

A Brief History of Video Games

Some PPT content from the Book “Introduction to Game Development” (**not Required**)

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Overview this Week

- **Perspective:** Film/Movie are more successful than video games, but do you think this will change?
 - » What are extremely successful games right now?
- **Today:** Reflect on the history of video games:
 - » We will do a Time Line Approach (Chronologically).
- **This Week:** W (Picture), Th (Intro to HTML5 & Canvas).
- **Homework** (will be posted tonight on this topic), and the **first project** has been posted – to recreate a classic Arcade Video Game in HTML5). Will look at samples tomorrow.
- **Resources:**
 - » http://en.wikipedia.org/wiki/History_of_video_games

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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](#)
 - Interactive, simulate firing of air-borne targets
 - http://en.wikipedia.org/wiki/Cathode_ray_tube_amusement_device
- **TV Roots:**
 - » 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 images, 1926 5 frames per second TV)

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Early History

- **1949-1950** First Bouncing Ball program, not interactive.
- **1952** Graphical Tic Tac Toe by AS Douglas to demonstrate human computer interaction.
 - » EDSAC computer, player competed against a computer.

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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=s2E9iSOfGdQ> (2 mins)

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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>



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Games for the Masses

- **The Advent of Home Video Games: Ralph Baer and the Magnavox Odyssey**
 - » 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 Ping Pong
<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>

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Games for the Masses

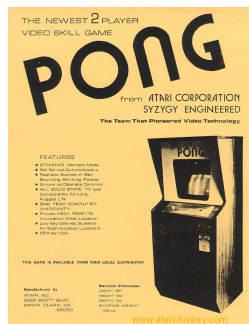
- **Breaking Into the Amusement Business: Nolan Bushnell and Atari**
 - » Engineering major at the University of Utah
 - » Background in coin-operated amusement devices
 - » Tried to bring *Spacewar* to arcades as *Computer War*

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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



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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.
 - » 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._\(Arcade\)](http://en.wikipedia.org/wiki/Mario_Bros._(Arcade))



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The Console Kings

● Sega

- » 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



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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

● 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.html

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The Designers

● MicroProse and Sid Meier

- » Founded by Sid Meier and "Wild Bill" Stealey
- » Concentrated on strategic simulations in early years
- » *Sid Meier's Pirates!* in 1987 was Sid's first signature game
- » Genre-defining *Railroad Tycoon* and *Civilization* followed



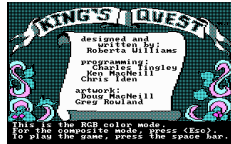
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The Designers

● 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*



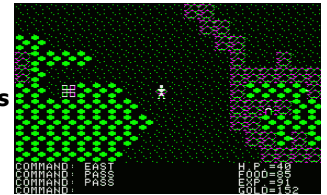
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The Designers

● 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 Alexey Pajitnov 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



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The Phenomenons

● *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



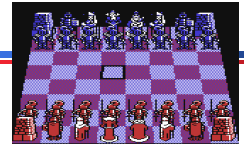
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The Studios

● 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



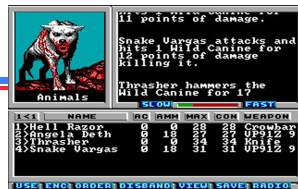
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The Studios

● 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 Frank Morhaime, Allen Adham, and Frank Pearce.
- » 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



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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
- » *King's Quest* by Sierra



- **Action**

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



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A Genres

- **Action-Adventure**

- » Adventure games with action elements
- » The Legend of Zelda was first break-out hit
- » *Jak 3*, *Metroid Prime 2 Echoes*, and *Resident Evil 4* are modern examples of the genre



- **Platformer**

- » Typified by a character running and jumping in a side-scrolling playing field
- » *Super Mario Bros.*, *Sonic the Hedgehog*, *Pitfall!* and *Super Mario 64* are examples



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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 earliest 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 turn-based
- » *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*

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

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

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



Chapter 1.2 Games and Society

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Why Do People Play Video Games?

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

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Audience and Demographics

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

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Audience and Demographics: ESA 2003 Survey Results

- **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"**

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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?

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Societal Reaction to Games

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

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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: *Mortal Kombat* (1992)
 - » Featured quasi-realistic violence
 - » Virtual gouts of blood
 - » Home release drew attention where the arcade release was largely ignored

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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 self-regulation
 - » Birth of the ESRB

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Societal Reaction to Games

- 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

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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

- **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?

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Societal Reaction to 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

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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**

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Cultural Issues: Foreign Diplomacy

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

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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: 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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Society Within Games

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

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