Tracey Siesser. I say "may" because they programmed a different version in 1982 that was never released that was different from the released version. So, it is not clear if they were the team behind this port. Unfortunately, I cannot find any other programmers for this game. This port is graphically better than the 2600 version, with ground that is properly granular and with rocks that look like rocks. The flowers identifying the stages are present, but the stage number indicator is missing. The Pookas and Fygars are rendered better as well, but they are only drawn using one color. Their ghostly forms are also very close to their arcade counterparts, even if drawn using one color. Dig Dug himself is also drawn in one color, but the hose for the air pump is done in a different color. The music and sound effects are also pretty good, but not an exact match to the arcade for some reason. How about control? Well, the 5200 controllers DO NOT hinder the playability of this game! Overall this is an excellent port that any 5200 owner should be proud to have in their library.

Atari 7800

This port was released by Atari in 1987, and it was programmed by a team from GCC including Betty Ryan and Ava-Robin Cohen. This is likely the best port on the Atari consoles, as the graphics are better than the 2600 and 5200 versions, with more detail in the characters. In fact, Dig Dug is rendered in two colors and the air pump is red, just like in the arcade. The hose is also done in another color and has the red tip. The Pookas look great, as they have their goggles and are rendered in three colors. They're rendered in three colors, and you can even see their teeth. The Fygars' fire is also a close match to the arcade original. The ghostly forms also look fantastic, with the goggles for the Pookas looking as they should. The soil is granular and the rocks look as they should (also rendered in two colors).

The flowers are here, but the life indicator is shown only as a number, and there's no numeric stage indicator at the bottom of the screen. I should also mention this version has a nicely animated title screen that is reminiscent of the 2600 version but with higher-quality graphics. Sound effects and music are really good as well. This game plays well, controls well, and is another excellent version to play on an Atari system.

Intellivision

This port was released in 1987 by INTV, and it was programmed by Mark Kennedy. This version is well done and captures the arcade's gameplay beautifully. Graphically, the ground is granular and the rocks look as they should, if only rendered in one color. There's a simple title screen with the words "dig dug" (yes, in lower case) in a rectangle that flashes different colors. Dig Dug is rendered in two colors (white and red) and he has the red air pump. The Pookas and the Fygars are rendered in one color, but they are well animated. The goggles are missing on the Pookas, however. The inflation animation is well done and the enemy behavior matches that of the arcade perfectly. Unlike the Atari ports, this one has the Dig Dug head as the life indicator, but it appears within the soil, at the bottom left of the screen. There are no flowers, but the stage indicator appears as a number in the top left. Sound effects and music are very well done as well. Control is top-notch, so anyone hating on the disc controller may be surprised. This is a not-to-be-missed title on the Intellivision!

ColecoVision

This port was never officially released, but the ROM is available online. The programmers are unknown, but the game was developed by AtariSoft in 1983, with the title screen showing a copyright of 1984. The game does have a title screen with the words AtariSoft at the top followed by "presents" *Dig Dug*, and the copyrights. This is followed by a game select menu for one or two players and three levels of difficulty to select. When the game starts, it does have a pretty nice rendering of the game's music, but there is little to no music during gameplay, which is different from other versions. This may just be because the prototype was not completed. The soil is granular and rocks look as they should. The Pookas have their goggles and the Fygars look very similar to their arcade counterparts. There are no flowers, but the stage number indicator is in the bottom right, while the life indicator shows small versions of Dig Dug. The gameplay is spot-on, so it is a shame this was never officially released.

NES

This port was released in 1985 by Namco and programmed by Shouichi Fukatani and Toshio Sakai. This has to be the most arcade-accurate version for a retro console, which is likely due to Namco being the programmers of the game. Visually this is pretty much arcade-perfect, with the flowers present and all the characters looking identical to their arcade counterparts. In order to fit the scores, life indicator (done with Dig Dugs), and stage numbers, the screen was shifted to the left to keep the arcade screen ratio, while having all this info on the right side of the screen. Music and sound effects are spot-on and the gameplay is perfect. This truly is a fantastic version. Nothing more needs to be said.

Conclusion

Dig Dug is an arcade classic that was well adapted to the home consoles of the time. Despite graphical differences, all the ports managed to capture the gameplay well and really brought the arcade experience home. It can even be said that *Dig Dug* began the "digging" type of arcade games. An example of such a game is *Mr. Do!* Plenty of clones were also released to home computers back then with names such as *Diggerman*, *Dig Deep*, *Dig Out*, and *Doug Dug*, among others. Sequels for the original were also released, such as *Dig Dug II* (1985) and *Dig Dug Arrangement* (1996 in the *Namco Classic Collection 2*). This latter sequel boasts updated graphics, new music, and boss fights while still retaining the gameplay of the original. *Dig Dug* certainly earned its place in video game history!

Old School Gamer Magazine

Arcade Spotlight

presented by Spawn Point Coffee

Play the Classics! Silverball Retro Arcade Entertainment, Eatery & Museum

A MAN FINDS HIS NICHE

By Anthony Ripo

Silverball Retro Arcade resides in a premium location at the famous boardwalk in Asbury Park, New Jersey, a popular summer spot for east coasters looking for some beach time. Despite the seasonal appeal, Silverball thrives year-round through its expansive array of pinball and arcade machines, all of which are impeccably maintained by their staff. I sat down with senior tech, Dan Toskaner, to get the rundown on Silverball's success.

Anthony Ripo (left) - Don Toskaner (right)

Anthony Ripo: We are sitting here right on the boardwalk with the ocean outside the windows. Before we get into Silverball, Dan, how did you get started in arcade, and long have you been a senior tech?

Dan Toskaner: I have been a senior tech for forty years. I started in 1985, and it kind of found me. I didn't plan to get into this. I loved games as a kid, way back when I was young. I went to an old bowling alley in New York at the time, and they had four pinball machines, and I fell in love with these things. I just loved to play them. The big thing for me was playing Gottlieb's Kingpin once a week. After that, I was in high school in the early eighties, and video games were starting to appeal to everyone. There was a pizzeria near my high school, and suddenly Pac-Man was there. That was the one that really got me.

AR: I still remember those days of putting my quarter up on the machine waiting for my turn to play. So, pinball back in the seventies is where you started.

DT: It was good because I saw the older games in operation, and I saw it change from electro-mechanical to digital, and then I saw the advent of video as it progressed. As far as working, that happened by accident with a summer job. I started working at an amusement park in New York, Rye Playland, and I was not even trying to work in the arcade. It just happened that there was a classified ad in the newspaper looking for young people to work there. I interviewed, but I did not get the job that year. The next summer, they hired me. They had kept my application because they apparently liked me. I learned later the reason I did not get the job the first time was because I was only fifteen. They wanted sixteen and over because at sixteen you could work later into the night. So, they hired me the next year, and I just loved it. I spent the time giving out change, watching mechanics, absorbing everything. I wound up staying there for thirty-seven years. The people there were like family, and I stayed there through 2019. Then COVID came, and they never reopened after that. If they stayed in business, I would still be going up there once a week to help them, even while I was working here (at Silverball).

AR: That is amazing. Obviously, starting at such a young age, not just playing the games, but absorbing all the technical aspects of it. Did you learn on your own or have others guiding you?

DT: I took a two-year computer repair course at a local community college. It did relate with power supplies, electronics, things like that. Other than that, it was just a matter of trying, learning, and watching. The repair guys at the time weren't

there that often, and the rest of the time, I just found that I had the hands for fixing them. Thankfully, I didn't electrocute myself.

AR: You didn't have the advent of YouTube to help you.

DT: I did not. I'm glad it's there now, but I did not have it then. But then, the manufacturers were still in business. A lot of them aren't around now.

AR: These days, you don't hear a lot of stories about long-term jobs like that. Let's transition over to Silverball Retro Arcade, which is more in your backyard.

DT: When I moved down here for family reasons, I didn't have the job at first... and it just happened. God put me here, put this business here at the right time. How many of these jobs are there? Very few. I lived ten minutes away, and they needed a tech. There were some guys working here on the games at the time, but they were just hobbyists.

AR: Looking around the arcade, can you tell me what the oldest machine you have is?

DT: The oldest pinball machine is Gottlieb's Knockout from 1950. The oldest actual game in this building is something called a rotary merchandiser which goes back to the 1930s.

AR: How long have you been at Silverball?

DT: Fourteen years. I overlapped with the other job because the New York job was seasonal.

AR: I wanted to get more of your thoughts on video games. I know you are more of a pinball guy, but did you ever get into console gaming at all?

DT: Very little. When I was a kid, I did have an Atari 2600, and later I got a Colecovision which was like, "Wow, the graphics are better." Beyond that, not really. As a kid, I didn't have much money until I started working, and by the time I started working, I had a whole arcade full of games I could play for free.

AR: In terms of coin ops, when you were younger, you said Pac-Man was a big one, but what other ones were your go-to games?

Inside the Silverball Retro Arcade

DT: For pinball, the first one I saw was Gottlieb's Kingpin. As pinball went digital, Williams made great pinball games all the way through the nineties. Even as video was becoming a big thing in the eighties, pinball was still going with it. So, I played both. A lot of people love video and hate pinball, or they love pinball and hate video. Typically, older people like pinball because that's from their generation. I was lucky that I was in that in-between stage. So, I got to play both, and I like both almost equally.

AR: In terms of the arcade itself, I assume summers are the busiest here.

DT: Summer here from Memorial Day to Labor Day is madness. People are here off the beach. Even when it rains, and they have nothing to do, they're coming here. On a nice day, the boardwalk is packed, so either way, we get a lot of people. We are open 365 days a year except for Thanksgiving and Christmas.

AR: Another thing about arcades like yours - before you always needed to make sure you had quarters or change machines, but that's all gone because people pay by the hour.

DT: Exactly, everybody says they love this concept. I love the fact that I never hear people kicking the machines. We don't have to empty them. We don't have to give change out. We don't have to deal with break-ins.

AR: Dan, this has been absolutely amazing. Everything here is kept in tip-top shape. Clearly you know what you're doing.

DT: It's a labor of love.

AR: Kudos to you. You've had an amazing career in pinball. You found your niche. It's a testament to how much you love this.

DT: I'm lucky to be doing what I'm doing. Thank you.

About Silverball Retro Arcade:

Admission: Hourly in increments of one hour, six hours, or all day

Hours: 10am–Midnight All Week

170 vintage and modern pinball and arcade games

Silverball Café offers a selection of classic boardwalk treats and snacks.

The arcade can accommodate private party events for up to 240 people.

Location:

Silverball Retro Arcade
1000 Ocean Avenue N
Asbury Park, NY 07712
www.silverballmuseum.com

Street Fighter II VS The 'ar 'TIST'

By Jeff Peters

If you've lived in California, you drove. The uniqueness of your personal transportation said a lot about who you were, since you spent most of your day relegated behind the wheel, and that car was indeed an extension of you.

The average person accumulates about 12,000 miles on their car per year. This was another scoring mechanism that I would routinely beat, one part out of necessity, the other because, well, there's always places to go and those places usually had something to do with video games.

For me in 1991, many of those places included traditional arcades as this was the year of Street Fighter II. I was also working in the arcade industry at the time, working on some brand new 3D technology to surprise the world, with my home base in Woodland Hills and my family in Rancho Cucamonga. This meant any arcade between those two points on the freeway system was fair game for attendance.

As part of my greater Southern California travel circuit, I would also end up in Poway, as luck would have it, due to one of my mentors in the physics and math world was Doug Hutton, and he also just happened to run an arcade in Poway called the "Palace Arcade." As a simple trade-off for services, I also designed their logo, tokens and helped with some of the interior design. He assisted with helping to solve complex physics problems with the 3D billiard game we were developing as a new, envelope-pushing arcade game - a great example of math and art working together amongst friends.

Here Comes a New Challenger!

I also happened to be a rather dedicated Street Fighter II (SFII) player when time permitted, as it was the next generation of top-tier, digital competition after the era of the US National Video Game Team, Twin Galaxies and Guinness Book of World Records dominating the competitive scene in the '80s, where the laser focus was on generating the world's greatest high scores.

High scores weren't important to SFII, but *keeping-a-machine*, now that was the goal; not in a material sense, mind you.

Initially you'd have to drop a quarter against someone already ON the machine in order to initiate the process, as that was your investment to start, and your simple goal was to completely annihilate whoever that opponent was; whether a 32 year old suit or 8 year old punk skateboarder, the goal was the same - Win.

It could be light-hearted and friendly or not, and you usually just reacted to what the guy next to you brought to the machine.

After your first investment into the competitive cycle, the question would be how long could you sit and play without ever investing again. That was the challenge, the goal, the sense of accomplishment; let others make the investment to challenge YOU.

I'd practiced on most of the unique characters, learning what each had to offer from odd moves, different timing, and different types of combos. Chun Li and E. Honda were usually the crowd favorites, with Blanka making the frequent appearance as well. My choice was usually the simple and rather generic Ryu. It's not that his character really had anything more unique than his fireball combo and a type of uppercut, but it also meant people would approach me in very unassuming ways, as that selection was the 'default' or first selection that most people

tried first before learning to play the 'real' competitive characters.

So, I'd walk up and put my quarter on the machine and patiently wait for the next non-winner to sulk away and allow me the space to make my initial investment against the momentary champion.

I'd quite often hear a slight smirk when I'd choose Ryu against the previous winner, still on the machine, who would then make the assumption that another noob has just joined and usually let their guard down just enough to take the first round handily while they were still wondering what had just happened. Now that I had their attention, I'd see an attempt from them to get overly serious and really try the second round and this would usually end the same with the techniques I had developed up to this point. Now usually, I could keep playing as long as I had time for, while others came up, invested in the machine and took their best shot. This was the cycle, enter into the rotation, beat the last winner, and then *hold-the-machine*. This was a digital *king-of-the-hill* struggle and as long as you kept winning, you owned the competitive hill.

This was the reputation that preceded me down at Palace Arcade. I'd let Doug know when I was making the trek down to see him and he in turn would rile up his arcade patrons to let them know that the Artist (affectionately pronounced "ar 'TIST!") was coming down at a certain point and they had better get some target practice in.

You see, back then I owned a jet black, '89 Mustang GT with custom chrome wheels. Yes the 5.0 liter version where the excessive torque made it hard to keep the back wheels from constantly spinning, and to add to the persona, I would also sport a nicely trimmed goatee and would wear my shoulder length long hair slicked back into a pony tail. To top it off, I might even wear all black from time to time. So I was anointed with the 'ar 'TIST" moniker by Doug as both slight mockery and to provide a simple label for his patrons. There was also a business reason for the elegant pageantry, as the arcade usually made more money when I came down for the weekend as players lined up to play SFII and then played other games while waiting for their chance at sending that out-of-town 'ar 'TIST' home in shame.

This was the mystique of the time and the character I was supposed to play, so of course I leaned into it. After all, why not? Competition is fun, especially after all the gaming feats in the previous decade, this was the new form of competitive gaming, sans questing for high scores. It was still, though, something new to master and a different sort of time commitment as getting better always involved other people; solo play didn't really matter anymore and beating the machine's AI was limited in scope at best.

Usually my treks to the Palace Arcade would happen about once a month, so I got to know the key players there really well. It was also pretty clear that I was the one they were all gunning for. During the week, they'd all be going after one another, getting better, learning new combos, improving on timing, and learning defenses as well against most of the key characters in the game.

It was also fun to mix things up as they would spend weeks working on learning to beat Ryu, since Doug would help me out with a bit with local surveillance, so the next weekend I'd show up and play Blanka the whole time. The confusion was absolutely worth it. This was the way. Keep it fresh, keep it volatile, and no matter what, *own-the-game*. It was also the most cost-effective way to game when you were in a position for someone else to pay for your antics over-and-over again.

So, for a time, the Palace Arcade had a nemesis, a man-in-black that also just happened to be a hard core competitor who enjoyed the high-adrenaline ride and relished the hours simply *owning-the-game*.

Luckily I was able to hold my own on these little trips for quite some time and it was fun to see the emergence of a character that Doug fully shaped and I embraced, all in the name of competitive gaming and perhaps a little local revenue boost. When you're highly competitive, you imagine yourself winning and strive to keep winning. It's work and there's always a target on your back. You never know if that new guy that walked up, dropped a quarter and made a conscious selection of Ken, is the one that will ultimately dethrone the man-in-black while the room cheered along. You know it will eventually happen, of course, as no one holds onto this stuff forever but it is still fun while it lasts.

As far as 1991 is concerned at the Palace Arcade, everything was about SFII and taking down the 'ar 'TIST' when he strolled into town. No prize money, no podium to stand on, just the simple goal the community shared to send him home so another could *own-the-machine* and the cycle would start all over again. - Jeff Peters

The Jaded Gamer

Wipeout XL

MALICIOUS RAMBLINGS
FROM THE MAN WHO'S PLAYED IT ALL

By Bill Donohue

I realized a long time ago that video games were great for releasing a lot of pent-up emotions which prevented me from ending up in jail, or worse...

And then, I played Wipeout XL...

You know, folks, it's a sad day for everyone in videogames when a formerly great company stoops to putting out games for wimps. You heard me - wimps! In fact, it's a miracle that Psygnosis didn't call its sissy-boy sequel *WimPout XL*.

Back in the good old days, you didn't need a whole bunch of special effects to make a great racing game. Take one of the finest racing games ever devised: *Death Race 2000*. You had your car, your gas pedal, and your mindless zombies just moaning to be run over. THE GAME WAS PURE, LIFELIKE RACING GENIUS! What could be more realistic? You stepped on the gas, aimed the hood ornament at the nearest putrescent pedestrian and Whammo! Just hearing those death screams made me very proud to be a licensed American driver.

Now here comes *WimPout XL*. There's no solid Detroit rolling stock; instead, everyone's floating around the track in designer letter openers. There's no solid gas pedal to stomp on. That's been replaced by trendy, flashing disco lights that give you a boost as you float by... and if you think these wuss designers are gonna let you have some real fun by letting you plaster some pedestrians to the pavement, you're brain dead! No, what they've done is to give you "weapons." Oooooh, "weapons." Self-guided, fire and forget, no skill needed, wake me when it's over weapons. This game won't even let you run anyone over, but they will give you an "Earthquake Weapon". EARTHQUAKE? Listen, pal, I've been through some earthquakes, and this ain't one of 'em!

When it comes to earthquakes, I want the real deal! Buildings toppling, bridges collapsing, people screaming, boulders the size of Chevy Novas smashing through your bedroom wall, bottomless chasms swallowing whole neighborhoods, entire Labor Day picnics engulfed in fiery lava, THE UNENDING CONFLAGRATION!... but I digress. The *WimPout XL* "earthquake" sends pretty ripples through the track, causing great dismay among the foofoo racers. Uh, right...

So, here's my plan to bring mayhem back to racing games. Carry a Mr. Microphone, a dead rat and an aluminum baseball bat with you at all times. When wimpy Wally invites you over to play *WimPout XL*, surprise him by saying "Why, sure!" Play it real cool and chummy, until the little weasel uses the Earthquake weapon. Then, scream "Here's what a real earthquake is like!" into Mr. Microphone, slap that dead rat on Wally's noggin and give it a healthy swat with that baseball bat. Trust me, after just a few sessions, ol' Wally will be ready for a realistic, All-American round of *Death Race 2000*! Until then, remember to keep the shiny side up and the rubber side down.

The Jaded Gamer can be found cruising the highways in his '92 Toyota truck. While this vehicle doesn't have an "Earthquake" weapon, JG always has a dead rat and a baseball bat in the gun rack.

Now that I'm older, I've calmed down quite a bit... but every now and then I have to unleash the "Billy Monster," which I did in the Nevada desert recently. Nothing says "Calm" like blasting the crap out of objects placed way down range with a really big gun... Ah, serenity!

8BitDo® Company Profile and Product Review

By William Schwartz

In a retro market typically dominated by high concept companies advertising their commitment to nostalgia or cheap Chinese knockoffs, 8BitDo operates in a curious middle ground. Very little is known about the history of the company, save that it was founded in Hong Kong in 2013 by a group of gaming enthusiasts, although its actual operations are in Shenzhen. Those gaming enthusiasts likewise seem surprisingly disinterested in self-promotion. Christopher Taber is listed online as the Founder/CEO of the company but has no social media presence. Even as a company at large, 8BitDo doesn't leave much of a footprint. When Old School Gamer Magazine reached out to 8BitDo's public relations, they seemed genuinely unsure how to respond to questions about the company's past, claiming they simply didn't have staff positions for people akin to historians.

Yet it is borderline impossible to find a negative word spoken about 8BitDo in the broader gaming marketplace. Part of this notoriety is that nearly anything you can imagine would be of interest to a retro gaming consumer, 8BitDo has made. Do you want a retro mechanical keyboard in the style of the Commodore 64 that's compatible with modern operating systems? 8BitDo has one. Despite that, 8BitDo products aren't niche at all, but quite high quality even for use on modern machines. While early adopters of the 8BitDo Pro Controller don't necessarily need replacements, newer versions of these controllers come with new features that serve as a fairly effective enticement on their own. Ultimate controllers come with drift-free Hall effect sticks. Without getting too much into the details, these sticks prevent drift on sticks, although even 8BitDo controllers without such protection features are known to have better shelf life than even first party controllers.

If sticks don't interest you, 8BitDo's latest offering, the *Arcade Controller*, provides the opportunity to play video games entirely with buttons, without even a control pad. If this sounds a bit peculiar, there's a good chance you're not a fighting game fan. The short version of the story is, movement with buttons rather than pads or sticks is much more seamless. Once you can get past the learning curve, leverless controllers like the *Arcade Controller* offer near perfect inputs.

SIDEBAR

Perhaps the main problem with the *Arcade Controller* is the name. Despite it sounding a bit generic and usable for any sort of game (the 8BitDo Arcade Stick is what casual consumers are more likely to be interested in), this is a fairly unusual pad with a default layout that places the up button below the down button. Although it's not like 8BitDo came up with the concept themselves. Sometimes described as Hitbox controllers, Hitbox being the first company to develop something suitable for professional play, the broader name for this controller type is a leverless controller, which fairly accurately summarizes how its main defining feature is that it only has buttons, no levers.

8BITDO ARCADE STICK

The controller is quite large, but two-dimensional, making it easy to pack. The 8BitDo version of the concept distinguishes itself, as might

be expected, on exceptional quality at a reasonable price point... well, relative to other similar leverless controllers anyway. The texture is pleasing to touch and the buttons give very satisfying clicking sounds. Still, this isn't quite a plug-and-play controller unless you already have a decent amount of experience with how leverless controllers work and can manage figuring out how to move around without the assistance of the more intuitive D-pad or stick layouts.

Leverless controllers aren't a new concept. Nothing 8BitDo makes can really be quantified as new, although really, nothing retro-oriented can reasonably be quantified as new. 8BitDo's brand is centered around just doing things better, based on the decades of accumulated knowledge about how controllers work worldwide. Their close relation to China, though a bit of worry for consumers concerned about tariffs, certainly explains how they're able to manage such high-quality specifications with virtually no flaws. Even in the unusual case an 8BitDo product is a dud, their customer service has a reputation for being quite responsive.

8BitDo has also embraced the idea of simply being the provider of equipment for consumers to modify their own controllers. I imagine many readers saw the part about the Hall effect preventing drift and wistfully imagined being able to play on the original Nintendo 64 with such technology. Well, as it happens (with a little technical know-how), 8BitDo does indeed provide all the parts you need to make your own improved Nintendo 64 controller, complete with a Hall effect stick.

From another company, the confidence to sell only pieces of a controller, and not the full thing, might sound like arrogance, but 8BitDo has that good a reputation. They sell such kits for a dozen classic controllers - even the old NES dogbone. Accessibility is the key watchword for most of what 8BitDo produces, with an emphasis on getting retro styled equipment to work well on modern devices for the most discriminating of gamers.

A SHOWCASE OF 8BITDO'S MANY AMAZING PRODUCTS MADE FOR GAMERS

There's a clarity of concept to this piece's based approach. What it gets right down to is that all technology for classic game systems is quite simple: buttons, pads, and sticks. The main economic obstacle to manufacturing NES controllers in this day and age is the obscurity of the inputs that they use. However, if there's enough demand to make a Nintendo 64 controller that can be used with the Switch, those same pieces still could be retrofitted to an actual Nintendo 64 controller. It's a very factory-based mindset. Thinking less in terms of what the components are trying to create, and more what the components themselves actually are. Pressing buttons is a core concept of gaming, and that concept hasn't changed simply because technology has made it possible to manufacture cheaper, better buttons.

At present, 8BitDo is holding a twelfth anniversary sale. It seems odd for a company to commemorate anniversaries when they don't even have a proper staff historian, yet each year of 8BitDo represents something quite different from a corporate origin myth. Bit by 8-Bit, this company has made incremental progress on figuring out what works and applying this technology as broadly as possible. While the Space Grey SN30 may look cool, its actual evolutionary arc has been to aspire to speedrun quality gaming. While no one knows what the next twelve years may bring for this company, if the customer testimonials and word-of-mouth from the last several years are anything to go by, 8BitDo has plenty of well-earned goodwill from the gaming community.

VIDEO GAME CONNECTIONS

By Leonard Herman

Video Game Connections, located in the Regal Plaza on 2209 Rt 9 North, Howell, NJ 07731, is well-known to many videogame collectors along the east coast of the United States. Unlike many videogame stores that dot the United States and abroad, it is one of the few that actually contributed to the field of videogame history and preservation.

The store carries all generations of games with the exception of current games and systems. Unfortunately, the low profit margins and lack of price protection were not something that owner Mike Etler was interested in dealing with. However, while the store's current focus is on the NES and newer, it still has many pre-NES games on the floor and a backlog of hundreds of pre-NES games that Etler hopes will gradually get onto the floor.

Customers of Video Game Connections have complimented on how clean and well-presented everything is compared to other stores. From carts to DVD cases to consoles, Etler and his staff spend a lot of time not just making sure everything they sell works, but that they are in the best possible physical condition before being placed on the selling floor. The store attracts a very diverse group of customers and Etler feels that every one of them is special and has a place that they can feel comfortable in. In addition, Etler and his staff regularly wind up having long conversations with customers that are completely outside the realm of videogames, from movies and TV shows, to music and more. Although the store has posted hours that say it closes each night from Monday to Saturday at 8PM (five on Sundays), there are many evenings that they'll be open much later as the staff works on merchandise. At those times they'll rarely turn anyone away, even if they're just browsing.

In late 1990 Etler had left his management position at an Electronics Boutique in Poughkeepsie, NY to return home to his roots in New Jersey with his wife, Susan. In February 1991 he first opened Video Game Connections in an 800 square foot store front at the Howell Flea Market and Mini Mall. At that time, independent videogame stores were a rare breed. Etler's initial inventory were games from his own personal collection. Pricing was all based on speculation since there were no price guides or Internet to go by. If a new game cost $60, Etler would sell a used copy for approximately 35% less, or around $35-$40. If someone wanted to sell Etler used goods, he would offer either 50% of his selling price in credit, or 40% in cash. Etler also applied the same percentages when selling or buying used hardware; but one thing he prided on was making sure that everything he sold worked.

By mid-1994 the building that Video Game Connections was in went through several management changes and Etler saw the writing on the wall. In October 1994 he moved the store across the highway to a 1,100 square foot storefront in a strip mall called Howell Center. It was a good move because the original building shut down two years later.

Thanks to Etler's honesty, knowledge, and fair pricing, Video Game Connections began attracting customers from all around the tri-state area. Located in central NJ, he was approximately an hour away from both New York and Philadelphia. In early 1995 a Manhattan

Video Game Connections' Display Cases

lawyer/collector named Dave Stein discovered Video Game Connections and he soon became a regular customer. Etler and Stein soon began throwing around an idea of having a collector's meeting at the store. They began inviting fellow collectors that they knew of, and the first meeting was held in August 1995.

One of the collectors who Stein contacted was Keita Iida, whom he had gotten to know through a USENET classic gaming newsgroup. Iida was also located in New York City and he began attending the meetings, which were held irregularly. Sometime in early 1996 Keita came up with a name for the group: NAVA: "North Atlantic Videogame Aficionados". NAVA meetings were eventually held quarterly and soon began attracting collectors from as far north as Maine and Canada, and south as Virginia. These meetings would sometimes last until early hours in the morning. One time, those members who were still at the store, went to a nearby diner to have breakfast as the sun rose. Another time a large group played at the miniature golf course located next to the strip mall. Then there was the time in the pouring rain when a large group visited the nearby 24-hour Walmart. It was a party atmosphere for those who attended and someone would always supply food and snacks for the attendees.

Michael Dougherty called the store "revolutionary – or even mind-blowing". He drove six hours from his home in West Virginia to attend several NAVA meetings. The first time, he drove home afterwards and to this day doesn't know how he stayed awake during that final hour of driving. He later made arrangements to stay overnight after meetings and Etler once even let him sleep on his couch at home. Dougherty says he still has the games and the friendships from those meetings.

With people attending NAVA meetings from all over the northeast, one of the members, Scott Crawford, got the idea to bring it to a new level and have a regional get-together. Based on the small *RGVC-Con* that had occurred in Dayton, Ohio in October 1996, Crawford's *Electronicon* was held at the Philadelphia Airport Hilton on June 27-29, 1997, attracting 200-400 collectors.

Mike Etler (Game Connections)

In 1998, Iida got the idea to turn NAVA into a national convention that would attract even more people. He teamed up with Rich Tsukiji to turn Tsukiji's World of Atari convention into one that highlighted all classic games. World of Atari 1998 was held at the Holiday Inn Boardwalk Hotel in Las Vegas in August 1998. Unfortunately for Tsukiji, although his previous World of Atari shows attracted thousands of attendees, World of Atari '98 only brought in around 400 people. Tsukiji opted out of doing another show afterwards. So Iida and a friend decided to take it on themselves. The following year they created Classic Gaming Expo (CGE), which was held at Las Vegas' Plaza Hotel. It is estimated that more than 800 people attended and it is considered to be one of the first large videogame conventions.

One of the highlights of CGE was its museum, which eventually evolved into showcases at industry events such as E3 and GDC. This eventually evolved into the National Videogame Museum in Frisco, Texas.

Unfortunately, Etler decided to close his store in February 2003 as family matters, including raising seven-year old twins and a two-year old, took over, but he continued to sell games via mail order.

In February 2023, a videogame store in Howell Center was closing and Etler considered reopening Video Game Connections in its place, partly because his sons were now grown and he had an extensive inventory of approximately 10,000 products sitting in storage units. He said that the then property manager seemed to be more interested in looking at his phone than actually showing the property so Etler looked elsewhere. He found a 1,400 square foot store just across the street in the Regal Plaza. This renovated building was actually the same one where Video Game Connections had begun in 1991.

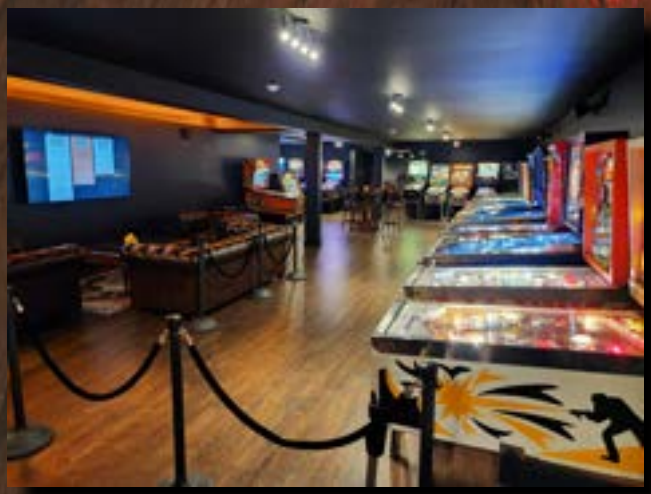
Etler opened the new store in its current location in the Regal Plaza on September 20, 2023. As Michael Dougherty points out, "The uniqueness of that original store served as a hub for the hobby thirty years ago – and served as a guide for so many other establishments which have opened over the last three decades," including the current Video Game Connections.

NO QUARTERS REQUIRED

AT THE NICKEL CITY PINBALL CLUB

by Michael Thomasson

Nestled in a quiet corner in the Buffalo suburb of Depew sits a modest building with a simple facade. It was once a corner bar - long abandoned, idle, and forgotten. Today, it pulses with new life as the Nickel City Pinball Club. The front door bears the club's bold logo, flanked by the intriguing words: "Private Social Club."



I arrived during the group's quarterly open house - one of the rare occasions when outsiders are allowed past the front door. The foyer was plain, almost deliberately forgettable, but stepping into the main lounge felt like crossing a threshold into another era. Red velvet ropes hung like theater curtains between brass stanchions, guiding visitors toward plush vintage leather couches that looked like they'd hosted decades of whispered secrets. The polished wood floor gleamed beneath freshly painted navy walls, which rose into a ceiling cloaked in the same moody hue. Dim orange lights flickered from hidden alcoves, casting long shadows, while a jukebox crooned smooth jazz and slow-burning blues. The setting evoked a bygone era - equal parts 1920s speakeasy and swing-era lounge.

Naturally, the room pulsed with pinball - nearly forty machines in all. From vintage classics like Bally's *Nip-It* (1972) to cutting-edge releases such as Stern's *King Kong: Myth of Terror Island*, the lineup spanned decades. The time-capsule effect was irresistible, with tables themed around cultural icons and events: *Evel Knievel* (1977), *Harlem Globetrotters On Tour* (1978), *Space Shuttle* (1984), and Bally's *World Cup Soccer* (1994), among many others.

The one pin that truly lit up my inner fanboy? Bally's *Flash Gordon* (1981) - a gloriously camp adaptation of the 1930s space opera comic strip by King Features Syndicate. It was pulpy, dramatic, and just the right kind of over-the-top.

Flash Gordon is Nickel City Pinball President Nick Lane's crown jewel - and he isn't shy about it. The machine gleamed in near-pristine condition, a rare feat for a mechanical marvel edging toward its fiftieth birthday. In today's world, finding vintage pins that haven't been battered by time or neglect is no small task. That's part of the magic behind the Nickel City Pinball Club. Its private, member-owned setup fosters a culture of care, where every flipper, bumper, and backglass gets the respect it deserves.

Matthew Taylor, Vice President of the group, is the driving force behind the Nickel City Pinball Club. After discovering a long-abandoned building, he envisioned transforming the

forgotten space into a vibrant hub for pinball enthusiasts - and personally took on much of the renovation work to make it happen.

The club officially launched in January 2025 and now offers three membership tiers to suit every level of commitment:

- Trial Membership –

$30: A perfect entry point for curious newcomers.

- Associate Membership –

$300: Grants access to league play and tournaments.

- Full Membership –

$1,200: Includes keycard access seven days a week, plus exclusive perks like discounted purchases from club sponsor Flip N Out Pinball.

From its polished ambiance to its curated lineup, the Nickel City Pinball Club cements its status as a top-tier social venue, launching with no shortage of grandeur. To tie the whole experience together in a fitting flourish, Bally's elusive *Speakeasy* (1982), an echo of prohibition-era mystique, finds its home right inside; an unexpected treasure that completes the club's distinctive charm.

Nick Lane (Left) and Matthew Taylor (Right)

NICKEL CITY PINBALL CLUB
5521 Transit Road
Depew, New York 14043

https://nickelcitypinball.com/

Matthew Taylor standing next to a jukebox filling the air with jazz

CLUB MEMBERS' ENTRY

THE POWER OF STANDARDS!

This issue's theme of computers offers me a chance to relate my journey as an arcade and console gamer who once hated playing on them in the early days. The PC is now my primary platform to game on today, so how did that come to be? Growing up in the game industry surrounded by computers helped me identify the turning points in technology that evolved that space, punctuated by the games I loved that heralded those advances!

The 80's were the dark ages of computer gaming for me - the lack of color and choppy movements were repulsive to me, but I still wanted to play! I had access to many different platforms; my family had green-screen IBM PC compatibles, my relatives had Apple II's, and my school had Commodore 64's. Even back then I could recognize the difference in hardware capabilities, and I preferred the Commodore 64 as it was the only one blessed with color graphics, sound, and sprite support! School didn't provide us with games, but as a very nerdy kid I would "smuggle" magazines containing programs transcribed in BASIC language into class, typed them in without the teachers knowing, and eventually got games working that way! At home, I "played" Infocom text adventures which were more like interactive books than games, but I loved them for their elaborate packaging that included story-related items. *Pinball Construction Set* and *Lode Runner* were early favorites that allowed me to create my own levels and boards, and I would often try to re-draw graphics or scenarios from arcade games I liked. I also made my first attempt at programming a game in this environment - a crude interpretation of Nintendo's *Arm Wrestling (Arcade, 1985)* which I sensed would never get a home port. With primitive ASCII art, beeps as sound effects and randomizers to approximate gameplay, I coded it all in BASIC! Despite having access to several types of computers, none of the hardware, software, or operation knowledge was compatible between them! The competition between platforms made it hard for standards to emerge. Computer games of the era paled in comparison to their arcade and console counterparts due to the technical limitations of the time, and fared best with software written with those boundaries in mind.

Going into the 90's, the IBM PC/Windows "platform" survived as the dominant computer format. I bought my first PC with prize money from winning the Sega Rock the Rock competition

The original 5.25" floppy disks I used to play games on the family's IBM PC!

Inconsistent PC development quality resulted in a vastly inferior *Street Fighter II* compared to console versions and competitors like *Mortal Kombat* and *Primal Rage*!

in 1994 - a "top of the line" NEC Pentium 90 system - stemming from my love of the NEC Turbografx-16/PC Engine consoles! It had cutting edge tech for the era, including a CD-ROM drive that ended the need to use stacks of floppy disks to install software. The VGA standard empowered computers with high resolution color graphics and video. Sound cards and integrated audio hadn't yet achieved universal adoption, but it was a start. Despite running Windows 3.1, many games still had to be run in DOS mode to use all of the resources available. This was the first era where something on PC could approach the quality of an arcade game of its time. *Mortal Kombat* and *Primal Rage* had fantastic PC versions that far surpassed the home conversions of the time. Conversely, my favorite fighting game back then - *Street Fighter II* - was cursed with one of the most atrocious ports imaginable, so buying games on PC could still be risky! This era also brought the ability to emulate older consoles and arcade games - which brought amazing new possibilities and enjoyment to computer gaming for me!

The amazing Suncom SFX was a keyboard gamepad that worked on everything, defying the poor standards of the time!

One of the biggest barriers to gaming on PC in this era was poor input support. Most motherboards didn't have a 15-pin gameport built-in and required an expansion card just to connect a controller. Luckily I found a Suncom controller that acted as a programmable keyboard in a perfect console-like form factor! As it worked with either size DIN keyboard port as well as the 15-pin gameport, it would work on any PC and on any game! It's a shame solutions like this were so uncommon, as it made the lack of controller standards so much more bearable!

In the early 2000's, my first laptop and game development PC brought me into the Windows XP era! By now, most computers had integrated sound support and high bandwidth expansion slot standards that allowed for 3D graphics card upgrades! While consoles hit a boundary from their affordable 3D hardware limits, PC's could expand and increase their performance based on the user's budget. Want more video RAM and a higher frame rate? Spend more money on a better GPU! The USB port was a landmark standard that made the use of game controllers much more accessible, but without a strongly adopted universal layout, every controller and game tended to be different, which complicated things for players and developers. I continued to be disappointed that the genres on PC were so limited and consisted mostly of FPS's and non-action oriented games, but not all of them were! *American McGee's Alice* was a third person action game with superb artistic direction and atmosphere that would

***American McGee's Alice* was a beautiful and compelling action game completely exclusive to PC in the 2000's era!**

not receive a console port for a decade. As it was built on an FPS engine, it would employ character movement and independent camera control - something that would eventually be adopted as the action game standard, even on consoles. While its combat and platforming game play have aged rather poorly, *Alice* still had one of the biggest influences on how I viewed the potential of PC gaming!

By the 2010's the success of the Xbox 360 console brought one of the most impactful changes to PC gaming: full adoption of USB controllers with the Xbox button layout standard! Compatible controllers were abundant and would work immediately when plugged into a Windows 7 PC with supporting drivers. Direct X and OpenGL standards helped increase graphics performance and further bridged the gap to consoles. In this era, a competent PC port could outperform a console counterpart significantly if the installed graphics card was powerful enough! As Steam became dominant in digital distribution as broadband internet became widespread, more games became easily available with no need for a physical distributor. CPU's increased in power with many incorporating integrated graphics, allowing even non-

GPU equipped computers to play games, thus further growing the user base. By this time, my game development needs and curiosity had fueled an addiction to computer hardware! I pushed the limits - running 4 GTX 670 graphics cards in parallel "SLI" mode for unmatched graphics power while experimenting with overclockable Korean monitors that allowed me to run 3 screens at 120hz spanned to 4320x2560 resolution! I was likely one of the only gamers in 2012 with that kind of setup, yet I still didn't "like" gaming on PC's because the kinds of games I enjoyed were rarely available on it. That would soon change, starting with the games mentioned here!

Ys Origin is the successor to one of my favorite games of all time, *Ys Book I&II* on the Turbografx-CD! Originally released in Japan in 2006, it came to Steam in 2012 somehow fully capable of running at a rare 2560x1440 resolution and 120hz refresh rate that almost no other game supported at that time.

With unforgettable action, music, and replayability - this was the kind of game I had been desperately wishing for regardless of platform! Having the best experience possible for it on my overpowered rig forever solidified my faith in the future of PC gaming, as well as the Steam platform for making it available; it wasn't ported to console until 2017!

Phantasy Star Online 2, sequel to the beloved Dreamcast classic, launched in Japan as a free to play live service in 2012, with many North American players like myself clamoring to play it regardless of language or access barriers. I immediately noticed the highly responsive, precise, and complex action game play, unlike anything I had ever seen in a PC game, let alone in an online multiplayer game! Its eventual western localization in 2020 would become one of the most memorable gaming experiences of my life, as it embodied a celebration of gaming culture unlike any other that spanned all eras and platforms!

My triumphs in 2012: getting *Ys Origin* running at 1440p 120hz on a Yamakasi Catleap monitor, and logging into *Phantasy Star Online 2* in Japan - sold me on PC gaming forever!

The Tang Takeaway

Home computers for years trailed behind arcade and console games in performance due to the slow adoption of standards, causing difficulty for both consumers and developers. In time, the obvious elements like video, mass storage, media, sound, and 3D graphics fell into place. Finally achieving standardized input along with the shift to digital distribution allowed PC gaming to flip the power balance in its favor. Since then, the inverse has happened, with consoles becoming more like PC's - until the present era where it seems like technology has unfortunately stagnated. Gaming *is* what pushed consoles and PC's to be as good as they are today. I believe that improved standards inspired from and further empowering the enjoyment of games would best reignite the path forward! While performance and usability have come a long way, there's absolutely room for improvement and innovation. However, there are changes happening in gaming now that could normalize standards that make things worse - particularly with data ownership and the subject of physical media. My hope is that if we all have high standards and reject low standards, we can still ensure an improving quality of life for gaming going into the future!

As PC games very rarely have physical items or even packaging made for them, I treasure the few that I have for favorites like *Alice* and *PSO2*!

VOYAGE OF THE RETRONAUT

BY JEREMY PARISH

Before Genesis, Sega Went Head-to-Head Against Nintendo From Day One

Largely forgotten by history, the SG-1000 was Sega's true console Genesis.

SEGA® SG-1000 Computer Video Game

On July 15, 1983, Nintendo launched its first programmable console, the Family Computer. A couple of years later, the Famicom would arrive in America as the Nintendo Entertainment System. In the decade following the console's Japanese debut, it would help transform both the nature of video games and the workings of the games industry, laying the groundwork for the business as it exists today.

Less remarked upon is the fact that on July 15, 1983, another beloved Japanese corporation also launched its first programmable console. That system did not exert any significant influence on the form and marketing of video games, and has largely been relegated to the forgotten corners of entertainment history. Nevertheless, that console, the SG-1000, set the stage for a brilliant first-party run for the company that created it, Sega, which would eventually give us platforms like the Genesis and Dreamcast. Sadly, since Sega never sold the SG-1000 in North America, it lacked the reach and impact of the Famicom and NES.

Although the SG-1000 initially launched as a colorful, toy-like product similar in size and spirit to Nintendo's Famicom, Sega quickly rebranded itself as the more sophisticated choice with a succession of sleek external redesigns, followed by massive tweaks to the console's internal architecture.

Well, that's not entirely true. Sega did sell the SG-1000 in the Americas, in a sense. Just not under the SG-1000 name, and not in its configuration as the SG-1000. It's complicated, but that's Sega hardware for you: its tendency toward weird boondoggles like the 32X and the Saturn's dual-processor architecture manifested in the company's console DNA from the start.

The SG-1000 itself was a curious piece. Internally, its architecture almost perfectly resembles the ColecoVision, which had launched in America the year before. Although no one has ever managed to unearth the full truth behind this striking similarity, the overlap surely can't be a coincidence. After all, Sega had a strong presence in American arcades at the time, having teamed up with California-based Gremlin to

develop new tech and gain a distribution advantage in the territory. Sega games appeared on most American consoles at the time, including the ColecoVision. In fact, Coleco played host to Sega's strongest and most enthusiastic console representation prior to the SG-1000's launch: not only did Sega games make up nearly half of the ColecoVision's launch lineup, a port of Buck Rogers: Planet of Zoom (aka Zoom 909) shipped with Coleco's ADAM computer expansion. Coleco released a dedicated steering wheel controller (Expansion Module #2) as a tie-in for their port of Turbo!

Despite running on almost completely identical hardware to the ColecoVision, Sega rebuilt the SG-1000 versions of familiar Coleco releases like Zaxxon and Buck Rogers: Planet of Zoom from the ground up for their own console, remixing the levels and adding new features.

In other words, Sega and Coleco had a close relationship, and it's difficult to believe that Sega's engineers didn't take notes from their overseas allies for their own efforts. The SG-1000 even appeared in a home computer variant (the SC-3000), seemingly inspired by the ADAM concept, though certainly one less fraught with the challenges that Coleco's computer faced. It took nearly two years for Coleco to bring ADAM to market, whereas the SC-3000 shipped alongside the SG-1000 day-and-date, along with an array of inexpensive add-on peripherals that consumers could connect to the console to transform it into the functional equivalent of the computer. In some regions, most notably Australia, Sega's distribution partners treated the SC-3000 as the "main" product, relegating the SG-1000 to sideline status.

By many accounts, that was actually Sega's intent with the platform: they aspired to make the system a computer first, console second. Certainly that technical flexibility gave Sega a much-needed edge against the competition, because 1983 was a challenging year for selling a new console in Japan. The SG-1000 had the poor fortune to launch the same day as Nintendo's Family Computer, which would ultimately turn out to be far and away the single most popular console of the 1980s in the Japanese market. Worse, the MSX computer standard made its debut at around the same time as the Sega system, and the MSX also had a very similar architecture to the ColecoVision, though it offered a significantly larger allocation of RAM for running programs.

(This seems like the place to mention the enigmatic Othello Multivision, a console that shipped a few months after the SG-1000 and offered full cross-compatibility with Sega's cartridges. The Multivision was produced by Tsukuda Original, a company that had seen modest success in video games thanks to Nintendo's arcade adaptation of their Reversi board game clone, Othello, and decided to go all-in on Othello-based gadgetry. The Multivision amounted to an SG-1000 variant that had an Othello ROM built into the hardware and which included a small panel of alphanumeric buttons along its top side to allow players to easily punch in board coordinates while playing the built-in title. Tsukuda developed eight unique cartridges for Multivision, including ports of QBert* and 007: James Bond, but bowed out of the biz after about a year and settled for simply making Othello carts for other companies' machines. The whole oddball affair suggests that Sega may have envisioned an MSX- or 3DO-style hardware licensing scheme for the SG-1000, but it clearly didn't go much of anywhere.)

The SG-1000 found itself on shaky footing from day one. Although Sega's machine offered far greater power (and a much more appealing library) than duff systems like the Casio PV-1000 and Gakken TV Boy, it couldn't compete technically with Famicom or MSX. On the other hand though, Sega, arcade veterans that they were, had a strategic solution: iteration. Just as the company had built a manufacturing pipeline that allowed them to tweak and improve their arcade boards, adding new features to a consistent baseline of tech as they rolled out new titles, they issued annual upgrades for their console as well. July 1984 saw the arrival of the SG-1000 II, a redesigned console that didn't introduce any under-the-hood improvements but instead modernized the system's outward approach by streamlining its appearance and replacing the original model's failure-prone hardwired joysticks with removable game

pads in the style of Famicom's controllers.

A year after the SG-1000 II debuted, the company rolled out an accessory called the Card Catcher, a small adapter that plugged into the cartridge port and allowed SG-1000 owners to play games off the new compact MyCard format. If you've ever seen a TurboGrafx-16 HuCard (aka TurboChip), you've seen a MyCard; NEC lifted the concept straight from Sega. Slim and inexpensive, the MyCard form factor allowed players to fit more games on their shelf and for Sega to pocket a bit more revenue on each sale. This was no mere alternative option, though. Once the Card Catcher launched, Sega went all-in on the MyCard format and promptly stopped releasing SG-1000 games on cartridges; only two games would ship as carts after mid-1985, both featuring on-cart RAM enhancements that would have been impossible to incorporate into the diminutive MyCards.

Before Sega launched its third iteration of the SG-1000 (the Mark III), it redesigned the console's game media from chunky black cartridges to tiny credit card-sized wafers—a format that Hudson and NEC would borrow for the TurboGrafx-16.

As it turned out, the MyCards had a secondary purpose: they paved the way for the SG-1000's next-generation evolution. In October 1985, as Nintendo rolled out America's localized Famicom for a test launch in New York, Sega introduced the Mark III console in Japan. This third iteration of the SG-1000 hardware dropped the SG-1000 name, leaving players to infer the connection from the "Mark III" name. Despite the change in branding, the Mark III was very much a revamp of the 1983 console: not only could it run all of the SG-1000's games, it could also make use of its peripherals, retaining the option to expand out into an SC-3000-equivalent home computer. It even looked like a refined version of the SG-1000 II, with a low profile and sleek angular lines that made it feel very much like a cutting-edge piece of mid-'80s industrial design.

However, the Mark III also offered considerable technical improvements over the older console. For starters, Sega produced a number of new peripherals that only worked with the Mark III and not with the older console: a wireless RF video adapter that broadcast the console's video signal directly to a TV's antenna; a set of active-shutter LCD glasses that enabled 3D viewing in certain games; even a Yamaha-made audio add-on that allowed Mark III games to output music via arcade-quality FM synthesis rather than relying on the console's simple PSG waveforms. On top of that, the Mark III supported both cartridges and MyCards with no need for a special adapter, thanks to a separate card slot on the top side of the machine.

Most importantly, though, the Mark III dropped the SG-1000's TMS9918 graphics chip in favor of a powerful, custom-designed chip called the Video Display Processor. The VDP allowed Sega to leapfrog the capabilities of Nintendo's competing Famicom while outputting more sprites, more colorful sprites, and smooth background scrolling, features that the SG-1000 and other TMS9918-powered devices simply couldn't offer. Despite running on the same modest Z80 CPU as the SG-1000, the Mark III offered graphical and audio capabilities that could almost punch in the same weight class as the stock TurboGrafx-16 console.

Since it retained the SG-1000's central processor, the Mark III revision maintained more or less full backward compatibility with the older system. The one glitch in the console's support for its predecessor's carts resulted from the upgrade to the VDP: Sega's new video chip lacked the ability to output many of the TMS9918's iconic pastels, meaning that SG-1000 games displayed in harsher, more primary-tinged hues on Mark III unless specifically programmed to run in an alternate color mode when the software detected Mark III hardware. Still, a small price to pay for such a bold improvement, and the leap in graphical power gave Sega a much-needed in for the massive American console market, which Nintendo and Atari had managed to resuscitate following the big crash of 1983–85. Retailers would never have stocked a console whose games looked exactly like software for the failed ColecoVision… but a console whose visual capabilities crushed the shiny new Nintendo Entertainment System and Atari 7800? Heck yeah! Mark III became the Master System and, while it

didn't exactly take the U.S. by storm, it certainly paved the way for Genesis.

The Japanese Master System, the ultimate iteration of Sega's 8-bit tech, shipped in late 1987. It brought the futuristic black case of the American and Europe Master back to Japan, including the light gun support that the basic Mark III lacked. Then, it went the extra step by integrating both the FM Sound Unit audio peripheral and the 3-D Glasses connector into the console itself. Finally, it ditched the built-in Snail Maze minigame in favor of a cool Space Harrier-themed loading screen. The Cadillac of pre-Genesis hardware!

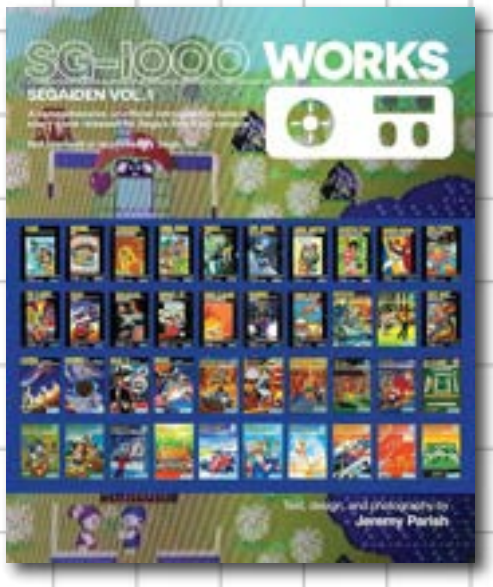
Sega continued to support the SG-1000 for about a year and a half following the Mark III's debut, but that system's output quickly dwindled as the overhauled model picked up steam. Some of those Mark III-era releases for SG-1000 are worth checking out, though. The console hosted plenty of Sega arcade conversions of varying quality in its initial run, along with fairly stock standards like mahjong and racing games, but the end-of-life stuff really pushed the boundaries of what ColecoVision-class hardware could achieve. You had things like Gulkave, a shockingly manic vertical shooter by Compile; Loretta no Shouzou, a detective adventure in which Sherlock Holmes roamed London to solve a mystery; and The Black Onyx, a capable port of Bullet-Proof Software's groundbreaking

The Master System's evolutionary nature meant that it could do weird tricks, like everything about F-16 Fighting Falcon: not only did it run in the Master System's backward compatibility mode (that is, an SG-1000 game that took advantage of the new model's extra RAM), the Japanese manual included instructions for building a custom link cable that would allow players to experience the sim as a head-to-head competition... provided they had all of the SG-3000 computer components required for the task.

dungeon crawler. Sega adapted quite a few games to SG-1000 that it would revisit on Mark III, including Ninja Princess, Choplifter, Wonder Boy, and, astonishingly, Hang-On.

Americans never experienced the SG-1000 for themselves, at least not overtly, but Sega's first console managed to sneak into the U.S. in small ways. Early Master System flight sim F-16 Fighting Falcon actually runs in the console's backward compatibility mode, an SG-1000 title that takes advantage of Master System's upgraded RAM allowance, a tech trick that accounts for the fact that F-16 Fighting Falcon is one of the few Master System titles that won't run on the Genesis' Power Base Converter adapter. But even the Genesis contains a piece of the SG-1000 lurking within: although Sega built its 16-bit beast around the powerful Motorola 68000 microchip, the SG-1000's Z80 sits alongside the CPU as a coprocessor to help manage the console's sound output and enable Master System backward compatibility. Although the Genesis' architecture was too far removed from the SG-1000 to run that older system's software directly, Sega's first console lived on in some small way until at least 1998, when the final Sega-licensed Genesis game shipped.

Actually, it still lives today in a far more direct sense: Brazilian manufacturer TecToy still sells a localized Master System model in that region. While these are emulation boxes built around a custom system on a chip, you could theoretically grab a copy of that terrible SG-1000 port of Congo Bongo and play it on a fresh new piece of hardware in the year 2025. If for some reason that struck you as a sensible thing to do (and if you're curious to learn more, I've covered the console and its library in exhaustive detail in the book SG-1000 Works, available from Limited Run Games).



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RETRO GAMING EVENT UPDATE

LONG ISLAND RETRO GAMING EXPO 2025

August just about wraps up the convention season, and Old School Gamer made appearances at two separate shows this month. The first one, about an hour out of New York City, is the Long Island Retro Gaming Expo, and it's run by one of the nicest crews of people I have ever met. This year was, I think, the fifth or sixth time Old School Gamer has exhibited there, but it was only the second time I've personally attended, and I really love it. We are already planning on attending in 2026!

This year's show, like last year, started with an opening on Friday afternoon, which ran until 9 PM, after which my crew crashed hard, as their day started out in the early morning as tourists in New York City. Combine that with taking a train up to the event, and then 6 hours of fun with retro gamers, and you can understand why they were exhausted. Held in the Cradle of Aviation museum, this event sets up an amazing collection of games to play, including arcade, computer, and retro consoles. The biggest problem this show is having is running out of room for exhibitors! They have a wait list while they find more space at the facility that the museum staff is willing to give up.

This year we brought some friends from the UK along with us, the folks from G'AIM'E, where they set up their new AI Lightgun system in our booth, letting all of our visitors play Time Crisis and other similar games. See the separate piece on G'AIM'E earlier in this issue. If you are anywhere near NYC, Philadelphia or anywhere in New Jersey, come join us for their show next year in early August! **liretro.com**

2D CON:REPLAY

BLOOMINGTON, MN — AUG 22-24, 2025

ALL THINGS GAMING ENTERTAINMENT CONVENTION

They've been growing exponentially every year and yet the organizers of 2DCON have managed to keep it more of an organic and fun party atmosphere for gamers than a cold and corporate event, which is commendable seeing as how Redbull was everywhere!

This may be the first time though, I've been to a convention of this magnitude where retro gaming wasn't the only focus with everything else as an afterthought. There were only a few vendors selling retro games which is not something I'm used to. But there was so much more to see and do the entire weekend that I hardly even noticed. This was a celebration of EVERYTHING gaming.

Arcade Games, Pinball, Board Games, TCGs (Trading Card Games), Anime, Live Music, Artwork, Cosplay, and Industry Celebrities like OSG's good friend, "The Father of eSports," Walter Day whom I was able bug all weekend ;) Seriously what an amazing human being. There is always something for everyone at 2DCON:REPLAY and for this being my first time there, I;m sad I've been missing out all this time! **2dcon.net**

Walter Day (left), Samus Aran (center) Tristan Ibarra (right)

REVIEWS> RETRON GX

By Ryan Burger & Tristan Ibarra

The Hyperkin TG16, also known as the RetroN GX, was slated for release earlier this year, but after some initial units shipped, Hyperkin did the right thing and pulled it back for tweaking and reworking (there's a video on Hyperkin's YouTube channel covering what changed). This is Hyperkin's take on the PC Engine that was released in the U.S. in 1989. Developed by Hudson Soft and manufactured by NEC, it wasn't as popular as the Sega Genesis or Super Nintendo Entertainment System, but it still has some great games and is remembered fondly by those who had it.

Killer games on the platform include *R-Type*, *Splatterhouse*, and *Bonk's Adventure*. Two of us are reviewing this platform. First up is me, Ryan Burger, the publisher writing this section. I have no experience with the TG16, while our other writer, Tristan Ibarra, has one in his collection and is more experienced with the TurboGrafx.

The TG16 is built like Hyperkin's previous units but with a TurboGrafx style. It has two ports for original controllers (it comes with one) and two USB ports. Booting the RetroN GX loads the ROM from the HuCard, so it uses emulation and gets you straight into gameplay. As someone new to the TG16, I found the gameplay fantastic, and I finally got to play a solid version of one of my favorite arcade games, *R-Type*, at home. The controls are responsive and the game plays well. Now let's hand it off to Tristan for his impressions, given his experience with the TG16 and now with the RetroN GX.

Tristan here!

I grew up playing TG16 (especially *Splatterhouse*) at a friend's house as a kid and have owned several iterations of PC Engine/TG16-compatible hardware over my collecting career, including the TurboDuo and, more recently, the Analogue Duo. I won't be comparing this directly to those; however, I did have them in mind while playing.

Before being sent this unit, I wasn't aware that Hyperkin had released this TG16/PC Engine hybrid machine for modern gamers, nor was I aware of the issues criticized at launch. Input delay, compatibility issues, graphical glitches, and poor frame rate were all reported, and all were said to be fixed in a recent firmware update. Let's check it out. I invited a YouTuber friend over to review the unit so I could check my biases at the door and have someone to bounce things off. It's on the channel Mistah MegaManFan (Steve Juon) on YouTube if you want to see that review as we played it.

First of all, I love the small footprint of the unit, which is about the size of the original PC Engine. Less clutter on the entertainment center. Setup was a breeze, and the controller felt like a very close facsimile of the original, down to the D-pad, which I know would hurt my thumb if I were playing *Air Zonk* (just like the original did). We started with what is arguably the most iconic game on the platform, *Bonk's Adventure*, and right away I noticed some input delay. It wasn't enough to ruin the experience, but it was a noticeable handful of frames. That was one of the first things I mentioned to both Ryan and Hyperkin after playing the unit. Ryan didn't experience it, and Hyperkin said this can happen with some televisions (mine is a 2020 LG OLED) and that the TV should be put in Game Mode to reduce latency. I sometimes forget that all the fancy video processing in modern TVs makes for a worse gaming experience for that very reason. Hyperkin customer service, by the way: A+.

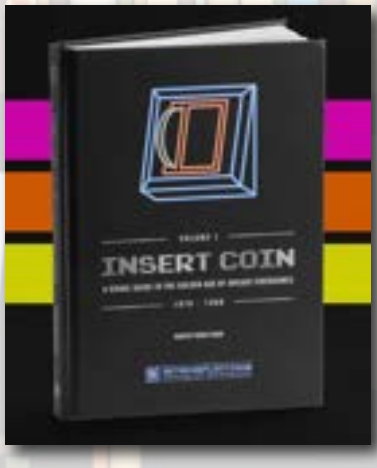
The reported graphical glitches and frame rate issues from before are nonexistent. It looks and plays great, especially on an OLED television. You can add video filters via the menu (press Run/Select 1/2 at the same time to access), but it looked great out of the box to me. Save states are also a seamless addition, accessible via the menu, whether you're practicing certain sections of a level or you just want to save scum like me. Overall, for the price, this unit is a great addition to your gaming arsenal. It plays both TG16 and PC Engine as advertised and is a great value for a modern gaming setup.

https://www.hyperkinstore.com

OSG BOOKSHELF

By Old School Gamer Staff

Insert Coin: A Visual Guide to the Golden Age of Arcade Video Games



While not deep on the text, this is one of the nicer books I've ever checked out on Arcade Games. It seems that there are a ton of home console books out there, but never, in my opinion, enough in the arcade area. I guess that is because the arcade scene had aged and then faded out to more of a retro thing, where home consoles are continuing to grow dramatically.

Robert David Swan of the UK has done some fantastic imagery around the 1978 to 1986 era of the arcade, back when the arcade games were more potent than anything you could put in your home. Alphabetically going from 1942, Arkanoid, and Asteroids through Xevious and Zaxxon, it covers the physical graphical portions of the arcade games that gave them personality. While it covers the gameplay graphics, it provides a more comprehensive look at the whole machine, including the cabinet, the marquee, the flyers, and the control panel. Robert and whoever helped him with this meticulously cleaned up all the imagery from the sideart to the button graphics. This is some truly exceptional detail.

On some selected games, he also has promotional text from the flyers, like for Commando: "A crack soldier called 'Super Joe' who has undergone special training has received a highly secret mission and is about to enter this fierce war.

Robert told us that he is currently "working through Volume II; this will still be set within the 1978-1986 era, as there are so many games to cover! Each era (Golden Age, Silver Age 1987-1995, and Bronze Age 1971-1978) will consist of seven volumes, with the latter two books covering sequels and different machine formats such as cocktail tables, cabaret cabinets and environment/cockpit types."

This isn't a book to just read, but one to flip through and admire for some of its cool details it has on all these games.

newwavetoys.com / amazon.com

History of Handheld Game Consoles

Tommy Keough's book on the history of handheld game consoles honestly underwhelmed me. It does two pages on each of the consoles it features, of which there are ten, including 3 Game Boys, and two DSs. It then gives a page for each of the Top ten games on that console. I was honestly wishing for more depth on the handheld's history. The larger font and large format book should have been done in a smaller format which would get it down from the $39.95 price point that Pen and Sword has placed this at.

This book is made less for the fanatic like me and more made to be picked up on a Barnes and Noble retail shelf for someone with a more casual interest in video games. Great photographs and the info that is in there looks good. While it has a nice layout and organization, it's just not deep enough for me and what I'm wanting to learn.

pen-and-sword.co.uk

NES HIGH SCORE

8-BIT STEVE

There are many iconic mascots in the video game world. Mascots like Mario, Link, Samus, Crash Bandicoot, Bonk, and Sonic the Hedgehog are certainly the most recognizable from the retro era, in my opinion. Mascots became a staple across nearly every type of product or media platform in the mid-1980s, and I would argue that a lot of those mascots are even more recognizable than the aforementioned video game examples. If you grew up in the 1980s, you would surely know Mr. Clean, the Jolly Green Giant, the Pillsbury Doughboy, the Kool-Aid Man, Smokey the Bear, the Honey Nut Cheerios Bee (BuzzBee), Chef Boyardee, and Cap'n Crunch. Sadly, none of those mascots made it into a Nintendo Entertainment System game. While all of the non-video-game mascots that I just mentioned represent very common products consumed by families in the 1980s, there were few products consumed more than pizza. In 1986 Domino's Pizza created a very strange and zany character to help them compete with Pizza Hut. This character was affectionately named "The Noid." This character became so popular that a Nintendo Entertainment System game was made about it in 1990, and thankfully the game has a scoring system. Let's dive in and see the history of high scores on Yo! Noid.

MAR 16, 2006	Renegade	77,900
FEB 1, 2009	FlyNRyan	208,550
SEP 20, 2015	Matthew Schindler	235,080
NOV 15, 2015	FredB999	242,120
APR 30, 2019	Jesse Porter	329,620
FEB 6, 2021	321Tieguy	336,960
APR 2, 2023	Raj De Vore	359,930

- The inaugural record was set on March 16, 2006, by Renegade with a score of 77,990.

- FlyNRyan nearly tripled the record three years later, on February 1, 2009, with a score of 208,550.

- FlyNRyan's record sat for over six years until Matthew Schindler toppled it with a score of 235,080 on September 20, 2015.

- Two months later, on November 15, 2015, FredB999 broke the record with a score of 242,120.

- FredB999's record held for over three years until seasoned high-score veteran Jesse Porter broke it on April 30, 2019, with a score of 329,620.

- A newcomer to the scorescene named 321Tieguy toppled Jesse Porter's score close to two years later, on February 6, 2021, with a score of 336,960.

- Nearly two years after that, Raj De Vore broke the record on April 2, 2023, with a score of 359,930, which, as of this article, is still the world record.

You might remember Raj from my last high-score article about DuckTales. If you want to learn more about Raj and his high-score journey, please check out the previous issue and his live streams on Twitch. The scoring in Yo! Noid is pretty straightforward. Points are gained through defeating enemies and collecting items throughout the game's 14 stages. You are also given a time bonus at the end of each stage after defeating a puzzle boss that does not increase score. Normally I include the rules from Twin Galaxies, but there are no additional rules outside of codes and continues being banned, which is true for every game by default. If you have been following along with my articles in this magazine, you might recall that Twin Galaxies sometimes institutes a five-life maximum rule, called Twin Galaxies Tournament Settings (TGTS). This game does not have that rule attached to the track. Yo! Noid does have a timer on stages, and enemies respawn infinitely if the enemy spawn area is moved off and onto the viewable screen, which allows for "point-pressing." Raj uses this to his advantage on stage 4, stage 10, stage 11, and stage 12. Stage 10 is particularly interesting because an extra life is awarded every 20,000 points, and the garbage cans that Raj defeats on this stage grant 1,000 points. Defeating 20 garbage cans is easily done within the time limit, which means this can be done infinitely under the current rule set. Raj point-pressed this area for three of his lives, but chose not to continue using this technique to break the score record in this spot, instead choosing to finish the game. His overall run is quite impressive to watch, as he defeats nearly every enemy on each stage and collects nearly every item available. As impressive as this score is, it is very breakable given the rule set of this game. Are you the next world-record holder? You could be. No, you should be! I'll see you next issue, and keep on scoring high.

Check out Raj's World Record video here!

In this advertisement the Noid is featured just as prominently as the pizza! It also comes with a guarantee of a replacement pizza for any reason and $3.00 off if it arrives later than 30 minutes!

THE VIDEO GAME COLLECTOR'S
FIELD GUIDE
WWW.VGCOLLECTORGUIDE.COM

GAME COLLECTING'S DEADLY SINS 7

BY TRISTAN IBARRA

Don't worry, you're not going to find someone's head in a ? block.

PRIDE, GREED, LUST, ENVY, GLUTTONY, WRATH, SLOTH.

In Roman Catholic theology, these 7 deadly sins are the root of further immoral behavior. As gamers we've all seen bad behavior, or at the very least unhealthy habits, when it comes to consuming, playing, and the way we collect video games. With that in mind, let's dive in and see what parallels can be drawn between these classic universal "sins" and our own gaming habits.

PRIDE

There's nothing wrong with being proud of yourself and the gamer that you are. Go ahead and wear your gaming accomplishments like badges of honor. Being proud and sure of who your are is one of the cornerstones of success in all of life's endeavors. But your pride can also get you in a lot of trouble. There's a huge difference between carrying yourself with self-confidence and seemingly looking down on others as if you're of a higher status or class of gamer.

Naturally gamers will tend to give themselves a ranking order according to the size of their.... collection. and the more rare the titles, the more obscure the consoles, and the longer they've been collecting, the more they might think of themselves and look down on those who aren't of their status. It's not hard to spot those who think pretty highly of themselves.

HUMILITY is the cure for pride. Go in to gaming circles and conversations thinking that perhaps you don't know everything and that the YouTube video you saw on that one thing could be wrong. It's video games and it's meant to be fun, let's keep in that way and keep those gatekeepers out of the hobby.

GREED+ GLUTTONY

When you want it all, can you really have it all? There are so many people in this world with seemingly everything who will never be happy with what they have. And keeping it all to yourself and not sharing in the experience of collecting with others can distort not only your relationship with other collectors but your relationship with the games as possessions. There should be fun involved in this hobby. It's important to always remember why you accumulated this many games in the first place.

The fun you had playing them, most likely with others.

GENEROSITY is the cure for greed/gluttony. Share the experience with others and help them with their collections unselfishly.

LUST+ENVY

Lusting after and being envious of someone else's collection go hand in hand. Instead of enjoying what you have, you constantly measure yourself against someone else's shelves. In the age of YouTube and social media, you're always going to see someone with a bigger collection than you.

Focusing on what you don't have will make you enjoy what you do have so much less. Chasing someone else's collection can push you into buying things you don't truly want or can't afford.

GRATITUDE is the cure for lust/envy. Celebrate what makes your collection unique and focus on the games that have meaning to you. Be thankful of what you have and that you weren't born in a time period where rolling a bike tire down the street with a stick was peak entertainment.

WRATH

You lash out over price spikes and missed deals. You give in to FOMO more than anyone you know just to avoid these horrible feelings. The gaming world is going digital and the entire game isn't on the cartridge anymore. Who do you blame for everything that's changing?! Someone has to be responsible for this and so I'm going to go outside and yell at the clouds... or, record myself on YouTube so that someone out there might be listening and can do something about this. Sound familiar? It's everywhere and the times they are a' changin'.

ACCEPTANCE is the cure for wrath. And no I'm not saying to accept everything around you. There's right, there's wrong, and there is the inconsequential. Pick and choose your battles. If you choose to fight them all, you'll never win. And in the ever-changing gaming landscape, I hate to tell you, but things are going to change whether you like it or not. It's up to you whether you want to continue enjoying video games or not by accepting those inevitable changes.

Fight the greedy, predatory, and manipulative practices, yes. But keep in mind that a lot of things that are polarizing to gamers are happening because behind the scenes, things aren't as easy as they seem to be. Making games should be easy right?

SLOTH zzz

Neglecting your collection to get sun-faded, busted up, dusty, moldy, and forgotten like Andy's toys. If game cartridges could speak, what would they say about you? They deserve a warm and welcome home. Game preservation is important and everyone has to do their part to preserve what physical games we got to enjoy for the generations to come.

ATTENTION AND CARE for the games in your collection RIGHT NOW are the cure for sloth.

Enjoying your game collection as it stands right now is about embracing what you already have, rather than constantly reaching for what you don't. It's easy to get caught up in what other collectors are showing online, what the latest "must-play" releases are, or what games are skyrocketing in value. But the truth is, your collection is already a reflection of your interests, tastes, and memories. The best way to enjoy it fully is to

reconnect with why you started collecting and focus on your own relationship with the games themselves.
The first step is to take time to rediscover what's on your shelves. I forget what's there often, and it's not just because I'm getting older.

Instead of worrying about what's missing, flip through the games you already own. Pull a random title off the shelf and spend an evening with it, even if it's been years since you last touched it. You may be surprised by how much fun you have revisiting something you'd nearly forgotten. Every case, cartridge, or disc in your collection has a reason it's there, whether it was a childhood favorite, from a thrift store, or something you once borrowed from an ex-girlfriend. Each game has its own story, and revisiting them helps you see your own personal history written into your collection.

Another way to deepen your enjoyment is to set aside external expectations. Social media, forums, and YouTubers can sometimes create pressure to measure your collection against others. Maybe you don't have the rarest editions, or maybe you skipped certain franchises. Maybe you're sick of Nintendo announcing two and a half Kirby games every time they have a Direct. That's perfectly fine. Collections aren't meant to be competitions, they're a personal treasure trove that is supposed to make you happy first and foremost. If you remind yourself that your games exist for you to play, not for validation from strangers, you'll have a much more satisfying experience.

It's also important to give yourself permission to enjoy games on your own terms. If you love diving into old sports titles, don't feel bad just because others hate them. If you prefer replaying a handful of mindless mobile games rather than trying every new release, that's valid too. Enjoyment isn't about what's popular, it's about what makes you happy in the moment. There are times where I lust over new games and their features while the franchises I once loved are long forgotten. Triple Play Baseball on PlayStation 1 STILL has the best home run derby mode I've ever played and it's not even close. And that's despite the polygons and constant graphic juttering looking like absolute trash compared to now. Wrestling games on the Nintendo 64 are STILL the best wrestling games I've ever played and the wrestlers look like people only a mother can love. But still nothing compares to that AKI engine and the memories of playing those games with your friends.

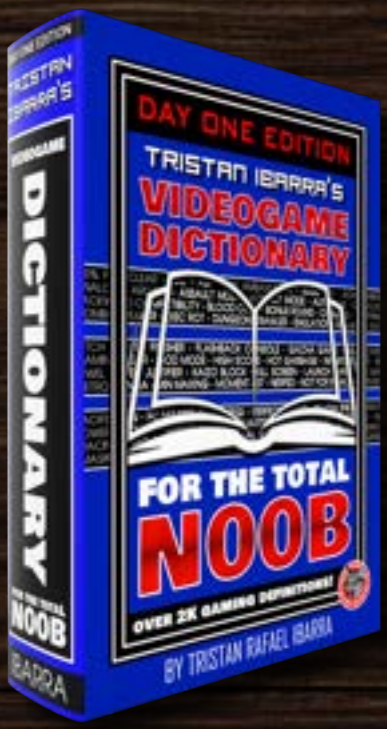
Finally, remember that collecting isn't just about owning, it's about experiencing. Dust off the systems, hook them up, and let yourself remember the sights, sounds, and feelings those games once gave you. Play with friends or solo, write down memories in a journal if you do that kind of thing, or even take photos of your setups as they evolve. By engaging with your collection in the present, you'll find satisfaction in what you already have instead of chasing what you don't.
At the end of the day, the best way to enjoy your game collection is to honor it as your personal library of fun. Block out the noise, focus on the memories, and play the games you love. That's where the real value lies. Go ahead, just open the box...

The Video Game Collector's Field Guide & *The Video Game Console Collector's Field Guide* are currently on sale.

Tristan Ibarra's Videogame Dictionary for the Total NOOB is being finalized and will be in print in the coming months.

To purchase my books or get more information about my many projects, please visit:

www.vgcollectorguide.com



THE VIDEO GAME COLLECTOR'S FIELD GUIDE

THE HEAVYWEIGHT VISUAL VIDEO GAME ENCYCLOPEDIA

www.vgcollectorguide.com + www.hagensalley.com

Old School GAMER MAGAZINE

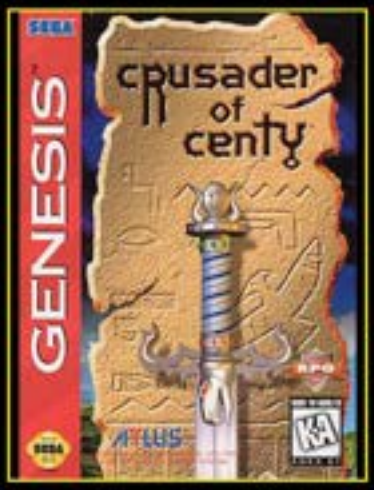
HEAVY HITTERS INDEX

The Heavy Hitters Index exists so that you, the collector, might have a solid foundational knowledge when it comes to what games on each console are its "HEAVY HITTERS". That is to say, what games are worth the most and in what direction are the prices trending? Well, hang on for the ride because we're going to see where these prices take us in every issue.

Each issue we'll highlight one HEAVY HITTER to explore it's rarity and what some collectors have done to finally get it.

* All prices in this index are fair market value estimates based on a combination of trending collector habits, latest sold listings, and values based on a number of external sources. Prices listed below are for entertainment value only and should be taken with a grain of salt. All final valuations are ultimately the responsibility of the buyer/seller in any given transaction and should be something that both parties are comfortable with. Happy hunting!*

BROUGHT TO YOU BY THE VIDEO GAME COLLECTOR'S FIELD GUIDE BY TRISTAN IBARRA



HEAVY HITTER GAME SPOTLIGHT: CRUSADER OF CENTY
PRICE AT RELEASE: $49.99-$59.99 (sources vary)
WHY IT'S RARE: LOW PRINT RUN, END OF THE GENESIS LIFESPAN
CONSOLE: SEGA GENESIS
CURRENT CIB PRICE: $1650 USD
YEAR RELEASED: 1994
NUMBER OF COPIES SOLD: unknown

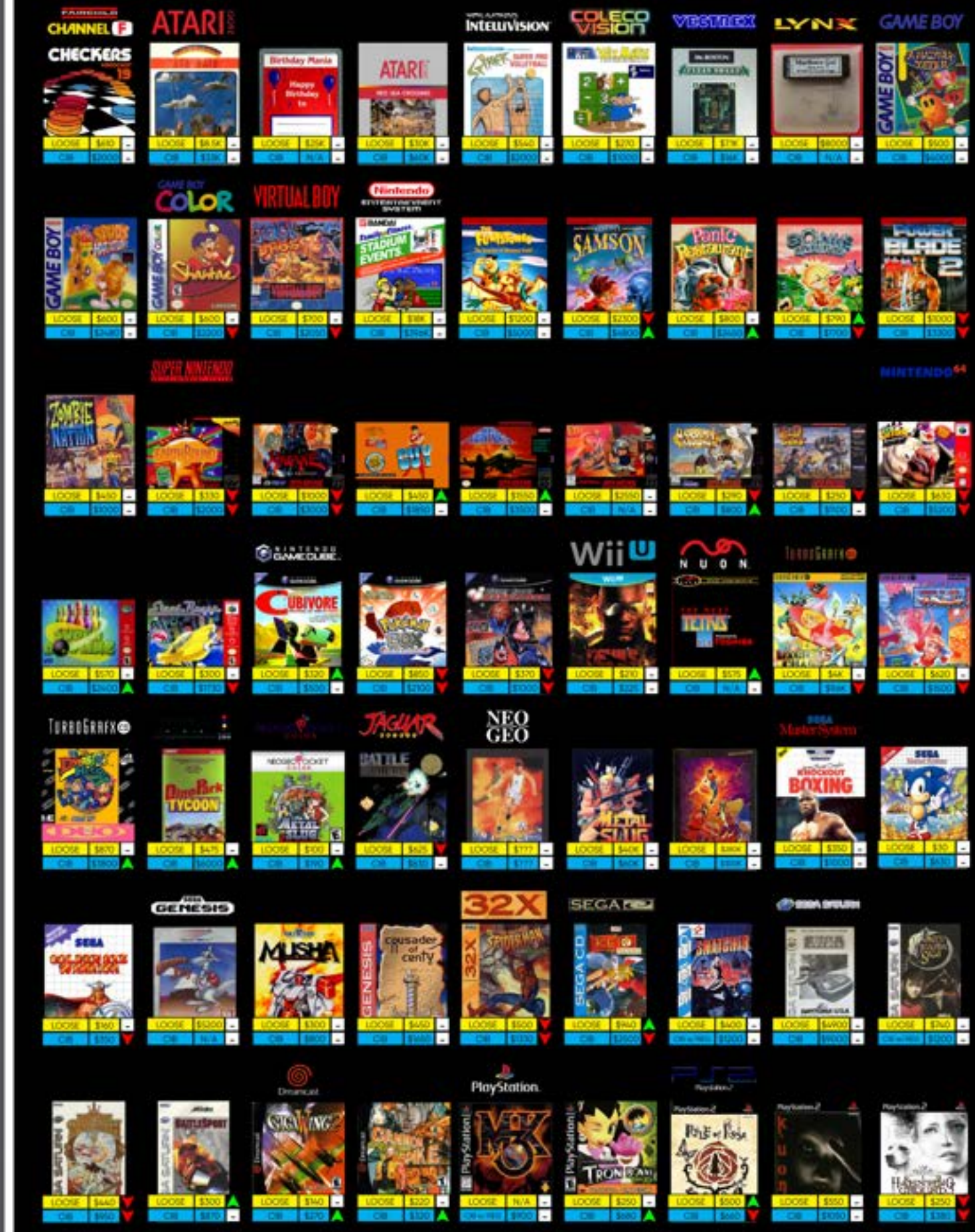
A tale as old as time. Scarcity due to the fact that it came out at the end of the life and didn't enjoy the kind of print run that a game in the middle of a console lifecycle would have normally enjoyed. Not only that, it was an action adventure game. Beloved by so many but it was a genre all but ignored on the Sega Genesis, making it all the more alluring to Genesis collectors. At release, it was often brushed off as a "Zelda clone," but years later, collectors and retro gamers started appreciating it as one of the best Genesis adventure action RPGs. That retroactive demand makes it very sought after today.

Atlus (of course it was Atlus) published the game for the Genesis and at the time they weren't an established and popular publisher like they are today. Collectors everywhere now know that early Atlus games are almost always worth a pretty penny due to their consistently excellent gameplay and actual scarcity.

One of the crazy aspects of collecting a copy of Crusader of Centy and the wild swings in price that you can encounter, is the condition of every piece of that CIB set. If collecting complete in box, like many of the late life Genesis games, Centy only came in a flimsy cardboard box and was infinitely more susceptible to mishandling, spilled soda, and/or a careless friend who borrowed it and sat on it somehow. Unless someone bought the game at retail back in the mid-90s as the Genesis was phasing out, and didn't buy a copy that was on the shelf, handled by multiple patrons and store employees, it was kept out of the direct path of UV rays, possibly even hermetically sealed and blessed by a priest, and no one ever actually looked at directly, then maybe... just maybe a copy exists that isn't already graded and sealed for your own pristine collection. Just be ready to pay a lot of money if it doesn't look like it was used as a coaster at some point.

PRICES ARE AS OF SEPTEMBER 2025

▲HIGHER ▼LOWER ▬SAME AS LAST ISSUE



The Angry Video Game Nerd 8-Bit

OCTOBER 23

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