

A Brief History of Video Games

Some PPT content from the Book "Introduction to Game Development" (not Required)

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Movies vs. Games

- Recent (2013) GTA V \$800 million in its first 24 hours.
 - » Biggest Launch ever of anything in entertainment.
- Call of Duty Black Ops2 1 billion in 15 days (650m first 5 days)
 - » Avatar (Movie) top grossing movie of all time (not adjusting for inflation), 2 days longer to earn the same amount
- World Entertainment Industry is in the Trillions (\$2T in 2016).
 - » Gaming is currently not the biggest sector.
 - » Biggest growth is streaming services (6.5 billions 2013)
 - » Video Games 6.5% Annual Growth, below magazine sale
 - World Wide Game 81.5B in 2014 (Wikipedia)
 - Film Industry 88.3B in 2014 (Stastica)

http://www.biliboard.com/biz/articles/news/global/1565/28/study-global-entertainment-industry-poised-to-top-2-trillion-in http://www.statista.com/topics/964/film/

http://www.lastcompany.com/3021006/wny-video-games-succeed-where-the-movie-and-music-industries-la

Overview

- Entertainment: Films/movies are more successful than video games, or have games eclipsed the movie industri?
 - » What are successful games right now?
 - » What are /were successful movies?
- Today: Reflect on the history of video games:
 - » We will do a Time Line Approach (Chronologically).
- Homework posted, and preview of first project has been posted – r ecreate a classic Arcade Video Game in HTML5).
- Resources:

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Here single movie & game successes!

| Highest-grossing films adjusted for inflation ^{[28][29]} | | | | Games across all platforms that have sold at least 15 million copies, acr multiple platforms ^[n 1] | | | |
|---|----------------------------|-----------------------------------|--------|--|-----------------------|---|------------------------------------|
| Rank ¢ | Title ¢ | Worldwide gross ¢ (2014 \$) | Year ¢ | Title + | Release year | System(s) ¢ | Copies so / Paid download |
| 1 | Gone with the Wind | \$3,440,000,000 | 1939 | Tetris | 2006 | Mobile, iOS, BlackBerry OS, | 425 million |
| 2 | Avatar | \$3,020,000,000 | 2009 | | | PlayStation Portable | |
| 3 | Star Wars | \$2,825,000,000 | 1977 | Wii Sports | 2006 | Wii | 82.72 millio |
| 4 | Titanic | T\$2,516,000,000 | 1997 | Minecraft | 2009 ^[n 2] | Windows, OS X, Linux, Java, Xbox 360, Xbox One, PlayStation 3, PlayStation 4, Mobile, Java applet, Android, iOS, Windows Phone, Amazon Fire TV, Raspberry Pi, PlayStation Vita | 72 million ^[5]] |
| 5 | The Sound of Music | \$2,366,000,000 | 1965 | | | | |
| 6 | E.T. the Extra-Terrestrial | \$2,310,000,000 | 1982 | | | | |
| 7 | The Ten Commandments | \$2,187,000,000 | 1956 | | | | |
| 8 | Doctor Zhivago | \$2,073,000,000 | 1965 | Grand Theft Auto V | 2013 | PlayStation 3, Xbox 360, PlayStation 4, Xbox One, Windows | 54 million ^[7] |
| 9 | Jaws | \$2,027,000,000 | 1975 | Super | | 4, ADDA ONE, WINDOWS | |
| 10 | Snow White and the Seven | \$\$1,819,000,000 | 1937 | Mario Bros. | 1985 | Nintendo Entertainment System | 40.24 millio |

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Game Ranking Sites

- Aggregated Sites:
 - » Metacritic: % representing weighted averages.
 - Weights are unknown

http://en.wikipedia.org/wiki/Metacritic

- Colors: Green to red.
- Current Rankings: Legend of Zelda, SoulCalibur, GTA
- » Game Rankings: % representing averages
 - At least 20 reviews http://en.wikipedia.org/wiki/GameRanking
 - Current Rankings: Super Mario Galaxy, Zelda, Super Galaxy 2
- Review Score Sites:
 - 1UP (IGN Owner), Edge, Eurogamer, GameSpot

What About Bad Games?

 http://en.wikipedia.org/wiki/ List of video games notable for negative r eception

 ... lets review the history ... we rewind to before the

1950s!

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Roots: TV - First Patent & TV History

- First Electronic Game/ 1947 Thomas Godsmith, Jr. & Estle Ray Mann filed a patent described as
 - » "Cathode Ray Tube Amusement Device" Patent (not marketed)
 - Interactive electromechanical to simulate firing of air-borne
 - Control knob to position CRT Beam within a time limit connected to an oscilloscope
 - http://en.wikipedia.org/wiki/Cathode_ray_tube_amusement_device
- TV History:

http://inventors.about.com/od/tstartinventions/a/ **Television Time.htm**

» (1831 electronic communication, 1862 first transmission of a still image, 1880 Bell & Edison - Photophone to transmit sound (and image), 1900 "television", 1924 first moving silhouette Maria Hyblingages, 1926 5 frames per second TV)

Early History

• 1949-1950 First Bouncing Ball program, not interactive.

https://www.youtube.com/watch?v=0EeBZES6s1U

- » MIT's Whirlwind Computer
 - the world's first computer to have real-time video capable of showing real-time text and graphics on oscilloscope screen.

https://en.wikipedia.org/wiki/OXO

- One of the first games:
 - 1952 Graphical Tic Tac Toe by AS Douglas to demonstrate human computer interaction.
 - » OXO
 - » EDSAC computer, player competed against a computer.
- Hard to pinpoint first ever video game created, so will focus on standouts.
 - » Standouts ... Tennis for 2... next

The First/Early Video Games

- William Higginbotham's Tennis for Two
 - » Created in 1958 for the Brookhaven National Laboratory's annual visitor day
 - » Display was an oscilloscope (side view)
 - » Game ran on an analog computer
 - » Sound effects were a side-effect of the relays that made the game run
 - » No one realized its significance
 - » Knob for trajectory & button for
 - » gravity controlled ball.

http://www.youtube.com/watch?v=s2E9iSQfGdg (2 mins)



First Video Games ..



- Steve Russell and Spacewar
 - » Created in 1961 at MIT for the DEC PDP-1 computer
 - » 2 players, maneuver spaceship while trying to shoot other player with torpedoes
 - » Switches to control game
 - » Hugely popular within MIT
 - » Vector Display
 - » Required prohibitively expensive equipment
 - mini-computer (\$120K), converted to using a TTL.
 - » Eventually shipped as a diagnostic program with PDP-1s
 - » http://www.youtube.com/watch?v=Rmvb4Hktv7U
 - » http://www.youtube.com/watch?v=7bzWnaH-0sg (PDP)

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Games for the Masses

- The Advent of Home Video Games: Ralph Baer and the Magnavox Odvssev
 - » 1966, initial idea for a game machine that would work on home TVs (prototyped). Light Gun.
 - » Created a shooting game (Chase) incorporating the Light Gun, ice hockey game, and others.
 - » 1969 Pina Pona http://www.youtube.com/watch?v=1LsRGUODHIQ
 - » Sold to Magnavox in 1972
 - » http://www.ralphbaer.com/how_video_games.htm
 - » More: http://web.mit.edu/invent/iow/baer.html

Arcades: Games for the Masses

- Breaking Into the Amusement Business: **Nolan Bushnell and Atari**
 - » Engineering major at the University of Utah
 - » Background in coin-operated amusement devices
 - » Tried to bring Spacewar to arcades as Computer War

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Games for the Masses

- Bringing Games to the Masses
 - » Atari founded by Nolan Bushnell in 1972
 - » Brought Pong to arcades
 - » Sued by Baer and Magnavox
 - » Paid a one-time license fee of \$700,000



The Console Kings

- Recall Magnavox Odyssey (Ralph Baer)
 - » World's first commercial home video game console. (1972: April Demoed, October Release).
 - » Light Gun Add On.

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» 3 years ahead of Atari's Home Pong.



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The Console Kings



- Atari and the 2600
 - Atari VCS released in 1977,
 - 9 Games (renamed to 2600)
 - Not quite the first cartridge-based home system (Magnavox Odyssey)
 - 1978 Game Release: Space Invaders at Home (First Video Game Killer App).
 - Open architecture allowed easy development
 - First to introduce licensing of a system
 - http://atariage.com/2600/

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The Console Kings

- Nintendo (card game origin) and Shigeru Miyamoto
 - » Released *Donkey Kong* arcade machine in 1981
 - » Released Nintendo Entertainment System in 1985
 - » During late 80's Nintendo owned 90% of the market
 - » http://en.wikipedia.org/wiki/ History_of_Nintendo
 - » http://en.wikipedia.org/wiki/ Mario_Bros. (Arcade)

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The Console Kings

Sega

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- » Created in 1952 in Japan to sell amusement games on US army bases (Service Games)
- » 1983 SubRoc 3D, first 3D game (Arcade).
- » Alex Kidd (86), Sonic Hedgehog (91)
- » Released the popular Sega Genesis in 1990 (their third generation home console)
- » Final game console was their 1999's Sega Dreamcast







The Console Kings

Sony's PlayStation

- » Created out of an aborted attempt to launch a CD-ROM based system with Nintendo
- » Released PlayStation in 1994
- » PlayStation 2 released in 2000, maintaining backwards compatibility with hugely popular PS1
- » PS3 and PSP current
- » (ATARI Jaguar (1993) cartridges, stick in CD into cartridge



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The Console Kings

- Microsoft and the Xbox
 - » Xbox released in 2001
 - » Based on a PC-like architecture
 - » Initially significant money lost on each console sold
 - Foothold in living rooms world wide
 - » Halo and Halo 2 are its most popular games

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Home Computers

- Apple Computer
 - Founded by Steve Jobs, Steve Wozniak and Mike Markkula in 1976
 - Apple II was released in 1977
 - Revolutionized the home computer market
- Commodore
 - Commodore Vic-20 Released in 1981
 - Low price and shrewd marketing lead to success
 - Commodore 64, released in 1982, became the best selling computer in history
- IBM
 - IBM PC introduced in 1981
 - Moderate pricing helped it gain a foothold in the business world
 - BIOS licensing model backfired on them, allowing cheap clones to enter the market

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The Designers

The Designers

Maxis and Will Wright

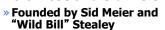
- » SimCity released in 1989
- » Other Sim games followed (SimAnt, SimCopter)
- » Maxis becomes part of Electronic Arts
- » Released *The Sims* in 2000
- » The Sims has sold more than 6 million copies so far

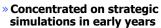


http://www.ted.com/talks/lang/en/ will wright makes toys that make worlds

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MicroProse and Sid Meier





- » Sid Meier's Pirates! in 1987 was Sid's first signature game
- » Genre-defining Railroad Tycoon and Civilization followed



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The Designers

Sierra and Ken and Roberta Williams

- » Created first graphical adventure game, Mystery House in 1980
- » Great success followed with King's Quest series, Police Quest series, and Leisure Suit Larry series
- » Published Half-Life





The Designers

Origin Systems and Richard Garriott

- » Created the *Ultima* series
- » In 1997 created Ultima Online, one of the first Massively Multi-Player Online Role-Playing Games
- » Studios disbanded in 2000 by EA





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The Phenomenons

Space Invaders

- » Introduced to the US in 1978
- » First big Japanese success
- » Introduced the "High Score" list to video games

Pac-Man

- » American debut in 1981
- » Attempt to create a completely non-violent game
- » Generated \$100 million in sales during its lifetime

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The Phenomenons

• The Tangled History of *Tetris*

- » Created by Russian programmer Alexy Paj in 1985
- » Became a pop culture sensation
- » Helped drive the success of Nintendo's Game Boy

Capcom and Resident Evil

- » Capcom founded in 1979
- » Created Street Fighter, Mega Man and Resident Evil
- » Resident Evil has spawned 15 variations and sequels as well as two Hollywood movies

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The Phenomenons



■ Square and Final Fantasy

- In 1987 released Final Fantasy as a last-ditch effort to stave off bankruptcy
- ■15 games have been released since then, selling more than 40 million copies
- Computer-animated Hollywood movie released in 2001

Cyan and Myst

- Created by Rand and Robyn Miller
- Released in 1993 on the Apple Macintosh
- Helped popularize the CD-ROM drive

The Phenomenons



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Pokémon

- » Created by Japanese video game enthusiast Satoshi Tajiri
- » Pokémon Red and Green released for Nintendo Game Boy in 1996
- » Movies, TV series and multiple sequels have followed

The Rise and Fall of the Video Game Mascot

- » Early mascots helped sell game systems
- » Mascots are seemingly less popular now
- » Over-exposure and an aging audience may be explanations for this trend

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The Studios

Activision and Infocom

- » Activision founded by former Atari programmers
- » Lawsuit by Atari created the "royalties" system still employed by console makers today
- » Merged with Infocom and gutted it
- » Still a strong player today



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The Studios

Electronic Arts (EA)

- » Created by Trip Hawkins in 1982
- » Revolutionary business plan did three things
 - Creative talent treated like artists
 - Creation of in-house tools to aid cross-platform development
 - Handle own distribution
- » Now the largest game software company in the world





The Studios



Interplay

- » Formed in 1983
- » First big hit was The Bard's Tale in 1985
- » Famous for their CRPGs, including Wasteland, Fallout, Baldur's Gate, Baldur's Gate II: Shadows of Amn
- » Since de-listed from the NASDAQ

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The Studios

LucasArts

- » Formed in 1982 as an offshoot of LucasFilm Ltd.
- » Released *Maniac* Mansion in 1987
- » Created strong history of adventure games and **Star Wars universe** games





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The Studios



Blizzard

- » Started in 1991 by Michael Morhaime, Allen Adham, and Frank
- » Released one of the seminal Real-Time Strategy games, Warcraft, in 1994
- » Their latest release, the MMORPG World of Warcraft, has become the fastest selling PC game in history 33

The Studios



id Software

- » Formed on February 1, 1991
- » Successfully utilized Apogee's shareware formula
- » Created the defining first-person shooter with DOOM

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Genres

Adventure

- » Sub-genres include text-based adventure and graphical adventure
- » Zork by Infocom

define the genre

» King's Quest by Sierra



- » Superset of all other action-oriented genres
- » Typified by fast-paced combat and movement
- » Spacewar, Pong, and Space Invaders helped

A Genres

Action-Adventure

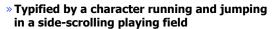




» Jak 3, Metroid Prime 2 Echoes, and Resident Evil 4 are modern examples of the genre

Platformer

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» Super Mario Bros., Sonic the Hedgehog, Pitfall! and Super Mario 64 are examples







Genres



Fighting

- » Players typically fight other players or the computer using swordplay or martial arts
- » Double Dragon is an example of a side-scrolling fighter
- » Virtua Fighter, Mortal Kombat, and Street Fighter are examples of versus fighters, where the players fight each other

First-Person Shooter

- » Action game where player is "behind the eyes" of the game character in a first-person perspective
- » id Software's Wolfenstein 3D and DOOM are the mearliest popular examples

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Genres



Real-Time Strategy (RTS)

- » Typically, a game in which the goal is to collect resources, build an army and combat the other player or computer
- » Popularized by Westwood's Dune 2 and Command and Conquer and Blizzard's Warcraft

Turn-Based Strategy

- » Like real-time strategy games, but turnbased
- » Civilization, X-COM, Master of Orion, and Jagged Alliance are standouts of the genre

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Genres



Role-Playing Game (RPG)

- » The video game counterpart to pen and pencil games like Dungeons and Dragons
- » Final Fantasy, Baldur's Gate and Wasteland are some popular examples of the genre

Massively Multiplayer Role-Playing Game (MMORPG)

- » An RPG set in a persistent virtual world populated by thousands of other players
- » Ultima Online in 1997 was the first popular one
- » World of Warcraft is currently the most popular one

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Genres



Stealth

- Characterized by a focus on subterfuge and planned-out, deliberate play
- ■Metal Gear in 1987 was one the first
- Popular modern series include Metal Gear, Splinter Cell, and Thief

Survival Horror

- An action-adventure or first-person shooter where survival elements and a fight against the undead are stressed
- Resident Evil is easily the most popular series in this genre

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Simulation

- » Based on the simulation of a system
- » SimCity and The Sims are example of "God" simulations where you control the lives of a town or a family
- » Wing Commander and X-Wing are popular space combat simulation games

Genres



Racing

- » Games that involve competing in a race in a vehicle
- » Typically try to re-create a real-world activity
- » Pole Position was first popular racing game

Sports

- » Games that simulate the sporting experience
- » Breakouts include John Madden Football and Tiger Woods' Golf



Rhythm

- » Gauge player's success based on the ability to trigger the controls in time to the beat of music
- » Sometimes require specialized controllers such as dance pads or bongo drums
- » Konami's Dance Dance Revolution is the pre-eminent title of the genre
- » Rock Band & Guitar Hero

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Genres

Puzzle

- » Games that combine pattern matching, logic, strategy and luck with a timed element
- » Tetris is the breakout hit of this genre

Mini-Games

- » Short, simple games that exist within the context of a larger game
- » Mario Party and Wario Ware are popular examples of this genre

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Genres



Traditional

- Computerized versions of board, word, and card games
- Battle Chess and the Hoyle series are standouts of this genre

Educational

- Games designed to teach grade-school concepts to children and young adults
- Oregon Trail was the first popular game in this genre
- The Carmen Sandiego series and Mavis Beacon Teaches Typing are more modern popular examples

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Genres



Serious

- » A game designed to teach real-world events or processes to adults
- » Most are privately funded
- » Popular with the US Government and the medical field



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Why Do People Play Video Games?

- Goals
- Stages
- Real-Time Interaction
- Facilitating Community

Games and Society

Audience and Demographics

Audience and Demographics: ESA 2003 Survey Results

- •What good are demographics?
- •Are they always accurate?

- Provides broad brushstrokes
- Snapshots of a particular place and period of time
- What information stands out?
 - » 50% of all Americans play games

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Audience and Demographics: ESRB

EC (Early Childhood)

E (Everyone)

• E10+ (Everyone 10+)

T (Teen)

M (Mature)

AO (Adults Only)

• 32 different "Content Descriptors"

Audience and Demographics: ESRB 2003 Statistics

- 57% of games received an E rating
- 32% of games received a T rating
- 10% of games received an M rating
- 1% received an EC rating

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Audience and Demographics: ESRB 2003 Statistics (2)

- 70% of best-selling console games were E or T rated
- 90% of best-selling PC games were E or T rated
- Buying habits or development habits?

Societal Reaction to Games

- Misleading perception of games as being child's play
- Violence in video games drawing parental attention

Societal Reaction to Games

- Legal Issues: Night Trap (1992)
 - »Undue attention given quality of the game
 - »Content comparable to a B-grade slasher movie
 - »Misleading press reports about the player's role

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Societal Reaction to Games

- Legal Issues: 1993 Senate hearings
 - » Industry was called to the carpet
 - » Threatened with government regulation
 - » Created a 12-point plan for selfregulation
 - » Birth of the ESRB

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Societal Reaction to Games

Societal Reaction to Games

» Featured quasi-realistic violence

Legal Issues: Mortal Kombat

»Home release drew attention

where the arcade release was

»Virtual gouts of blood

largely ignored

(1992)

- Legal Issues: Doom (1994) and the 1999 Columbine Massacre
 - » Shooters were known to play Doom
 - » Lawsuits were initiated against the industry, but eventually dropped

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Societal Reaction to Games

- Legal Issues: *Grand Theft Auto: Vice City*
 - » Haitian-American Rights Groups protest game content, launch Federal case
 - » Rockstar Games changes game content
 - » Lawsuit moved to Florida courts in hopes of a stringent ruling

Societal Reaction to Games

- Legal Issues: St. Louis County Ordinance
 - » Ordinance was passed regulating game access
 - » Lawsuit filed by the ESA
 - » Judge upheld ordinance specifying that video games did not contain speech
 - » Ruling was over-turned

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Societal Reaction to Games

Societal Reaction to Games

- Games and Youth Violence
 - » Current studies on games and youth violence are not flawed and not definitive
 - » How does one define "violence" in the context of video games?

- Root of All Evil, or Good, Old-Fashioned Fun?
 - » Games are seen as meaningless fun
 - » Games are also seen as a troubling source of youth violence
 - » Are these views contradictory?

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Cultural Issues

- Worst...Stereotype...Ever
 - » Shadow Warrior (1997) lampooned Asian cultures and stereotypes
 - » Japanese-American community wasn't amused
 - » Risk of offending market

Cultural Issues: Foreign Diplomacy

- Germany
 - » The Index List of banned games
 - » Partial list of controversial elements
 - Nazi Iconography
 - Red Blood
 - Extreme violence

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Cultural Issues: Foreign Diplomacy

China

- » Controversial elements
 - -Changing Historical Facts
 - Recognizing the sovereignty of disputed territories

Cultural Issues: Foreign Diplomacy

Japar

- » Controversial elements
 - -Sex
 - -Violence
- » Surprisingly, not controversial
 - -EA's *Medal of Honor: Rising*Sun, a game that depicted the Pacific campaign in WWII

Cultural Issues: Cultural Acceptance

- The rules are . . . there are no rules
 - » Violence and sex may lead to a game being banned
 - »...Or they may not
 - » Past bans may be the only accurate predictor of what game types are truly objectionable to a specific culture

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Society Within Games

- Tools
 - » Moderators
 - » Communication tools
 - » Fan sites to discuss gameplay and community outside of the game

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Society Within Games: Online Behavior

- The Good
 - » Everquest Weddings
- The Bad
 - » Addictive properties
 - » Online rivalries becoming offline rivalries
 - » Can games contribute to erratic offline behaviors?
- The Ugly
 - » Disinhibition and deindividuation occur because of perceived anonymity.
 - » Crimes

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