Conceptualizing Player-side Emergence in Interactive Games: Between Hardcoded Software and the Human Mind in Papers, Please and Gone Home

Christopher Michael Yap
Youki Kadobayashi
Suguru Yamaguchi

Nara Institute of Science and Technology

Acknowledgements

This research has been crowdfunded on IndieGoGo.

C. Yap
Conceptualizing Player-side Emergence in Interactive Games

http://igg.me/at/gamestudies/x/8379762
C. Yap
Conceptualizing Player-side Emergence in Interactive Games

"The Patriots!"

Major Contributors to Video Game Studies

“The Patriots!”
Outline

1. What is emergence?

2. How might emergence occur in games?

3. Conceptualizing Player-side Emergence
   1. Papers, Please
   2. Gone Home

4. Discussion

5. Conclusion
1. What is Emergence?

- Emergence is the idea that a surprising and novel thing can "emerge" from a complex system.

- Results often do not exhibit those characteristics.

- Results difficult to predict.

- Computer Science
- Biology
- Philosophy
1. What’s Emergence?

- Biological example of the concept of emergence:

![Camell's Soup](image)
1. What’s Emergence?

- **Key Factors for emergence**

  - **Complexity**: sufficiently-wide state space
  - **Ambiguous Design**: sufficiently-intricate; many moving parts

C. Yap
Conceptualizing Player-side Emergence in Interactive Games
2. How might emergence occur in games?

- Two non-mutually-exclusive approaches

![Diagram showing two approaches: Tech and Design, each with subcategories: Artificial Intelligence, Procedural Generation, Ambiguity, Non-interference.]

C. Yap
Conceptualizing Player-side Emergence in Interactive Games
2. How might emergence occur in games?

- Tech Approach:
  - Graphical Photorealism
  - Computer Dungeon Master

- We’re not there yet
- We’ve come pretty close, but arguably game innovation stagnates
2. How might emergence occur in games?

- **Design Approach:**
  - Indicate/guide player indirectly
  - “Sleight of hand”

- Current examples indicate that a kind of emergent experience can still be rendered
3. Conceptualizing Player-side Emergence

- Key factors for emergence in games

- Complexity

- Fixed elements from the game software:
  - Characters
  - Events
  - Audio/visual

- Ambiguous Design

  Arrangement of elements to indicate or suggest an experience or interpretation
3. Conceptualizing Player-side Emergence

- The need for a complex system:

**Emergence is encouraged if the system is complex.**

Current Industry tech cannot render emergence in the essential sense.

Through careful balance of tech and design, we can invoke another system, extraneous to the game software.
3. Conceptualizing Player-side Emergence

Invoke a complex system, extraneous to the game software

Knows literally everything about me

Uses this information to give me perfectly-crafted nightmares
3. Conceptualizing Player-side Emergence

The brain is always looking for patterns
3. Conceptualizing Player-side Emergence

Sometimes the brain contextualizes things for you
3. Conceptualizing Player-side Emergence

Player-side Emergence Concept:

Game Elements + Ambiguous Design

Emergent Experience

Software-side

Player-side
3.1 Player-side Emergence in *Papers, Please*

- Lucas Pope 2013 (PC)
- Paperwork Simulator
- Highly-acclaimed

- Interactions are morally-implicit

- Effects/Outcomes are stated as simple facts with little to no emotional indication
3.1 Player-side Emergence in *Papers, Please*
3.1 Player-side Emergence in *Papers, Please*

Your family needs medicine.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAVINGS</td>
<td>5</td>
</tr>
<tr>
<td>SALARY (9)</td>
<td>45</td>
</tr>
<tr>
<td>PENALTIES (1)</td>
<td>-5</td>
</tr>
<tr>
<td>RENT</td>
<td>-20</td>
</tr>
<tr>
<td>FOOD</td>
<td>-20</td>
</tr>
<tr>
<td>HEAT</td>
<td>-10</td>
</tr>
<tr>
<td>MEDICINE (UNCLE)</td>
<td>-5</td>
</tr>
<tr>
<td>MEDICINE (WIFE)</td>
<td>-5</td>
</tr>
<tr>
<td>MEDICINE (SON)</td>
<td>-5</td>
</tr>
<tr>
<td>SLEEP</td>
<td></td>
</tr>
</tbody>
</table>

$5
3.2 Player-side Emergence in *Gone Home*

- The Fullbright Company
  - 2013 (PC)

- “Story Exploration”

- Highly-acclaimed

- Explore an empty house—find out where your sister went

- Story construction is free-form, but the end is unified
3.2 Player-side Emergence in *Gone Home*
3.2 Player-side Emergence in *Gone Home*

Katie,
I’m sorry I can’t be there to see you, but it is impossible.
Please, please don’t go digging around trying to find out where I am. I don’t want anyone but Dad to know.

Mama and Dad to know.
3.2 Player-side Emergence in Gone Home

SIGHTING JOURNAL

Aug 31, 1994 - 1:19 AM -
A tall shadow in the upstairs hall. When I rounded the corner, no one was there. How tall was Uncle Oscar? (note: I was not wearing my glasses.)

Sept 3, 1994 - 12:47 AM -
A faint voice coming from the bottom of the stairs. I said "Hello." Did not investigate. Probably was the furnace.

Sept 9, 1994 - 4:11 PM -
Poured milk from cabinet fridge. It was spoiled. Pretty sure I read that spirits can sour milk. (Milk was just bought yesterday.)

Moooooooh - Ooooooh

Also saw Milk - Boooh
3.1 Player-side Emergence in Gone Home
3.2 Player-side Emergence in *Gone Home*

**BUT,**

- The game is not a horror story.
- Rather, this is how the game encourages/suggests the construction/interpretation of its narrative.
4. Discussion (1)

- Player-side emergence, as a design consideration/principle, can potentially be helpful in addressing Ludo-Narrative Dissonance
  - Allows the player’s own mind to account for discrepancies in mechanics and narrative

- Designing towards Player-side emergence also allows players to interpret centralized, directed/embedded game narratives with their own subjective tones/inflections
4. Discussion (2)

- However, the balance between reliance on tech vs. reliance on design, as well as the degree to which designers can be ambiguous with their designs while retaining the integrity of the overall gaming experience is still being investigated in terms of Player-side emergence.

- As games become increasingly more sophisticated, immersive, and interactive, considerations for Player-side emergence will also change significantly.
5. Conclusion

- The examples of *Gone Home* and *Papers, Please* show that a kind of Player-side Emergence which invokes the complex system of the player mind to render the emergence can be crafted utilizing current technology if the design space is sufficiently ambiguous and the contextual direction is effective.

- Future work:
  - Test and select an appropriate theoretical framework for this concept
  - Analyze other games to see how this concept applies/doesn’t apply (ARGs)
  - Devise and experiment with ways to both observe and show Player-side emergence in action
Let’s talk

www.chris-yap.com

smartbad@gmail.com

https://www.facebook.com/smartbad80

@Smart_Bad