Overview

- Entertainment: Films/movies are more successful than video games, or have games eclipsed the movie industry?
  - 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 – recreate a classic Arcade Video Game in HTML5.
- Resources:

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 Ops 2 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 (Statistica)

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Game Ranking Sites

- Aggregated Sites:
  - Metacritic: % representing weighted averages.
    - Weights are unknown [http://en.wikipedia.org/wiki/Metacritic](http://en.wikipedia.org/wiki/Metacritic)
    - Colors: Green to red.
    - Current Rankings: Legend of Zelda, SoulCalibur, GTA
  - Game Rankings: % representing averages
    - Current Rankings: Super Mario Galaxy, Zelda, Super Galaxy 2

- Review Score Sites:
  - 1UP (IGN Owner), Edge, Eurogamer, GameSpot

What About Bad Games?


- ... lets review the history ... we rewind to before the 1950s!
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 targets
      - Control knob to position CRT Beam within a time limit connected to an oscilloscope
- **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 images, 1926 5 frames per second TV)

The First/Early Video Games

- **William Higinbotham’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=s2E90SQ6Qdg (2 mins)

Early History

- **1949-1950 First Bouncing Ball program, not interactive,**
  - 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.
  - http://www.youtube.com/watch?v=0EeBZE66s1U
- **One of the first games:**
  - 1952 Graphical Tic Tac Toe by AS Douglas to demonstrate human computer interaction.
    - OXO
    - http://www.youtube.com/watch?v=7bzWnaH-0sg
- **Hard to pinpoint first ever video game created, so will focus on standouts.**
  - Standouts … Tennis for 2... next

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)

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=1LsRGUODHQ
  - Sold to Magnavox in 1972

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
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

- **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

- **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

- **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

- **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

The Console Kings

**Recall - Magnavox Odyssey (Ralph Baer)**
- Light Gun Add On.
- 3 years ahead of Atari’s Home Pong.

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  - (ATARI Jaguar (1993) cartridges, stick in CD into cartridge)
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 worldwide
  - *Halo* and *Halo 2* are its most popular games

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

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

- **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

- **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*

- **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
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

- **The Tangled History of Tetris**
  - Created by Russian programmer Alexy 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

- **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

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

- **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

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

- **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

- 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

- The Studios

- Blizzard
  - 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

- id Software
  - Formed on February 1, 1991
  - Successfully utilized Apogee’s shareware formula
  - Created the defining first-person shooter with *DOOM*

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

- 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
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
- **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
- **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
- **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
- **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
- **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*
Genres

● 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

● 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

● 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

Why Do People Play Video Games?

● Goals
● Stages
● Real-Time Interaction
● Facilitating Community
Audience and Demographics

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

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

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

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

» Featured quasi-realistic violence
» Virtual gouts of blood
» Home release drew attention where the arcade release was largely ignored

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

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

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

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
**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?

**Cultural Issues**

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

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

**Cultural Issues: Foreign Diplomacy**

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

● Japan
  » 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

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

Society Within Games

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