History of Video Games

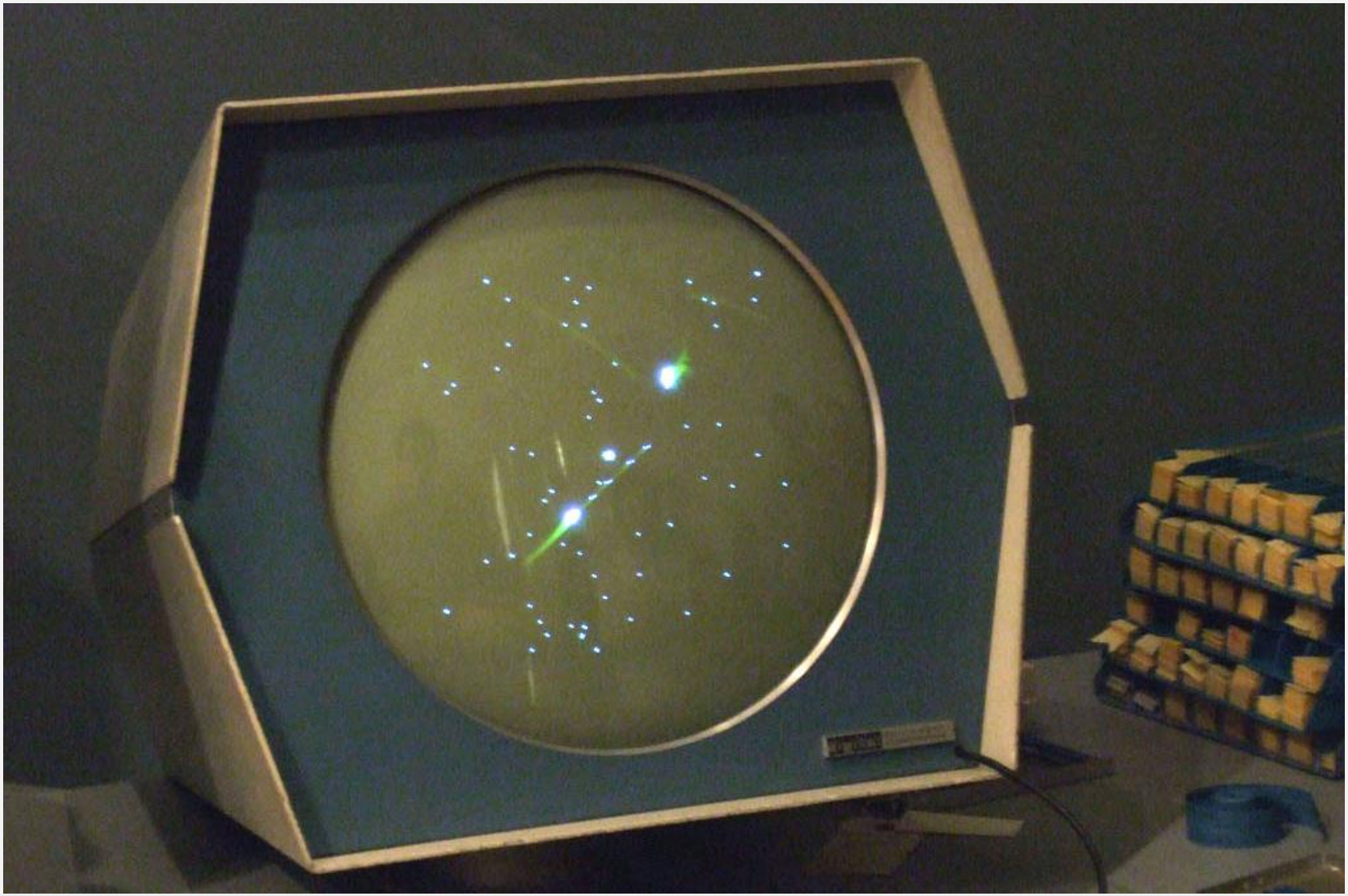




Sources


AN ILLUSTRATED HISTORY OF
151 VIDEO GAMES
SIMON PARKIN
from Pong to Pokémon and beyond . . .
the ULTIMATE HISTORY of VIDEO GAMES
the story behind the craze that touched our lives and changed the world
Steven L. Kent
HIGH SCORE

Spacewar! 1962



Spacewar! (Computer)

- Two spaceships shoot at one another while avoiding the gravity well of a central star.
- Steve Russell and Martin Graetz
- DEC PDP-1 Mainframe at MIT
  - 200 khz processor
  - 9.2 kb of RAM

  (photo from a smartphone is about 300x larger)

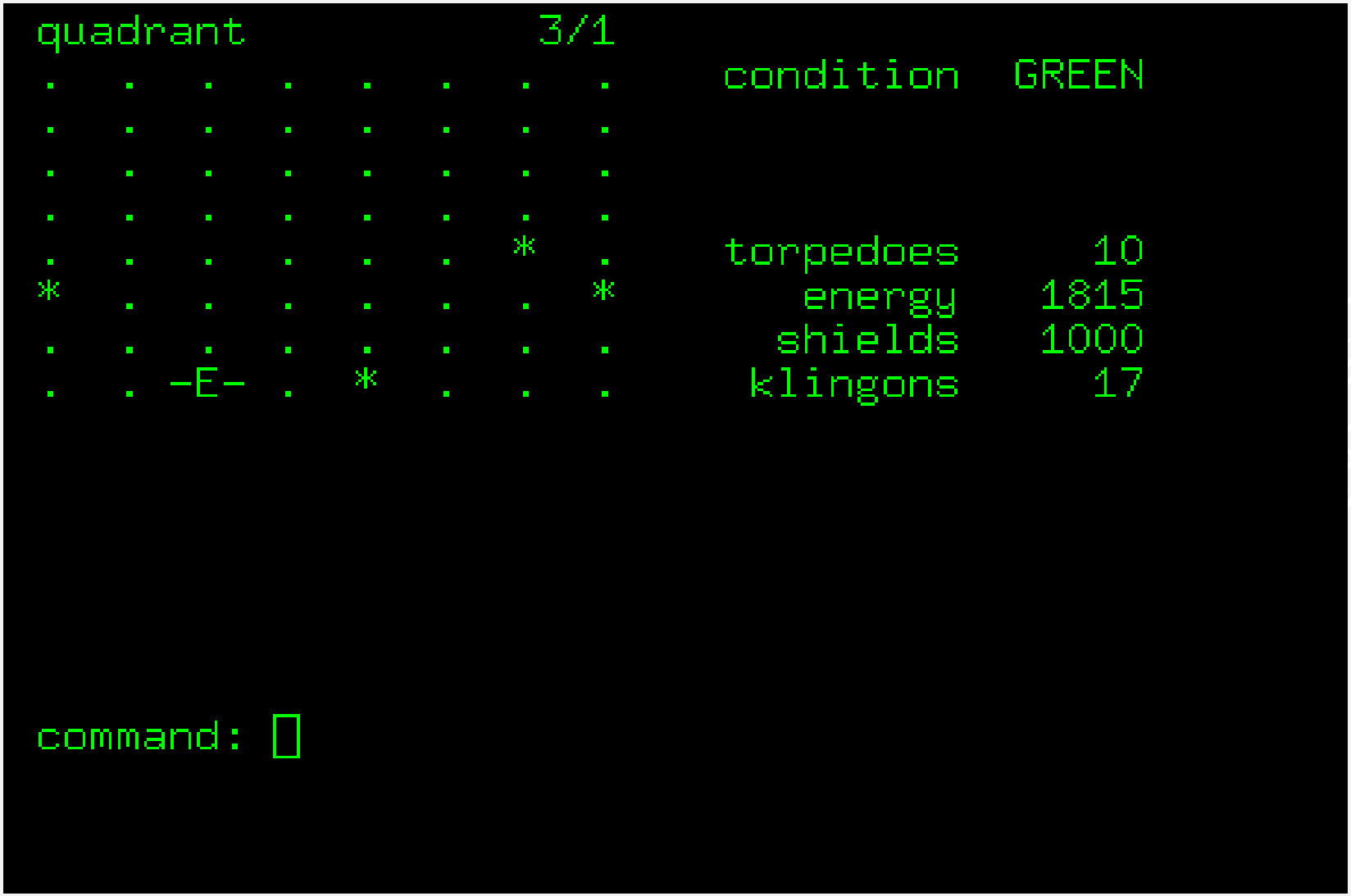
Galaxy Game / Computer Space, 1971



Galaxy Game / Computer Space (Arcade)

- Both based on *Spacewar!*
- Galaxy Game built by Bill Pitts and Hugh Tuck in the student union at Stanford
- 1 play for 10¢, 3 for 25¢
- Computer Space built by Nolan Bushnell of Nutting Associates in the Dutch Goose bar near Stanford
- Came later in the year, but was commercially successful
- Arguably the first video arcade game.

Star Trek, 1971



Star Trek (Computer)

- Hunt Klingon ships while managing your weapons and energy.
- Perhaps the first use of existing Intellectual Property (IP) in a video game, though not officially licensed.

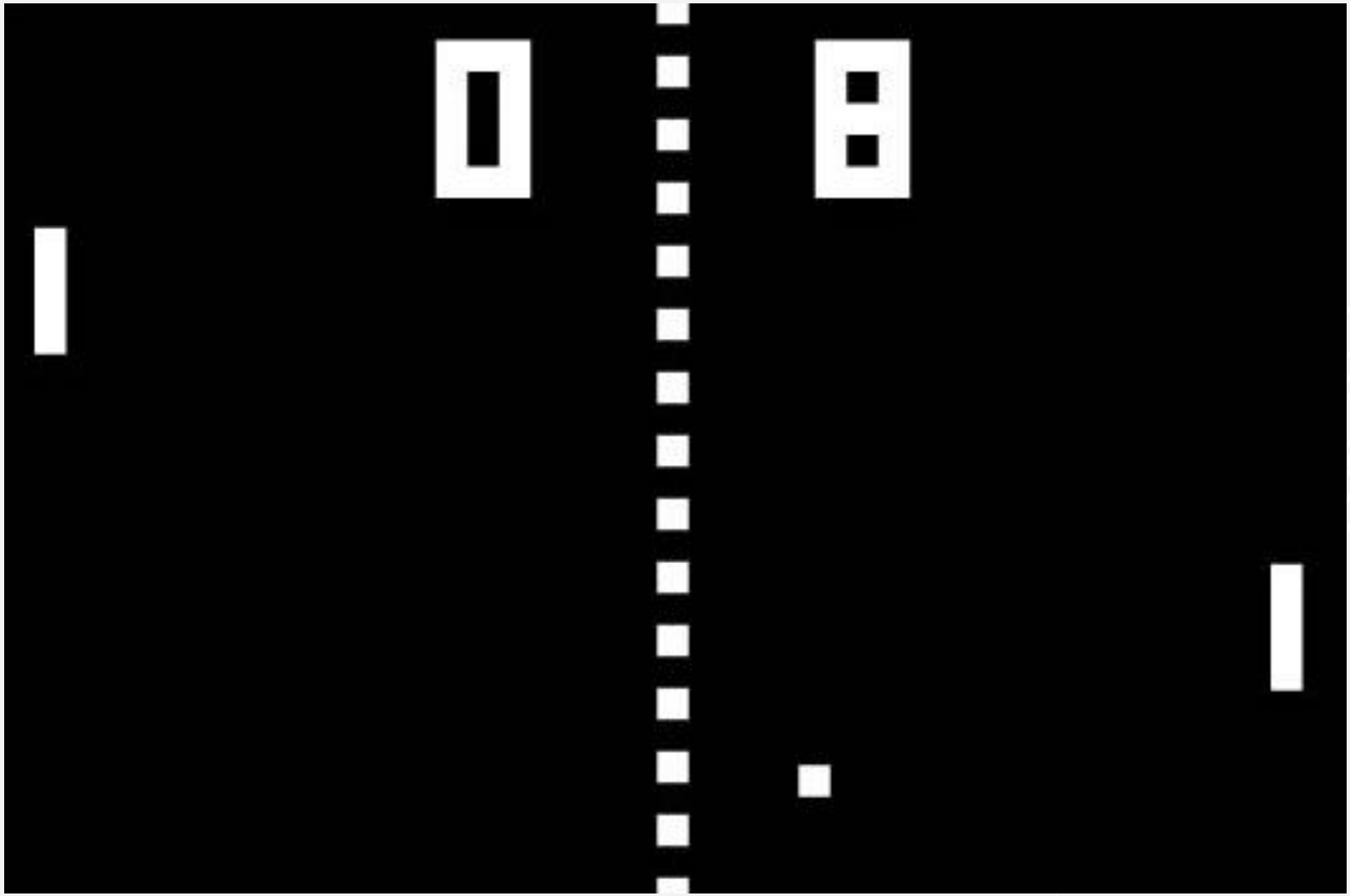
Magnavox Odyssey, 1972



Magnavox Odyssey

- First commercially available home video game system
- Came with 12 games, including Ping-Pong
- Originally meant to cost $20, its actual cost was $99.95.
- Sold 200,000 units by 1974

Pong, 1972



Pong (Arcade)

- First developed as Ping-Pong for the Magnavox Odyssey
- In 1972, Nolan Bushnell and Ted Dabney formed Atari Inc. (Syzygy Inc. was taken).
- Bushnell tricked Al Alcorn into developing a clone of Ping-Pong that featured new bounce mechanism, sound, and score.
- New game was so exciting that Atari Inc. stopped working on the racing game that was to be its first product and focused on Pong.

Pong (cont.)

- Pinball manufacturer Bally Midway constantly rejected Atari's proposals to make Pong.
- A test Pong machine at Andy Capp's Tavern in Sunnyvale, CA became jammed with coins.
- Atari decided to manufacture Pong itself, and thus made its initial profits.
- Instruction on the arcade machine read, "Avoid missing ball for high score."

Laser Clay Shooting System, 1973



Laser Clay Shooting System (Arcade)

- Developed by Gunpei Yokoi
- Nintendo's first video game product
- Demo went wrong and had to be operated by hand
- Eventually re-worked into the better known game *Duck Hunt*

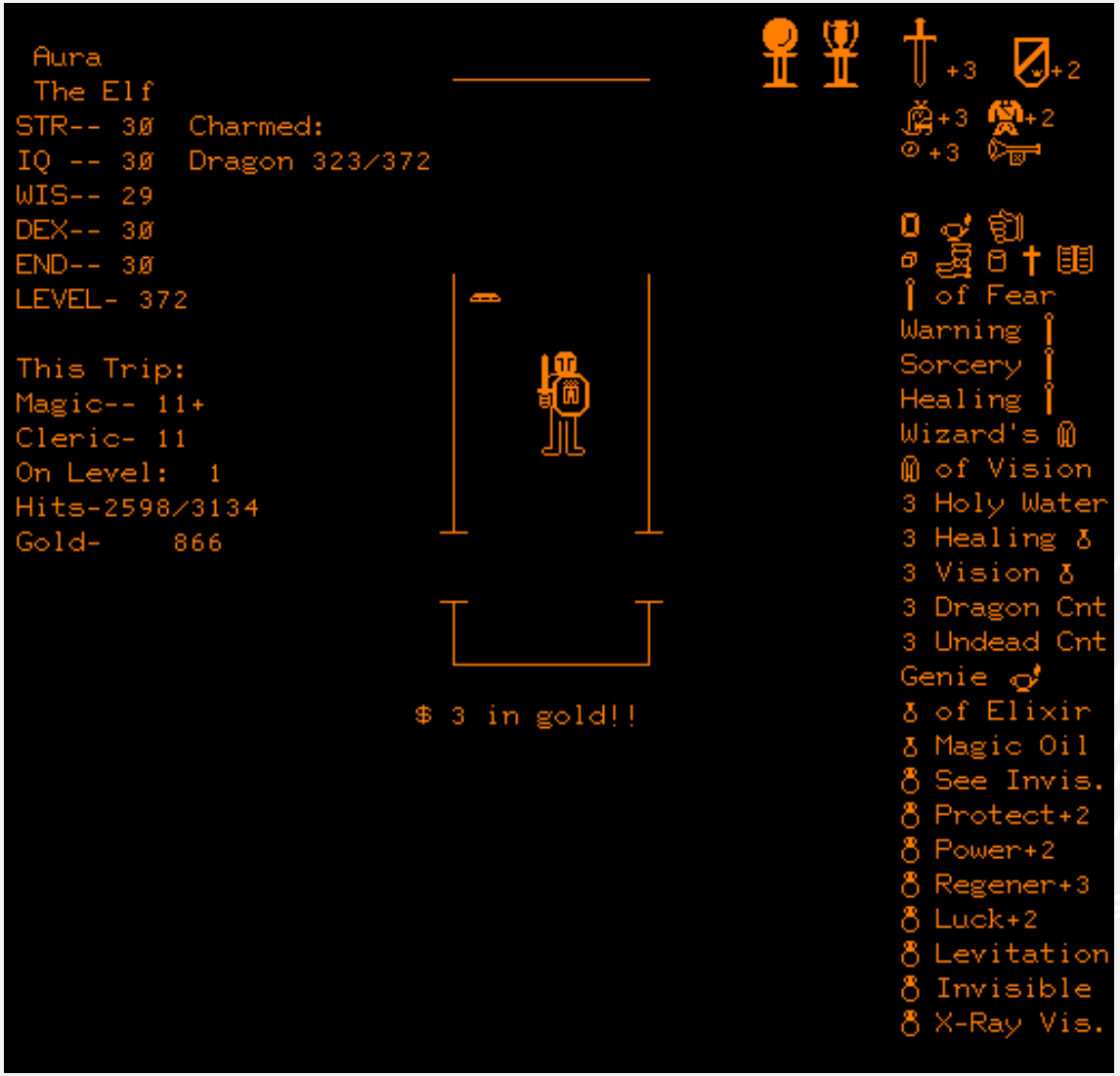
Gran Trak 10, 1974



Gran Trak 10 (Arcade)

- Originally meant to be Atari's first game, but put off in favor of *Pong*.
- Commercially successful but underpriced by Atari, almost bankrupting the company.

dnd, 1974


Aura
The Elf
STR-- 3Ø
IQ -- 3Ø
WIS-- 29
DEX-- 3Ø
END-- 3Ø
LEVEL- 372
Charmed:
Dragon 323/372
This Trip:
Magic-- 11+
Cleric- 11
On Level: 1
Hits-2598/3134
Gold- 866
$ 3 in gold!!
+3
+2
+3
+2
+3
of Fear
Warning
Sorcery
Healing
Wizard's
of Vision
3 Holy Water
3 Healing
3 Vision
3 Dragon Cnt
3 Undead Cnt
Genie
of Elixir
Magic Oil
See Invis.
Protect+2
Power+2
Regener+3
Luck+2
Levitation
Invisible
X-Ray Vis.

dnd (Computer)

- Come and go from a multi-layer dungeon, fight monsters with weapons and spells, and hunt for the Grail.
- Title comes from the abbreviation D&D for Dungeons and Dragons.
- First computer role-playing game.
- First game to feature “bosses,” or more powerful monsters that must be fought at climactic moments.

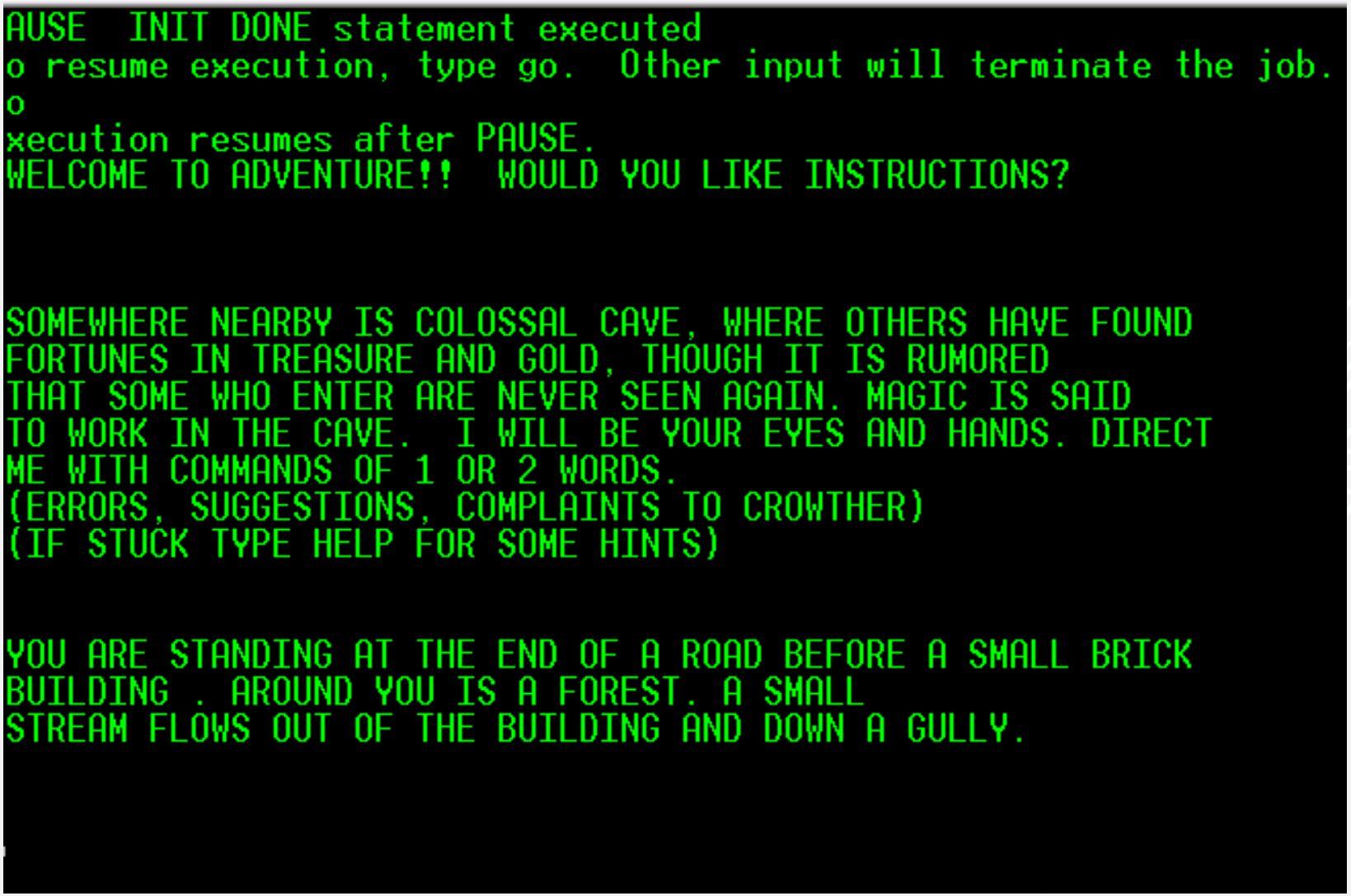
Oregon Trail, 1974



Oregon Trail (Computer)

- Simulates a family of pioneers crossing the Western US
- One of the first educational games

Colossal Cave Adventure, 1976



Colossal Cave Adventure (Computer)

- Explore an underground cave network and solve puzzles by typing simple English commands.
- Created by Will Crowther to connect with his two daughters after his divorce.
- First adventure game and first interactive fiction.
- Many later additions / mods by others.

Sea Wolf, 1976





Sea Wolf (Arcade)

- Concept: Pilot a military submarine.
- Use a periscope to aim.
- First game to feature a high score list.



Breakout, 1976



Breakout (Arcade)

- Single player version of *Pong* in which the ball is used to break blocks.
- Steve Jobs, working for Atari, developed the game with the help of Steve Wozniak. The two would later found Apple Computer.
- When the Japanese company Namco couldn't import *Breakout* machines fast enough to satisfy demand, the Yakuza began manufacturing illegal copies.

Heavyweight Champ, 1976



Heavyweight Champ (Arcade)

- Developed by SEGA.
- Boxing match using boxing glove controllers
- Some consider it the first game to feature person-to-person violence.
- First fighting game
- Later remake used color graphics, changed to perspective behind player

Discussion: Early Years

- Most video games made available via arcades
- Low power computers, but interesting and creative input/output devices
- First copyright disputes and lawsuits
- Computer games more sophisticated, but only available in hacker culture and not yet an industry

Mattel Auto Race, 1976



Mattel Auto Race, 1976



Mattel Auto Race (Handheld)

- Switch between 3 lanes to move your car (vertical red bar) from the bottom to the top of the screen, dodging other cars on the way.
- First handheld digital game

Atari 2600, 1977



Atari 2600

- Cost $100,000,000 to develop; sold for $249.
- Eventually sold about 30,000,000 units.
- Popularized the use of storing game code separate from the machine itself.
- Not the most powerful hardware on the market; initially successful for its games.
- No quality control for games, so it did not age well.

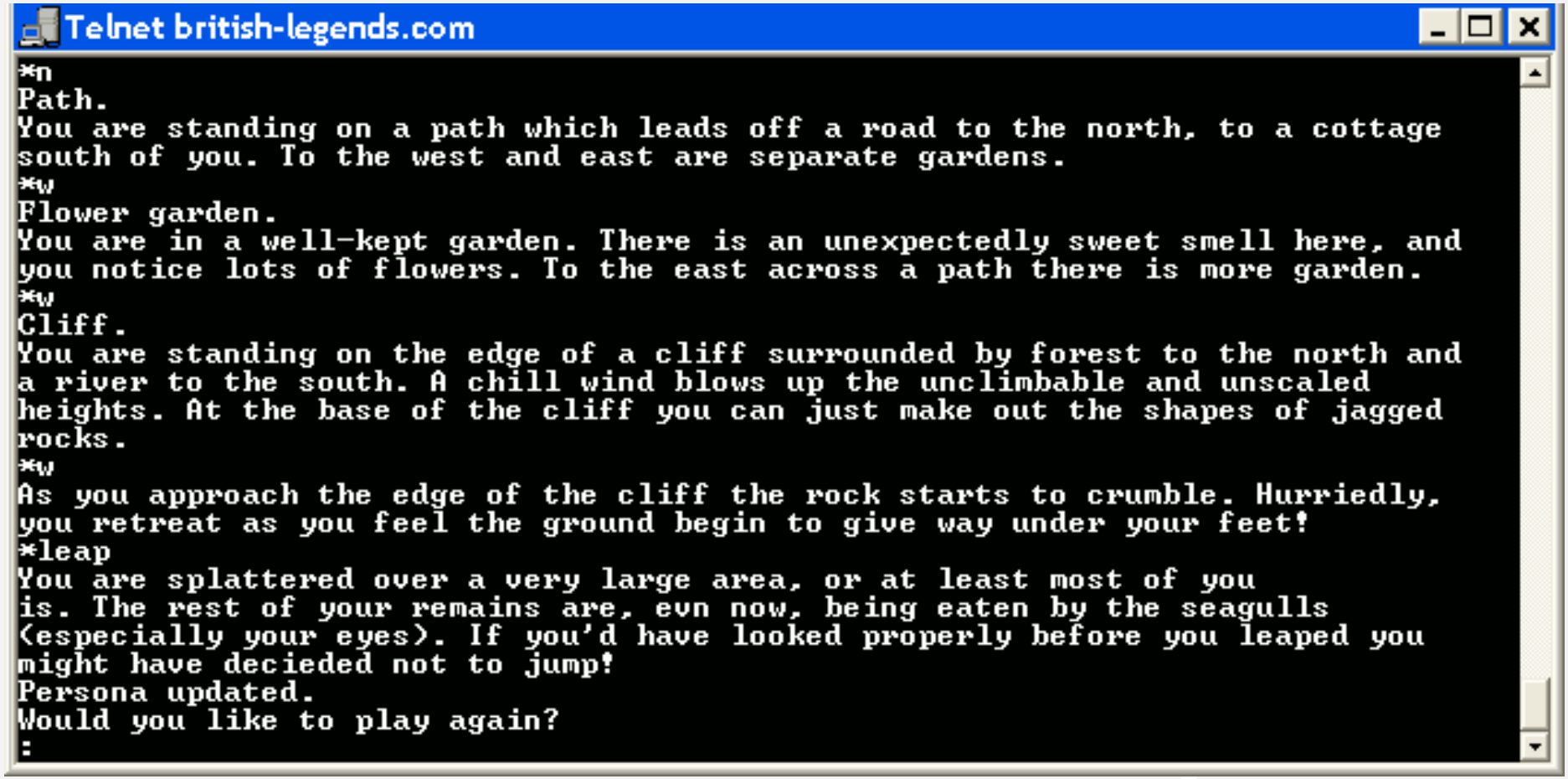
Space Invaders, 1978



Space Invaders (Arcade)

- Tomohiro Nishikado of Taito
- Aliens were originally going to be humans, but this was vetoed by upper management.
- Caused a shortage of ¥100 coins that prompted the Bank of Japan to investigate Taito.
- Arguably the first Shoot ‘Em Up (or Shmup)

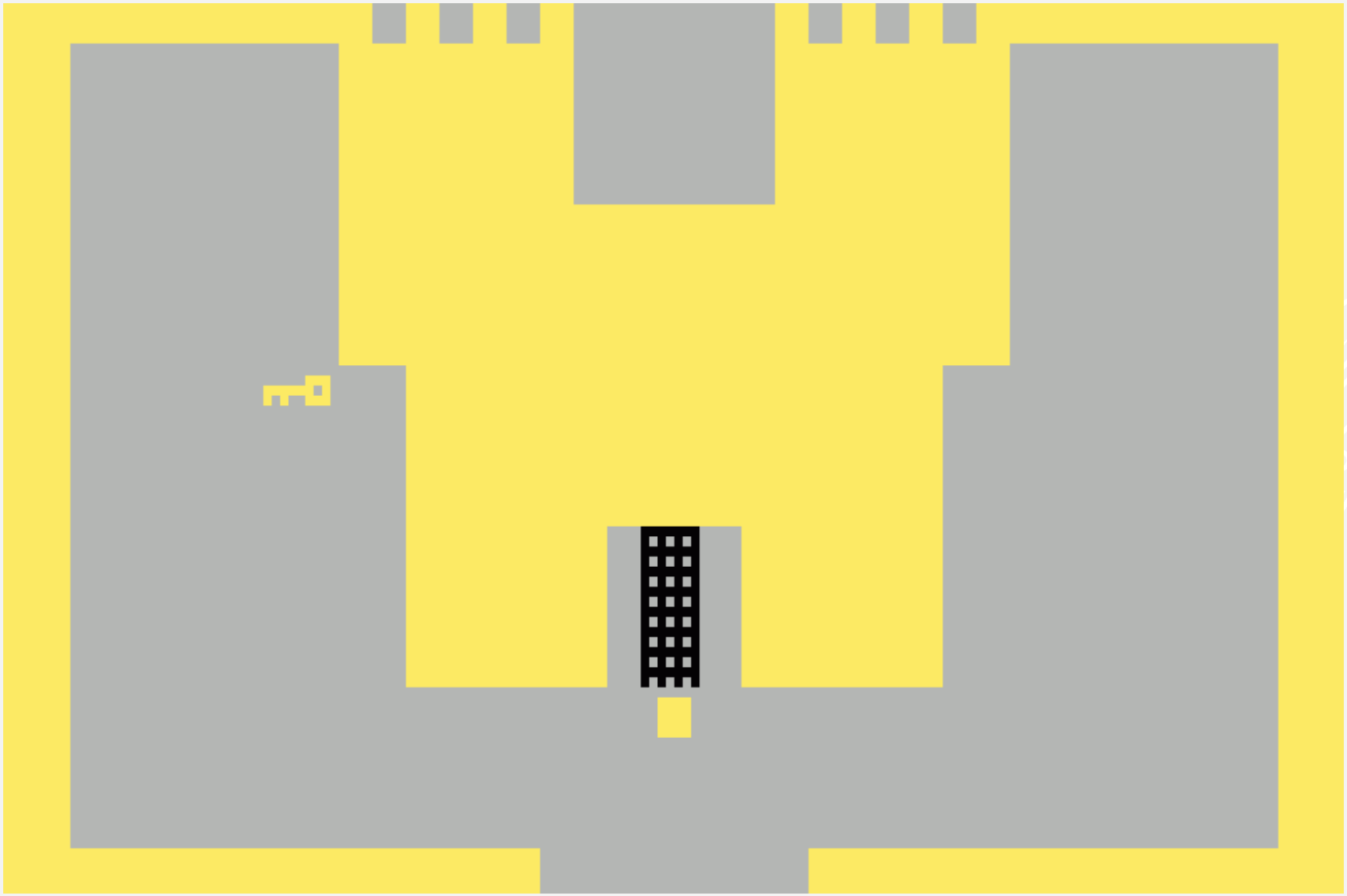
Essex MUD, 1978



Essex MUD (Computer)

- A multi-player variant of games like Colossal Cave Adventure available for multiple people to play simultaneously over the internet.
- Perhaps the first online multi-player virtual world (MUD = Multi-User Dungeon)
- Later MUDs would become the precursors to Massively-Multiplayer Online Role Playing Games (MMORPG's).

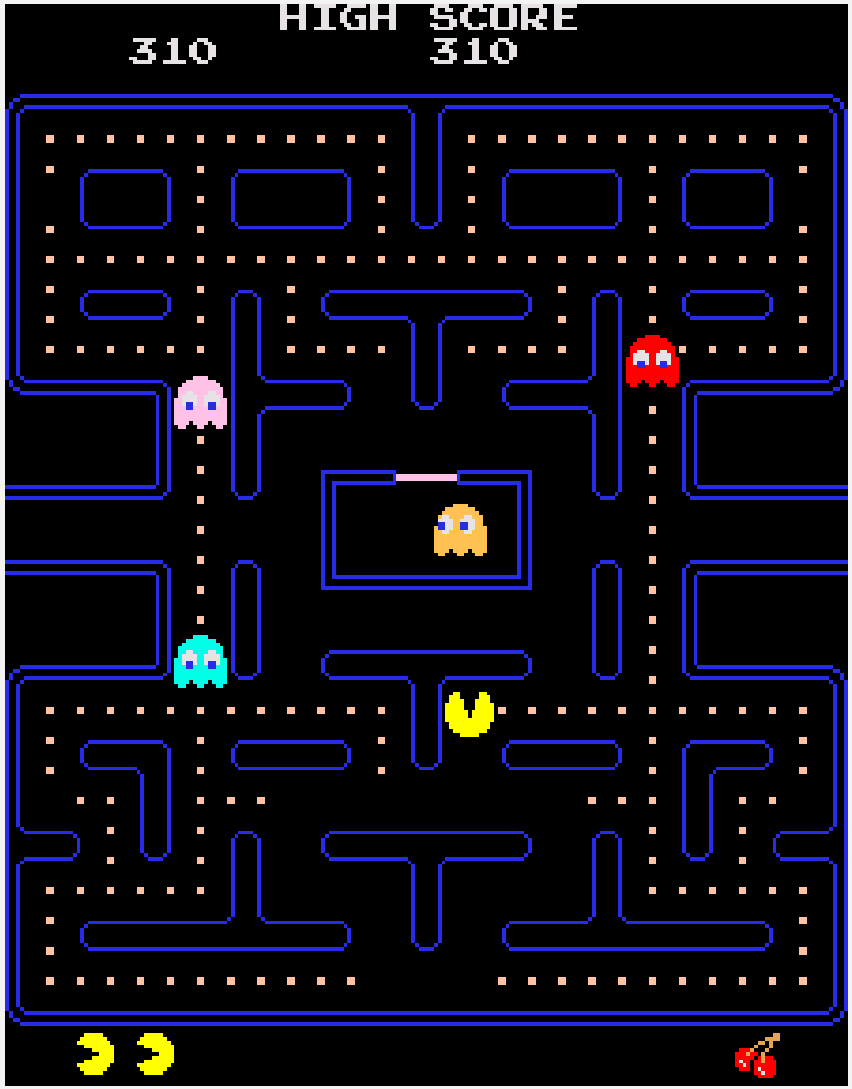
Adventure, 1979



Adventure (Atari 2600)

- Explore 29 screens (a very large world, for that time), pick up items, fight dragons, and search for the grail.
- Graphical port of Colossal Cave Adventure
- Creator Warren Robbinet, angry Atari did not credit designers, created a 30th room that read “Created by Warren Robbinet,” which may be the first Easter Egg.

Pac-Man, 1980



Pac-Man (Arcade)

- Navigate a maze eating dots and avoiding ghosts. Power Pills allow you to eat the ghosts for a short period of time.
- Initially designed to appeal to women because, "women like eating desserts."
- The game did attract an unusually high number of female players (probably not for that reason) and helped to make arcades popular in the US.
- Pac-Man became one of the first recognizable video game mascots, spawning real-world products like lunchboxes and a cartoon show.

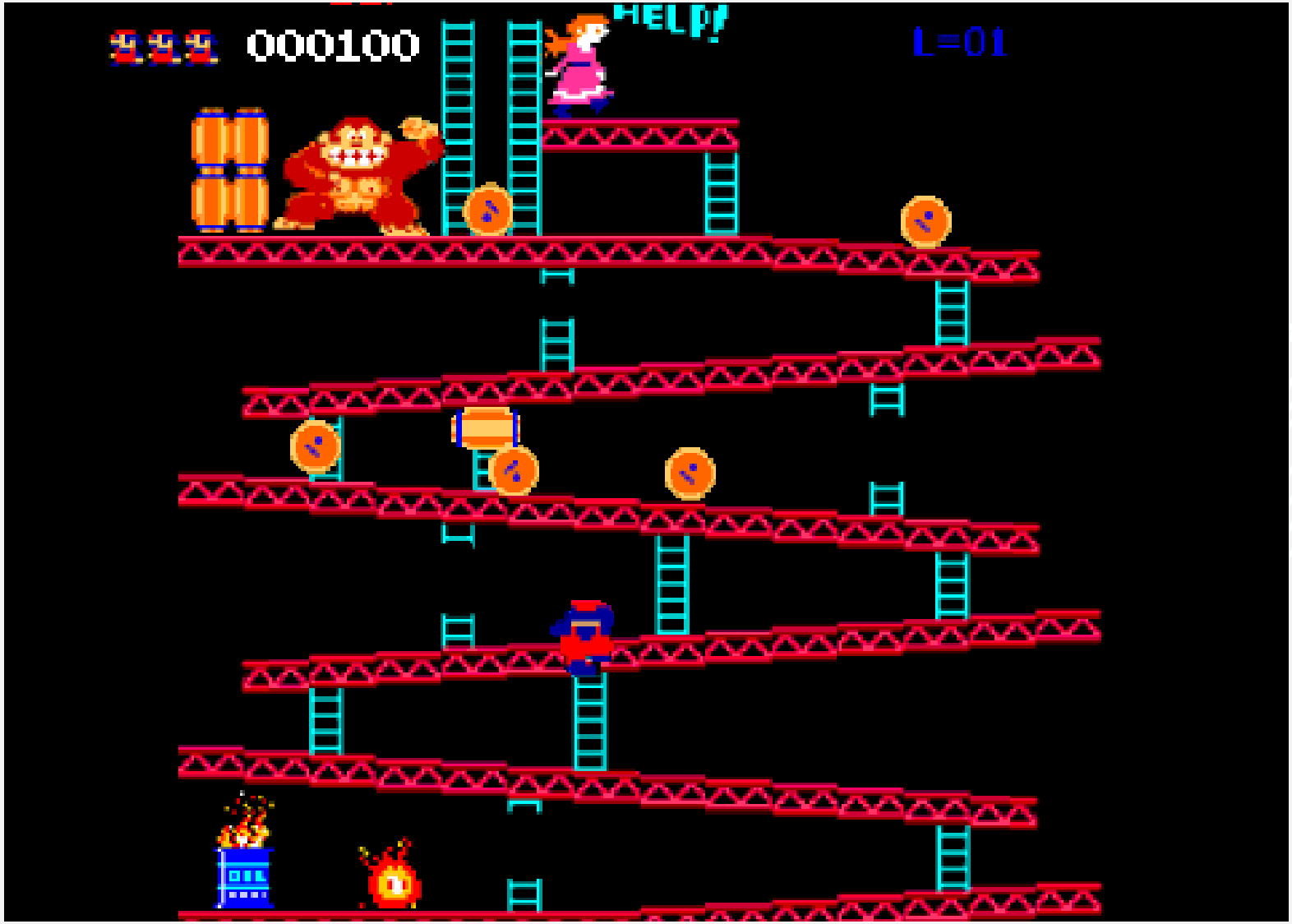
Defender, 1980



Defender (Arcade)

- Designed for thrill-seeking males and dubbed a “sperm game” by its designer, Eugene Jarvis.
- Extremely complex and difficult to play.
- Aimed at experts; not novice-friendly.
- Highlights the emerging distinction between hard-core and casual players.

Donkey Kong, 1981



Donkey Kong (Arcade)

- Climb a series of platforms, avoiding rolling barrels, to rescue the princess from a stubborn ("donkey") gorilla.
- Shigeru Miyamoto of Nintendo
- Nintendo's first major success in video games
- Considered the first Platformer game
- Protagonist Jumpman was eventually renamed to Mario after Nintendo's American office landlord, who allows the company to postpone paying its rent before the release of this game.

Donkey Kong (Arcade)

- Both Mario and Donkey Kong went on to become successful Nintendo game franchises.
- Atari passed up the rights to a console version of this game, helping to bring about its downfall in the North American video game crash of 1983.
- Universal Studios tried to sue Nintendo over the use of King Kong, but lost due to King Kong being in the public domain.

E. T. the Extra-Terrestrial, 1982

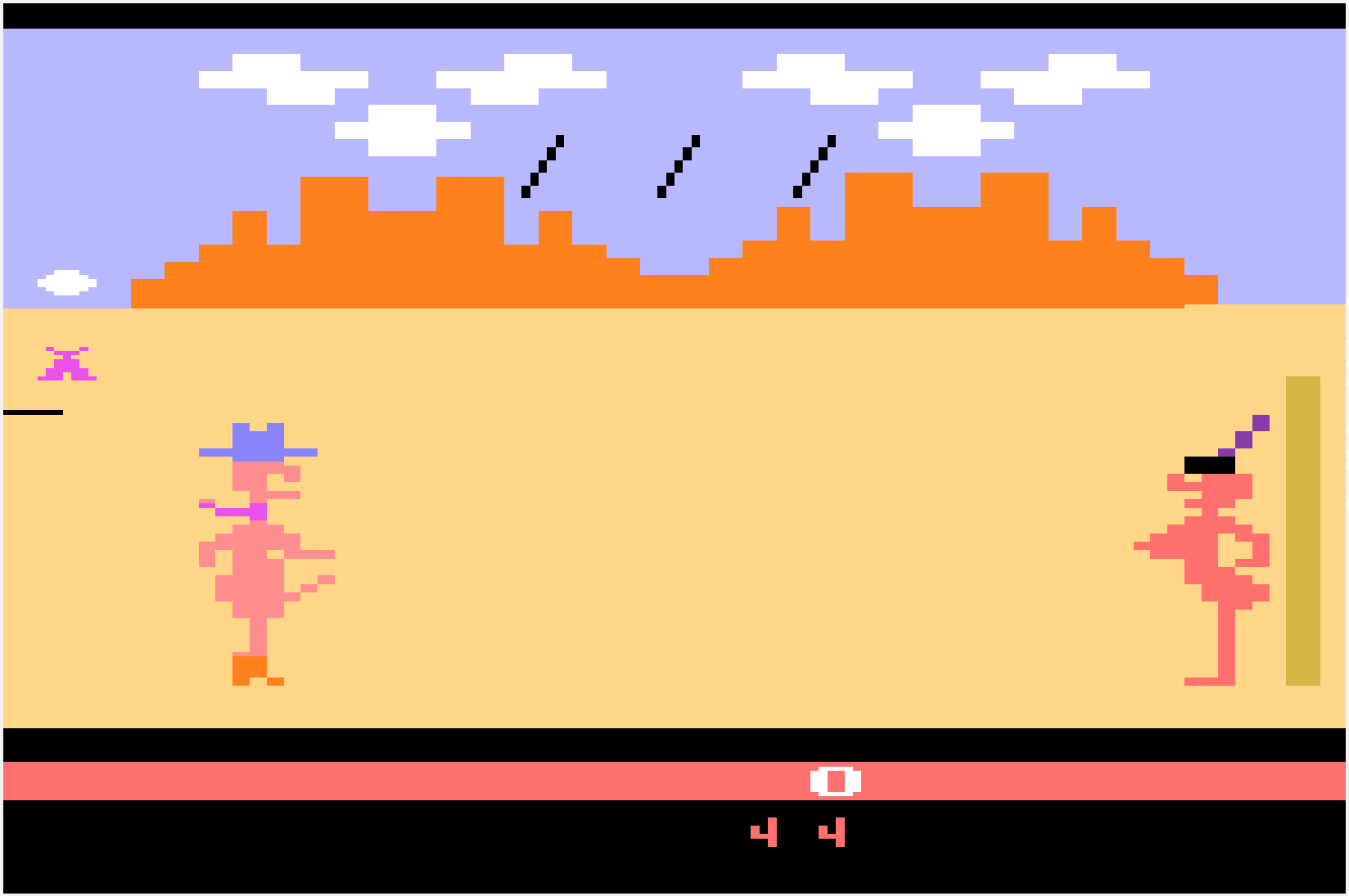


E. T. the Extra-Terrestrial (Atari 2600)

- Atari management paid $25,000,000 for the rights to make a game based on the blockbuster movie, but did not consult any of the engineers who would design it.
- Game had to be made in 5 weeks in order to make it to shelves in time for Christmas, 1982.
- Most of the 5,000,000 cartridges went unsold and were eventually dumped into a New Mexico landfill.
- Frequently cited as one of the worst games ever made, and contributed to the 1983 crash.

Trigger Warning:
Sexual Assault

Custer's Revenge, 1982



Custer's Revenge (Atari 2600)

- Dodge arrows while moving closer to sexually assault a Native American woman.
- Banned in Oklahoma City.
- A particularly egregious example of the Atari 2600 suffering from no quality control.
- Fueled the debate about violence and other explicit content in games that led to the North American video game crash of 1983.

Discussion: Pre-Crash

- Arcade games emerging as a major industry
  - Early lessons learned about design the hard way
- Cultural debates about who games are for
  - Men? Women?
  - Children? Adults?
  - Gamers? Causals?
- Industry dominated by men who were at best ignorant and at worst overtly hostile toward women.

North American Video Game Crash

- Between 1982 and 1985, the bottom fell out of the console video game market.
- Estimates say the market lost between 50% and 95% of its revenue.
- Disillusionment of game creators, who were uncredited for their work.
- Consumers debated the effect of violence and explicit content in games.
- Many thought video games were a fad that had passed.

Pitfall!, 1982



Pitfall! (Atari 2600)

- Run through a jungle from left to right avoiding hazards and collecting treasure.
- First use of Procedural Content Generation (PCG) in games.
- 256 screens created with only 50 bytes of code

Commodore 64 and ZX Spectrum, 1982



Personal Computers

- The early 1980's saw an explosion of commercially available home computers.
- The Commodore 64 (US) and ZX Spectrum (UK) were especially affordable, and thus attractive to most home users.
- PC games move from universities into the home.
- As the console game market suffered, PC games increased in popularity.

Microsoft Flight Simulator, 1982



Microsoft Flight Simulator (PC)

- One of the earliest successful Flight Simulator programs
- Sequels still developed to this day
- Highlights "serious games"

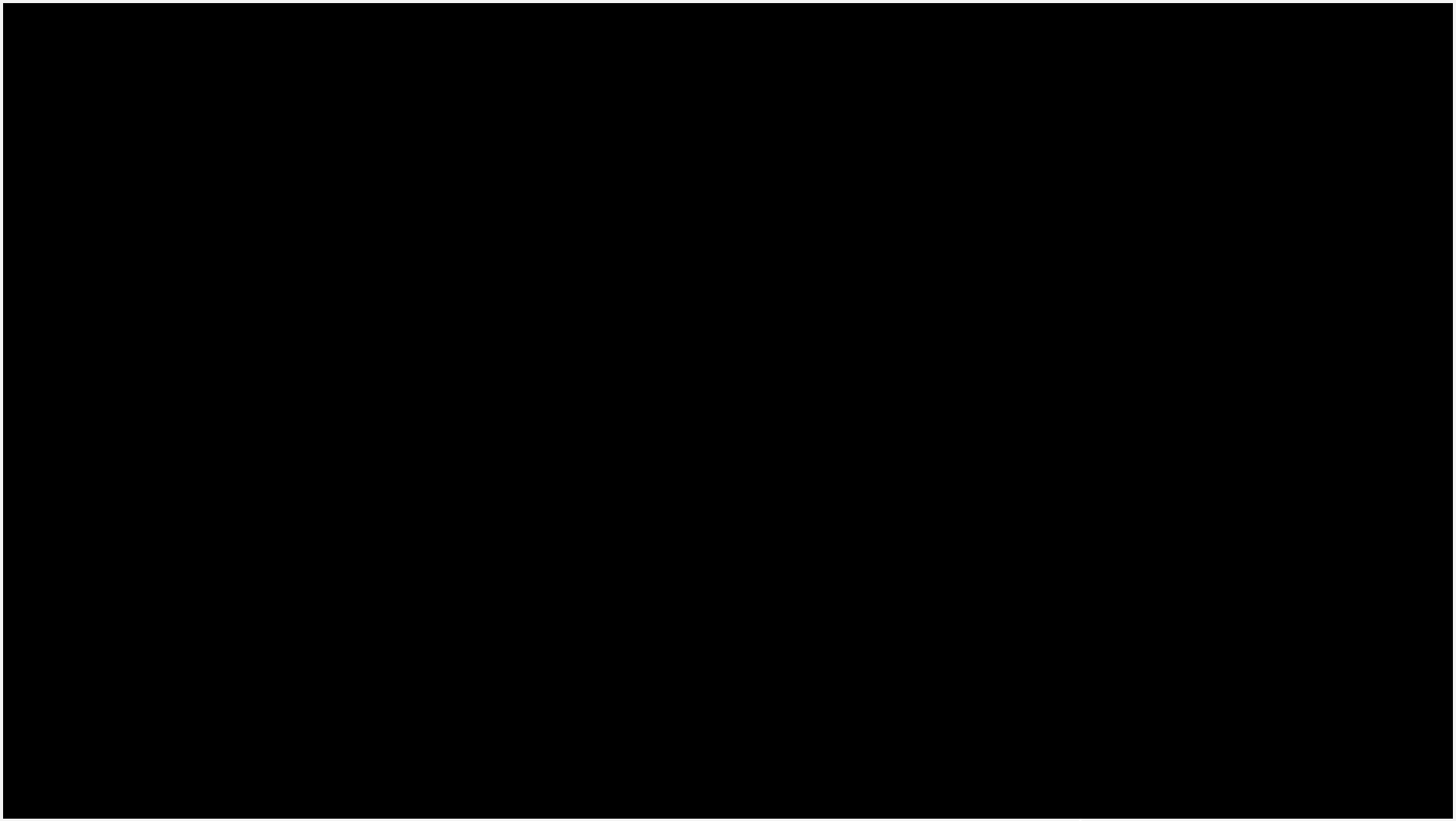
Dragon's Lair, 1983



Dragon's Lair (Arcade)

- Experience a visually stunning fantasy environment to rescue a maiden by performing quicktime events.
- Rick Dyer of Advanced Microcomputer Systems and Don Bluth of Disney
- First game released on Laserdisk
- Advanced players' expectations of graphics.
- Early example of exploratory play to see how many ways you could die.

Dragon's Lair, 1983



Ultima III: Exodus, 1983



Ultima III: Exodus (PC)

- Explore a large fantasy world and defeat foes using might and magic.
- Grid-based combat laid the foundations of the Tactical RPG sub-genre
- Included innovative open world mechanics
  - Bribe guards to make them leave their posts
  - Steal from townspeople
  - Fight townspeople, prompting guards to chase you

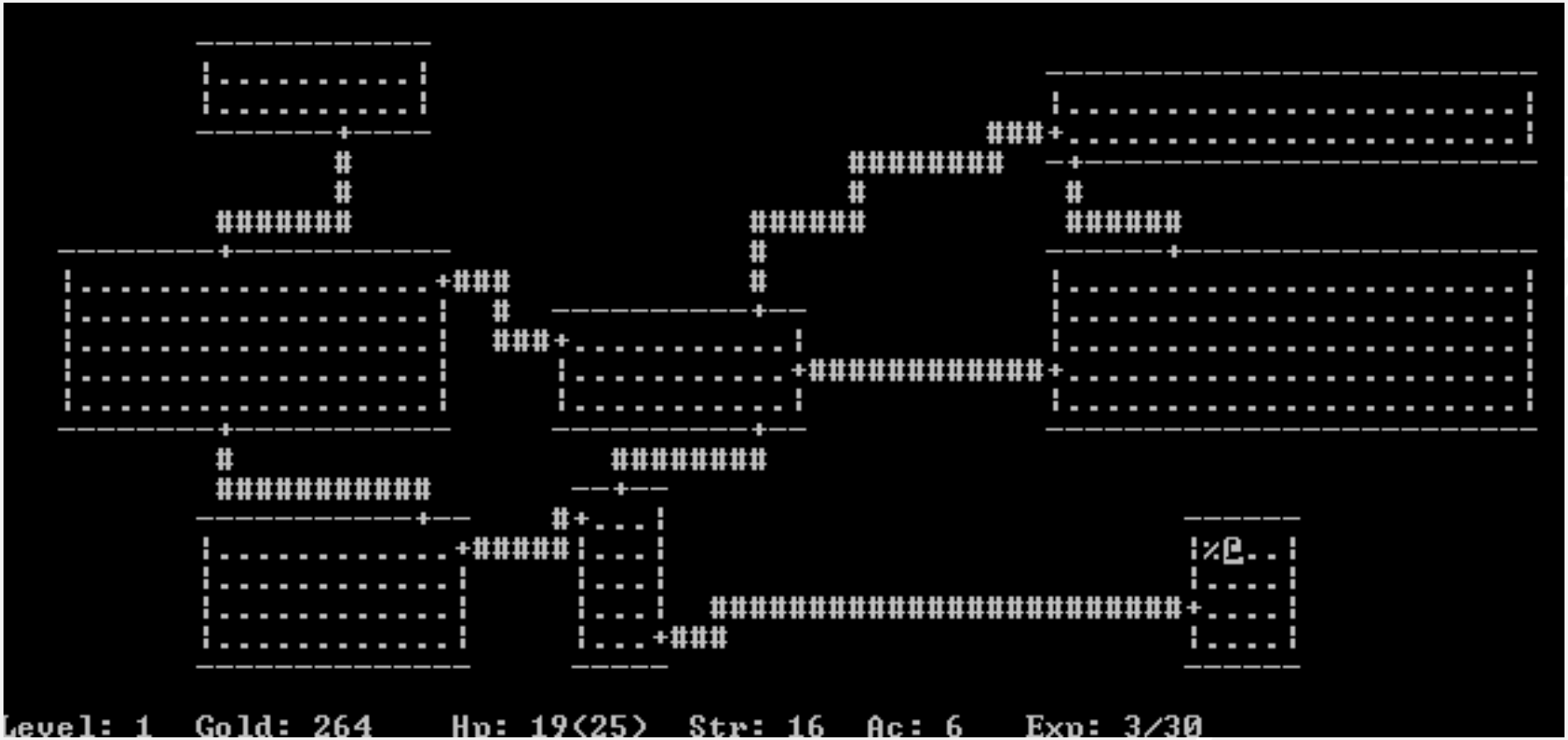
The Black Onyx, 1984



The Black Onyx (PC)

- A computer Role Playing Game based on Dungeons and Dragons.
- Created by American ex-patriot Henk Rogers while living in Japan.
- Introduced Japanese audiences to the RPG genre.
- First game to use horizontal bar that fills or lowers to indicate character health.

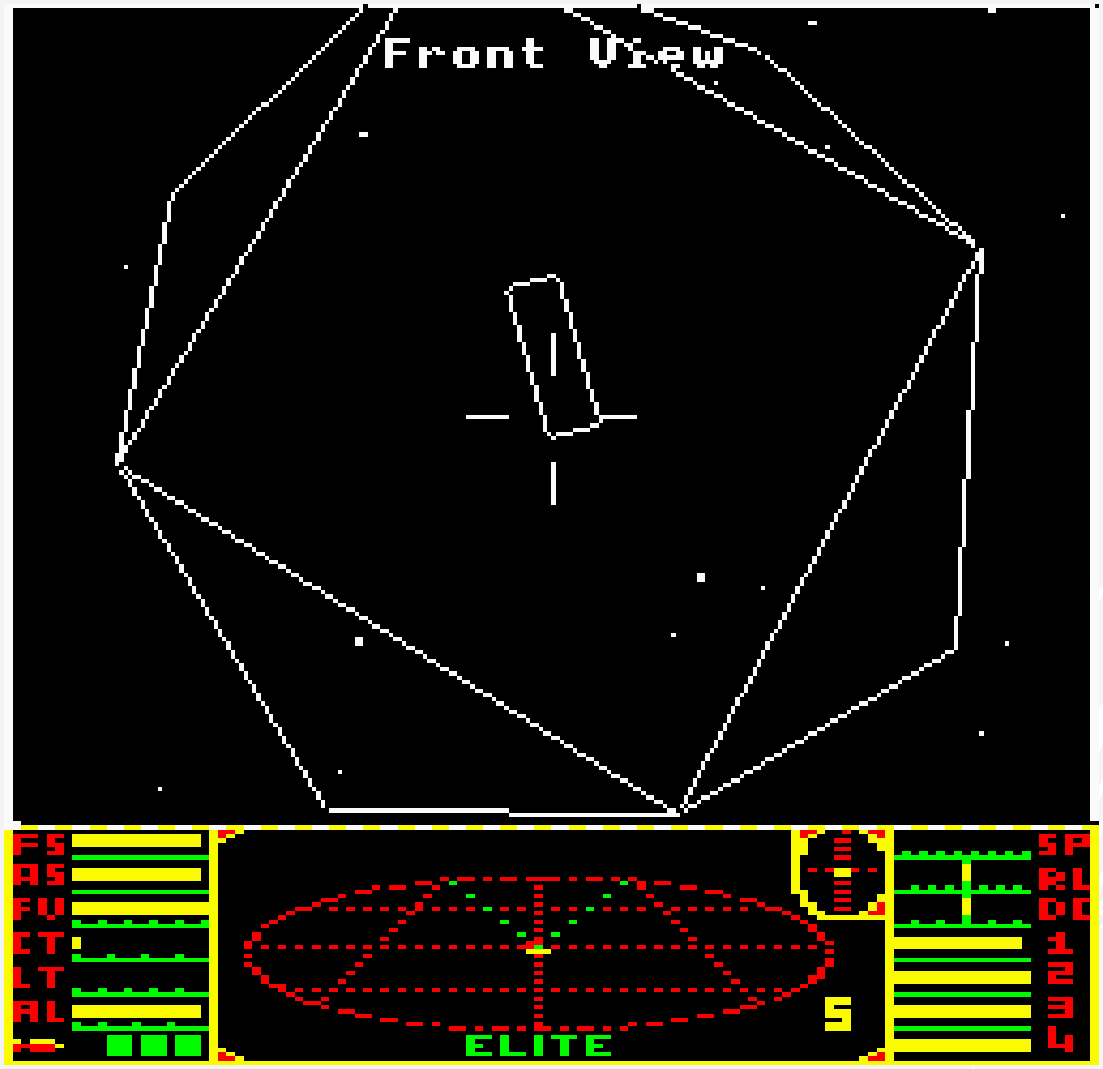
Rogue, ~1984



Rogue (PC)

- Descend through a procedurally-generated dungeon fighting monsters in your quest for treasure.
- Established the Roguelike genre
- One of the most notable example of Procedural Content Generation (PCG) in games

Elite, 1984



Elite (PC)

- Explore a massive, randomly generated universe. Trade, fight, and explore to earn money and upgrade your spaceship.
- One of the first games to use 3D graphics with hidden line removal.
- Another important early use of Procedural Content Generation in games.
- One of the first open world games

Gauntlet, 1985



Gauntlet (Arcade)

- 4 players with different abilities cooperate to descend through a series of dungeons, but must compete for food and treasure.
- First class-based multi-player cooperative game



Nintendo Famicon, 1983 / Entertainment System, 1985



Famicom / NES

- Nintendo CEO Hiroshi Yamauchi told investors that the games, not the system, would be the source of profit.
- Nintendo was very protective of their license and allowed few third party games.
- The collapse of the console game industry in North American opened the market to Japanese developers.
- By 1985 the Famicom/NES had rebuilt consumer confidence in console games, and Nintendo had as much as 90% of the market.

Super Mario Bros., 1985



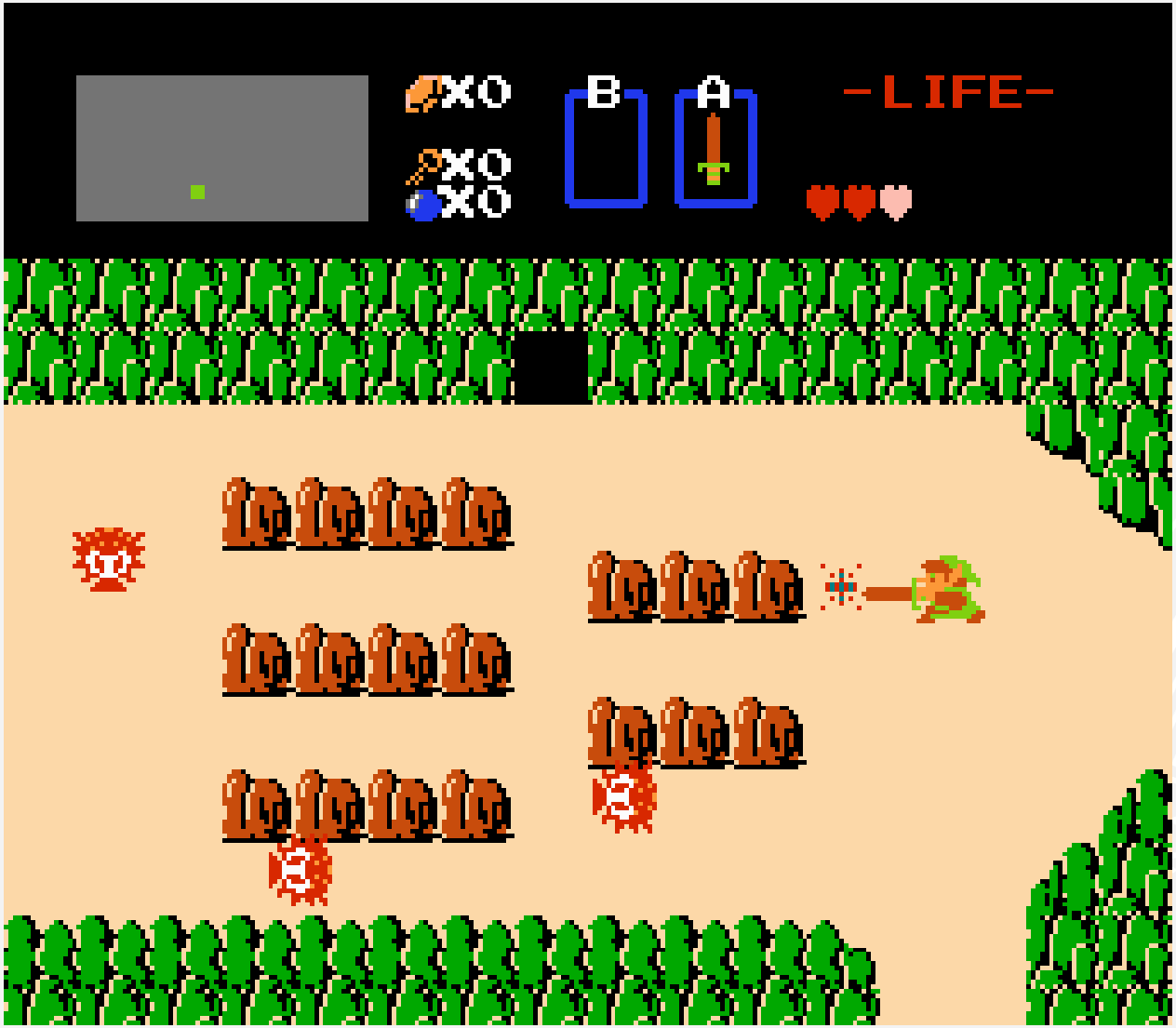
Super Mario Bros. (NES)

- Move from left to right, jumping on platforms and stomping on enemies while collecting powerups.
- Shigeru Miyamoto (game) and Koji Kondo (music) plus others at Nintendo
- Interface innovation: jump button rather than using the up button on a direction pad
- First use of the term “side-scroller”

Super Mario Bros. (cont.)

- Was the best selling video game for over 20 years.
- To date, over 40,000,000 units sold.
- At one point, Mario was more recognizable to US children than Mickey Mouse.

The Legend of Zelda, 1986



The Legend of Zelda (NES)

- Shigeru Miyamoto's attempt to create an action-adventure game without the dark aesthetic of Dungeons and Dragons
- One of the first console games that allowed the player to save progress using battery-powered memory built into the cartridge
- The size of the game world prompted Nintendo management to demand that the game be published with a 1-800 help line. The phone operators quickly grew from 4 to 200.

Dragon Quest, 1986



The Legend of Zelda (NES)

- Yuji Horii's attempt to make an RPG that was more typical of Japan.
- Art by Akira Toriyama (of Dragonball fame)
- Some call it the birth of the JRPG sub-genre:
  - Colorful landscapes
  - Linear story
  - Colloquial dialog

Discussion: Post-Crash

- Rebound for console games
- PC becomes a market; influences console
- Popularity of RPGs
  - Western RPG sub-genre directly inspired by D&D, with dark aesthetic and open world play
  - Japanese RPG sub-genre indirectly inspired by D&D, brighter aesthetic, more linear stories
  - Dungeon crawling becomes a popular mechanic and even spread to arcade games

Metal Gear, 1987

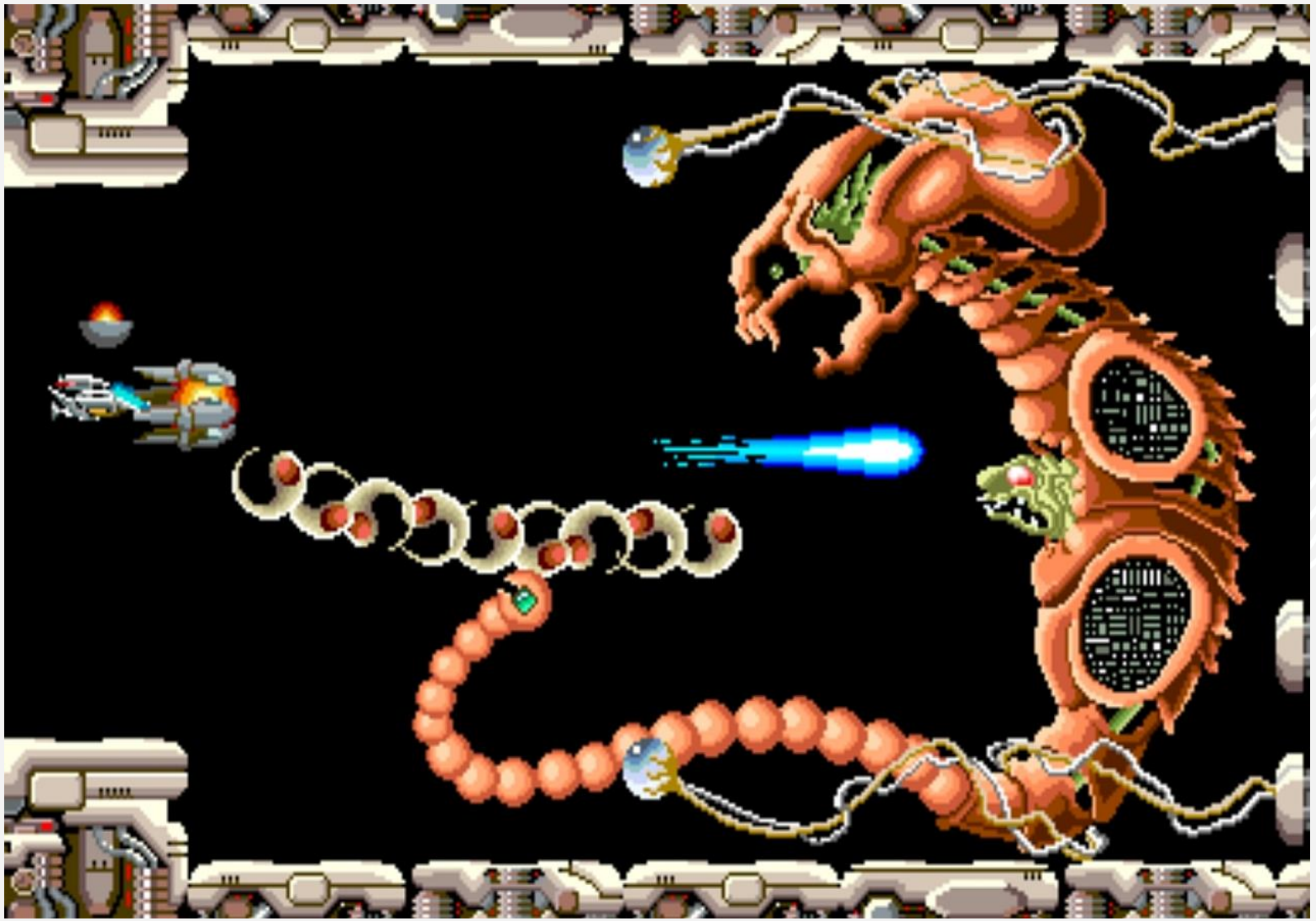


Metal Gear (NES)

- Sneak around a military base, avoiding guards and fighting futuristic robots.
- Pioneered the Stealth Action sub-genre



R-Type, 1987



R-Type (Arcade)

- Fly from right to left collecting powerups and shooting down waves of enemies.
- Marks the evolution of the Shoot ‘Em Up genre into the Bullet Hell sub-genre.

Maniac Mansion, 1987



Maniac Mansion (PC)

- Explore a humorous haunted mansion with a team of witty characters to collect items that allow you to solve puzzles.
- Ron Gilbert of LucasArts
- Changed the interface from arcane text parsing to a graphical menu of verbs
- The SCUMM engine developed to make the game was later used for many other adventure game titles.

Sega Mega Drive, 1988 / Sega Genesis, 1989



Sega Mega Drive / Genesis

- More powerful hardware (16 bit vs. the 8 bit Famicom), better graphics, and better sound
- Sega's challenge to Nintendo, which owned 90% of the market at the time
- Add-on allowed backwards compatibility, a first for consoles
- Introduced Sonic the Hedgehog to rival Mario as a system mascot



Earl Weaver Baseball, 1987 and *John Madden Football*, 1988





Earl Weaver Baseball (PC) and *John Madden Football* (Mega Drive)

- Established genre conventions for Sports games, including multiple camera angels and celebrity endorsements.
- Laid the groundwork for Electronic Arts' Sports series
- Teams were fictional; EA had not yet negotiated the rights to use real teams and players.

Nintendo Game Boy, 1989

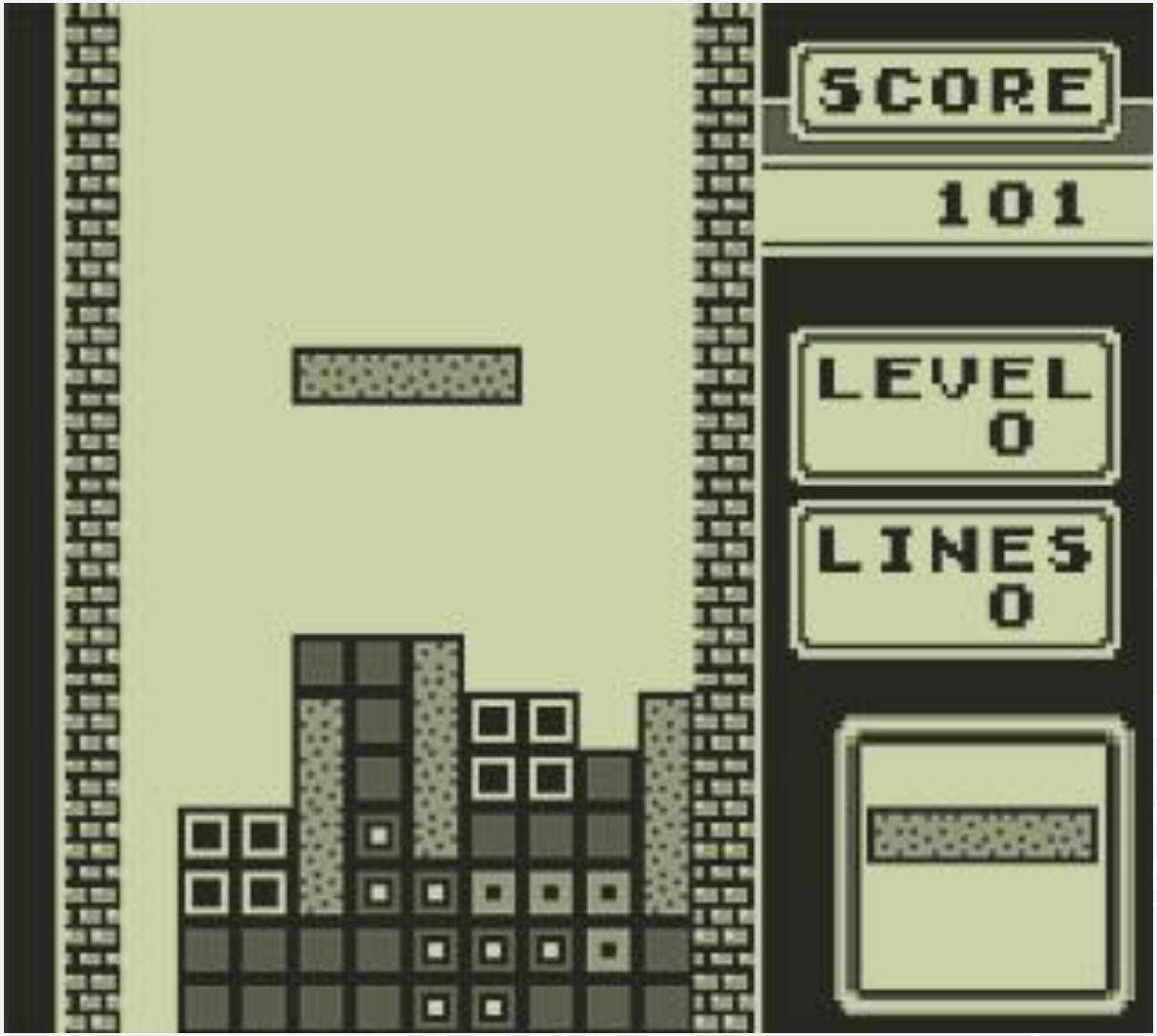


Nintendo Game Boy

- First majorly successful handheld game system
- Hardware was already (intentionally) obsolete when it was released to keep manufacturing costs down
  - Monochrome graphics
  - Poor speaker
  - Longer battery life



Tetris, 1984



Tetris (various)

- Arrange falling pieces made of 4 squares into lines to make space on the screen.
- Alexey Pajitnov in Russia
- Development was delayed because Alexey spent too much time playing his own game.

Tetris (cont.)

- Huge disputes over intellectual property
- Helped solidify the Game Boy as the undisputed king of handheld gaming
- Perhaps the most ported game of all time

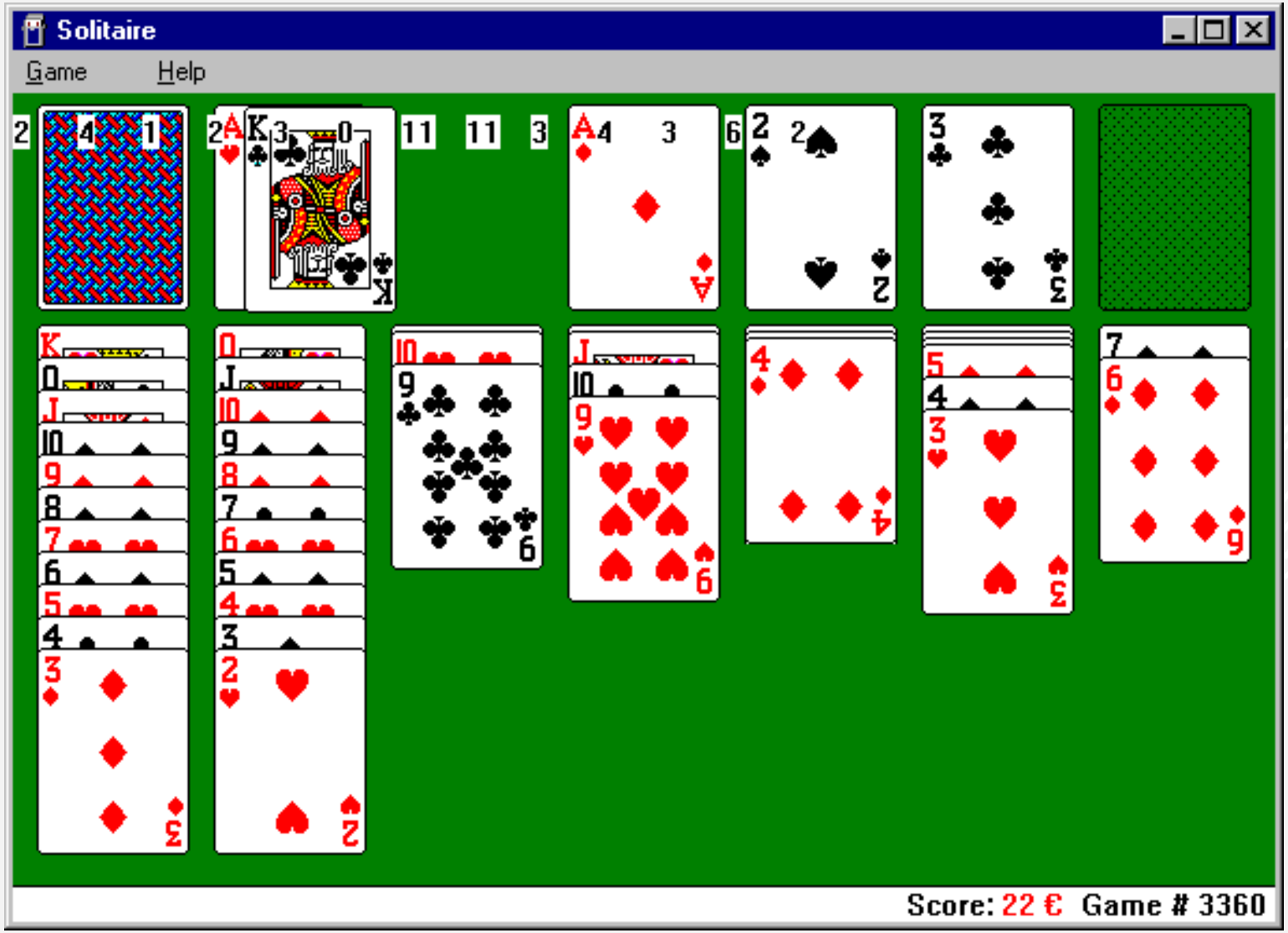
SimCity, 1989



SimCity (PC)

- Plan a developing city and recover from disasters.
- Designer Will Wright enjoyed the level editor for *Raid on Bungling Bay* more than the game itself, which inspired this game.
- One of the first successful Simulation / Sandbox games

Microsoft Solitaire, 1990



Microsoft Solitaire (PC)

- Solitaire on the computer
- Meant to introduce users not familiar with graphical user interfaces to Windows 3.0 and input devices like the mouse
- One of the earliest successful casual games

The Secret of Monkey Island, 1990



The Secret of Monkey Island (PC)

- Help young Guybrush Threepwood become a Caribbean pirate and rescue the mayor of the island from an evil ghost pirate.
- Advanced the art, animation, and music of adventure games
- Considered a shining example of the adventure game genre
- Puzzles were designed to be more intuitive, allowing players to deduce what to do.
- Player cannot die, only get stuck.

Nintendo Super Famicom, 1990 / Super NES, 1990



Super Famicom / SNES

- Nintendo's answer to the Sega Mega Drive
- 16 bit system with better hardware, color, music, and graphics rendering
- Japanese launch involved much secrecy and cultural uproar
  - 1.5 million systems were pre-ordered, but only 300,000 were manufactured by the release date
  - Supposed Yakuza plot to hijack the delivery trucks
- Eventually overtook the Mega Drive thanks to its high quality games

Discussion: 1980's

- Genres begin to coalesce
- New genres emerge, especially on PC
- Console games still firmly rooted in arcade roots



Dune II, 1992


MENTAT
OPTIONS
Credits
993
Atreides Trike.
MISSILE TANK
DMG
ATTACK
MOVE
RETREAT
GUARD

Dune II (PC)

- Control an army of civilian and military units to gather resources, unlock new technology, and build an army, and eliminate the enemy.
- Arguably the first Real Time Strategy game
- The setting of a later, similar game by the same studio, *Command and Conquer*, was changed from Medieval to futuristic and included terrorist enemies to tie in with sentiments about the Gulf War.

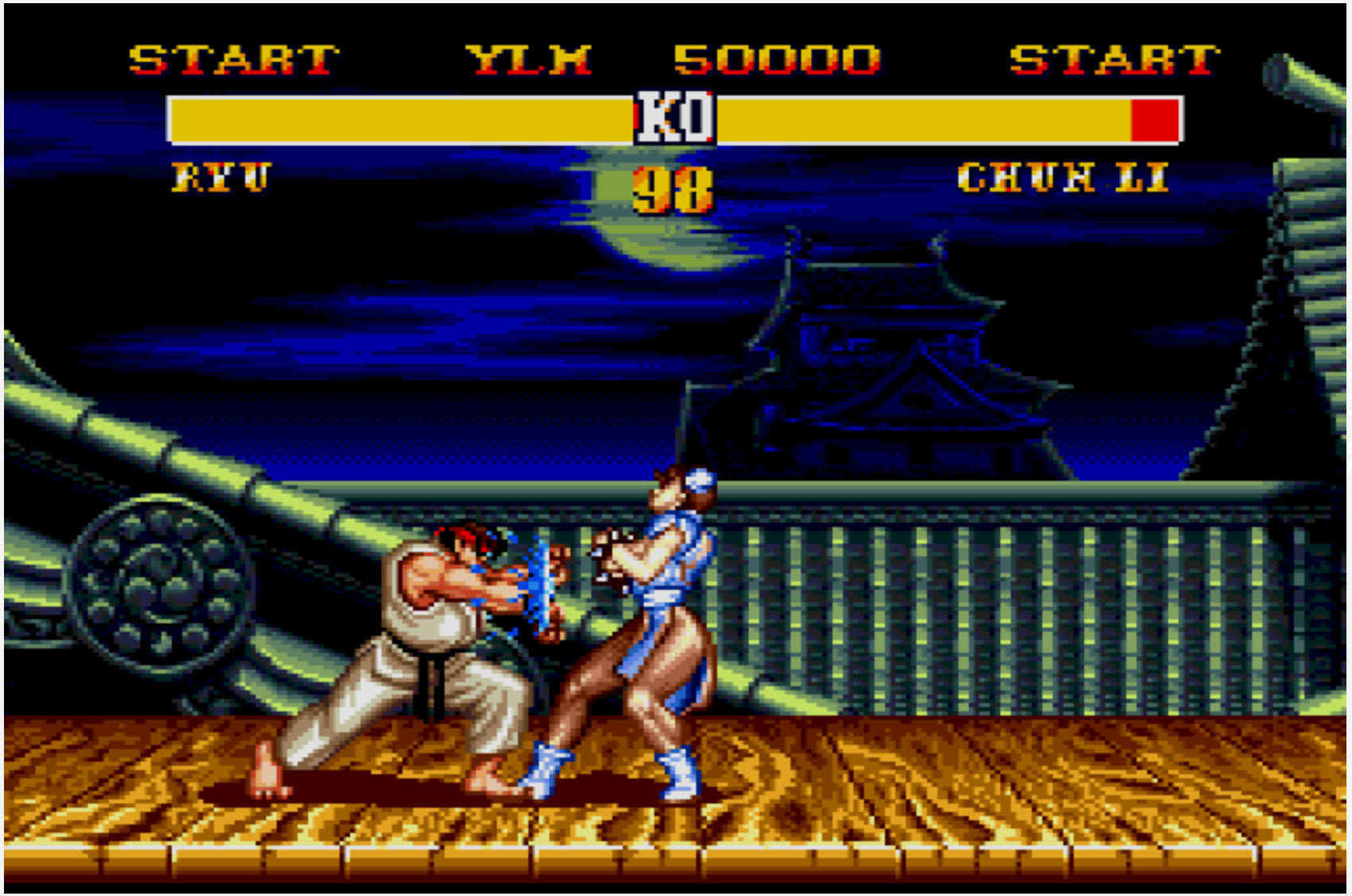
Wolfenstein 3D, 1992



Wolfenstein 3D (PC)

- Navigate a maze-like bunker shooting Nazis and hunting for Hitler.
- One of the first games to use textured 3D surfaces
- Based on an earlier stealth action game *Castle Wolfenstein*, but stealth was removed in favor of more shooting and a faster pace.
- Spurred controversy over its gratuitous gun violence and use of Nazi imagery
- Helped define the First Person Shooter genre

Street Fighter II, 1991



Street Fighter II (Mega Drive)

- Two players fight using karate and high-power special moves until one is defeated.
- The prequel, *Street Fighter*, introduced the genre convention of performing complex inputs to perform secret special attacks.
- Established genre convention of using combination attacks (combo's) that an opponent could not block

Mortal Kombat, 1992



Mortal Kombat (various)

- Fighting game featuring realistic graphics and gory combat
- Used photos of real actors to create the sprites and animation
- Graphic depictions of blood and death caused US senators Joseph Lieberman and Herb Kohl to launch an investigation into whether games were corrupting society.

Myst, 1993



Myst (PC)

- Explore a vast, empty island full of puzzles as you learn about the eerie story of its previous inhabitants.
- Use of the PC's new CD-ROM hardware allowed the game to deliver a new level of photo-realism and quantity of content.
- Remained the top selling video game for 9 years

Super Metroid, 1994



Super Metroid (SNES)

- Explore the dark, lonely ruins of an alien planet to discover upgrades to your spacesuit that allow further exploration and combat.
- Samus Aran is one of the best-known female video game protagonists and one of the only Nintendo characters to wield a gun.
- Typified the aesthetic of many survival horror games to come
- Marks the Metroidvania subgenre along with *Castlevania: Symphony of the Night*

Marathon, 1994



Marathon (PC)

- Introduced or was an early adopter of innovations in First-Person Shooters:
  - Ability to look in any direction
  - Emphasis on story
  - Friendly Non-Player Characters (NPC's)
  - Different game modes, such as King of the Hill

Sony PlayStation, 1994



Sony PlayStation

- Originally, Nintendo and Sony has planned to create a Super Famicom with a CD-ROM, but Nintendo backed out of the deal in a way that was publically embarrassing to Sony.
- Development was driven by both technology and a desire for revenge.
- Excellent 3D graphics and the large storage of a CD-ROM made the console a success.

Nintendo Virtual Boy, 1995



Nintendo Virtual Boy

- Stereoscopic 3D created with headache-inducing red graphics
- Nintendo's only hardware failure
- Ended the career of Gunpei Yokoi
- Stereoscopic 3D was eventually used by the extremely successful Nintendo 3DS years later.

Pokémon, 1996



Pokémon (Game Boy)

- Discover, catalog, capture, trade, train, and battle hundreds of pocket monsters.
- As of 2024, there are over 1,000 Pokémon.
- The Game Boy was outdated at launch and was now 7 years old, nearing the end of its life.
- Linear, simplistic story
- Low resolution graphics

Pokémon (Game Boy)

- Now the second best selling video game franchise (behind Mario) of all time.
- Game (+ associated TV, merchandise, etc.) now the highest grossing media franchise of all time, earning over $90 billion in revenue.

Resident Evil, 1996



Resident Evil (PlayStation)

- Explore a dark mansion infested with zombies while managing meager resources.
- Limited ammunition and save locations heightened pressure on the player.
- Used cinematic techniques to create suspense:
  - Sound of footsteps off camera
  - Blind spots
- Solidified the Survival Horror genre

Quake, 1996



Quake (PC)

- First-person shooter in the vein of Wolfenstein 3D and Doom
- Notable for its advances in 3D rendering
- Popularized multi-player online play for this genre
- Allowed players to modify the game, making *Quake* perhaps the first popular 3D game engine

Nintendo 64, 1996



Nintendo 64

- Nintendo's move into 3D gaming
- Various factors drove game makers to the Sony PlayStation:
  - Few N64 games
  - Expensive licensing
  - Cartridges expensive to manufacture relative to Sony's CD-ROM-based system

Super Mario 64, 1996



Super Mario 64 (N64)

- Run, jump, and fly through a 3D Mario world to collect stars and free the princess.
- Intense focus on the mechanics of controlling Mario make it both a fun toy and engaging game.
- Progress is measured in stars, which are awarded for various reasons and can be pursued in a non-linear fashion, making the game appealing to many kinds of players.
- Manipulation of the camera was famously awkward.

Meridian 59, 1996



Meridian 59 (PC)

- First Massively Multi-Player Online Role Playing Game (MMORPG)
- Helped define the genre:
  - Navigating a shared 3D fantasy world
  - Monthly subscription fee
  - Factions, political groups defined by game's story
  - Player-run guilds that gave members a sense of belonging and facilitated social interaction
  - Persistent world features, such as the ability to capture and lose guild halls

Tomb Raider, 1996



Tomb Raider (various)

- Action puzzle game where you explore ancient tombs, shoot monsters, and collect treasure
- Protagonist Lara Croft is one of the best-known female protagonists and originally featured impossible body proportions.
- Lara appeared in a U2 concert, as a clothing model, and on the covers of various non-game-related magazines. These out-of-game appearances helped to bring gaming into mainstream culture.

Diablo, 1996


LEVEL UP
CHAR
QUESTS
MAP
MENU
INV
SPELLS
GHOUL
TOTAL KILLS : 25
IMMUNE : MAGIC

Diablo (PC)

- Descend through layers of dungeons, fighting monsters and collecting loot until facing the devil himself.
- Eschewed number-crunching and complex turn-based combat typical of RPG's at this time
- One of the first and most successful Action RPG's, as well as the Hack-and-Slash sub-genre
- Dungeons are procedurally generated.
- Online hub Battle.net made online play easier and more accessible.

PaRappa The Rapper, 1996



PaRappa the Rapper (PlayStation)

- Popularized the sound-based rhythm game

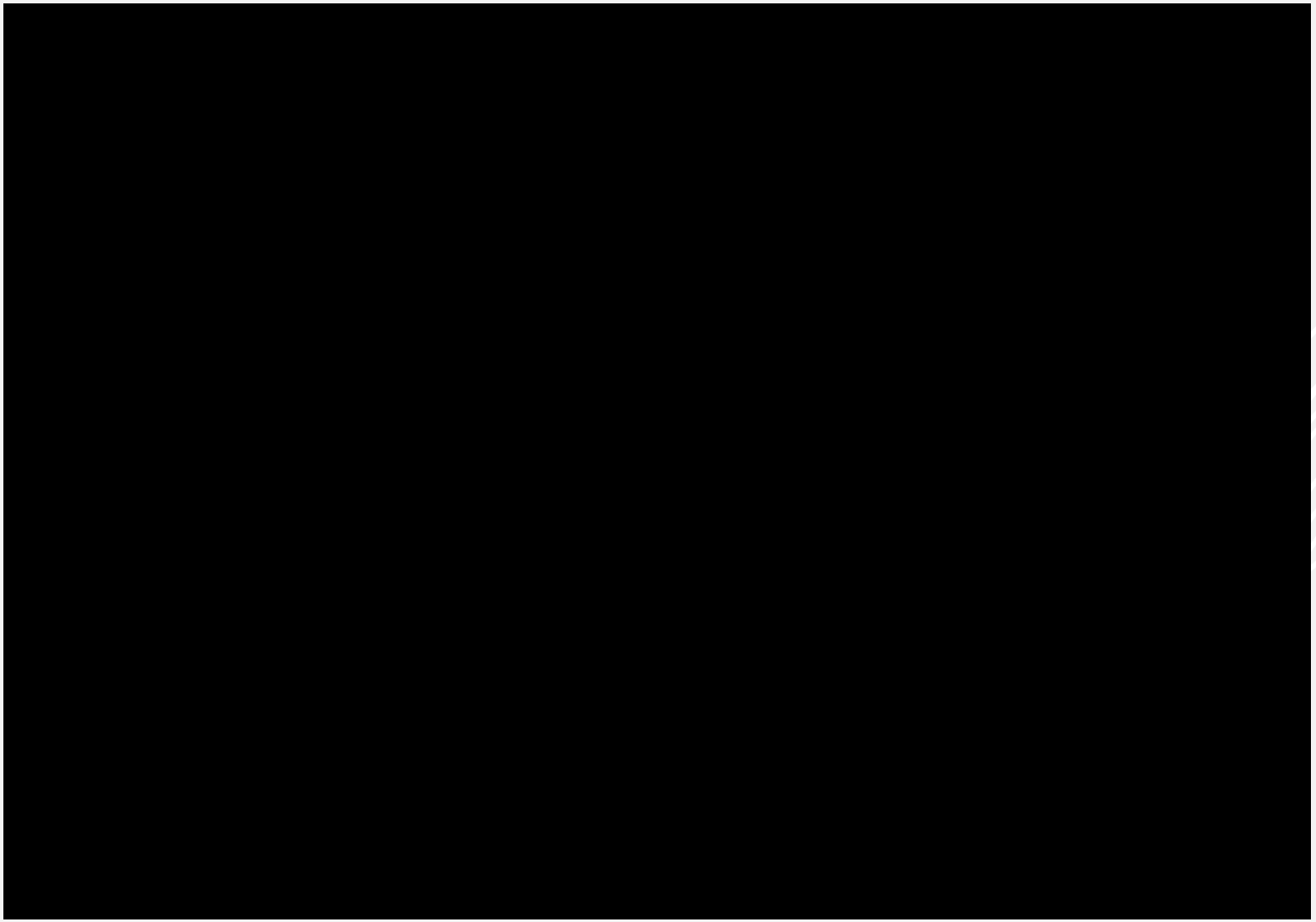
Final Fantasy VII, 1997



Final Fantasy VII (PlayStation)

- Heroes ban together to save the planet's life energy from an giant corporation and a megalomaniac super soldier.
- Continued the popularity of JRPGs in the US
- Pushed the envelope of cinematic quality
  - Huge 3D world
  - Extensive and complicated story
  - Over 40 hours of cinematic cut scenes
  - Hollywood budget of $45,000,000

Final Fantasy VII, 1997



Goldeneye 007, 1997



Goldeneye 007 (N64)

- Relive the events of the James Bond film *Goldeneye* in a first-person shooter.
- Brought the First-Person Shooter to consoles
- Considered a shining example of the First-Person Shooter genre
- Best-selling Nintendo 64 game in the US

Ultima Online, 1997



Ultima Online (PC)

- Popularized the MMORPG
- Features:
  - Item crafting
  - Player vs. Player combat
  - Persistent player housing

Fallout, 1997



Fallout (PC)

- Explore California in the wake of the nuclear apocalypse in search of a way to save your dying community of survivors.
- A shining example of open-world WRPG
  - Different ways to complete a quest
  - NPC's react differently based on your history

Gran Turismo, 1997



Gran Turismo (PlayStation)

- 3D racing game featuring real cars and accurate physics simulation
- Demonstrated the graphical potential of the PlayStation
- Includes both sports cars and more mundane vehicles, acting as an encyclopedic historical reference for cars.

Legend of Zelda: Ocarina of Time, 1998



Legend of Zelda: Ocarina of Time (N64)

- Travel between the past and future of a mysterious a fairy-tale landscape to defeat an evil monster overlord.
- A shining example of the Action Adventure genre
- The highest-rated video game of all time according to Metacritic.com
- First game to use target locking

StarCraft, 1998



StarCraft (PC)

- Mine resources and build and army as one of three races in a battle to control the galaxy.
- A shining example of the Real Time Strategy genre
- Meticulously balanced
- Popularized competitive play and E Sports, especially in South Korea
- Remains on of the best-selling and most popular video games to this day

SEGA Dreamcast, 1998



SEGA Dreamcast

- Sega's last console
- Moderately successful, but outshined by the PlayStation II
- Innovative features:
  - Modem for online play
  - 4 controller ports
  - Removable memory card with LCD display that could act as a simple handheld gaming device

Super Smash Bros., 1999



Super Smash Bros. (N64)

- Nintendo's best-known and most-loved characters duke it out in a multi-player fighting game.
- Moved the Fighting game genre away from combo's and into a more strategic realm

Tony Hawk's Pro Skater, 1999



Tony Hawk's Pro Skater (PlayStation)

- Do tricks on a skateboard to earn points.
- Physics is realistic but exaggerated
- Arrived at the height of the PlayStation's popularity and the resurgence of skateboarding
- A shining example of a personal sports game

Discussion: 1990's

- Console wars led to an arms race for best hardware that drove general progress on consumer electronics
- Many genres were refined and great examples of them are created
- Budgets and teams rapidly increasing
- Cultural debate on violence (esp. gun violence) driven by many FPS games

Snake, 1998



Snake (Nokia Mobile Phones)

- Popularized (non-game-focused) mobile devices as a gaming platform

The Sims, 2000



The Sims (PC)

- Design virtual people and their virtual houses, and encourage them to make important life decisions.
- Advanced AI and Procedural Content Generation
- Designer Will Wright started work as early as 1993, but faced resistance from management.

The Sims (cont.)

- Popular among women—more women played than men.
- Popularity lasted much longer than a typical game.
- In 2002 *The Sims* displaced *Myst* as the best-selling PC game of all time.

Deus Ex, 2000


AMMO
CLIPS
PS20
CHARGER
PROD
COUNT: 4
MEDKIT
CROWBAR
COUNT: 4
FLARE
3006 AMMO
SNIPER
MULTITOOL
TRQ DART
CROSSBOW

Deus Ex (PC)

- Guide a cybernetically-enhanced counter-terrorism police officer through a quagmire of moral choices while pursuing a conspiracy.
- Shining example of an early Action-Adventure game that blurring the lines between FPS, RPG, and Adventure game genres
- Complex story with many branches and multiple solutions to most challenges
- Frequently appears on lists of best PC games
- NYC prophetically missing World Trade Center

Counter Strike, 2000



Counter Strike (PC)

- A two-team online shootout between terrorists and counter-terrorists
- Created as a modification of *Half Life*
- Popularized modding games as a means of creating new games
- Prompted the companies making game engines to encourage modding and community involvement

Bejeweled Delux, 2001



Bejeweled Delux (PC)

- Swap two jewels to eliminate rows of 3 like-colored jewels.
- At the height of its popularity, this game sold a copy every 10 seconds.
- Helped popularize casual games

"PopCap players are 65% female and 70% of them are over 30. It's a demographic that's been completely and utterly written off as gamers."

- James Gwertzman, Director of Business Development

Sony PlayStation 2, 2000



Sony PlayStation 2

- Launch was over-hyped and launch titles did not show off the system's capabilities.
- By 2010, the PS2 had sold 155,000,000 units, making it the best-selling console of all time.
- Remained in mass production until 2013
- Considered the "winner" of its generation of game consoles

Grand Theft Auto III, 2001



Grand Theft Auto III (PS2)

- Complete a series of missions by robbing and killing just about anyone in the large, rich, open, fictional setting of Liberty City.
- Showcased the power of the PS2
- Professional voice acting, Hollywood soundtrack, and emphasis on cinematic cutscenes bridged the gap b/w film and games
- Reignited the debate over violence and depravity in video games

Nintendo GameCube, 2001



Nintendo GameCube

- Nintendo playing catchup with Sony by introducing a disc-based system with better 3D capabilities and easier development
- Significantly cheaper than other consoles of its generation
- Fewer notable games than previous Nintendo consoles
- Considered the loser of its generation

Microsoft Xbox, 2001



Microsoft Xbox

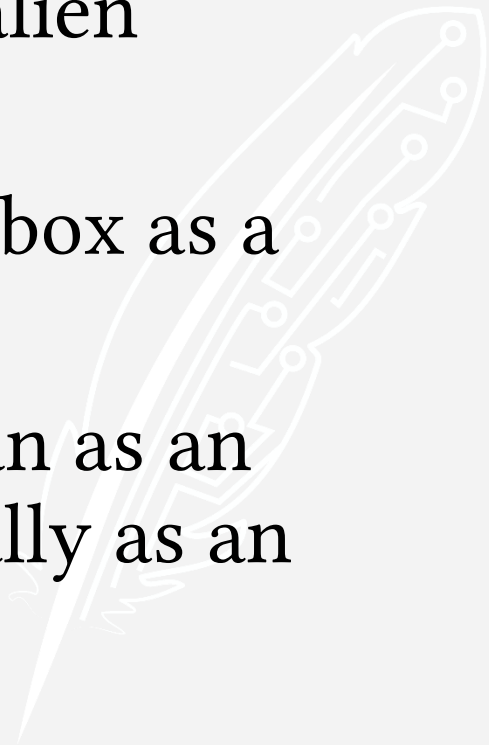
- Microsoft's debut into the console gaming industry, which initially cost Microsoft $6,000,000,000 in losses
- Launched with support for online service Xbox Live, which allowed broadband internet connections only and made online play more accessible than other consoles

Halo: Combat Evolved, 2001



Halo: Combat Evolved (Xbox)

- Lead your team of space marines to survival and eventual victory on a hostile alien world.
- Launch title that legitimized the Xbox as a console
- Originally designed as an RTS, than as an Action-Adventure game, then finally as an FPS



Halo: Combat Evolved (cont.)

- Like *Super Mario 64*, smooth and enjoyable gameplay was a key focus
- Innovations in the FPS genre:
  - Carry only 2 weapons, making decisions strategic
  - Good teammate AI
  - Rechargeable shield creates an enjoyable rhythm between firing and taking cover

Eve Online, 2003



Eve Online (PC)

- Explore a vast space-age universe where you can trade and battle by yourself or as part of a large player-run corporation.
- One of the only successful truly persistent virtual worlds
- Extremely dedicated fanbase and player-driven plot
- Tens of thousands of dollars in virtual assets changing hands

Karamari Damacy, 2004



Karamari Damacy (PS2)

- Roll up objects in the world to create a larger ball that rolls up still larger objects until your ball is the size of a star.
- Quirky premise, graphics, and soundtrack
- Notable deviation from the action/adventure/shooter games which has already begun to dominate consoles.

World of Warcraft, 2004



World of Warcraft (PC)

- Adventure by yourself or with groups of friends to level up, take down monsters over and over, and gain better gear.
- Refined and distilled the MMORPG
- Over 12,000,000 subscribers at its high point
- At one point WoW held 62% of the global MMORPG subscription market.
- By 2018, WoW had grossed over $9,300,000,000 making it one of the highest ever according to some sources.

Defense of the Ancients (DotA), 2005



World of Warcraft (PC)

- Play as one of 5 teammates who must level up together while leading an army of minions to victory over the other team.
- Mod of *Warcraft III: The Frozen Throne*
- Beginning of the MOBA (Multi-Player Online Battle Arena) genre.

The Elder Scrolls IV: Oblivion, 2006



The Elder Scrolls IV: Oblivion (PC)

- Adventure in a huge, open fantasy world.
- Notable for the encyclopedic scope of its setting
  - 16 square miles in size
  - Over 200 optional quests to complete
  - 1,500 non-player characters, all fully voiced

Motion Control, 2006









Motion Control

- Nintendo Wii (2006) used a handheld remote with motion sensing
  - Gave the Wii appear to non-traditional demographics for game consoles
  - Outsold other consoles of its generation
- PlayStation Eye (2007), a camera add-on to the PlayStation 3 that detected a handheld remote, plus some and sound and visual input
- Microsoft Kinect (2010), a camera add-on to the Xbox 360 that senses the position and posture of the player's body

Wii Sports, 2006



Wii Sports (Wii)

- Play tennis, boxing, bowling, and other sports using the controller as a physical tool.
- Shining examples of motion control games

Touch Control, 2007



Touch Control

- Popularized by the iPhone in 2007
- Now common on virtually all handheld devices and even PCs



Angry Birds, 2009



Angry Birds (Mobile)

- Launch birds are projectiles to destroy buildings and the pigs who live inside them.
- By July 2015, games had been downloaded over 3 billion times, making it one of the most successful free mobile games.

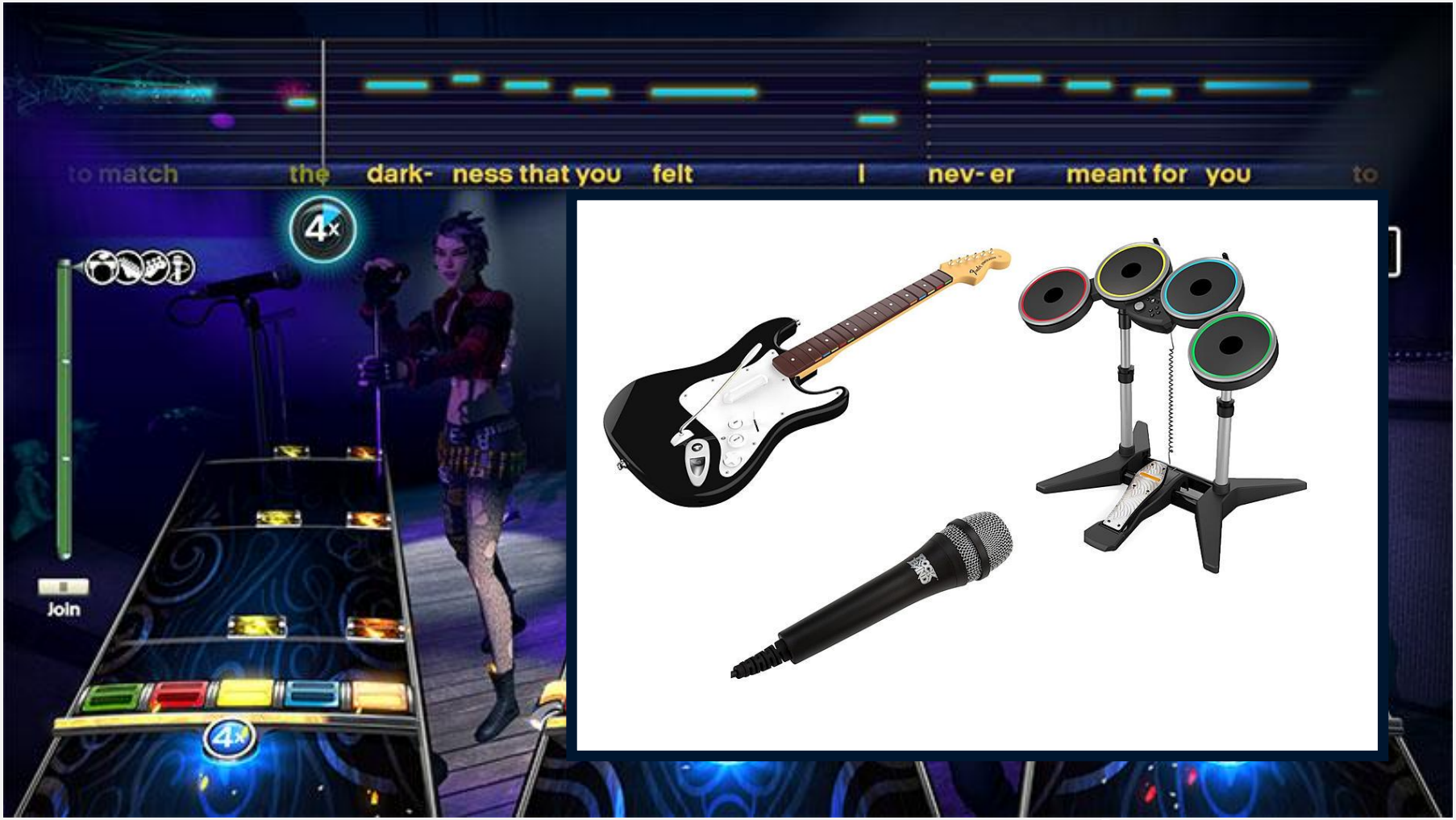
Desktop Tower Defense, 2007



Desktop Tower Defense (PC)

- Purchase and arrange stationary defensive units to fend off waves of attackers, which provide the funds to buy more units.
- A shining example of the Tower Defense sub-genre
- A shining example of a Flash or browser game: small, casual games easy to play on any platform

Rock Band, 2007



Rock Band (various)

- Perform your favorite rock songs using controllers that simulate a guitar, drums, and microphone.
- Shining example of a rhythm game

Portal, 2007



Portal (PC)

- Use a pair of teleporting portals to navigate a series of puzzles as a human guinea pig while a malevolent computer narrates.
- Shining example of puzzles in 3D space combined with highly-refined gameplay and a simple but engaging narrative

Call of Duty 4: Modern Warfare, 2007



Call of Duty 4: Modern Warfare (various)

- Play as a counter-terrorism commando fighting in the Middle East. Unlock guns and abilities as your military rank increased.
- Leveraged the cultural relevance of the war on terror and conflicts in Afghanistan and Iraq to improve success over WWII setting.
- This game and others in this series hold various sales records.

Minecraft, 2009



Minecraft (PC)

- Gather supplies, fight off monsters, and build incredible structures in a world of cubes.
- Independent game initially created by one person (Markus “Notch” Persson)
- Marks the rise of numerous indie game studios
- Marks the early access model, where game is released unfinished and updates frequently
- As of 2020, perhaps the highest selling game of all time at over 200,000,000 copies

League of Legends, 2009



League of Legends (PC)

- Two teams of five heroes battle for territory to destroy the other team's home base.
- Most financially successful MOBA, with up to 27 million people playing per day in 2014
- Commonly played in E-Sports competitions with millions of dollars in prize money for top winners
- A shining example of the MOBA genre

Discussion: The 00's

- Size and scope of game worlds increasing dramatically, with commensurate increase in development cost
- New interaction modalities (motion controls, touch screens, special controllers, etc.)

Recent Games

As we get closer to the present, it is harder to judge the importance and impact of games.



Dark Souls, 2011



Dark Souls (PC)

- Wander a nightmarish world fighting horrible monsters that respawn every time you rest at a bonfire.
- Famously difficult (but not randomized) combat.

Clash of Clans, 2012



Clash of Clans (Mobile)

- Build a village, upgrade its defense and offense, and send your troops to attack the villages of others.
- A shining example of mobile game design, which rewards players for frequent short play and allows asynchronous multiplayer
- By 2019, the game is reportedly grossing over $1 billion each year.

The Last of Us, 2013



The Last of Us (various)

- Escort a young girl across a post-apocalyptic zombie wasteland.
- Shows the action / adventure / puzzle / RPG formula of many modern AAA games
- Visuals, story, music, and theme are all highly artistic, prompting many to cite this as a coming of age for video games as art.
- Over 200 Game of the Year awards

Hearthstone, 2014



Hearthstone (various)

- A digital implementation of a collectable card game with enjoyable audio and visual effects
- Shows the rising influence of non-digital games on vide games

Roblox, 2006


GivoBite has joined the game.
YTigameplay1224: hi
julianajoras has joined the game.
The manager gave YTigameplay1224 a bonus.
sixsonicnerd has joined the game.
I cant get it out
Matheus123_br2 has joined the game.
hi
manager
yes
kick him
YTigameplay1224 is now the employee of the day.
450
Mountain Dew
63
Sausage
98
Pepperoni
96
Cheese
88
Tomato Sauce
86
Dough
90
Manager
avapatata2009
Cashier
YTigameplay1224
GivoBite
julianajoras
TayrrarMDJ
pandinhaleb
Jouh10collari

Roblox (PC)

- Online game / game platform that makes it easy for user to create their own content and games and profit from in-game currency.
- By 2020, over 5,000 games on Roblox had been played over a million times.
- Criticized for being predatory toward children both for microtransactions and poor moderation of child predators.

Virtual and Reality, 2016



Virtual Reality

- Replaces your field of view with a virtual world and tracks your head (and hand) movements for high immersion
- Oculus Rift (2016) and HTC Vive (2016)
- Low cost (and power) alternatives, like Google Cardboard use a mobile phone
- Despite initial industry excitement, VR may not be a viable game market.

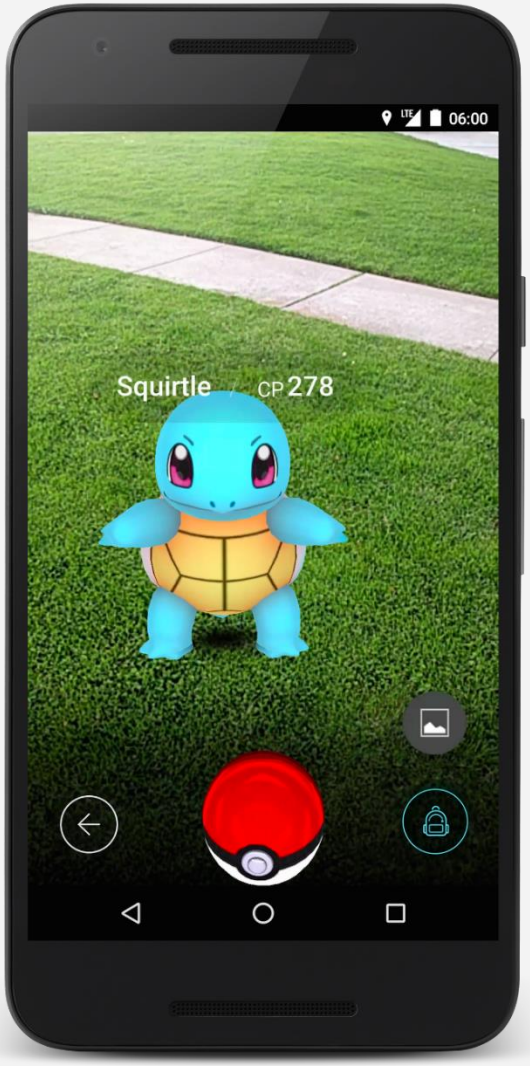
Beat Saber, 2018



Beat Saber (VR)

- Use two laser swords to cut blocks as they fly toward you to the rhythm of a catchy song.
- Shining example of a VR game

Pokémon Go, 2016



Pokémon Go (Mobile)

- Uses your smartphone's camera to make Pokémon appear in real life, who can be caught, raised, and battled against others.
- Popularized augmented reality games.
- By far the most successful AR game to date, despite instability, cut features, and slow content updates.
- A cautionary tale for *games as a service.*

Fortnite, 2017



Fornite (PC)

- 100 players on an island gather supplies and fight to the last person while the safe zone shrinks to encourage player meetings.
- Popularized the Battle Royale game style along with PlayerUnknown's Battlegrounds (released a year earlier)
- One of the first major games to offer cross-platform play between PC, console, and mobile.

Among Us, 2018



Among Us (PC)

- A social deduction game where crewmates do chores and secret aliens try to kill the crewmates without being discovered.
- Massively popular social game during the COVID-19 pandemic ~ 2020 and 2021
- The beginning of the *Friendslop* subgenre.
- Highlights the importance of streaming services like Twitch as discoverability tools.

Recent Trends

- Games are ubiquitous and played by the largest and most diverse audience ever.
- Games no longer tied to specific platforms
- Barrier to entry low, so more indie games!
- Developing a AAA games can cost 10's of millions, and marketing up to 5x that
- Merging of genres