WPI

IMGD 1001:
Fun and Games

WPI

Outline

- What is a Game?
- Genres
- What Makes a Good Game?

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What is a Game? (1 of 3)

- Movie?
  - No *interaction*, outcome fixed
- Toy?
  - No *goal*, but still fun!
  - Players can develop own goals
- Puzzle?
  - strategy and outcome is the *same* each time

"A computer game is a software program in which one or more players make decisions through the control of game objects and resources, in pursuit of a goal."

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What is a Game (2 of 3)

- A Computer Game is a *Software Program*
  - Not a board game or sports
  - Consider: chess vs. soccer vs. Warcraft
    - Ask: What do you lose? What do you gain?
  - Lose: 1) *physical pieces*, 2) *social interaction*
  - Gain: 1) *real time*, 2) *more immersive*, 3) *more complexity*
- A Computer Game involves *Players*
  - *Think* about your audience; the game is not for *you* but for *them*.
  - Don't just think about your story or the graphics or the interface, but consider the *players*.

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What is a Game (3 of 3)

- Playing a Game is About *Making Decisions*
  - Ex: what weapon to use, what resource to build
  - Can be frustrating if decision does not matter
  - Want good *gameplay* (major topic later)
- Playing a Game is About *Control*
  - Player wants to impact outcome
  - Uncontrolled sequences can still happen, but should be sparing and make logical
- A Game Needs a *Goal*
  - Ex: Defeat Ganandorf in Zelda
  - Long games may have sub-goals
  - Ex: recover Triforce first, then Sword of Power
  - Without game goals, a player develops his/her own (a toy)

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What a Game is *Not* (1 of 2)

- *A bunch of cool features*
  - Necessary, but not sufficient
  - May even detract, if not careful, by concentrating on features, not game
- *A lot of fancy graphics*
  - Games need graphics just as hit movie needs special effects, but neither will save weak idea
  - Game must work without fancy graphics
  - Suggestion: Should be fun with simple objects

"When a designer is asked how his game is going to make a difference, I hope he ... talks about gameplay, fun and creativity – as opposed to an answer that simply focuses on how good it looks." – Sid Meier *(Civilizations, Railroad Tycoon, Pirates)*

What a Game is *Not* (2 of 2)

- *A series of puzzles*
  - Most games have them, but they are not the game
- *An intriguing story*
  - Good story encourages immersion, but will mean little without good gameplay
  - Example: *Baldur's Gate* is a linear story.
  - Going wrong way gets you killed.
  - Not interactive: interaction in world all leads to same end.

Games are Not Everything (IM)

- Most important
  - I*s it fun, compelling, engaging?*
- Computers are good at interactivity
  - Allow for interactive fun
- Examples:
  - *SimCity*
    - Very compelling, but mostly no goals.
    - More of toy than a game, but still fun.
  - *Grim Fandango*
    - *G*ood visuals, story, etc., but need to do puzzles to proceed
    - Could have skipped to just watch story
    - Would still have been *fun* without the gameplay.

Outline

- What is a Game?
- Genres   (next)
- What Makes a Good Game?

Group Game: Game Types

- Break into groups based on month of birth in groups of 2 (combine so at least 2 in each group)
  - Spread out so can talk
- Brainstorm all game genres you can think of
  - Provide an example of each!
- Round-robin by group, say one genre on list
  - What other group has this? Show hands
  - If no-one else has it, you get a point!
  - Everyone, decide distinguishing features
- Team with most genres not on other lists wins!

Game Types

- What are some types of games?
- What separates them from others?

Arcade Games

- Reaction and speed are the most important aspects of the game
  - Examples: scrolling shooters, maze games like *Pacman*, paddle games like *Breakout*, *Pong*
- Relatively easy to make
- Normally 2D graphics
- Good in Flash

Puzzle Games

□ Clever thinking is the most important aspect
  ■ Many maze games are based on puzzle solving, rather than on reaction time
□ Also board games and sliding puzzles
□ Normally 2-dimensional
□ Relatively easy to create
  ■ Except when played against a computer opponent
  ■ Artificial Intelligence can be harder
    □ Ex: How to program the computer to play chess?
□ Good in Flash

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Role Playing Games

□ Steer a character through a difficult world
  ■ Examples are *Diablo* and *Baldur's Gate*
□ Development of character to learn new skills, more power, and find more stuff
□ Opponents become more powerful as well
□ Can create 2D or 3D
□ Generally harder to make because must create mechanism of character development
□ Also normally need large world
□ Good level design is crucial
□ Hard in Flash

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Strategy Games

□ Real-time (RTS) or turn-based
□ Player only indirectly controls the character
  ■ Tactics less important than Strategy
□ Examples include *Age of Empires*, *Warcraft III…*
  ■ Also, usually "God Games", such as *Black & White*
□ Generally take a lot of time to create
  ■ Require many different game objects, each with animated images and specific behavior
□ Hard in Flash

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Adventure Games

□ Game is about adventure and exploration
  ■ Story line is often crucial
□ Can be 2D or 3D
□ Actions easy (just move)
□ Difficulty is in making exploration/adventure interesting
  ■ Interesting, funny, and surprising story line
  ■ Corresponding artwork
□ Artists' role is crucial
□ Medium in Flash

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First-Person Shooters

□ 3D version of many arcade-style games (move and shoot)
□ Emphasis is on fast-paced action and reaction speed, not on cleverness and puzzle solving
□ Many examples: *Doom, Quake, …*
□ Need to be 3D
□ Relatively difficult to create because of models
□ Hard in Flash

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Third-Person Action/Platformer

□ Player directly controls a game character (avatar) through a hostile world
  ■ *Tomb Raider, Prince of Persia, Onimusha*
□ Often, not much emphasis on character development
□ Fast action and discovering the game world
□ Some have story line, other adventure game aspects
□ Can be 2D or 3D
□ Can sometimes be created easily
□ Good in Flash

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Sports Games

- Real-life sport, made virtual
- Ideas, rules in place
- Making realistic, challenging, fun like sport can be difficult
- Medium in Flash

Based on notes from Mark Overmars

Racing Games

- Really, special type of sports game
  - But pervasive enough to get own category
- Drive a vehicle, as fast as possible, or sometimes for exploration, or combat
- Either realistic…
  - *Formula 1* or *Grand Tourismo*
- …or focused on fun (arcade)
  - *Midtown Madness* or *Ridge Racer*
- Both 2D or 3D
- Medium in Flash

Based on notes from Mark Overmars

Simulators

- Try for realistic representation
  - Ex: flight simulators, *Trainz*
- Other simulations include world simulation
  - Ex: *SimCity* or *SimEarth*
- Relatively difficult to create since getting details right a challenge
- Hard in Flash

Based on notes from Mark Overmars

Party Games

- Variety of types
  - Ex: *Mario Party, DDR, Karaoke, Guitar Hero*
- Social aspects important with participants in the same space
- Allow for rapid change of turns
- Allow for disparate abilities (beginners and experts, both have fun)
- Good in Flash

Educational Games

- Entertainment games are great at teaching…how to play the game!
- Educational games are designed to teach player knowledge or skill that is valuable outside the game
  - Ex: math, reading, problem solving
- Medium in Flash

What Games are Played?

- Console gamers:
  - Action (30%)
  - Sports (20%)
  - Racing (15%)
  - RPG (10%)
  - Fighting (5%)
  - Family Ent. (5%)
  - Shooters (5%)
- PC gamers:
  - Strategy (30%)
  - Children's Ent. (15%)
  - Shooters (15%)
  - Family Ent. (10%)
  - RPG (10%)
  - Sports (5%)
  - Racing (5%)
  - Adventure (5%)
  - Simulation (5%)

The Entertainment Software Association (ESA)

What about Online Games?

- Grew from 38 million (1999) to 68 million (2003)
- Not just for PC gamers anymore
- 24% of revenues will come from online by 2010 (Forrester Research)
- Video gamers (2004)
  - 78% have access to the Internet
  - 44% play games online
  - Spend 12.8 hours online per week
  - Spend 6.5 hours playing games online

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Outline

- What is a Game?
- Genres
- What Makes a Good Game?   (next)

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What Makes a Good Game?

- "A great game is a *series* of *interesting* and *meaningful choices made by the player* in pursuit of a *clear* and *compelling goal*."
  - Sid Meier
- "Natural Funativity"
  - Need to have player develop a set of skills with increasing levels of difficulty
  - Putting them to the test = mission, quest, level, *etc.*
  - Prize at the end (or in the middle)

IMGD 1001   Chapter 2.1, *Introduction to Game Development (1st ed)*

Structure of Games

- Movies have linear structure
  - No choice by viewer
- Games must provide "interesting and meaningful choices"
  - Otherwise, user is not in control
- Random death is frustrating!

IMGD 1001   Chapter 2.1, *Introduction to Game Development (1st ed)*

Convexity of Game Play

- Need to provide choices
  - Start with few, leads to more (convex)
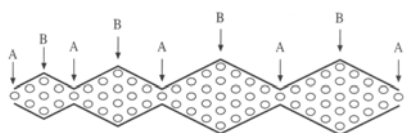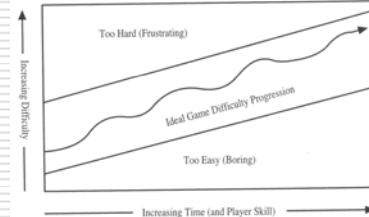 - Need to limit (hopefully, in natural way)
    - Items, terrain

FIGURE 2.1.6 *A series of convexities.*

IMGD 1001   Chapter 2.1, *Introduction to Game Development (1st ed)*

Flow

- Getting the balance right is the key to success

M. Csikszentmihalyi, "Flow, The Psychology of Optimal Experience"   FIGURE 2.1.8 *A better flow.*

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Convexity + Flow

□ Utilizing both can lead to a great game

Ideal Game Difficulty Progression
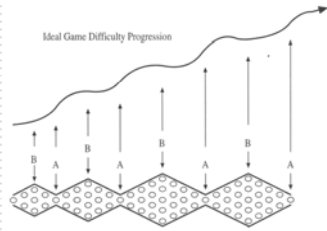
Few choices difficult (e.g. boss level, skill to master)
More choices provide a break (e.g. player hone skills)

FIGURE 2.1.9 *Better flowing through convexities.*

Chapter 2.1, *Introduction to Game Development (1st ed)*

Other Thoughts

□ Theatre:
  ■ Show, Don't Tell
□ Games:
  ■ Do, Don't Show

"Cut, edit, and cut some more until the writing is just as brief and concise as possible. At that point, the scene is probably about twice as long as it should be." -- Hal Barwood on Cut Scenes

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So, You Want to be a Game Designer?

□ Break into groups by favorite genre
□ Decide on a game idea
□ How will you:
  ■ Define goal(s)
  ■ Provide choices
  ■ Create and maintain player interest