Foundations of Interactive Game Design (80K)

week three, lecture two
Today

- Quiz #1
- Demo, *Grow* v1 and v3
- Game rules, part 2
- Preview of next week
Quiz #1

10 minutes, use both sides of paper if necessary, closed book, no notes, no collaboration, etc
Grow v3
(the original, 2002)

Grow v3
Grow v.1
(added 2006)

Grow v1 demo
Grow games

• What are the operational rules?
• What are the constitutive rules?
• Yes, v1 is the “coin toss game” discussed in Salen & Zimmerman’s chapter
• What are the implicit rules?
Grow games

- They are puzzles with correct answers
- The complexity of the puzzle is directly connected to the number of options
- The fictional world makes it more interesting than “choose random things in the correct order” (constitutive)
- Understanding the world makes it easier
Rules, part 2
Rules of Play on rules

- Rules limit player action
- Rules are explicit and unambiguous
- Rules are shared by all players
- Rules are fixed and binding
- Rules are repeatable
Rules on three levels

• Operational: The “rules of play” of a game. Surface visible rules

• Constituative: Underlying formal structures “below the surface” of the rules presented to players. Logical and mathematical

• Implicit Rules: Unwritten, implied, rules for a game. Etiquette, good sportsmanship, access to play space, etc.
Play proceeds by turns. On your turn, spin spinner (chooses number from 1-6), move pawn many squares forward. Pawns may share squares. If pawn ends on picture square at bottom of ladder, go up it to final square....
... as a state machine

• 101 possible states: starting position + 100
• Input events: #1–6, generated randomly
• Transition arcs are (for most states) those for 6 possible inputs
• Most transitions are to state equal to current plus input, except chutes and ladders, which transition to arbitrary states
Chutes and Ladders

state 0
Constituative
*Chutes and Ladders*

• Instead of state machine, S & Z present adding/subtracting up to 100, plus translations of certain numbers into others

• There are multiple representations that make sense for any given logical structure

• The underlying structure could be re-skinned (new theme) and operational rules could change (e.g., die instead of spinner)
Implicit rules

• Social agreements about how games are played, which can vary by community

• Preventing bodily harm, fairness in face of the unforeseen (injury, weather), keeping things interesting (FPS camping, turn timing)

• Also physical givens: games meant to be played under earth gravity, players must be able to reach game pieces, etc.
More Juul on rules
Emergence & progression

- *Spacewar!* versus *Adventure*

- Rules of thumb versus walkthroughs

- *Grow* looks like emergence, but there’s no simulation — it’s progression

- Of course, most computer games include both — in a specific combination and balance (e.g., *Grand Theft Auto* series)
Many views of emergence

• Variation (*Pong*’s games all different)
• Patterns (strategies, *Quake* & *Counter-Strike*)
• Irreducibility (no shortcut to actual play)
• Novelty or surprise (rocket jumping, proximity mine wall-scaling)
• S & Z’s emergence ideas next week
Gameplay

- A result of the rules and player effort
- Small rule changes can significantly change gameplay (emergence)
- Player competence / repertoire determines what they can do
- Juul says “game design is about designing the rules so that actual strategies used by the players are enjoyable to execute.” p. 91
Next week
Next week

- Monday, Robert Mitchell, Sony Online Entertainment (open to campus)
- Wednesday, emergence discussion, prototypes, more
- Friday, Steven Dow, Stanford University (open to campus)
- Sections, turn in game concept document!