Build it to understand it

- Building experimental games necessary for theoretical progress in game studies
- Façade as an empirical investigation of the ludology/narratology debate
  - Resolving tension between game and story
  - Authoring story structure (mixable progressions)
- The wicked nature of game design

Game studies and game design

- A primary goal of game studies is to understand the form and structure of games
  - Usually accomplished by analyzing existing games
- However, existing games sparsely sample design space
  - Commercial games heavily constrained by market concerns
  - Theories informed by existing games are at best incomplete and at worst wrong
- Theoretically informed construction of experimental games...
  - Provides a more complete understanding of already sampled regions
  - Opens up new regions of design space, providing raw material for theoretical and prescriptive advances
Case study: the ludology vs. narratology debate

- The question: can gameplay and narrative combine (to what extent do games and narrative overlap)
- Status
  - Fatigue and malaise (including claims that the debate never took place)
  - Occasional flare-ups indicate little progress
  - Our concern is that if pushed, some game scholars would say only "pure" gameplay can offer high-agency
- Fundamental tension: agency vs. narrative progression

Existing games insufficient

- Easy to conclude that narrative is incompatible with gameplay from existing commercial games
  - Canned missions and cut-scenes
  - Fixed or mildly-branching paths
- Can’t develop theories regarding intersection of story and narrative solely from existing points in design space
  - You can’t make strong statements of what’s impossible without building things; dangerous to be prescriptive

Façade
Game reinforcement and feedback

- Concrete player actions directly manipulate state
- Game state is primarily numeric, relatively simple
- The score is directly communicated to the player

<table>
<thead>
<tr>
<th>Run, jump, shoot</th>
<th>Position, time, score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Game state</td>
<td>Player</td>
</tr>
<tr>
<td>“Score” (summary state)</td>
<td></td>
</tr>
</tbody>
</table>

Game state

Story not amenable to simple numeric state

- Plot structure (global constraints)
- Characters (consistency, inner life)

- Time
- Exposition
- Rising action
- Climax
- Falling action
- Denouement
- Personality
- Emotion
- Self motivation
- Change
- Social relationships
- Consistency
- Illusion of life

Facade as social, dramatic game

- Abstract player actions (discourse acts) manipulate social state
- Game state is heterogeneous, multi-leveled, symbolic and numeric
- Score is indirectly communicated through dramatic performance

<table>
<thead>
<tr>
<th>Praise, bring up topic, flirt</th>
<th>Enriched dramatic performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Player</td>
<td>Game state</td>
</tr>
<tr>
<td>Head game scores</td>
<td>Game state</td>
</tr>
<tr>
<td>Abstraction_1</td>
<td>Game state</td>
</tr>
<tr>
<td>Abstraction_2</td>
<td>Game state</td>
</tr>
</tbody>
</table>
**Facade’s social games**

- **Affinity game**
  - Player must take sides in character disagreements

- **Hot-button game**
  - Player can push character hot-buttons (e.g. sex, marriage) to provoke responses

- **Therapy game**
  - Player can increase characters’ understanding of their problems

- **Tension**
  - Not a game, but dramatic tension increases over time and is influenced by player actions (e.g. pushing character hot-buttons can accelerate the tension)

**Multiple, mixable progressions**

- Each social game, plus tension, forms a mixable progression

- A progression consists of
  - Units of procedural content (e.g. beats, beat goals)
  - A narrative sequencer that manages the progression and responds to player interaction

- Multiple progressions run simultaneously and can intermix

**The progressions**

- Beat library
- Beat manager
- Beat sequencing (overall story + tension)
- Beat goal sequencing (affinity game)
- Global mixins (hot button game)
- Therapy game similar

- Canonical beat goal sequence
- Handlers + discourse
- Mix-in library
- Handlers (ABL meta-behaviors) + discourse management
The atom of performance

- Joint dialog behaviors form the atom of performance
- Façade consists of ~2500 joint dialog behaviors
  - Each 1-5 lines of dialog long (5-20 secs)
  - System sequences these, including transitions between
  - Most are interruptible
  - JDBs use ABL’s joint intention framework to coordinate performance

Local agency

- Players get immediate responses
  - interruption often possible
  - context-specific <-> more general <-> deflection
  - emotional
  - information revealing
- Narrative effects
  - Which topics discussed, info revealed
  - Current affinity
  - Increase in tension

Global agency

- Player’s “score”
  - Pattern of player’s interaction is monitored over time
  - Player’s response to key moments
  - Used to modulate beats when possible
- Some influence over beat sequencing
  - More if we had more beats!
  - Ending beat chosen by calculus and evaluation
Lessons for game studies

- Narrative and agency can be reconciled through intermixable, dynamic progressions
  - Progressions provide narrative structure at multiple levels
  - Progression management provides responsiveness to interaction
  - The narrative is potential – interaction evokes a specific narrative progression
- Generative narrative does not require an AI-complete “author in a box”
  - Combine human authorship and autonomous generation
- The “gun-toting Gandhi” problem is a red herring
  - Constrained action spaces still create agency (just like in games)

Useful residue of the L. vs. N. debate so far

- “Interactive narrative” should mean something
  - Not enough just to declare all games “narrative” by fiat
  - For a specific game-story, designers must clarify what they mean by “story”
- Pushes on procedurality and agency as the essence of games
  - Any attempt to combine games and narratives should respect this
- But for a design field (like games), theoretical arguments (based, e.g. on theoretical definitions of “narrative” and “game”), will never be sufficient

Wicked problems

- Lack definitive problem statement
  - The problem is only understood through looking for a solution
The wicked nature of game design

- No definitive statement of problem
  - “Create a game in which you roll a sticky ball around and pick up stuff” does not define a fixed problem statement
- No stopping rule
  - Resource management determines when you stop
- Solutions are not correct/incorrect
  - Games are only judged relative to each other and in a social and economic context
- No immediate nor ultimate test of solution
  - Every game design changes the design space (some subtly, some dramatically)

Interactive story as a wicked problem

- “Integrate narrative and gameplay” is not a well-defined problem
  - Need to build something to even figure out what the problem is (e.g., “create progressions with both local and global agency”)
- Formal definitions of narrative (e.g., structuralist) don’t provide a stopping criteria
- Determining whether you’ve built a “high-agency interactive story” is fundamentally audience-centric

Design and architecture

An architecture is a machine to think with
Interactive story: architectural and design problem

- Concepts such as “progression”, “global agency”, “cumulative history”, “discourse acts” are inextricably technical
  - Relationship between two semiotic systems: the code machine and the metorical machine
- You must iterate architecture and content to explore new regions of design space
- No design-only solution

Conclusions

- Building games is a necessary part of game studies
  - Need to explicitly sample the design space
- Game design is wicked
  - *A priori* theorizing or empirical investigation of existing games are insufficient to fully understand the design space
- Construction of experimental games can shed light on thorny game studies questions
  - Example: The ludology vs. narratology debate

Game Design as Narrative Architecture

- Jenkins argues for a middle path in the games/stories debate
- Not all games tell stories – for those games, such as Tetris, for which there is no strong narrative component, we need non-narrative terms and concepts
- Many games do have narrative aspirations – games explicitly tap the narrative residue of previous story experiences (e.g. the Star Wars games tap your memories of the Star Wars story)
- Narrative analysis doesn’t need to be prescriptive – he’s not arguing that games must be narrative, but just that (some) games can contain narrative elements
- The experience of playing games can’t be reduced to the experience of a story
- Games will not tell stories in the same way as other media – “Stories are not empty content that can be ported from one media pipeline to another.”
Evocative spaces

- “The most compelling amusement park attractions build upon stories or genre traditions already well-known to visitors, allowing them to enter physically into spaces they have visited many times before in their fantasies.”

- “Arguing against games as stories, Jesper Juul suggests that, “you clearly can’t deduce the story of Star Wars from Star Wars the game,” whereas a film version of a novel will give you at least the broad outlines of the plot (Juul 1998). This is a pretty old-fashioned model of the process of adaptation. Increasingly, we inhabit a world of transmedia storytelling, one that depends less on each individual work being self-sufficient than on each work contributing to a larger narrative economy.”

- “In such a system, what games do best will almost certainly center around their ability to give concrete shape to our memories and imaginings of the storyworld, creating an immersive environment we can wander through and interact with.”

Enacting stories

- “Spatial stories, on the other hand, are often dismissed as episodic – that is, each episode (or set piece) can become compelling on its own terms without contributing significantly to the plot development, and often the episodes could be reordered without significantly impacting our experience as a whole.”

- “Spatial stories are held together by broadly defined goals and conflicts and pushed forward by the character’s movement across the map. Their resolution often hinges on the player reaching his or her final destination…”

- “Just as some memorable moments in games depend on sensations (the sense of speed in a racing game) or perceptions (the sudden expanse of sky in a snowboarding game) as well as narrative hooks, Eisenstein used the word “attractions” broadly to describe any element within a work that produces a profound emotional impact, and theorized that the themes of the work could be communicated across and through these discrete elements.”

Embedded narratives

- “The distinction between story and discourse exists in games as well.
  - The story is recovered through the active work of recovering information distributed across the game space.

- “Few films or novels are absolutely linear; most make use of some forms of backstory that is revealed gradually as we move through the narrative action. The detective story is the classic illustration of this principle, telling two stories – one more of less chronological (the story of the investigation itself) and the other told radically out of sequence (the events motivating and leading up to the murder).”

- “Read in this light, a story is less a temporal structure than a body of information. The author of a film or a book has a high degree of control over when and if we receive specific bits of information, but a game designer can somewhat control the narrational process by distributing the information across the game space.”

- “To continue with the detective example, then, one can imagine the game designer as developing two kinds of narratives – one relatively unstructured and controlled by the player as they explore the game space and unlock its secrets; the other prestructured but embedded within the mise-en-scene awaiting discovery. The game world becomes a kind of information space, a memory palace.”
### Emergent Narratives

- In an emergent narrative, the player's choice deeply influence the narrative. When considering a game as using the emergent narrative strategy, check that the emerging temporal structure has narrative properties (e.g., compare it against Ryan's dimensions or against Aristotelian progression).

- "Emergent narratives are not prestructured or preprogrammed, taking shape through the gameplay, yet they are not as unstructured, chaotic, and frustrating as life itself."

- "Most players come away from spending time with The Sims with some degree of narrative satisfaction. Wright has created a world ripe with narrative possibilities, where each design decision has been made with an eye towards increasing the prospects of interpersonal romance or conflict."

- "Janet Murray's Hamlet on the Holodeck might describe some of what Wright accomplishes here as procedural authorship. Yet, I would argue that his choices go deeper than this, working not simply through the programming, but also through the design of the game space. For example, just as a dollhouse offers a streamlined representation that cuts out much of the clutter of an actual domestic space, the Sims' houses are stripped down to only a small number of artifacts, each of which perform specific kinds of narrative functions."