IMGD 1001:
Fun and Games

Robert W. Lindeman

Associate Professor

Interactive Media & Game Development

Department of Computer Science

Worcester Polytechnic Institute

gogo@wpi.edu

Outline

- What is a Game?

- Genres

- What Makes a Good Game?

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."

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. WoW
    - □ What do you lose?
    - □ What do you gain?

□ 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**.

- □ 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)

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

- ☐ Most important
  - ■ Is *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*
    - ☐ *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.

Definition Revisited

"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's missing from this definition?

Welcome to the Entertainment Business!

WPI

"To be boring is the worst sin of all."

Stanley Kubrick

Group Game: Game Types

- Break into groups based on month of birth (combine so at least 2 in each group)

- Spread out so can talk without others hearing

- 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 anyone else's list, 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 first games to build!

Puzzle Games

- Clever thinking is the most important aspect
  - Many maze games are based on puzzle solving, rather than on reaction time

- Other examples include board games and sliding puzzles

- Normally 2-dimensional

- Often include a timer

- 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 is crucial

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

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

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, 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)

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

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%)

R.W. Lindeman - WPI Dept. of Computer Science
Interactive Media & Game Development   *The Entertainment Software Association (ESA)*

25

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.*
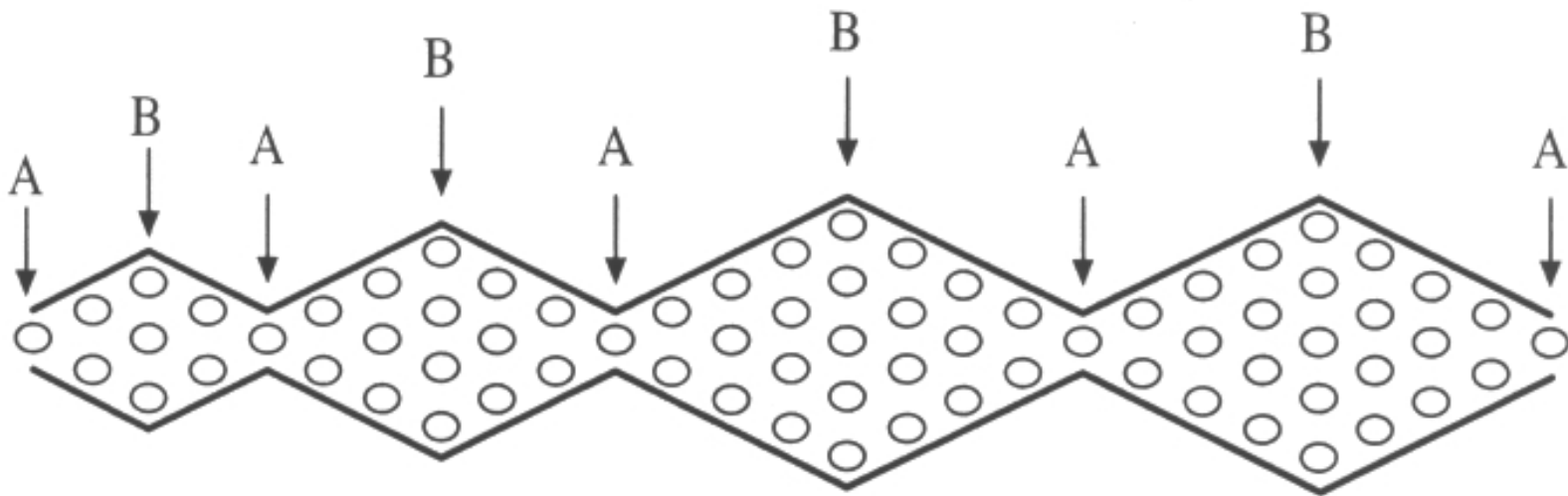 - Prize at the end (or in the middle)

Chapter 2.1, *Introduction to Game Development*

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!
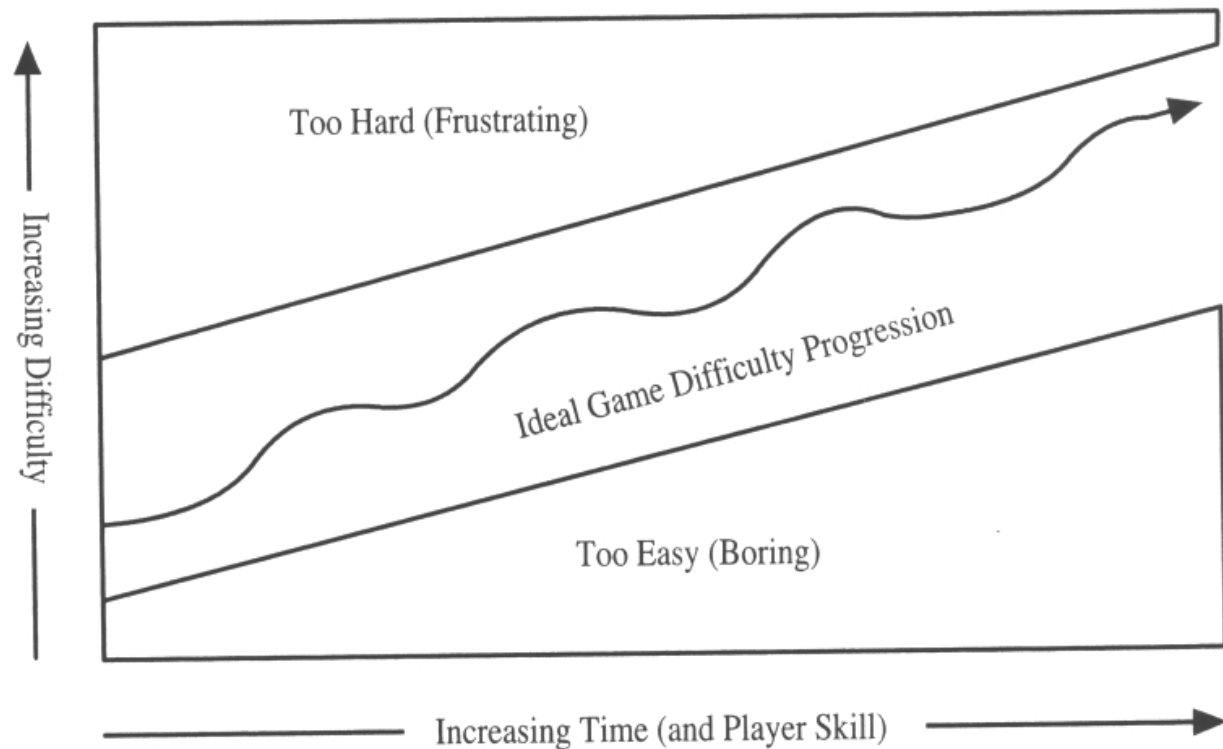
Convexity of Game Play

☐ Need to provide choices

FIGURE 2.1.6 *A series of convexities.*

Flow

- ☐ Getting the balance right is the key to success

FIGURE 2.1.8   *A better flow.*

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

Chapter 2.1, *Introduction to Game Development*

Convexity + Flow

☐ Utilizing both can lead to a great game

Ideal Game Difficulty Progression
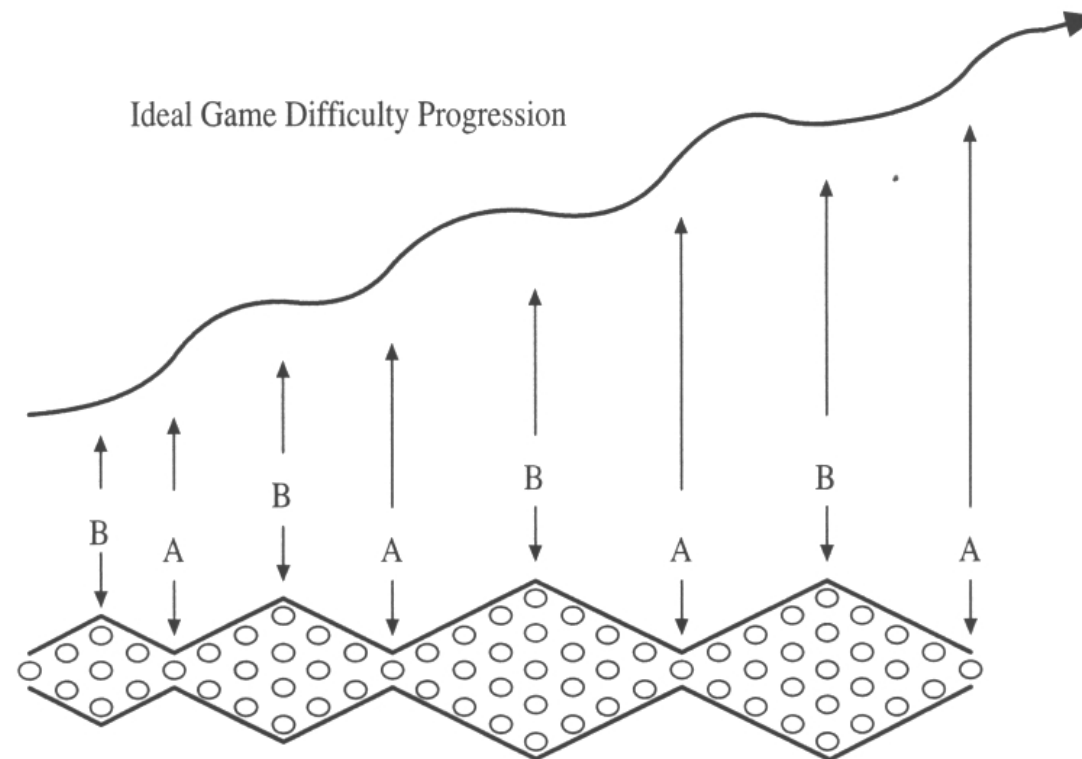
B
A
B
B
A
B
A
B
A

FIGURE 2.1.9 *Better flowing through convexities.*

Chapter 2.1, Introduction to Game Development

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.