

A brief History of Videogames

piero scaruffi

April 2023

www.scaruffi.com/art/videogames.html

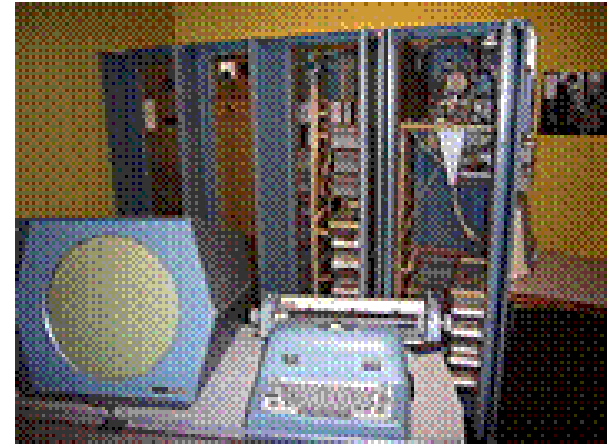
Unfortunately, this presentation seems to work
only with Firefox and Internet Explorer.

Sources of images:

- mobygames.com
- webdesignerdepot.com
- the manufacturers
- ads in magazines

Prehistory

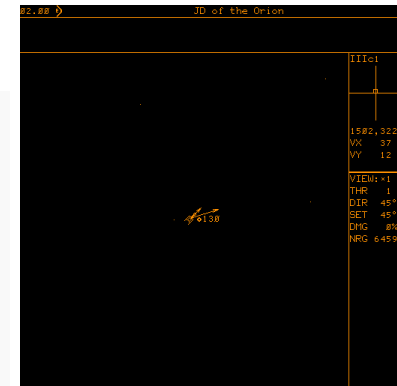
- 1962: Spacewar I



```
INSTRUCTIONS FOR PLAYING "SPACEWAR I":  
  
PLAYER 1:  
A ... TURN LEFT  
D ... TURN RIGHT  
S ... THRUST  
W ... FIRE  
  
PLAYER 2:  
J ... TURN LEFT      OR 4 (NUMBER-PAD)  
L ... TURN RIGHT     OR 6  
K ... THRUST         OR 5  
I ... FIRE           OR 8  
  
PRESS 'LEFT' AND 'RIGHT' TOGETHER FOR CLOAK/HYPERSPACE.  
  
OR USE CONTROL BOXES ("GAMEPADS"), HYPERSPACE IS UP.  
HIT TAB ON KEYBOARD TO SWAP CONTROL BOXES AND SHIPS.
```

Prehistory

- 1974: Jim Bowery's Spasim for PLATO
- 1974: Greg Thompson's Arpanet version of Maze Wars, precursor of virtual worlds
- 1974: John Daleske's Empire III for PLATO
- 1976: Will Crowther's Colossal Cave Adventure, the first computer adventure game



```
WELCOME TO ADVENTURE!! WOULD YOU LIKE INSTRUCTIONS?
yes
SOMEWHERE NEARBY IS COLOSSAL CAVE, WHERE OTHERS HAVE FOUND FORTUNES IN
TREASURE AND GOLD, THOUGH IT IS RUMORED THAT SOME WHO ENTER ARE NEVER
SEEN AGAIN. MAGIC IS SAID TO WORK IN THE CAVE. I WILL BE YOUR EYES
AND HANDS. DIRECT ME WITH COMMANDS OF 1 OR 2 WORDS. I SHOULD WARN
YOU THAT I LOOK AT ONLY THE FIRST FIVE LETTERS OF EACH WORD, SO YOU'LL
HAVE TO ENTER "NORTHEAST" AS "NE" TO DISTINGUISH IT FROM "NORTH".
(SHOULD YOU GET STUCK, TYPE "HELP" FOR SOME GENERAL HINTS. FOR INFOR-
MATION ON HOW TO END YOUR ADVENTURE, ETC., TYPE "INFO".)
THIS PROGRAM WAS ORIGINALLY DEVELOPED BY WILLIE CROWTHER. MOST OF THE
FEATURES OF THE CURRENT PROGRAM WERE ADDED BY DON WOODS (DON @ SU-AI).
CONTACT DON IF YOU HAVE ANY QUESTIONS, COMMENTS, ETC.
YOU ARE STANDING AT THE END OF A ROAD BEFORE A SMALL BRICK BUILDING.
AROUND YOU IS A FOREST. A SMALL STREAM FLOWS OUT OF THE BUILDING AND
DOWN A GULLY.
east
YOU ARE INSIDE A BUILDING, A WELL HOUSE FOR A LARGE SPRING.
THERE ARE SOME KEYS ON THE GROUND HERE.
THERE IS A SHINY BRASS LAMP NEARBY.
THERE IS FOOD HERE.
```

Arcade Era

- 1971: Nolan Bushnell's and Ted Dabney's "Computer Space"
- 1972: Atari's Pong

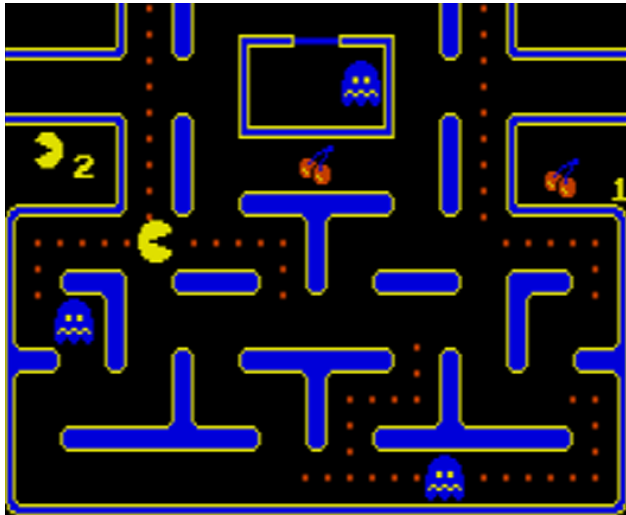


Arcade Era

- 1978: Tomohiro Nishikado's Space Invaders
- 1980: Toru Iwatani's Pac-Man
- 1980: Ed Rotberg's Battlezone
- 1981: Eugene Jarvis' Defender
- 1981: Shigeru Miyamoto's Donkey Kong



Arcade Era



Arcade Era

- 1982: Williams Electronics arcade games contain custom 16-color bitmap chips
- 1985: Commodore Amiga's custom graphics chip



Console Era

- 1972: Magnavox Odyssey, the first videogame console
- 1976: Fairchild's Video Entertainment System, first console based on a microprocessor
- 1977: Atari 2600
- 1979: Milton Bradley's handheld Microvision
- 1980: Nintendo's Game & Watch



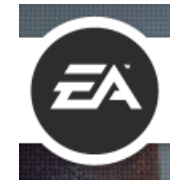
Console Era

- 1983: Nintendo Famicom (later Nintendo Entertainment System)
- 1983: Crash of console market
- 1988: Sega Mega-Drive/Genesis
- 1989: Nintendo's handheld Game Boy



Game Design Era

- 1979: Activision , the first company to focus on game design
- 1982: Trip Hawkins founds Electronic Arts
- 1982: Enix founded in Japan
- 1982: George Lucas founds Lucasfilm Games



Game Design Era

- Malcolm Evans' 3D Monster Maze (1981) for the Sinclair ZX81
- David Crane's Pitfall! (1982) for the Atari 2600
- John O'Neill Lifespan (1983) for the Atari
- Jaron Lanier's Moondust (1983) for the Commodore



ROLL UP, ROLL UP,
SEE THE AMAZING
TYRANNOSAURUS REX
KING OF THE DINOSAURS
IN HIS LAIR.
PERFECTLY PRESERVED
IN SILICON SINCE
PREHISTORIC TIMES, HE
IS BROUGHT TO YOU FOR
YOUR ENTERTAINMENT
AND EXHILARATION.

PRODUCED BY J.K.GREYE SOFTWARE
COPYRIGHT M.E.EVANS



Rogue games

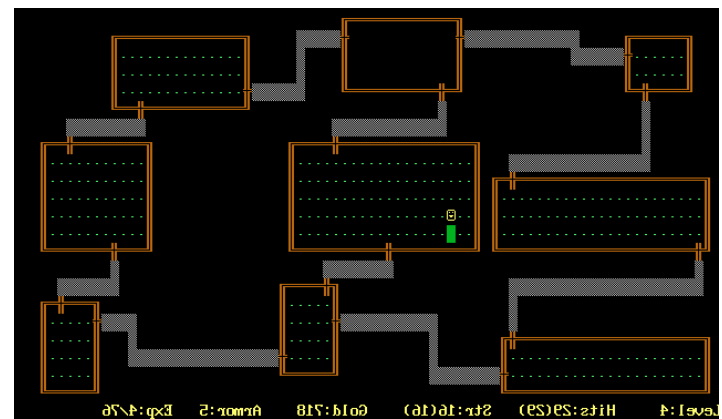
1976: Will Crowther's
Colossal Cave Adventure
(on a PDP-10)

1980: Michael Toy and Glenn
Wichman's Rogue (on
Unix)

1982: Jay Fenlason's Hack

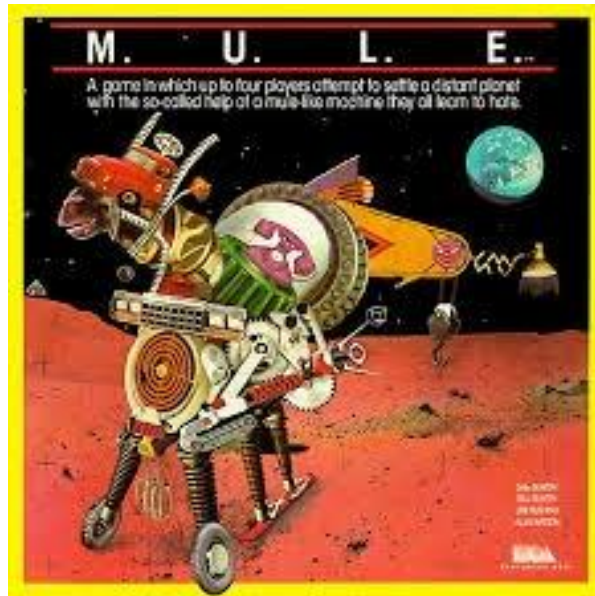
```
Introduction
Somewhere nearby is colossal cave, where others have found fortunes in
treasure and gold, though it is rumoured that some who enter are never
seen again. Magic is said to work in the cave. I will be your eyes
and hands. Direct me with commands of 1 or 2 words. I should warn
you that I look at only the first four letters of each word, so you'll
have to enter "NORTHEAST" as "NE" to distinguish it from "NORTH".
(Should you get stuck, type "HELP" for some general hints. For infor-
mation on how to end your adventure, etc., type "INFO".)
-----
This program was originally developed by Willie Crowther. Most of the
features of the current program were added by Don Woods. The current
version was done by Bob Supnik. This version was implemented on the
IBM-PC (and compatibles) by Kevin Black.
-----
For further information consult your scroll (READ.ME).
-----
*GOOD LUCK!*
```

You are standing at the end of a road before a small brick building.
Around you is a forest. A small stream flows out of the building and
down a gully. In the distance there is a tall gleaming white tower.
>



Multi-player games

- 1983: Dan Bunten's M.U.L.E.
- 1985: Island of Kesmai



MUD Era

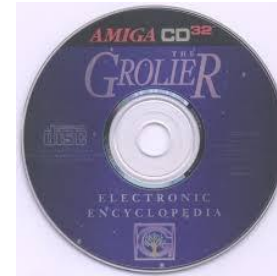
- Text-based MUDs: Roy Trubshaw's "MUD" (1980), "MIST" (1986), "AberMUD" (1989), "DikuMUD" (1991)
- 1986: Randy Farmer and Chip Morningstar's online virtual-reality game "Habitat" with "avatars": a virtual community

```
Telnet british-legends.com
^M
Path.
You are standing on a path which leads off a road to the north, to a cottage
south of you. To the west and east are separate gardens.
*W
Flower garden.
You are in a well-kept garden. There is an unexpectedly sweet smell here, and
you notice lots of flowers. To the east across a path there is more garden.
*W
Cliff.
You are standing on the edge of a cliff surrounded by forest to the north and
a river to the south. A chill wind blows up the unclimbable and unscaled
heights. At the base of the cliff you can just make out the shapes of jagged
rocks.
*W
As you approach the edge of the cliff the rock starts to crumble. Hurriedly,
you retreat as you feel the ground begin to give way under your feet!
*leap
You are splattered over a very large area, or at least most of you
is. The rest of your remains are, even now, being eaten by the seagulls
(especially your eyes). If you'd have looked properly before you leaped you
might have decided not to jump!
Persona updated.
Would you like to play again?
:
```



Optical Media era

- 1985: The CD-ROM
- The Intel 80386 microprocessor
- 1987: PC Engine/ TurboGrafx-16
- 3D graphics



Composite Era

- Composite game: a player can use the mechanics from one genre to solve the challenges from another genre
- 1985: Super Mario Brothers
- 1985: Ghosts and Goblins



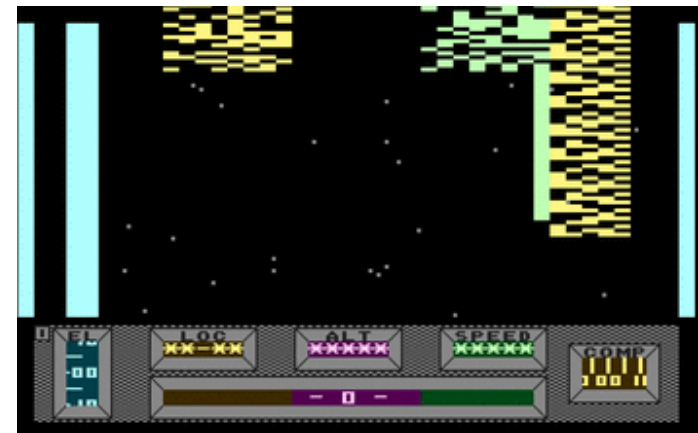
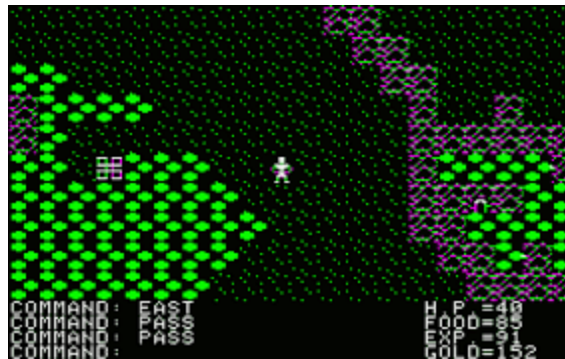
Role-playing games

- 1986: Yuji Horii's Dragon Quest
- 1986: Shigeru Miyamoto's Legend of Zelda
- 1987: NetHack (created by Boston highschoolers Jay Fenlason, Kenny Woodland, Mike Thome, Jonathan Payne)
- 1989: Phantasy Star II



Open-world (sandbox) games

- 1981: Ultima
- 1984: Elite
- 1985: Ultima IV
- 1985: Mercenary: Escape from Targ

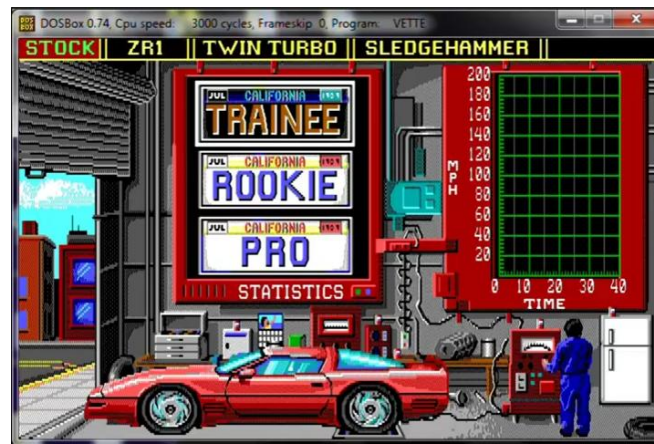




Open-world Games

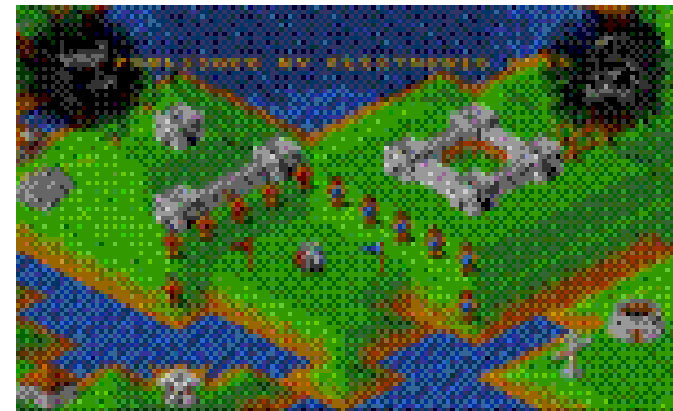
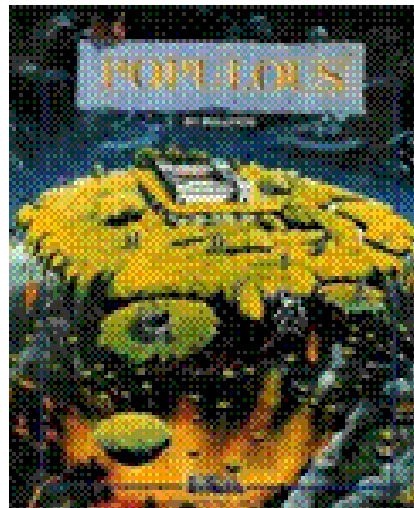
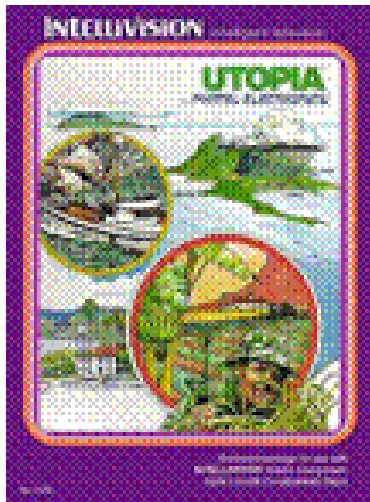


- Shigeru Miyamoto's Legend of Zelda (1986)
- Yuji Horii's Dragon Quest (1986)
- Turbo Esprit (1986)
- Metroid (1986)
- Vette (1989)
- Mike Singleton's Midwinter (1989)



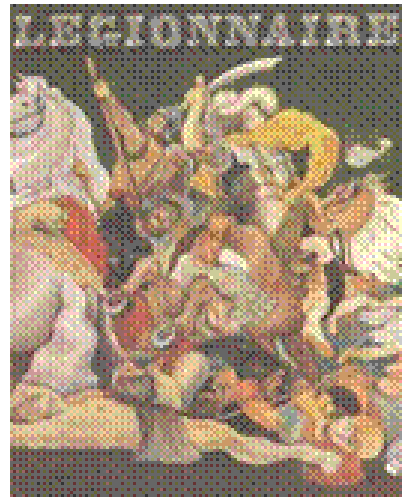
Simulation games

- 1982: Don Daglow's Utopia, a city-building game
- 1989: Will Wright's SimCity, a city-building game
- 1989: Peter Molyneux's Populous, first "god game"



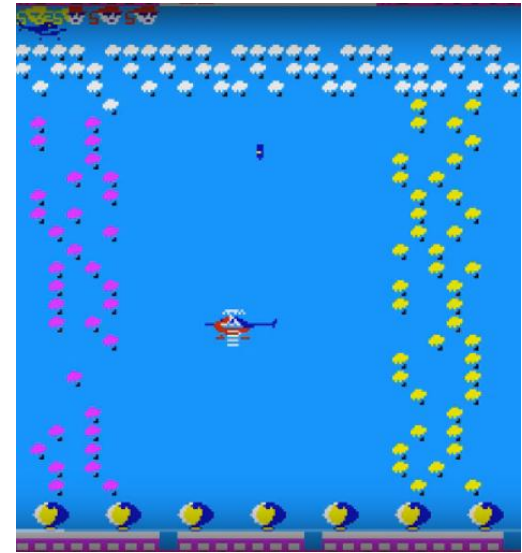
Strategy Games

- 1981: Eastern Front
- 1982: Chris Crawford's Legionnaire
- 1989: Herzog Zwei, the first real-time strategy game



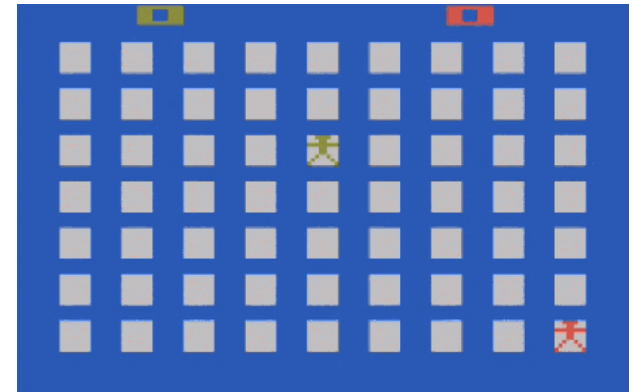
Stealth Games

- 005 (1981)
- Castle Wolfenstein (1981)
- Metal Gear (1987)



Puzzle Games

- 1978: Jim Huether's Flag Capture
- 1984: Alexey Pajitnov's Tetris



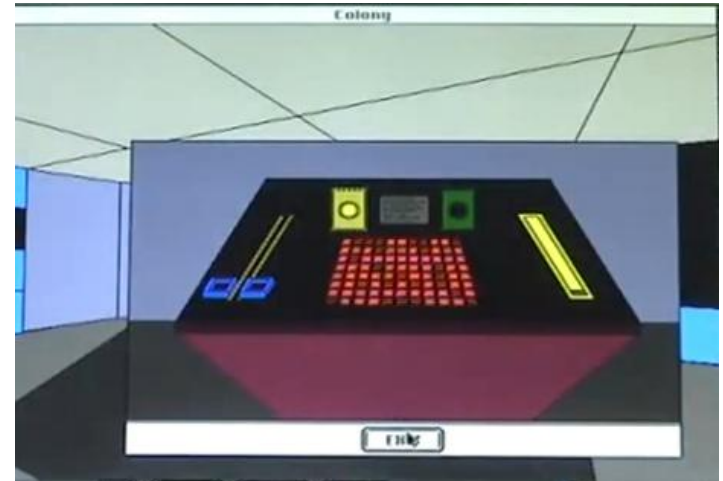
Troll Games

- 1986: Super Mario Bros - The Lost Levels
- 1986: Takeshi's Challenge



First-person shooters

- David Smith's first-person shooter The Colony (1988) with real-time rendering



Text Adventure Games

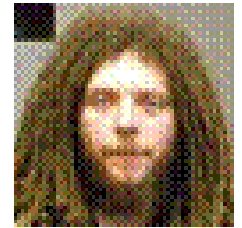
- 1976: Will Crowther's Colossal Cave Adventure, the first computer adventure game
- 1988: Richard Skrenta's Monster, a MUD that allows players to build the game world for other players to explore
- 1989: Jim Aspnes' TinyMUD, a "social" MUD derived from Monster (it allows players to create a game world for other players to explore) and the archetype of MUSH (Multi-User Shared Hallucination)

The Console Wars

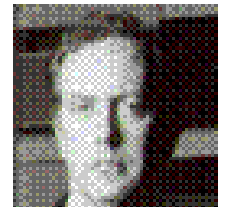
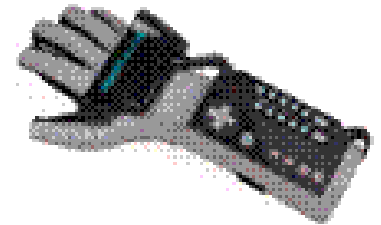
- 1989: Sega releases the Mega Drive/Genesis
- 1990: SNK's Neo-Geo
- 1990: Nintendo owns a 95% market share
- 1991: Sonic the Hedgehog is the first Sega best-seller
- 1992: Sega Model 1 board pioneers polygonal 3D graphics



Virtual Reality



- 1985: Jaron Lanier founds VPL
- 1989: Nintendo's Power Glove, a wearable three-dimensional input device.
- 1990: Fakespace founded for virtual reality devices
- 1990: Scott Fisher founds Telepresence Research
- 1990: W Industries' Virtuality system



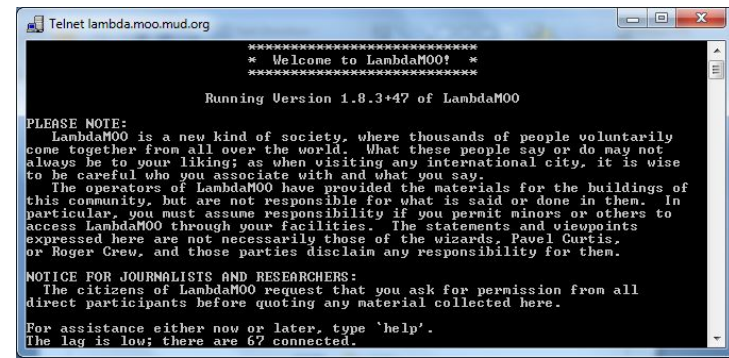
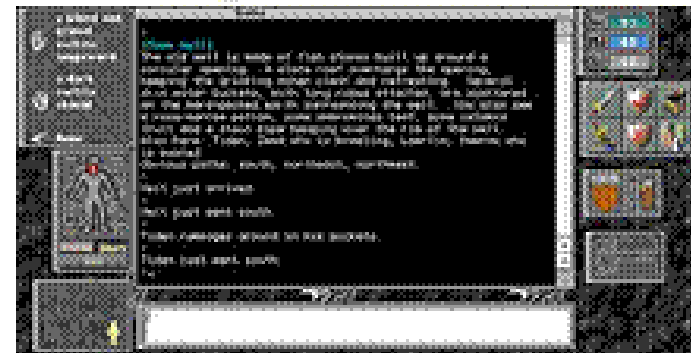
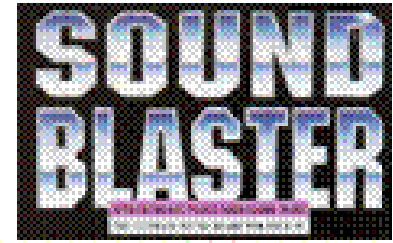
Virtual Reality

- 1991: Virtual Research Systems' "Flight Helmet"
- 1994: Ron Britvich's virtual world AlphaWorld
- 1993: Sega demonstrates the Sega VR in 1993
- 1995: Future Vision Technologies' head-mounted display for the consumer market, the Stuntmaster
- 1995: The iGlasses goggles



1990

- Creative Labs' Soundblaster Pro
- Nintendo's Super Nintendo Entertainment System
- Simutronics' GemStone III, a graphical MUD that spreads on CompuServe, Prodigy and America OnLine
- Pavel Curtis' LambdaMOO, the first MOO (object-oriented MUD), created at Xerox PARC

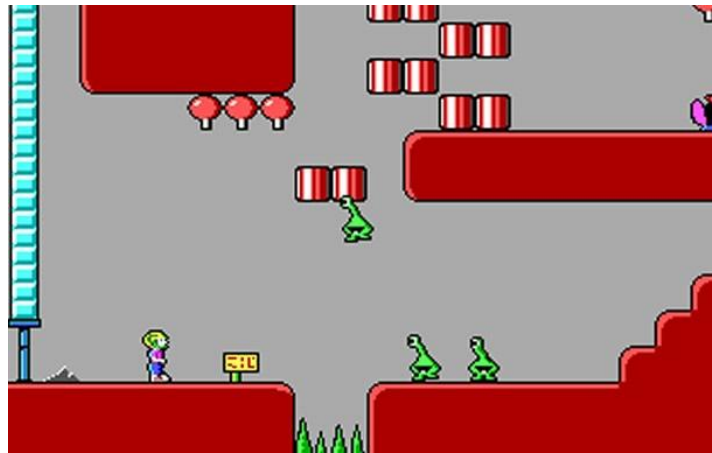




1990



- The Secret of Monkey Island
- Wing Commander
- Super Mario World
- Final Fantasy III
- Commander Keen
- Microsoft Minesweeper



1991

- S3 Graphics' S3 86C911, the first graphics accelerator card
- id Software is founded
- World Wide Web
- Seiken Densetsu/ Final Fantasy/ Mystic Quest
- Sonic the Hedgehog



1991

- Sid Meier's strategy game Civilization
- Puzzle game Lemmings
- Road Rash
- Hunter, open world



1991

- The Legend of Zelda - A Link to the Past
- Neverwinter Nights
- Fighting game Street Fighter II - The World Warrior
- Another World



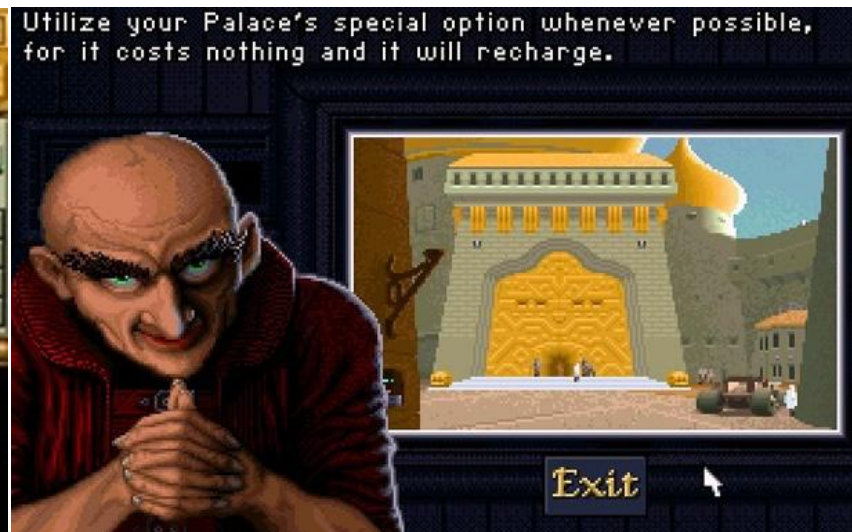
1992

- Silicon Graphics's cross-platform application programming interface OpenGL
- Virtua Racing with 3D graphics



1992

- Super Mario Kart
- Mortal Kombat
- First-person shooter game
Wolfenstein 3D
- Real-time strategy game
Dune 2



1993

- Myst (Rand Miller), “artistic” videogame
- Star Fox (Shigeru Miyamoto)





1993

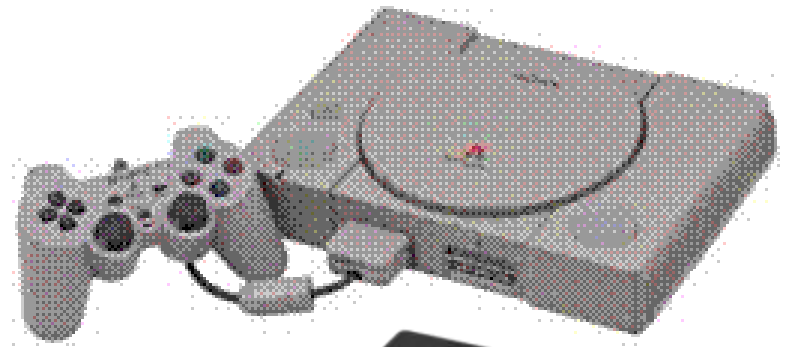


- Sim City 2000
- First-person shooter Doom
- Virtua Fighter, with 3D graphics
- Master of Orion



1994

- The Sony Playstation
- The Sega Saturn
- Shigesato Itoi's role-playing game Mother/Earthbound



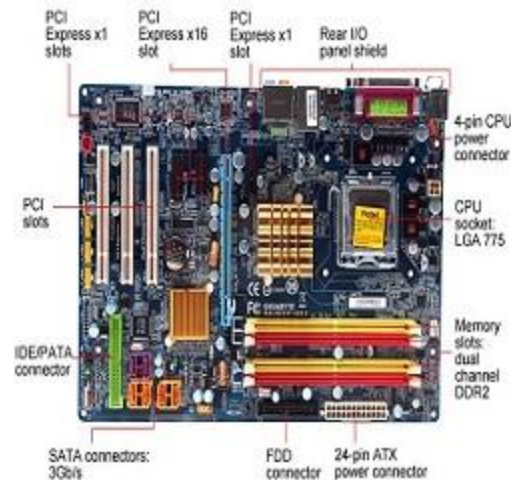
1994

- Heretic
- Warcraft Orcs & Humans, real-time strategy game
- Tekken
- Super Metroid



1995

- Nintendo's Virtual Boy console
- The first E3 is held in Las Vegas
- Microsoft's gaming platform DirectX
- Intel's ATX motherboard
- Distribution service Newgrounds
- The Sony DVD goes on sale



1995

- Warcraft II
- Need for Speed
- Command and Conquer
- Rayman



1995

- Penn & Teller's Smoke and Mirrors, that contains the troll game Desert Bus
- Jim Bumgardner's "The Palace", a virtual world



1996



- Gabe Newell and Mike Harrington found Valve
- Nintendo 64, the first true 64 bit game console
- 3D accelerators: 3dfx's Voodoo Graphics, Rendition's V1000, Array Technology's 3D RAGE
- 3D games: open-world Super Mario 64, Tomb Raider (Lara Croft debuts in Tomb Raider)



1996



- Bruce Damer's virtual-reality environments
- Yasuhiro Wada's Bokujō Monogatari/ Harvest Moon life simulator
- The MMORPG: "Baramue Nara/ Baram" and "Meridian 59" (cowritten/participatory nature)





1996

- Pokémon/ Pocket Monsters Red and Green
- Quake (3D) by id Software
- Duke Nukem 3D
- MAX



1996

- Shinji Mikami's “survival horror” game Biohazard/ Resident Evil
- Naughty Dog’s Crash Bandicoot



1996

- Arcade game Metal Slug
- Arcade game House of the Dead



1997

- Intel introduces MMX chips
- The Cyberathlete Professional League, the world's first videogame sports league
- Nicola Salmoria's arcade-game emulator MAME (Multiple Arcade Machine Emulator) to preserve gaming history



CYBERATHLETE
PROFESSIONAL ★ LEAGUE



1997

- Richard Garriott & Ralph Koster: "Ultima Online", the first MMORPG and a socio-economic experiment
- Final Fantasy VII, a role-playing game produced with a budget of \$45 million
- Carmageddon
- Tekken 3
- Gran Turismo



1997

- Grand Theft Auto, open-world game
- Total Annihilation, real-time strategy game
- Oddworld - Abe's Oddysee



1997

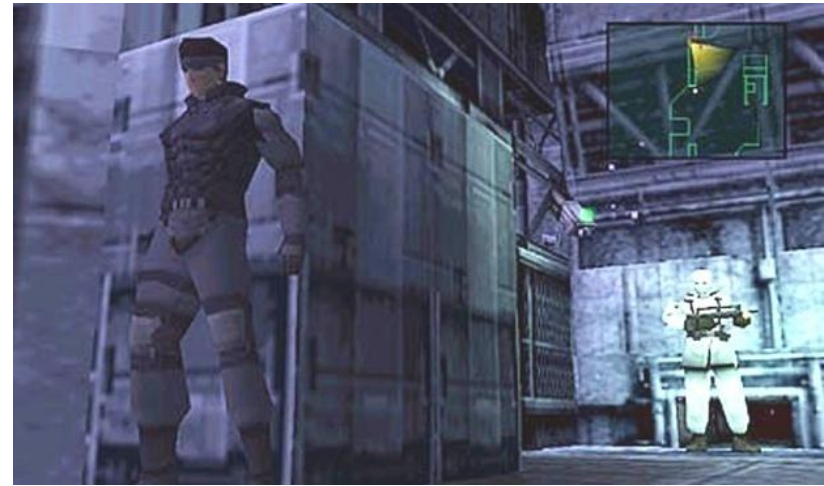
- Age of Empires
- Quake 2
- Diablo



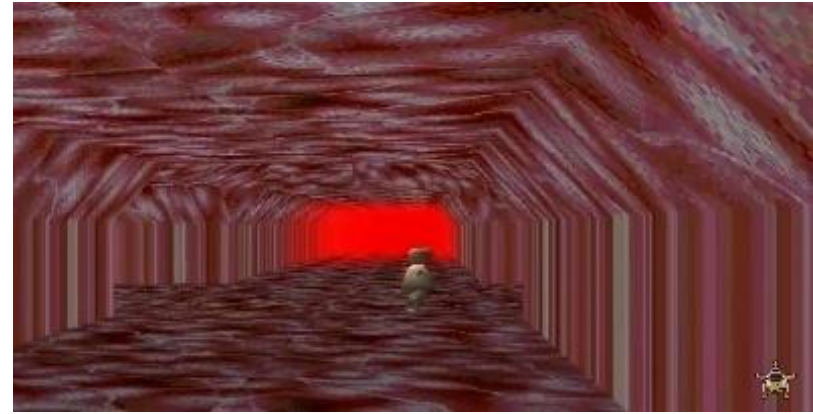
1998

- Sales of videogame consoles in the USA alone amounts to \$6.2 billion, which dwarfs sales of videogame software on personal computers (\$1.8 billion)
 - Nintendo Game Boy Color
 - Nintendo 64
 - Sony PlayStation
 - Sega Saturn

1998



- Gabe Newell & Marc Laidlaw's first-person shooter Half Life
- Metal Gear Solid (stealth game, complex story-telling)
- Osamu Sato's psychedelic game LSD Dream Emulator



1998

- Soulcalibur allows the player to move in 8 directions
- Thief: stealth videogame





1998

- Flight Simulator 98
- Starcraft, real-time strategy game
- Unreal
- The Legend of Zelda - Ocarina of Time
- Spyro the Dragon



1999

- Sega Dreamcast console
- Nvidia's GPU (graphics processor unit) GeForce 256
- Lee Seungchan's QuizQuiz released for free (published by South Korea's Nexon), the first "free-to-play" (F2P) game ("freemium")



1999



- Real-time strategy game Homeworld
- Planescape Torment
- Survival horror game Silent Hill
- Yu Suzuki's open-world game Shenmue



1999

- Brad McQuaid & Steve Clover:
EverQuest (second MMORPG)
introduces "Dragon kill points" (DKPs),
rewards for players who join together to
defeat dragons (points, not currency, but
treated like currency)



1999

- Heroes of Might and Magic III
- Driver, open world
- Masaya Matsuura's Vib-Ribbon, rhythm game
- System Shock 2



2000

- Sony Playstation 2
- Aapo Kyrola and Sampo Karjalainen launch the virtual world Hotelli Kultakala/ Habbo Hotel



2000

- Will Wright's life-simulation game The Sims
- Counter Strike
- Tony Hawk's Pro Skater 2
- Deus Ex, open world



2001

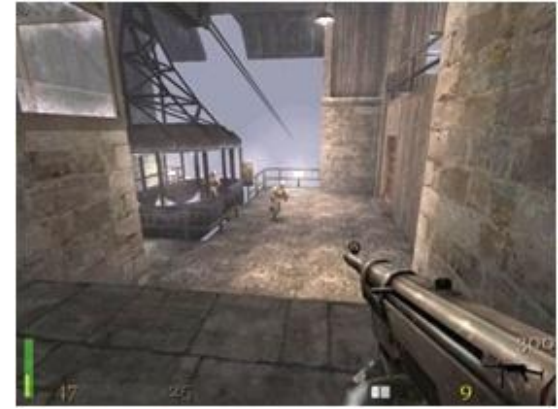


- Microsoft Xbox
- Fumito Ueda's Ico
- BotFighters (Sweden), first location-based game

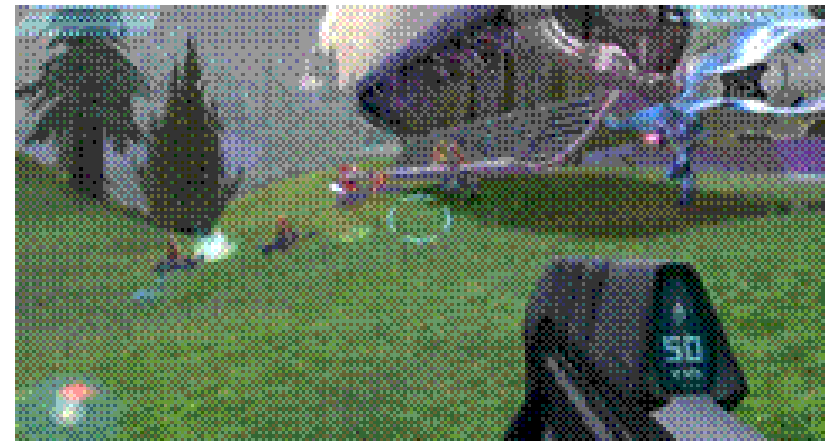




2001



- Max Payne
- Return to Castle Wolfenstein
- Halo
- Empire Earth





2001



- Silent Hill 2, survival horror
- Grand Theft Auto 3, open world
- Peter Molyneux's god game Black & White
- Gothic, role-playing game



2001



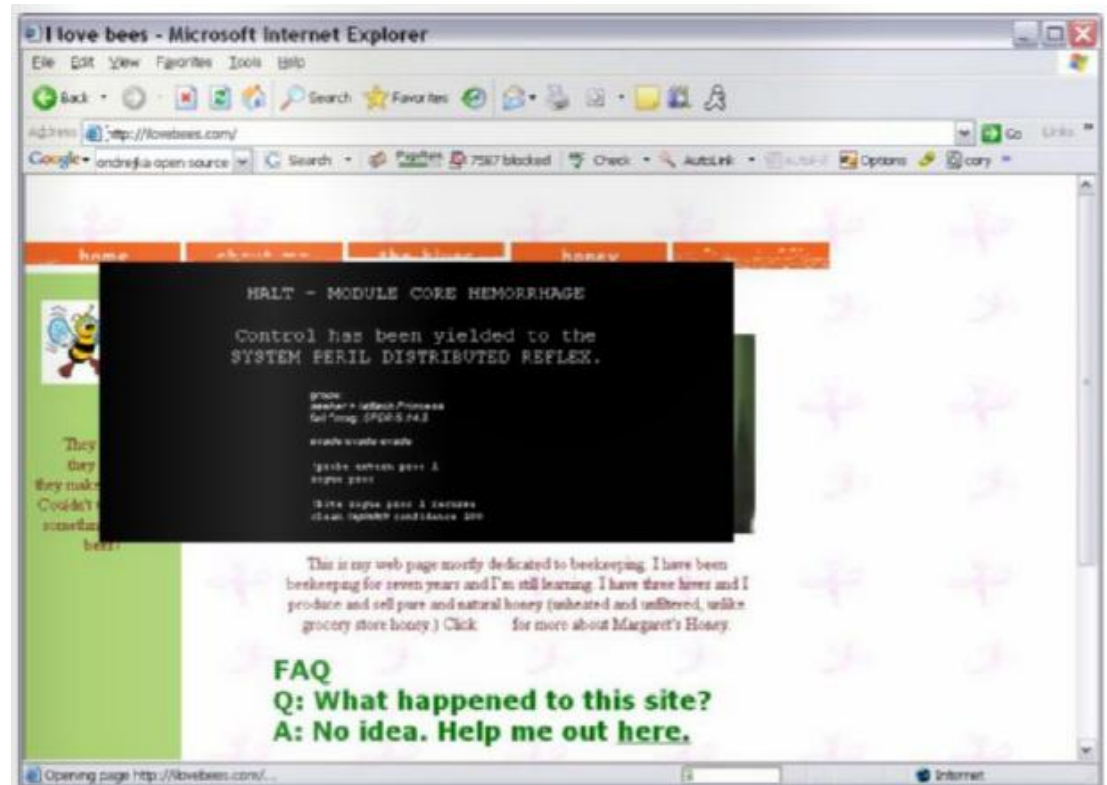
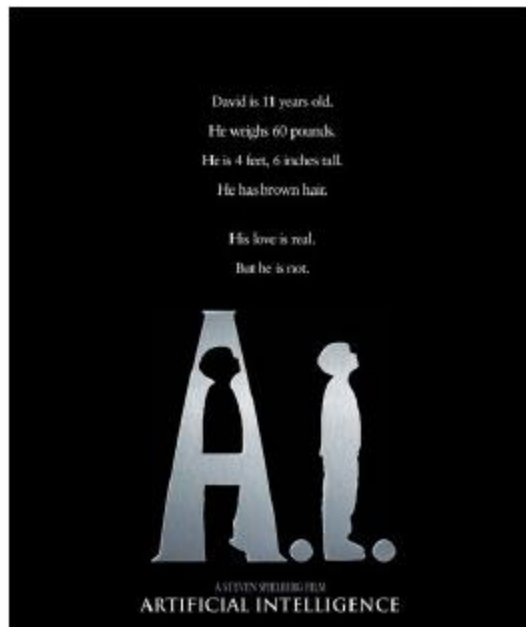
- Phoenix Wright - Ace Attorney
- Devil May Cry, “hack and slash”
- Animal Forest/ Animal Crossing, life simulation



Alternative Reality Games

- Elan Lee's "The Beast" (2001)
- Jane McGonigal's "I Love Bees" (2004)

The Beast ARG





2002

- Mafia
- Diablo II - Lord of destruction
- Neverwinter Nights
- Metroid Prime
- MMORPG The Sims Online, almost a metaverse



2002

- Splinter Cell
- Dungeon Siege
- Battlefield 1942
- Baldur's Gate – Dark Alliance



2002

- The Elder Scrolls III: Morrowind, open world
- Gothic II, role-playing game
- Warcraft III



2003

- Nokia's console / mobile phone hybrid N-Gage
- Valve's digital distribution services Steam
- Ubi Soft Entertainment
- Riccardo Zacconi co-founds King





2003

- The MMORPG EVE Online
- Keita Takahashi 's "Katamari Damacy"
- Sylvia Eckermann & Mathias Fuchs' "fluid"
- Defense of the Ancients (Warcraft 3 modification)



2003

- Virtual reality worlds "Second Life" (by Philip Rosedale) and "Gaia Online"
- "Second Life" in 2008: 50,000 concurrent users at any given time



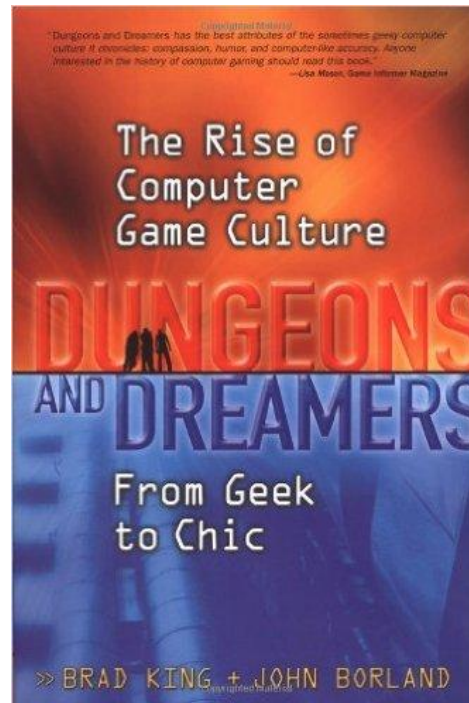
2003

- Call of Duty
- Prince of Persia
- Max Payne 2
- Rise of Nations
- WarioWare



2003

- Brad King and John Borland: *"Dungeons And Dreamers - The Rise of Computer Game Culture from Geek to Chic"* (2003)



2004

- Nintendo DS dual-screen console
- The first Major League Gaming for computer gaming is held in New York
- Facebook
- Telltale Games (episodic gaming)
- Tencent's first game, QQ Tang (a copy of Nexon's BNB/Crazy Arcade)

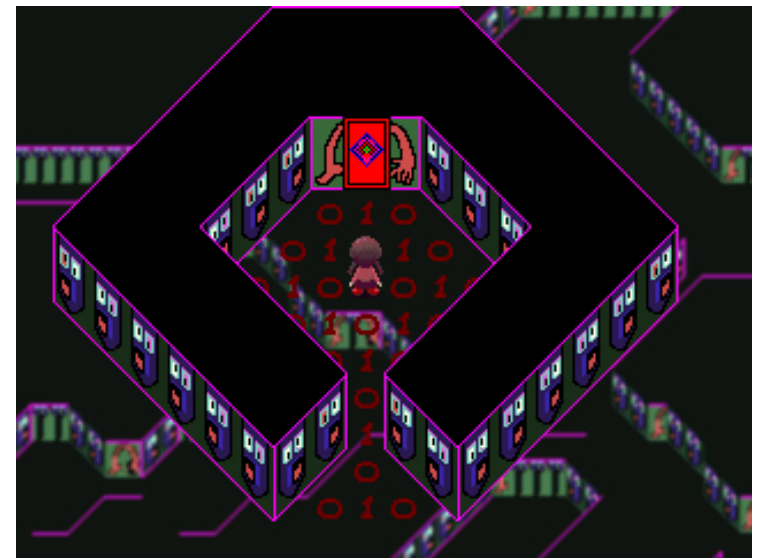




2004



- Rob Pardo's MMORPG World of Warcraft
- Far Cry
- Garry Newman's open-world game Garry's Mod/Gmod
- Kikiyama's surrealistic game Yume Nikki



2004

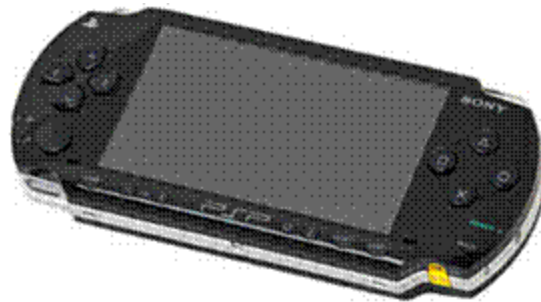


- Doom 3
- Half Life 2
- Halo 2
- Rome: Total War



2005

- Microsoft's high-definition XBox 360
- Sony Playstation Portable
- Turner Broadcasting System's online game service GameTap



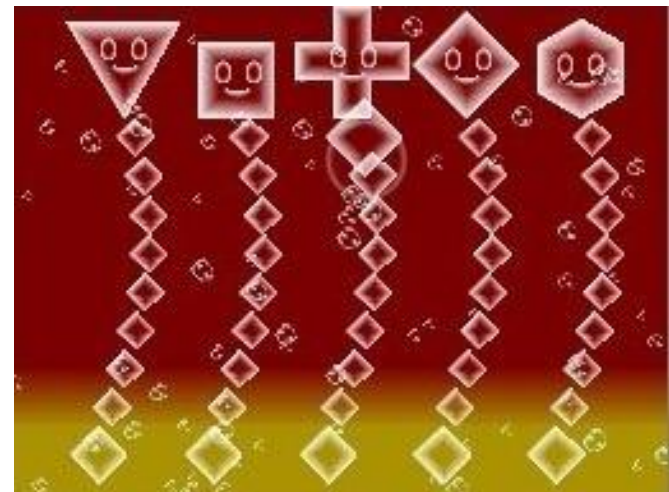
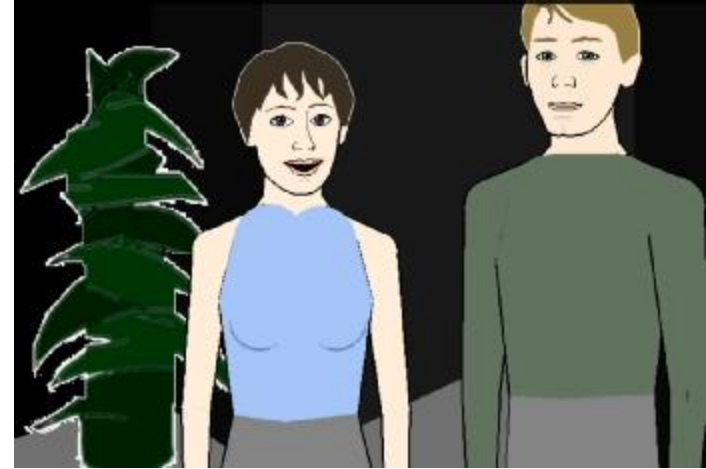
2005

- Medal of Honor – European Assault
- F.E.A.R.
- Age of Empires 3
- Guitar Hero
- Nintendogs
- Need for Speed Most Wanted



2005

- Michael Mateas and Andrew Stern's Artificial Intelligence-based Façade
- Fumito Ueda's Shadow of the Colossus
- Toshio Iwai's music-generator Electroplankton



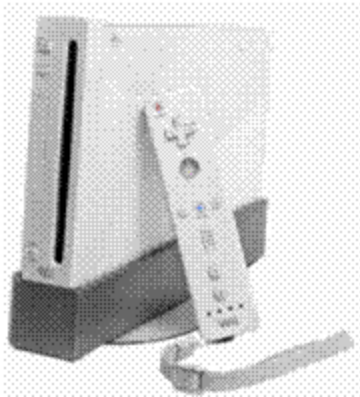
2005

- Resident Evil 4
- Goichi Suda's Killer 7



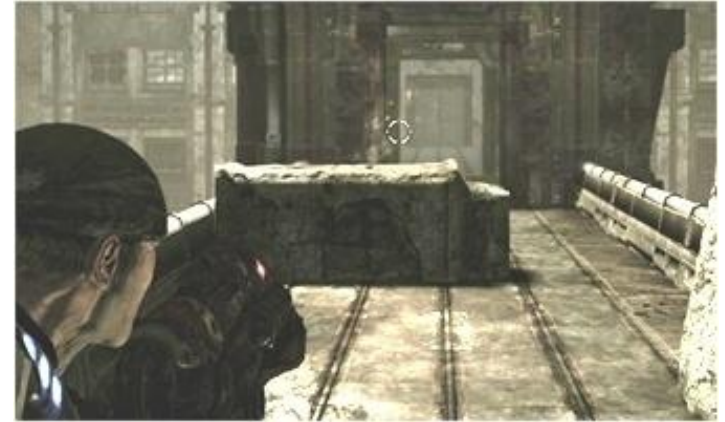
2006

- The Blu-ray disc
- Nintendo's motion-sensitive Wii





2006

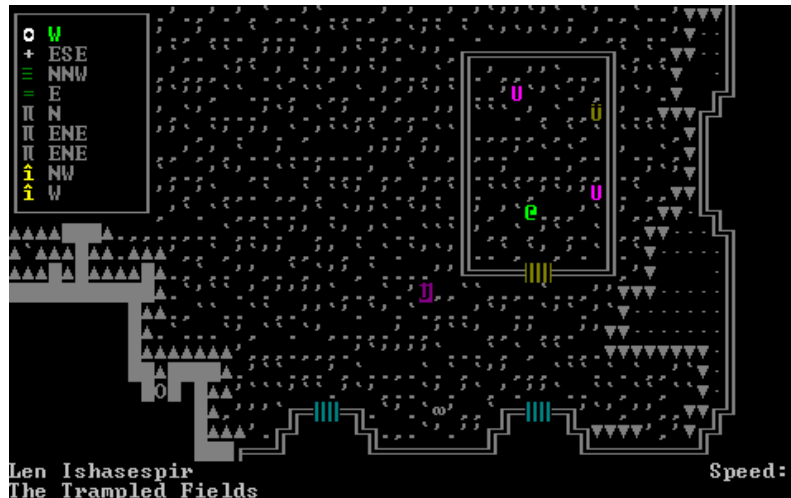


- The Godfather
- Gears of War
- The Legend of Zelda - Twilight Princess
- Elder Scrolls IV – Oblivion: open world
- Hitman Blood Money



2006

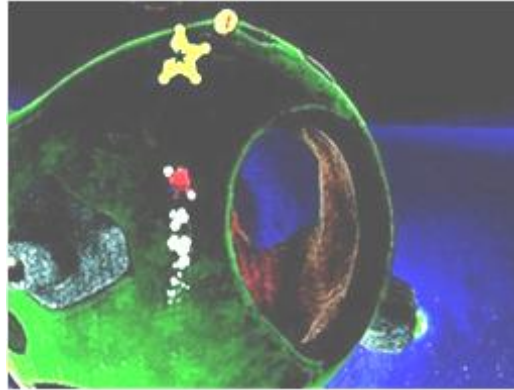
- Prey
- Heroes of Might and Magic V
- Titan Quest
- Dwarf Fortress, open-ended
- Bully



2007

- Mark Pincus founds Zynga
- First-person shooter Team Fortress 2 with meta-games and virtual economy





- Halo 3
- Super Mario Galaxy
- Crysis
- Call of Duty IV – Modern Warfare
- Unreal Tournament 3





2007



- Unreal Tournament 3
- The Witcher
- Puzzle-game Portal
- Bioshock



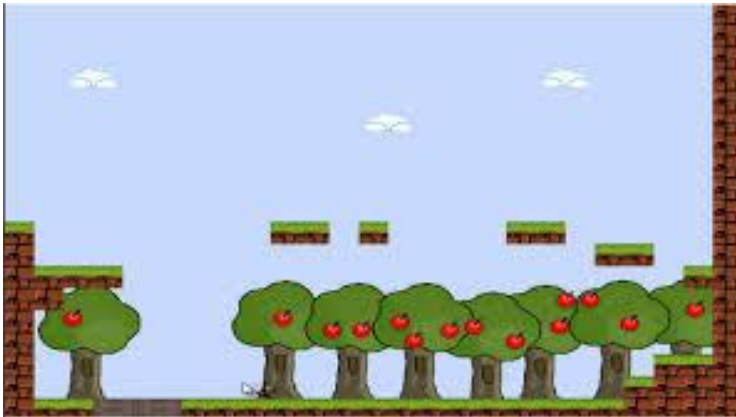
2007

- Open-world games
 - Crackdown
 - S.T.A.L.K.E.R.: Shadow of Chernobyl
 - Ubisoft's Assassin's Creed



2007

- Troll games
 - I Wanna Be The Guy
 - The Big Adventure of Owata's Life



2008

- Good Old Games (GOG) distribution service to release classic games without DRM
- Social Gaming Network (SGN) is founded to develop social games for the Facebook platform



2008

- Browser-based “social games” running on Facebook:
 - YoVille
 - David Maestri’s Mob Wars
- World of Warcraft is the most popular massively multiplayer online (MMO) game



2008

Boom of indie games

- Jonathan Blow's "Braid", an artistic videogame
- 2d Boy's puzzle-game World Of Goo



2008

- Grand Theft Auto IV
- Prince of Persia
- Metal Gear Solid 4
- Burnout Paradise, open world





2008



- Command and Conquer 3 Kane's Wrath
- Fallout 3
- Spore



2009

- Facebook-based social games: Farm Town and Zynga's FarmVille
- Multiplayer online battle arena League of Legends
- Activision sells 4.7 million copies of "Call of Duty - Modern Warfare 2" on its first day



2009

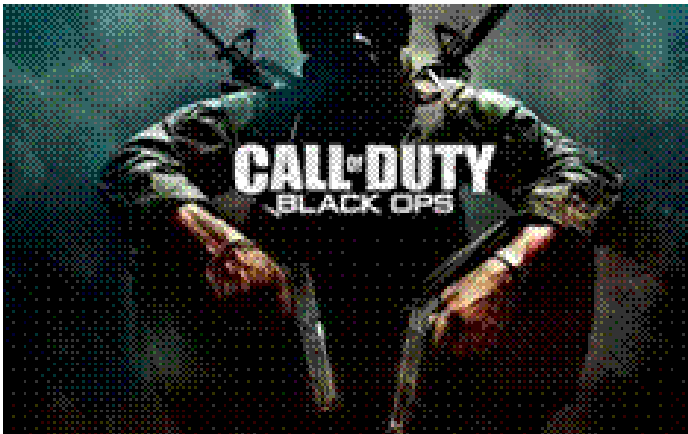


- F.E.A.R. 2
- Alan Wake
- Starcraft 2 Terrans: Wings of Liberty
- Hidetaka Miyazaki's Demon's Souls: ethical videogame



2010

- Microsoft's Kinect, a motion sensing input device for the Xbox
- Digital distribution service Desura
- Activision sells 5.6 million copies of “Call of Duty - Black Ops” on its first day



2010

- Angry Birds, the first blockbuster of iPhone videogaming
- Booyah's location-based "My Town"
- Playdead's dialogue-less Limbo



2010

- Heavy Rain
- Super Mario Galaxy 2
- Mass Effect 2
- Amnesia The Dark Descent



2010

- Open-world
 - Red Dead Redemption
 - Mount & Blade: Warband
 - Just Cause 2



2011

- Justin Kan founds Twitch.tv
- Game-streaming service OnLive
- Revenues from F2P games overtake revenues from premium games on mobile devices



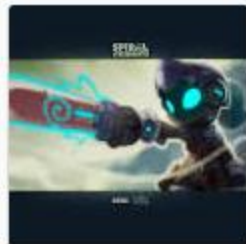
Video Games > Free-to-play



TERA
2011



Rift
2011



Spiral Knights
2011



DC Universe
Online
2011



Realm of the
Mad God
2011



No More
Room in Hell
2011

2011

- Davey Wreden's post-modern videogame *The Stanley Parable*
- *Skylanders Spyro's Adventure*, the first augmented-reality hit
- Puzzle game *Candy Crush Saga*



2011

- Portal 2
- Bastion
- Kerbal Space Program
- Dark Souls



2011

- Open-world
 - Markus Persson's Minecraft, the first hit of indie games (players can interact with and modify a 3D environment)
 - The Elder Scrolls V: Skyrim



Indie Games

- 2010: Super Meat Boy
- 2011: Jamestown
- 2012: Defender's Quest



2012



- Hotline Miami
- Dear Esther
- Xenoblade Chronicles
- Spelunky



2012

- Nicklas Nygren's freeware Knytt Underground
- FTL: Faster Than Light (Kickstarter-funded)
- Supercell Oy's "Clash of Clans", a F2P
- Euro Truck Simulator 2, open world





2012



- Spec Ops - The Line
- Walking Dead
- Journey
- XCOM: Enemy Unknown
- Puzzle-game FEZ



2013

- Sony's PlayStation 4
- Microsoft's Xbox One
- Julie Uhrman's OUYA, an Android microconsole funded via Kickstarter



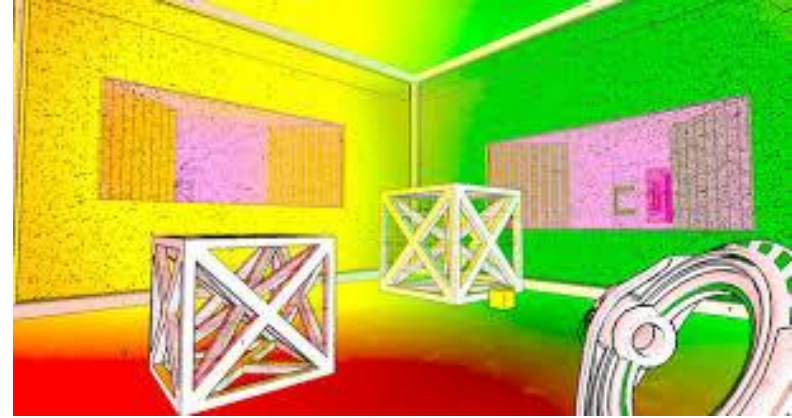
2013

- Naughty Dog's The Last of Us (ethical videogame)
- Gone Home
- BioShock Infinite
- IceFrog's multiplayer online game Dota 2 (published by Valve)



2013

- Alexander Bruce's puzzle game Antichamber
- Don't Starve
- Lucas Pope's Papers Please



2013

- Dean Hall's Arma 2 modification DayZ, multiplayer open-world survival third-person shooter
- Arma 3



2013

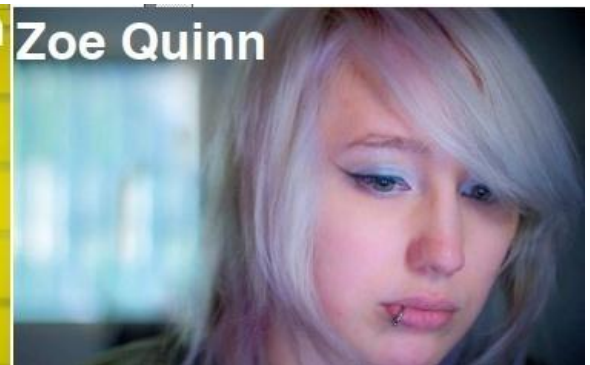
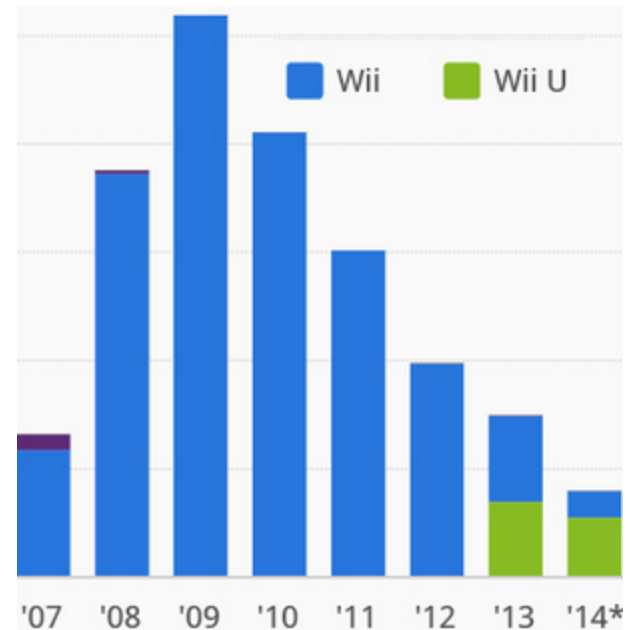
- Open-world
 - Grand Theft Auto V



2014



- Amazon acquires gaming studio Double Helix Games and live streaming video platform Twitch
- Nintendo's worst year - emergence of mobile gaming
- #Gamergate: shame on videogames (attacks on Zoë , Brianna Wu, well Anita Sarkeesian)



2014



- Aviator
- 80 Days
- Persona Q: Shadow of the Labyrinth
- Bayonetta 2



2014

- Middle-Earth: Shadow Of Mordor
- The Vanishing of Ethan Carter



2014

- Open-world
 - Subnautica
 - Elite: Dangerous



2015

- Nvidia's game streaming service
Grid/ GeForce Now
- Sony's game streaming service
PlayStation Now/ PS Now
- Nvidia's Shield console
- Gaming's top 25 public
companies generate revenues of
\$54 billion





2015



- Sunless Sea
- Prune
- JustCause 3
- Shaban Shaame's Spells of Genesis, the first blockchain game



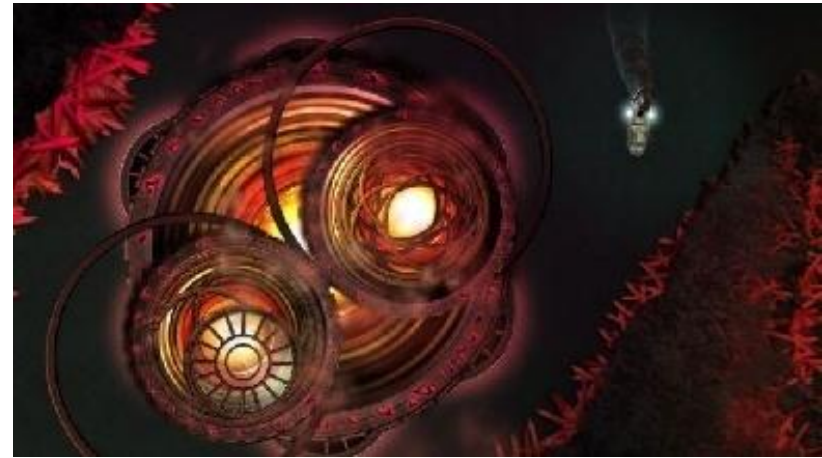
2015



Peak of open-world games

- The Witcher 3: Wild Hunt
- Mad Max
- Westerdale: Double Barreled

2015



Peak of open-world games

- Fallout 4
- Sunless Sea
- Metal Gear Solid V - The Phantom Pain



2015

- Toby Fox's Undertale
- Davey Wreden's post-modern game The Beginner's Guide
- Bloodborne
- MidBoss' 2064 Read Only Memories



Go right

2016

- Facebook/ Oculus Rift
- Niantic's augmented-reality Pokemon Go



2016

Virtual-reality games

- Fantastic Contraption
- Job Simulator.





2016



- Sean Murray's self-generating universe No Man's Sky
- Starbound
- Firewatch
- Forza Horizon 3, open world
- Dialogue-less Inside





2016



- Eric Barone's Stardew Valley
- Superhot
- Final Fantasy XV
- Hitman
- Hiroyoshi Oshiba's Trap Adventure 2, troll game





2016



- Overwatch
- Titanfall 2
- Doom
- Dragon Quest Builders
- Uncharted 4: A Thief's End



2016



- Jonathan Blow's puzzle game
The Witness
- Tharsis
- Thumper

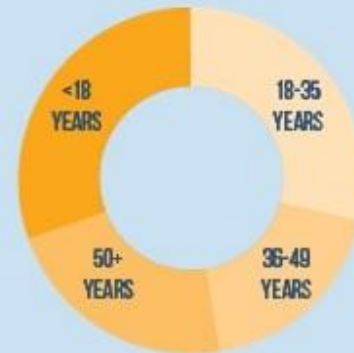


BEST SELLING VIDEO GAME SUPER GENRES OF 2016 BY UNITS SOLD



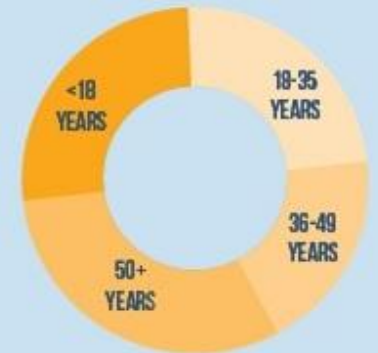
Source: The NPD Group/
Retail Tracking Service/
Digital Games Tracking
Servi

AVERAGE GAMERS BY AGE GROUP



MALE

UNDER 18 YEARS OLD: 18%
18-35: 17%
36-49: 11%
AGE 50+: 13%



FEMALE

UNDER 18 YEARS OLD: 11%
18-35: 10%
36-49: 8%
AGE 50+: 13%

2017

- Nintendo's Switch console (a "hybrid" device)



2017

- Fortnite (Epic Games)
- The Legend of Zelda: Breath of the Wild
- NieR:Automata
- Persona 5





2017

- Night in the Woods
- Gorogoa
- Cuphead
- Divinity: Original Sin 2
- Hellblade: Senua's Sacrifice





2017

- What Remains of Edith Finch
- Super Mario Odyssey
- Resident Evil 7: Biohazard
- Yakuza 0
- Hollow Knight



2017

Virtual-Reality games

- Virtual Virtual Reality, a VR game about VR and AI
- Accounting+
- Space Pirate Trainer



2018

Virtual-Reality games

- Beat Saber

Metaverse

- Camp Mobile's Zepeto (South Korea), a social platform where users interact and create content as 3D avatars



2018

- Google's videogame streaming service Project Stream

Project Stream

Google

Metaverses/cryptoworlds

- 2006 Roblox (Bay Area)
- 2007 Solipsis (France)
- 2014 The Sandbox (Britain)
- 2015 Decentraland (Argentina)
- 2015 Cryptovoxels (New Zealand)
- 2017 Epic Games' Fortnite
- 2017 Somnium Space (Britain)
- 2018 Upland (Silicon Valley)



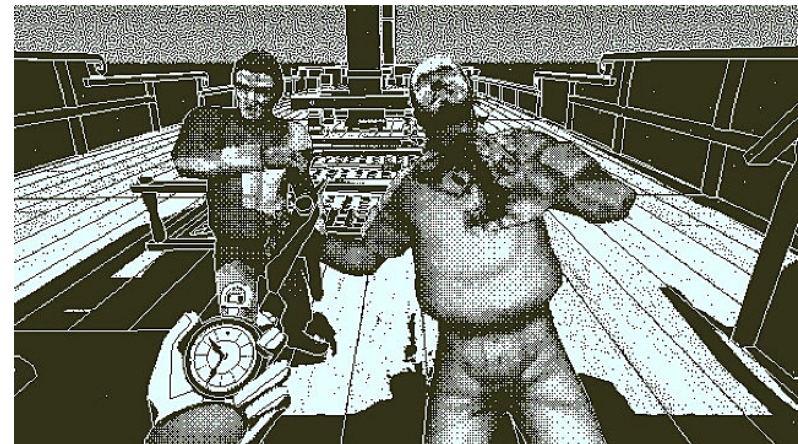
NFT-based games

- 2018 AxieInfinity (Singapore)
- 2018 Zed Run (Australia)



2018

- ... in progress...
- Kingdom Come: Deliverance, open world
- Red Dead Redemption II
- Lucas Pope's Return to the Obra Dinn



2019

- ... in progress...
- Baba is You



2020

- ... in progress...
- Microsoft Flight Simulator
- Half-Life – Alyx
- Animal Crossing: New Horizons, networked virtual worlds



2021

- ... in progress...

(nominated for future inclusion)

1980 Centipede

1985 Koronis Rift

1986 Out Run

1987 Pirates

1989 Prince of Persia

1992 Darklands

1993 The 7th Guest

1994 Magic Carpet

1994 System Shock

1996 Creatures

Postal 2 (2002)

2005 God of War

2006 Okami

Shigesato Itoi's MOTHER 3 (2006)

2008 Little Big Planet

Mortis Ghost's OFF (2008)

2009 Flower

2013 Flappy Bird

Mason Lindroth's Hylics (2015)

2017 Little Nightmares

2017 Sonic Mania

2017 Rain World

2018 God of War

2018 Spider-Man

2018 Super Smash Bros Ultimate

2018 Celeste

2018 A Way Out

2018 Among Us

David Szymanski's DUSK (2018)

2019 Sekiro - Shadows Die Twice

2019 Control

2019 Resident Evil 2

2019 Death Stranding

2019 Disco Elysium

2019 Tetris 99

Mason Lindroth's Hylics 2 (2020)

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