Foundations of Interactive Game Design (80K)

week five, lecture three
Today

- Quiz #2
- Experiencing play
- Game pleasure
- Preview of next week
Quiz #2

10 minutes, use both sides of paper; closed book, no notes, no collaboration, etc
Experiencing play
How do we play games?

• Early cognitive science, and AI, focused on *planning*. Model the world in the head, etc.

• This couldn’t deal with quickly-evolving situations, like battlefields or games.

• A new AI approach arose, focused on being in the world, using it as a resource, responding to it: e.g., Chapman and Agre’s *Pengi*, the “insects” of Brooks.
David Sudnow

- Jazz pianist, phenomenologist
- “We are physical beings, and known to the world through our bodies. We acknowledge that the natural body gives us extraordinary means of interacting with each other and with the world. It is a phenomenology of how we come to find our way about in the world...” *Herb Dreyfus*
Pilgrim in the Microworld

• A detailed account of learning to play, and learning about, a particular game.

• Learning in the mind, learning in the body, learning as an embodied thinker and player.

• Planning is a reality, but certainly not the only thing happening.

• It tells a story...
Memory, Interface, & Eyeball

- Arcade, his son, & public skill
- *Missile Command* at a party, a three-shot sweep, hooked
- *Breakout*, the neighbor, beginning to learn, beginning to analyze learning, first taste of the “slam” and deflection
“At first it felt like my eyes told my fingers where to go. But in time I knew the smooth rotating hand motions were assisting the look in turn, eyes and fingers in a two-way partnership. Walking a rainy street, you identify the dimensions of a puddle in relation to the size and rate of your gait, so the stride itself patters the style of your looking ... what you see...” — page 40-41
S&Z’s point

- S&Z connect this with Brian Sutton-Smith’s observations on video game play from *Toys as Culture* (1986)...

- Concentration: intense focus on play

- Visual scanning: seeing the whole screen

- Auditory discrimination: listening for events and signals

- Motor responses: physical actions with game controls

- Perceptual patterns of learning: coming to understand game structure
Cathexis, Strategy, & Clue

• Desire for closure (clear screen) awakened — thrill of final moments (proto-“boss”?)
• Noticing structure of experience, training
• Starting to rebel against it — using the reset switch
• Learning game’s mechanics, goal to break out quickly, clear in one ball, settling on five-shot opening
“Forget the computer. Breakout was a grid, an object with known fixed properties, no more an opponent than my piano or a layout of city streets.... There’d be a game in pitting yourself against another, but `the computer’ didn’t play against you, not once you’d memorized enough of its ways... It seemed my opening would do just fine to clear the screen with one ball.” — page 104-105
S&Z’s point

• Every game has a core mechanic: “The essential play activity players perform again and again in a game.”

• Many genres are named in a way that refers to core mechanics (jumping for the “platformer” or shooting for the “FPS”)

• *PoP:SoT* & *Braid* are variations on the same core mechanics — same play foundation
Core mechanics

• Thinking about your core mechanics is key — what will your players be doing?

• Variations on core mechanics are an important type of innovation: Alleyway
Practice & Coin

• Sudnow’s progress gets bogged down — practicing opening, improvement unclear

• But he also learns: to grasp the angles of deflection, the patterns of movement

• He realizes his approach has been mistaken — computer games are not composed of perfectible linear sequences
Two quotes

“You don’t so much ‘aim’ the ball, it seems, as you must somehow allow yourself to let the aiming take place through a private and inaccessible mode of communication between your eyes and hand.” — page 123

“As a player, I’d just picked the wrong skills to work on, that’s all, worrying about my gesture instead of the looks of things.” — page 178
More “Coin”

• “Sudnow” had practiced the five-shot opening, using the reset switch, never perfected it, got bogged down.

• Realization: “the learning curves of the skills, hence their very nature, and the enticements to play the game, these were engineered as two sides of the same coin. A quarter.” — page 163
S&Z’s point

- Designing an interactive experience is designing for a larger system:
  
  Player makes internal decision

  Game creates output  
  
  Player takes action

  But play is also improvisational...
Eyelights

- Backing off the reset, instead “planfully improvising a route by turning what looked like a mistake into an alternative way to go, using the quick breakthrough strategy as a guiding policy ... learning to see promising destinations” — pages 184-185

- Combining manual skill, understanding of simulated world, and flexible strategy
Opening up play

• “the new skill involves detecting previously unseen prospects for programmed action” and thinking ahead — page 186

• The manual skill doesn’t have the nuance, or reward the practice, of piano playing

• But the new skill can also be played — the *Missile Command* pan, but more complex: “these colorful little creatures under glass ask for experimental playfulness” — p. 196
Bringing it together

- At the end of “Eyelights” the narrator has found pleasure in using his newfound skill for play not structured by the game.
- But he learned the skill by playing the game.
- And (poetically?) these combine to the extra-game goal: clearing in one ball.
Key ideas for us

- Pleasures (and learning) of play
- Hand — gaze — anticipation: elements of play and experiences to design
- Core mechanics and variation
- Improvisation, rather than just planning
- Another way to think about “flow”
Games and pleasure
Games and pleasure

- Gameplay is *autotelic* (its own reward)
- Gameplay is intrinsically motivating (that’s why people try to harness it...)
- But this is only when it’s well designed — need to establish in the first few minutes
- We might think of Caillois’s categories of play as a matrix of play’s pleasures
Flow returns

Mihaly Csikszentmihalyi’s description of the pleasure (and problems) in challenges
Flow’s characteristics

First, the experience usually occurs when we confront tasks we have a chance of completing.

Second, we must be able to concentrate on what we are doing.

Third and fourth, the concentration is usually possible because the task undertaken has clear goals and provides immediate feedback.

Fifth, one acts with a deep but effortless involvement...

Sixth, enjoyable experiences allow people to exercise a sense of control over their actions.

Seventh, concern for the self disappears, yet... the sense of self emerges stronger...

Finally, the sense of the duration of time is altered...
Designing for pleasure

• The progression of skill and challenge that is a prerequisite for flow

• The “same but different” variations on a core mechanic that draw people in

• The preconscious entrained rhythms we learn for platform jumping, combat combos, vehicle cornering, etc
Designing for pleasure

• Not just the momentary pleasure of the well-designed core mechanic, but a long-term goal

• Not just a long-term goal, but short-term goals as well

• Subgoals at different levels of granularity, with player choice and construction, the concept of player intention (will return)
Conditioning

• Sudnow realized arcade games condition — and so have many designers and scholars
• Positive reinforcement (getting the good)
• Negative reinforcement (removing the bad)
• Punishments (adding something bad)
• Games moving from punishment (*death!* to positive reinforcement (*achievement!*))
Reinforcement schedules

- Fixed ratio (every $n$ times)
- Fixed interval (every $n$ minutes)
- Variable ratio (slot machine)
- Variable interval (random timer)
- Games with “too many” rewards or punishments are boring, but finding the right schedule is tricky (playtesting)
Next week
Next week

- Prototypes due
- More on games & meaning: political meaning, narrative meaning
- Guest speaker: Richard Hilleman, EA CCO