IMGD 1001 - The Game Development Process: Fun and Games

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(with lots of input from Mark Claypool!)

Outline

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

What is a Game? (1 of 3)

□ **Movie? (ask: why not?)**
→ no *interaction*, outcome fixed

□ **Toy? (has interaction … ask: why not?)**
→ no *goal*, but still fun (players can develop own goals)

□ **Puzzle? (has goal + interaction … ask: why not?)**
→ 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."

Based on notes from Mark Overmars

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***
■ "No, Duh". But stress because *think* about 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*.
■ Ex: complicated flight simulator (say, you are a flying geek) but audience is beginner

Based on notes from Mark Overmars

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
    - ■ Ex: *Riven* uses train system between worlds
- ☐ 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)

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 effect ... but neither will save weak idea
    - ■ Again, may detract
    - ■ 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*
  - All games have them
  - But not gameplay in themselves
  - Puzzles are specific, game systems spawn more generic problems

- *An intriguing story*
  - Good story encourages immersion
  - But will mean nothing without gameplay
  - Example: *Baldur's Gate*, linear story. Going wrong way gets you killed.   But not interactive. Interaction in world all leads to same end.

Games are Not Everything

- Most important … *is it fun, compelling, engaging?*
  - And these come from a superset of games
- Computers are good at interactivity
  - Allow for interactive fun
  - *Interactive Media* and Game Development ☺
- Examples:
  - *SimCity*
    - Very compelling, but mostly no goals.
    - More of toy than a game, but still fun.
  - *Grim Fandango*
    - *Good* 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?

Game Types

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

Arcade Games

□ Reaction speed are the most important aspect of the game
- Examples: scrolling shooters, maze games like *Pacman*, paddle games like *Breakout*, *Pong*

□ Relatively easy to make

□ Normally 2D graphics

□ Good starting point for first game

Puzzle Games

□ Clever thinking is the most important aspect

□ Ex: Many maze games are actually more based on puzzle solving rather than on reaction speed

□ Other examples include 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?

Role Playing Games

- Steer a character through a difficult world
  - Examples are *Diablo* and *Baldur's Gate*
- Development of character to learn new skills, becoming more powerful, and finding additional and better weapons
- Opponents become more powerful as well
- Can create 2D or 3D
- Generally harder to make because must create the mechanism of character development
- Also normally need large world
- Good level design is crucial

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

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 crucial

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

Third-Person Action/Platformer

□ Player directly controls a game character (avatar) through a hostile world
- Ex: *Tomb Raider*

□ 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

Sports Games

□ Real-life sport, made virtual

□ Ideas, rules in place

□ Making realistic, challenging, fun like sport can be difficult

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

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

Party Games

- Variety of types
  - Ex: *Mario Party, DDR, Karaoke*
- 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)

Educational Games

- 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

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

Outline

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

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"
  - ■ Survival-skill training
  - ■ 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)

Chapter 2.1, *Introduction to Game Development*

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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!

Convexity of Game Play
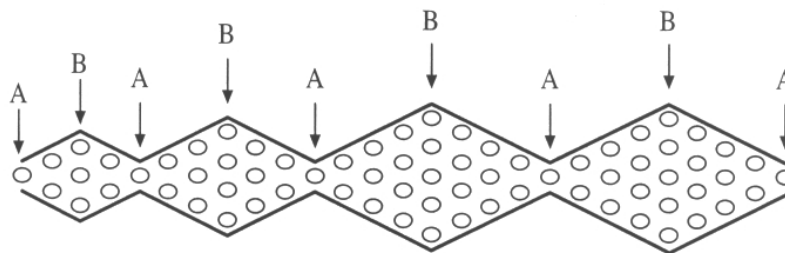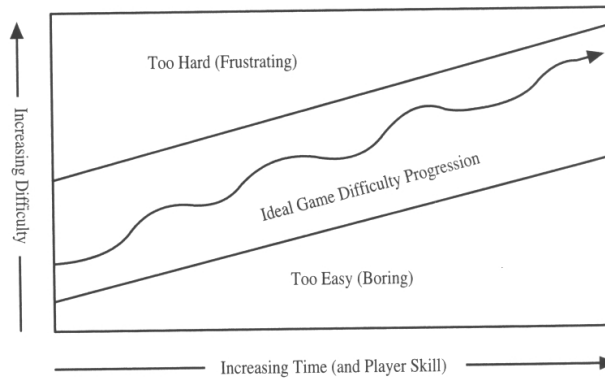
- ☐ Need to provide choices

FIGURE 2.1.6   *A series of convexities.*

Flow

☐ Getting the balance right is the key to success

Increasing Difficulty

Too Hard (Frustrating)

Ideal Game Difficulty Progression

Too Easy (Boring)

Increasing Time (and Player Skill)

M. Csikszentmihalyi, "Flow, The Psychology of Optimal Experience"

FIGURE 2.1.8 *A better flow.*

Convexity + Flow

☐ Utilizing both can lead to a great game

Ideal Game Difficulty Progression
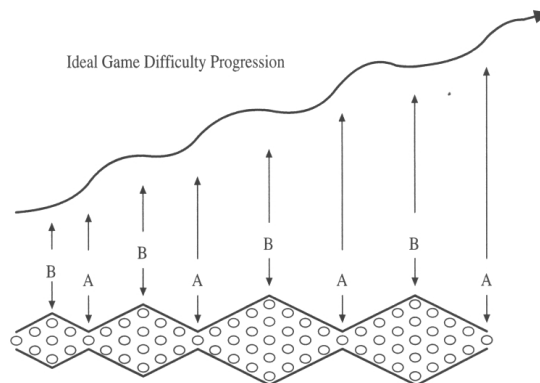
B   B   B

B   A   A   A   A

FIGURE 2.1.9 *Better flowing through convexities.*

Other Thoughts

- Theatre:
  - Show, Don't Tell

- Games
  - Do, Don't Show

- Hal Barwood on Cut Scenes
  - 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.