IMGD 1001 - The Game Development Process: Fun and Games

by

Robert W. Lindeman (gogo@wpi.edu)
Kent Quirk (kent_quirk@cognitoy.com)
(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."

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
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 is 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

Based on notes from Mark Overmars
**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

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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
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

Based on notes from Mark Overmars

Sports Games

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

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 Turismo*
- ...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%)

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What about Online Games?

- 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)

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)
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

![Graph showing the relationship between difficulty and flow](image)


Convexity + Flow

- Utilizing both can lead to a great game

![Graph showing convexity and flow](image)
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.