

Video and Computer Games

A survey of some of the most influential and outstanding games and how games have changed over time

James Tam

Some Of The Major Console Manufacturers¹

- Coleco
- Atari
- Mattel
- Nintendo
- Sega
- Sony
- Microsoft

Background material for the "Consoles" section

¹The ultimate history of video games: the story behind the craze that touched our lives and changed world, from Pong to Pokemon and beyond... (Steven L. Kent, Three rivers press 2001)

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Major Players: Early Consoles (1970s)

- Coleco Telstar (1976)
- Atari 2600 (1977)
- Mattel Intellivision (1979)

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Coleco

- 1976: releases the Telstar game console.
 - Between 1976 – 1978 a series of dedicated consoles are released.
- 1982: Colecovision released
 - Generic console: games were executed from read-only cartridges.



Telstar: www.en.wikipedia.org

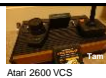


Colecovision: www.en.wikipedia.org

- 1988: Coleco goes bankrupt

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Atari



Atari 2600 VCS

- 1972: Founded by Nolan Bushnell and Ted Dabney.
- 1976: Sold to Warner communications for 28 million.
- 1977: 2600 VCS (Video Computer System) released.
- Some of it's notable games:
 - 1979: released Asteroids its best selling game
 - 1979: Warren Robinett introduces the concept of Easter Eggs in the game 'Adventure'.
 - 1980: releases Space Invaders for the 2600.
- Fate of Atari:
 - 1984: Atari corporation bought by Jack Tramiel (but arcade division retained).
 - Later sold to a disk drive manufacturer JTS and again to Hasbro Interactive.

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Mattel



Intellivision: <http://www.nationalmediamuseum.org.uk>

- 1979: Releases the Intellivision



www.en.wikipedia.org

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Major Next Generation Consoles (1980s)

- Nintendo
 - Nintendo Entertainment System (1985)
 - Gameboy (1989)
- Sega
 - Sega Genesis (1987/1989)

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Major Next Generation Consoles (1990s)

- Nintendo
 - Super NES (1991)
 - 64 bit Nintendo 64 (1995/1996)
- Sega
 - Saturn (1994/1995)
 - Dreamcast (1998/1999)
- Sony
 - PlayStation 1 (1994/1995).

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Major Next Generation Consoles (2000s)

- Nintendo
 - 2001: releases GameCube
 - 2006: Wii released
 - 2010: 3DS
- Sony
 - PS2 (2000)
 - PS3 (2006)
 - PS4 (2013)
 - PS5 (Now – if you can get one in 2020 :(…)
- Microsoft
 - Xbox (2001)
 - Xbox 360 (2005)
 - Kinect (accessory released in 2010/2012)
 - Series S, X (2020)

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Nintendo

- 1889: Fusajiyō Yamauchi founds the Marufuku Co to manufacture and distribute Hanafuda (Japanese playing cards).
- 1951: Company named change to Nintendo “Leave luck to heaven”
- 1978: releases its first arcade game Othello.
- 1985: released the NES (Nintendo Entertainment System).
- 1989: releases the Game Boy.
- 1991: Super NES.
- 1995: 64 bit Nintendo 64 released in Japan (1996 in US).
- 1996: sells its billionth cartridge.



www.nintendo.wikia.com

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Nintendo (2)

- 2001: releases GameCube in the US.
 - Example: 3D GameCube game: [\(Real 3D\) Highway Star - NES Longplay \(Famicom 3D\) \(Rad Racer\) - YouTube](#)
- 2006: Wii released
 - Innovative method of interaction (“nunchuck”)
 - Initial competitor (Sony) reaction: ‘tilt-controlled’ game controller.
- 2011 Nintendo 3DS available:



<http://www.pcworld.com>

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Sega

- 1964: Rosen Enterprises merges with Service Games to form Sega Enterprises
- 1965: releases Periscope a coin-op arcade game (the high shipping costs require 25 cents – becomes standard).
- 1987: releases the 16 bit Mega Drive console in Japan (1989 released as Sega Genesis: gets majority in the US console market by 1992).
- 1994/1995: releases Sega Saturn (year later in US).
- 1998/1999: Releases its Dreamcast console.
- Eventually gave on console development in favor of game development.



www.flipper.com

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Sony



- 1994: Releases PlayStation in Japan (a year later in US).
 - CD (Sony) vs. Cartridge (Nintendo 64)
- 2000: The PS2 (PlayStation 2) released in Japan and US.
 - DVD
- 2006: The PS3 (PlayStation 3) released.
 - Superior graphics (and other capabilities e.g. Blu-ray DVD)
- 2013: The PS4 (PlayStation 4) released at the end of this year.
 - Features expanded beyond just gaming e.g. better support for streaming movies, built in web browser
 - More information: [PS4 Consoles: Pro, Bundles, Deals, 500GB | Best Buy Canada](#)

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Sony (2)

- 2020: PS 5 (PlayStation 5)
 - [Nearly impossible to find](#) (Dec 2020)
 - Raw 'specs' are very close to the competition (slight edge to the competition)
 - [PS5 vs. Xbox Series X: Which console wins? | Tom's Guide](#)
 - [PS5 vs Xbox Series X: which next-gen console should you buy? | TechRadar](#)

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Microsoft

- 2001 releases its Xbox console
- 2005 released its Xbox360 console
 - 2010 the Kinect is released for the Xbox360
 - 2012 a computer version of the Kinect is released.
- 2020 Xbox series S, X
 - Now: appears to be available for purchase.

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Some Categories Of Video Games

- Sports
 - Fitness
- Fighting
- Music
- Simulation
- Shoot 'Em Up
- First person shooter
- Dog fighting
- Platform

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Some Categories Of Video Games (2)

- Adventure
 - Interactive fiction
 - Multiplayer adventure
- Role playing
- Maze
- Trading
- Strategy
- Survival horror
- Edutainment

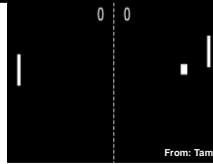
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Games Of The 1970s

- Pong
- Combat
- Space Invaders
- Adventure
- Asteroids

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Pong

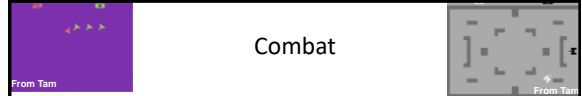


- General information
 - Original release date: 1972
 - Platform: Various
 - Developer: Atari
 - Genre: Sports
- Started out as an arcade game that was placed in bars and game arcades.
- Urban legend (?)¹
 - First prototype installed in Andy Capp's Tavern in Sunnyvale California (very quickly 'broken').
- Simple game but small details matter
 - E.g. adding just the right 'English' could affect your return serve.

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¹"1001 Video games you must play before you die" (Preface: Peter Molyneux, General Editor: Tony Mott: Universe Publishing 2010)

Combat



- General information
 - Original release date: 1977
 - Platform: Atari 2600
 - Developer: Atari
 - Genre: Shoot 'Em Up
- It came bundled with the Atari 2600 game console.
- It had 27 "different games".
- ~ 2000 bytes

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Space Invaders

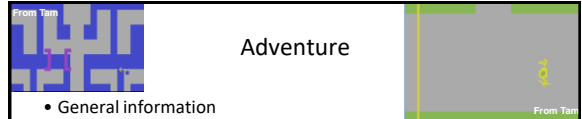


- General information
 - Original release date: 1977
 - Platform: Arcade
 - Developer: Taito
 - Genre: Shoot 'Em Up
- It was so successful in Japan that additional 100-yen coins needed to be minted.¹

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¹"1001 Video games you must play before you die" (Preface: Peter Molyneux, General Editor: Tony Mott: Universe Publishing 2010)

Adventure



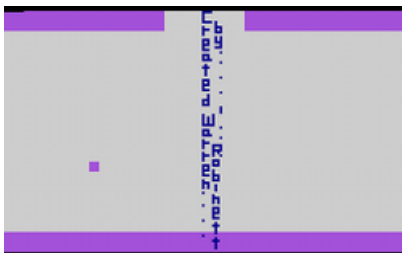
- General information
 - Original release date: 1979
 - Platform: Atari 2600
 - Developer: Atari
 - Genre: Adventure
- This game was ported from the text-based game "Colossal Cave Adventure" (Will Crowther).¹
- The program occupied 4 KB of storage
- Prior to this adventure games were text-based (imagination required to flesh out details).

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¹"1001 Video games you must play before you die" (Preface: Peter Molyneux, General Editor: Tony Mott: Universe Publishing 2010)

Adventure (2)

- (Game 'firsts' continued....at least 'one of' the firsts)
- "Easter Egg"



www.en.wikipedia.org

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Asteroids



- General information
 - Original release date: 1979
 - Platform: Arcade
 - Developer: Atari
 - Genre: Shoot 'Em Up
- A fairly minimalist game but extremely popular.

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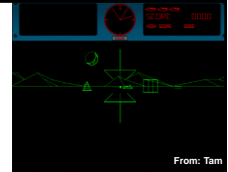
Games Of The 1980s

- Battle Zone
- Defender
- MUD (Multi User Dungeon)
- Donkey Kong
- Pac-Man
- Dragon's Lair
- Elite
- Dungeon Master
- Dungeon And Dragons Adaptations
- Double Dragon
- The 'Simulation' Games (SimCity)

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Battle Zone

- General information
 - Original release date: 1980
 - Platform: Arcade
 - Developer: Atari
 - Genre: Shoot 'Em Up
- Wireframe 3D graphics.
- 'Radar overview' of game terrain to provide 'situation awareness'.
- The designer Ed Rotberg received a request by the US military to create an even more realistic simulation to train its personnel.¹



From: Tam

James Tam

¹"1001 Video games you must play before you die" (Preface: Peter Molyneux, General Editor: Tony Mott: Universe Publishing 2010)

Defender

- General information
 - Original release date: 1980
 - Platform: Arcade
 - Developer: Williams
 - Genre: Shoot 'Em Up
- Provided a detail & radar overview.
- One of the more complex games as compared with other arcade games.



<http://www.skooldays.com>



From: Tam

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MUD (Multi User Dungeon)

- General information
 - Original release date: 1980
 - Platform: Various
 - Developer: Roy Trubshaw, Richard Bartle
 - Genre: Adventure
- A text-based adventure game but allows for multiple users.
- Eventually allowed network/BBS access via dialup.

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Donkey Kong

- General information
 - Original release date: 1981
 - Platform: Arcade
 - Developer: Nintendo
 - Genre: Platform
- Two main characters: Donkey Kong and Jumpman¹ (later "Mario") reappeared in many spin-offs:
 - Mario, Super Mario, Donkey Kong country
- A classic 'platform game'



From: Tam

James Tam

¹"1001 Video games you must play before you die" (Preface: Peter Molyneux, General Editor: Tony Mott: Universe Publishing 2010)

Pac-Man

- General information
 - Original release date: 1980
 - Platform: Arcade
 - Developer: Namco
 - Genre: Maze
- One of the most recognizable game characters.
- A maze/pattern game (but extraordinarily popular)
- Spin-offs:
 - Ms. Pac man
 - Adventure game
 - Pac-land
 - Saturday morning cartoon



From: Tam

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Dragon's Lair



From: Tam

- General information
 - Original release date: 1983
 - Platform: Arcade
 - Developer: Cinematronics
 - Genre: Adventure / Interactive fiction
- Incredible cartoon-like graphics in an arcade game:
 - Laser disc.
- Much of the game is a matter of timing and/or trial and error.

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Elite



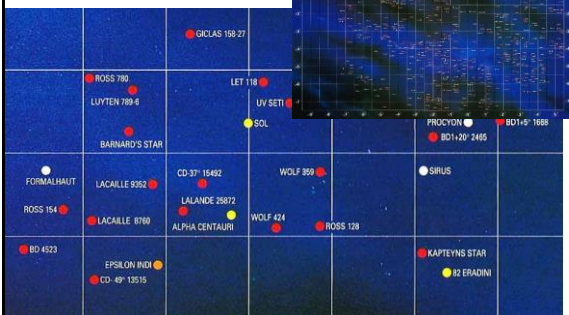
Elite 2: www.en.wikipedia.org

- General information
 - Original release date: 1984
 - Platform: Various
 - Developer: Ian Bell, David Braben
 - Genre: Strategy / Shoot 'Em Up / Open-ended simulation (Elite II)
- Elite:
 - Dog fighting
 - Trading
- Frontier Elite II (1993):
 - Multiple approaches possible: trader (legal, grey area, illegal), bounty hunter, mercenary, pirate (or some combination of the above).
 - ~400 KB game but sophisticated: real physics, actual sized planets, (midi) classical musical compositions, a large number of real life solar systems were modeled in the game.

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Elite II: Galaxy Maps

Images from <http://www.classicamiga.com>
(Last accessed April 12, 2016)



Dungeon Master

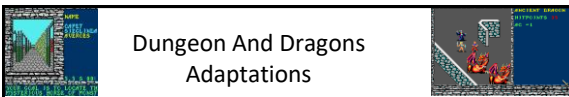


<http://www.gamasutra.com>

- General information
 - Original release date: 1987
 - Platform: Various (Amiga, Atari)
 - Developer: FTL Games
 - Genre: Role playing
- Real-time, first person, 3D action (non-modal).
- Non-linear, open-ended.

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Dungeons And Dragons Adaptations



- The premier paper and pencil role playing company: TSR (Tactical Strategic Rules)
- Collaborated with SSI (Strategic Simulations Inc.) to produce the "Gold Box" games (1980s – 1990s) that faithfully implemented almost all the rules of the complex paper and pencil game into a turn-based tactical RPG (Role Playing Game).
 - Forgotten Realms: Pool of Radiance, Curse of the Azure Bonds, Secret of the Silver Blades, Pools of Darkness.
 - Savage Frontier (external development): Gateway to the Savage Frontier, Treasures of the Savage Frontier, Neverwinter Nights (a MMORG running on AOL).
 - Dragonlance series: Champions of Krynn, Death Knights of Krynn, The Dark Queen of Krynn.

Images: From Tam

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Double Dragon



<http://www.gameguru.in>

- General information
 - Original release date: 1987
 - Platform: Arcade (later various)
 - Developer: Technos
 - Genre: Fighting
- Environment can be fully 'interacted' with:
 - Using everyday objects as weapons
 - Using the opponent's objects
 - 'Friendly fire' possible
 - Precursor to ever more interactive worlds

James Tam

The 'Simulation' Games (SimCity)

- General information
 - Original release date: 1989
 - Platform: Various
 - Developer: Maxis
 - Genre: Strategy simulation
- City building and management
 - Periodically an occasional natural disaster thrown in for 'fun'.
- "You don't get to win at SimCity – but you'll derive constant satisfaction from playing it."¹
- Many other simulation games were produced by Maxis: SimCity 2000, The Sims 1 (biggest all time PC game) 2 & 3, SimLife with the same open-ended format.



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¹ "1001 Video games you must play before you die" (Preface: Peter Molyneux, General Editor: Tony Mott: Universe Publishing 2010)

Games Of The 1990s

- Loom
- Civilization
- Alone In The Dark
- Mortal Kombat
- Myst
- Doom
- Virtua Fighter
- Hired Guns
- Beatmania
- Dungeon Keeper
- Silent Hill: Series
- Typing Of The Dead

James Tam

Loom

- General information
 - Original release date: 1991
 - Platform: Various
 - Developer: LucasArts
 - Genre: Adventure
- Spell craft through combinations of musical notes.



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Civilization

- General information
 - Original release date: 1991
 - Platform: PC
 - Developer: Microprose
 - Genre: Strategy simulation
- Many sequels released I-V (2010).
- An open-ended "civilization management" game.
- Begin with a historical civilization
 - e.g., Roman, Mongol etc.
- "Decision tree"
 - E.g., Researching the wheel unlocks access to other technologies later.



www.neskaia.it

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Alone In The Dark

- General information
 - Original release date: 1992
 - Platform: Various
 - Developer: Infogames
 - Genre: Survival Horror
- It helped launched the "Survival Horror" genre of games.
- Inspired by the fictional works of H.P. Lovecraft it in turn inspired a number of sequels (I – III in series) as well as influencing other games (e.g., Resident Evil).



www.gnomeslair.com

James Tam

Mortal Kombat

- General information
 - Original release date: 1992
 - Platform: Various
 - Developer: Midway
 - Genre: Fighting
- 'Photorealistic' visuals.
 - Gory graphics & super-human special abilities
 - "Fatality!"
 - Sequel games strove to make light of the early game's gore:
 - "Friendship!"
 - "Babality"
 - Two senators Joseph Lieberman and Herb Kohl who headed a US government inquiry into "video game violence and the corruption of society" contributed to the formation of the Entertainment Software Rating Board.
 - Other games (e.g., "Postal") also influenced the senators



Image MK2?

www.gnomeslair.com

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Myst



www.gamespot.com

- General information
 - Original release date: 1993
 - Platform: Various
 - Developer: Cyan Worlds
 - Genre: Adventure
- Immersive:
 - “You don’t so much play Myst, as experience it.” (Jeff Sengstack via GameSpot).
- Despite the success of this game and it’s sequels like Riven the development house eventually shut down.

James Tam

Doom



www.gamespot.com

- General information
 - Original release date: 1993
 - Platform: Various
 - Developer: id Software
 - Genre: First-Person Shooter
- Objective:
 - “...shoot everything that moves and keep moving through wave after successive wave of every variety of infernal evil...”¹
- It wasn’t the first of the first-person shooters but one of the most popular:
 - Inspired a number of other first person shooters e.g., Halo, Call Duty, Resistance, Far Cry, BioShock, Battlefield 1942 etc.

James Tam

¹“1001 Video games you must play before you die” (Preface: Peter Molyneux, General Editor: Tony Mott: Universe Publishing 2010)

Virtua Fighter



www.gamespot.com

- General information
 - Original release date: 1993
 - Platform: Arcade
 - Developer: Sega
 - Genre: Fighting
- One of the first games to move to 3D graphics: fluid realistic movement (motion capture of actual martial artists).
- No super-human capabilities found in other games (Mortal Kombat, Street Fighter) since there was a focus on realism.

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Hired Guns



www.mobymag.com


- General information
 - Original release date: 1993
 - Platform: Various (Amiga, MS-DOS)
 - Developer: DMA Design Ltd.
 - Genre: Multiplayer adventure, first-person shooter
- A split screen mode allowed up to 4 people to play that game (in front of) a single computer!
 - Could run on a 7.14 MHz 68000 processor! (Commodore Amiga)

James Tam

Beatmania



http://www.usn.co.jp

- General information
 - Original release date: 1997
 - Platform: Arcade (and later various)
 - Developer: Konami
 - Genre: Music
- “Follow the beat”
 - 
 - www.en.wikipedia.org
- Lead to many other music games: DDR (Dance Dance Revolution), Guitar Freaks, Drummania.
 - Some games were even placed in US schools (combat obesity)

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Dungeon Keeper



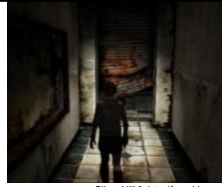
http://resolution-magazine.co.uk

- General information
 - Original release date: 1997
 - Platform: PC
 - Developer: Bullfrog Productions
 - Genre: Strategy
- There were many adventure and RPG games that involved dungeon exploration: fight monsters, avoid traps, solve puzzles, collect treasure.
- Dungeon Keeper was a complete role reversal.
- Players designed the dungeon that adventurers would take on.

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Silent Hill: Series

- General information
 - Original release date: 1999 (Silent Hill #1)
 - Platform: Various
 - Developer: Konami
 - Genre: Survival Horror
- "...other survival horror games makes you jump..."¹
- "Silent Hill was a game where the horror manifests itself in the town's oppressive and haunting atmosphere..."²
 - "Gets under your skin" (JT and various others).
 - What is actually real? Was the whole game just a hallucination???!?
- The original game lead to several sequels.



Silent Hill 3: <http://parchive.org>

¹"1001 Video games you must play before you die" (Preface: Peter Molyneux, General Editor: Tony Mott: Universe Publishing 2010)

James Tam

²"Replay: The history of video games" (Tristan Donovan, Yellow Ant 2010)

Typing Of The Dead

- General information
 - Original release date: 1999
 - Platform: Various
 - Developer: WOW / Smilebit
 - Genre: First person / Edutainment
- Modified version of the original Sega game: House of the Dead.
 - Zombie hunters carry keyboards instead of weapons.



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Games Of The 2000s

- Neverwinter Nights
- WOW
- Guitar Hero
- Nintendogs
- Wii games (Fit and Sports)

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Neverwinter Nights

- General information
 - Original release date: 2002
 - Platform: Various (PC, Mac)
 - Developer: BioWare
 - Genre: RPG (Role playing game)
- This 2002 version should not be confused with the older online game hosted on AOL in early 1990s.



www.gamespot.com

- It included a single player campaign but it was designed for multiple players.
 - The Aurora toolset, would allow for a person to referee ("Dungeon Master") the online game (like the old paper and pencil version).



www.unsubject.wordpress.com

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WOW (World Of WarCraft)

- General information
 - Original release date: 2004
 - Platform: Various (PC, Mac)
 - Developer: Blizzard
 - Genre: MMORPG (Massively Multiplayer Online Role-Playing Game).
- WOW is a spin-off of the strategy game: WarCraft.
- It wasn't the first online RPG but the designers learned from its predecessors (e.g., Ultima online, Diablo).
 - It was relatively simple to learn.
 - Player vs. player combat was more strictly controlled.
 - Monster killing ("hack and slash") were de-emphasized, 'quests' were favored (tasks / missions / jobs).



<http://www.digitaltrends.com>

"Replay: The history of video games" (Tristan Donovan, Yellow Ant 2010)

James Tam

WOW: Required Online Resources (2009)¹

- 10 million subscribers world wide.
- Technical resources:
 - 20,000 computers to run the game.
 - 13,250 copies of the game running on Blizzard's servers storing an excess of 1.3 Petabytes of data (> 1,300 TB).
- Human resources:
 - 2,396 support staff.
 - 451 (in addition to the above) staff to develop game content or to catalog historical events.

¹"Replay: The history of video games" (Tristan Donovan, Yellow Ant 2010)

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Guitar Hero



- General information
 - Original release date: 2005
 - Platform: Sony PS2
 - Developer: Harmonix
 - Genre: Music / Edutainment



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Nintendogs



Nintendogs © Nintendo : Screenshot James Tam

- General information
 - Original release date: 2005
 - Platform: Nintendo DS
 - Developer: Nintendo
 - Genre: Simulation (pet raising)
- An extremely open-ended simulation: no levels, points, score or fixed goals.
- Interaction is based on touch and sound: much like a real pet.

James Tam

Wii Games



<http://wii.ign.com>



- Wii Sports
- General information
 - Original release date: 2005
 - Platform: Nintendo Wii
 - Developer: Nintendo
 - Genre: Sports
- Wii Fit
- General information
 - Original release date: 2007
 - Platform: Nintendo Wii
 - Developer: Nintendo
 - Genre: Fitness
- Many sports games have the player ‘competing’ abstractly because the method of interaction and control doesn’t map at all to the activity (e.g., mashing buttons and moving a joystick).
- In the Wii Sports there is a more direct mapping to how the activity is played in real life vs. how the game is played.
- Often the mapping is more direct for activities that require large movements (e.g., tennis) vs. those that require more subtle motion (e.g., shooting pool).
- The contrived goal in Wii Fit however is to increase the fitness level of the player.
- E.g., “balance board” weighs the player in order to determine a starting point.

James Tam

Crysis



<http://crysis-trailer.en.softonic.com/>

- General information
 - Original release date: 2007
 - Platform: PC
 - Developer: Crytek
 - Genre: First-Person Shooter
- Realistic graphics (“video realism”) to mimic the human eye rather than a camera using various techniques: depth, motion and blur.
 - Required some high end hardware (graphic cards, multi-core processors etc.) but fans were willing to pay the price.

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Negative Aspects of Gaming

- Gaming addiction¹:
 - It’s not clear when the term was first used.
 - However popularization of games into the mainstream brought greater awareness of the issue.



South Park © Viacom

- Virtual world spilling into the real world and vice versa.
 - Virtual feuds becoming real-world feuds.
 - Not all spill over effects were always negative!
 - Buying virtual goods with real money, trying to get actual money from the virtual.
 - Gamer for hire!

¹ <https://www.psychiatry.org>.

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The Future Of Gaming?

- Dedicated gaming devices (hand held devices and consoles) vs. generic devices (smart phones).



Angry birds © Rivio Entertainment Ltd. : Screenshot James Tam

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The Future Of Gaming? (2)

- Social network gaming.



Farmville © Zynga: Screenshot James Tam

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References

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- "1001 Video games you must play before you die" (Preface: Peter Molyneux, General Editor: Tony Mott: Universe Publishing 2010)
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- "The golden age of video games: birth of a multi billion dollar industry" (Roberto Dillon, Taylor and Francis Group 2011)
- "Replay: The history of video games" (Tristan Donovan, Yellow Ant 2010)

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- www.imdb.com (Last accessed April 3, 2012)
- www.gamespot.com (Last accessed April 4, 2012)
- www.mobygames.com (Last accessed April 4, 2012)

James Tam

After This Section You Should Now Know

- General information
 - Release dates: consoles and games
- Gaming consoles
 - The companies that produced the consoles
 - What were the major events in their history and when did they occur
 - Who were the important people behind the game companies
 - What were some of the distinguishing characteristics of the consoles
- Computer games over time
 - The major games in different time periods
 - What were their distinguishing characteristics
 - What events were tied in the development and release of the games
 - Technical requirements (wherever applicable)
 - What were sequel or spin off games

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After This Section You Should Now Know (2)

- How games and reality would spillover into each other
- What are some of the possible future trends in gaming

James Tam