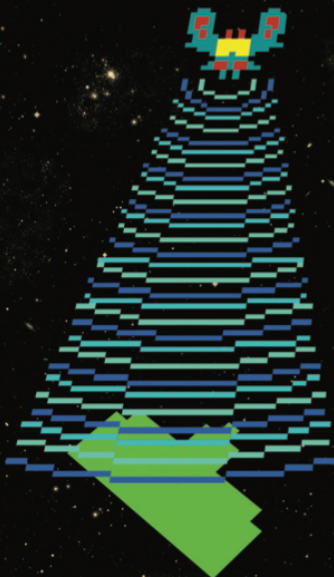


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**06** **SHOOTERS / SHMUPS**  
Galaga  
BY TODD FRIEDMAN

**08** **SHOOTERS / SHMUPS**  
An R-Type Revival  
BY PATRICK HICKEY JR.

**10** **BRETT'S OLD SCHOOL BARGAIN BIN**  
Atari 2600 Shooters  
BY BRETT WEISS

**12** **MICHAEL THOMASSON'S JUST 4 QIX**  
Thunderforce  
BY MICHAEL THOMASSON

**14** **THE WALTER DAY REPORT**  
The Art of Shooting  
BY WALTER DAY

**16** **HOROWITZ'S HISTORY**  
32X - Star Wars Arcade  
BY KEN HOROWITZ

**18** **REVIEWS**  
Retroplace  
BY OLD SCHOOL GAMER

**20** **FEATURE**  
Origins of the Name Pac-Man  
BY ETHAN JOHNSON

**22** **FEATURE**  
Killer App: Star Raiders  
BY BILL LANGE

**24** **NEWS**  
Convention Update  
BY OSG REPORTERS

**27** **NEWS**  
OSG Events Calendar

**28** **PRATT AT THE ARCADE**  
The Darius Series  
BY ADAM PRATT

**30** **PEOPLE AND PLACES**  
Tetris and Joseph Saelee  
BY JOEL WEST / BRIAN SZAREK

**32** **NEWS**  
Joel West  
BY WALTER DAY

**33** **PEOPLE AND PLACES**  
Feel The Joy(Stick) - Ed Kelly  
BY BRIAN SZAREK

**37** **REVIEWS**  
Oh My Gosh, They Are So Small!  
BY PAIGE BURGER

**38** **PEOPLE AND PLACES**  
Jason Knigge  
BY TODD FRIEDMAN

**40** **FEATURE**  
History of Starpath Corporation / Supercharger  
BY EUGENIO ANGEIRA

**44** **PEOPLE AND PLACES**  
Arcade1Up  
BY MICHAEL THOMASSON

**46** **NEWS**  
Great Retro Shops  
BY OLD SCHOOL GAMER



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# Galaga

ギャラガ

By Todd Friedman

## ギャラガ編隊の急襲にたちむかえ!

頭上から列をなして降下する敵は突如反転して編隊飛行にうつる。次々に編隊を離れ、不気味なカーブを描いて突っこんでくる。あのギャラクシアンよりもはるかに凶暴な異星人「ギャラガ」だ! 迎えるつ我がファイターも最新型。ミサイル連射ができる。ギャラガの体当たりや爆弾攻撃をさけながらミサイルを発射するスリルには誰でも夢中になってしまう。ファン待望の本格的スペースゲーム。それが「ギャラガ」だ!!



**A**lmost every adult remembers the “Golden Age” of Video Gaming. Most would say this included arcade games from 1978 to 1983. If you were to ask someone what the five most popular games of that era were, Galaga would always be mentioned. It was, and is, one of the most popular games created in arcade industry. In 1981, Galaga was published by Namco in Japan and by Midway in North America.

It is considered a sequel to the less popular game, “Galaxian”. In Galaga, you control a space ship at the bottom of the screen, scrolling left and right in order to avoid oncoming bombs and kamikaze attacks from alien invaders, and to fire your own missiles to fight back. The blue, yellow, and red alien insects are bees. The white, orange, and blue ones are butterflies. Sometimes the bees are referred to as hornets or wasps and the butterflies are referred to as moths. There are hundreds of stages to progress through. In Stage 1, the enemies do not drop bombs as they fly onto the screen, however, they do so in most of the later stages. As players progress through each screen, the speed and

number of alien attacks increases. Alien formations also become more complex, making the aliens harder to shoot. Every third level is a “challenge stage” in which you have a free chance to shoot as many aliens as possible and rack up bonus points. The object is to shoot as many of them as possible before they leave the play area. You receive bonus points when you destroy an entire formation of eight Galagans. If all forty aliens are destroyed, players are awarded a special bonus of 10,000 points. Certain aliens have tractor beams they can use to capture one of your ships. If that wasn't your last “life,” you can try to shoot that alien down and recapture your ship, giving you two ships at once and doubling your firepower. The two-ship advantage is key to a longer game.

One of the highest scores on Galaga was set by Phillip Day of Braidwood, Australia. His score of 3,275,720 is the fourth highest score posted in the twin galaxies scoreboard with the game mode set to Tournament Settings. The “Tournament Setting” of Galaga is based on the dip switch settings: the amount of lives (5) and use of a rapid-fire PC board. The world record highest score for Galaga was set in October 2018 by Armando Gonzalez of Los Angeles,



California. On April 29, 2018, Gonzalez achieved a world record high score of 6,056,490 points on the much harder Tournament settings. Phil Days explains to me, "I remember chasing Andrew Laidlaw's world record score of 2.7 million and thinking 'How am I ever going to beat that.' When I beat it with a score of 3.2 million - people, myself included, thought this was a convincing victory. But that was in 2009. Now the Galaga community has players like Armando Gonzalez scoring 6 million. I'm glad I got my score when I did." Phil says that after getting the Galaga Tournament World Record, he sold his cabinet and had no desire to ever play Galaga again.

The Galaga World Record score has been chased ever since the inception of arcade world record keeping by Twin Galaxies in 1982. There have been many record holders over the last 35 years, but the current world record is held by Armando Gonzalez, of Los Angeles, California. According to the Twin Galaxies Scoreboard at [www.twingalaxies.com](http://www.twingalaxies.com), Armando achieved the score of 6,056,480, Tournament settings. This is an incredible feat considering the second-place person is 1.5 million points lower. Gonzalez also scored 17,684,050 points based on Marathon settings this past October. In Marathon settings you get 3 lives to start and are eligible to receive more men at 20,000 points, then 70,000 points and every 70,000 points after that. The dip switches are set to the default setting. Armando offers a tip on getting your score to display over 1 million points. "All of the pros/experts play two credits, we let the player 1-up die first, then we play the 2-up player. The reason is because on the 2-up player side, it will record the million digits. If you get a million, the 'HIGH SCORE' cannot retain the millionth digit. It will show something like this 999997. If you play on the player 1-up side, it will NOT record the millionth digit."

Galaga has been re-created on almost every modern-day console and tablet. The excitement of playing Galaga anywhere makes it one of the most popular retro arcade games today, with only Pac-Man and Donkey Kong receiving more play. Armando tells me, "I have tried playing Galaga on the PlayStation and on MAME. I do not like it. It's totally different from the arcade cabinet. It's also more difficult because you have to use a video game controller or a keyboard. There is nothing like playing on the real thing and seeing the GALAGA marquee lit up!" Galaga has also appeared in the movies such as WarGames in 1983, The Karate Kid in 1984, Planes, Trains and Automobiles in 1987 and Pixels in 2015.

I personally still play Galaga on the remakes like "My Arcade" and the NES classic. It is still as fun as it was back in the early days. Every arcade owner in the Chicagoland area has a Galaga machine for gamers to play. It will always be close to gamers hearts and an enduring classic. 🇺🇸

**Todd Friedman** is heavily involved in the video game community. He is currently writing for Old School Gamer Magazine, Little Player Magazine, Retro Player Magazine, RetroGaming Times and The Walter Day Collection. He has Co-Promoted the Video Game Summit in Illinois for the past 10 Years. Todd is an avid video game collector with over 3500 console games and 35 systems. One of his main responsibilities is keeping the Walter Day Trading cards alive. Todd holds over 60 world records on the Nintendo Wii game DJ Hero. Todd was also a nominee for the International Video Game Hall of Fame, class of 2016 and 2017.



## TIPS FROM ARMANDO GONZALEZ, WORLD RECORD HOLDER ON GALAGA

1. Make the red moths a priority to kill as many as you can.
2. When the Green Galaga is about to capture you, shoot him once to turn him purple that way you only have to shoot at him once and minimize the chances of killing your captured ship.
3. Develop a pattern for the three waves. The first wave and the third wave you can use the same pattern, however, the second wave which is harder will be a different pattern from the first and third.
4. At the beginning of each wave, you should fire a test shot to see where you are lining up your missiles. You should use "HIGH SCORE" to line up your shots.
5. Try to clear one side or the other side. You cannot have bees and moths on both sides.
6. Try to stay in the middle and if you are pushed to the side try to push the enemies back and then pull back.

## CURRENT WORLD RECORD HOLDERS AS LISTED BY TWIN GALAXIES

(Tournament Settings)

Armando Gonzalez	6,056,490
Andrew Laidlaw	4,525,150
Andrew Barrow	3,514,030
Phillip Day	3,275,720
Brian Sevy	2,808,970

On October 31st, 2018, Gonzalez achieved another world record with a high score of 17,684,050 points on the Marathon settings.

# An R-Type Revival

By Patrick Hickey Jr.

**O**ld School Gamer Magazine chats with Tozai Games Producer Takuya Banno, who discusses their new edition of the classic shoot-em-up, R-Type, dubbed R-Type Dimensions EX, on the Nintendo Switch. Featuring a plethora of old school influences and odes, Dimensions EX is the best of both worlds, a throwback shooting experience with next generation visuals and difficulty.

Originally released by IREM in 1987 in arcades, R-Type eventually found its way on a myriad of home computer and gaming consoles after its reign of dominance in arcades, including the Sega Master System, TurboGrafx-16 (arguably considered the most faithful adaptation of the arcade original) and the ZX Spectrum. Ports of those versions have also found their way on the iOS, Nintendo Wii, 3DS, PlayStation Network, Google Play and Xbox 360 Live Arcade. In terms of legacy and reception, R-Type is considered one of the most difficult side-scrolling shooter experiences of all-time, but is equally hailed by critics for its visuals and gameplay.

**OSG:** What has it been like to work with this series?

**TAKOYA** - R-Type series has always been admired by gamers for its innovative game design, artistic graphics and sophisticated music, so it's been an honor to work with remaking these Shoot-em-up masterpieces. But on top of that, we at Tozai Games, with Scott Tsumura, being a head of IREM R&D back in the '80s, have a special emotional attachment to this series. The big challenge was, how should these games be remade? Balancing respect for the original and updating for the present gaming market is key. Because the original game design is so solid, we decided not to make any big changes to the experience, but instead made it more accessible and acceptable to today's players.

Adding 3D graphics is a big pillar of the remake, because it makes R-Type look like a new title. The 3D version is a re-imagining of the original version, so the process was very challenging, but exciting. We based it on the original 2D design and referenced old R&D documents provided by Irem and we discussed how each character would look if they existed in the real world. We also introduced an "Infinity mode" so everyone can play through to the game ending, which was quite impossible for majority of gamers when these games were in arcades.

**OSG:** Why has the series endured for so long?

**TAKOYA** - The R-Type series were truly innovative games. The key invention was "force," indestructible units attached to the front or back of your ship but that could also be separated from the ship. Force shoot several weapons based on the item players

last picked up and it can be used for both attack or defense, adding deep tactics to the gameplay. There were other innovations R-Type brought to the table, but one of the most noteworthy was the unique worldview, especially the Bydo creatures, who are shockingly unique, grotesque, but still beautiful. So, by a fortuitous combination of these factors, R-Type became one of the standouts in game history.

**OSG:** How special is it for you to see it on the Switch?

**TAKOYA** - Nintendo Switch is a great fit for R-Type Dimensions EX. The audience for the Switch contains both adults, who remember playing R-Type in the old days, and children, who are very new to the game. We want parents to remember the great fun they had playing R-Type and for children to discover the innovative experience. We added an offline co-op multiplayer mode to R-Type Dimensions EX to enable parents and kids to play together using two Joy-Con controllers as well.

**OSG:** Who will enjoy it the most?

**TAKOYA** - R-Type provides a deeper experience than many shooters, so we think R-Type Dimensions EX can be fun for all gamers. We hope older gamers will enjoy the classic gameplay as well as the evolution of the new graphics, and we also hope young gamers will discover the ultimately sophisticated game experience.

**OSG:** How will this entice older fans of the series?

**TAKOYA** - With respect to the original version, we have preserved the same game experience as the old days, but with added features that let users explore every corner of the R-Type world. You can play through the game with the guarantee of seeing all stages in Infinite mode, or you can play the game in slow speed. We believe R-Type Dimensions EX offers much more than a simple remake for a new system and we hope older fans enjoy it.

**OSG:** What do you think makes this game special?

**TAKOYA** - R-Type Dimensions EX is special not only because it is R-Type, but it gives players various ways to enjoy the world of R-Type. Especially because R-Type II had limited availability in arcades and various console ports, we are thrilled to introduce the historically significant, yet rare R-Type II to a wider audience. But be warned: R-Type II is extremely hard, so many players will want to practice in Infinite mode!

**OSG:** What's next?

**TAKOYA** - We believe it's our mission to find, preserve, reimagine and reintroduce the great games from the past to today's gamers. Hopefully R-Type Dimensions EX will do well and we can expand our portfolio because many masterpiece are still sleeping! But for now, just enjoy R-Type! 🎮







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# Atari 2600 Shooters

By Brett Weiss



**D**espite limited horsepower, the Atari 2600 is home to ports of some of the greatest, most famous arcade shooters of all time. Each of them is missing certain aspects of its respective coin-op classic, but many retain the essential elements that made the originals great.

I've cherry picked nine such games from the system's expansive library, eight of which you can easily find for a buck or two apiece at a typical retro gaming store or convention. Spy Hunter is the lone exception as it is quite scarce and can command well over \$100 for the cartridge alone.

Without further ado, here are some Atari 2600 games that most everyone has heard of and that are a lot of fun to play, even if they are far from arcade-perfect:

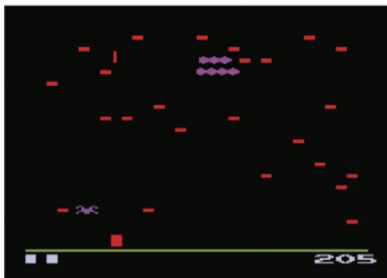


**Asteroids:** Wisely steering clear of trying to mimic the look of the vector graphics (images based on geographic primitives, such as polygons, lines, curves, etc.) found in their own 1979 arcade classic, Atari rendered the 2600 version of Asteroids in unabashedly obvious raster graphics (a bitmap or grid of individual pixels that collectively compose an image). The space rocks flicker when too many appear onscreen, and they don't change direction or speed when shot, but they are colorful and fun to shoot. And, like the 2600 rendition of Space Invaders, Asteroids has lots of extra features not found its coin-op cousin, including shields, modes of play

that dispense with the satellites and UFOs, the ability to flip your ship 180 degrees, and more. The game doesn't handle as smoothly as the original (unless you've got a five-button Starplex Deluxe Video Game Controller), and your ship can only fire two shots at a time instead of four, but this is nevertheless a fine port all things considered.



**Berzerk:** Berzerk for the Atari 2600 is missing several elements from Stern's 1980 arcade classic. The robots can't shoot diagonally, the mazes are more simplistic, there is no two-player (alternating) mode, and the voice effects are absent (you'll need the 5200 version for that). Despite these shortcomings, the maze-navigating, robot-shooting action remains largely intact and highly enjoyable. Evil Otto, the bouncing head who appears when players stay in a maze too long, is just as menacing as ever, and the cyclopean robots are just as fun to avoid, shoot, and trick (into shooting each other and running into walls). Along



with Super Breakout, this is one of the better, more faithful coin-op conversions of the era, and it's still plenty challenging.

**Centipede:** A reasonably well-made port of Atari's 1980 coin-op classic, Centipede features a title screen that shows great graphical promise, depicting a colorful centipede amongst a field of mushroom-shaped mushrooms. Unfortunately, once the game begins, the mushrooms become simple rectangles. The rest of the graphics, such as your square firing implement, have been simplified as well. Gameplay is fantastic, however, as it emulates the arcade action nicely and includes all the important elements. Players maneuver a magic wand around the bottom portion of the screen, shooting upward at fleas, scorpions, spiders, and centipedes, the last of which twist and turn down through the field of mushrooms (which can also be shot). The game is trackball compatible, but the joystick works just as well since the shooter doesn't respond very quickly to fast spins of the ball.



**Missile Command:** The oft-praised Atari 2600 version of Missile Command is missing a pair of crucial components found in Atari's 1980 arcade classic: the antiballistic missile bases positioned on either side of the screen. This leaves a lone base in the center. Also, the bombers found in the arcade game are conspicuously absent, the famous "THE END" final screen is missing, and the Cold War storyline has been altered to a meaningless outer space yarn involving the Krytolians and their conquest of the planet Zardon. Despite this relatively large list of shortcomings, the game retains much of its fun factor, thanks in no small part to the greatness of

the original, panic-inducing gameplay mechanic: using a trackball to guide a gun sight around the screen, firing at



falling missiles in order to protect six cities on the planet's surface.

**Moon Patrol:** Considering the technical limitations of the Atari 2600, Moon Patrol does a good job of capturing the rock-solid action and memorable music of the highly regarded Williams arcade game (1982). Players drive a moon buggy from left to right, jumping over craters, landmines and shooting rocks, UFOs, tanks, and enemy cars. The buggy fires straight up and straight ahead, but the 2600 controller's lack of a second button means that players must use the joystick for jumping. Also, the enemy missiles that create craters look the same as the regular missiles, making for some unnecessary deaths. The moon buggy is a blocky version of its coin-op counterpart, and the mountainous backgrounds have been drastically simplified. Naturally, the parallax scrolling got lost in translation, but flickering is virtually non-existent. Unlike the arcade game, there are no continues, but the basic elements and essence of the action remain intact.



**Phoenix:** Based on Centuri's 1980 coin-op classic, Phoenix for the Atari

2600 is missing a number of elements found in the original game, including music, starry backgrounds, and birds during the mother ship level (bullets simply appear and drop down). Also, there are fewer enemies per stage, and the large birds don't start out small and round. However, the game has nice animation and graphics (despite the expected simplifications), and the basic shooting action maintains a large percentage of its fun factor and strategic maneuvering. Judicious use of the shields remains important, and clipping the large birds' wings, then hitting them in their bellies, still brings big points. The game could use some options, though, such as difficulty levels and a two-player alternating mode.




**Space Invaders:** Based on the groundbreaking, enormously popular Taito arcade game from 1978, Space Invaders was the first million-seller video game cartridge, firmly entrenching the Atari 2600 into mainstream America. The gameplay of this killer title is faithful in both spirit and mechanics (fire at waves of descending aliens) to its coin-op counterpart, but it offers a number of welcome enhancements and alternatives, including zigzagging laser bombs, two-player simultaneous modes, invisible invaders, and moving shields. The cartridge version doesn't look exactly like the arcade original, and it offers only 36 invaders per wave (as opposed to 55), but it does have appealing graphics, relatively faithful sound effects, and excellent shooting action. A must-own for 2600 fans, the home version of Space Invaders breathed new life into a legendary game.

**Spy Hunter:** Packaged with a Dual Control Module, which connects a pair of standard 2600 joysticks for two-button firing, Spy Hunter is a surprisingly

faithful adaptation of Bally Midway's 1983 arcade game. It features all the weapons and enemies of the original and even includes the Peter Gunn theme music and speedboat sequences (though the transition from road to water occurs automatically instead of at the player's behest). Detour and road condition reports are missing, and the graphics have been darkened and simplified (the helicopter looks especially lame), but the racing, shooting (machine guns and missiles), and obstacle-emitting (oil slicks and smoke) action remains largely intact. This game is much harder to find



than the rest of the carts on this list, but it is well worth the search.

**Stargate:** One of the best arcade translations ever released for the Atari 2600, Stargate (later released as Defender II) is visually faithful (for the most part) to Williams' 1981 coin-op classic, and it includes most of the original enemies and features. The first joystick operates ship movement and firing while the second is used for smart bombs, hyperspace, and inviso-shields, making this one of the more elaborate 2600 shooters in terms of controls. Flickering is almost non-existent, the sound effects are dazzling, and the gameplay is intense. One setback is the fact that the arcade version is capable of displaying more enemies onscreen at once. Also, the two-player (alternating) mode is missing. Even so, this is a vast improvement over the 2600 version of Defender. 

Images provided by TheCoverProject.net

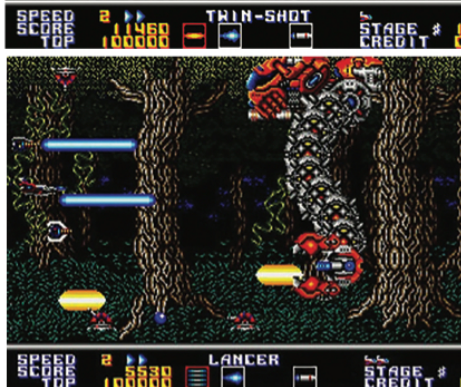
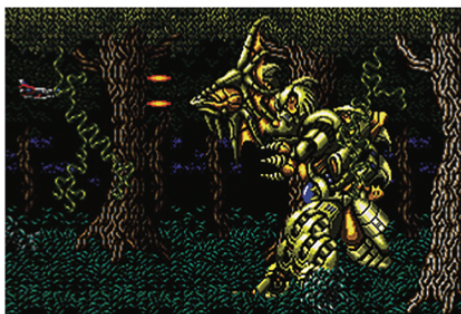
**Brett Weiss** - Brett Weiss is the author of nine books, including the Classic Home Video Games series, The 100 Greatest Console Video Games: 1977-1987, and The SNES Omnibus: The Super Nintendo and Its Games, Vol. 1 (A-M). He's had articles published in numerous magazines and newspapers, including the Fort Worth Star-Telegram, Game Informer, Classic Gamer Magazine, Video Game Trader, Video Game Collector, Filmfax, and Fangoria.



# Thunderforce

FROM THE HOME TO THE ARCADE

By Michael Thomasson




**I**t is a rare occurrence when a home console game makes its way to the video arcade, but that is what happened with the horizontal-scrolling shooter *Thunder Force*. Like a reverse chain of events, in the literary world it would be equivalent to a book being based on a film!

When the original Sega Genesis version of *Thunder Force III* was released in 1990, it garnered much praise and became an immediate hit. Even almost three decades later, it is still recognized as one of the best shoot 'em ups (SHMUPS) ever designed, boasting beautiful graphics with extensive use of parallax scrolling, as well as fast and furious gameplay.

The developer of the original Genesis version, Technosoft, co-produced Sega's System C2 arcade hardware, and built it "on top" of the Sega console, keeping the same CPU, sound and graphic processors. The color palette was improved, increasing the palette from 512 to 4096 possible colors, but other than that there are few technical differences between the two.

Since the hardware was nearly identical, Technosoft was easily able to test the new coin-op hardware by porting its popular *Thunder Force III* title to the new platform, allowing the game to find its way into the arcades. To differentiate the two, the game was renamed *Thunder Force AC*, with the new suffix pulling the letters 'A' and 'C' from the word "ArCade."

In the game, the player pilots a Galaxy Federation spacecraft by the name of FIRE-LEO-03 Styx. Its mission is to destroy cloaking devices on five planets and reveal the secret location of the enemy headquarters in order to obliterate the ORN Empire's bio-computer - Cha Os.

The software versions, however, do have differences. In the Sega Genesis version, there were five primary planets (Hydra, Gorgon, Seiren, Haides, and Ellis) to blast through before continuing on to the ORN Empire headquarters. In the new AC version, planets Haides and Ellis are entirely different from their Genesis counterparts. Other levels have minor layout and enemy pattern variations. The level select was removed, making the game more linear, and when the player dies, they continue forward into the stage rather than being sent back to the beginning of the level. 

**Michael Thomasson** is one of the most widely respected videogame historians in the field today. He teaches multiple college level videogame courses, and has contributed to dozens of gaming texts and television shows including MTV's Video MODS and the highly-rated book *Downright Bizarre Games*. He has written business plans, managed a multiple game-related retail stores, and consults for multiple video game and computer museums. Michael has helped publish 100s of games on Atari, Sega and other console platforms. In 2014, The Guinness Book of World Records declared that Thomasson had "The Largest Videogame Collection" in the world. Visit [www.GoodDealGames.com](http://www.GoodDealGames.com).

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# The Art of Shooting

By Walter Day

**Y**es, there is an “art to shooting” in video game playing. Essentially, managing your bullets, especially when you are only given, more or less, one bullet at a time. This pertains particularly to the legendary games of the classic arcade era. In this article, I have asked Triforce Johnson to reflect on the overall challenge the gamer faces when they are given a limited number of bullets to ward off enemy assaults. Also, Grant Thienemann chimes in with an analysis of the gameplay strategies he had to resort to in order to survive the bullet limitations he faced in *Berzerk*. Both Triforce and Grant are seasoned classic arcade veterans who have mastered some of the most challenging games and beat them “one bullet at a time.”

It’s a well-known fact that after the Golden Age of video games gave way to the titles of the late 80s and early 90s, the games were less competitive and less challenging. They were games that flooded the screen with lots of CGI and bullets. The games did not require much gameplay precision, and, in many cases, they didn’t demand that the player execute their moves with a high level of skill. Some of these were shmups (shoot-em-ups), some of them were side-scrollers, and some were just unique creations. They were far less difficult to conquer than the golden age titles that demanded that the gamer survive typically using only one round at a time. The common obstacle that everyone had to face was that the bullet had to either hit an object or leave the top of the screen before the player was awarded another round.

Many of the greatest titles from the 1980s gave the player only one round at a time. And though many other games issued more than a single bullet at a time, the gamer was still faced with the same formidable task of defending against a multitude of enemies while receiving a very, very limited number of rounds in proportion to the number of adversaries converging on the gamer. Some of those titles included *Moon Cresta*, *Phoenix*, *Moon Patrol*, *Astro Fighter*, *Polaris*, and *Scramble*, to name a few.

But in every case, whether the gamer enjoyed a single bullet or multiple rounds, the gamer was challenged to develop these skills: precision, timing, moving in the pocket, and finding the rhythm that avoids the enemies -- as seen in *Galaxian*. The older games were always challenging the gamer to avoid lots of death-dealing objects. Though some games relied on heavier firepower, such as *Missile Command*, *Defender* and *Robotron*, the extra stress of having to save/protect defenseless targets in these games made the challenge at least equal to the games that awarded only a single bullet.

Speaking from first-hand experience, noted gamers Triforce Johnson and Grant Thienemann reflect on these ideas and more:

“Without question, you cannot compare the difficulty of yesterday’s arcade classic shoot-em-ups with today’s bullet-storm games. Yesterday’s classics were once based on precision and dexterity, whereas modern games replaced it with enemy cluster

and patterned defense. An example of this are games like *Berzerk* and *Robotron* in comparison to *Smash TV* and *Total Carnage*. All 4 games are “mazed” shooters and carry the same gameplay principles. All four games are difficult in their own right. However, as hard as *Smash TV* and *Total Carnage* are, the level of difficulty of games such as *Berzerk* and *Robotron* is 100-fold harder. It made me have tremendous respect for the skill level of players such as Abner Ashman and the late Joel West.”

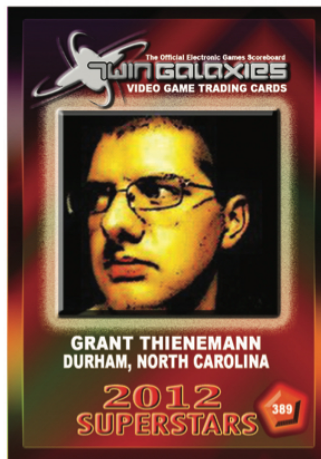
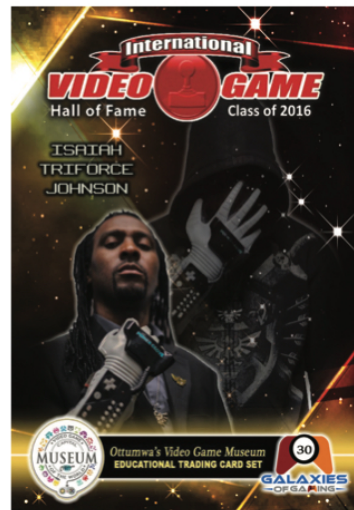
• Triforce Johnson IVGHOF 2016 Inductee

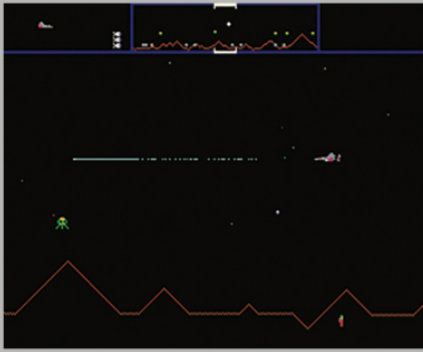
And, as a champ of *Berzerk*, Grant Thienemann says, “In *Berzerk* and *Frenzy*, the humanoid (your player) only ever got two bullets at any one time. This is the biggest handicap against

the player in both games where the robots will have up to 5 bullets compared to your 2 bullets and is even more pronounced in *Frenzy*. You do not get to shoot another shot until the two bullets you already shot hits a wall, robot or goes off the screen. In *Frenzy* this becomes infinitely more difficult when you get to the two mirror rooms where all the walls are mirrors. It is easily possible to fire your two bullets and not have them for the rest of the room as they go bouncing around the room. While this doesn’t sound terrible, you

must also realize you will die if you get hit by your own bullet.


With the limited amount of bullets at your disposal, you have to master both precision and timing simultaneously. An advanced *Berzerk*/*Frenzy* player will be able to fire a single shot with both precision and timing to hit a robot that is coming into your path. An advanced *Frenzy* player will learn to angle bounce shots off the mirror walls to attack the robots in the maze without putting themselves in danger.






However a master Berzerk/Frenzy player learns to play the game without relying on their two bullets. The true master of the game learns to manipulate the robots so the humanoid can traverse the maze without having to use their bullets constantly. This is done by manipulating the robots to kill each other, making them run into walls and trapping robots in the maze until Evil Otto comes out. The master then manipulates both the robots and Evil Otto so that Evil Otto kills the remaining robots in the maze.

The last skill a Berzerk/Frenzy player needs to master is spatial awareness. The player must be able to not only keep track of their bullets that are in the maze but of all the other bullets coming at them in the maze as well, and learn to navigate the tiny safe areas where the humanoid can freely move without having to worry about

the bullets killing them. This area changes every second of the game. This becomes a dance of life and death the master does to survive the Berzerk and Frenzy mazes. Many will play the game but very few will ever master Berzerk and Frenzy.” 

**Walter Day** - As the founder of Twin Galaxies, the oldest video game scorekeeping and adjudication service in history, Walter Day is known as the creator of e-sports and has often been called The Patron Saint of Video Games. His remarkable efforts to find, verify and catalog video game world records has led to a decades-long partnership with The Guinness Book of World Records.




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# 32X – Star Wars Arcade

By Ken Horowitz

**O**ne of the marquee titles for the launch of the 32X was *Star Wars Arcade*, a conversion of the Sega coin-op game. Based on the climactic Death Star battle of Episode IV, it set players in the role of Luke Skywalker as he made his classic run to destroy the massive battle station. The game was an ideal choice for showing off the 3D potential of the 32X hardware, giving Genesis owners a true polygonal title that could definitely not have been done on the stock 16-bit console. At a time when most games were two-dimensional and utilized a mostly side-scrolling perspective, a fully-3D game in the Star Wars universe could potentially be the game that sold the system. *Star Wars Arcade* was popular and new, and the popularity of arcade titles can be a fleeting thing. It was therefore critical that Sega be able to strike while the iron was hot and port the game before it was overshadowed by newer games.

Unfortunately, bringing the arcade experience home wasn't as easy as it sounded. Pressed for time to assemble a launch library for the 32X, Sega brought the idea of making a home version of *Star Wars Arcade* to Sega Interactive Development Division (SIDD) in May 1994. It was clear there was a small window of opportunity, so a port would be considered only if SIDD could do it in four months. If it couldn't, then the idea would be scrapped. Technical Director Christopher Warner, who created the 32X version's polygon engine, viewed the challenge as an opportunity. He enjoyed developing game engines for new hardware, and he

had experience doing so for the Genesis. He had already created an engine on the Genesis, and after reviewing the initial specifications of the 32X, he felt that a port of *Star Wars Arcade* was possible on such a tight schedule. He pitched the idea to Rod Nakamoto, who accepted—



only if Warner would write all the 32X code himself. Warner accepted.

*Star Wars Arcade* was coded entirely

in 68000 Assembly language on Sega's powerful Model 1 arcade board and was very different from the 32X architecture. When work on the port began in mid-May 1994, SIDD had the source code and assets for the arcade game, but the assembly language syntax was too different from the SuperH, or SH2 processor, that the 32X used. SIDD Producer Frank Hsu reverse-engineered the arcade design, giving Warner and Programmer Steven Lashower the layouts to each level and player control description. Warner and Lashower then redid the game from the ground up, as it was the quickest and easiest route if they expected to get the game into stores by November.

Warner had a 32X development kit, but its hardware wasn't finalized. It was also the size of a small refrigerator and constantly ran hot, which helped warm team members when the temperature was cool but required fans and some distance when it wasn't. Warner was inexperienced with 32X coding, giving the term "from scratch" a literal meaning, but he found the 32X hardware to be simple and elegant. All the rendering had to be coded on the 32X's SuperH processor and be directly written to the frame buffers. The development kit wasn't very stable, but things improved with each hardware revision.

He found that the polygon engine was the hardest part of his job. It was particularly difficult to get the game's engine to handle the amount of polygons needed on-screen. He spent nearly two months using various tricks and tactics to optimize it, finally achieving success by using a polygon rasterizer created by Rod Nakamoto, along with some reverse-engineering of the optimized polygon renderers found in various commercial PC games. This way, he was finally able to make the 32X's renderer fast enough to run the polygon count for *Star Wars Arcade*. While Warner handled the 32X coding,

**Ken Horowitz** – Dr. Kenneth Horowitz is an English professor who has taught research and writing for 20 years. He is the author of "Playing at the Next Level: A History of American Sega Games" and "The Sega Arcade Revolution: A History in 62 games," and his work has been featured in numerous video game publications like GamesTM and Hardcore Gamer Magazine. Ken has also published academic articles in professional publications, such as Language Magazine and the Hispanic Educational Technology Services Journal.





**1 OR 2 PLAYERS**

# Playing at the Next Level

## A History of American Sega Games

**Ken Horowitz**

Lashower toiled on the Genesis side of the design. Without a 32X kit of his own, he could only see the graphics layer created by the Genesis, and he had to imagine how the 32X graphics would look onscreen.

The SIDD team worked hard to make the home version of Star Wars Arcade

as close to the original as possible. Sega provided an actual arcade machine for the SIDD office, and the team spent hours playing it, making comparisons, and using the information to tweak the 32X version. Time spent playing the game was put to good use in pushing the game's art style. Star Wars Arcade marked a clear transition in the way Sega handled its game art, as artists moved away from traditional 2D work using programs like DPaint to titles that were fully 3D titles or incorporated 3D rendered elements.

Lashower was the first to admit that Star Wars Arcade was far from perfect, but he and Warner were proud of their effort. The game was coded in just under four months on hardware that wasn't entirely finalized until the project was nearly done. It ended up being a massive hit, selling nearly 1-1 with the 32X. Star Wars Arcade contributed greatly to the early strong sales of the 32X hardware, which reached 600,000 units by January 1995. Of the four titles released with the add-on in November 1994 (the others being Doom, Virtua Racing, and Cosmic Carnage), Star Wars Arcade was the only one with

universal name recognition. Everyone knew what Star Wars was, and the game brought a solid showing of the 32X's power along with its famous moniker. Had Sega not been able to get the game out on time, it would have proved disastrous for the 32X's launch.

Star Wars Arcade also helped soften the blow of what would be the major hit of Christmas 1994, Nintendo's Donkey Kong Country. That game's multi-million unit holiday dominance pulled Nintendo's software sales out of a 32 percent drop and helped keep the SNES hot while the industry moved to more powerful consoles. The video game industry overall had suffered a sales slump since 1993, but the drop was hurting Sega more than it was Nintendo. Thanks to its strong showing, Sega was able to hold on to its lead in the console market, finishing 1994 with 58 percent of the overall hardware sales.

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**Dr. Kenneth Horowitz** is an English professor who has taught research and writing for 20 years. He is the author of *Playing at the Next Level: A History of American Sega Games* and *The Sega Arcade Revolution: A History in 62 games*, and his work has been featured in numerous video game publications like *GamesTM* and *Hardcore Gamer Magazine*. Ken has also published academic articles in professional publications, such as *Language Magazine* and the *Hispanic Educational Technology Services Journal*.

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A NEW COMMUNITY TO COLLECT WITH

By Old School Gamer

**T**he staff of Old School Gamer has possibly found a new home for keeping track of our console game collection online and we recommend you check them out! This dynamic site, Retroplace.com, is built utilizing an amazing database that can do so many things. I can easily see it becoming the industry standard, much like discogs.com became for vinyl/tape/cd collecting, if they are able to convert and obtain some new users to manage their collections.

## SELLING

Armin Hierstetter, my contact at Retroplace, tells me that there "simply is no great marketplace out there that is dedicated to (retro) video games. There is eBay and Amazon, of course, but their commissions are way too high. Also, those platforms are not dedicated to gamer's needs and putting stuff up for sale is way too time consuming. Retroplace changes all of that. Because the database "knows" the vast majority of games already, putting up a game for sale is a matter of a minute. The process is way smarter than Amazon or eBay."

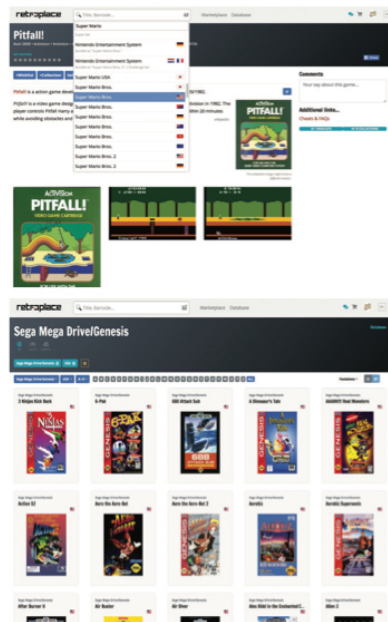
When selling your extra games, they only charge a 7% fee, while sites like Amazon can charge up to 15-20% of the final sales price. They have also built in an API (Application Program Interface) for sellers that will hopefully become very successful, as I know that stores are going to be very interested in working with their system.

## BUYING AND COLLECTING

Getting past the selling side of the equation, I'm personally more interested in the database it utilizes for both tracking my collection and buying the ones I'm missing, that are easily identifiable. Their database has over 112,000 games covering 132 systems and it is almost (and I say almost) excessive with the amount of data stored therein. The database also features descriptions, box images, screenshots, connections to other related games on other platforms or sharing other things in common (Same Name Game feature). I thought I would throw it a curve ball and search for Lode Runner for the Apple II, but they hit the ball, as they are indexing computer games as well. While some of the less popular titles don't have as much detail, it is there and growing! I'm told that personal collections are growing quickly in the system with over 1,500 games being

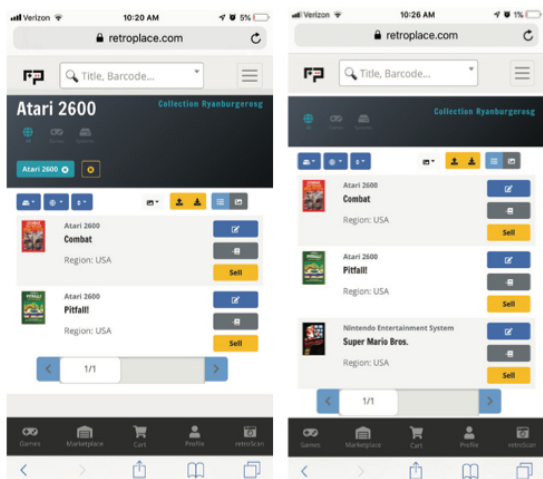
added every week. The great thing about this is that users can manage their game collections completely free of charge. While Armin and his crew at Retroplace.com already did the heavy lifting (getting loads of data uploaded - images, descriptions and more), edits to the data are easy, and adding pictures and more goes through a quick approval process then online.

Built both for desktop browsing and mobile browsing, the optimization of the screen space is



fantastic! They are packing all the power of Retroplace.com into a 5-6" screen so that when you are out game hunting you can check and modify your collection. While it appears all features are available on the mobile version, when doing the heavy lifting on building your collection into the system, I'd recommend using your desktop computer. The predictive search system and the layout of the page for adding new titles is great. It will just take me a little time in front of a large screen to get my initial data entry complete.

The place where Retroplace will most likely be growing the most is its transactional data and game value. This allows the user to see what they should be paying for the game when digging through various retro gaming shops or while travelling to conventions. Right now, because the site is still relatively new, there isn't much in the way of recent sale prices, but this will change as more people become comfortable with their system and the sales side of Retroplace. For now, it is just all about me entering my collection into Retroplace, which will start this weekend! 🎮



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# PUCK MAN

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## The Origins of the Name "Pac-Man"

INDECENT TO ICONIC

By Ethan Johnson

**A**ll old-school gamers should be familiar with localization by now. Whether that is the censorship of Nazi symbols in *Bionic Commando* or the hilarious cutscenes of *Zero Wing*, things can change for better or worse when crossing the Pacific. It is fair to say though that there is probably one simple translation more famous than any other.

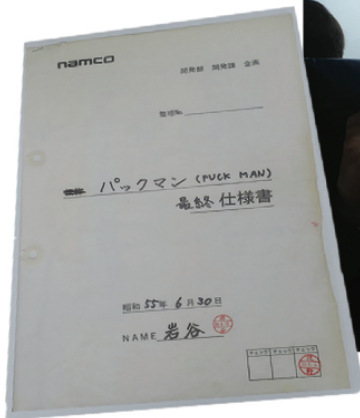
So at Namco, this designer named Toru Iwatani had created a round, yellow character that ate dots in a maze. He decided since this game was about eating, his character would have a related name. The Japanese onomatopoeia for somebody opening and closing their mouth while eating is *paku paku taberu*, so Iwatani called his creation *Pakkuman*. When Namco released the game though, they did not name it after the character. Instead it was called *Puck Man*, presumably due to the similarity in Japanese pronunciation and his resemblance to a hockey puck (though nobody really knows).

After striking a license with Bally to promote this game to the U.S., the Americans brought up a concern. They worried that vandalizing kids would scratch out the two halves of the 'P' in *Puck Man* which would leave an 'F' at the start of the marquee. Yikes. Midway president Hank Ross said the Americans sent a list of alternative names back to Japan and they were all rejected as unsuitable. However, Namco offered a suitable alternative with "Pac", ironically bringing the American game's name closer to the original name for the character. They put a hyphen in and thus "Pac-Man" became his moniker to the rest of the world.

So who exactly suggested this name change? According to one person, neither Midway nor Namco in Japan had anything to do with it. The co-founder and VP of Namco America at the time, Satish Bhutani, claims to have brought up and solved the concern before it ever became Midway's issue. He had received an early Puck Man cocktail cabinet (which he retains in his garage to this day) and came up with the new name himself. He didn't actually stay around to bask in the glory of Pac-Man's success, but he feels his influence was a part of it's popularity.

However, there is contradiction to this viewpoint. The Americans first saw the game at a showing in Japan held by Namco to interest potential licensees. After the heads of Midway returned, they lobbied for the game to be chosen. Tom Neiman, the head of Bally's marketing, recalls that they already had the alternative name lined up after he expressed that teenagers were going to drop the 'P'. Sales head of nearby Chicago plant Game Plan Ken Anderson recalls that Namco showed their products in America with the name already changed and Bally had not yet chosen a license (he incidentally lost Pac-Man to a coin flip that he won).

An interesting point in this was that Bally only obtained the rights for the game in North America. In Europe, Namco sold boards directly to other manufacturers so the licensing deal nor the trademark carried over. In Germany the game was officially distributed as Puckman just as in Japan and other East Asian countries. It was probably not as much of a fuss in a non-



Above: Toru Iwatani sketches out Puckman's Pixels. Below: Japanese arcade with Puckman and German Puckman at the Bonami Computer Museum

English-speaking territory. They also made their own unique artwork, though it belies the colorfulness of the game within.

It is also worth asking if this concern was valid, considering that marquee art on arcade games usually sits behind glass. Veterans of the arcades will certainly have seen some damage to the side art, scratched into like a wooden desk or an oak tree so it's not an entirely irrational fear. Probably the wiser decision in that regard was changing the original artwork with it's long nose. If that had remained, we may have been talking about "Dick Man" instead!

In fairly rapid order, the unified Pac-Man brand (with a hyphen, both words capitalized) solidified in the West. The lovable character in his many iterations remains one of gaming's icons and the long-time mascot for Namco despite never having the game-selling power as a Mario. A name that spawned many jokes - but prevented many others - Pac-Man will forever remain as the

influential game that changed our world.

(Further information on the European Puck Man can be found at: <https://www.gameschiedenis.nl/2018/05/not-just-in-japan-pac-man-initially-released-as-puck-man-in-west-germany/> ) LG



# A Killer App: Star Raiders

By Bill Lange

**S**tar Raiders, the iconic computer adventure game, was created for the Atari 400/800 home computer line, in fact, it was created at the same time as the development of the computers. It was programmed by Atari hardware designer Doug Neubauer. Neubauer was also on the design team of Atari's famous POKEY (POTentiometer and KEYboard) chip that controlled the Atari 8-bit computer's paddle controller potentiometers, the keyboard, and most notable, the audio special effects and music generation. The POKEY chip was also used in the audio circuitry of the Atari 5200 game console and some of Atari's classic arcade video game cabinets such as Missile Command, Centipede, Star Wars and others. While the Atari 7800 gaming console didn't have a POKEY chip onboard, it did support game cartridges which could include a POKEY chip along with the game ROM. Only two officially released games, Ballblazer and Commando, supported this feature. Later hacks and homebrew games would also take advantage of this feature as well.

Star Raiders was based, in part, on earlier text-based, turned-based Star Trek computer games. In an October 1986 interview with Lee Pappas in ANALOG Computing magazine,

Neubauer said that "Star Raiders was to be a 3D version of the Star Trek game played on the mainframe computers of that time. The Star Trek game was all text and not played in real time, but it had the idea of ship damage and sector scanners and charts". And in the 1997 book, Halcyon Days: Interviews with Classic Computer and Video Game Programmers, by James Hague, Neubauer stated "The movie Star Wars had come out right around that time. So I wanted

to combine Star Wars with the text-based 'Star Trek' game".

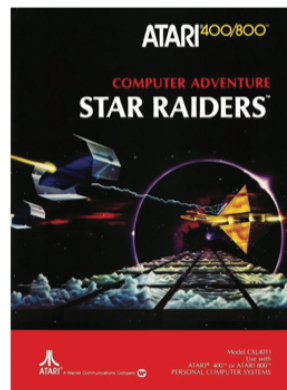
One such early Star Trek game was designed by teenager Mike Mayfield and friends, and programmed by Mayfield on a Scientific Data Systems Sigma 7 computer system at the University of California, Irvine in 1971. Mayfield then rewrote the game for the Hewlett-Packard 2000C computer. This version of

the game ended up in the HP shared software library. From there, the game spread quickly. It was ported to various computer systems by various people in various computing languages, with changes being made and features being added along the way. Even the Atari 2600 got an almost direct port with the 1981 Atari-produced, Sears-branded exclusive, Stellar Track. Versions of Star Trek were published in newsletters, magazines, and influential books such as What To Do After You Hit Return, just as the microcomputer industry was beginning to take off with the 1977 "Trinity" release of the Apple II, the Tandy/Radio Shack TRS-80, and the Commodore PET appliance computers, and later, the 1979 release of Atari's own 400/800 8-bit home computers. Many nascent computer programmers cut their teeth, typing in the BASIC source code for Super Star Trek from David Ahl's 1978 book, BASIC Computer Games, myself included. Maury Markowitz's Games of Fame website (<https://gameoffame.wordpress.com/>) contains a wealth of preserved information on these early space-based computer games.

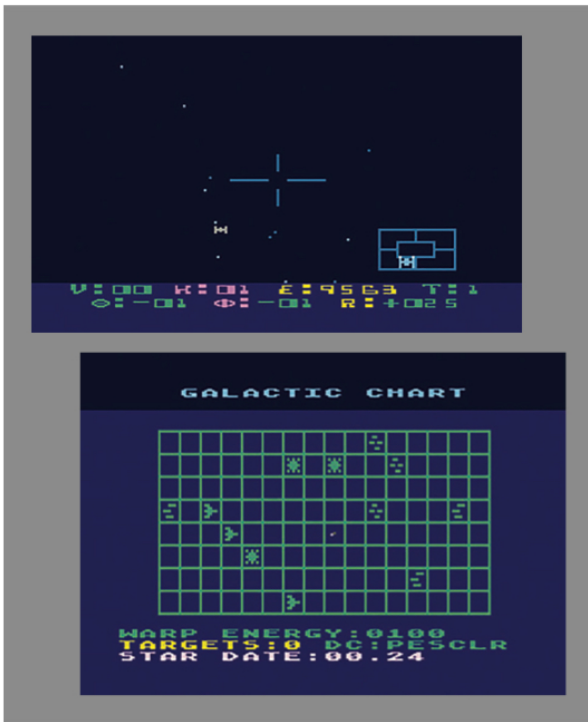
Mayfield's version required you, as starship captain, to navigate your ship, chart the galaxy, seek out enemy ships using your short and long range scanners, and destroy them before they could destroy you. You had to manage stardates, ship navigation, shields, phasers, photon torpedoes, and above all, energy usage. Later versions would allow you to repair damage to your starship, resupply at friendly starbases, and more.

Star Raiders programmer Doug Neubauer took these ideas, removed all of the Star Trek intellectual property references and built an amazing 3D space combat simulator using all of the capabilities of Atari's new 400/800 home computers, which is almost as fun to watch as it is to play. Neubauer did, however, manage to incorporate a few subtle Star Trek and George Lucas references into his game. Also, while Star Raiders is primarily a one player game, two players could play together, with one player controlling the joystick and the second player entering keyboard commands as needed.

In his amazing October 2016 book, Art of Atari, author Tim Lapetino states that "This space combat simulator was first released for Atari's 400/800 computers and critically-acclaimed, serving as one the the 'killer app' games for the 8-bit computer line." The book also contains the brilliant artwork for the Atari 400/800 version of the game signed by an artist with the last name McCormack. This artwork was used on Atari's early large-scale black game boxes and the colorful three-ring binder sized game manuals.



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DAMAGE CONTROL REPORT: PHOTON TUBES DAMAGED
COMBAT AREA      CONDITION RED
SHIELDS DANGEROUSLY LOW
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<*>
*                STARDATE 2601
                  CONDITION RED
                  QUADRANT 6,5
                  SECTOR 2,2
                  ENERGY 2997
                  SHIELDS 0
                  +++ PHOTON TORPEDOES 10
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COMMAND 5
ENERGY AVAILABLE = 2997
NUMBER OF UNITS TO SHIELDS 200
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*                STARDATE 2601
                  CONDITION RED
                  QUADRANT 6,5
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                  ENERGY 2797
                  SHIELDS 200
                  +++ PHOTON TORPEDOES 10
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movie tie-in was dropped after the film did poorly at the box office and it became a sequel to Star Raiders instead. Concurrently, a true Star Raiders sequel, including planetary sequences, was being developed at the time by Atari programmer Aric Wilmunder, but was never completed because of the renaming of the movie tie-in game. After 30 years, the code for this unreleased version was found on a floppy disk in Wilmunder garage and, with the help of Kevin Savetz, a co-host of the ANTIC Podcast, the real-sequel-prototype found its way to the internet in 2015.

Star Raiders would go on to be ported to the Atari 2600, the Atari 5200, and the Atari ST family of computers. And, while it borrowed from earlier Star Trek-themed computer games, the original Star Wars movie, the Star Trek television show, and first-person perspective space combat arcade video games such as Starhawk, Star Raiders itself would also go on to inspire future generations of game programmers and video games.

Combining the tactical and strategic elements of Neubauer's Star Raiders, with the economic aspects of Dave Kaufman's Star Trader, another early text-based BASIC computer game, and the ideas found in the space-based science fiction, pen and paper role-playing game Traveller, first published by Game Designers' Workshop in 1977, would go on to create a whole new genre of deeply immersive computer games called the Space Trader/Combat Simulator, where desktop starship captain wannabees have to earn their stripes ... and their ships!

While Star Raiders was a masterpiece for the time (it even holds up well today), and has been included in many "most important video game" lists, it did have some issue. Neubauer also mentions in the book, Halcyon Days, that "I remember having trouble with the explosions ... my signed divide algorithms were terrible, and that's why the game would slow down whenever there was an explosion." In 2015, scanned hard copies of the 6502 assembly language source code for Star Raiders were released and posted on the website archive.org. A dedicated group of fans on the atariage.com forums meticulously recreated machine readable source code from the scanned hard copies and posted it to the github.com source code repository. Others began to tinker with the code, including an attempt to fix the explosion issue mentioned above.

If you get a chance, and you have the hardware (or an emulator), give Star Raiders, Star Raiders II (The Last Starfighter version), and Star Raiders II (the unreleased Wilmunder version) a try. The software, manuals, and more can be found on the Atarimania website (<http://www.atarimania.com>). Good luck, Captain! 🇬



In his March 2017 book, Breakout: How Atari 8-bit Computers Defined A Generation, author Jamie Lendino confirms the "Killer App" moniker, stating that "... game designers could develop complex simulations and role-playing games the likes of which had never been seen before. The first was Star Raiders, introduced concurrently with the Atari 400 and 800 and arguably the killer app for the platform..."

In his November 2018 book, The Nostalgia Nerd's Retro Tech: Computers, Consoles, & Games, author Peter Leigh, calls Star Raiders a "must play" on the Atari 8-bit platform, and that "Image having the freedom to fly through deep space in 1979. If you were brought up with the moon landings and had just watched Star Wars at the cinema, you'll realize how epic 'Star Raiders' was upon its release."

In an article title, The Star Raiders Academy, in the July 1983 issue of Antic magazine, Joe Hafner states that "Star Raiders is a conceptually sophisticated game, involving timing, strategy, and three-dimensional geometry, as well as the usual aiming accuracy and quick reflexes characteristic of most arcade and video games. As such, it is basically a real-time adventure game. For all of its sophistication, however, the game still follows the Atari policy of providing a clear, unambiguous, and responsive control interface between man and machine, which means that it is easy to learn and to play."

The game is simple enough to start playing for a novice, but requires some familiarity with the ten-page Star Raiders User's Manual to understand all of the keyboard keys required to operate Star Cruiser 7, your desktop starship. Going from Garbage Scow Captain to Star Commander requires efficient energy usage, effective combat operations, and lots of practice.

In 1986, Atari released, Star Raiders II, which was originally going to be based on the movie, The Last Starfighter, but the

# Convention Update: Nov 2018 - Jan 2019

RETRO GAME CON, RETRO CITY FESTIVAL

By Old School Gamer

## RETRO GAME CON SYRACUSE, NY BY CONOR O'BRIEN

The sixth Retro Game Con was held November 3-4 at the Oncenter in Syracuse, NY. Despite grey skies and cold rain, hundreds of attendees showed up at the venue. Some attendees came in costume and many were gamer parents with energetic kids in tow.

A gigantic exhibition hall housed all the vendors, a stage, one of the two concession stands, space for tabletop games as well as a corner devoted to arcade cabinets and pinball machines.

The event accommodated people with a competitive spirit by hosting tournaments of Goldeneye 007, Mortal Kombat II, Super Smash Bros, and other, more modern games. Two gentlemen from Quarter Munchers (@quartermunchers) hosted a contest using the Donkey Kong Country Competition Cart. I got fourth place, which is good enough for me. There was also a lonely setup for Nintendo Campus Challenge 1992 waiting for people to sign up. I wish they had chosen a different game for this competition.

Guest appearances and presentations were held in the panel rooms beneath the main

hall. Among the guest speakers was Charles Martinet, the voice of Mario. Retro Game Con was excited to have him. Their marketing materials and website were all themed around the Super Mario series. The event program was a fun homage to the cover of Nintendo Power #1, with RGC's mascot in place of Mario.

Across from the panel rooms was a heavenly place: a massive room containing old gaming computers and consoles from every generation. Men, women, and children of all ages crowded around TVs for yards on end. The sounds of dozens of games and voices blended together in a beautiful dissonance.

There, I got to play Donkey Kong on an Atari 400 and the rare SNES title E.V.O. Search for Eden on a...well, OK, an emulator running on a Raspberry Pi, but it was still a great experience!

The game selection downstairs was substantially better than the arcade—which is the only negative thing I can say about the whole event. I could enjoy a couple rounds of Windjammers and T.N.K. III, but beyond pinball machines, I only noticed Roadblasters, Robocop, and Dance Dance Revolution—the last two of which weren't in the best shape, but functional.

If you're in the Central New York area next fall, you should pay Retro Game Con a visit.

[retrogamecon.com](http://retrogamecon.com)

## RETRO CITY FESTIVAL POMONA, CA BY OLD SCHOOL GAMER

Since this issue of Old School Gamer is a little getting out, we are able to bring you coverage of two of my favorite annual events: Retro City

Festival in Pomona, CA and the Consumer Electronics Show (CES) in Las Vegas, NV. These two events had me totally living in video game heaven for five straight days as I went from one event straight to the other. Let's start with Southern California and Retro City...

It was the sophomore year for Retro City (and I thought last year was amazing!) and this year they amped up everything and it was a more polished show. They went from having one stage with all of the excitement taking turns to four stages with all of them having activities going on at various times of the day. The competition scene included our friends at the Retro World Series and Classic Tetris World Championship.

It continued with a recreation of the Nintendo World Championship, plus the Battle of the Hungry Wolves, Halo 2, along with Game Crossing bringing back their Super Smash Tournament - now on the Switch. And on the pinball side of things, our friends at Captain's Auction Warehouse ran the Pins and Pirates Pinball Rally and the OC Belles and Chimes group.

Still inside, the Lost Levels Barcade scene was a cool addition right in between the 125-150 arcade games brought from their various locations in Southern California and from other friends of Retro City. An excellent interactive museum of old school computers and consoles was set up where one could go and play games on his/her own, such as Oregon Trail, Lemmings and much more.

The vendor floor is always a popular area, with local stores, collectors and more bringing their collection out for sale, and I was personally able to find a couple Atari 2600 games I needed for my collection, along with a Pong knock-off



Above and Here: Retro Game Con



Row of Nintendo cabinets at Retro City and the Old School Gamer Booth



From upper left clockwise, Classic Tetris World Championship, Pac-Man Kill screen, first time for Billy Mitchell since 1999 live from Retro City on his Twitch channel, Winner of Arcade I Up Cabinet from OSG



that I hadn't seen before. CollectorVision games was showing its SNES title from a couple years back and its sequel that is coming out later this year on the modern consoles. The outdoor scene was set with some cool retro-themed bands playing all afternoon long, showcasing the beautiful day it was in Southern California.

Honestly, one of the best things for me was happening at our own booth. Billy Mitchell and Walter Day were special guests of Retro City and Billy was taking pictures and after signing autographs, movie posters and hot sauce, he decided he would go after a Pac-Man kill screen. This process would normally take around 3-4 hours as you have to get to the 256th level of the game, but for Billy it took around 6½ hours, about an hour or so after the event closed, but there was a core group that hung on including myself. Seeing him get to that level, and then clear it, was such a thrilling end to a great weekend. Other guests at the show included Phil Moore (from Nick Arcade of the 1990s) and several Nintendo World Champions.

Retro City is a great show that you need to attend if you are anywhere near SoCal, or if want to soak in one of the best shows in the country. If you have the ability to travel from further away, we highly recommend it!

[retrocityfest.com](http://retrocityfest.com)

**CES  
LAS VEGAS, NV  
BY OLD SCHOOL GAMER**

CES is massive...for gamers a bit smaller, for retro gamers even smaller, but I was still able to spend a day and a half having a blast on the floor. This 182,000 person event with 2.9 million square feet of floor

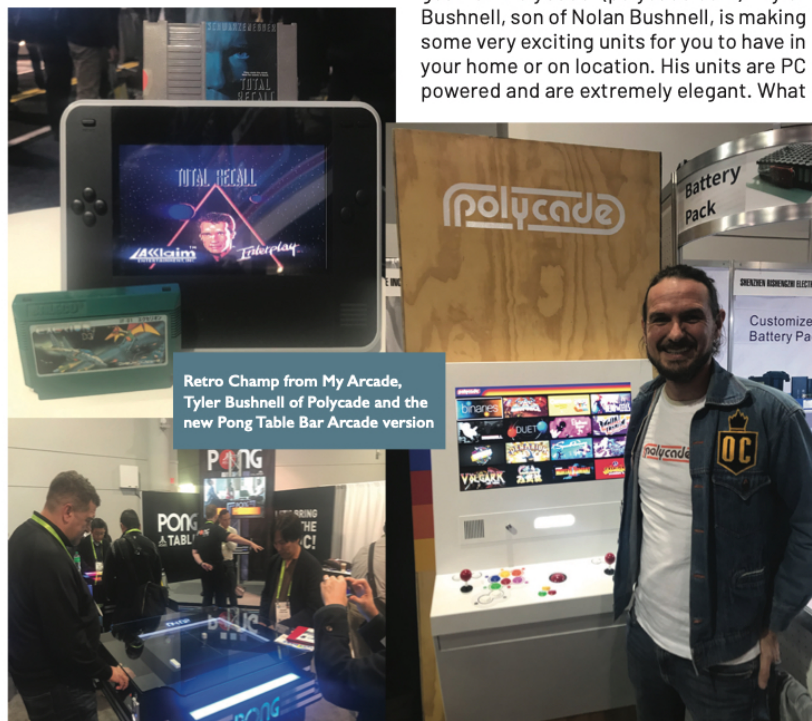
space centers around a dozen exhibitors or so. For me, when I'm working the show for Old School Gamer Magazine, in between the Automatic Cat Toilets, Mega TVs and sound systems, robots and celebrities, I found the following:

First I spent some time with MyArcade ([myarcadegaming.com](http://myarcadegaming.com)) where they were showing new games in their Microplayer line, including Bandi-Namco titles and more. Their hottest products appear to be the pocket players that they were now offering beyond just the Pac-Man title last year. My Arcade's best thing, in my humble opinion, was its Retro Champ handheld due out later this year, that has a small formfactor with a 7" LCD,

controls, battery and HDMI output. Check out this unit when it hits later this year at an expected \$79 price point.

The Atari Pong Coffee Table ([tablepongproject.com](http://tablepongproject.com)) that we saw at last year's CES and at a ton of Retro Expos now has two bigger cousins made for the Family Entertainment Center and the Bar Arcades. We can describe this to you, but honestly, the best way is to experience this at a local arcade or find a video online. If you haven't seen it, it's Pong reinvented in a brand new way with physically moving parts controlled by belts and magnets.

Next, down the aisle from the Atari Pong, we found Atari's creator's son showing the latest in home and bar arcade gear at PolyCade ([polycade.com](http://polycade.com)). Tyler Bushnell, son of Nolan Bushnell, is making some very exciting units for you to have in your home or on location. His units are PC powered and are extremely elegant. What



Retro Champ from My Arcade, Tyler Bushnell of PolyCade and the new Pong Table Bar Arcade version



started out as a crowdfunding project of Tyler has blossomed into a company that is now exhibiting at what was Atari's showcase, to a large degree, back in the 1980s.

Right around the corner from Polycade and the Pong Table was Stern Pinball where the Stern (Stern Pinball) crew were celebrating their latest license, the Munsters. I also had a blast playing on their Beatles limited edition game....only 1964 of them are being

made (celebrating the year of their invasion of America).


Home cartridge-based gaming also had some great splashes at CES with our friends from Retro Bit ([retro-bit.com](http://retro-bit.com)) and Hyperkin ([hyperkin.com](http://hyperkin.com)). Retro-Bit displayed their wares right at the opening of the South Hall of CES, near where everything Sega could be found. Through a great licensing agreement, they are recreating controllers from the Genesis and Saturn. We had been given a preview of these last year but saw the final versions that are being manufactured now, including original port versions, USB and wireless incarnations. The hit of their booth was a mockup, though, of a Sega Nomad-type unit that was still under glass but interested tons of us gaming journalists. Hopefully by E3 they will be able to show us more.

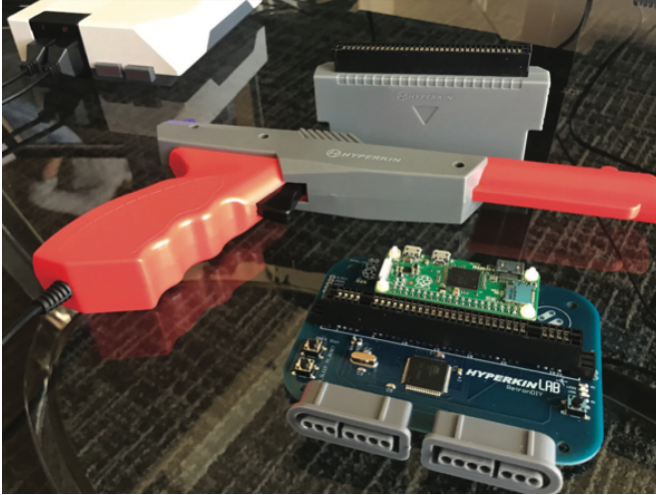
Hyperkin was showing some cool tech also. Their Hyperblaster will allow you to recreate the Duck Hunt and Hogan's Alley gaming from the 1980s with lightgun technology updated for the LCD flat screen world. This unit, using its own blaster modeled after the NES zapper, puts a cartridge adapter in between the console and the game, which makes the technology work together seamlessly, which you couldn't do since the days of the tube TV. Hyperkin was showing the SNES DIY kit for modders that want to make their own SNES consoles and some other new controllers.

The hit of CES, for me, was Arcade1Up ([arcade1up.com](http://arcade1up.com)), and how far they've come in the last year since they first exhibited about a year ago this time. They have gone

well beyond the half dozen games in the build-it-and-play-it Ikea-style cabinets, to prebuilt wall hanging units, counter top units, cocktail games and tons of merchandise to decorate your arcade, bedroom or man-cave. Final Fight, Karate Champ, Space Invaders, Street Fighter (now in a head-to-head cocktail style game), Golden Tee, and my favorite Mortal Kombat. Look for a piece on Arcade1Up with the Tastemasters CEO Scott Bachrach, also in this issue of Old School Gamer, and more news from the Arcade1Up gang later this year.

During our last visit, it seemed to be geared more for the current gamer, but the possibilities have extended into retro gaming. Gaems ([gaemspge.com](http://gaemspge.com)) was showing its personal gaming environments where you would take your modern console, mount it into a briefcase unit, and take your gaming anywhere. Upon arriving at your friend's house, or a LAN party, you would open it back up, and have everything you need there all together and ready to go, minus electricity. The Sentinal system, currently priced around \$349, was my favorite, but the hard core PS4, X Box One people must have been drooling over the Guardian Pro XP that was it's much bigger brother with more power, a massive 24" super-fast refresh screen, pass through HDMI, and a booming sound system.

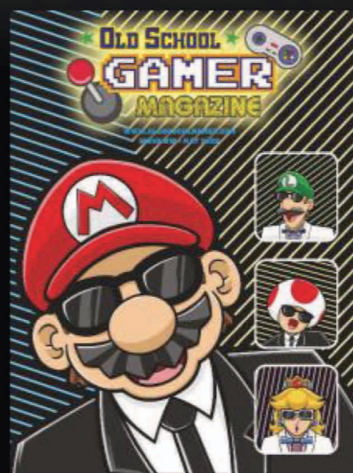
CES was a blast, as always, for gamers, and look for more product reviews based on what we saw at the show in upcoming issues. 



# ISSUE OVER

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