• *SpaceWar!* (MIT, ptp1, 1962)

• Amusement games, controlled by mob (1960-1975)

• Atari (1972, NOLAN BUSHELL, TED DABNEY)

• *Pong* (1972, ALLAN ALCORN) implemented as programming exercise set by Bushnell. Took $200/week >> avg coin-op took ~$50. Cleaner gameplay than *Computer Space*, satisfying sounds.

• Atari Structured as “utopian meritocracy,” mgmt. laid back, casual dress vs strict engr world

• Later tried and failed to expand

1975-*Pong* sells 150K to home market, plugs into your TV.

*Home Consoles*

• **Apple II**: colour display, WOZ designed to play games like Breakout.

• Infocom(1979-89): *Zork I* and other adventure games

• Sierra(79, now Blizzard): published adventure games, had graphics to go along, more success than Infocom

• Flight Sims, still popular today

• Tabletop Wargames, 1981 – laid out style, with War Theatre, rules specific, steep learning curve

• CHRIS CRAWFORD invented Fog of War concept

*Boom and Crash* (1983)

• 1982: Home and arcade video game revenues were $5,313 M/yr. Mil. **Atari 2600**s installed in homes.

• Growth fueled by vector graphics, LARRY ROSENTHAL mid-70’s

• 1064x728 vs 320x240 of Rastor.

• Atari initially refused LR, caught up w/ *Asteroids* (1979), biggest Atari hit behind Space Invaders

• *Defender* (1980 EUGENE JARVIS) High-energy, punishing, sold 60K

• *Pac-Man* (1980 TORU IWATANI) marketed towards women. Atari licensed from Namco 1978, sold 12M+more Atari 2600’s

• Activision (Oct 1979) formed by DAVID CRANE, ALAN MILLER, LARRY KAPLAN, BOB WHITEHEAD. Atari paid devs $30K and earned $15M. First 3rd party dev.

• Activision credited designers on game carts. Atari tried to sue.

• Warner acquires Atari 1982, $75M to advertise it. 70% profits of Warner from Atari.

*The Bubble Bursts*: Atari earnings call 1982-expected 50% gain, only posted 10-15%, despite **Atari 5200** and *ET*. Warner stocks fall 30%.

• US came out of recession. **Arcades** built on bad debt.

• VCR released 1982, became default home ent. system

• Game difficulty spiked, Shovel-ware: *J&J Tooth Protectors, Custer’s Revenge*

• **Colecovision** packaged *Donkey Kong*, first game by SHIGURU MIYAMOTO

• **PCs** became cheap. Consoles $3,200M in 1983, $100M in 1986. Atari never recovered.

*Nintendo*:HIROSHI YAMAUCHI, president 1949 @ 20yo

• Originally *hanafuda* playing card company, began experimenting w/ toys

• GUNPEI YOKOI: Ultra C Hand, *Game and Watch* (1980), GB, GBC, GBA, Virtual Boy

• Nintendo planned cartridge-based console 1982 as market collapsed

• **Famicom**, July 1983, sold 500K by Sept. Nin couldn’t keep up with demand, created strict license scheme for 3rd party devs

*JRPG*

•HENK ROGERS: *The Black Onyx* (1984) launch fail, but handheld mag. Editors through game

• *Dragon Quest* 1986 YURI HORII: Kawaii art, 2M sold on Famicom

• *Final Fantasy* 1987, HIRONOBU SAKAGUCHI. Square Enix’s last-ditch effort, hence “Final.” Darker than Dragon Quest,

• *The Legend of Zelda*, Nintendo, 1986

• *Dragon Quest III*, 1988,

• Nin presents **AVS** to CES 1984, no one interested. Redesigned with light gun and ROB as **NES** for CES 1985.

•N of America given $50M budget to break New York. Sold 50K **NES** on money-back guarantee.

• *SMB* (March’86), ~40M sold. Revives industry.

• Nintendo couldn’t break Europe because of SEGA and dominance of PCs

• *The Wizard* film (1989), *SMB3* (1990) sells 17M worldwide

•Night Life (1982) spawned Bishojo, “pretty-girl” games.

• Controversy: *177* (1986) rape game, condemned by Nat. Diet. *Otaku Murder* (1989)

*Open World*:WRIGHT (b. 20/01/1960) raised in Baton Rouge. Obsessed with models and robots, AI.

• *Raid on Bungling Bay* (1984, **C64**) Sold 20-30K in US (piracy), 1M in Japan licensed to Nintendo. Featured extensive World-builder.

• WRIGHT found it was fun just to build cities. JAY FORRESTER folded in *Conway’s Game of Life* (1982)’s complexity with simple rules, Montessori School, MacPaint to make *SimCity*(1989)

• Wright and JEFF BRAUN form Maxis, finalizes SimCity (pub. by Broderbund).

• EA acquires Maxis 1997. *The Sims* (2000), *Spore* (2008). WRIGHT departs 2009. *SimCity* (2013) sells 2M despite EA’s screw-up

• *Spore* based on Drake’s Eqn, Lack of gameplay depth, incorrect science, but fun.

*God Game*:PETER MOLYNEUX (b. 5/5/1959 Guildford UK). His co. Taurus shipped **Amiga**s for free due to mistaken identity. Taurus 🡪 Bullfrog

• *Populus* (Dec ‘89), isomorphic pictogram ie 3D on 2D plane. Molydeux tried and failed to add pathfinding, instead ppl were placed by players.

• EA acquires Bullfrog ’95. Molydeux forms Lionhead ’96, devs *Black and White* and *Fable* series. EA acquires in ‘06.

*4X:*SID MEIER (b. 24/2/1954 Sarnia, Ontario), forms MicroProse 1982, devs *Civ*.

•*Civ* was turn based, from small tribe to world power

• More narrative than *SimCity*, *Populous*, huge tech web.

• MEIER forms Firaxis ’96, pubs. 8 *Civ* sequels, acquired by Take-Two Interactive ‘05

*SEGA*:Formed Service Games ‘40, Honolulu, Moved to Tokyo ’51, Dev’d **coin-op jukeboxes**, **Arcade**, **slots** for military bases

•**SEGA Megadrive**, superior Hardware than **NES**, sold poorly in Japan (’88), well in NA as the **SEGA Genesis** (‘89)

• SEGA paid $1.7M for *Joe Montana football*, couldn’t dev it. EA devs it instead, held back best features for itself. *John Madden* franchise sells 100M.

• *Sonic the Hedgehog* (‘91) mascot of SEGA. YUJI NAKA dissatisfied with lack of skill in Mario, made speed overriding theme of *Sonic*.

•SEGA licensing terms more open than Nintendo, thus SEGA 55% of market July ‘92.

*Violence*:Mortal Kombat(‘92), ED BOON, JOHN TOBIAS at Midway games. Ported to Consoles ’93. Fatalities = controversial finishing move

• *Night Trap* (‘92) protect girls at slumber party from vamps

• JOE LIEBERMAN congressional hearing ’93-’94, ESRB formed July’94.

• ESRB made it *easier* to release violent content

CD-ROM

• Sony devs CD-ROM, evolution of LaserDisc, leads to MM PC Standard.

• RAND AND ROBYN MILLER devs *The Manhole* (1988 mail order) for daughter, Successful

• MYST (’93) open world, island created natural boundary. Challenged “die and start over” paradigm. Sells 12M copies, pushes CD-ROM into adoption. Riven as seq.

*3D Gaming, PS, New Genres*

• First 3D: Dactyl Nightmare (’93) by Virtuality, $65K/machine, terrible.

• ID software (’91) JOHN ROMERO, JOHN and ADRIAN CARMACK, TOM HALL, devs *DOOM* (’93): thin story, much violence, perceived as 3D

•**PS** (3/12/94 JPN, 9/95 NA, EU) 32-bit, originally collab, announced CES ’91. Nintendo drops out next day.

• **3DO** by TRIP HAWKINS of EA started Fall ‘93. Series of specs licensed to other co. to mfg consoles. High $699 price point killed it late ’96.

**• Atari Jaguar** (’93), terribly complex controller, couldn’t sign 3rd party devs, forced Atari out of console market.

• *Tomb Raider*, Core Design UK sells 7-8M popularized games w/ older demographic

• *Barbie Fashion Designer* (‘96) starts “pink” game genre

• *Resident Evil* (’96), survival-horror genre

*MUD*: (‘80) RICHARD BARTLE influenced by txt-adv games

• **Quantum Link** for **C64** and *RabbitJack Casino*, $4/hr

• *Ultima Online*(’96) EA bankrolled beta, 50K signup.

• *Discord in Britannia*(‘03) draws 250K, griefers aplenty

• *WOW* (’04) quest-driven, less PvP, 10M subs ’09, economics

• *Second Life* successor *λMOO*

• Korea bans Jap games in ‘90. Domestic devs fail. Western games traded in black market.

• *Kingdom of the Winds*(‘96) est. MMO with subs model.

• *SC* sells 9.5M, 4.5M in Korea

• Nexon’s *CrazyRacing Kartrider*(’04) intros micropayment model

• Games exported to China, many banned by gov’t.