Foundations of Interactive Game Design (80K)

week five, lecture three
Today

- Quiz
- Reminders
- Agency and intention
- Returning to operational logics, if time permits
- What’s next?
Quiz
Church’s essay discusses:

A: Perceivable consequence
B: Fullerton’s formal elements
C: Juicy feedback
D: Building on the vocabulary of film
E: None of the above
George Fan says the best content for a help screen is:

A: Mechanics introduction
B: Theme introduction
C: Strategy tips
D: List of units and abilities
E: A joke
Mateas’s essay integrates

A: Hunicke et al’s MDA and von Neumann’s game theory

B: Church’s intention and Bogost’s neo-Platonic theory

C: Juul’s game definition and Czikszentmihalyi’s flow

D: Murray’s agency and Laurel’s neo-Aristotelian theory

E: None of the above
Reminders
Schedule updates due in section next week!
Must name prototypes correctly, test on another machine
Playtest Fest today until 4pm

DANM opening today at 5:30pm
Agency and intention
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*

The players’ actions have effect, but the actions are not chosen and the effects are not related to the players’ intentions.
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...

This process of accumulating goals, understanding the world, making a plan and then acting on it, is a powerful means to get the player invested and involved
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...
but first
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 and intention more deeply
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 \textit{material affordances} to take actions suggested by the \textit{formal affordances} of the dramatic situation

Games like \textit{Quake} balance formal and material affordances (e.g., kill everything that moves) and \textit{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.
- If we want players to experience agency with part of a game, we need a computational model for it.
- What would a game be like that is about what *E.T.* the movie is about?
Operational logics are the building blocks
Operational logics

Game
State
Presentation

Computational Process

Player Experience
Operational logics

• A communicative goal — “virtual objects can touch”

• combined with an abstract process — “when two coordinate spaces overlap, do something”

• supporting ongoing media (re)presentation and audience experience
Implemented in many ways

- When you play *Pong* on an Atari VCS, the 2D collision detection is implemented *in hardware*.

- When you build a game using XNA, the 3D collision detection is implemented *in software*.

- Obviously, implementations differ fundamentally, but the logic — that virtual objects can “touch” — is the same.
Logics matter to players

- Logics aren’t just dry “rules” of games — they are how the world is alive
- We see this in online videos of collision detection
- They don’t focus on showstopping bugs or everyday occurrences, but on humor and surprise at the world’s fundamental operations being violated
For example...
Further meanings

- Basic operational logics are articulated with game systems and themes
- Meaning approaches become conventional: running into walls, picking up objects
- Games build on this conventional knowledge like film builds on our familiarity with cross-cutting, etc
Graphical logics

- Graphical logics are the abstract operations and communicative goals associated with movement, collision detection, and physics

- Movement – objects move in space
- Collision – object overlap triggers events
- Physics – movement governed by laws
Isn’t this just graphics?
Many games use default logic for time — whatever gets processed next. So old games run too fast (time tied to clock speed).

Some games speed up and slow down time (e.g., bullet time in *Max Payne*).

Other games have reversible time, overlapping timelines (“collaborate with yourself”), even time travel mechanics.
Many games use “what happens next” for story progression. Lock and key to control

**Quest flag** logic for quests / missions (milestone-based progression)

**Dialogue tree** logic for NPC interactions — discussion, provocation, quest acceptance/completion, etc (directed graph)

The interfaces change, the underlying logics remain.
You can use board games to physically prototype fiction logics

... and to see how well they work in terms of agency
Haunted houses are about the unknown.

Board built of tiles as house is explored.
Haunted houses are about the unknown. At unknown time, switches to asymmetric competition w/ hidden info.

Betrayal at the House on the Hill.
Betrayal, logics, and agency

- **Expectations.** Haunted house genre conventions sets strong expectations

- **Dramatically probable actions.** Logics support exploration, combat

- **Perceivable consequence.** It’s a board game, so system is visible

- **Understanding the model(s).** There’s a lot of randomness, players understand that quickly, and it fits the genre/theme — but they can’t be Prof. van Helsing
Upcoming

• There is online reading for Monday (linked from syllabus)

• Computational prototypes and schedule/progress updates due in section next week

• Game help session next Friday, noon-1:30 in Jack’s Lounge

• Short answer mid-term next Friday, review lecture next Wednesday

• Multi-game analysis essays due two weeks later