Foundations of Interactive Game Design (80K)

week five, lecture two
Today

• Announcements
• The concept of flow and why we do things
• Jenova Chen’s games
• The concepts of agency and intention
• Computational prototypes
Another playtest opportunity

• Playtest for innovative 172 game Pattern
• Friday April 29th, 2-4 pm in Baskin 368 (undergraduate game lab)
• If interested, email cvossen@ucsc.edu
• As always, extra credit is available
Computational prototype sessions

- Optional feedback / help / brainstorming
- ~5 reader/tutors there the whole time
- Friday, April 29, 11am–2pm, Jack's lounge
- Monday, May 2, 2–5pm, Jack's lounge
- A good idea to get input before your stand up presentation in front of your section
Flow
Why do we do things for their own sake?
What makes us feel meaning and happiness?
These exceptional moments are what I have called "flow" experiences. The metaphor of flow is one that many people have used to describe the sense of effortless action they feel in moments that stand out as the best in their lives. Athletes refer to it as "being in the zone," religious mystics as being in "ecstasy," artists and musicians as "aesthetic rapture."

— Mihaly Csikszentmihalyi
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...
HOW DOES IT FEEL TO BE IN FLOW?

1. Completely involved in what we are doing – focused, concentrated.
2. A sense of ecstasy—of being outside everyday reality.
3. Great inner clarity—knowing what needs to be done, and how well we are doing.
4. Knowing that the activity is doable—that our skills are adequate to the task.
5. A sense of serenity—no worries about oneself, and a feeling of growing beyond the boundaries of the ego.
6. Timelessness—thoroughly focused on the present, hours seem to pass by in minutes.
7. Intrinsic motivation—whatever produces flow becomes its own reward.

Mihaly Csikszentmihalyi
Flow

Mihaly Csikszentmihalyi’s description of the pleasure (and problems) in challenges
Obviously, games can help produce flow
Jenova Chen’s games

Presentation by Jon Gill
Flow is part of what makes games enjoyable

But we might say it’s only “one kind of fun”
Flow reconsidered

• “Here's all the motivation you'll ever want: get that action again, those last few bricks left and that eery lobbing interim as the ball floats about so you never know when it'll hit and you don't dare try placing a shot because you're more than happy just to hold on with your eyes glued to the ball.”

  — David Sudnow

• A valuable, partial concept
Flow reconsidered

- An attractive theory — the best parts of gameplay clearly seem to be flow
- But this theory of “exceptional moments” probably overused/extended in discussing everyday gameplay
- Think of your own play experiences — some flow, but not first and always
Other psychological pleasures

• Emotional activation — optimistic focus on what we’re good at

• More satisfying work — clear goals, actionable next steps

• Better hope of success — a task we know we can succeed at

• Being part of something bigger — epic!

• For more see Reality is Broken
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)
Agency and Intention
E.T.

• Repeatedly called “the worst video game of all time”
• Blamed for early industry’s crash
• What makes it so very bad?
E.T.’s problems

- Might be development time — five weeks, difficult platform, playtesting unlikely
- Might be fictional world — does E.T. do anything in the movie that we want to do?
- Might be almost anything — let’s try playing
E.T.: The Extra-Terrestrial

- Running in emulator
- Controls: F2 starts, arrow keys move, spacebar is contextual action (icon at top)
- What do you notice?
E.T.’s problems

- There might be fictional world problems — there are no pits in the movie
- There are definitely playability problems — manual includes three discussions of levitating out of wells
- Creates agency problems

Raiders was better
Agency
1997 — Hamlet on the Holodeck

How do we combine what games have . . .

Janet Murray asks . . .

with fiction?
1997 — Hamlet on the Holodeck

- Good games don’t just have *activity*
- Good games don’t just have *participation*
- Good games have “the satisfying power to take meaningful action and see the results of our decisions and choices” — *agency*
1999 — Formal Abstract
Design Tools

What makes Mario 64 so good?

Doug Church asks . . .

And how can understanding that help us formalize concepts for discussing game design?
1999 — Formal Abstract

Design Tools

• *Mario 64* has simple and consistent controls offered for movement, & predictable physics, enabling intention

• “A clear reaction from the game world to the action of the player” — perceived consequence

• Also relates to story...
Agency and Intention

• Murray’s *agency* is “the satisfying power to take meaningful action and see the results of our decisions and choices” with actions that are chosen and related to the players’ intentions

• Church’s *intention* and *perceived consequence* encourage a “process of accumulating goals, understanding the world, making a plan and then acting on it” with “a clear reaction from the game world to the action of the player”

• Let’s talk about them together...
Agency and Drama

• Mateas integrates Murray’s agency into Laurel’s neo-Aristotelian drama

• Agency is not “freedom to do anything,” but rather having the material affordances to take actions suggested by the formal affordances of the dramatic situation

Games like *Quake* balance formal and material affordances (e.g., kill everything that moves) and *Façade* attempts to balance them for gameplay inspired by kitchen sink drama
Agency and Computational Models

- *Eliza/Doctor* suggests talking about problems (formal) and provides a means (material)

- Starts with expectation, but breaks down:
  Can I ask you for help
  DO YOU WANT TO BE ABLE TO ASK I FOR HELP

- The consequences of player action must preserve/build dramatic probabilities

- The consequences come from the system

- Agency requires building a computational model and player understanding of it
Agency and Interfaces

• Dow studied players of AR Façade

• They felt more present, but this created an expectation gap w/ system

• Increased sense of presence and realism can decrease agency — harder to build system model from wrong expectations

Strong dramatic signaling in affinity game — but not in therapy game. Players still believed they could potentially have agency during therapy, as established by affinity.
Agency and Improvisation

• Church’s discussion of intention in terms of goals and plans sounds like dated CogSci/AI. Plans are resources for improvisational action.

• Hocking discussed intention as balancing action’s composition and execution phases.

• In *Far Cry 2*, design to balance these at medium timescales didn’t work out.

• Instead, rapid movement between phases — forced plan failure and low consequence — encourages and supports *improvisational* play.
An integrated view
Integrated view of agency

- We can see agency as a phenomenon involving both game and player.

- Agency occurs when the actions players desire are among those they can take as supported by an underlying computational model.

- Designing for agency is balancing the dramatic probabilities of the world with the actions it supports — enticing players to desires the game can satisfy.
Summarizing agency

- Supporting agency requires employing or crafting a computational model of the play domain suggested by the work’s dramatic probabilities, for intention and consequence.

- Can be a simple model, but game must transition audience from initial expectation to (implicit) model understanding.

- Interface is key to expectation — and more “natural” interfaces (AR, voice) set it wrong.

- Action more improvisational than assumed.
Agency and design innovation

- Agency discussion has been driven by those interested in innovation
- But agency’s importance may actually explain design’s conservative tendencies
- Well-developed computational models exist for movement, combat, and resource management — not story, interpersonal dynamics, or political ideology (for example)
- What would a game be like that is about what *E.T.* the movie is about?
Computational prototypes
Design questions

- How will a core spatial/control mechanic feel? (Interface-in prototyping)
- Will the emergent NPC/enemy behavior be what we expect? (AI prototyping)
- Are the permutations balanced relative cost? (Unit customization testing)
- Good flow of narrative and space?
- Do the systems interact as expected? (Combos of resources, combat, other rules)
- Will the visual aesthetic be achievable and appropriate? (Design/tech border question)
Computational prototypes

- For next week, at least show your core mechanic and world working together
- Answer additional questions if time permits
- You will demo prototypes in section
- You must turn them in by putting in the right folder, naming the right name — test it works on another computer!
- Questions?
Extra papers at front of room