

The History of Video Games

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Introduction

In 1949, a young engineer named Ralph Baer was given an assignment to build a television set. He wasn't supposed to build just any television set, but one that would be the absolute best of all televisions. This was not a problem for Baer, but he wanted to go beyond his original assignment and incorporate some kind of game into the set. He didn't know exactly what kind of game he had in mind, but it didn't really matter because his managers nixed the idea. It would take another 18 years for his idea to become a reality, and by that time there would be other people to share in the glory, like Willy Higinbotham, who designed an interactive tennis game played on an oscilloscope, and Steve Russell, who programmed a rudimentary space game on a DEC PDP-1 mainframe computer. And then there was also Nolan Bushnell, who played that space game and dreamed of a time when fairground midways would be filled with games powered by computers.

Today, with interest in classic games gaining steam once again, players of video games are reminded of the rich history of the industry. Crave's Asteroids 64 is a modern version of a game that came out in 1979. And the original Asteroids was merely an updated version of Nolan Bushnell's Computer Space, which was really a jazzed-up copy of Steve Russell's Spacewar. Space Invaders, Centipede, Frogger, and Pong are once again on store shelves, and Pong is but a polished variant of the game Willie Higinbotham displayed on his oscilloscope.

The history of video games is not just about people. It's also about companies and ironies. Atari was an American company with a Japanese name, and the Japanese company Sega was started by an American. Magnavox, the company that started it all, is owned by Phillips, a company that is over a century old, and Nintendo, the company that made video games popular again, is just as old. And who would have ever thought Sony, the company that invented all types of electronics, from transistor radios to video recorders, would release a video game console that would become its top-selling product of all time?

In today's world, where video games are often cited as a source for teenage violence, it's interesting to see that the first home console also had a light rifle as an optional peripheral.

The world of video games continues to evolve. By reading about the past, perhaps you'll also get a glimpse of the future.

Before the Games 1889-1970

1889

Fusajiro Yamauchi establishes the Marufuku Company to manufacture and distribute Hanafuda, Japanese playing cards. In 1907, Marufuku begins manufacturing Western playing cards. The company

changes its name to The Nintendo Playing Card Company in 1951. "Nintendo" means "leave luck to heaven."

1891

Gerard Philips establishes a company in the Netherlands to manufacture incandescent lamps and other electrical products.

1918

Konosuke Matsushita establishes the Matsushita Electric Housewares Manufacturing Works. During the next 70 years, the company will establish a multitude of companies, including Panasonic.

1932

The Connecticut Leather Company is established by a Russian immigrant named Maurice Greenberg to distribute leather products to shoemakers. In the early '50s, Maurice's son Leonard creates a leather-cutting machine, and the company, which soon trades under the acronym COLECO (short for Connecticut Leather Company), begins selling leather craft kits. By the end of the decade, Leonard will have built a plastic-forming machine and the company will have jumped into the plastic-wading-pool industry.

1945

From their garage workshop, Harold Matson and Elliot Handler produce picture frames. They come up with the name "Mattel" by combining letters from their names. Elliot uses the scraps from the picture frames to begin a side business making dollhouse furniture.

1947

Akio Morita and Masaru Ibuka set up the Tokyo Telecommunications Engineering Company. After seeing an American-made tape recorder, Morita decides his company should begin making them. In 1952, Ibuka and Morita barely raise the \$25,000 fee to become one of the first foreign companies to license the transistor patent from Bell Labs. They then use the transistor to create the world's first pocket-sized battery-powered radio. The transistor radio is a success in Japan, and Ibuka and Morita begin looking at marketing their products in the United States and Europe. Realizing the English translation of their company name is too cumbersome for English-speaking people to remember, they modify the Latin word sonus (sound) and come up with Sony, a word that has no meaning, for their new corporate name.

1951

Ralph Baer, an engineer with Loral, a company that develops and manufactures complex military airborne electronics, is instructed to "build the best TV set in the world." Baer suggests they add some kind of interactive game to the TV set to distinguish it from other companies' TVs, but management ignores the idea.

1954

Former US Korean War veteran David Rosen sees the popularity of mechanical coin-operated games on US military bases in Japan, so he starts Service Games to export these games to Japan. In the 1960s, Rosen decides to make his own coin-operated games, so he purchases a Tokyo jukebox and slot-machine company. The name SEGA, short for "SErvice GAMES," is stamped on the games that Rosen produces, and eventually Rosen adopts it as his company name.

1958

In an effort to keep visitors to the Brookhaven National Laboratories in New York from being bored, physicist Willy Higinbotham invents an interactive table-tennis-like game that is displayed on an oscilloscope. He improves on his invention a year later by displaying it on a 15-inch monitor. Believing that he hasn't invented anything, Higinbotham doesn't patent the device.

1961

MIT student Steve Russell creates Spacewar, the first interactive computer game, on a Digital PDP-1 (Programmed Data Processor-1) minicomputer. Limited by the computer technology of the time, Spacewar used new teletype terminals with CRT screens to display the graphics.

1962

Nolan Bushnell enrolls in engineering school at the University of Utah, where he is first exposed to Russell's Spacewar.

1965

Nolan Bushnell gets a summer job at a Salt Lake City carnival, where he is in charge of the arcade. Bushnell envisions an arcade filled with computer games but realizes it's only a dream, since computers are much too expensive to make the idea feasible.

1966

Ralph Baer rekindles his idea for a secondary use for television sets. He begins researching interactive television games. The defense contractor he works for, Sanders Associates, is interested and gives him the latitude needed to develop it.

1967

Baer and his team succeed in creating an interactive game that can be played on a television screen. They develop a chase game and follow it up with a video tennis game. They also modify a toy gun so it can distinguish spots of light on the screen.

1968

Baer's interactive TV game is patented.

1970

Magnavox licenses Baer's TV game from Sanders Associates.

With the help of Ted Dabney, Bushnell turns his daughter Britta's bedroom into a workshop so they can build an arcade version of Spacewar. They succeed in putting together a hardwired dedicated machine that can hook up to a television set to play a video version of Spacewar. Bushnell calls his game Computer Space.

Arcade-game manufacturer Nutting Associates purchases Computer Space and hires Bushnell to oversee the building of it.

The Games Begin 1971-1977

1971

Nutting Releases First Arcade Video Game

Nutting manufactures 1,500 Computer Space machines. The components are packaged with a 13-inch black-and-white TV set in a futuristic-looking cabinet. The first arcade video game is released, but the public finds it too difficult to play.

1972

Magnavox Begins Manufacturing the Odyssey

Magnavox begins manufacturing Baer's TV game system, which it calls the Odyssey. Sanders and Magnavox begin showing it to distributors around the country.

Magnavox Unveils First Home Video Game

Magnavox displays the Odyssey at a convention in Burlingame, California, on May 24. Nutting, believing it's the only company dealing with video games, sends Bushnell to see the machine. Bushnell spends a few hours playing video tennis and other games and later reports back to Nutting that he found the Odyssey uninteresting and in no way any competition for Computer Space.

Bushnell Leaves Nutting

Computer Space does not sell well, and Bushnell comes to the conclusion that it is too difficult to play. He realizes that if he can design a simple game, it might be a major draw. He informs Nutting, who tells him to go ahead and design a new machine. Bushnell decides that since he is the brains behind video games he should get a larger share of the profits. When he demands a third of Nutting Associates and doesn't get it, he leaves the company.

Bushnell Starts Atari

Bushnell and Dabney decide to start their own company to design video games for other companies to distribute. They originally call their company Syzygy (the straight-line configuration of three celestial bodies), but that name is already being used by a roofing company. They then settle on the name Atari, a term from the Japanese game Go, whose meaning is equivalent to "check" in chess.

Pong Is Born

Bushnell hires Al Alcorn to program games. Since Alcorn is inexperienced, Bushnell has him program a simple video tennis game as an exercise. They call the game Pong, for two reasons: first, "pong" is the sound the game makes when the ball hits a paddle or the side of the screen, and second, the name Ping-Pong is already copyrighted. Pong Breaks Down Bushnell tries selling Pong to established arcade manufacturers. After finding Bally disinterested, Bushnell decides to market the game himself. Pong is test-marketed in Andy Capps, a local bar. Within two weeks the test unit breaks down because the coin

drop is flooded with quarters. Pong is a success.

Magnavox Releases Home Video Game

Magnavox sells the Odyssey exclusively through its own stores. People are led to believe the console will only work with Magnavox televisions. Still, Magnavox manages to sell 100,000 units. Many people buy it because it is the closest thing they can get to a home version of Pong.

1976

Father of Video Games Saves Connecticut Company

Attracted by Atari's success, several companies release home video game consoles. Because of a rush on circuits, only Coleco receives its full order in time for Father's Day. Coleco fails to receive FCC approval due to a radio-frequency interference problem and hires Ralph Baer to find and fix the problem. Baer solves the problem at the last minute, and Coleco's huge oval Telstar machine debuts.

Cartridges Are Born

Fairchild Camera & Instrument releases its Video Entertainment System (later renamed Channel F), the first programmable home game console. You can actually insert large cartridges (which look very much like audio 8-track cartridges) into the console and change the games.

Violent Video Game

Exidy Games releases Death Race 2000, a driving game based on a 1975 movie of the same name. You earn points by running over stick figures. Public outcry against video game violence gains national attention, and the game is taken off the market.

Atari Is Sold for \$28 Million

Nolan Bushnell sells Atari to Warner Communications for \$28 million. Bushnell remains with Atari as chairman of the board.

1977

Pizza Time Theatre

Atari opens the first Pizza Time Theatre, a new arcade-restaurant combination that features moving robotic animals, electronic games, and food. The mascot for the restaurant is a rat named Chuck E. Cheese. Bushnell thought up the concept three years earlier while standing in line at a pizza parlor.

Atari Introduces Programmable Console

Atari releases its first programmable (cartridge-based) game system, the Video Computer System (VCS - later known as the Atari 2600), in time for Christmas, for \$249.

Bally Enters Consumer Market

Bally releases a programmable console called the Bally Professional Arcade. With a retail price of \$350, the system fails to catch on.

The Golden Age 1978 - 1981

1978

Bushnell Leaves Atari

Bushnell leaves Atari and signs a lucrative five-year agreement not to compete with the company he started. He buys the rights to Pizza Time Theatre from Atari and begins franchising it. Ray Kassar becomes the CEO of Atari.

Nintendo Releases Arcade Game

In March, Nintendo of Japan releases Computer Othello, a decidedly simplistic arcade cocktail-table game based on the board game Othello.

Trackball Rolls Into Arcades

Atari releases the arcade game Football. The game features a revolutionary new controller called the trackball.

Midway Imports Game to Beat

Midway imports Space Invaders from Taito. Space Invaders gives you a goal by displaying the current high score for you to beat.

Arcade Success Stories

Both Football and Space Invaders break all known sales records with almost equal earnings. However, Football's popularity fades with the end of the pro football season. Space Invaders' popularity continues, causing coin shortages in Japan and school truancy in America.

Atari Enters Computer Market

Atari begins selling its line of 400 and 800 computers to compete against Apple. The public, however, associates Atari with games, and the computers are never taken seriously.

Magnavox Releases Console With Keyboard

Magnavox releases the Odyssey2, a programmable console that has a built-in membrane keyboard.

Vector Game Released

Cinematronics releases Space Wars, a game similar to Bushnell's Computer Space. The game features vector (line-drawn) graphics. Vector graphics are the earliest form of polygon graphics to appear in video game applications, and they lack the flat shading or textures of later graphics.

1979

Holographic Games

Atari develops the Cosmos, a handheld programmable machine that features holograms within the graphics. Because the holograms are only for aesthetics and don't add to the gameplay, the Cosmos is never released.

Atari Vectors

Atari releases Lunar Lander, its first vector graphics game.

Lunar Lander Begets Asteroids

Despite Lunar Lander's popularity, Atari halts production of the game and begins releasing Asteroids in the Lunar Lander cabinets. Asteroids is a game that was originally designed by Lyle Rains and Ed Logg for the Cosmos system. It goes on to become Atari's all-time best-seller. Asteroids introduces a new feature to arcades: High scorers can enter their three-character initials at the end of the game. Nearly 80,000 units are sold in the United States, but the game is less popular in other countries. Sega releases Monaco GP, a driving game with a top-down perspective, which is followed by the similar Pro Monaco

GP in 1980 and the realistic 3D racer Super Monaco GP in 1989.

Milton Bradley Releases Programmable Handheld Video Game

Milton Bradley Electronics releases the Microvision, a handheld programmable unit that includes its own built-in LED screen.

1980

Space Invaders Come Home

Atari releases its exclusive home version of Space Invaders for the VCS. Sales of the VCS skyrocket.

Mattel Intellivision

Mattel Electronics introduces the Intellivision game console. The first serious competition for the VCS, the Intellivision has better graphics and a steeper price--\$299. Mattel promises to release an optional peripheral that will upgrade the Intellivision console into a personal computer.

Atari Exodus

Several VCS programmers leave Atari in a dispute over game credits and form Activision, the first "third-party developer" and now a rival VCS software house. While Atari doesn't give individual programmers credit for their work, Activision recognizes individual game developers by including their names on the game packaging and in the marketing efforts.

US Army Plays Games

Atari coin-op designer Ed Rottberg creates Battlezone, the first three-dimensional first-person game. Rolling around in a tank on a virtual battlefield, you take out targets in a warlike scenario. The US government later commissions an enhanced version of Battlezone for military training purposes.

Namco Releases Pac-Man

Namco releases Pac-Man, the most popular arcade game of all time. Over 300,000 units are sold worldwide (counterfeit machines are not included in this figure, but their number nearly matches the number of legitimate Pac-Man machines). More than 100,000 units are sold in the United States alone. Originally named Puck Man, the game is renamed after executives see the potential for vandals to scratch out part of the letter P on the game's marquee, which might discourage parents from letting their children play. Pac-Man becomes the first video game to be popular with both males and females.

Sega Licenses Atari Game

Sega obtains the rights to manufacture and release a Japanese version of Atari's Missile Command.

Nintendo of America Opens for Business

Minoru Arakawa, son-in-law of Nintendo's Japanese chief Hiroshi Yamauchi, opens Nintendo of America in New York City, then moves the company to Seattle, Washington. Unsuccessful at selling a number of mediocre electronic games following Computer Othello, the small American subsidiary has a decidedly uncertain future.

Bally Sells Off Console

Bally sells its Professional Arcade system to Astrovision, which renames it Astrocade.

Virtual World

Williams, a Chicago-based manufacturer of pinball machines, releases Defender, its first video game. Designed by Eugene Jarvis, Defender is a side-scrolling shooter that features the industry's first virtual

world. Because the monitor can only display a portion of the action, a "radar" at the top of the screen shows the overall picture of events that are occurring outside the boundaries of the screen. Defender becomes an immediate hit.

1981

Nintendo Does It Right

Given an opportunity to convert a large number of unsuccessful Nintendo video arcade games into something that will earn money, Nintendo artist Shigeru Miyamoto creates Donkey Kong. The hero, originally called Jumpman, is a squat carpenter racing to save his girlfriend Pauline from a crazed monkey. Jumpman is later named Mario by Nintendo of America's staff, in honor of his resemblance to their landlord Mario Segali.

Atari and Intellivision Programmers Unite

More Atari programmers defect, along with several Intellivision programmers, to start Imagic, a software company that promises to release games for both the VCS and Intellivision systems.

Atari Licensing Coup

Atari negotiates the rights to release more hit arcade titles, such as Pac-Man, for the VCS.

Color Vector

Atari releases Tempest, a color-vector arcade game based on still-unstable graphics technology that is prone to early failure. The machine attracts crowds of devoted players.

Death by Video Game

A man dies of a heart attack while playing Berserk--video gaming's only known fatality.

Arcades Rule

US arcades reach their highest revenues--\$5 billion. Americans spend more than 75,000 man-hours playing video games.

First Video Game Magazine

Electronic Games is founded by Arnie Katz and Bill Kunkel and is the first magazine entirely devoted to video games.

The Great Crash 1982-1984

1982

Coleco Releases the Colecovision

Coleco releases the Colecovision, a cartridge-based game console buoyed not only by superior graphics and sound, but also by support from a growing game company: Nintendo. Nintendo licenses Donkey Kong and Donkey Kong Junior to Coleco, which releases excellent translations for the Colecovision and ports reasonable versions to the Atari VCS and Intellivision. Coleco also releases an adapter that lets VCS cartridges be played on the Colecovision. Realizing that Atari has firm support from Namco, creator of Pac-Man, Coleco involves itself heavily with Sega, Konami, and Universal (Mr. Do!).

Magnavox Does It Better

Magnavox releases a game called K.C. Munchkin for the Odyssey2. Atari deems K.C. Munchkin to be

very similar to Pac-Man and sues. Atari wins the lawsuit, and Magnavox must remove K.C. Munchkin from the market.

Pac-Man Clone?

Atari releases its highly anticipated 2600 version of Pac-Man, which unfortunately doesn't resemble the arcade game at all. The public quickly becomes disenchanted with the company.

E.T. Goes Home

Atari releases E.T. for the VCS, a game Howard Scott Warshaw programmed in six weeks. Expecting a sellout, Atari reportedly manufactures more E.T. cartridges than there are 2600 consoles in use. As was the case with Pac-Man, the public is disappointed by the game. Massive numbers of both Pac-Man and E.T. games end up in a huge landfill in New Mexico, along with millions of other unsold and unwanted game cartridges. Original games such as Activision's Pitfall (by David Crane) sell well.

Atari Super System

Atari releases the 5200 game console to compete with the Colecovision, although it had originally been designed to compete with the Intellivision. Based on the graphics and audio chips found in Atari home computers, 5200 games are essentially aesthetically improved rereleases of VCS games (the VCS was renamed 2600). The machine is incompatible with 2600 game cartridges until Atari belatedly introduces an adapter so 2600 games can be used on the 5200. A major strike against the system is its controller, which features a noncentering joystick.

Vectors Come Home

General Consumer Electronics (GCE) releases the Vectrex, the first and only home console based on vector graphics technology. The Vectrex includes a built-in game (Minesweeper, an impressive Asteroids clone) and one four-button analog joystick controller.

Pac-Man Fever

Midway creates Ms. Pac-Man in-house. It becomes the biggest arcade game in American history, with more than 115,000 units sold in the United States, but Namco, which is not involved with Ms. Pac-Man, develops the improved, but radically different, Super Pac-Man for Japanese consumers. A number of Pac-Man "enhancement chips" arrive on the market to speed up the original Pac-Man and change its characters and mazes. The most popular enhancement, Pac-Man Plus, replaces the generic fruits and other bonus items in Pac-Man with popular American items such as Coke cans.

Stock Drop

On December 7 (3:04pm Eastern Standard Time), Atari announces that VCS sales did not meet predictions. Warner Communications stock drops 32 percent in a single day.

1983

New Bushnell Company

Nolan Bushnell becomes eligible to enter the video game industry again. He joins Videa and renames the company Sente Games, another Go reference (this time to "checkmate"). Sente forms a partnership with Midway games and releases arcade titles such as the simple but addicting hockey game Hat Trick. Unfortunately, the partnership never finds a niche in the market.

Atari Top Secret

In March, Atari announces a new top-secret project code-named the Falcon Project. The Falcon Project turns out to be a new Atari division called Ataritel, which is Atari's attempt to enter the

telecommunications market.

Animated Video Games

Cinematronics releases Rick Dyer's Dragon's Lair (animated by Don Bluth), the first arcade game to feature laser-disc technology.

New Commodore Computer

Commodore releases the Commodore 64, an inexpensive but powerful computer that outperforms any video game console.

Nintendo Famicom

Nintendo releases the Family Computer (Famicom) in Japan. Intentionally designed to look like a toy, the Famicom is released with Nintendo arcade hits Donkey Kong, Donkey Kong Junior, and Popeye. Because of Atari's domination of the market, Nintendo doesn't plan to sell the Famicom outside of Japan. The company offers Atari the rights to distribute it everywhere outside of Japan. Atari is keen on the idea, and after meetings throughout April and May, the two companies sign an agreement at the CES in June.

Coleco Computer

Coleco unveils its Adam computer at the June CES, with Donkey Kong displayed on it. Atari, which has computer rights to Donkey Kong, accuses Nintendo of breach of contract and threatens to halt the Famicom deal and sue. Nintendo threatens to sue Coleco because Coleco only has video gaming rights to Donkey Kong, not computer rights. Coleco says it's all a big misunderstanding because although Adam is a computer, it's also a souped-up Colecovision.

Atari Controversy

Controversy hits Atari when it is revealed that Ray Kassar sold \$250,000 worth of Warner stock on December 6, 1982, the day before Atari made an announcement that caused the stock to fall. Kassar resigns on July 7 and is replaced by James Morgan on September 6. The Famicom deal falls apart during the crisis.

The Crash!

With too many products on the shelves from a multitude of publishers, many third-party companies go out of business. The games from these companies are then discounted heavily. Companies that are still in business cannot compete against the cheap games, so they wind up losing money because of unsold inventory.

1984

Vectrex for the Masses

After acquiring GCE, Milton Bradley begins distributing the Vectrex. The company quickly lowers the price to make it competitive with the consoles. The price is eventually dropped to \$100, forcing Milton Bradley to lose money with each until sold. Milton Bradley finally cancels the Vectrex.

Coleco Goes Adam Crazy

Coleco uses all of its resources to manufacture Adams. This is at the expense of the Colecovision. Sixty percent of all Coleco Adams are returned defective.

Mattel Sells Intellivision

Mattel decides to shut down Mattel Electronics after heavy losses. The division is purchased by Terry

Valeski, a Mattel vice president, who renames it Intellivision Inc.

Nintendo Eyes America

As the video game industry begins to crumble, Nintendo announces that it may release its Famicom in the United States.

Atari Vaporware

Atari introduces new products at the summer CES. Among them are the 7800, an advanced gaming console that will also play 2600 games, and the Mindlink, a hands-off controller that attaches to the head.

Warner Dumps Atari

Faced with rising losses, Warner Communications sells off Atari Incorporated's consumer division to Jack Tramiel, the man who had founded Commodore computers and had been forced out of that company earlier in the year. Warner Communications keeps the arcade division and renames it Atari Games. The Ataritel division is shelved, and Tramiel renames his new company (which includes Atari's video game and computer divisions) Atari Corporation. Tramiel immediately announces that the new company has no intention to sell video game consoles and will be marketing a new line of 16-bit computers. The new products that were shown at CES are shelved indefinitely.

Video Games Are Back 1985-1988

1985

Famicoming to America

Nintendo test-markets its Nintendo Entertainment System (NES) in New York. Retailers are so skeptical about video games that Nintendo has to agree to buy back all unpurchased inventory. Armed with a large number of Nintendo-developed original titles and arcade games, the NES is a hit in a limited market release.

Atari Goes up Against Apple

Following Apple's lead in releasing the Macintosh, Tramiel's Atari mounts a challenge with the 16-bit Motorola 68000-based 520ST, internally dubbed the "Jackintosh."

Russian Conquers World With Puzzle Game

Russian programmer Alex Pajitnov designs Tetris, a simple but addicting puzzle game that can be played on PCs.

1986

Nintendo Releases the NES Nationwide

Satisfied by the system's success in New York, Nintendo markets the NES nationwide. The system debuts with Super Mario Bros., an arcade conversion, which becomes an instant hit.

Sega Releases NES Competition

Following the successful American introduction of the NES, Sega releases its Sega Master System (SMS) in the United States.

Atari Reintroduces Game Consoles

Following the success of the NES, Atari Corp reevaluates the popularity of video games and decides to release the 7800 game console.

Good Nintendo News

Nintendo outsells its competitors 10 to 1 in the United States. In Japan it unveils a disk drive peripheral for the Famicom, along with The Legend of Zelda and golf and soccer games.

Nintendo Adds New Licensees

Several companies sign on with Nintendo as third-party developers, and most of Atari's old supporters, such as Namco, are now making their best games for Nintendo's system.

1987

New Software Nintendo's hold on the market grows, crowding out Sega and Atari. Atari releases games for the 2600, which are all but ignored by the press, and releases ports for the 7800--Namco's Galaga and Dig Dug, Williams' Robotron: 2084 and Joust, Electronic Arts' 1983 basketball game One-on-One Basketball, and Atari's own Asteroids and Centipede--that everyone has seen before. Nintendo releases The Legend of Zelda on a cartridge in the United States after deciding not to bring the expensive Famicom disk drive peripheral into the American marketplace. Games such as Kid Icarus and Metroid are released, offering enhanced NES graphics and longer quests.

Tonka Distributes Sega Games

Toy-truck company Tonka purchases the US distribution rights to the SMS and gets it into more stores than Sega did, allowing it to better compete against the NES.

Atari Repackages Computer as Game Console

Atari releases the Atari XE Game System (XEGS), which is basically a repackaging its old 800 computer. The XEGS uses cartridges compatible with Atari's dying 8-bit XE computer line and includes two games (Barnyard Blaster and Flight Simulator II), a light gun, and a detachable keyboard. The unit sinks quickly.

NEC Releases "16-Bit" Console in Japan

NEC releases the PC-Engine in Japan and touts it as a 16-bit machine. Actually, the console features a 16-bit graphics processor.

1988

Atari Releases Games for the NES

Atari Games establishes Tengen, a subsidiary that produces games for home consoles. Tengen begins as a licensed third-party developer of NES-compatible games. This role ends when Atari Games takes Nintendo to court, claiming that Nintendo has an illegal monopoly on the video game industry, achieved through illegal practices, such as fixing prices and using computer-chip lockout technology to prohibit unlicensed development of NES software.

Tengen Bypasses Nintendo "Lockout" Chip

Tengen discovers a way to produce NES-compatible games without Nintendo's approval and announces that it will develop, manufacture, and distribute NES-compatible games without Nintendo's blessing.

Coleco Files for Bankruptcy

Unable to recover from the disastrous Adam, Coleco files for bankruptcy. Most of its catalog goes to

Milton Bradley and Parker Brothers.

The Home Market Expands 1989-1992

1989

Tetris Troubles

Tengen acquires the home rights to Tetris and begins selling the extremely popular game. However, it is quickly discovered that Tengen bought the rights from Mirrorsoft, which did not own the rights in the first place. Nintendo quietly acquires the legitimate home rights to Tetris and releases it under its own label. The Tengen version is removed from the marketplace.

Nintendo Introduces Monochrome Game Boy

Nintendo releases its handheld Game Boy (\$109). The system comes with Tetris, and despite a tiny monochrome screen, it begins to build a historic sales record. A Game Boy version of Super Mario (Super Mario Land), a Breakout clone (Alleyway), and a baseball game are quickly released.

NEC Releases "16-Bit" Console in America

NEC brings the PC-Engine to America and calls it the TurboGrafx-16 (\$189). NEC also releases a \$400 portable CD player that attaches to the TurboGrafx-16 and plays games that are, for the first time, stored on compact discs.

Sega Releases 16-Bit Genesis

Sega releases the 16-bit Genesis in the United States after limited success in Japan. The \$249 system is packed with a conversion of the arcade game Altered Beast. Early marketing efforts push the system as a true arcade experience that's substantially better than previous home game machines.

Atari Releases Handheld Lynx

Epyx displays a handheld color console called the Handy Game at the winter CES. Atari purchases the rights to the Handy Game and releases it as the Lynx (\$149). After publishing a handful of great Epyx games, Atari begins to develop a number of 7800 game conversions and Atari Games arcade ports for the system. More expensive than the Game Boy, the Lynx suffers from a lack of third-party support and is plagued by constant rumors that Atari will stop supporting the system.

1990

Good Year for Nintendo

Nintendo releases Super Mario 3, the all-time best-selling video-game cartridge. Despite competition from the Genesis and TurboGrafx-16, the NES enjoys its best year. Nintendo of Japan unveils its Super Famicom, a 16-bit system with better audio and 3D graphics than the Genesis and TurboGrafx-16. Super Mario 4: Super Mario World is offered to Japanese gamers, who rush to stores to buy the game.

Video Game Rental Dispute

Nintendo and Blockbuster go to court over video game rentals, with Nintendo maintaining that the rentals are destroying its sales. When the courts decide the games can be rented, Nintendo strikes another blow by claiming that Blockbuster illegally copied the copyrighted game-instruction manuals. This time the courts side with Nintendo.

NeoGeo

SNK, a long-time Nintendo developer and maker of such games as the three Ikari Warriors releases and Crystalis, releases the 24-bit NeoGeo in arcade and home formats. The graphics and sounds crush those of the Genesis and TurboGrafx-16, but the \$399 retail price crushes the NeoGeo's sales.

Sega Arcade Hits Continue to Come Home

Sega continues to turn out games to trade on its established arcade successes. Afterburner II, E-SWAT, and other Sega arcade hits come home, and Sega secures the Genesis rights to Capcom's largely unknown but amazing platform game Strider, which wins game of the year honors at various publications.

NEC Releases Handheld TurboGrafx-16

NEC releases the TurboExpress (\$299.95), a handheld TurboGrafx-16 with a separately sold TV tuner. This is the first time a portable game machine can play a dedicated console's games. Commodore CDTV
Commodore announces its CDTV (Commodore Dynamic Total Vision). Basically a Commodore computer without a keyboard, the CDTV is the first of several home interactive systems that stress education software as well as games. The software is sold on compact discs rather than cartridges.

1991

Nintendo Releases the SNES

Nintendo releases the Super Famicom in America and calls the \$249 console the Super NES (SNES). Journalists begin to wonder aloud whether Mario will be enough to convince NES-dedicated parents to make the investment in a new machine.

Sega Introduces Sonic

Sega unveils Sonic the Hedgehog, which it hopes is a force that will one day conquer the NES and SNES. Charmed by the character, critics are quick to support it but call the choice between Mario and Sonic a toss-up. Most pick Super Mario World as the better of the two.

SNES CD Player

Sony and Nintendo announce plans for Sony to develop a \$700 CD player to work with the SNES.

Game Genie

Galoob Toys releases the Game Genie, which infuriates Nintendo--the device lets players cheat in NES games and win more easily. Nintendo sees the Game Genie as a tool that reduces the long-term value of its games, and it attempts to prevent Game Genie sales.

Street Fighter II

Capcom releases Street Fighter II and brings new life to arcades filled with walk-and-punch clones and shooters. Teenagers flock to play Street Fighter II, and arcades purchase multiple machines and similar clones and begin to invest in more sophisticated racing simulations as well.

Atari Panther

Atari announces development of the Panther, a new 32-bit game system designed to compete against Sega and Nintendo.

1992

Genesis Software

Although they have contracts with Nintendo, Capcom and Konami talk actively with Sega about

development for the Genesis. They ultimately release games but never devote their best teams to work on Sega software. Sega hurriedly prepares Sonic the Hedgehog 2 for a holiday release. The game sells like mad, and Sonic becomes a serious challenger to Mario's future success.

Sega CD

Sega releases the Sega CD (\$299) but denies developers easy access to development tools that would let them use the system's special graphics abilities (hardware sprite zooming and rotation). Sega of America focuses on developing a number of interactive movies.

JVC Wondermega

JVC introduces the Wondermega in Japan. The Wondermega is a combination Genesis and Sega CD and retails for \$620.

Nintendo Divorces Sony and Marries Philips

Sony and Nintendo abandon their joint CD peripheral, which Sony had reputedly completed in prototype form. Rumors surface indicating that Sony lawyers had skillfully crafted an agreement that allowed Sony to reap publishing profits from SNES/Super Famicom CD-based games, profits Nintendo sought to retain. Nintendo announces plans to work with Philips to create a CD-ROM compatible with the Philips CD-i. Sony, disgusted, finishes work on a number of SNES games, scraps the old "PlayStation" developed for Nintendo, and sets its engineers to work on developing a 32-bit CD-only game machine to unseat Nintendo in Japan and the United States.

3DO Is Launched

3DO, a new company started by Electronic Arts founder Trip Hawkins, announces a new 32-bit gaming console. 3DO receives major backing from Panasonic, Time Warner, and MCA. 3DO does not plan to manufacture any consoles itself. Hawkins' dream is that the 3DO console will become the standard that will be released by many different manufacturers.

The 32-Bit Era Begins 1993-1997

1993

Panasonic Releases 3DO Console

Panasonic is the first company to market 3DO hardware. Initial reviews are enthusiastic. The only drawback is the console's \$699 price tag.

Atari Launches Jaguar

Atari decides to bypass the 32-bit generation and go right ahead to 64 bits. The company launches the Jaguar, which Atari proclaims to be the first 64-bit game console due to its 64-bit system bus. Atari stresses the fact that the Jaguar is made in the US (by IBM).

New Systems From Nintendo and Sega

Nintendo and Sega announce their next-generation systems. Nintendo's Project Reality is a 64-bit system developed by Silicon Graphics. Sega's Saturn will be a 32- or 64-bit system.

Congress Notes Video Game Violence

Incensed by the violence in Mortal Kombat and Night Trap, Senators Joseph Lieberman (Connecticut) and Herbert Kohl (Wisconsin) launch a Senate "investigation" into video game violence, threaten to somehow effect a ban on "violent" games, and eventually soften their demands and concede to an industry-wide rating system.

1994

ESRB Is Established

The Entertainment Software Rating Board (ESRB) is established to rate video games. Large letter icons appear on game boxes to let consumers know the recommended age of players for each game and whether the game is violent or risqué.

Nintendo Pushes 16-Bit Machine

Nintendo releases Super Metroid and begins a push to regain control of the 16-bit market. New Super-FX chip games, such as Star Fox, are supposed to aid the company's efforts against Sega and its upcoming 32- or 64-bit machine. Nintendo also releases Donkey Kong Country to a stunned crowd at a trade show (the crowd had been expecting news on the new Nintendo 64-bit game machine) and thus demonstrates that even the slow CPU of the Super NES can compete with the 3DO and Jaguar. Donkey Kong Country is the runaway best-selling game of the year, and Nintendo sales nearly catch up to Genesis sales.

Sega Releases 32-Bit Console (Sort of)

Sega releases the 32X (\$179), a peripheral that enables the Genesis to run a new set of 32-bit cartridge games, in an attempt to stave off early sales of the Atari Jaguar and Panasonic 3DO machines. Ports of its arcade polygonal games, Virtua Racing and Star Wars, are received favorably, as is a version of id Software's Doom, but Sega licensees remain mysteriously uncommitted to the format, and all the Sega games announced for release bear the fingerprints of Sega of America marketing-and-development efforts. No one seems to know what the company is planning to do with the machine in the future, and Sega seems almost unprepared to release the machine in Japan at all.

Nintendo Releases Super Game Boy

Nintendo releases the Super Game Boy (\$59), an adapter that lets Game Boy cartridges play on the SNES with extra features.

New Japanese Consoles Are Released

The Sega Saturn and Sony PlayStation are launched in Japan. By year's end, critics are pointing to the PlayStation as the superior machine.

1995

Sega Jumps the Gun

After announcing that the Saturn will be released in the United States on "Saturday," September 2, Sega jumps the gun and actually releases the system in May for \$399. Overall sales are very low, and very few titles are released, because third-party companies are taken completely off guard by the early debut. Sega and 3DO are ready to announce a joint hardware venture on 3DO M2 64-bit technology. Although the deal is broken off at the last minute, talks continue throughout the year. 3DO development slows dramatically in anticipation of a 64-bit announcement, and Panasonic ultimately acquires the M2 technology for use in home games and other devices. Panasonic reportedly pays \$100 million for it.

Virtual Boy

Nintendo releases the Virtual Boy (\$179), a 32-bit "portable" game console, to tide people over until the Project Reality, now called Ultra 64, is ready for release. Critics line up to bash the system, until Nintendo indicates that the Game Boy's sales have been strong despite its limitations, at which point criticism is muted until the machine's sales fall dramatically below Nintendo's own projections. The Sony PlayStation.

American PlayStation Release

Sony releases the PlayStation in the United States for \$299, \$100 less than expected. Sales are strong, and a collection of good release titles receives praise from the media and consumers. Sales of the Atari Jaguar continue to decline, despite the release of a CD peripheral, which had raised Jaguar supporters' hopes but was most likely dead on arrival from the perspective of Atari executives.

Nintendo Shows Off New Console in US

Nintendo delays the launch of its Ultra 64 64-bit game system, telling fans of Nintendo products to keep on supporting 16-bit Nintendo software producers for just a few more months. Nintendo eventually demonstrates the Nintendo 64, the new name for the Ultra 64, at Shoshinkai--its own Japanese trade show. Super Mario 64 is playable and impresses gamers, but rumors persist that very little software is in development for the machine.

Death Blow to 32X and Sega CD

Feeling it had left the public confused after introducing the Sega Saturn system and several peripherals for the Sega Genesis, Sega drops internal plans for The Neptune, a system that would have combined the Genesis with the 32X and Sega CD peripherals. Sega also abandons support for the Sega CD and 32X.

Japanese N64 off to Riotous Start

The launch of the N64 in Japan supposedly nearly causes riots, but because of a much-improved system of distribution, people are able to buy N64 machines through local convenience stores without problems. Nintendo enjoys record sales and quickly sells out of its initial stock of hardware, but after a few weeks, N64 sales practically stop due to lack of software. Starved as they might be for software, people refuse to purchase the third Nintendo 64 launch title, Saikyo Habu Shogi, because it's not appealing enough. The rumors of too little software in development proved correct, and new releases are very few and far between for several months.

1996

Console Prices Lowered

Sony drops the price of the PlayStation to \$199 and announces a large variety of exciting upcoming products. Sega is forced to follow suit and drops its price, but word from developers continues to be negative on Sega's future--rumors persist that the company is going to stop developing hardware and focus on home translations for other systems. Panasonic, which now owns 3DO's M2 technology, makes no public showings of the machine but lets 3DO talk about upcoming games, which the company refuses to do in the name of secrecy. All the while, "CD gaming" appears to be the only option for the future of home video games, and doubts are strong as to the viability of cartridges.

New Arcade Games

Sega releases Virtua Fighter 3 in Japan and the United States, shattering previous polygon performance records for an arcade machine. A Saturn version is immediately announced. A number of simulation games begin to enjoy popularity in arcades, including skiing, snowboarding, and jet skiing games from Namco and Sega, as arcades are facing another period of unsurprising decline. Fighting game clones have saturated the market previously saturated by shooters and walk-and-punch clones, so arcades turn to more expensive combinations of rides combined with video entertainment, as home consoles catch up with arcade machines across the board.

Saturn News: Good and Bad

Japanese sales of and returns from the Saturn are high, but American sales and returns are disappointingly low.

Nintendo Sells Billionth Cartridge

Nintendo sells its billionth cartridge worldwide--an announcement made as stores begin to dump stocks of 16-bit cartridges at large losses. Sega takes a huge loss on worldwide warehouses full of 16-bit games, and Acclaim, the former darling of Wall Street, takes a similar but apparently more damaging loss on warehouses full of really bad 16-bit games.

End of Atari

Atari Corporation merges with JTS, a manufacturer of computer hard drives, and officially announces the discontinuation of the Jaguar line, a subject that had been discussed unofficially for months.

Nintendo Atlantis

After a number of online news magazines discover plans for a 32-bit color handheld device, Nintendo acknowledges the existence of the Atlantis, an RISC-based game machine that has been under development by European and Japanese Nintendo contractors. Launch plans are quickly eclipsed by the impending launch of the Nintendo 64.

Nolan Bushnell Reappears

Nolan Bushnell reemerges in the industry as the president of Aristo Games, a company that makes Internet stations for arcades and bars.

Release of the American N64

The N64 is released in United States. More than 1.7 million units are sold in three months, and once-doubtful third-party developers rush to embrace the cartridge medium they had previously questioned, if only to cash in on the immense media popularity of the new machine.

Sony Success

Sony sales are said to top \$12 million per day through the Christmas shopping season, and the PlayStation holds on to its worldwide place as the number-one next-generation game console. The video game industry has a highly profitable year, and software prices on 32-bit games begin to show exceptional volatility.

Video Game Museum Opens

Videotopia, a traveling museum exhibit focusing on the history of video games, opens at Pittsburgh's Carnegie Science Center on June 15.

Death of the Virtual Boy

Nintendo stops all development on the Virtual Boy, which it deems a failure. Nintendo blames its failure on its designer, Gunpei Yokoi, a 30-year employee of Nintendo who was also responsible for the highly successful Game Boy. Yokoi leaves Nintendo in disgrace and starts up his own R&D company

1997

Sony and Nintendo Begin Year on a High Note

At the beginning of 1997, Sony announces that it has an installed base of 3.2 million units in the United States. One-third of these were sold during the 1996 Christmas holiday season. Nintendo claims the demand for the N64 is so high it could have sold as many as 2.5 million consoles during the Christmas season had it been able to manufacture that many.

The PlayStation Is the Most Popular Gaming Console Sony releases figures in April that prove the PlayStation is the most popular gaming system in the world. The figures show that 5 million units have

been sold in Japan, 4 million in the United States, and 2.2 million in Europe. These numbers nearly double four months later, when the 20 millionth unit is sold. Analysts believe the PlayStation's popularity will carry it through 1998.

Sony Releases Yaroze in the United States

Sony releases the \$750 Yaroze in the United States. The Yaroze lets users design PlayStation-compatible games on their home computers.

Nintendo Releases "New" Console

Coming as a surprise to most, Nintendo quietly releases a compact version of the SNES, which retails at \$100. Curiously, the release of the slimmer SNES comes four months after Nintendo announces it won't be developing any more games for the 16-bit system.

New Plans for Zelda and 64DD

Nintendo announces in the spring that its long-awaited 64DD flagship game, Legend of Zelda 64, will be released as a cartridge game first. This leads many to believe the 64DD will never be released. Nintendo denies this and says the cartridge version will be released at the same time as the 64DD version, at the end of 1997.

A few weeks later, Nintendo announces that the release date for the 64DD will be pushed back to March 1998. The release date for the Zelda cartridge is not changed.

In November, Nintendo displays a playable version of Legend of Zelda 64 at the Nintendo Space World exhibition. At the same time, it announces that the release of the 64DD will now be delayed until June 1998.

New Nintendo Policies

Under new laws passed by the European Economic Commission, Nintendo can no longer sell European software companies the privilege to develop Nintendo-compatible games. And developers of N64 games no longer have to create games exclusively for the N64. Laws also prohibit Nintendo from being the sole manufacturer of the cartridges.

Rumors Abound Concerning New Sega Console

Many analysts predict Sega will forego the Saturn in favor of a 64-bit console, and the new console will have a built-in modem and a six- or eight-speed CD-ROM drive. Sega quickly puts the rumors to rest and says there won't be any new console out in 1997, and the company will "stand by the Saturn."

The rumors prove to be correct. It is revealed that Lockheed Martin had submitted several plans for a new console over the previous year. In the end, Sega decides to design its own console. The new system, code-named Black Belt, is to be built around a 3dfx's Voodoo graphics subsystem. The console will be powered by Hitachi's new SH-4 processor, which promises to have a speed of 200MHz and the ability to compute 350 million instructions per second. The Black Belt will have a CD-ROM drive, but Sega doesn't have any plans to make it DVD compatible.

It turns out the Black Belt is a system that Sega of America is developing on its own. Sega of Japan is also working on a successor to the Saturn, which it calls the Dural. The Dural uses a PowerVR chip. After Sega decides to go with the Dural system, most of the members of the American design team quit the company. 3dfx files a breach of contract lawsuit against Sega.

Before year's end, Sega renames the new console Katana, a Japanese word for sword. Sega aims to

release the Katana in the United States by October 1998, with a \$199 retail price.

Rumors Abound Concerning New Sony Console

Rumors from within Sony suggest that the company is planning a new 64-bit console with additional RAM and that the system will employ an R4000 chip and a four-speed CD-ROM drive. The console will double as a DVD player and still be compatible with the existing PlayStation software. While not confirming the rumor, Sony officials say the PlayStation 2 probably won't be available until 1998.

Price Wars

Nintendo of Japan announces on February 21 that it will drop the price of the Japanese N64 to \$137 on March 14. On February 27 Sony announces that it will immediately lower the price of the PlayStation to \$200 in the United Kingdom and Australia. A week later, on March 3, Sony Computer Entertainment of America announces that it will lower the price of the PlayStation to \$149. George Harrison of Nintendo announces that this price drop doesn't faze his company and that Nintendo has no plans to do likewise. Three days later a Japanese newspaper quotes Hiroshi Yamauchi as saying that Nintendo will indeed lower the price of the N64 by \$50 by the end of March. Nintendo of America states that the announcement by Yamauchi has been mistranslated in the United States and reaffirms that it will not be lowering prices. Nintendo of America drops the price of its N64 to \$150 two weeks later. Sega lowers the price of the Saturn to \$150 in June.

Sega Plans Exclusive Saturn Titles in Japan

The Saturn continues to be so popular in Japan that Sega of Japan announces that it will sell exclusive Saturn software through vending machines at Japan's largest convenience store chain. The first will be a disc called Digital Dance Mix, which will feature 3D animations along with hit songs by a Japanese singer named Namie Amuro.

New Arcade Releases

Sega releases its second polygon-heavy arcade machine, Super GT Scud Race, in Japan and America. No Saturn translation is announced. Capcom releases its long-awaited Street Fighter III in Japan, calling the game simply "Three" in America, and initial reaction seems to be underwhelming. The company's history of similar fighters has taken its toll.

Sega Channel to Go off the Air

In November, the Sega Channel announces it will cease broadcasting in June 1998. This comes as a surprise, because the service began the year on a healthy note. Unfortunately, as the Genesis moved closer to extinction because of the success of the PlayStation and N64, the subscription base for the Sega Channel kept getting smaller.

Sega to Merge With Bandai

Sega announces on January 23 that it will merge with Japanese toy company Bandai on October 1. The new company will be called Sega Bandai. Problems abound, such as Bandai's plans to continue developing third-party software for the PlayStation. Bandai decides to discontinue its poorly received Pippin, which was in direct competition with the Saturn's Netlink.

Bandai's board approves the merger on May 26. Two days later, it does an about-face, claiming that the employees were against the merger. Bandai's president, Makoto Yamashima, takes full responsibility for the failed merger and steps down from his position.

Tamagotchi Fever

One simple theory explaining Bandai's failed engagement with Sega is that the toy company no longer

needed Sega to help turn its sluggish sales around. In November 1996, Bandai released the Tamagotchi in Japan, which fortified the company's earnings all by itself. The Tamagotchi quickly became a national obsession in Japan, selling for hundreds of dollars, well above its original \$16 price tag.

Bandai releases the Tamagotchi in the United States in May. F.A.O. Schwartz, the first US store to offer it, sells out its initial supply of 30,000 in just three days. Bandai announces PC and Game Boy versions. Before long, other companies, such as Tiger Electronics, release their own virtual pets.

StarFox 64 Sets Record

Nintendo is quick to announce that its StarFox 64 is the "hottest" video game for any system after it sells 300,000 copies within five days of the game's June 30 introduction. Purists are too quick to point out that this record only applies in the United States, since Final Fantasy VII sold more than 2 million copies in just three days when it was first released in Japan in January.

Tiger Releases Game Boy Competition

Tiger releases a monochrome handheld system called the game.com to compete with the Game Boy. The game.com features several built-in extras, such as solitaire, a calculator, an address and phone number database, and a calendar. It also includes a stylus and touch-screen technology. The game.com can also hook up to a standard PC modem for access to an online text-based e-mail service.

Father of the Game Boy Dies in Freak Accident

On October 4, 1997, Gunpei Yokoi, the inventor of the Game Boy, was involved in a car accident. When the 56-year-old Yokoi stepped out of his car to inspect the damage, he was hit by another car and was killed. Although the Game Boy was Yokoi's most successful product, he was also responsible for the Game & Watch, the Virtual Boy, and the cross-key directional pad that eventually replaced the joystick as the controller of choice.

Nintendo Resumes Work on Color Portable

Nintendo announces that it's ready to resume development of its color portable system, the Atlantis. The Atlantis, which had been put on hold due to the unexpected success of the Game Boy pocket, will be a 32-bit system based on a strong-arm CPU and will allow up to 30 hours of play without needing new batteries. Nintendo states that development kits will be sent to third-party developers by the end of the year.

Telegames Supports Atari

Telegames surprises many and releases six new games, including Breakout 2000, for the Atari Jaguar and two for the Lynx. The games are not distributed very widely and disappear quickly.

GameTek Files for Bankruptcy Protection

GameTek, a familiar software name since the NES days, begins experiencing lower-than-expected sales. Sales become so bad that GameTek, the premier developer of game-show-related games, is forced to file for Chapter 11 bankruptcy protection shortly before the Christmas buying season.

Confusion Over the M3

In July, a Japanese newspaper reports that, during an interview, a Matsushita official mentioned that the M2 had been terminated and the entire console division of the company was being disbanded. Matsushita immediately issues a statement claiming that the official had been misunderstood. Matsushita claims the M2 is ready to ship along with 10 games and is being held back because there are too many systems on the market for a brand-new system to compete against. Shortly afterward, Matsushita president Yoichi Morishita states that the M2 will not be released as a video game console at

all. Morishita hints that the M2's technology might resurface as part of an all-purpose multimedia console--the type of console that the 3DO and Philips CD-i were originally meant to be.

VM Labs Announces Plans

In November, 3-year-old VM Labs officially announces that it is working on a new video game console that will be available in late 1998. VM Labs head Richard Miller announces that "Project X" is a reality, but he does not offer specifics about the new console other than that it will be manufactured by more than one company, just as the 3DO Company had done with its 3DO system.

Gameworks Opens Its Doors

Gameworks opens its doors with a grand Hollywood-like gala at its first site in Seattle, on March 15. Openings in Los Angeles and Las Vegas occur before year's end. Gameworks plans nearly 100 more centers by the year 2002.

Arizona Defines Violence in New Bill

Arizona proposes a new bill that makes it a misdemeanor for retailers to display violent material (including video games) or distribute the material to minors. The bill defines violence as "graphic, bloody depictions of torture, sexual assault, cannibalism, mutilation, murder, and urination or defecation that occurs in a morbid or violent context." The bill is not approved when brought before the rules committee, the third step in a four-step process.

Senators Pleased With Video Game Industry

Senators Kohl and Lieberman, the two who were responsible for game ratings in the first place, issue their annual report card on how the industry is complying with their suggestions. On the whole, the senators are pleased. By the end of 1997, most software features ratings on its packaging. The senators are less happy with retailers, because most stores do not have policies preventing minors from obtaining games with mature themes. The arcade industry, which is still in the process of implementing a ratings system, is not rated by the senators.

The modern Age 1998 - 1999

New Sega Console

Although Sega officially acknowledges its new 128-bit system, the system's name continues to be elusive throughout most of the year. Originally code-named Dural and Black Belt, the system is officially named Katana in early 1998. At the same time Sega discloses that the new system will use a Microsoft Windows CE operating system, which will mean easier game conversions to and from the PC.

The Katana is displayed in May, and one unique aspect of it is its Visual Memory System (VMS), a memory device that plugs into the controller but can also be used as a stand-alone game device with Tamagotchi-like graphics.

As the year progresses, Sega announces that the Katana will be released in Japan in November. Although the US won't get the new system until 1999, Sega of America begins making plans to spend \$100 million to launch it. By midyear, Sega announces another name change--this time the system becomes the Dreamcast. With all the hype in place, the Dreamcast finally goes on sale in Japan on November 27. The initial 150,000 systems that are offered for sale are sold immediately, along with 132,000 copies of Virtua Fighter 3.

Dreamcast for the Arcades

Sega announces an arcade version of the Dreamcast. The Naomi arcade machine promises to have the

same capabilities as Sega's current Model 3 arcade machines but will be available for one-third of the price. Because the Naomi and the Dreamcast will share the same chipset, converting titles from the arcade to the console will be simple. Even more compatibility is offered, as VMS slots are provided in Naomi machines to transfer data to and from the Dreamcast.

Missing Sega Name

Market research indicates that the brand name is not terribly important to consumers of video game hardware, so Sega elects not to include its name on the Dreamcast. Ironically, Majesco, a New Jersey-based company, determines that the Sega name is important. Majesco licenses the Genesis from Sega and releases a new Genesis 3, with the Sega name as a central part of the packaging. Majesco plans to release inexpensive versions of the Game Gear, Saturn, and Pico. The small company also releases new software for both the Super Nintendo and the Genesis. One of the surprise titles is Frogger, which Majesco had licensed from Hasbro Interactive.

When the Dreamcast is finally released, the Sega name is included on it.

Sega's Problems Continue

Following the cancelled merger between Sega and Bandai, Sega president Hayao Nakayama resigns from his position and is replaced by Sega of America chairman Shoichiro Irimajiri. Other woes beset the troubled Sega as cuts are made throughout the three American divisions: Sega of America, SegaSoft, and Sega Entertainment. Along with the cuts, Sega announces that it is finally throwing in the towel, and it ceases distribution of the Saturn in North America.

The PlayStation 2

Rumors begin early in the year that Sony is hard at work on the PlayStation 2. While Sony is closemouthed at first, bits and pieces concerning the new system begin to emerge from independent developers. By midyear, Sony admits that the new console is indeed in development and that it may be DVD-based if that is practical. The best guess on when the new system will be available is sometime in 2000. By midyear, the rumors are in full force stating that Sony will team up with Toshiba to develop the chipset for the new console. Early predictions indicate that the RISC processor will run at 250MHz, slightly faster than the processor in Sega's Dreamcast. Sony remains mum on the subject

Price Wars

Sony announces at E3 that it will begin shipping PlayStation consoles with the new Duel Shock controller. Since the new configuration will retail for \$149.95, retailers begin selling off their old stock of consoles with the original controller for \$129.95. Nintendo immediately announces that it too will temporarily drop its retail price to \$129.95, through September. When the deadline to return to the original price arrives, Sony announces that the PlayStation will remain at \$129.95 permanently and will also include the Duel Shock controller. Nintendo quickly follows suit. The question on everyone's mind is: When will the systems fall to \$99?

Nintendo's 64DD "Bulky Drive" Gets Delayed Again

When Nintendo's 64DD "Bulky Drive" doesn't appear at E3, it is assumed to be pretty much dead. Nintendo does release the N64 Expansion Pak, which was supposed to complement the 64DD. At a retail price of \$29.99, the N64 Expansion Pak plugs into the expansion port of the N64 and doubles the system's main memory to 8MB.

Nintendo Releases The Legend of Zelda

Nintendo releases The Legend of Zelda: Ocarina of Time for the N64 on November 23. Nintendo reports 325,000 reservations for Zelda, making it one of the most highly awaited cartridges of all time.

Those who reserved the cartridge receive a special gold cartridge. Between its launch date and the end of the year, Nintendo sells 2.5 million copies of the game, grossing \$150 million in sales. The highest-grossing movie during the same period is Disney's *A Bug's Life*, which takes in \$114 at the box office.

Pokémon Coming to America

Nintendo announces that Pokémon will be coming to the United States. A marketing sensation in Japan, Pokémon (short for pocket monsters) receives worldwide attention when a crossover cartoon causes epileptic seizures in more than 700 Japanese viewers. The cartoons will be edited in the United States so they won't have the same effect on viewers. When the games release for the Game Boy in two editions in September, they become Nintendo's fastest-selling games ever. Nintendo also releases a Tamagotchi-like device called the Pocket Pikachu, featuring the most popular of the Pokémons. Because the unit can double as a pedometer, Pokémon masters can strengthen their Pikachus by merely taking a walk.

Nintendo Continues to Extend the Life of the Decade-Old Game Boy

On April 14, Nintendo of Japan releases the Game Boy Light, a version of the popular handheld unit featuring a backlight. Nintendo doesn't specify if the device will come out in the United States. Immediately following the release of the Game Boy Light, Nintendo releases its first peripherals for the Game Boy: a camera and printer! Despite very low-res images, the two units become instant successes for the Game Boy Pocket. However, Nintendo signs the death warrant for the Game Boy Pocket when it releases the Game Boy Color. Although it is originally intended to be 100-percent compatible with the Game Boy Pocket, publishers begin releasing games in both black-and-white and color versions. Before long, games are released that will work only on the Game Boy Color.

Other Manufacturers Attempt to Jump Into the Handheld Market

Tiger continues to tout its game.com and releases a slimmer model called the game.com Pocket Pro to a disinterested market.

Bandai introduces the WonderSwan, a system that was partly developed by Gunpei Yokoi, the designer of Nintendo's Game Boy. The WonderSwan can display games both horizontally and vertically on a hi-res black-and-white screen and can also display limited full-motion video. Bandai hopes to release the WonderSwan by the end of 1998 at \$40 and predicts it will sell 3 to 4 million units by March 1999.

SNK announces the NeoGeo Pocket, a handheld system that will work both independently of and in conjunction with Sega's Dreamcast. The unit will be compatible with the Dreamcast's VMS, but it will be able to do more things. The unit features a tiny joystick and a monochrome screen that is larger than the Game Boy's. The NeoGeo Pocket will retail for \$50 when it releases in Japan in October. Although not originally planned for release in the US, SNK announces an April 1999 domestic release.

Hasbro Interactive Goes on a Buying Frenzy

Following the success of its Frogger release for the PC and PlayStation, Hasbro Interactive goes on a buying frenzy and purchases a couple of video game-related companies. The first is Tiger Electronics, the manufacturer of electronic toys and games, including the long-shot handheld unit the game.com. Hasbro then announces that it purchased the rights to the Atari home library and name for \$5 million. Rumors begin circulating concerning whether Hasbro will produce the Jaguar and Lynx or somehow combine the Lynx with the game.com. Hasbro immediately denies any immediate plans for new hardware and insists that it merely wants to release updated versions of the Atari catalog. The first game that is released is Centipede for the PC. Although a PlayStation version is announced, it fails to make it to market in 1998.

Retro Excitement Continues

Activision releases a compendium of 30 2600 games for the PlayStation. The collection receives a lukewarm response, although the general public is appreciative of Activision's efforts to release classic games. Activision also releases an updated version of Asteroids for the PC and PlayStation. In Las Vegas, the World of Atari '98 exhibit opens for a weekend in August. Although it sports the Atari name, the exhibition really celebrates all classic games. Among the highlights are a video game museum, an auction, sales booths, and keynote speakers. Late in the year, a CD-ROM called Intellivision Lives is released. The CD-ROM contains a collection of 50 Intellivision games that play on the PC or MAC.

VM Labs Remains a Mystery

Throughout the first half of 1998, VM Labs is quiet about its plans for its new video-game system, which it code-named Project X. All reports seem to point to a multimedia-type device, like the 3DO and CD-i, that will play games as well as educational software. This changes after E3, when it is announced that Project X will not be a console, but instead will be a chip built into DVD consoles. Project X will allow DVD players to be fully interactive. By midyear, VM Labs has announced that Project X will be included in all DVD players manufactured by Thompson (RCA and GE) and Toshiba. VM Labs plans to recoup its investment by charging a licensing fee to developers who plan to produce software for Project X. Among the developers who sign on are top names such as Activision, Capcom, Hasbro, and THQ. By year's end, VM Labs has officially released the name of the new system: NUON

Senators Praise Video Games

Herb Kohl, the Wisconsin senator who cosponsored the 1994 bill to rate all video games, praises the video game industry for creating an arcade rating system and advisory messages. Because of this cooperation, Kohl promises that no new laws will need to be enacted. However, Kohl threatens to boycott arcades that don't comply with the required posted ratings. In related news, two Florida senators propose a bill to prevent minors from viewing violent games in the Sunshine State. The bill doesn't get passed. The outcome is different at Wal-Mart stores across the country, when the chain bans more than 50 arcade games that are "considered inappropriate by Wal-Mart standards."

Banner Year for Video games

The IDSA (Interactive Digital Software Association) announces that 1998 was a banner year for the electronic entertainment industry. During the first six months of 1998, sales were up 30 percent from all of 1997, which itself had been a record year.

Unfortunately, the news isn't all rosy. The IDSA also reports that the home video game industry is flourishing at the expense of the arcade industry. One victim of this trend is Acclaim, which announces that it is exiting from the arcade industry on March 6.

Emulation Woes

Emulation continues to be a major topic of discussion throughout the industry, and the IDSA works to shut down Web sites that offer ROM images--although the definition of the legality of the ROM images continues to remain in question.

1999

Nintendo Joins IBM for New Console

Nintendo announces a new console, code-named the Dolphin. It will be built around a 400MHz copper microchip technology called Gekko, which will be manufactured by IBM. Nintendo expects to ship the new console before the Christmas 2000 season.

Cellular Phone Games

Nintendo announces the Game Boy Advance, a 32-bit color handheld system, which can be combined with a cellular phone for Internet access. Nintendo promises that the new unit will be compatible with both Game Boy and Game Boy Color software.

Howard Lincoln's Plans to Retire

Howard Lincoln announces that he plans to retire from his position as CEO of Nintendo of America on February 14, 2000.

JTS Files for Bankruptcy

JTS, the disk drive company that absorbed Atari Corporation, officially files for bankruptcy.

Classic Gaming Expo Opens in Las Vegas

An offshoot of 1998's World of Atari show, the first Classic Gaming Expo opens in August in Las Vegas. Among the dignitaries who attend is Ralph Baer, the inventor of the video game. Nolan Bushnell also promises to attend until an online fiasco forces him to alter his plans.

Microsoft Announces Video Game Console

Microsoft reveals that it is working on a home console system code-named X-Box. Like Sega's Dreamcast, it uses a version of Windows CE as its operating system.

Maximum Score for Pac-Man Achieved

Billy Mitchell achieves the highest possible score for Pac-Man when he completes every board and winds up with a score of 3,333,360.

VM Labs at E3

After years of secrecy, VM Labs finally comes out into the open at its booth at E3. It is now clear that VM Labs will not release a new gaming console. Instead it plans to place its NUON technology inside new DVD players and hopes to make money from the licensing of NUON-compatible games.

Neo-Geo Pocket Released in United States

Although it didn't release the monochrome NeoGeo Pocket handheld unit in the United States, SNK Corporation of America has different plans for the color incarnation of the unit. In June, the company begins offering the 16-bit system via mail order, with a suggested retail price of \$69.95. It then follows up by distributing the unit to US stores in August.

Hasbro Acquires Rights to Namco Games

Hasbro Interactive continues to support the retro movement by acquiring the rights from Namco to distribute 11 classic video game titles for the PC. Hasbro Interactive also acquires limited rights to release these games to gaming systems.

Sony Releases Specs for the New PlayStation

Information on the PlayStation 2 is slowly released throughout the year. In March, it's revealed that a new Toshiba/Sony 250MHz microprocessor, dubbed the Emotion Engine, will be the brains behind the unit. Early reports say that the new unit will retail at approximately \$800.

Sony officially announces the PlayStation 2 in September. In addition to playing PlayStation 2 games, the new unit will be compatible with all the games for the original PlayStation and will play audio CDs and DVDs. Sony plans to release the PlayStation 2 in Japan in March 2000 and in the United States and Europe in the fall of 2000.

Iomega Plans Zip Drive for the Dreamcast

Iomega announces that it will produce a Zip drive that will be designed to attach to the Sega Dreamcast video game system for external storage.

Sega Announces Games for Handheld Systems

Sega of Japan announces plans to develop and sell games for handheld units, such as Nintendo's Game Boy Color and Bandai's WonderSwan. Sega does not consider these systems to be competition since it has no current plans to market a handheld system.

Sega of Japan Lowers Dreamcast Price

Sega of Japan lowers the retail price of the Japanese Dreamcast from approximately \$250 to \$164. The US launch price of \$199 has not changed.

Dreamcast for Rent

Hollywood Video stores begin renting Dreamcast consoles in July. Renters must leave a \$350 deposit, and the only game that is available is Sonic Adventure.

No Gun for the Dreamcast

Due to the shootings at Columbine High in Littleton, Colorado, Sega decides not to release a Dreamcast light gun in the United States. Fans of House of the Dead 2 are dismayed when they learn the game will be played via the Dreamcast's standard controller using crosshairs. To make matters worse, Sega prevents imported guns from working with the domestic software. Third-party companies promise to release working light guns in Sega's place.

Dreamcast Sales Figures

On September 10, Sega of America reports earnings of \$98 million within the first 24 hours of launching the Dreamcast in the United States.

Emulation News

Connectix Corporation introduces the \$149 Virtual Game Station, which will play emulated PlayStation games on the Macintosh. Sony requests a temporary restraining order against Connectix, but the request is denied. A company called Bleem introduces a PlayStation emulator for IBM-compatible personal computers. Unlike Connectix's offering, the bleem! is available for the introductory price of \$19.95. Sony makes four attempts to halt shipments but is refused every time.

The New Era: 2000-2001

2000

VM Labs Delivers

After touting its strengths for three years, VM Labs shows the first NUON-equipped DVD players at CES. Toshiba and Samsung will both sell NUON-equipped DVD players in 2000.

New Console Makes Debut

A start-up company called Indrema promises to release a new gaming console in 2001. Using a Linux operating system, the Indrema L600 will play games, DVDs, and CDs, and it will even record TV shows on its hard drive.

PlayStation 2 Released in Japan

Sony launches the PlayStation 2 in Japan on March 4. In two days, the company sells 1 million

consoles--a new record. As is the case with all Japanese launches, gamers begin lining up outside stores two days in advance. Unfortunately, demand exceeds supply and not everybody gets a console, including those who preordered. Robberies of PlayStation 2s are reported.

Xbox Officially Announced

The world's worst-kept secret becomes public knowledge after the opening of the Game Developers' Conference in March. Bill Gates delivers the keynote address and officially announces the Xbox to the world. Gates stresses that the Xbox will not be a PC in a console's clothing. Equipped with an Intel 733MHz Pentium III CPU, an Nvidia NV2a 250MHz graphics processor, 64MB of unified RAM, an 8GB hard drive, and out-of-the-box broadband Internet support, the Xbox sends a strong signal to Sony that it intends to be a major player in the console race. The bad news is that the system won't be available until late 2001.

PlayStation 2 Defect (Bad)

Many of the 8MB memory cards that are packaged with the Japanese PlayStation 2 are defective. Since the DVD drivers are housed in the memory card, DVDs cannot be viewed until the memory card is replaced.

A Second PlayStation 2 Defect (Good)

It is soon discovered that PlayStation 2s that are only supposed to play Region 2 DVDs (Japanese and some European) can also play Region 1 DVDs (North American). Sony quickly issues replacement memory cards.

Changes for the American PlayStation 2

At E3, SCEA announces that there will be some changes in the PlayStation 2 for its American release. The American console will have the DVD drivers built in, rather than included on a memory card. A memory card will not be shipped with the console, reducing the overall retail price to \$299.

While the American PlayStation 2 will not be shipped with a hard drive or modem, a bay for the peripherals will be built into the American consoles.

Sega Introduces New Dreamcast Peripherals

Sega announces several peripherals at E3 for the Dreamcast. Among them is a mouse, a digital camera called the DreamEye, and an MP3 player.

Bleemcast

At E3 Bleem announces a new emulator that will let PlayStation games play on a Dreamcast. Bleem plans to sell four Bleempaks. Each \$20 pack will contain an emulator that will allow the Dreamcast to play 100 PlayStation titles.

Game Boy and Music

Songboy.com announces the Songboy, a \$79 Game Boy Color peripheral that will play back 60 minutes of MP3 music. MP3 music can be downloaded from the Internet on a PC and then sent to the Songboy via a USB connection. The Songboy will also use the Game Boy Color's screen for additional features such as viewable song lyrics or album cover visuals. A built-in microphone lets the Game Boy Color double as a recorder.

A NeoGeo Pocket Color version of the Songboy is also announced. It will be called the Songjones.

Nintendo Sues Songboy.com

Songboy.com applies to become an official Nintendo licensee, and Nintendo denies the application. Nintendo then turns around and sues Songboy.com for infringement of its intellectual property rights. Songboy.com head Ron Jones claims that the lawsuit is a racially biased attempt by Nintendo to stop Songboy.com.

The two companies finally face off at a meeting sponsored by Reverend Jesse Jackson. The two companies reach an amicable decision. Songboy.com changes its name to Song-Pro.com, and the Songboy becomes the Song-Pro. Nintendo makes the Song-Pro an officially licensed product.

New Nintendo Consoles Are E3 No-Shows

Nintendo does not display its then-named "Dolphin" and Game Boy Advance at E3 in May, preferring to highlight new N64 and Game Boy Color software. Nintendo debuts its new systems at Japan's Space World show in August.

Price Cut for the Dreamcast

Sega offers a rebate of \$50 to anyone who signs on to Sega.com for a month between June 4 and August 31. On September 1, the day after the \$50 rebate ends, Sega announces that the price of the Dreamcast will be dropped \$50 to \$149 permanently.

Sega Starts Internet Service for the Dreamcast

Sega originally intends to start the Dreamcast Network in March. The launch is pushed back to September 7, and the name of the service is changed to SegaNet. At the same time, Sega initiates its ISP service, Sega.com.

Lower Software Prices for Sony

Sony institutes a new licensing structure where third-party companies pay lower licensing fees. With the new price structure in place, several companies release brand-new \$10 PlayStation games.

Nintendo Releases Information on the Game Boy Advance

The Game Boy Advance is originally scheduled for a fall 2000 release, but Nintendo changes the handheld's ship date to 2001. The GBA will offer wireless connections with the Internet, and it will also connect with Nintendo's forthcoming Dolphin and maintain compatibility with all the Game Boy cartridges that preceded it. It will not be backlit, and it will be held horizontally.

Sony Releases the PSOne

Following a shortage of PlayStations after manufacturing for the original console ends, Sony introduces the PSOne, a compact version of the PlayStation. Slightly larger than Sony's popular Discman, the PSOne is completely compatible with the original. While the PSOne is not a handheld, Sony introduces an optional screen that makes the system perfect for traveling.

Sony Cannot Fulfill Promises

Sony announces in September that it will not be able to ship 1 million PlayStation 2s to the United States as originally promised. Due to a shortage of raw materials, Sony will be able to deliver only 500,000 units. The company promises that it will ship 100,000 additional consoles to the United States each week until the end of the year.

Launch Frenzy

Lines begin forming outside of Sony's Metreon store in San Francisco roughly 28 hours before the PlayStation is set to go on sale in the United States on October 26. Eventually, more than 1,000 people line up. Nearly half of them go home empty-handed.

PlayStation 2 Frenzy

The PlayStation 2 becomes the hot console of the year because it cannot be found. New PlayStation 2s go for as high as \$1,000 on eBay.

E-Mail for the Game Boy Color

Interact releases the Shark MX, a Game Boy Color peripheral that lets users send e-mail via the Internet. Users can compose e-mails using an onscreen keyboard and a cursor that can be manipulated with the Game Boy Color's controls. The Shark MX also provides a calculator, a calendar, and an address book.

Cartridge With a Built-in Motion Detector Is Released

Nintendo of Japan releases Kirby's Tilt 'n' Tumble. Inside the cartridge is a motion detector that senses at which angle the Game Boy Color is tilted. The angle of the tilt determines which direction Kirby will move onscreen.

Farewell to the NeoGeo

On June 13, SNK announces that it is closing its entire US operation, along with those in Canada and Europe. All unsold SNK products, including the NeoGeo Pocket Color, are recalled. SNK intends to repackage the recalled merchandise and sell it in Japan.

Bandai Releases the WonderSwan Color

In December, Bandai releases a color version of its WonderSwan handheld in Japan only. The WonderSwan Color is completely backward-compatible with the original and is capable of displaying 241 colors on the screen at a time. The system features a USB port so it can hook up with cell phones, PCs, and the PlayStation 2. Bandai says that the WonderSwan Color will definitely be exported to the United States.

Developers Not "Dolphin" Happy

While Nintendo claims that the so-called "Dolphin" will appear in 2000, developers are skeptical since March passes and most haven't received development kits yet. Nintendo finally acknowledges this and promises that it will send out the finished development kits beginning in April. Kits still aren't sent out by July. Nintendo finally admits that the "Dolphin" will not appear in 2000.

Dolphin out, GameCube In

Nintendo renames the Dolphin. First it becomes the Starcube, and then, thankfully, it becomes the GameCube. The console, which is shown to the press only during the first day of Space World, is literally a cube. Instead of using CDs or DVDs as the storage medium for GameCube games, Nintendo uses a proprietary optical disc based on Matsushita technology. Nintendo predicts that this medium will eventually be a standard, as its small size makes it attractive for future handhelds.

Nintendo Releases New Game Console

Sort of. The Pikachu Nintendo 64 is a redressed version of the N64. The blue-and-orange console has an on-off switch that looks like a pokéball. Next to the cartridge slot sits a raised Pikachu whose cheeks light up when the power is turned on.

Nintendo Releases Pikachu Pedometer

The Pokémon Pikachu 2 GS is a color version of the Pocket Pikachu that Nintendo released in 1998. The new version also exchanges data with the Game Boy Color via the infrared port.

Voice Recognition Times Two

Both Sega and Nintendo release games that are controlled through voice recognition. Sega's Seaman and

Nintendo's Hey You, Pikachu! are both sold with microphones that attach to the controller. Players can "talk" to the onscreen characters using words that the characters "understand." Sega has other plans for the voice recognition technology. One is a Dreamcall program that lets two Dreamcast owners talk to one another over the Internet for no charge. Another will let players competing in games over SegaNet talk to each other. Sega plans to release the first compatible game, AlienFront, in the fall.

Changes at Sega

After several years of heavy losses, there is a changing of the guard at Sega Enterprises. Sholchiro Irimajiri steps down and is replaced by Isao Ohkawa. One of Ohkawa's first steps is to issue an ultimatum to Sega of America head Peter Moore. Moore is given \$500 million and one year to make the Dreamcast healthy again. After that, the fate of the Dreamcast, as well as Sega, is anybody's guess.

New Game Plan for Sega

As losses continue to mount, Sega announces in November that it will seek to support nontraditional platforms such as PDAs and cell phones. Sega also says it will support competing game consoles.

Sega announces the DC-chip, a single processor that features all the functions of a Dreamcast console. Sega's plans are to have the chip included in DVD players, much like the NUON chip is included in select players.

Sears and Wards Pull Games

In May, Sears and Wards department stores decide to stop selling mature-rated games. This follows an Illinois sting operation in which 32 children were able to purchase M-rated games. Wal-Mart and Kmart also change their policies but are less extreme. They will now require anyone who purchases mature games to show ID.

Indianapolis Passes Arcade Law

Indianapolis becomes the first US city to prevent underage children from playing arcade games that depict graphic violence or sexual content. Arcade owners must post warning signs on suspect games and separate them from other machines behind a curtain. The law is set to go into effect on September 1 despite lawsuits from the American Amusement Machine Association (AAMA) and the Amusement and Music Operators Association (AMOA). Both organizations contend that the law is unconstitutional.

Federal Trade Commission Releases Video Game Study

The FTC releases a study that claims video game companies are targeting children in their ads for mature-rated games. The study says that the ads featured in magazines are targeted at children. Findings show that the companies also place ads on television networks like Nickelodeon, which is targeted at kids.

2001

Sega and Nintendo Deny Buyout

After an article reporting that Nintendo is in serious negotiations to buy out Sega for \$2 billion appears in The New York Times, both game companies quickly come forward with denials.

Microsoft Officially Reveals the Xbox

As expected, Microsoft and Bill Gates use the Consumer Electronics Show (CES) in January to unveil the production version of the Xbox. Furthermore, Microsoft reveals that 12 to 20 games will be available at launch, although the only confirmed titles are Munch's Oddysee and Malice. A game will not be included with the system. Microsoft does not announce a launch date or price for the Xbox.

Microsoft Announces Initial Game List

In addition to showing the Xbox for the first time, Microsoft announces the initial game lineup for its console. Among the games are: Malice, Oddworld: Munch's Oddyssey, Tony Hawk's Pro Skater 2x, and WWF Raw Is War. Another 50 games, including Metal Gear Solid X and Crash Bandicoot X, are in development.

Broadband Adapter Released for the Dreamcast

Sega becomes the first company to offer broadband Internet support when it releases a high-speed broadband modem for the Dreamcast. Quake III Arena and Unreal Tournament are among the first games to support the \$60 modem. Sega initially offers the high-speed modem only on its Web site, but the company promises to have it in stores in March.

Game Boy by Phone

Nintendo of Japan releases the \$49 Mobile Adapter GB in January. The adapter connects a cellular phone to a Game Boy Color and lets users play online games, access e-mail, and download data. The Mobile Adapter GB will also be compatible with the Game Boy Advance.

Rumors Abound Regarding Sega's Future

In January, rumors regarding Sega's future begin to circulate. One rumor out of Japan says that Sega will stop manufacturing the Dreamcast in March. Another rumor says that Sega will become a software development company that will develop software for competing companies. Sega of Japan responds quickly but doesn't exactly put the rumors to rest. Sega says that the news item regarding the Dreamcast wasn't officially released by the company, so therefore it isn't official. The part regarding Sega's involvement with competing consoles is partly true. Sega is actually negotiating to distribute software for the PlayStation 2 and Game Boy Advance. Regarding the platform strategy, Sega says that it will strengthen its focus on the Dreamcast architecture for the PC, set-top boxes, and other electronic appliances.

Infogrames Takes Over Hasbro Interactive

Infogrames completes the \$100 million purchase of Hasbro Interactive. Infogrames now owns all of Hasbro Interactive's assets including Atari and MicroProse. Infogrames also has the exclusive rights to publish games based on current and future Hasbro properties for all platforms.

Sega of America Releases First Online-Compatible RPG

Sega of America releases Phantasy Star Online for the Dreamcast. Thousands of gamers can play together online at the same time anywhere in the world. Icons and preselected text translate between languages.

Sega of Europe Officially Announces Games for Competing Systems

Sega of Europe officially announces that its first game for the PlayStation 2 will be Space Channel 5 and that its first game for the Game Boy Advance will be Sonic the Hedgehog Advance. The company will develop more than 30 games for competing systems by March 2002, in addition to the more than 100 games planned for the Dreamcast.

Sega Drops a Bombshell

On January 31, Sega of America finally announces a major restructuring--an announcement that has been expected for several weeks. The price of Sega's own Dreamcast will drop to \$99.95 beginning on February 4, and production of new Dreamcasts will cease on March 31. At that time, the company will exit from the hardware business and become a software developer, specifically in the area of online gaming. Sega of Japan follows suit two days later and announces that the price of the Japanese

Dreamcast will be reduced on March 1.

Konami to Release Keyboard for the PlayStation 2

Konami announces a \$58 USB keyboard and typing software bundle that will be released for the PlayStation 2 on March 29 in Japan.

Dreamcast Set-Top Box

Sega and British company Pace announce a set-top box that incorporates Dreamcast technology. Surprisingly, the box will not play Dreamcast discs. Games must be downloaded from the Internet via a broadband connection and saved on a 40GB hard drive. Players can purchase the games on a pay-per-play or pay-per-time basis, and they can subscribe to a special game channel that will offer unlimited downloads for a monthly fee. Sega and Pace plan to offer the unit, which will be available in 2002, only in Europe.

Microsoft Fights for the Xbox Name

A Florida company, Xbox Technologies, files lawsuit against Microsoft for the rights to the Xbox brand name. While Microsoft has a right to release its console as the Xbox, Xbox Technologies has the right to ask for an injunction. If a judge approves an injunction, it could hold up Microsoft's planned fall 2001 release.

Nintendo Announces North American Launch Date for the Game Boy Advance

In early March, Nintendo of America announces that the Game Boy Advance will be released on June 11 in North America for a suggested retail price of \$99.95.

Game Boy Color gets Pokéd

Nintendo releases a limited edition of the Game Boy Color decorated with images of Pikachu and Pichu that sells for \$79.95.

Sony and Connectix Connect

After more than two years of legal battles with Connectix over its Virtual Game Station, a PlayStation emulator for the PC and Mac, Sony reaches an agreement with the company and acquires all its emulation technology. The two will work together on any future emulation-related projects.

Sega's President Passes Away

Isao Okawa, president of Sega and chairman of CSK group, dies on March 16 at the age of 74 due to heart failure. CEO Hideki Sato is named the new president a week later.

PlayStation 2 Hits 10 Million Mark

A year after the PS2's March 2000 launch in Japan, Sony has sold 10 million units of the console worldwide, a feat accomplished more than three times faster than the original PlayStation.

Indianapolis Arcade Law Deemed Violation of Free Speech

In March, the 7th US Circuit Court of Appeals rules that an Indianapolis ordinance designed to keep children from playing violent or sexually explicit arcade games is unconstitutional. The city appeals the decision to the US Supreme Court, which upholds the ruling in October.

Indrema is Just a Dream

Facing a lack of funding and competition from Sony, Microsoft, and Nintendo, development of the Linux-based Indrema LS600 console is halted. The Indrema was being pushed as an independent, open-source alternative to mainstream game systems.

Yo Quiero Xbox?

Microsoft teams up with fast-food chain Taco Bell in its effort to publicize the Xbox launch. One promotion is a contest that offers a chance to win one of 6,700 Xbox systems before they go on sale to the public.

Columbine Families Play the Blame Game

The families of several victims of the 1999 Columbine High School shootings file a \$5 billion lawsuit against 25 video game publishers, including Nintendo, Sega, Sony, id Software, and GT Interactive.

Atari 2600 Goes Portable

Ben Heckendorn creates the VCSp, a professional-looking portable version of the Atari 2600. Other projects follow, including a portable PlayStation and Super NES. His work is documented at <http://www.classicgaming.com/vcsp/>.

Video Games Are More Fun Than Television

The results of an Interactive Digital Software Association survey reveal that the average family spends 10 to 11 hours per week playing console or computer games, with 34 percent of respondents calling games "the most fun entertainment activity," as compared with 16 percent for television.

Sega Offers Cell Phone Games in Japan

Games based on Sega hits like Sonic the Hedgehog, Samba de Amigo, Out Run, and Fantasy Zone are released on a pay-for-play basis on Japanese i-mode cell phones.

Game Over for Midway Coin-Ops

A fixture in the arcade industry since 1973, Midway Games announces in June that it is leaving the coin-op market to focus solely on console development. The company had already trimmed approximately 60 employees from its coin-op division in March.

Video Games go to the Movies

Five years after the original game's debut, Lara Croft: Tomb Raider is released into theaters on June 15. Starring Angelina Jolie as Croft, the film grosses \$48.2 million in its opening weekend, the highest ever for a movie based on a video game. Less than month later, Final Fantasy: The Spirits Within makes its debut on July 11 and earns just over \$30 million in its entire US theatrical run. Undeterred by the mixed box office messages, movies based on Duke Nukem, Soul Calibur, and Crazy Taxi go into production, joining Resident Evil as the major video games receiving the Hollywood treatment.

Game Boy Advances

On June 11, Nintendo launches its successor to the Game Boy Color in North America with 17 games. The \$99.95 Game Boy Advance sells 500,000 units in its first week and grabs four of the top 10 spots for the best-selling games of June. The system reaches the 1 million mark in just six weeks.

They Don't Know Jack About TV

A TV series based on the popular line of You Don't Know Jack PlayStation and PC games debuts on ABC in June. The show, hosted by Paul Reubens, is cancelled after only six episodes.

Half-Life is Dead

After nearly two years of delays, Half-Life for the Dreamcast is cancelled by Sierra without any specific explanation other than "changing market conditions." The game was reportedly finished.

PlayStation 2/Gran Turismo 3 Bundle

Coinciding with the release of the long-awaited Gran Turismo 3, Sony releases a special version of the PlayStation 2 bundled with the racing game at a retail price of \$329.99.

Sonic Celebrates 10th Birthday

In commemoration of the 10th anniversary of Sonic the Hedgehog, Sega holds parties in Osaka, Tokyo, and San Francisco and releases a Sonic Adventure 2 birthday pack exclusively in Japan. US gamers receive a \$119.95 Sonic Dreamcast bundle that includes the console, Sonic Adventure, Sonic Shuffle, a blue VMU, and a demo of Sonic Adventure 2.

PlayStation 2 Receives Hard Drive in Japan

Sony of Japan releases the 40GB hard drive peripheral for the PS2 in July. The external unit sells for 19,000 yen (\$153) and the internal version costs 18,000 yen (\$145). The US release of the internal drive is scheduled for 2002.

Nintendo's "Main" Man Announces Retirement

After 15 years with the company, Peter Main, Nintendo's executive vice president of sales and marketing, announces that he will retire on January 31, 2002. His planned successor is Peter MacDougall, president of Nintendo of Canada.

Xbox MIA in Japan until 2002

As expected, Microsoft announces that the Xbox's Japanese launch will be delayed until February 22, 2002.

Rogue Spear Becomes More than a Game

Following in the footsteps of the US Army's use of Battlezone in the early '80s, the US Department of Defense licenses the Rainbow Six: Rogue Spear game engine for tactical training exercises.

September 11 Affects the Game Industry

The tragic terrorist attacks on the World Trade Center and Pentagon on September 11 cause many game developers and publishers to make changes to their upcoming products:

Spider-Man 2 for the PlayStation is delayed to remove a scene that had the superhero on top of a building that looked like the World Trade Center.

The packaging of Command & Conquer Yuri's Revenge is altered to eliminate shots of US landmarks being attacked.

Unspecified changes are made to Grand Theft Auto III and Smugglers' Run 2 before their releases in order to remove content that might be questionable after the attacks.

Originally scheduled for a late September release on the PlayStation, the spy-oriented Syphon Filter 3 is delayed until November because its subject matter might be deemed inappropriate so soon after September 11.

The release of Propeller Arena for the Dreamcast is postponed because "it is possible for a determined individual to deliberately play the game in a manner that generates images similar to those we have seen on the news," according to Sega of America representatives. The air combat game is eventually cancelled.

Updates to Electronic Arts' multimedia conspiracy thriller Majestic are suspended shortly after the

attacks to free up the nation's communications system and because "some of the fictional elements in the game may not be appropriate at this time," according to a company statement. The game resumes on September 18.

Changes are made to Flight Simulator 2002 to remove the World Trade Center towers from the flying environment and a patch is released to remove them from Flight Simulator 2000.

SNK Says Farewell

After closing its US operations in 2000 and filing for bankruptcy in April, SNK officially goes out of business on October 29, ending its 23-year run in the industry. SNK's biggest contribution to gaming was the NeoGeo, an arcade/home system best known for its long-running series of fighting games such as The King of Fighters, Fatal Fury, and Samurai Shodown. The company also released a short-lived portable system called the NeoGeo Pocket Color in 1999.

X Marks the Spot

On November 15, at an event in Times Square's Toys "R" Us, Microsoft officially launches the Xbox. Based on PC architecture, the \$299 console comes equipped with a 733Mhz CPU, Nvidia GPU, 10GB hard drive, and built-in Ethernet port. In less than a month, Microsoft ships 1.1 million units to retailers. The system's best-selling launch title is Halo.

The GameCube Debuts

Nintendo's GameCube is released in Japan on September 13 and North America on November 18. The diminutive cube-shaped console uses propriety discs based on DVD technology and is priced at \$199, \$100 less than the Xbox and PS2. Nintendo reports that \$98 million worth of systems, games, and accessories were sold on the US launch day, with more than 500,000 systems sold in the first week. Luigi's Mansion is the best-selling launch title for the console.

The Xbox Goes Online Early

Although the console won't officially support online play until 2002, a Linux-based application called Xbox Gateway is released that allows unofficial player vs. player use of Xbox LAN games over a broadband connection. GameSpy Industries soon provides a matchmaking service for the software.

The PlayStation 2 Still Going Strong

Despite competition from the dual launches of the Xbox and GameCube, Sony reports that its next-generation console continues to sell at the same pace. By the end of the year, there are 6 million PS2s in North America.

A "Solid" Success

The highly anticipated Metal Gear Solid 2 is released on November 13, and by the end of the month, nearly 2 million copies have been shipped to retailers, making it the US' best-selling PS2 game up to that point.

Bleem Throws in the Towel

No longer able to withstand the legal costs of battling Sony, Bleem goes out of business in November. The company had developed PlayStation emulation products for the PC and Dreamcast.

SquareSoft President Resigns

With the company expecting a loss of 17.7 billion yen (approx. \$143 million) for the fiscal year, SquareSoft president and CEO Hisashi Suzuki announces his resignation, effective December 1. The company's downturn is largely blamed on the poor box office performance of Final Fantasy: The Spirits

Within.

Next Generation No More

Imagine Media announces the January 2002 issue of Next Generation will be the magazine's last. The innovative magazine sought to bring respectability and quality to video game writing.

Watch Out for Falling Prices

The price of the Sega Dreamcast begins the year at \$149.99 but has its price reduced to \$99.95, \$79.95, and finally \$49.95 at the end of November. The price of the PS2 in Japan falls twice in 2001, from a starting price of \$320 to \$281.70 to \$240.

Teens Still Able to Buy M-Rated Games

A report from the Federal Trade Commission praises the game industry for its efforts to limit the promotion of violent video games to children, but reveals that 70 percent of retailers still sell M-rated games to consumers under 17.

No Shenmue II for US Dreamcast

Sega sells the US distribution rights of Shenmue II to Microsoft, who makes the title an Xbox exclusive to be released in 2002. The Dreamcast version of the game is sold in Japan and Europe only.

Panasonic and Nintendo Team Up for GameCube DVD player in Japan

On December 14, Panasonic releases a hybrid GameCube-DVD player in Japan at a price of \$325. Called simply Q, the shiny metallic cube comes with a separate remote control in addition to the standard controller. Panasonic says there are no plans to release Q in the US.

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