IMGD 1001 - The Game Development Process: Anatomy of Level Design

by
Robert W. Lindeman (gogo@wpi.edu)
Kent Quirk (kent_quirk@cognitoy.com)
(with lots of input from Mark Claypool!!)

Outline

- Thud!
- A walkthrough of a Quake II level
  - q2dm1 -- "The Edge"
- A walkthrough of some level design decisions for 5 Card Dash
- A few heuristics
But First...

- IMGD New Student Welcome Event!
- Tonight, 5-7pm
- Fuller Labs 320
- Contests and Prizes!
- Bring your DS-Lites!

Thud!

- What did you come up with?
QuakeII-DM1

- Video (Q2DM1_Layout.avi)
  - level layout and architecture

Architecture

- Two major rooms
- Connected by three major hallways
- With three major dead-ends
- No place to hide
- Forces player to keep moving
  - Camping is likely to be fatal
Placement

- Cheap weapons are easy to find
- Good weapons are buried in dead ends
- Powerups require either skill or exposure to acquire
- Sound cues provide clues to location
  - Jumping for powerups
  - Noise of acquiring armor
- Video (Q2DM1_Weapons.avi)

Result

- A level that can be played by 2-8 players
- Never gets old
- Open to a variety of strategies
Changing gears just a bit...

A casual game
  - Poker crossed with Tetris

Levels are individual puzzles

- The designer's challenge
  - Devise a sequence of levels that makes the player feel successful
  - AND challenged
  - WITHOUT losing them to boredom or frustration
    - Remember Flow?

- Video (5CD_Intro.avi)
5 Card Dash Levels

- Level 1: introduce the concept
  - Easy minimum hand
  - Easy required hands
  - Add some prompts along the way -- but not all at once

- Level 2:
  - More prompts with new features
  - Still easy

5 Card Dash Levels (cont.)

- Level 3
  - Add wildcards
  - Prompt bonus cards
  - Teach a straight

- Level 8
  - Prepare for level 9

- Level 9
  - Same as 8, but:
    - facedown cards
    - sequential goal
    - Video (5CD_Level9.avi)
Heuristics for Level Design

- Figure out what you're trying to "teach"
  - Make sure the level design expresses a need for that skill

- Provide incentives for the "right" behavior
  - Powerups, weapons, etc.

- Keep Flow in mind
  - Don’t introduce too much at one time
  - Let people practice skills from time to time

Heuristics (cont.)

- Design for the game's features and capabilities
  - If you introduce, say, a new sniping weapon
    - Give it a long-distance target to practice on immediately
    - Create a level where it's the most important weapon
    - Then it's available to the player as a standard tool
  - If the engine bogs down in large outdoor areas...don't design one!