

CIS 300

Introduction to Computer Game Design

<http://www.cis.cornell.edu/courses/cis300/2005sp>
<http://www.cs.cornell.edu/projects/game>

Lecture 3: Game Ideas, Challenges, and Genres
Spring 2004

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Announcements

- Reading so far: Chapters 1&2 of R&A
- Reading for Friday 1/28: Chapter 23 (pp. 313-327) of S&Z
- Assignment 1 due Thursday 1/27 12:00pm :
 - Submit project preferences (genres or specific ideas).
 - Indicate what aspects of development you want to focus on (programming, art, music, etc).
 - Provide a more detailed game design background (why you're interested in game design, what relevant courses, skills, and experiences you have).
 - This will be posted on CMS (<http://cms.csuglab.cornell.edu>) soon.
 - If you have trouble with CMS, mail assignment to mohan@cs.cornell.edu.

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Forming an idea: Approach 1

Start by figuring out the **genre, setting, premise, and overall narrative**.

- Easy to brainstorm this way
- Good settings can make a game seem very original
- Good for designing to a specific audience
- Can get trapped into genre conventions
- May not lead to great game mechanics
- Can lead to unfocussed, overly complicated games

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Forming an idea: Approach 2

Start by determining the **gameplay challenges** and the **core game mechanics**.

- Most truly original games have original mechanics
- Tends to lead to simplicity and elegance
- Difficult to brainstorm good gameplay
- Can lead to trite or overly abstract settings
- Difficult to sell to publishers

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Forming an idea: Approach 3

Start by thinking about what you want the player to **see, hear, and feel**; form the **user experience**.

- Can draw upon personal gaming experiences.
- Provides an excellent overall game vision
- Can exploit great technology
- Hard to turn into a cohesive game idea
- Often leads to very long development times

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Design Components/Schemas

These three approaches correspond to the design components specified by Rollings & Adams, and the design schemas described by Salen & Zimmerman.

- Approach 1
 - Storytelling and Narrative (R&A)
 - Culture (S&Z)
- Approach 2
 - Core Mechanics (R&A)
 - Rules (S&Z)
- Approach 3
 - Interactivity (R&A)
 - Play (S&Z)

Obviously, the best approach is a balance of all three.

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Where do Ideas come from?

For each of the three approaches, we can look in many places for inspiration:

- History
- Fantasy
- Literature
- Art
- Other Games
- Mundane Life
- ... really, anything

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Types of Challenges

Rollings & Adams list several categories of challenges:

- **Logic and Inference**
 - Puzzle solving, using strategy, defeating IQ challenges
- **Lateral Thinking**
 - Using knowledge in new and unusual ways
- **Knowledge**
 - Using real-world and in-game knowledge to overcome obstacles
- **Memory/Pattern-Recognition**
 - Predicting enemy behavior, seeing visual cues, recalling clues
- **Spatial Awareness**
 - Understanding game-world surroundings
- **Coordination/Timing**
 - Performing sequences of actions precisely
- **Reflex/Reaction Time**
 - Responding quickly and correctly to challenges
- **Strength/Speed/Stamina**
 - Demonstrating physical athletic ability

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Genres

- The word *genre* when applied to games does not mean setting or narrative archetype.
- A *game genre* is a category of games sharing challenge types and interaction models.
- Genres are not very well defined or consistent.
 - Some are much too broad
 - Some rarely occur except as hybrids

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Action Games

Action is the largest and oldest of the genres.

- Pinball and arcade heritage.
- Can be divided into combat and non-combat.
- Characterized by having to react under time pressure.
- Can be any setting, and almost any interaction model.
- Subgenres:
 - Shooter
 - Brawler
 - Platformer
 - Racer
 - Puzzler
 - Adventure
 - Rhythm
 - Gun
- Examples: Pac-Man, Asteroids, Galaga, Gradius, Gauntlet, Super Mario Brothers, Tetris, Doom, Street Fighter, Outrun, Afterburner, Ikari Warriors, Time Pilot, Smash TV, Zelda, Metroid, F-Zero, Super Monkey Ball.

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Strategy Games

Also a very old genre, strategy games started as digital versions of traditional games.

- Can be divided into real-time and turn-based.
- Real-Time is usually more tactical than strategic.
- Turn-Based is closer to board-game roots of the genre.
- Both often have a significant Construction and Management component.
- Examples: Civilization, Starcraft, Warcraft, Heroes of Might & Magic, Warlords, Populus, Worms, X-Com, Gettysburg

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Role-Playing Games

These are clearly descended from pen-and-paper RPGs.

- Distinguished by player-driven character advancement.
- Usually statistics/numbers heavy.
- Strong emphasis on story.
- Usually the player has a particular role (hero saving the universe).
- Fantasy setting most common.
- Console-style and PC-style very different.
- Examples: Wizardry, Ultima, Might & Magic, Dragon Quest (Warrior), Final Fantasy, Baldur's Gate, Diablo, Nethack, Pokemon, Elder Scrolls, Fallout, SSI games, Star Control 2, Planescape: Torment

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Sports Games

Possible the most popular genre, sports games appeal to casual and hardcore players alike.

- Realism usually important here.
- Sometimes very action-oriented.
- Can be based on a fantasy sport.
- Often a blend of action and strategy.
- Very unusual interaction model.
- Alternative (extreme) sports games are a little different.
- Examples: Madden, EA Sports, NBA Live, NBA Jam, Bases Loaded, Mario Tennis, Links, Cyberball, Tony Hawk, Punch-Out

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Vehicle Simulations

Rising to large extent from military training, simulators attempt to create an immersive single-player experience.

- Tend to be either ultra-realistic or super-fantastic.
- Realistic simulators have a heavy strategic component.
- Fantasy simulators are more action-oriented.
- Racing games are only sometimes in this genre.
- Subgenres:
 - Flight Simulators
 - Racing Simulators
 - Tank/Mech Simulators
 - Space Simulators
- Examples: Microsoft Flight Simulator, Test Drive, Gran Turismo, Mechwarrior, Battlezone, Wing Commander, Freespace, Jane's, FASA Battletech simulators

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Construction & Management Games

The defining game of this genre is SimCity.

- Usually play and omnipresent, godlike role.
- Resource management and economies are crucial here.
- Sometimes have no real victory condition. (toys)
- Can be scenario-based.
- Thrive on micro-management.
- Examples: SimCity, SimWhatever, Civilization, Railroad Tycoon, Theme Park, Dungeon Keeper, Populus, Black & White, Pharaoh

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Adventure

All adventure games are descended from the game *Adventure* (also known as *Colossal Cave*), a text adventure.

- Started as interactive fiction, like Zork.
- Graphics added later, and the "Quest" games were born.
- Always have an engaging story.
- Always involve use of items to bypass obstacles.
- The hybrid genre, action-adventure, probably deserves its own genre.
- Examples: Adventure, Zork, King's Quest, The Secret of Monkey Island, Myst, Grim Fandango, The Longest Journey.
- Hybrids: Star Control 2, Zelda, Metroid, Prince of Persia, Out of this World.

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Puzzle

Puzzle games are solo endeavors based on physical and pen-and paper puzzles.

- Have a set of rules and objects, and generate puzzles (levels) from them.
- Sometimes hybridized with action.
- Usually the core rules are very simple.
- Examples: Tetris, Panel de Pon, Chip's Challenge, Puyo Puyo, Q*Bert, Lolo, The Incredible Machine, Lemmings, FreeCell, Wetrix

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Artificial Life

The reason this genre exists is because of *The Sims*.

- Similar to Construction and Management games
- Nurturing
- Playing
- Watching
- Attachment
- Examples: The Sims, Petz, Pokemon

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Other Genres

There are a few other categories the don't quite fit elsewhere, or don't quite align with the above genres.

- Party Games
- Girl Games
- Digital Board Games
- Web Games
- Rhythm Games
- Adult Games
- Gambling Games
- Educational Games

In general, these are either too niche or too broad to be of much use in terms of categorization.

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Next Time

- Group formation
- Class division
- ...remember the reading, and [Assignment 1!](#)

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