PMU199: Intro to Video Game Design

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About Steve

Teaching

- 10 years of teaching video game design
  - CSC404
  - PMU199
  - ROP299/399
- Game Design Focus

Level Up Showcase

- Student game showcase event
  - 16 schools
  - 2000+ attendees
  - Industry, media and general public attend.

Research

- Game design for:
  - Education
  - Seniors
  - Blind players
  - Rehabilitation
- Artificial Intelligence (AI):
  - Music generation
  - Terrain generation
  - Game AI
  - (Open data)

Watch Breakfast Television live
LIVE
7:34
NOW 5°
BT
7TH ANNUAL 'LEVEL UP' SHOWCASE
WED
EUROPE'S

>> [LAUGHS]
>> BECAUSE GAMES
STEVE ENGELS
COMPUTER SCIENCE PROFESSOR
CityNews.ca
6:51:36
G SPORTS HELPS KIDS, AND COMMUNITIES, IN A NUMBER OF WAYS.
CityNews

About PMU199

Course goals

- Making games vs playing games
  - Brainstorming
  - Designing
  - Developing
  - Refining
- Major skills
  - Agile development
  - Working with others
  - Dealing with failure

Where you come from

- Criminology
- Philosophy
- Humanities
- English
- History
- Life Science
- Computer Science

What we're expecting

- Novelty
- Insight
- Prudence
- Tenacity
- ~~Experience~~

Course project

- Teams of two.
  - Teamwork makes the dream work.
- Design options:
  - GameMaker, Stencyl, GameSalad, etc.
- Regular demos.
  - In-class & playtesting.
- Constant refinement
  - Responding to feedback.
  - Recording progress.

Course Deliverables

- Reflects industry milestones:
  - Creative Brief – conceptual description; includes key components and secret ingredients.
  - Design Document – everything but the code.
  - Alpha Release – the most basic game.
  - Beta Release – all the features of the final version.
  - Playtesting Demo – the final evaluation.
    - The public judges your game.
    - Including design blog & peer evals.
  - Also: Participation, design blogs, mini-demos.

Game Jam Activity

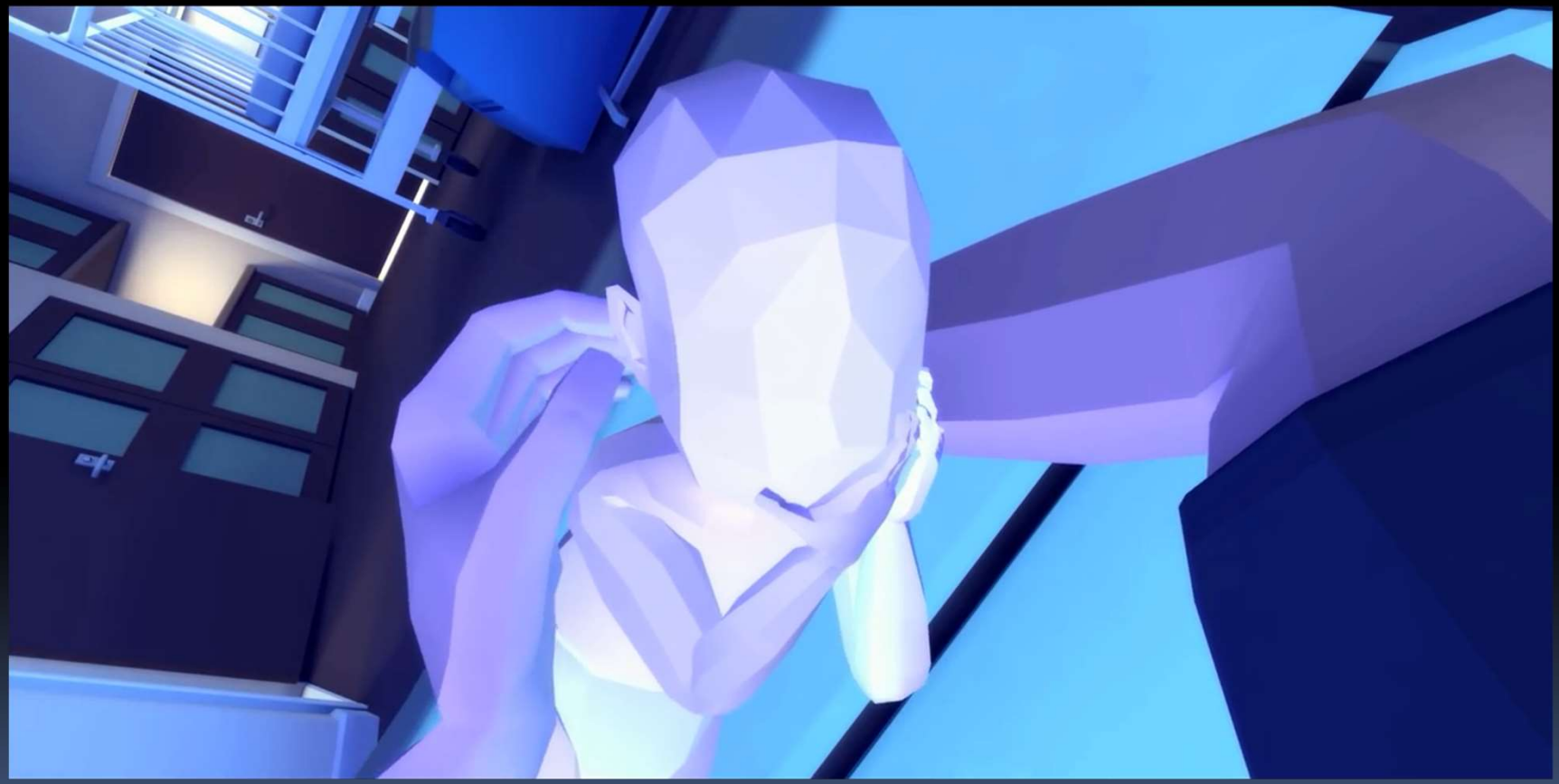
- Sat, Sept 16 in BA3200
- Basically, making a game in a super-short amount of time!
- Typical method for prototyping a game.
- Popular and prevalent around the community.
  - e.g. TOJam (on right)

Games for Change

- What are "games for change"?
  - http://www.gamesforchange.org/
  - "Games for Change empowers game creators and social innovators to drive real-world impact through games"
  - Examples:
    - Darfur is Dying
    - That Dragon, Cancer
    - Papers, Please

Darfur is Dying

That Dragon, Cancer



Games for Change

- Careful when choosing a topic for your game.
  - Cancer, for instance.
- Recommendation:
  - Environmental themes
    - Carbon footprints
    - Growth hormones
    - Water supply
    - Energy solutions
- Important to teach something.

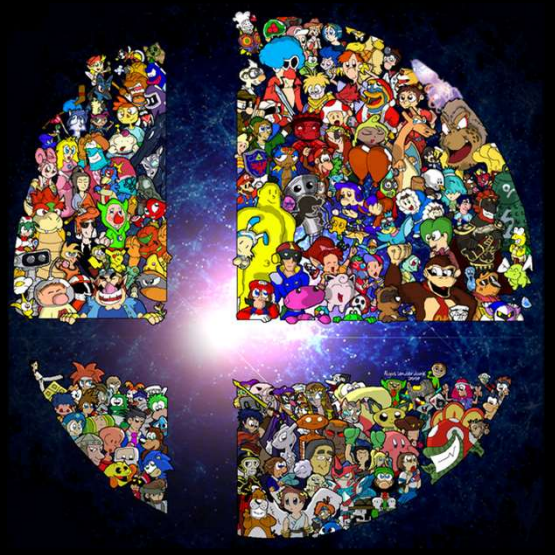
About Video Game Design

What's special about games?

- Interactive media.
  - Text < images < animation < games
- Feedback:
  - Immediate
  - Appropriate
  - Constructive (reinforcement/operant learning)
- Informal learning.
  - Multiple learning opportunities.
  - Scalability

The world of game design

- Video games are popular, but often misunderstood.
- Final Thought: what games are and what the world of game design can be like.



- Seven Things Steve Thinks You Should Know About Video Games.

#1 - Games are hard to define.

What makes a game?

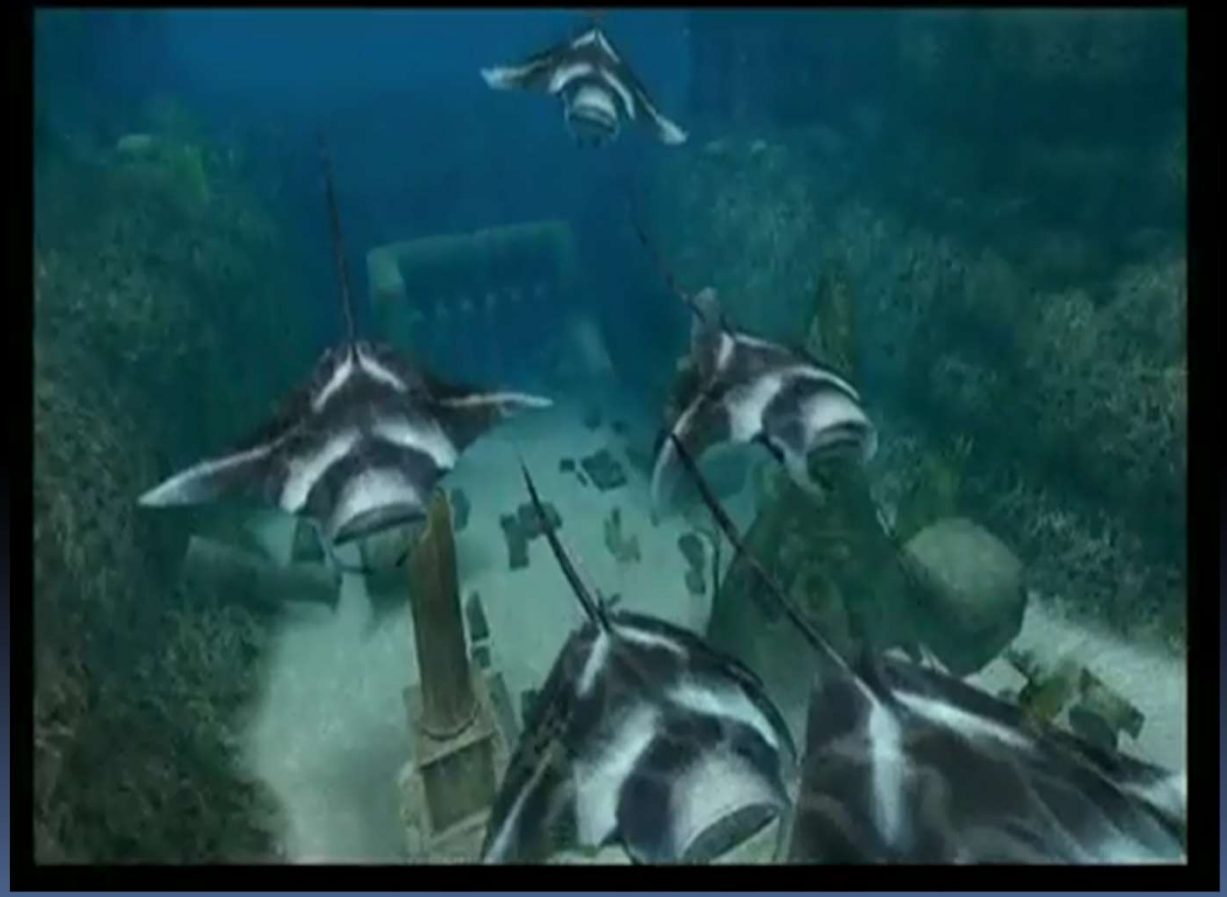
- Story?
- Characters?
- Action?
- Graphics?
- Controllers?
- Rules?
- Goals?
- Fun?
- …

Interesting examples

- Minecraft

Interesting examples

- Endless Ocean: Blue World



Interesting examples

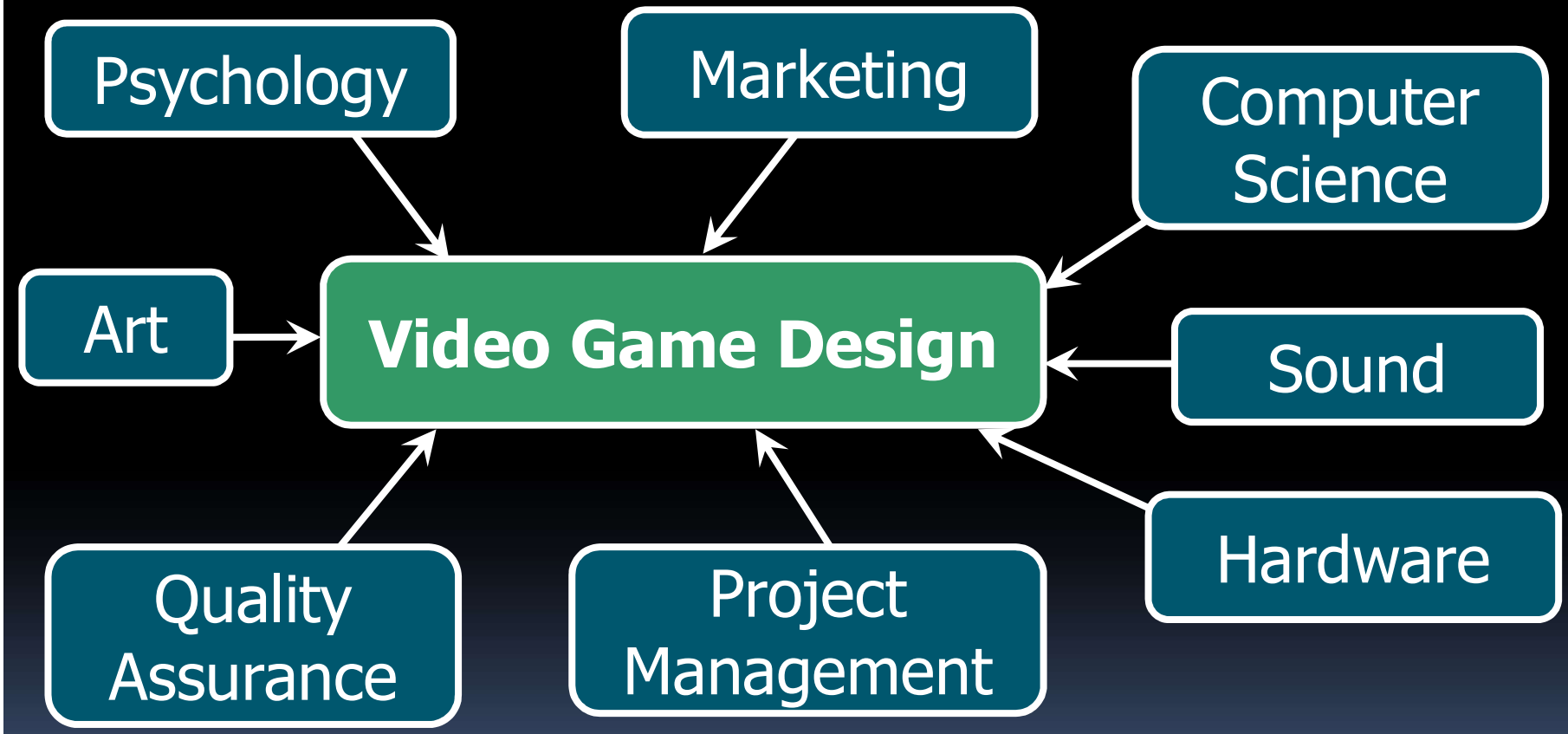
Passage

Interesting examples

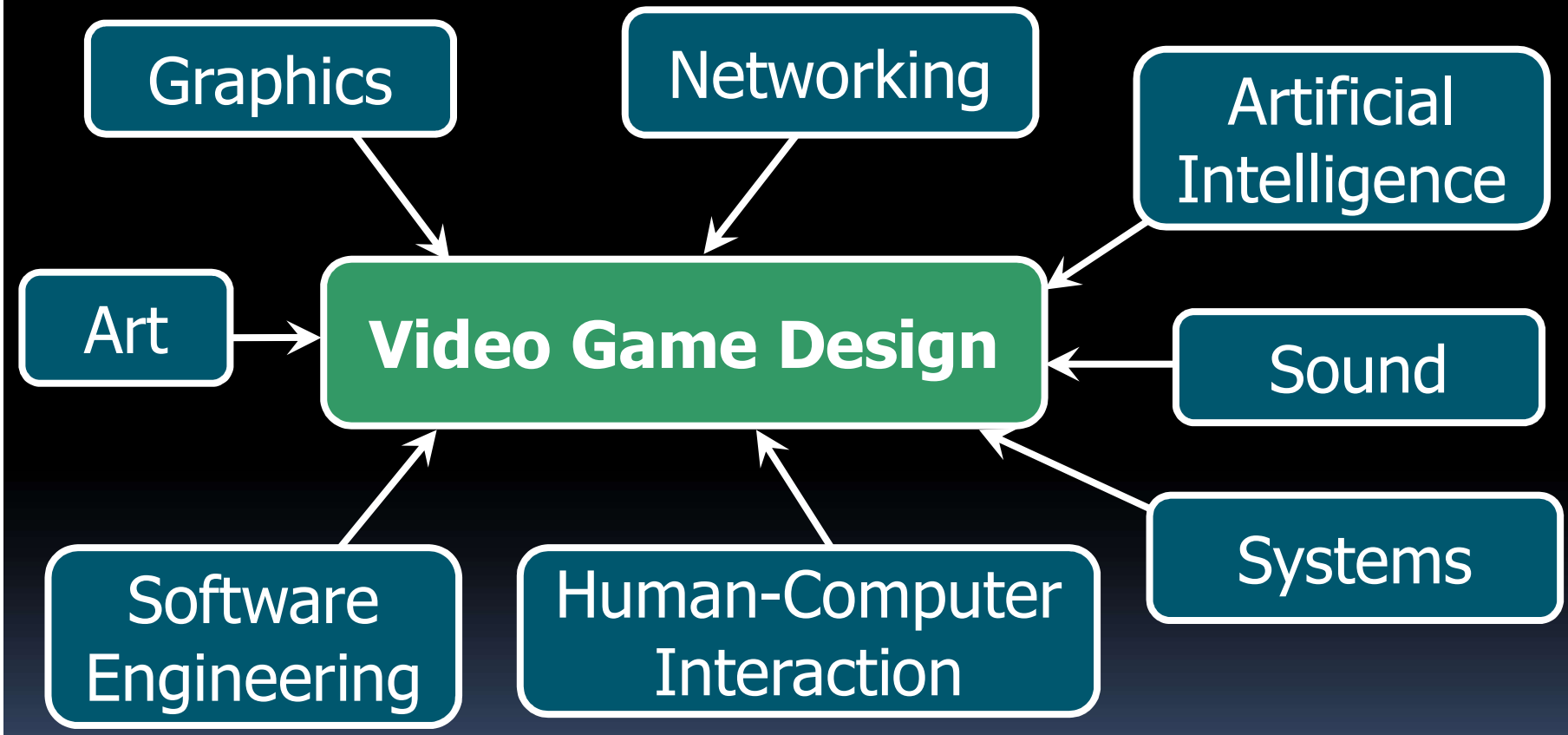
- Johann Sebastian Joust

#2 - Games are complex.

What goes into a game?



Within computer science



#3 – Game companies come in many shapes and sizes

Name some game companies…

How about these?

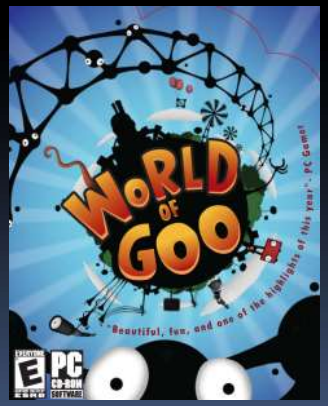
HARMONIX

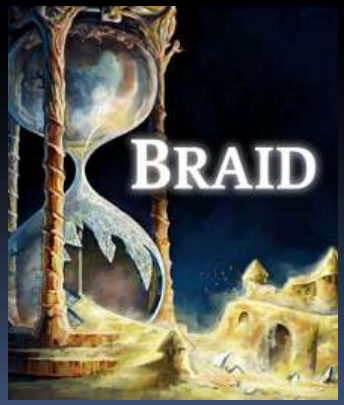
zynga

roxio

…and these?

2D BOY





AAA versus Indie

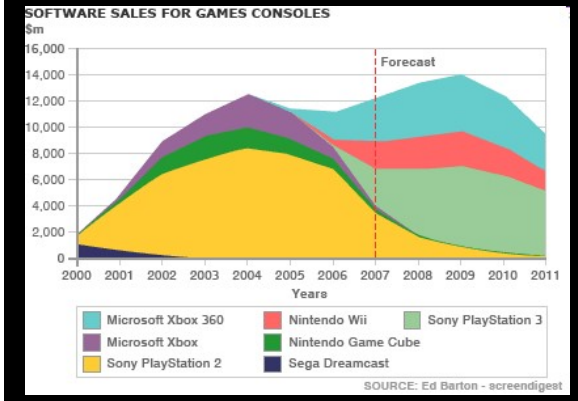
- Large game companies can afford to make blockbuster games, but indie companies can also make compelling game experiences.
- Completely different structures though:
  - Roles per person
  - Budget
  - Scope of project
- Toronto was mostly indie, until recently.

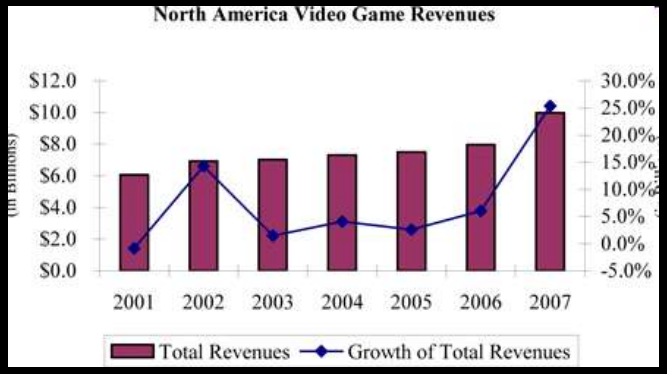
Types of game

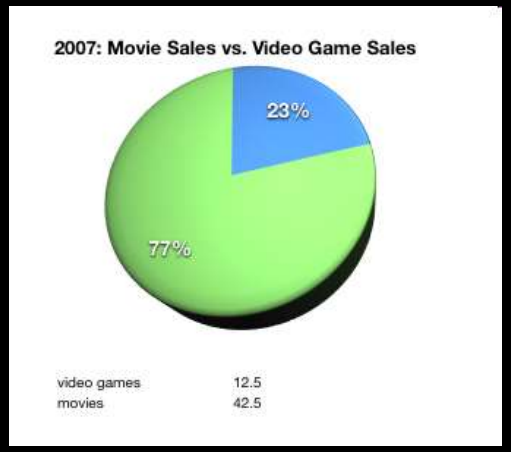
- PC & console games
  - MMORPGs
- Mobile games
- Social games

#4 – The game industry is growing

Money Money Money

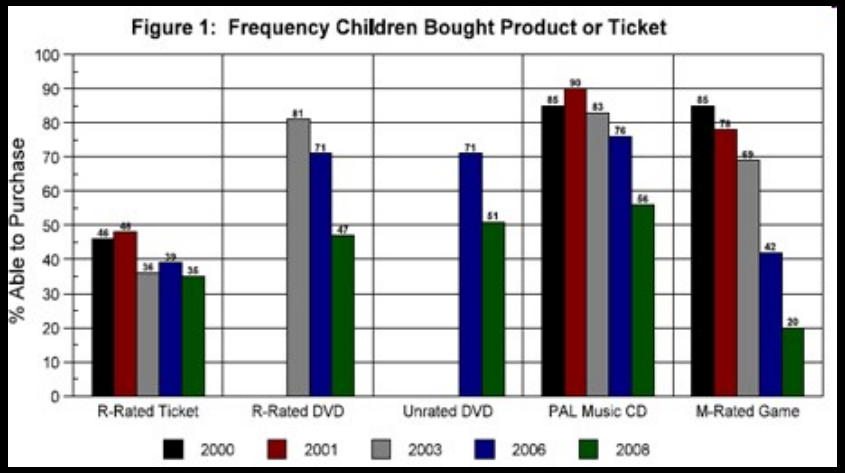


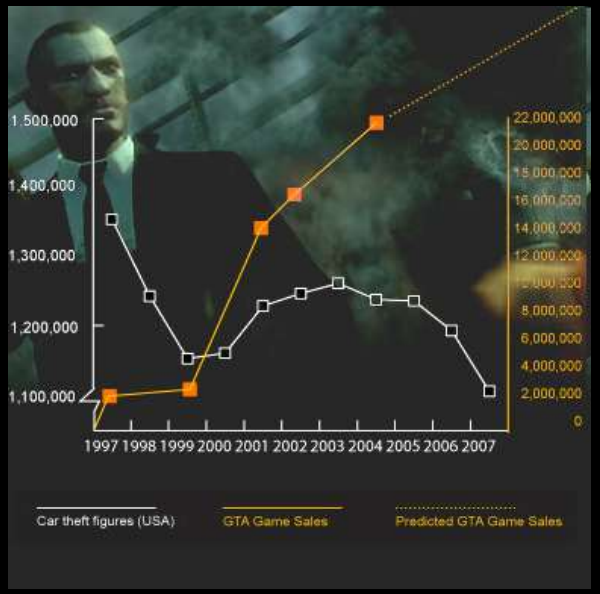


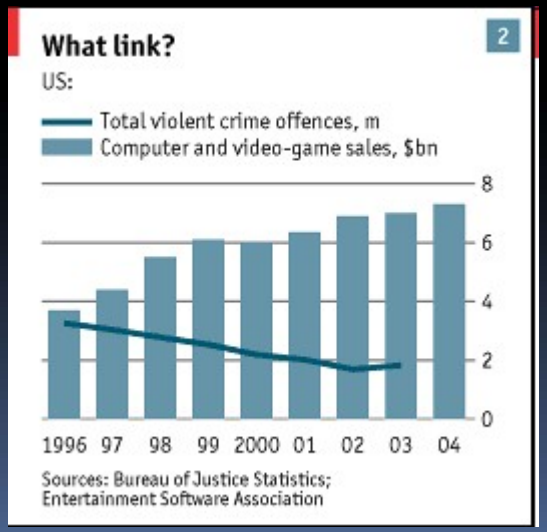


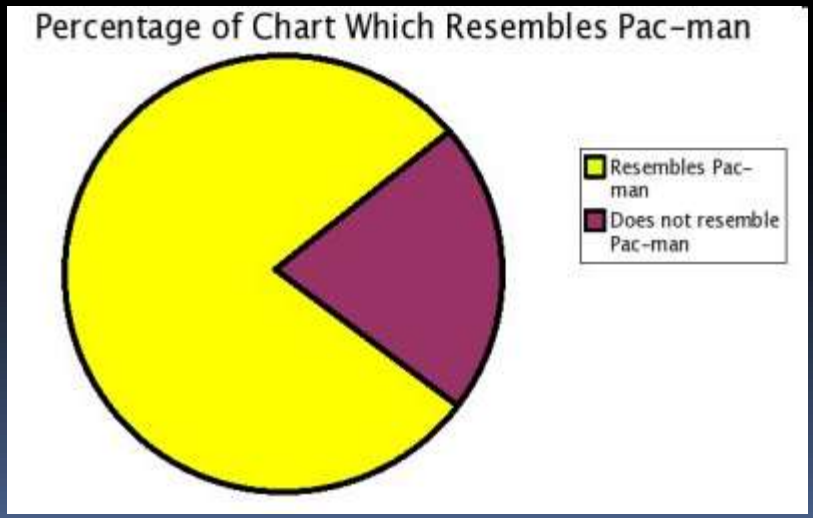
- GTA5 & Halo first-day sales:
  - Halo 3: $170 million
  - Halo Reach: $200 million
- Avatar:
  - $77 million

More Statistics..

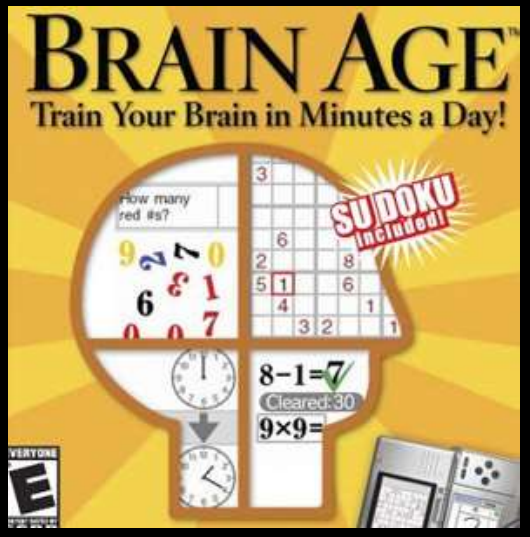


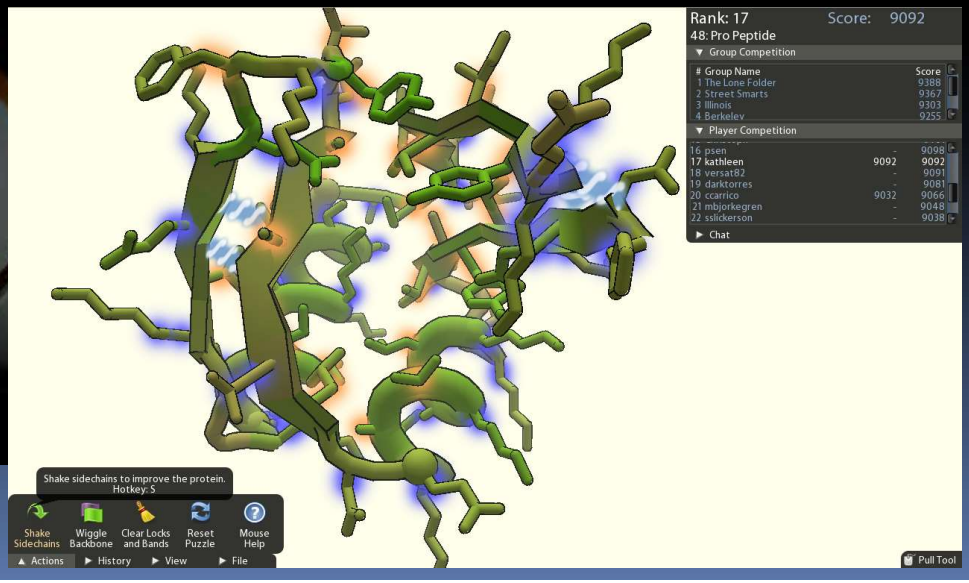






Beyond entertainment





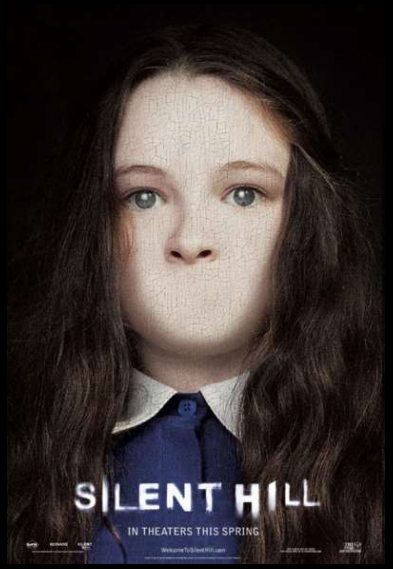
#5 – The game industry parallels the film industry

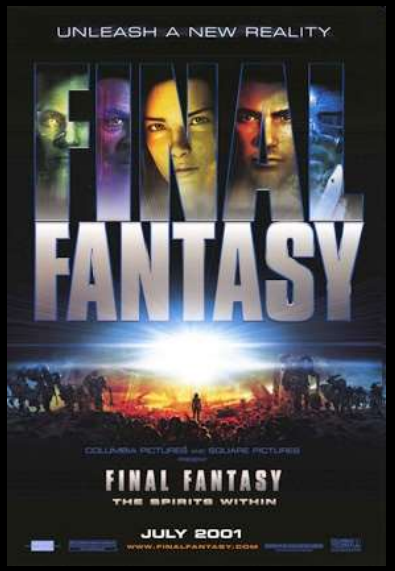
Game Genres

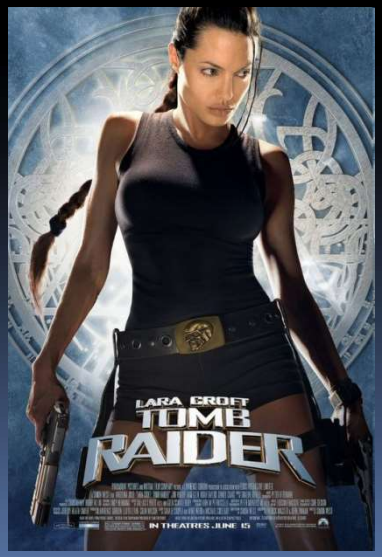
I've just been trying to collect my thoughts. I kind of have something to lay on you.
I love you.
Lay it on me, fool.
So I hear.
What's wrong?
Use Item
I guess I always knew.
Are you sure this isn't some kind of phase?
I had no idea.
IGN.COM

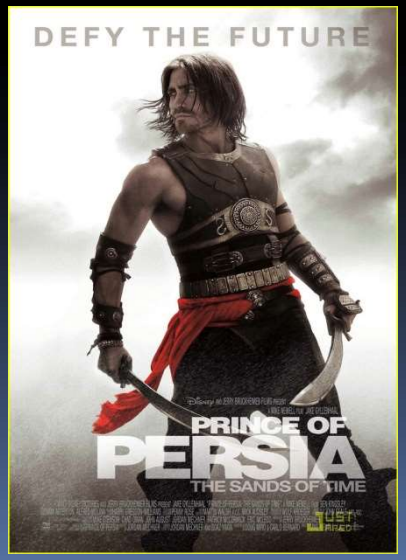
Games Based on Movies

Movies Based on Games

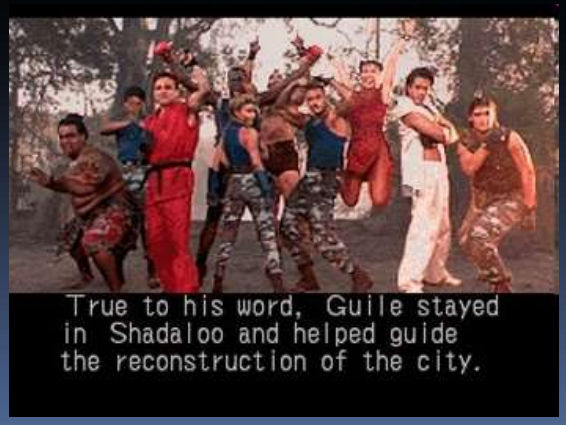




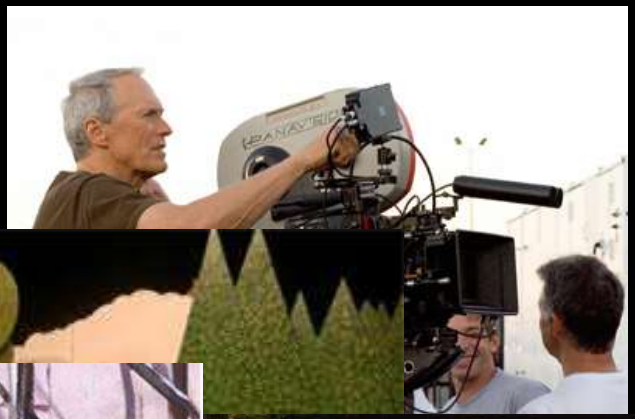


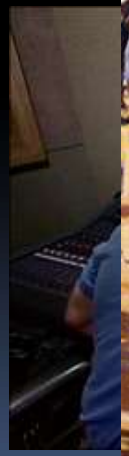


Games based on movies, based on games



Game company structure



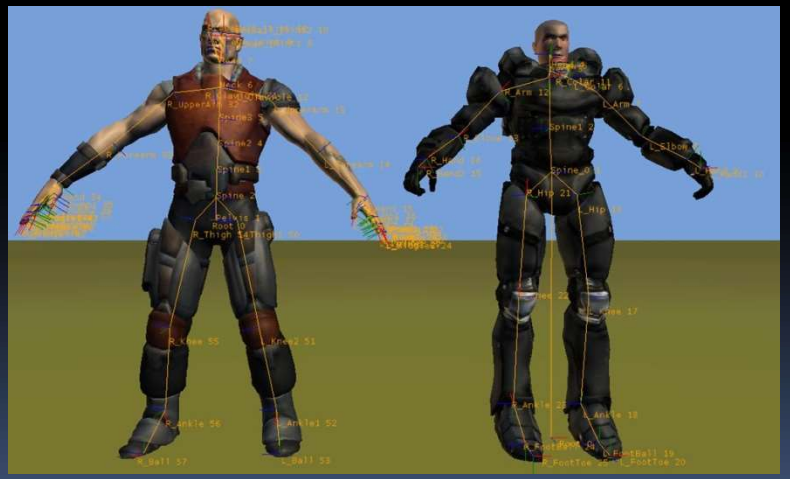


Game Design Team Roles

- Artists (two kinds)
  - Concept artists: design characters and levels.
  - Technical artists: work with the CGI team.
- Audio
  - Sound effects.
  - Voice acting.
  - Music.

Game Design Team Roles

- CGI
  - Creating objects and characters.
- Rendering
  - Drawing the objects and characters.



Game Design Team Roles

- Systems
  - Development tools & engines.
  - "Auto-smoke" tests.
  - Allocating resources.
    - Databases
    - Networking
- Quality Assurance
  - Often contracted externally.
  - Check that game plays as expected.

Game Design Team Roles

- Gameplay (AI)
  - Object behaviour.
  - Non-player characters (NPCs).
  - User interactions.
- Front End
  - Creates all game interactions, outside of the regular game play (menus, etc).

Game Design Team Roles

- Producer
  - Role can vary from company to company.
  - Responsible for either overseeing the group, or creating the overall vision of the game.
  - Needs to assign a price to each requirement.
  - High-level decisions during the development process are made by the producer.

Game Design Team Roles

- Marketing
  - Determines how to get the game to appeal to the target demographic.
    - Focus groups
    - Beta testers
    - Game metrics

#6 – Games always teach you something.

How to play the game

- Gameplay mechanics

- Strategy

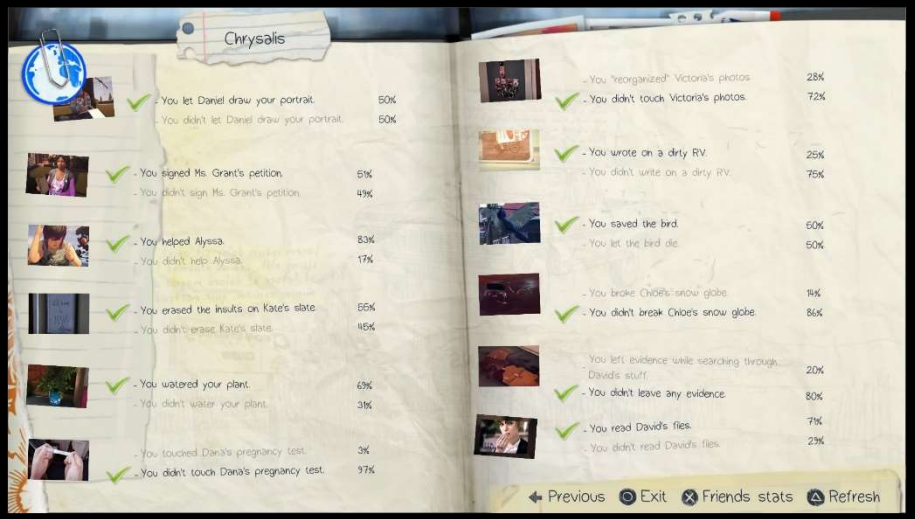
Higher-level knowledge

- Assassin's Creed

- Civilization

Morality

- Life is Strange



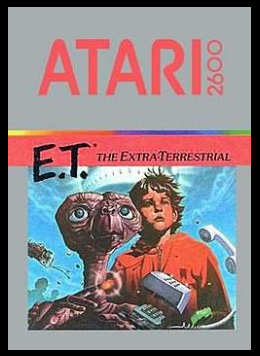
- Grand Theft Auto

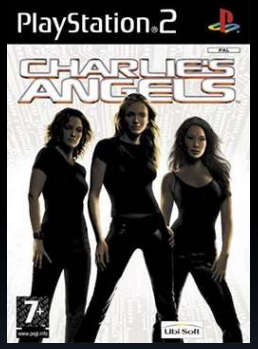
And finally…

#7 – Nobody tries to make a bad game.

Terrible movies

…and terrible games





So what can you do?

- Key elements:
  - Innovation
  - Planning
  - Drive
  - Testing
  - Promotion