OLD SCHOOL

GAMER

MAGAZINE

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🪙 COIN UP!

I don't know anyone who doesn't like to race. What's not to like? That feeling you get when you strap yourself in... the scream of engines being revved to the Red Line... the G-forces pushing you back into your seat as your stomp on the gas pedal... the acrid smell of rubber as white clouds of smoke billow from your tires... the scenery that blurs as you accelerate... the thrill of victory as you blow past your opponent... the red light flashing from the Highway Patrol car behind you... the cold steel of the handcuffs... but I digress... If you love going fast, then this is the issue of Old School Gamer magazine for you! So pull on those Italian leather racing gloves and grab this issue!!! Gareggiamo!

The guys who write for Old School Gamer magazine are some of the brightest minds from the gaming world! Got a question? Send us an email and we'll get you an answer! Our email is OLDSCHOOLGAMERMAIL@gmail.com

FEATURED SCRIBE

Video game historian, journalist, and national columnist Brett Weiss is the author of a dozen books, including the Classic Home Video Games series, The 100 Greatest Console Video Games: 1977-1987, The SNES Omnibus volumes 1 and 2, and the newly released The NES Omnibus Vol. 1 (A-L). He's also a frequent guest panelist at gaming conventions. Find Brett online at www.brettweisswords.com

THE EDITOR

Bill Donohue did a 13-year stint as Managing Editor for Game Players, UGP and PSM magazines. He created Gazuga and The Cleansing. He once hit the Publisher of Game Players in the face with a whipped cream pie. He composed the ultimate *Super Bomberman 2* anthem - (He Ain't Got) "No Boot". Crazy? Hey, it's a life choice...

THE SCRIBES

Since Kevin Butler played on the first Magnanvox Odyssey in 1973, he was bitten by the video game bug. Retiring from the Navy in 2004, Kevin had already worked for Majicsoft and was doing FAQs for GameFAQs and contributing to the MAME project. He currently lives in Neosho, MO with his wife and one son who is also a video game hobbyist.
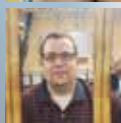
Brad Feingold's love for retro gaming goes all the way back to *Space Invaders* and *Asteroids*. Even though he plays the newer games, he always goes back to the classics. Thanks to the Nintendo Switch and the ability to play the retro and retro-looking games, his retro cravings will be complete.

Todd Friedman is currently writing for Old School Gamer Magazine, Retro Gaming Times, and the Walter Day Trading Card Collection. He has co-promoted the Video Game Summit in Chicago, IL for the last 12 years. He is also the Chairman of the Nomination Committee for the International Video Game Hall of Fame.

Patrick Hickey Jr. is the author of The Minds Behind the Games book series. The first book in the series was released in April 2018. The sequel, The Minds Behind Adventure Games, was released in Dec. 2019. Three more editions of the series are forthcoming through 2021.

Dr. Ken Horowitz has been writing about Sega and video game history for 20 years. He runs Sega-16, the world's largest resource on Sega's hardware legacy. He has authored three books on gaming history and has spoken at conventions around the country about the preservation of video game history.

Bill Lange is a cloud architect by day. In his spare time, he likes to do technical reviews of manuscripts and playtest games. He is a frequent exhibitor at Vintage Computer Festivals. He hosts Atari Party East, an annual gathering of Atari enthusiasts. He resides in NJ with his wife Lucy and their dog Yoda.

From the moment he touched an Intellivision controller in 1985, Mike knew that he had experienced something incredible that would shape him for the rest of his life. As a writer for www.gamerlogic.net and other media outlets, Mike enjoys articulating why games from the 8- and 16-bit console generations are some of the best of all time.

Brian Szarek enjoys repairing and refurbishing vintage home consoles and arcade games. He also enjoys collecting and playing everything from the entire Atari console line and ColecoVision to PS4 and Switch. He lives with his wife and two daughters in Belgium.
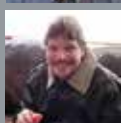
Michael Thomasson is one of the most respected videogame historians in the field today. He teaches college level videogame history, design, and graphics courses. He authored Downright Bizarre Games and has contributed to nearly a dozen textbooks. Michael's columns have been distributed in newspapers and magazines worldwide.

Gunther Vinson has been a marketing pro for over 20 years, working for some of the largest fortune 100 companies in the world. His passion for retro video games has led him to create Uplayarcade.com and create Retro Recon, a show made to help and showcase the arcade industry. Gunther resides in Rogers, AR with his wife and daughter.

Howard Scott Warshaw is a creator, communicator and healer, who holds many titles: MoMA artist, innovative technologist, award winning filmmaker, video game pioneer, author, speaker and licensed psychotherapist. Now, he employs every facet of his eclectic skill set as The Silicon Valley Therapist.

iiRcade REPORT

By Brad Feingold

With the successful launch of the new iiRcade store, more and more games are starting to be added almost on a weekly basis to the growing library. In this issue, we will talk about some of the direct arcade to home exports that are now available for purchase.

Striker 1945 – Psikyo

Released in 1995, this game pretty much flew in under the radar but had several sequels to follow. This game follows the traditional top-down shooters of the 80's, with a lot stronger graphics and music to get your hands pumping and shaking while you are playing. As you are flying through the levels, you collect power-ups that make you able to flip the plane to avoid bullets. The best way to describe this is a more modern version of *1943*.

Space Harrier 1985 – Sega

I present to you another one of my guilty pleasures. This was, at the time, one of the biggest quarter suckers of which I was a victim at the arcade. With this game, which originally was a sit-down game, you are flying through endless levels to defeat different aliens. The controller that you use was very similar to a helicopter yolk stick. This is a very addictive shooter.

Shadow Dancer 1989 – Sega

The sequel to the classic side-scrolling *Shinobi, Shadow Dancer* takes place 20 years after the original game. You play as a young ninja Hayate and you are with your pet dog Yamato. You are journeying through the stages to fight the "Asian Dawn" and collecting power ups as you progress. Just like the first game, there are also bonus stages as you progress that test your skills. This was one game that I never did get a chance to play, but as much as I played *Shinobi*, I am sure I won't be disappointed by this.

Stay tuned, as we get ready for the full in-depth review of the iiRcade unit and games that are pre-loaded, as well as some of the games that are picked up from the store. Game On! **5G**

OSG PUBLISHER'S OPINION

By Ryan Burger

While I don't do this very often, I feel that it's time that I put the word out and be a bit opinionated in my own magazine. While I have met thousands of you at the Gamer Cons in the last couple years, many of our readers haven't seen any of my writings in the magazine.

This is an article to tell you a little about my friends at iiRcade and the great product that I'm now excited to have in my own family room next to my Atari Breakout and Atari Star Wars Vector...it's my iiRcade. When I first heard about the iiRcade I saw something that excited me, and I promptly contacted its PR and Marketing staff about having a chance to meet the people behind the product that over a thousand people had crowd-funded the launch of several weeks earlier. I was able to spend a couple hours with Jong-Wook Shin, the President and CEO of iiRCade during a trip to Chicago mid-last year.

I spent quality time sitting down and talking casually with the man leading the charge at iiRcade. I was able to get a feel for the community that he was working to build and the vibe behind what he was creating with iiRcade. He's had over a hundred Facebook Live conversations with his family of backers and other retro gaming afficionados that show how much he cares about preserving the past's greatest video games and bringing to the gaming community some of the coolest games I've ever seen.   This past weekend (as this is being written in late April), I spent another day with Jong and his right-hand man, Michael, at the BN Gamer con and had an amazing time showing off the iiRcade to hundreds of the nearly 1000 attendees of this first retro gamer con since COVID hit us all early last year. That event has me excited for the future of the retro gaming community and gamer cons as we come out of this epidemic.

I ask this of you, please.... support iiRcade, support other Old School Gamer advertisers and keep us being able to do our work remembering, documenting and celebrating the past.

Thank you,
Ryan Burger
Publisher.

SHORT SHIFTING THE COMPETITION
By Michael Thomasson

Before autumn of '86, prior racing games focused on the serious side of car racing. Entries in the genre usually consisted of professional Formula One-style competitions with simple, flat, uninspired black asphalt tracks. *Out Run,* in comparison, had motorists navigating the stunningly beautiful twisty and hilly roads of Europe. Such peaks and dips obscured upcoming obstacles, providing a distinctive challenge and refreshingly different approach that was both thrilling and fun!

Celebrating style over content, the superficial spirit of the '80s was evident when players were thrust behind the wheel of a trendy red Ferrari Testarossa - complete with a long-haired blond riding shotgun in the passenger seat! The vehicle even included a state-of-the-art in-car radio which allowed the player to choose from such memorable tunes as "Magical Sound Shower," "Passing Breeze," or "Splash Wave."

Inspired by the popular film The Cannonball Run, which itself was based on an actual cross-country outlaw road race from Connecticut to California, the game's original locale was to be the United States. However, Sega president Nakayama feared the US was not safe and too spacious to scout, and proposed Europe as an alternate setting. Yu Suzuki toured Germany, Switzerland, France, Monaco, and Italy for inspiration… which might also explain why an Italian convertible became the vehicle of choice.

The deluxe cabinet even featured an impressive sound system with speakers planted directly behind the player's head. The deluxe cabinet literally rocked, as it featured a fully hydraulic tilting system that pitched and swayed the driver about. Even more impressive is that the deluxe cabinet physically resembled the red Ferrari Testarossa!

Sega never asked for permission to use Ferrari's star vehicle. While legal threats were made, no actual litigation was filed. Regardless, Ferrari was not impressed, and Sega smartly licensed the brand officially before releasing its sequel, *Out Run 2.* Other cars that make a cameo include the 1971 Chevrolet Corvette, the 1972 Volkswagen Beetle, the 1985 Porsche Carrera 911 Turbo, the 1985 BMW 325i Cabriolet E30, and a variety of British Lorries.

RUNNER-UP

It is often reported that *Out Run* was the first racing game to feature a fork in the road providing players a choice in their route. This is a fallacy. That unique innovation first appeared in Tatsumi's 1983 racer *TX-1.* Tidbits of truth like this is why classic gaming enthusiasts should read Old School Gamer Magazine!

A Testarossa is only good if one knows what to do with it. In *Out Run*, the objective is to reach each end-of-level checkpoint before the tight time limit expires, while carefully avoiding civilian traffic. Near the conclusion of each heat, players must decide which route they want to take, making each game varied and unique.

In 1985, 3D graphics did exist, but the polygons were flat shaded and not very impressive. Yu Suzuki and his team at Sega created an arcade system board and graphics engine capable of producing advanced sprite-scaling graphics. First implemented with *Hang-On,* it was later enhanced for use in *Out Run*. Yu Suzuki states, "designs were always 3D from the beginning. All the calculations in the system were 3D, even from *Hang-On*. I calculated the position, scale, and zoom rate in 3D and converted it backwards to 2D. So, I was always thinking in 3D." The technique worked amazingly well, and in the end, resulted in what is arguably the finest sprite-driven racer of all time!

Out Run not only revolutionized racing games, but its ground-breaking design and technical achievements changed the industry.

SUPER TIP

Every second counts when playing *Out Run*. Here is the fastest route: at the first junction turn right into DEVIL'S CANYON, then take a left into the SNOWY ALPS, followed by a right into WHEATFIELD, and finally right again through the AUTOBAHN.
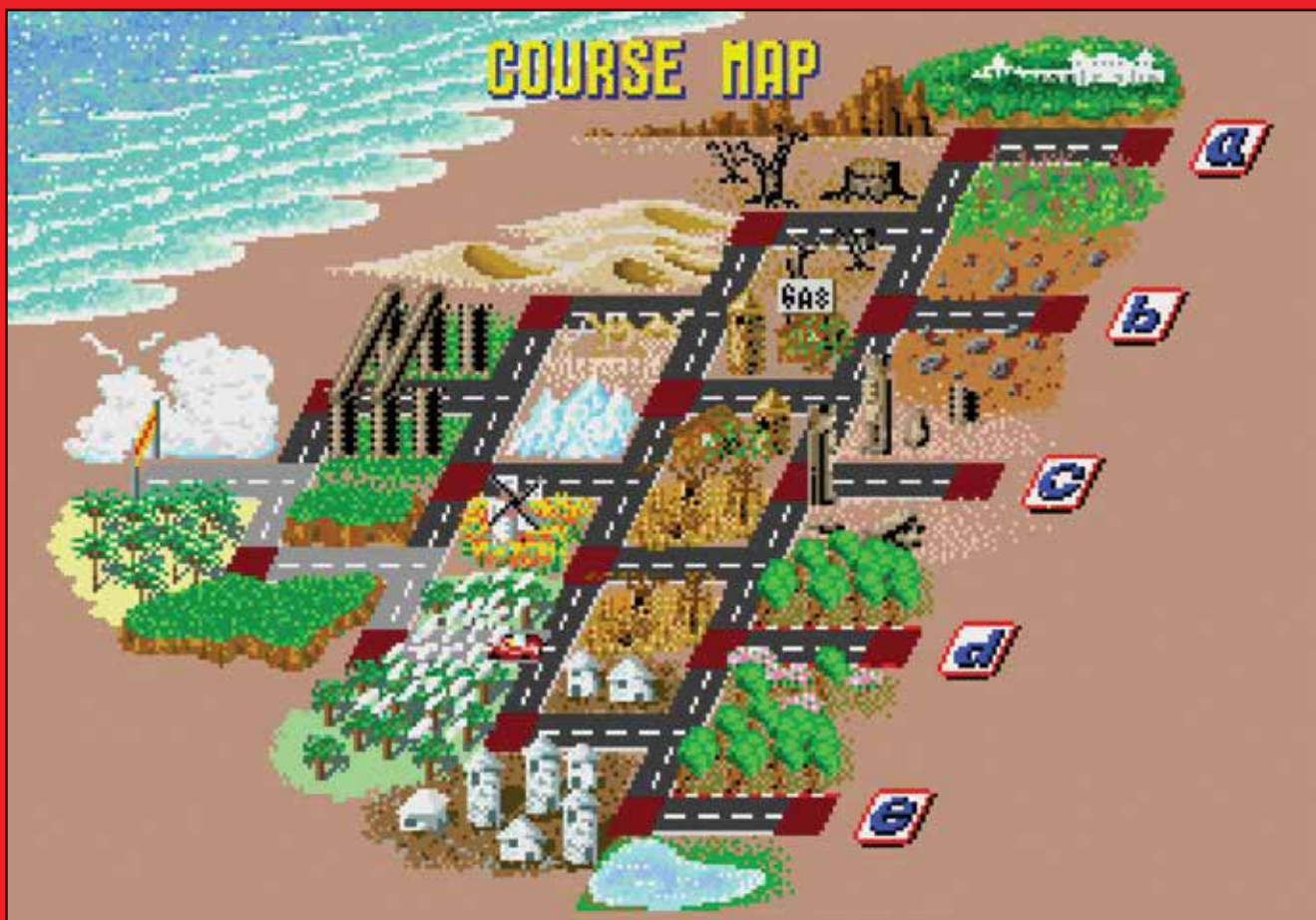
FOCUS ON YU SUZUKI

Sega's acclaimed game designer is to Sega what Shigeru Miyamoto is to Nintendo. Suzuki is responsible for such classics as the super-scaler titles *Hang-On, Space Harrier*, and *After Burner*; as well as the pioneering the immensely popular 3D polygon hits *Virtua Fighter* and *Virtual Racing*. While playing *Out Run*, press and hold the start button and "Program by Yu Suzuki 1986 Sep." will secretly appear on the screen.

A public service announcement against drunk driving featuring an inebriated player behind the arcade cabinet's wheel, wrecking the Ferrari Testarossa in all its glory. The vehicle, driver, and his girlfriend roll and flip dramatically and repeatedly until GAME OVER appears on the game screen as an announcer states, "On the street, you don't get another quarter!"

Remember, it still makes sense today!

PITSTOP II
PREPARE TO RACE

By Michael Mertes

The last five races have been grueling, but you've finally made it to the final track in the "Grand Circuit Tour." The crowds in the stands are loud, but the sound they make is nothing compared to the roar of the F1 cars that will be lined up at the track as they make their way to 1st place glory. Over the PA system, you hear the announcement for all racers to get to their vehicles and start their engines. As you begin to make your way to your car, Johnny, from your pit crew, hands you your helmet and gives you a thumbs up.

Johnny joins you on your walk to your vehicle as he gives you a final piece of advice. "Remember to watch your fuel levels and the condition of your tires! The hairpin turns on the track are murder on tires, so if you need to make a pitstop for repairs, don't second guess yourself. We can't help you if you blow a tire out in the middle of the road."

"Thanks, Johnny, but the only person who is going to be blown out of this race is my rival," you say as your strap on your helmet.

It's time to start your engines...

THE IMPROVEMENT FORMULA

Released in 1984 on the Commodore 64 by EPYX, *Pitstop II* improves upon the original game in almost every aspect. While the 1983-released *Pitstop* itself had some innovative features, the game itself looked very primitive and presented a zoomed out racing perspective to avoid cars and reach the finish line. *Pitstop II* not only zooms in on the racing perspective to be closer behind the player's vehicle, but offers a simultaneous split-screen presentation. Player 1 will always control the car on the top portion of the screen, but the bottom half will portray a computer-controlled rival. While other race cars will be present on the track, your only goal is to reach the finish line before the CPU controlled rival. If you don't feel like racing against a CPU opponent, a second player can also challenge you and take the CPU player's place at the bottom half of the screen. While *Pitstop II* was not the first racing game to offer two-player split-screen racing, it was undoubtedly an entertaining feature that made it a must-play for two-player Commodore 64 sessions.
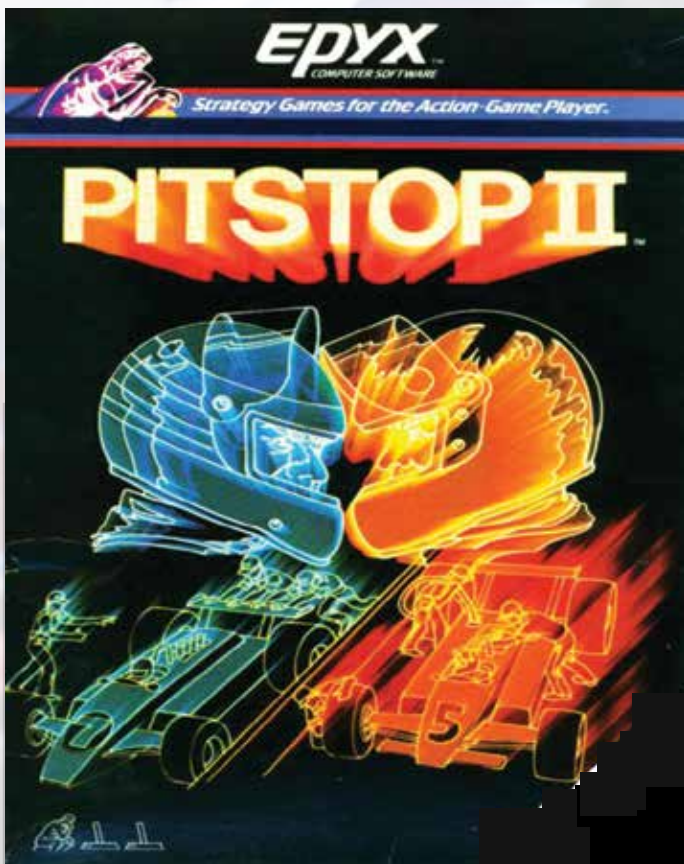
Ready... Set... Go!

Do you have what it takes to compete in the grueling Grand Circuit?

Alongside its two-player feature, the game features six tracks with multiple difficulty levels and the ability to increase the overall number of laps per track. For those looking to improve the game's challenge, you also have the option to select from three different difficulty levels. Despite these options, there is no ability to customize the F1 cars to improve things like handling or speed, meaning that earning a victory in this game comes from understanding the racing mechanics and knowing when to visit your pit crew.

Graphically, *Pitstop II* may be simplistic, but still, it is very impressive as an early 3D-style racer, with great colors to depict both the race cars and the courses themselves. The game runs at a steady framerate, and because the game was programmed with a split-screen view, playing with a second player does not slow the game down in any capacity. Despite the Commodore 64 being a musical powerhouse with its SID chip, the game does not feature any music. The lack of music is the game's most significant fault as the engines' drone start to get annoying after a while and tend to annoy parents and wives. I can attest to the former being accurate as I vividly recall my mom would make us turn the volume all the way down for this game when we played it.

KNOW WHEN TO STOP

Unlike many other racing games, collisions with other racers on the track or hitting the barriers on the sides of the tracks have a substantial effect on your F1 racer. Hitting either of these obstacles will cause damage to your tires, depending on what side the point of contact happened. The amount of damage to the tires is indicated by their color. Reach the point to where your tire has white damage on it, and your vehicle will fly off the side of the road, forcing you to watch the rest of the race from the sidelines.

Even the slickest drivers who can avoid tire damage can't prevent another finite resource used by your car: fuel. Your car's fuel will continue to deplete as you perform laps on the track, and as you continue to increase the overall amount of laps in the game, you will have to make a pitstop to refuel or find yourself on the side of the road again.

To replace fuel or replace tires that have been badly damaged during the race, players can make a pit stop that is available by driving into the pit crew section near the start of every lap. The pit crew area is designated by white lines on the left side of the track. At this point, players click on the appropriate pit crew member to start the repair/refuel process. The fuel man will fill your car to whatever designed fuel level you would like, but be sure not to overfill the tank; otherwise, you will lose all your fuel and have to refill all over again. The other pit stop crew member will take off your damaged tires and replace them with brand new ones.

Player 1 takes his time to get his tires replaced, while Player 2 does laps on the track.

The race is still active during the entire pitstop, so you have to gauge just how much fuel you'll need and what tires to replace so you don't lose your lead.

It is genuinely the pitstop feature that makes *Pitstop II* such an intriguing racing game, especially when played with a second player. When trying to repair your vehicle, the feeling of pressure mixed with the tracks' twists and turns makes this game a must-play for even casual racing fans.

RACING GAMES

By Brett Weiss

Gaming is an expensive hobby, right? Well, it doesn't have to be. There are plenty of great games for various consoles that won't break your budget. This is especially true of racing titles, which are ubiquitous and often inexpensive. Here are six such games that are not only cheap (assuming you are okay with cartridge or disc only), but also a ton of fun.

BUMP 'N' JUMP (1988)
Nintendo NES
$9 (cartridge only); $45 (complete in box)

I'm a huge fan of the ColecoVision and Intellivision versions of *Bump 'n' Jump* as each is an excellent port of the great 1982 Data East arcade game. I also play it emulated perfectly on the Wii in the form of *Burnin' Rubber* (via Data East Arcade Classics collection), which is what the arcade game was called in Japan. However, the NES port just might be the coolest of all because it adds a console-exclusive feature to give the game a little more depth: power barrels you can grab to refuel your car. You can also grab bonus icons for extra cars (lives).

In this cartoonish, yet challenging top-down racer, you drive up the screen through 16 courses - four each of city, country, mountains, and seaside - racing other cars and dodging obstacles. You can jump over water hazards and other impediments, but you can only jump if you are driving 150 km/hour or faster. (The "Jump Ok!" text alert from the arcade game is missing, but this isn't a huge deal.) You can even jump on top of enemy cars to crush them, which is super fun.

So, there's your "jump" in the title… but what about "bump"? I'm glad you asked! You can indeed bump and crash other cars into walls and obstacles but be careful because you get bumped back a bit yourself when you do so. Enemy vehicles you'll encounter on the road include patrol cars, ambulances, jeeps, buggies, trucks (which deposit deadly sand on the road), fuel trucks (which dump oil in your path), cement mixers (which try to destroy you with concrete), and bulldozers (which move slowly to block your way).

You'll also encounter Dark Jackal, the lead car of the ruthless Jackals gang. According to the game's storyline, you are out enjoying a drive with your girlfriend in your car, which for some reason you have called "Popper" - perhaps because it can jump. Suddenly, you are attacked by the Jackals, and they kidnap your girlfriend, who yells "Help me!" as they speed away. Naturally, you go in hot pursuit. Ah, the life of a video game hero.

Over the years, there have been a ton of racing games produced for just about every console ever created. If I had to choose one, it just might be *Bump 'n' Jump*. Yeah, it's that enjoyable.

F-ZERO (1991)
Super Nintendo
$12 (cartridge only); $40 (complete in box)

The year is 2560. Multi-billionaires who earned their fortune through intergalactic trade crave entertainment, and that's exactly what they got with *F-Zero*, a

"competition like the F-1 races held on Earth centuries ago."

A nice port of Nintendo's 1990 arcade game, *F-Zero,* which was a launch title for the SNES, features blazing speeds (with a soundtrack to match), slick and colorful graphics, smooth scaling with Mode 7 effects, and a variety of track components and hazards, such as landmines (which reduce your power meter and sometimes cause you to lose control of your vehicle), jump plates (which launch you high into the sky), left-pull and right-pull magnets, dash zones (which give you a brief burst of acceleration), and roughs, the last of which slow down your hover car and interfere with its handling. From time to time, you will need to pull over and make a pit run to restore your car's power.

The game features 15 courses (located on nine planets), including Mute City, Big Blue, Sand Ocean, Death Wind, Silence, White Land, and Port Town. You can do a Practice race (with or without a rival on the track) or play Gran Prix mode, where the goal is to finish among the top three drivers for all five courses in each league circuit. There are three leagues (Knight, Queen, King) and three difficulty levels (beginner, standard, expert), and you can select from four different vehicles, each ranked according to horsepower, maximum speed, and weight. Captain Falcon drives The Blue Falcon while Dr. Stuart helms the Golden Fox. Pico pilots the Wild Goose while Samurai Goroh takes the wheel of the Fire Stingray.

Fun, futuristic, and fast - the action moves quickly, even when you haven't pressed the super jet turbo button - *F-Zero* has much to offer casual players and hardcore racing fanatics alike. Casual fans will enjoy the simple act of racing while hardcore gamers will race for hours on end so they can save (and improve upon) their best times and save them via battery backup. It's unfortunate Nintendo didn't add a two-player mode for the console adaptation, but it's a great game, nevertheless. You'll also want to play *F-Zero X* for the Nintendo 64 and *F-Zero GX* for the GameCube, but those games are quite a bit more expensive than this one.

ROAD RASH (1991)
Sega Genesis
$12 (cartridge only); $25 (complete in box)

If you've never played any games in the *Road Rash* trilogy on the Genesis, you need to hop on eBay right now and at least grab a copy of the first game in the

fast, edgy, rough-and-tumble motorcycle racing series.

As with *Hang-On*, the popular arcade and Master System title, *Road Rash* is viewed from behind your motorcycle as you speed down twisting, turning streets. However, Road Rash adds the thrills, chills, and spills of punching and kicking to knock other racers off the tracks. Be careful because your opponents will fight back. When you unleash a punch, kick, or backhand, you automatically aim in the direction of the "jerk" (as the manual calls the other racers) closest to you. When an opponent swings a club at you, you can grab it out of their hands and use it as your weapon.

Speed is of the essence, but you must be careful to avoid running into such hazards as cows, deer, cars, sand, gravel, trees, and oil slicks. When you crash, you automatically run back to your motorcycle, but you can guide your biker in different directions to avoid obstacles. Driving too slow brings on Officer O'Leary, who will fine you or even throw you in jail. There are other cops on the prowl as well, including a female called Offer O'Connor. There's a female "Rasher" (biker) as well.

Each of the courses you'll race through - Sierra Nevada, Pacific Coast, Redwood Forest, Palm Desert, and Grass Valley - is characterized by a unique and distinctive rocking soundtrack, as well as different roadside and background scenery. Performing well in races gives you cash to purchase eight superior motorcycles, such as the Bonzai 750, which is known for its tight handling and power at high revs, and the Diablo 1000, which features fuel-injected horsepower and "awesome Italian handling." To move up a level, you must place fourth or better on each of the five tracks. To win the game, you must finish fourth or better on each track five times.

Road Rash could use a higher frame rate to make it run smoother, but it's nevertheless a highly entertaining game with good controls and a nice mix of combat and racing. Released before the furor surrounding *Mortal Kombat, Road Rash* was considered a violent, irrever-

ent game upon release, creating some controversy at the time. It was released for various other consoles, including an excellent rendition on the 3DO, but it's the Genesis version most gamers remember.

WAVE RACE 64 (1996)
Nintendo 64
$12 (cartridge only); $42 (complete in box)

One of a handful of Nintendo 64 games I still play on a semi-regular basis, *Wave Race 64* is a fast and super entertaining game that emulates the bouncy, buoyant nature of jet skiing about as well as can be expected on a home console. It's an arcade-style game that is easy to pick up and play, yet it oozes with depth and detail. There are four racers from which to choose (a Canadian, two Americans, and a Japanese rider), each rated according to handling, grip, collision stability, maximum speed, acceleration, and skill level.

Your goal in Championship mode, which is the one I play the most, is to race your jet ski against three opponents in eight varying locales: Sunny Beach, Sunset Bay, Drake Lake, Marine Fortress, Port Blue, Twilight City, Glacier Coast, and Southern Island. These aren't exactly slalom courses, but you do guide your watercraft on waterways marked by color-coded buoys. You should pass on the right side of red buoys and the left side of yellow buoys in order to gain speed and be competitive. Missing buoys decreases your speed, and if you miss too many, you'll be disqualified. There are three difficulty classes for you to beat, plus an extra reverse mode.

Time Trials mode puts you on a course by yourself, racing to get the best time possible, while 2P VS. has you competing head-to-head against another gamer via split-screen action. Finally, Stunt Mode challenges you, playing solo, to score as many points as possible in one lap. You can ride through hoops and perform a variety of acrobatic moves, including flip (using a ramp), barrel roll, handstand, and somersault.

A perennial favorite, *Wave Race 64* has truly withstood the test of time. Martin Watts, writing for N64 Today (n64today.com), sums of the appeal and versatility of the game well:

"The wave physics are the crowning achievement… Each course comes with its own wave patterns… Drake Lake features calm and still water, whereas Marine Fortress has incredibly rocky waves. At the same time, the water will change over the duration of the race. For example, the tide will go out and the water depth will decrease. In some instances, this drastically alters a course's layout, opening up new routes… remarkably complex… the game's upbeat nature means you'll want to get back on your watercraft again each time… a colorful and vibrant experience."

RAGE RACER (1997)
PlayStation
$6 (disc only); $14 (complete)

The year prior to the release of *Gran Turismo*, a revolutionary racing sim for the PS1, PlayStation owners were treated to the humbler, but still enjoyable *Rage Racer*, which was developed and published exclusively for the PS1 by Namco, creators of the *Pole Position* and *Ridge Racer* series. In fact, this is the fifth game in the popular, long-running *Ridge Racer* series, after *Ridge Racer* (a PS1 launch title), *Ridge Racer 2, Rave Racer,* and *Ridge Racer Revolution.*

In *Rage Racer*, you race on four distinctive courses: Mythical Coast, Over Pass City, Lakeside Gate, and The Extreme Oval. The first three take you on winding mountain tracks with steep hills, twisting turns, and lighted tunnels. You'll encounter a variety of graphical flourishes as you go, including buildings, trees, villages, billboards (including ads for Namco's *Time Crisis*), lighthouses, hills, lakes, cloudy skies, starry skies, and fans in the stands. If you manage to achieve Class 3, you can race the oval track, which, consists of two long straightaways connected by two huge turns.

A special Grand Prix mode lets you work your way

through five different racing classes, earning medals and credits as you go. Credits let you tune up your car and purchase new cars. You can also customize your car in terms of tire traction (up to five grades), team logo (using preset graphics or custom graphics you design), team name, and paint color. There 13 cars from which to choose, each graded according to acceleration, grip, handling, and maximum speed. You can select automatic transmission or use manual to shift gears yourself. Cars differ from 4 to 6 gears.

Rage Racer has a darker, grittier look than *Ridge Racer,* and the additions, such as credits system and the Grand Prix mode, are certainly welcome. If you're used to games like *Burnout*, or weapons-based racers like *Rock n' Roll Racing* and *Twisted Metal*, you might be underwhelmed by *Rage Racer*. However, if you enjoy a pure racing experience with an arcade feel, you'll probably enjoy it quite a bit.

During the late 1990s, when I owned just a few PS1 games, I played the absolute heck out of *Rage Racer*. I enjoyed the visuals, I found the controls to be solid, and it had a good sense of high speeds, especially after you upgrade your car. It's still fun to play time and again - I love driving through those cool tunnels!

MIDWAY ARCADE TREASURES 3 (2005)
PlayStation 2/GameCube/Xbox
$6-$12 (disc only); $12-$20 (complete in box)

One of the great things about the PlayStation/ PlayStation 2 era was the huge number of compilation discs featuring classic arcade games. In this day and age of digital downloads, where you typically have to pay several dollars per game individually, these types of collections are fewer and further between.

Midway Arcade Treasures trilogy for the GameCube, PlayStation 2, and Xbox, was published by Midway Games. Unlike the first two collections in the series, *Midway Arcade Treasures 3* features an overriding genre theme: racers. There are also fewer games this

time around: 8 instead of 24 for *Arcade Treasures* and 20 for *Arcade Treasures 2*. Still, it's a disc worth picking up, especially for the price.

Badlands (1989) is a follow-up to *Super Sprint* and *Championship Sprint*, with three cars racing around non-scrolling, top-down tracks. The game introduced a post-nuclear war theme to the action as well as vehicular combat. *Super Off Road* (1989), the only other 2D title in the collection, features gameplay similar to *Super Sprint*, but it has dirt tracks replete with potholes and moguls.

The follow-up to *Hard Drivin'*, *Race Drivin'* (1990) was an early polygonal game with a first-person view of the action and an emphasis on trying to create an immersive, relatively realistic driving experience. You select from four different cars to drive on a series of courses, including a Super Stunt Track that includes a corkscrew loop, a jump loop, and a winding mountain road. *S.T.U.N. Runner* (1989) is another early polygonal game, but its emphasis is on high speeds and your ability to shoot lasers at enemies.

Rounding out the collection are *Hydro Thunder* (1999), a motorboat racer, *Offroad Thunder* (2000), an off-road sequel to *Hydro Thunder* where you can drive an outlaw buggy and several other cars, *San Francisco Rush: The Rock-Alcatraz Edition* (1996), an upgrade over the popular *San Francisco Rush*, and *San Francisco Rush 2049* (1999), a futuristic take on the genre that lets you take off and glide while you are driving.

You might miss the elaborate cabinets and controls of the arcade originals - steering wheels, gas pedals, and the like - but these games are emulated well enough and will provide you with hours of fun. 🎮
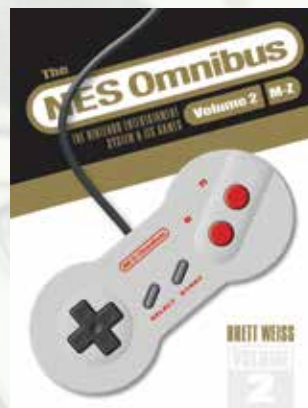
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SEGA TURBO
RACING GAME REMEMBRANCES

By Kevin Butler

My earliest memories of racing games stem from my childhood in the early 1970's. At that time, games were electromechanical in nature. This mean that the setup was a car you controlled, via steering wheel, and a repeating cycle of road (like a grocery store conveyer belt) would pass under the car. The goal was to keep your car on the road and avoid the obstacles for maximum scoring. Although these games were kind of fun, they never really interested me.

Moving into the mid-1970's, arcades were acquiring more electronic and less electromechanical arcade games. I tended to enjoy the more action-oriented games such as *Space Wars* (where my best friend and I lost many a quarter playing each other). I also noticed that racing games were changing and the first one I did play quite a bit, when it first came out, was Atari's *Night Driver*. Although it was similar to the old electromechanical games, the major difference was that instead of the constantly rolling road conveyer, you now had a digital track. Also, *Night Driver*'s simplicity

lay within the fact that one had to keep their car in between the white markers.

At the start of the 1980's, games such as *Galaga, Tempest*, and the big one, *Pac-Man*, consumed my quarters in droves. That's when I noticed a new driving game... *Turbo!* Unlike the previous games, *Turbo* was different in every way. Not only did it have the usual steering wheel and gas pedal, but it also had a shifter that had low and high gears. In addition, the digital display actually displayed a tachometer which would assist you in showing you when to shift gears.

One of the coolest aspects of *Turbo* was the fact you drove through many different environments and also had to deal with many different hazards. I'd never seen this before in any racing game. Some of the different environments were driving through a city, in the country, by the seashore, through a dark tunnel, and driving over hills. The hazards were

water puddles, ice and snow, and even an emergency vehicle you had to avoid.

To say I spent a lot of time and money on this game would be an understatement as I wanted to see what new environments awaited me as I progressed through the game.

Turbo itself is pretty straight forward. The first part of the game consists of you "qualifying" to play the game as long as you can. This first part consists of you having 95 seconds to pass 30 cars. This isn't as easy was it seems since that number goes up and down depending on if you are doing the passing or if you are being passed. If you manage to get through that initial 95 seconds with 30 or more cars passed, you then go into the extended rounds. Also, during the first rounds, your car won't get destroyed. Instead, when you hit obstacles, you bounce off them. This will cause you to lose time and also to lose your cars-passed count. After you make it past round one, you will be assigned two

cars. You will have 99 seconds to pass 30 cars. If you achieve this, you will continue to advance through subsequent rounds. The only way to lose the game is to fail to pass 30 cars in 99 seconds or to lose the two cars you were assigned.

This game was very addictive, and it proved quite the challenge to avoid obstacles while trying to maintain a cars-passed count over 30. It didn't take much movement of the steering wheel to enable you to make precision movements with your car. Although there was no brake, you learned how to downshift and ease up off the gas. Instead of being aggressive, caution and prior planning were rewarded.

Turbo can be considered the earliest "ancestor" to later racing games, including *Outrun, Hard Drivin'*, and *Super Monaco GP, just* to name a very few. 🎮

Lee Actor: Hard Drivin'
Through the Loop and Cow

By Patrick Hickey, Jr

Originally released in the arcade in 1989, *Hard Drivin'* was pushing polygons, speed and a sexy sports car-inspired cockpit. The gameplay was fast, fun and influenced a ton of games afterwards, especially the *Cruisin' the World* series. Essentially running on 32-bit hardware, *Hard-Drivin'* was the equivalent of a Sony PlayStation game, more than a half-decade before the console was released. For that reason alone, it was a sexy beast of a driving game and a success in the arcades.

But on the Sega Genesis, with less than half as much graphical firepower, making the *Hard Drivin'* formula work on the console was no easy task. The designer

Lee Actor: 3D Master and occasional cow wrangler.

of the Genesis port, Lee Actor, remembers the process as more than difficult. In what he believes as the first coin-op game Atari converted on to the Genesis, Actor also was well aware of the fact that the console was never up to the task of delivering on what made the arcade version so special.

"This was an extremely difficult title to convert to Genesis, and frankly I can't say that I'm 100 percent satisfied with the result. First of all, the Genesis hardware was designed to do 2D character-based games, not 3D; it not only doesn't have any help for 3D calculations, but it also doesn't even have a bitmap. So, we had to do 3D calculations on a pretty slow processor using as few multiply instructions as possible (very costly in terms of cycle time) and never a divide instruction (prohibitively slow), then map the resulting display information onto a matrix of 'stamps' that Genesis used for backgrounds, which due to the need for double buffering and relatively small amount of RAM had to be handled by a custom memory manager we wrote. In other words, it was a total nightmare. The resulting average frame rate was way below what we would have preferred."

This, of course, made finding any type of happiness during the cycle a difficult affair. Known for his work the *PGA Tour* series as well as the PC horror RPG *Don't Go Alone* and games in the arcade such as *Snake Pit, Hat Trick* and *Stocker*, Lee has seen his share of ups and downs. *Hard Drivin'*, however, was different.

"A lot of hair-pulling hunting down polygon bugs," Actor said.

Considering that the console version of the game underperformed in nearly every aspect when compared to the arcade because of the limits of the Sega Genesis hardware, Actor only has a few things he knows that makes his version of *Hard Drivin'* stand out. "It doesn't require you to insert coins to play again," Actor said.

At the same time, despite the limitations of the Sega

Genesis hardware, *Hard Drivin'* did some amazing things. Although it had just two tracks, a stunt track and speed track, the gameplay was arcade-like in nature. Avoiding other cars, buildings, fences and even featuring a vertical loop, it was ambitious from the start. Years before the arcade port was a possibility, localization and port teams did the best they could, and the result was often disastrous. While many will have their own opinions on what the game's legacy truly is, the fact that it was even attempting to push polygons in 1990 on the Sega Genesis makes it a noteworthy and historic title. Way before *Virtua Racing* wowed people with the thought of full 3D on the console, *Hard Drivin'* tried - and tried hard.

"I probably don't know all the racing games on the Genesis," Actor said. "But I'd be surprised if there was one besides *Hard Drivin'* where the entire world is made up of 3D polygons, including the car."

Away from what the game attempted to do technologically; it was also a game that invited plenty of young gamers into the world of 3D for the first time. Navigating the game's loop, for many, was their first experience with 3D gameplay. Add in the ability to watch your crashes via replay and the game provided a ton of great memories for some on the console. The game's boss, the "Phantom Photon," was also pretty damn good. Beating him was no easy task. A half-decade later, racing games the likes of *Ridge Racer* borrowed from this formula as well (remember the #13 black car?), creating some of the best memories the genre had to offer.

Again, while Actor believes the game's legacy was as "The first true 3D game on the Genesis,"

it also wasn't scared to provide a laugh, either. For anyone that's driven "through" the cow in the game (it was impossible to actually "hit" the cow on the Genesis hardware back then), they surely remember the cow's moo shortly thereafter. Again, while not on the same level as finding the Master Sword in *The Legend of Zelda*, it was these small bells and whistles that made sure the Genesis port of the game was anything but a called-in affair.

Even though the arcade version of the game was eventually released in *Midway Arcade Treasures 2* on the PlayStation 2, Xbox and Gamecube in 2004, most gamers who couldn't get to the arcades in the early '90s only experienced the game on the Genesis. While that might not be the way purists believe it should have been absorbed, Actor knows he and his team pushed the Genesis hardware as hard as they possibly could.

"3D on the Genesis is really, really hard," Actor said. "But for some reason, we kept doing them with *Race Drivin', Steel Talons* and four versions of *PGA Tour Golf*. We did our best." 🎮

CRUIS'N USA

Excerpt from "Beyond Donkey Kong: A History of Nintendo Arcade Games"

By Ken Horowitz

Killer Instinct** was only the first product from Nintendo's alliance with WMS. Rare Ltd.'s fighting powerhouse was quickly followed by Midway's Ultra 64 contribution, a cross-country racer called *Cruis'n USA* that was in the same vein as Sega's classic *OutRun*. High-powered and beautiful to look at, the new game produced some great expectations at Midway. It ran on the firm's new V-Unit arcade board, giving it enough horsepower to rival the most advanced competition, and it had the genius of arcade legend Eugene Jarvis behind it.**
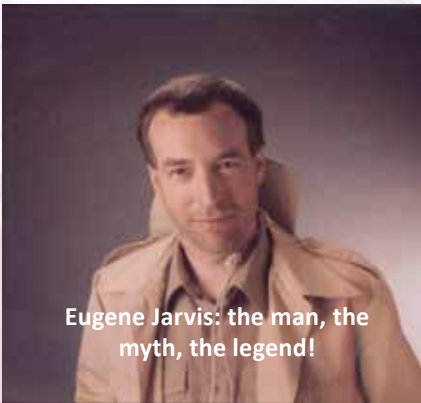
Eugene Jarvis: the man, the myth, the legend!

Midway and Jarvis had a long history, one filled with collection of arcade hits. It was also a relationship that wasn't entirely planned. What was clear from the beginning was that the video game industry was the career of choice for Jarvis; he spent far too many hours of his younger years rooted in local game rooms and playing hits of the day like *Pong* and *Breakout*. In college, he often went down to the lab basement at the University of California Berkeley at two in the morning to play *SpaceWar!* until dawn. What wasn't as defined was how he would get his start. His intention to be a game designer burned strongly after he graduated in 1977 with a BA in Science in Electrical Engineering and Computer Science, but his attempt to land a job at Atari went unanswered. Jarvis took a job at Hewlett Packard, but it turned out to be less than exciting. In fact, it proved too boring for him, and he lasted a total of just three days. Luckily, fate had better things in store for him, and he landed his dream position when Atari finally came calling. For the next two years, Jarvis got to work at Atari under Nolan Bushnell and program some of the first pinball machines that used microprocessors.

While at Atari, Jarvis rose through the ranks far more quickly than even he had ever hoped. "I was just out of college, 20 years-old, and within a week the guy who had hired me quit, and then his boss quit, and then the other guy was transferred, and I was in charge of the programming department for pinball after two weeks," he recalled in an interview with the author. Jarvis was involved with several pinball machines, among them *The Atarians* and *Superman*. Atari was a great company, but pinball was not its specialty. Other companies, like Williams Electronics and Bally, were where the real action was. Jarvis left Atari in 1979 to go to Williams to work with another ex-Atarian, legendary pinball designer Steve Ritchie. There, he continued making pinball games until he saw *Space Invaders.* That game convinced him that pinball was never going to satiate his creative impulses. Alongside talents like Sam Dicker, Larry DeMar, and Paul Dussault, Jarvis began designing his first video game title. That game, which was also Williams' first video release, turned out to be *Defender*, an action-packed classic that blew players away with its fast side-scrolling motion and brilliant particle effects. Jarvis proved his designing talent with *Defender*; the game sold 70,000 units and made $1.5 billion, becoming Williams' highest-grossing product ever.

Jarvis followed *Defender* with a slew of releases that rank among some of the most defining titles in video gaming history. *Stargate, Robotron: 2084, Narc, Smash TV* - all bona fide classics. After WMS purchased Midway in 1988, Jarvis looked once more to the excitement he felt in the arcades for his next project. Creating a racing title had always been a part of his long-term ambition to produce the best game possible in every genre. "I loved playing *OutRun* and *Pole Position*," he explained in 2017, "so I'd always wanted to make a driving game. A big issue was hardware; getting a graphics system that could throw out enough pixels and do all the 3D crap and everything." Atari's *Hard Drivin'* (1989) inspired Jarvis. He was impressed by its visuals and understood that 3D was the future of the racing genre, but the game's flat-shaded polygons and maddingly slow gameplay had significant room for improvement. Sega's *Virtua Racing* was a major step up in these areas, but it lacked the excitement Jarvis envisioned. He wanted a faster game with realistic, texture-mapped scenery.

Jarvis and several others left Midway in 1991 to pursue

development of their new 3D texture-mapping technology, meaning that *Cruis'n USA* was already in development before the WMS-Nintendo partnership came to be. Jarvis' new company, TV Games, had a daunting task before it: how to create a 3D racing game that could advance the category technologically and be fun and exciting. The first step for TV Games was to design a 3D texture mapping hardware board, codenamed "V-Unit." Mark Loffredo and Glenn Shipp, the hardware gurus behind Williams' and Midway's brilliant 2D systems, joined the company to make the V-Unit a reality. Since there were no 3D texture-mapped games yet, no graphics tools such as Maya or 3DS Max were available. There were no 3D graphics hardware, co-processors, or game engines. Therefore, the proprietary V-Unit graphics hardware (including custom VLSI graphics co-processor ASIC), 3D engine software, and 3D art tools for modeling, rendering, and texture mapping all had to be developed in-house. Because 3D texture mapping was so math-intensive, a 50 Mhz TMS 32031 DSP (Digital Signal Processor) was used for game code, as well as projecting and feeding vertices and UV (the axes of the 2D texture) coordinates to the texture mapping graphics coprocessor ASIC. All code was written in Assembly language for maximum performance. The TV Games staff had to pool its talent to create custom development resources on just about every aspect of *Cruis'n USA*'s design.

After a brutal three-year development cycle, Jarvis finally had the hardware he needed. The V-Unit board was among the most powerful video game systems of its era, including Sony's PlayStation – a remarkable achievement considering that it was developed by only the two hardware engineers, Loffredo and Shipp. On the software tool side, Eric Pribyl and Todd Allen developed the art tool chain and the real-time debugging system. Jarvis concentrated on the game engine and real-time

rendering software. The resulting *Cruis'n USA* arcade system was a graphics beast that could render up to 54,000 polygons at a frame rate of 30 frames-per-second (FPS) at 512x400 resolution. Most impressive was its ability to produce more than the standard triangular polygons of other systems. In an interview for this work, Jarvis explained how the V-Unit handled its polygons:

"The conventional approach for 3D rendering over the years has been to use only triangular polygons, due to the complexity and non-planarity issues of processing N-sided geometries [N = the number of polygon sides. N=3 for triangle, N=4 for quad, etc.]. After some experimentation with 3D modeling, we noticed that by using quads, poly counts could be reduced almost in half, and rendering speeds doubled with better image quality. So, we designed the V-Unit chip for quad rendering."

Conveying the realism of the world locations in the game was just as demanding a task. Tools existed to capture videotape as digital data files, but there was little else of use to TV Games. Jarvis' team drove thousands of miles across thirteen states to videotape and scan real-world landmarks, filming scenic highlights across the game's 3,000-mile route. The images were then recreated in spectacular detail using proprietary tools for 3D polygon modeling and texture-mapping. 3D texture mapping was still a completely new concept in video games, which presented Loffredo, who was responsible for the hardware for the Midway classic *Narc*, with a formidable test.

Learning the new tools was often an uphill battle for the team's artists. "Our proprietary 3D design software was initially quite primitive," said Jarvis," so our artists

The entire *Cruis'n USA* team goes... Cruis'n!

had to actually type in the coordinates of the polygons in *Cruis'n USA*. A fair amount of the game was designed by typing, you know – 107, 76, 29... It was so fucking painful." Eventually, the team developed tools that could mirror symmetrical objects; automatically generate traffic, roads, terrain, and collision maps. The tools could even reverse and string road sections together to make S-turns and long, winding, undulating tracks.

Cruis'n USA saw players choose from four different cars and race across 14 different stages from San Francisco to Washington D.C. They competed against nine other vehicles, as well as another player if two machines were linked together. As with *OutRun*, traffic littered the road, with the added dimension of oncoming traffic. Crashing into other cars wasn't fatal, but it cost players valuable time and position. There were even animals that would explode into "steaks" when impacted. Players who failed to make first place could continue their cross-country trek by adding additional coins. Operators also had the option to award a free game for players who completed all 14 stages in one sitting.

NOA had *Cruis'n USA* on hand at the 1994 Summer CES, alongside *Killer Instinct.* The fighting/racing tandem was presented as the first titles that would arrive with the Ultra 64 and were said to be running on Nintendo's

system, even though this was not the case. To promote Nintendo's part of the deal, both games had messages in their attract modes that emphasized their upcoming release on Nintendo's new machine, and the publisher announced that its Project Reality dream team would arrive in 1995. Nintendo soon admitted, however, that *Cruis'n USA* had been in development at WMS before the console's hardware had been finalized and development tools were available. Rare Ltd. had been the only Ultra 64 developer with access to the tools, but TV Games was not involved with Nintendo until the end of the development process. "The V-Unit and the arcade game were developed using entirely different technology than the N64, so these delays had no effect on us," Jarvis admitted. The only setback *Cruis'n USA* suffered was a helicopter that was supposed to bomb players along the U.S. 101 segment of the game. It kept crashing the system, so it was removed from the final version.

A lack of funding caused TV Games to finish development back at Midway. *Cruis'n USA* was around 80 percent complete when the agreement between WMS Industries and Nintendo was finalized, and the deal gave Midway enough cash to complete development and start production. The added technical support also included Matt Booty (now head of Microsoft Studios), who did the *Cruis'n* sound effects, and Vince Pontarelli,

composer and guitarist of the now fan-favorite music tracks. The influx of cash at Midway came at just the right time and signified much more than just a larger creative team. Jarvis has speculated that *Cruis'n USA* might not have seen a release had the WMS-Nintendo partnership not occurred.

Midway wasn't concerned about the delay of the console version of its new racer and proudly demonstrated its trio of *Cruis'n USA* variations to its distributors at the Park West Theater in Chicago the following month. "We're here today to sell you some automobiles!" exclaimed Midway's Vice President Joe Dillon before a large crowd and amid smiling models. Dillion pitched the standard cabinet options (upright and deluxe sit-down) and championed the advanced features of the stunning premium model called the "Full Motion Simulator," or what he called the "convertible" model of *Cruis'n USA*. This impressive machine weighed in at a thousand pounds an replicated the look of a real sports car. It could move on three axes, mimicking the players' onscreen moves, and it was equipped with optical sensors underneath the car to shut down automatically if someone got too close while it was in motion. The cabinet included a 25-inch monitor, padded seat, a force feedback steering wheel, and speakers on either side. There were even working fog and brake lights. Midway went as far as to give the car detailed styling and real chrome-plated hubcaps. The small army of distributors present in Chicago that day found the game to be a most pleasant surprise, and there was great anticipation about its potential. Jarvis estimated that around 300 Full Motion Simulator units were made, and after a few years the motion

actuators tended to seize up, leaving only a few collector's items in operation today.

After three years in development and with the enthusiasm of operators and distributors, *Cruis'n USA* finally sped into arcades in November of 1994. It seems that Midway's initial intention was to target the racer to larger game rooms. The standard upright and sit-down models brought in players because it didn't require head-to-head competition and could be enjoyed on its own. Rachel Davies, Midway's East Coast Sales Manager cited the racer's ability to hook patrons who weren't normally planning to enter the arcade: "Operators integrate these bigger pieces to draw traffic. The players will initially come in to play *Cruis'n USA*, then move on to play other titles." To keep players interested, Midway released an upgrade kit called Head-2-Head, complete with neon signage, that let added a competitive multiplayer mode and five new cars, like a police cruiser and a school bus, that were unlocked when the race was completed.

Midway's racing phenomenon was consistently popular, and units were still being purchased two years after its debut. The game found a home in bars, pizza parlors, and other locations that had turned away from coin-op games over the years. The two deluxe models also saw an unexpected bump from a recent surge in popularity of big simulators. The bars and bowling alleys that had previously shunned such large machines were suddenly buying them. This feat was largely accomplished by locations reducing their

share of revenue with operators that provided them on commission. According to Midway National Sales Manager Rachel Davies, operators compensated for the high price of the sit-down models by asking locations to take a smaller share. *Cruis'n USA* was such a consistent earner that many locations consented to the operators' terms.

The long-anticipated home version of *Cruis'n USA* finally arrived in December 1996, two years later than expected. The port was a significant step down from its source, suffering many changes to accommodate the now different and finalized N64 architecture. The graphics and framerate took a hit, and the camera was now much closer, severely reducing the area of gameplay. TV Games was not impressed with the conversion. Jarvis described the staff reaction to it: "When it came time to port *Cruis'n USA* to the N64, we were shocked at the extremely low throughput of SGI's N64 graphics engine, especially for texture mapping. *Cruis'n USA* had to be severely de-rezed, with vastly reduced polygon counts, in order to hit a decent frame rate on the N64." Additionally, many of the controversial elements, like the ability to hit and kill animals in the road and the Bill Clinton White House hot tub, were removed. Despite these shortcomings, *Cruis'n USA* would become a highly popular N64 title, selling in excess of three million cartridges.

Console problems aside, *Cruis'n USA* did incredibly well in arcades, moving 27,000 units worldwide, and securing a hit machine for Midway

and valuable publicity for Nintendo's upcoming console. With the machine's multiple delays, the coin-op version's enduring popularity was instrumental in keeping the hardware in the public eye. Overall, *Cruis'n USA* was so successful that it produced a franchise, with subsequent releases appearing both in coin-op and N64 form, as well as on Nintendo's Game Boy Color. *Cruis'n World* (1996), *Cruis'n Exotica* (1999) added to the formula by incorporating stunt moves and taking players to multiple countries and even to Mars. Jarvis and his team were behind each of the arcade releases but were not involved with the cartridge versions that included a Game Boy Advance sequel, *Cruis'n Velocity*. The franchise remained dormant until 2004, when Jarvis and his new game development company, Raw Thrills, ported their arcade racer *The Fast and the Furious*, to Nintendo's Wii console as simply *Cruis'n*. It would take another 12 years before an all-new original sequel appeared. 22 years after *Cruis'n USA,* Raw Thrills released *Cruis'n Blast* finally sped into arcades in 2016, complete with Nintendo's support. "They were super excited that we wanted to do *Cruis'n Blast* and helped us capture the true *Cruis'n* spirit of a fun adventure racer," stated Jarvis, who proudly shared that *Cruis'n Blast* reigned as the top arcade driver from 2016 to 2019.

Like *Killer Instinct, Cruis'n USA* showed that while Nintendo was no longer an arcade manufacturer, it had no qualms about participating in coin-op releases with those companies still involved in the industry. This stance would become the norm for Nintendo from then on, resulting in a collaboration with two of the biggest names in arcade games, one a former close ally and the other its greatest console rival. 🎮

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A-Z of Games for many platforms

MARIO KART
THE HISTORY

By Todd Friedman

There have been many racing games before and after *Mario Kart*, but none of them compare to the popularity of Nintendo's series of racing games that have been created for multiple consoles. Every console and handheld that proceeded after Super Nintendo had a new version of the game. Mario has been an icon ever since 1985 when the *Super Mario Bros.* game introduced a cast of characters to the gaming industry. Mario, Luigi, Princess Peach - all were making a name for themselves. Dozens of games starring the *Mario* crew were created in the in the mid to late 1980's, but near the end of the decade, racing games like *R.C. Pro-Am, F-Zero, Enduro Racer* and *Super Off Road* were introduced as the next popular wave of entertainment. Nintendo used the popularity of driving games and put *Mario* characters in each car, giving gamers the opportunity to be one of their favorite characters. When the Super Nintendo came out, they jumped on the opportunity and created the very first *Mario Kart*. It was and still is a big hit. Since then, ten total games have been created on every console and handheld to follow. Here is a little summary of each of those games.

1992
SUPER MARIO KART
Super Nintendo (SNES)

The game that started it all: *Super Mario Kart* for the Super Nintendo Entertainment System. This game would pair you up with an opponent to race against each other and/or time. There were a handful of characters to choose from and plenty of tracks to race. In the original *Mario Kart* game, you could choose between Mario, Luigi, Yoshi, Princess Peach, Bowser, Toad, Koopa Troopa, and Donkey Kong Jr. This version also introduced battle mode, where you can compete against a friend using weapons to defeat them. The Grand Prix mode consisted of a series of races with points being given out. There were the 50, 100 and 150cc speed and difficulty settings. These Grand Prix modes would stay true to every game created after.

1996
MARIO KART 64
Nintendo 64

The next *Kart* title in the lineup really stepped up its

first *Mario Kart* game that was released on launch day of a gaming system. Rather than just take the original *Mari Kart* for the SNES and transfer it to the Gameboy Advanced, Nintendo made a version that was half *Super Mario Kart* and half *Mario Kart 64*. The number of courses would double from 20 to 40 if you could race your way to unlock all the tracks.

2003
MARIO KART: DOUBLE DASH
Nintendo GameCube

game on the Nintendo 64 console. This version would let you play up to four players at the same time, racing and battling to victory. Not only was the gameplay a huge improvement, but the graphics on this new platform was a huge step up for Nintendo. The 3D-looking graphics made the racing much smoother and more realistic. Released for the holidays in 1996, *Mario Kart 64* had a unique style of controls as well. The Nintendo 64 controller introduced the analog stick, and this made for driving the Karts more fluent. Drifting is a major part of gaining speed in the *Mario Kart* franchise and the N64 controller made this much easier to do than the D-pad. To this day, *Mario Kart 64* is one of the top played *Mario Kart* games in the franchise.

2001
MARIO KART: SUPER CIRCUIT
Gameboy Advanced

Released in the summer of 2001, Nintendo was to take the *Mario Kart* series to the handheld realm. The Gameboy Advanced was a next generation handheld that gave the players more colors and better graphics than the original Nintendo Gameboy. It also was the

Nintendo always thinks of ways to improve and renovate any games they make, whether it is *Super Mario Bros., The Legend of Zelda,* or *Kirby's Adventure. Mario Kart Double Dash* is a prime example of changes made to a franchise. In this version of *Mario Kart,*

you can ride along with a character on your cart. This can give many advantages to the gameplay and your experience. The double rider angle would only appear in this version of the series, making this a truly unique game. This game also stepped up the number of characters to choose from to 20. Now you can choose from characters like Birdo, Baby Mario, Baby Luigi, Diddy Kong, and Bowser Jr., among others. Each character had their own special items they could use. This made for a strategic planning of character choice. Also, an upgrade to gameplay was the LAN (Local Area Network) battles. Now you can play up to 20 players on the same game. This took the racing experience to a level that would grow online to this day.

2005
MARIO KART DS
Nintendo DS

Released on November 14th, 2005, *Mario Kart DS* changed the way Kart racing was played. The dual screens made for a convenient way of checking the map and seeing who is in the lead. The top screen would be the race and the bottom would be the map, with the rankings and times of the course. This version has five single-player modes and over 30 courses. With the Nintendo DS having Wi-Fi capability, this game could challenge people over the internet as well as locally with someone else who has a DS. With the addition of R.O.B. the Robot and Bones, you can choose over 12 characters with different strategies. Another first in the *Mario Kart* series is the Mission Mode. From collecting coins to attacking enemies, there are seven levels with eight missions in each. After completing each mission, a boss battle arises before you can unlock the next course. *Mario Kart DS* ended up being the third highest-selling game in the series.

2008
MARIO KART Wii
Nintendo Wii

The Nintendo Wii was a smash hit and was innovative

in the way gaming is played for all ages, with the Wii Remote, the family friendly games and, of course, the online community. Fans of the Wii were wondering when a new *Mario Kart* game would be released for the Nintendo Wii. The console was released in November of 2006. By January of 2008, fans were still waiting for the new version of the *Kart* series. It was finally announced that in April of 2008, *Mario Kart Wii* would hit the shelves. Not only would it amp up the gameplay, but also the number of characters you can choose from. At the time of release, this game featured the most playable characters of that time, with the exception of *Mario Kart 8* later down the road. You can choose from 24 different and unique characters. Another renovating idea was the Wii Steering Wheel controller. This gave the gamer the ability to move the remote embedded into a steering wheel style controller. The Nintendo Wii would grow a huge online community and would stay connected all the way until 2014. This gave *Mario Kart* players from all around the world a chance to compete and rack up ranking points to become the best of the best. Which brings me the *Mario Kart* Channel. This Wii App was used to check world rankings and to upload your best course time for a "ghost" riding player in the online community. Players could challenge and try to beat your time. This was again a breakthrough for Nintendo and its community.

2011
MARIO KART 7
Nintendo 3DS

With more breakthrough technology comes another *Mario Kart* game. The launch of the Nintendo 3DS was announced to mixed reviews. The idea of playing a handheld game in 3D without glasses seemed unbelievable. Nintendo made it happen and in most

countries it was the fastest selling handheld unit to date. US sales did very well, but not to the numbers Nintendo expected. However, the release of *Mario Kart 7* in 2011, only a few months after the 3DS was launched, brought many fans to invest in the handheld with the option to turn off the 3D and play the regular way. Like other consoles themselves, Nintendo rebranded the handheld many times, with the 3DS XL and the 2DS. This gave more players an outlet to play *Mario Kart*. Nintendo added new faces like Metal Mario, Honey Queen, Wiggler, and Lakitu. You could also play as your Mii avatar. *Mario Kart 7* is still one of the most popular DS games to date and die-hard fans still battle locally at gaming conventions and parties.

2014
MARIO KART 8
Wii U

The debate of whether the Wii U was a complete failure or a good console is still in question. The sequel to the Nintendo Wii had the same style console, controllers, and games. The HD graphics were a step up, but the renovation of the Wii U Gamepad made for some frustrated gamers. With the vision of the Nintendo

Switch many years before, they marketed the Gamepad as portable gameplay as well as a game played on the TV. It did not seem to take off as expected. But, in true Nintendo fashion another *Mario Kart* game was born. *Mario Kart 8* was a smash hit for the Wii U. The online gameplay, the graphics, the underwater levels and the ability to race upside down changed the way people raced in the *Mario Kart* series. *Mario Kart 8* features the largest roster yet. Players can pick between 30 racers, including all seven of the Koopalings. Just like in *Mario Kart 7*, you can also play as your Mii. Because of the short lifespan of the Wii U and disappointed fans, Nintendo decided to re-release *Mario Kart 8* for the Nintendo Switch and call it *Mario Kart Deluxe*. Both versions have sold a combined total of more than 41 million copies worldwide, making it one of the best-selling video games of all time

2017
MARIO KART DELUXE
Switch

Mario Kart 8 was a success, but the console it debuted on was not a fan favorite. The Wii U did not last long and did not get the recognition from most gamers. When the Nintendo Switch came on the market, it blew away the sales of past consoles and is still selling at an expediential rate. It was

handheld console. *Mario Kart Live: Home Circuit* is a revolutionary way to play the racing game. The 2020 pandemic kept most families home and playing more video games. To celebrate Mario's 35th Anniversary, Nintendo came up with a version that by coincidence of the pandemic lifted the sales to a higher level. This virtual version of *Mario Kart* lets the gamers design the course from their own rooms in their house or apartment. The toys of characters, which are equipped with a motor and camera, move in accordance with the player's input on the Nintendo Switch. The game also features a Grand Prix mode, where the player will race against Bowser Jr. and the Koopalings.

only natural for the *Mario Kart* series from the Wii U to move to the Switch. The gameplay of was still loved and played on the Wii U but now was amplified on the Switch and the way gamers could compete. It was rebranded *Mario Kart Deluxe.* Some features in Deluxe were reworked or restored from previous *Mario Kart* games. All the flaws that came with the Wii U edition were fixed and magnified to the best levels. Three years later after the game came out, *Mario Kart Deluxe* is still one of the highest rated *Mario Kart* games ever.

2020
MARIO KART LIVE: HOME CIRCUIT
Switch

Even though *Mario Kart Deluxe* for the switch is still popular today, Nintendo had to do something to change up the series and make a new game for the

TOP *MARIO KART* GAMES SOLD

Mario Kart 8/Deluxe
41.86 Million

Mario Kart Wii
37.38 Million

Mario Kart DS
23.60 Million

Mario Kart 7
18.92 Million

Mario Kart 64
9.87 Million

Mario Kart: Double Dash
9.69 Million

OTHER NOTABLE MARIO KART GAMES

VB MARIO KART
1995

This game was scheduled for the Virtual Boy in 1995. The game was cancelled early in development prior to its announcement due to the Virtual Boy's commercial failure.

MARIO KART ARCADE GP
2005

Mario Kart Arcade GP was the first and only entry in the series released for arcades. This game, even though it was Nintendo-branded, was developed by Namco, so it took a little away from the true *Mario Kart* experience.

MARIO KART ARCADE GP 2
2007

This sequel contains most all of the content of the original, but greatly expands it with the addition of several new courses, items, and racers. Like the predecessor, *Pac-Man* characters appear as playable in this game.

MARIO KART ARCADE GP DX
2013

Unlike the other two Arcade GP releases, Time Trial is not present in this game. Just like the previous two *Mario Kart Arcade GP* games, it is possible to do multiplayer play by linking up to four machines.

MARIO KART ARCADE GP VR
2018

Mario Kart Arcade GP VR is played through use of a virtual reality headset and in first person. Similar to the prior arcade *Mario Kart* games, the game is controlled via a steering wheel and acceleration and brake pedals. In addition, items are thrown by making hand movements, which the game registers by an attachment to the player's wrist.

END OF DAYS

THE COMMODORE 64 AND THE SIMPSONS ARCADE GAME

By Michael Mertes

DON'T HAVE A COW, MAN!
The 1990s was a fantastic time for arcade beat-em-ups. Although home console hardware didn't have the same horsepower as the arcade versions, we still received some very playable ports of games like *Final Fight* and *Teenage Mutant Ninja Turtles: Turtles in Time*. Sadly, we didn't get console ports of two smash hit arcade beat'em ups from Konami, *X-Men,* and *The Simpsons Arcade Game.* Instead, both franchises were relegated to mediocre platformer console games. Many like myself hoped we would see a port of either arcade game, but when neither surfaced, we assumed it just couldn't be done on a 16-bit system.
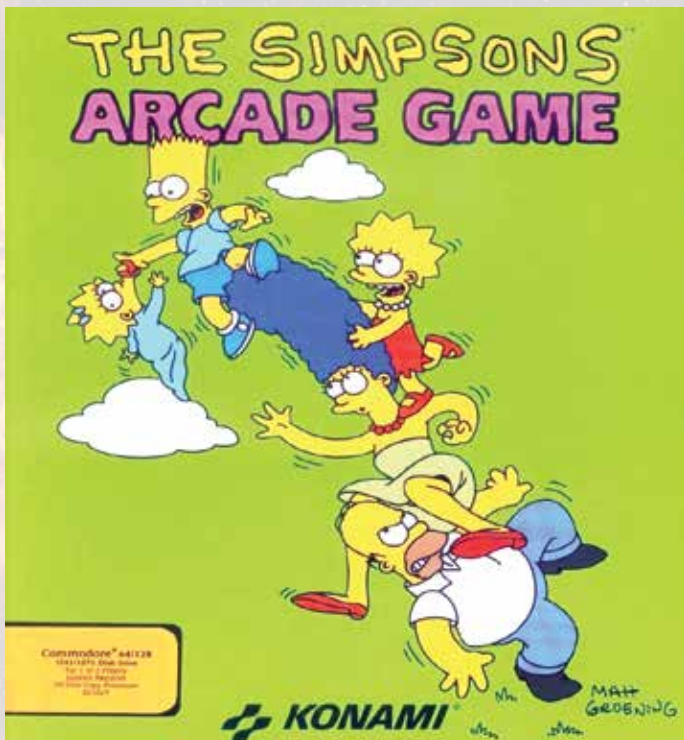
Yet somehow, on hardware that was vastly underpowered compared to any 16-bit hardware at the time, *The Simpson's Arcade Game* was ported to the Commodore 64. Released in 1992, the game remains a high point of interest for Commodore 64 fans for being one of the last arcade ports released for the Commodore home computer in North American.

The Commodore 64 port features every *Simpson* character that was playable in the arcade version and attempts to recreate every stage and boss featured. While the game is a commendable attempt, the aging Commodore 64 hardware cannot deliver an enjoyable home version. The graphics have been understandably downgraded, but the game really hurts with the poor hit detection. The poor hit detection becomes hugely evident when fighting bosses. After multiple attempts of trying to beat the stage 1 boss, I'm still not convinced I took away even half of his health.

The Commodore 64 port of *The Simpsons Arcade Game* is undoubtedly interesting from a "Why did they create this?" perspective, but you'd be better off listening to Bart Simpson and eating his shorts instead of playing this port.

COMMODORE COMETH

Commodore International was no stranger to releasing home computers when they released the Commodore 64 in 1982. Before unleashing a potential Apple Computer killer to the home market, Commodore released calculators, the Commodore PET, and the Commodore VIC20. The Commodore 64 was a beautiful piece of hardware from both an outside and inside perspective. The inside of the unit contained a MOS 6502 processor, VIC-II graphics chip, and a SID sound chip to make for a powerful home computer that could deliver excellent graphics and sound beyond most other home computer options at the time. The exterior of the Commodore 64 presents itself as a technological bread bin, with a built-in keyboard, two controller ports, serial bus ports for external devices like printers and floppy disk drives, and a slot for cart-based games. Everything included in the Commodore 64 had already attracted a lot of attention, but its most significant selling point was its low price. Debuting at $595, it was the most approachable home computer pricewise compared to other home computers like the Apple II.

The Commodore 64: the gateway to fun. (C64c model)

The Commodore 1541 Disk Drive.

The Commodore 64 quickly became the home computer of choice in North America and was available in big box stores, instead of specialty electronics stores. This also meant that software was very accessible, and in terms of games, the Commodore 64's selection was huge. Most retail games sold on floppy disks and blank floppy disks were also available for consumers to purchase. As one could imagine, with the potential to write things to a blank piece of media, the ability to copy games was a reality. For some retail games, this was as simple as getting a hold of two Commodore 1541 disk drives and initiating the proper copy command to duplicate the disk. As game companies got angrier about their games being pirated, they worked on methods to inject copy protection into their games, such as purposely creating a bad portion of data on the disk to make it unreadable when a copy operation was performed. This wasn't enough to stop a rapidly growing scene of hackers, also known as crackers, who worked to defeat the copy protection so the games could be copied.

THE COMPUTER OUTLIVES THE COMPANY

The Commodore 64 sold several million units from its 1982 inception but was finally discontinued in 1994. It would be straightforward to speculate on why the home computer was discontinued: From a home computer perspective, the market has changed drastically in the 1990s, and standard PC and OS architecture had finally been established. From the gaming perspective, significantly more powerful home consoles existed, and Nintendo, Sega, and even the upcoming Sony PlayStation would exceed anything the Commdore 64 could produce.

The real killer of the Commodore 64, though, was the fact that the Commodore Corporation went bankrupt. Due to poor business decisions, the company found itself unable to remain above water and ultimately closed its doors. One has to wonder if the home computer could have squeezed out a few more years on retail shelves with the company still breathing. Despite the company's collapse, the Commodore 64 still lives

on thanks to the community's support. Games continue to be developed, and homebrew hardware has given Commodore fans the ability to continue to enjoy the legacy that the Commodore 64 has given us.

GETTING LOADED IN 1986

LOAD "$" , 8, 1
LIST
LOAD "BRUCELEE" ,8,1
SEARCHING FOR BRUCELEE
LOADING
READY.
RUN

If the above commands look cryptic to you, it probably means that you've never used a Commodore 64, or if you did, you played all your games via the cartridge slot. To those that have used a Commodore 64, these commands are the gospel to get a game loaded. In my specific case, this would be the command I would watch my dad input thousands of times as he would swap 5 1/4 inch floppy disks into our Commodore 1541 disk drive to play the plethora of games he had copied to many disks. The Commodore 64 was nothing short of a miracle to me, as the games seemed so much more advanced than what Intellivision could produce. Having not experienced the Atari 2600 before, the Atari style joystick that could be used seemed far more comfortable than the controller that's Mattel's console offered.

There was one disadvantage about the Commodore 64 that bugged my dad far more than me. On the Intellivision, I could pop a cartridge into the console to start a game. On the Commodore 64, I had to know what disk had what games on it and how to type in the commands to load it. If I wanted to play a game, I had to ask my dad to load whatever game I wanted to play. Eventually, my dad would write down the commands and examples on a notebook and taught me how to load up the games myself. This was a challenge for me, but I could get most games started by myself through
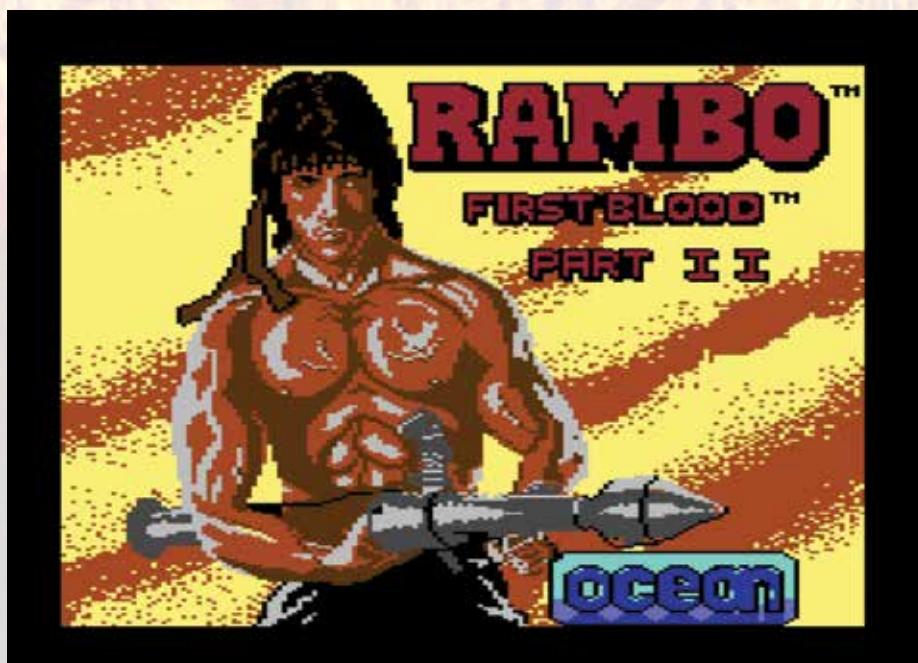
nightmares. *Rambo* was an instant classic for me, not just because I loved the character, but the music was terrific. Incredible music was a standard feature on most Commodore 64 games. Thanks to the SID (Sound Interface Device) music chip, many games contained incredibly catchy music compositions. Even today, elements from the SID chip are used to create new songs.

As someone who supports users with computer technology as a regular gig, I can't help but think that the Commodore 64 played a significant factor in my decision to pursue a career in the Information Technology field. I was captivated by the machine so much that I specifically reference the Commodore 64 as the first computer I worked on when I'm asked about my IT background. While I may not have the original bread bin model that I grew up on, a Commodore 64C, a revised version of the original C64, sits proudly among the other classic pieces of tech that I hold near and dear to my heart.

practice. Why was this so tough for me? Keep in mind that the year was 1986, and I was only three years old. While most kids my age were getting help with their alphabet and numbers by watching Sesame Street, I was figuring them out by typing them on a Commodore 64 keyboard.

Armed with the knowledge to load games, I figured out that I could load almost any disk by merely matching the alphanumeric characters displayed after I typed the LIST command. It was here where I experienced games I had never seen my dad or sister play before, like *Aztec Challenge, Beyond Castle Wolfenstein,* and *S.W.A.T. Beyond Castle Wolfenstein* was very hard to understand at such a young age. However, I was still amazed by the concept and the ability to experience it. As I played more and more games and got better at loading them, my dad and sister asked me to load them up. Having me do it, they could save themselves some time due to the games taking two to five minutes to load. Together, we would play classics like *Forbidden Forest, Impossible Mission, Pitstop 2, Bruce Lee, Commando, Rambo, Summer Games, Beach Head*, and *Raid Over Moscow*. Games like *Forbidden Forest* were fun but gave me

THE COMMODORE 64 GOT GAME!

**IMPOSSIBLE MISSION
EPYX
1984**

**RAID OVER MOSCOW
ACCESS SOFTWARE
1984**

**PITFALL 2
ACTIVISION
1984**

ASTEROIDS REPLICADE
A REVIEW

By Michael Mertes

The fifth entry in the New Wave Toys Replicade line is the 1979 Atari arcade classic *Asteroids.* For this release, New Wave Toys has produced 3,500 units of a standard version and 500 units of an "overhaul" edition, the latter featuring slight cosmetic differences like cigarette burns and battle scars for that authentic "machine trashed" feel.

The *Asteroids* Replicade cabinet will feel like a step back to those that have invested and played previous Replicade cabinets in the lineup. From an emulation perspective, *Asteroids* lacks the full speed frame presentation of the arcade original. Perhaps it's because the original arcade cabinet ran on a vector-based monitor, but the *Asteroids* Replicade seems to draw objects at half the speed when compared to it. You can eventually overlook the frame rate, but the speed difference will instantly become apparent when you play on an original *Asteroids* cabinet.

Another major pitfall of this miniature cabinet is, oddly enough, its accuracy of the original arcade cabinet design. The *Asteroids* cabinet was designed with an inward slope and a straight window view of the monitor. This design is not an issue with the full-sized cabinet but shrinking it down to a 1/6th scale presents challenges when attempting to play it from a top-down viewing angle. I found playing it on my standing desk the most optimal way to play it, but this may be frustrating if you plan on playing this cabinet regularly and lack the appropriate angle to play it.

The *Dragon's Lair* Replicade cabinet released in 2020 featured many excellent "quality of life" features like USB ports for external controllers and an HDMI port for video out capabilities. *Asteroids* does not come with any of these added features, and the HDMI port would have helped ease the pain of the cabinet viewing angle problem for those interested in repeat plays. The lack of these features may have come down to timing and approvals, but I hope we see them return in future Replicade cabinets.

Despite its shortcomings in gameplay and extra features, the *Asteroids* Replicade still makes for an incredible display piece and fits right in with the other games released by New Wave Toys. Much like previous games in the lineup, if you are interested in picking up an *Asteroids* Replicade cabinet, do it sooner than later as the aftermarket price for the Replicade arcade lineup is starting to climb at a steady rate.

SEGA ASTRO CITY MINI
A REVIEW

By Michael Mertes

While many may think of a kitchen pantry full of tasty snacks when they hear the words "candy cabinet", arcade cabinet junkies know that it refers to the sit-down arcade cabinets made by SEGA and other companies in Japan. On the western side of the world, candy cabinets like the SEGA Astro City are pricey and hard to obtain for those looking to add one to their collection. If you lack the space and the funds to get one, the SEGA Astro City Mini may be the perfect compromise to your candy cab blues.

Released at the end of December 2020 exclusively in Japan, the SEGA Astro City Mini not only looks like the original 1993 Astro City but also comes with 37 different SEGA Arcade games. SEGA has also released various accessories to support the Astro City Mini, including a six-button gamepad, arcade stick, and a Game Center Style Kit. The Game Center Style Kit includes a coin bank that snaps into the Astro City Mini to complete its resemblance to the Astro City while also having a seat and marquee with stickers. With two USB ports, an audio-out jack, and an HDMI port that displays the included arcade games at a 720P resolution, it's hard not to fall in love with this little unit. Those outside of Japan that would like to add the Astro City Mini to their collection can easily do so by signing up for an Amazon.JP account and having it shipped internationally to them.

The emulation of the Astro City Mini games is mostly accurate, but I did detect a bit of input lag on side-scrolling shooters like *Thunder Force AC*. Games like *Alien Syndrome, Shadow Dancer, Virtual Boy,* and *Arabian Fight* were the main reason I wanted to pick up the Astro City Mini, and they played great on both the on-screen game cabinet and on a big-screen hook up via HDMI cable. The built-in joystick and buttons on the Astro City are very responsive and worked great for *Virtua Fighter 2*. Unfortunately, SEGA has locked down what kind of external controllers you can use on this mini cabinet, so if you want to use an external controller, you'll need to purchase the previously mentioned gamepad or joystick to get the best experience playing on a big TV.

There is no word as to if SEGA will be releasing the Astro City Mini to any other countries at this time. Hopefully, there will be enough interest in the Astro City Mini to convince SEGA to release other minis based on their other arcade cabinets with more games.

# GAME GEAR
GLEN'S RETRO SHOW

By Brad Feingold

Whether you're fighting, driving, running through a maze or jumping over barrels, the name of the game is control. Of course, every game will have its own type of controller, but if you are using computers and emulators, sometimes that can be a tricky concept to master. Unless you are using an actual arcade machine or an Arcade1UP, what controllers will you use to make your own arcade experience enjoyable?

I do remember, in my college years, playing *Centipede* with a keyboard, which turned out to be an epic fail. With homemade arcades, the majority of the controls are just the standard eight-direction control and six buttons, which take the fun and nostalgia out of everything. Thankfully, there's Glenn Planamento…

Glen Planamento is the chief cook and bottle washer at Glen's Retro Show, which really means he is the Concept Designer, Product Test Engineer and the Retail Guru at GRS, where he believes that every game, no matter if it's an original arcade machine, an Arcade1Up, a Raspberry PI, a Windows, Mac or Linux machine deserves the best controllers on the planet. And Glen is the guy who knows a thing or two about creating just that. In fact, his GRS USB Spinner has been declared the Number One Gaming Accessory on Amazon.com… twice!

"Like the man said, no problems, only solutions." This quote from the 80's movie, Tron, would also pertain to Glen, who has created some ultimate solutions to the problem of controls.
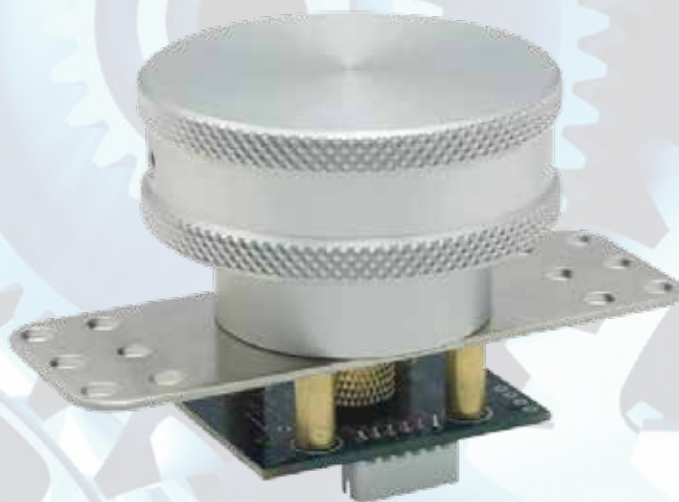
The first controller that he created is an updated version of the spinner. The spinner, which is a lot smoother in movement than what you would use for the 1Ups, gives you the choice of using the traditional silver look or the classic Tron appearance. Setting the spinner up was a little tricky at first but once you got a feel for where it physically was on the knob, it was very easy to place.

Not only did this work like a charm for *Tron*, but for *Tempest* and *Arkanoid* as well on the home arcade.

The next controller that he designed is the yolk stick. This is the controller that is used for games such as

Tron, Gorf, After Burner and *Space Harrier.* Two extra wires were added to the stick for the trigger and to light up the stick for the *Tron* appearance, which brought back every memory of being in the arcade in the 80's. All that was missing was the pizza from Showbiz Pizza. The optional control setup does make it very easy, yet I thought I broke it a couple times when I was physically putting the joystick into the panel, but everything was okay in the end.

Last but not least, my favorite controller is the trackball for games such as *Centipede, Bowling* and, of course, *Missile Command.* The motion and response time on the ball was perfect and made these games most enjoyable to play with the fast response time.

Once the trackball is installed, there is a set of dip switches on the bottom that allow you to change the color of the trackball to match to whatever settings you would like. I think I've changed it about five or six times and I'm still not satisfied with the color.

As for the technical side of the controllers, I don't really know a lot about it. Thankfully, Glen ships easy standard instructions for assembly. For those who like to follow along to videos (GUILTY), he also has assembly tutorial videos online that simply walk you through how to setup his controllers for either a home arcade or an Arcade1Up.

The boards that are packaged with the controls are set up in a way that lets you decide how you would like to have everything connected to your system. This was probably the biggest problem I had when I was assembling everything. I had difficulty choosing the best place to put everything without getting wires pinched. Because I was not using an Arcade1Up and I had my own set of buttons, I had a lot of extra wires that I had to tie back.

I had a friend of mine personally cut into a piece of wood with a router and laser, but Glen was gracious enough to make files available for 3-D printing so you can put the controls together in whatever order you would like. It is almost like an IKEA assembly, and I wish I'd gone that way.

Glen does a great job with his products and if you watch his videos, you will see how much pride he takes in creating them and his other products, as well as putting them together. You can check out Glen's incredible controllers and how-to videos at his website: **www.glensretroshow.com**

SAVE THE CADE 2021

Arkadia Retrocade – Fayetteville, AR.
By Gunther Vinson

The first time I walked into the Arkadia, I couldn't believe what I was seeing. It was packed… there had to be at least 100 people in the place. Now, usually in this sort of situation, I'm not very comfortable. I'm not usually a fan of large crowds, but this time, it felt like I was time-warped back to 1989. The sounds, the excitement, the atmosphere… all unmistakable memories that I hold dear… all being reenacted in front of my eyes. The best part? I had decided to take my daughter with me, and she was experiencing this as well… something I had hoped to be able to show her one day.

As we walked into Arkadia, I could instantly see kids running from game to game, some focused on a high score, some simply there to hang out with their friends. The place has multiple rows of cabinets collected into groups by manufacturer and type; the kicker is every cabinet is original, all with CRT monitors! The symphony of arcade beeps and boops and the screams of agony from a hard-earned defeat made me excited to start checking out what games were available.

I noticed that the *PAC-MAN* row was packed, with a line waiting to try their hand at the Original *PAC-MAN* and *Ms. PAC-MAN*, which is still one of the most popular

video game properties in any arcade. The space is large with high ceilings and TONS of 70s, 80s and 90s memorabilia decorating the walls every place you can hang or nail something. There are even living rooms setup in an 80s and 90s style with home consoles and CRT TVs in front of a sofa - no better way to feel like you're 9 years old again!

We were met at the entry way by a gentleman who said it was $5 per person to enter, free play all day. "$5 each…" I think, "that's insane. I'll give him $20 for me and my kid." The guy refused the extra money, handing me the change. I say, "Nah man, you keep it. Pay for the next two people that didn't bring cash." (This is a cash only establishment.) He thanks us, and we head in…

The game selection was astounding. If you played a game in the 80s or 90s, the chances are that machine is at Arkadia, and in full retro form… no adulteration, just pure OEM game play. Even the controls on the machines I played were original. Happs where they should be, Leaf Switches where they should be… It was great to see these cabinets respected and displayed in such a caring and as close-to-original manner as possible.

I was able to meet with the owner, Shea Mathis, native of Fayetteville to ask him some questions about his operation and what it is like to own one of the best arcades in existence. (For the entire interview in audio format visit: **https://youtu.be/1jht-RfCQ_A)**

Gunther Vinson (GV): What made you decide to open an arcade?

Shea Mathis (SM): "Unemployment. Lol. Not being sardonic, it's the truth. If you're unemployed long enough, you will think of something. I had a steady job, but for personal/medical reasons I left. I jumped without a net, I had no plan, and… got a plan together pretty quickly. Within 2 to 3 months we had it together, cause yeah, it's not fun being unemployed!"

Once I got my business plan together and I bought my first truck load of games, I thought well, we're in, we're committed, let's do this. And it turns out… people get it. They got behind it. It was a total barn raising getting the place up and running."

When we first opened, I think we had exactly 50 games, 2 of which broke down literally the hour we opened. Now 8 years later we've got closer to 200. "

GV: What is your background with video games?

SM: "Uh, I'm a nerd. Utterly unprofessional, no technical background whatsoever. I don't want to go back and do the same job I'd been doing for a dozen or so years now. I want to own my own business, start my own business… turns out, this was it."

GV: What is your favorite game?

SM: "If I HAD to pick one, gun to my head, just pick one, *TRON*. Not least because it's the sexiest arcade game ever made, and super fun to play, but it's actually quite clever, and of course it's a footnote in history. I like the movie, the franchise, the tech… it made a really solid impression on me when I was little. It's that one game that represents that era so well, that early 80s era."

GV: What is your least favorite game?

SM: "My least favorite game is the one I can't fix… I can't talk about it; the grief is too near."

GV: How much work is put into keeping a vintage arcade operational?

SM: "Not quite 24/7 but uh, 8-15/6? It's my livelihood, so it's all that I do… Lol."

GV: How has the arcade business shifted in the past few years?

SM: "That's a loaded question when we're talking about just barely surviving 2020… The barcade model is thriving, love it! All I can comment on is the way we do our business, which is free play for the admission fee, and that's been great. Everyone gets that… people understand that you're not trying to take advantage of them when they see you asking only $5 for this many games… We keep a low overhead here, is the best way I can describe it, and therefore we don't have to raise prices. I refuse to raise prices, cause I'm old and

stubborn, but why mess with a good thing?"

GV: Any advice on anyone thinking of opening an arcade location?

SM: "Do it. Don't hesitate. World's going to end any minute. Live your dreams. Do your thing. Have fun."

Go check out Arkadia Retrocade at 1478 N. College Ave. Fayetteville AR 72703 (Evelyn Hills shopping center). Check them out on Facebook as well!

WHAT WAS ONCE OLD IS NEW AGAIN
A NOX ARCHAIST REVIEW

By Bill Lange

At long last, after years of development, testing, and fine tuning, *Nox Archaist* has finally been released! This highly anticipated game from 6502 Workshop devotedly recreates the CRPG gaming experience from the 1980s, from the game box to the cloth map to the tile-based game world. It also appears to be the first Apple II game available on Steam.

Nox Archaist is an 8-bit, sword-and-sorcery computer role playing game inspired by the classic fantasy game series from the 1980s such as *The Bard's Tale, Wizardry,* and mostly Lord British's iconic *Ultima* series. It was developed from scratch in 6502 assembly language on real Apple II hardware by the magicians at 6502 Workshop.

6502 Workshop's stated goal was to "capture the retro-gaming experience from the 1980s and explore what might have happened if commercial RPG development had continued on 8-bit computers to the present day". Mission accomplished! The 6502 Workshop team created an expansive complex world with both linear and non-linear story elements. There are many side quests to complete as well as the more linear, overarching storyline to follow. Player characters can do interesting things like swimming in the ocean, hiding in tall grass, and firing cannons. Some of the multitude of non-player characters have independent movement and adaptive behaviors. NPCs are known to close up shop, head to the local pub for a tankard of ale, then head home for a good night's sleep.

One of the first technical advances you will quickly notice about *Nox Archaist* is its ability to use 5-bit Pulse Width Modulation to produce clear human voice sound on the stock Apple II speaker (and through emulation, of course). There are also popup windows and other modern user interface elements.

Nox Archaist is a party-based computer RPG. You initially start the game with a single, poorly equipped character without a great deal of information. I highly recommend reading the detailed game manual before starting game play. Your character begins to travel the sinister Realm of Vali, exploring its many interesting towns, formidable castles, and haunted ruins, delving down into its expansive underworld known as the Depths of Vacous, fighting hordes of felonious creatures as you seek information, clues, complete quests, and attempt to save the world from a terrible danger. As you travel about, you will interact with many interesting non-player characters, perhaps recruiting a few uniquely skilled comrades to join you on your quest along the way.

EXPLORING THE 8-BIT TILE-BASED WORLD

As you explore the world of Vali, your party will grow in wealth, experience, and, if you are inquisitive enough, skills. Your growing wealth will allow you to

Forged from Raw Bits by 6502 Workshop
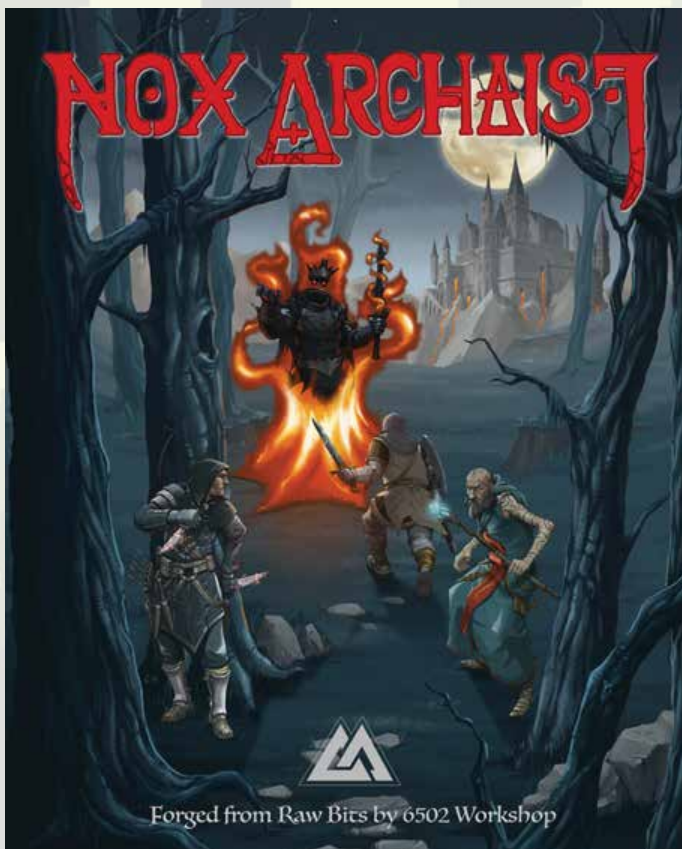
purchase better weapons, armor, magic items, and transportation, as well as deal with the grievous bodily injuries that will surely be inflicted upon you and your comrades by the vile denizens. Your growing experience will allow you to "level up" and increase your characters abilities, strength, and power.

Like many computer role playing games, *Nox Archaist* has weapons, armor, magic items, keyword-based NPC dialog system, multi-level magic system, skills-driven character development, and strategic turn-based combat (a lot of combat!).

PREPARING FOR COMBAT

The turn-based combat system allows your party to fight, and hopefully defeat, the ever increasingly difficult mobs and bosses along your path. You can use melee and ranged weapons as well as various magic spells. You can even change weapons during combat rounds allowing you to explore different combat techniques that might work for you (the player) and your party. The game has implemented an optional "Quick Combat" system that allows you to quickly dispatch lower-level mobs using an automatic computer combat resolution algorithm instead of the more time intensive turn-by-turn based combat resolution system. The "Quick Combat" system has a few quirks, it doesn't "fight" as you might fight, but it can save you a lot of time. Also, a user-requested "Flee" feature was recently added to allow your party to escape from powerful mobs and dire situations, but it will cost you as you trade gold for blood.

In my many hours of gameplay, I've found that there is an excessive selection of weapons, armor, and other items available, either by purchasing them from the many merchants and shopkeepers throughout the game, from successful combat treasure piles, or through solving some of the various quests and puzzles. It takes a great deal of experimentation and note taking to figure out which items to use with which characters

and in which situation. Or, of course, you can just wing it!

Nox Archaist has an interesting skills-driven character development system. As your characters level up, he or she gains the capacity to develop various skills. But to actually develop those skills, you need to find the correct tutors to train you. Training isn't cheap and it requires the party to continually crisscross the game world to seek continued instruction. Take good notes on NPC conversations that provide information on where to find these tutors, as well as who and where they are located once you find them. My advice to you, is to train early and train often!

There are no character classes in *Nox Archaist*. For example, any character can cast magic spells, as long as they have the correct attributes. As your characters "level up", you can use their ability score increases, skills training, and weapon selection to define a path for each character. Want a tank for a fighter? Find a dwarf and increase the character's strength and melee weapons skill. Same for magic users, thieves, etc. The manual has a detailed section on character class builds to help you decide.

Along the way, you may find many old familiar friends and foes alike from the 1980s Apple II computer gaming scene, as well as some recognizable new faces, places, and items named for and by the generous *Nox Archaist*

Kickstarter supporters and backers who helped fund the game's development. If you get stuck and need a few hints, one particular in-game ally even acts as a type of in-game help system to help point you in the right direction. There is also a continually updating, short and concise "Quest Log" a keystroke away that will remind you of your assigned quests. In my experience, the "Quest Log" isn't a replacement for detailed and verbose note taking, it's more of a useful quick lookup/checklist.

If you are an Old School Gamer, and want to play *Nox Archaist* on your original Apple II hardware (128k enhanced Apple //e, Apple IIc, and Apple IIGS) that it was developed on and for, you can. The game even has Mockingboard (and compatible) soundboard support. If you want to be really, really old school, you can create physical 5 ¼-inch floppy disks from the available Apple II disk images with a program like ADTPro. You will need to supply your own blank floppy disks. But, beware, *Nox Archaist* is an expansive world, when playing using physical media, there is a lot of disk swapping. If you have an Apple II with a hard drive (such as the CFFA3000 or FloppyEMU), you can still play on the original hardware and save yourself excessive disk swapping.

If you are a retro gamer who likes Ultima-type computer-based fantasy role playing games with a huge world to explore and interact with, completing quests, and mapping dungeons, you will love *Nox Archaist.*

The full-color *Nox Archaist* game box comes with a USB thumb drive containing the *Nox Archaist* software, a large beautifully

printed game manual with tons of game information and amazing fantasy art by well-known artist Denis Loubet, a colorful cloth map of the Isles of Wynmar, Quick Reference Guides, music files, and more. You will need to supply your own graph paper for mapping! I'd suggest large sheets of graph paper as the Depths of Vacous underworld is expansive. They are nothing like the conveniently-sized, easy to fit on one page, 22 by 22 *Bard's Tale* dungeon maps.

As mentioned, *Nox Archaist* is available for the Apple II computer including Mockingboard soundboard support. It also runs on modern Windows and Mac computers using emulation. You can find *Nox Archaist* on the 6502 Workshop website, on Steam, and on GOG.

6502 Workshop
https://www.6502workshop.com

Steam
https://store.steampowered.com/app/1509080/Nox_Archaist/

GOG
https://www.gog.com/game/nox_archaist

ONCE UPON ATARI
A PREVIEW OF THE BOOK
By Howard Scott Warshaw

You can ignore reality, but you cannot ignore the consequences of ignoring reality.
– Ayn Rand

CHAPTER ONE: LIGHTNING STRIKES

THE STORM BEFORE THE CALM
"Ouch!"

Airborne grains of sand and flying bits of old trash are pelting me without mercy. Honestly, I never imagined I'd find myself here...

I'm standing in the middle of a garbage dump in the New Mexico desert. It's hot. It's LOUD. A huge sandstorm rages all around us. I'm surrounded by hundreds of people from all over the country. We huddle like penguins for protection against the onslaught. There are news people, construction people, food people, film people and even some local politicians, but the vast majority are fans. Classic Video Game fans. People who smile at the mere mention of the word "Atari."

We're all here, braving the heat and the storm, watching huge noisy yellow machines reaching deep into the ground, literally digging up my past right before my eyes. A big yellow arm disappears into a hole, bringing up another claw-bucket of ancient garbage and detritus. The arm swings around and dumps its load before returning for the next scoop, leaving behind a dusty pile of old refuse. The ground between the machines and a thin plastic retaining fence is dotted with such piles. Each one holds the promise of a "nugget." Bodies press against the fence, straining to get a closer look at the latest droppings. "Is it there?" "Can you see one?" Or is this just more ammunition for the relentless gusting winds?
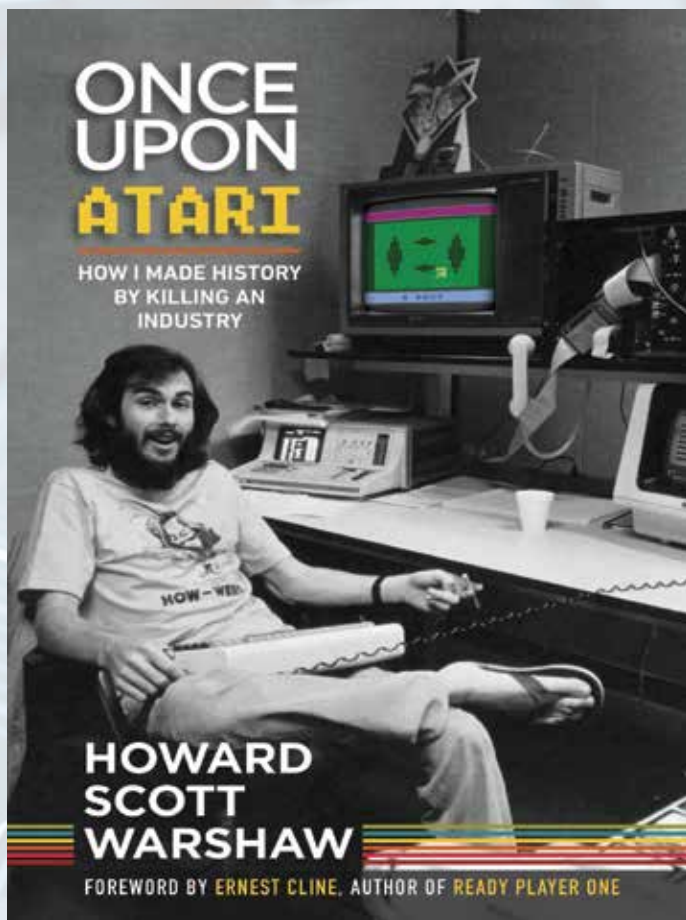

HSW and Mrs. HSW somewhere in the desert.

At last! The... treasure?

What are we doing here? We're searching for evidence. Specifically, we're hoping to unearth the murder weapon with which I allegedly killed a multibillion-dollar industry back in the early '80s. And as good suspects do, I'm denying its existence. For decades I've said the very idea is ridiculous, but today I really hope I'm wrong. I've explained many times over why this whole operation makes absolutely no sense. But I'd forgotten the cardinal rule:

When you expect things to make sense, you're losing touch with Atari.

ONCE UPON **ATARI**

HOW I MADE HISTORY
BY KILLING AN
INDUSTRY

HOWARD
SCOTT
WARSHAW

FOREWORD BY ERNEST CLINE, AUTHOR OF READY PLAYER ONE

This is another remarkable day in my life. I've had many, but this one is special. Saturday, April 26th, 2014 is the longest day of my life, because it started on July 27th, 1982.

THE PHONE CALL

On the afternoon of Tuesday, July 27th, 1982 I'm sitting in my office at 275 Gibraltar Drive, on Atari's main campus in Sunnyvale, California. I'm hanging out with Jerome Domurat after putting the final touches on Raiders of the Lost Ark, the longest development of all my games. Jerome is my graphics/animation designer and my good friend. We're having fun in our usual way, taking turns reading aloud from National Lampoon magazine's letters to the editor, when a call comes in: "Will you please hold for Ray Kassar?"

Will I hold for Ray Kassar? The Chief Executive Officer of Atari? My boss's boss's boss's boss's boss? The guy who signs my paychecks? "Yes, I'll hold for him."

A phone call from Ray Kassar is a very unusual thing in my experience. However, this is not my first time chatting enjoyably with our CEO. The first time was at a press event. I was demo-playing my first game,

Yars' Revenge, on one of the first ever Big-Screen TVs (a hulking rear-projection monstrosity). Ray emerged from the slew of media people crawling around the room. He approached me and said, "Hello Howard, I heard about what you did with Yars."

"Yeah? What did you think about that, Ray?"

He half-smiled, "Just keep making games, Howard." Then he turned and melted back into the traffic. That was my first encounter with Ray Kassar. The last time we met, however, was a bit more memorable...

Roughly two months before answering this phone call, I was nearing the final stages of development on Raiders of the Lost Ark, the first ever video game based on a movie. It was a dog-and-pony day, which means key execs are cruising engineering for demos (somewhat akin to visiting the zoo) and we show the current state of our games to anyone being escorted by our bosses. I take game demos pretty seriously, but this time was special. The man himself, Ray Kassar, was coming down from on high to take the tour. He had his entourage in tow, including extras from marketing, legal and the odd vice president or two. You knew when Ray was coming because his distinctive cologne always preceded him. He came wafting in and took the guest chair while the others stood around him like a halo of nodding assent. I had the game ready to go and Tchaikovsky's "Overture of 1812" (the one with the cannons) cued up on the office stereo. It lends an impressive ambiance to the demonstration, well beyond the capabilities of my development station.

[NOTE to the Non-Nerd: A Development Station (or Dev Station) is a specialized piece of hi/low-tech computer hardware (frequently tucked into a black metal box) where game programmers can test-run and debug their software in a reliable environment. It is designed to prevent programmers from having anything other than themselves to blame for their product issues. Of course, this design goal is not always realized.]

I press Play on the stereo, pick up my game controller and roll through the demo. Ray offers occasional comments, each of which is quickly and enthusiastically affirmed by the entourage.

Now it isn't every day I get Ray Kassar in my office, so being the braying ass I'm given to be at times in my mid 20's, I took the opportunity to share some thoughts and suggestions (read: criticisms & complaints) as to how

the company might be better run. Mouthing off to the big man is not usually the smartest strategy, but it's easier when your work represents a significant chunk of corporate profits, past and future.

After sitting politely through a more-than-reasonable bit of this, Ray cuts in and says, "Interesting ideas. Perhaps we should switch jobs for a day."

Instantly I fire back, "I'm good with that, Ray. Here's my dev station. Just give me your fragrance and let's go."

And the room froze.

Uh-oh, have I gone too far this time? (a question I ask myself all too frequently)

A deafening silence hung there, occasionally broken by stifled chortles. The entourage wants to laugh but they don't want the guillotine. All the king's men were desperately trying to hold their laughter until they got some inkling of Ray's reaction. After what seemed like hours, Ray finally decided to find it amusing and thus unleashed the torrent. Laughter abounded as they shuffled off to the next office.

Since I wasn't fired for that one, I lived to take this call today...

Ray comes on the phone and gets right to the point:

"Howard, we need an *E.T.* game for September 1st. Can you do it?"

Without missing a beat, I say, "Absolutely I can! Provided we reach the right agreement." I know what I mean. Ray knows too. Money.

"That's fine," Ray says, "be at San Jose Airport Thursday morning at 8am. There will be a Learjet waiting to take you to Spielberg's office where you'll present the design for the game."

And there it is. I'm doing the *E.T.* game! My first thought is: Whoa, I've got 36 hours to do the entire design and prepare a presentation for the fastest video game development ever attempted. My second thought is: Better have a good dinner tonight, it might need to last me a while. And oh yeah, I'm still on the phone...

I assure Ray I'll be fully prepared when I board the Spielberg-express first thing Thursday morning. We say our goodbyes and hang up. This will not be my first encounter with Steven Spielberg. We've met several times before, but this one will require more imagination, creativity and fancy footwork than any other.

I know what I'm actually promising. Games on this system usually take at least 6 months to develop. I'm committing to do one in 5 weeks. Am I confident? My hubris is. But right now, I'm already too busy to think about it. Just 36 hours to my first delivery milestone. In

production companies), Xbox Entertainment Studios (a small part of a huge corporate entity) and the city of Alamogordo, New Mexico are jointly hosting (and filming) a modern archeological event. This is an excavation (or "dig") to literally uncover the truth behind an enduring urban myth. Specifically, that decades ago Atari trucked millions of unsold *E.T.* video game cartridges into the desert and buried them here in this dump. I'm here too of course, because I did it. I'm the one.

I made the worst video game of all time!

order to pull this off, a lot of headwork needs to happen in a very short time. Fortunately, my brain is hard-wired for fast. The tricky part is the balance, staying focused but not tunnel visioned...

Let the thinking begin!

So... where to go for dinner?

CHAPTER TWO: KING LEARJET

BACK TO THE DESERT

And now we're back in the New Mexico desert in 2014, because this isn't just a chronicle, it's also a time machine. And a good thing too, because it takes a time machine to understand how that one phone call decades ago began paving a road leading me to this place, this hour, this sandstorm in a dump in the desert.

I woke up this morning several hours earlier and nearly 5,000 feet higher in a mountaintop hideaway hotel, far from this chaos. After a hearty breakfast, we boarded the van of destiny and headed for the Alamogordo city dump. Snaking our way down mountain roads, I was feeling both curious and anxious; Curious about what they'd find under the ground and anxious about what that might mean. Upon arrival, I see something very odd indeed… there's a line of people waiting. A long line. When's the last time you saw hundreds of people standing in line to get into a garbage dump?

I should probably say a bit more about what's going on here. Today, Lightbox & Fuel Entertainment (Hollywood

This is not my opinion. This is the conclusion held by many All-Time lists. Go ahead, Google "worst video games of all time" and see what you get. Countless fans and media people remind me of this "fact" regularly. In 1995, New Media magazine said my *E.T.* game was so bad it single-handedly caused the video game crash of the early '80s, collapsing an industry with revenues approaching four billion dollars.

It was so bad that Atari needed to bury it deep in the desert just to get rid of the stench! At least that's the legend. Snopes.com says it's true. I've always denied it. I'll tell you why...

When a company is hemorrhaging money to the tune of hundreds of millions of dollars and they find themselves sitting on a mountain of worthless inventory, why would they spend even more money to transport, crush, cement over and bury it? That's a very expensive thing to do. Why not recycle the materials to reduce the cost of making new product that might sell? At the very least, you could simply throw open the doors of the warehouse and let people come in and take it all. Why spend big money getting rid of something you believe is worthless? It doesn't make any sense.

As I said before, when you expect things to make sense, you're losing touch with Atari.

Atari was never about making sense. Atari was about making fun. It was about inventing things that never existed before in ways no one had ever imagined. It was not a sensible place; it was an outrageous place. It

was an orgy of creativity and innovation, populated by the most engaging, accomplished and eccentric cast of characters I've ever known. Atari was the perfect place at the perfect time for me... but they didn't see it at first.

After a round of interviews Atari rejected me... but I pushed back. I reasoned, argued, and pleaded with Dennis Koble (the hiring manager running my interview process) until he finally agreed to give me a chance (for a probationary period and a significantly smaller salary) (which I gladly accepted). I kept pushing, because on some deep intuitive level I knew Atari would be my home. It was everything I needed for sustenance and growth in my life. I had to be there.

When my time at Atari ended (which it had to, since nothing so imbalanced can remain standing indefinitely) I knew it would never be equaled.

I did finally exceed it, however. After some thirty years of searching, schooling and internships I finally became what I always wanted to be: a psychotherapist. And now, with my life once again satisfying and rewarding, I find myself in the desert getting sandblasted at the end of a long and winding road which began decades ago with a phone call. I'm waiting to see if my past will rise once more. Is my notorious creation poised to jump out of this ever-deepening hole in the desert floor?

I hope it does. It'll make for a much better movie that way. In fact, the prospect of being wrong has never been more appealing. Besides, I always want my games to be groundbreaking in some fashion. Will my third creation finally break ground in a new and most unexpected way? The irony would be delicious.

Speaking of which, I'm getting kind of hungry...

YOUR LEARJET AWAITS

I hate getting up early in the morning. Aside from a brief stint in commercial real estate, I've always worked hard to maintain a life that never needs an alarm clock. It's just no way to start the day. However, when a Learjet is waiting to take you to Steven Spielberg's office, it eases the sting considerably.

I make it to the airport at the appointed hour and there, to my considerable delight, is an actual Learjet waiting just for me. I love airports and airplanes! Took my first flight at two weeks old and I've enjoyed it ever since. In this moment, I'm incredibly psyched. This promises to be another remarkable day in my life.

I board the jet and take the first of the six seats. The pilot is kind enough to leave the cabin door open (it is 1982, after all). I can see right through the cockpit windows without having to move from my incredibly comfy chair. I ease back and wait for the show to begin. The takeoff is smooth and soon we are soaring just above the clouds. It's always amazing to see the sea of clouds, so soft, serene and endless. It seems such a beautiful place to stroll, but I decide to remain in my seat just the same. We're flying to Burbank, then riding to Warner Studios where Spielberg and his sprawling office await. But it turns out we're not going to Burbank, at least not yet.

First, we'll stop in Monterey to pick up some additional passengers.

As we near the Monterey area, a most unsettling sight

appears through the pilot's windshield. The usual soft white carpet of clouds is now punctuated with a cluster of mountain tops. As we descend through the bright white layer and the visibility shrinks to zero, I can't help thinking that mountain tops usually have mountains underneath them. In this case, I'm really hoping I'm wrong.

Fortunately, the pilot missed every one of them and landed cleanly on the Monterey runway. He taxied a bit, then came to rest on a vacant section of tarmac. Nearly vacant that is, because just as the plane slowed to a stop a big black limo pulls up right off the left wing. The doors open and out pops Ray Kassar (CEO), Skip Paul (Chief Legal Counsel) and Lyle Rains (Coin-Op Game Engineer). Apparently, Lyle is doing the arcade version of E.T., and I'll bet he's getting more than 5 weeks, too! OK, I didn't really think this last part. After all, this is only 40 hours into the project so I'm not bitter yet. As they file onto the plane, I hear Skip say to Ray, "What? They couldn't get the Hawker?!" He sounds disappointed, but this is hard for me to imagine. They

take their seats and away we go. The takeoff is carefree since mountains aren't nearly so scary on this side of the clouds.

We fly for a while more; Ray and Skip are chatting a bit, but Lyle and I are silent. The time of the presentation is approaching, which means the tension and the focus is building. We land in Burbank airport and once again, just as the plane comes to a halt another limo pulls up alongside. "It's just like in the movies," I think to myself, which makes sense since we're going to meet Steven Spielberg at Warner Studios. This is so cool. I can hardly believe it's a workday... but it is, which makes it even cooler. I'm loving this.

We get in the limo, and it's a remarkably well-appointed vehicle. In addition to the plush seating accommodations, there is a phone, a TV, a small fridge, even a sink. Skip reaches over and pushes the lever to watch the water stream out, but nothing happens. The amazing thing was the look on his face. He says, "Do you believe it, the water doesn't even work." OMG! He's serious. This guy just got off a private jet into a waiting limo and he's actually annoyed that the water isn't running in the car's sink. I realize we're from different worlds, and much as I'd like to belong, I'm not really a part of his. I'm always interested to get a glimpse into other people's perspectives. Not always relieved, but definitely interested.

The guard waves us through the gate at Warner and we proceed along the lot until we arrive at the office. We go in and pleasantries are exchanged all around. Now it's presentation time and Lyle goes first, which gives me a little time to chill. My thoughts begin to drift. Spielberg's office is small... for a luxury apartment. It's nice to be back here again. A calm settles in... but not for long. "Wait a minute," I think to myself, "why am I here?"

It occurs to me I don't have an answer. I realize it's because I said "yes" of course, but why did Ray call me directly? That's never happened before. This has all been so exciting, I forgot how odd it was. Atari is big on secret culture and back channel communications, there is always something going on you don't know about. Here's what I didn't know:

I was not the first one Ray called about doing the *E.T.* game. His first call was to George Kiss, my grandboss (or boss's boss). George is the head of engineering for the Atari home game system, and he told Ray what

any sane and knowledgeable person in that situation would: You cannot do a game in 5 weeks. It's simply not enough time.

Most CEOs do not like "no" as an answer. It rarely contributes to shipping product and making money. So, after being told by the head of development it couldn't happen, Ray still thought it was worthwhile to make one more call. I had apparently built enough of a reputation or made enough of an impression that he believed I might come through when others couldn't. Or it might have to do with the time Ray saw my personal notebook and asked to peruse it. I lent it to him, and it came back through interoffice mail a few days later with a note attached. "Thank you, Howard. You are a Renaissance man." This is the nicest thing anyone can say to me.

This was all very flattering and, as I think about it now, rather creepy. I told Ray it absolutely would happen, right after my grandboss told him it couldn't. That's what I didn't know, and I'm glad I didn't. Talk about undermining relationships.

Suddenly, the question, "Howard, what have you got for us?" pierces my reverie and brings me back to the moment. Now it's my turn and I begin my presentation... The last time I presented something to Spielberg was

early June, about a month and a half ago. We met at the Consumer Electronics Show in Chicago and I had the tape. I was nearing completion on the *Raiders of the Lost Ark* game, my second project for Atari and my first for Spielberg. Atari needed a way to demonstrate the game for Spielberg in Chicago. I could have simply played it for him, but I thought it would be better to make a demo tape that could serve other promotional

purposes as well. The execs agreed and sent me to a video recording studio to make the demo.

Have you ever done something absolutely perfectly? At exactly the right time? I did. Just once. At that studio.

They sat me down, put a mic on me, hooked up the console to a recorder and I played and narrated the entire game flawlessly. That had never happened in any of my demos, before or since. It was a magical moment. A one-take wonder. We added a few special effects, created a master and that was it. By the way, the total running time was 12 minutes and 27 seconds. If it takes you longer than this to play all the way through *Raiders,* you probably didn't make the game.

From the time I left that studio in Sunnyvale until this meeting in Chicago, the tape never left my side. There was NO WAY I was going to miss seeing Spielberg's reaction.

Full disclosure: I'm a huge film buff, and Steven Spielberg is a hero of mine. I love his work, from "Duel" on. I think Raiders of the Lost Ark is a masterwork and I was honored to be a part of it in this way. But I'm not just meeting my hero, I'm working with/for him. It's one thing to meet your idol, it's another to have them evaluate your work. It's another still when they evaluate your work which is a derivative of their work.

This is huge for me... as long as he likes it.

For a serious creative person, a lot of self-image (and mental well-being) is on the line at a time like this. I was confident but very nervous. I'm one of the top video game creators of my time, but what I really want to be is a film director.

Finally, the moment came. There I was, up in the crow's nest of the enormous Atari show booth with a TV and a tape deck and Steven Spielberg. I inserted the tape and hit PLAY. Spielberg watched it thoroughly and intently. He didn't move at all for the entire 12 minutes and 27 seconds. I know because I watched him thoroughly and intently for the entire 12 minutes and 27 seconds. At the end he thought for a bit, soaking it in. Then he looked up at me and said, "That's really great, Howard. It feels just like a movie!" My inner world exploded with joy. Steven Spielberg thinks the demo tape of my game for his movie feels like a movie. Yeah BABY!

That was one of the greatest moments of my life... but

that was then and this is now. I finish laying out the design for the *E.T.* game and Spielberg thinks for a bit, soaking it in. Then he looks up at me and says, "Couldn't you do something more like *Pac-Man?*"

My inner world collapses.

Something more like *Pac-Man*?!?! One of the most innovative film directors of all time wants me to make a knock off? My impulse is to say: "Gee Steven, couldn't you do something more like 'The Day the Earth Stood Still'?"

Fortunately, my brain kicks in microseconds before my mouth engages. Get a grip, Howard. This is Steven

Spielberg, and he obviously likes *Pac-Man*. My father's words came to me in this moment, he was fond of saying "Get your head out of your ass, wipe the shit from your eyes and focus!" Ah, the memories.

All this takes a fraction of a second in my head. Then I regroup and take another tack entirely. "Steven, *E.T.* is amazing and we need something special to go with it. This is an innovative game for an innovative movie." I believe this is true, but I'm also aware of another fundamental truth: The game I'm proposing is one I might possibly finish in 5 weeks, which is a critical component of success in the overall delivery process.

That's why I need to defend this design with everything I've got. I'd rather not fall back on this explanation because I'd rather not come off as desperate, but I will if I must. It harkens back to one of the great linguistic contributions of computer science: Doability (noun, the quality of being able to be done. From the modern English; Do + Ability). Ask any software

engineer about the prospect for a task or design, and the answer will invariably revolve around the word "doable." I'm confident this design has sufficient doability to be worth pursuing. This is distinct from another contribution: Bogosity (noun, the quality of being bogus, a mangle-ization of Bogus). Bogosity and doability are independent properties. In other words, creating a game in five weeks can have significant doability and still represent a high level of bogosity on the face of it. In other other words, the possibility of doing something doesn't make it a good idea. I believe this paragraph stands as proof of that.

[NOTE to the Non-Nerd: Many people do not consider nerds to be facile linguists or communicators. Be advised: New-Word construction and deployment is an essential part of the nerd repertoire. To be clear, I'm talking about techie nerds or geeks. Word nerds and/or grammar police are beyond the scope of this text.]

After a few moments of breath-holding, Steven relents on the *Pac-Man* proffer and accepts my assertion that the design is appropriate to the task at hand (the punishment fits the crime). As he does, I realize my design is now approved. The first major milestone is achieved, my inner world is resurrected, and (though I'm not 100%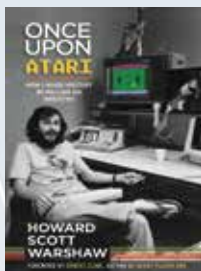 sure about this) there seems to be a faint emanation coming from Steven's chest, a sort of reddish glow. I have a theory about this…

But this is no time for theory. There are hard facts to face:

• An accepted design only opens the door to begin continuous crunch mode. It is truly the gift that keeps on taking.

• Tomorrow is day 4 of the 35.5 days allotted for the task, 10% of my schedule is already gone.

• I still have to make it through a Learjet ride home before I'm anywhere near dinner! (OK, not all the facts are hard)

The design is now set and approved. It's implementation time. There's nothing to it but to do it!

As the golden light of late afternoon kisses the flats and backlots of Warner studios, the Atari delegation boards the waiting limousine and sets off for the airport. 🟦G

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