Requirement Engineering and Creative Process

David Callele, Eric Neufeld, Kevin Schneider, "Requirements Engineering and the Creative Process in the Video Game Industry"
Problem

- Software engineering processes
- Success or failure often happen between preproduction and production
- NFRs like fun is hard to capture
- Miscommunication between game designers and game engineers
Background

- Diverse teams
- Emotional factors in RE
- Communication
- Feedback and Emergence

Why can’t I capture emotional factors?
Video Game Development

- Specialized SWE methodology is recommended
- Game Design Document (GDD)
- Dangers of GDD
  - Malformed GDD
  - Ad hoc design
- Errors in requirements are costly to fix
- GDD is usually not maintained
Important Factors

- What went well?
- What went wrong?
- Correlation
- A lot is riding on project management
### Table 1. Documentation Transformation

<table>
<thead>
<tr>
<th></th>
<th>Story</th>
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<tbody>
<tr>
<td>1</td>
<td>After her father, Bernard, died, Crystal did not know which way to turn – paralyzed by her loss until the fateful day when his Will was read.</td>
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<td>2</td>
<td>Gameplay</td>
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<td>The Player must visit Anna the Lawyer to receive a copy of Bernard’s Last Will and Testament, thereby obtaining the information necessary to progress to the next goal.</td>
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<td>3</td>
<td>Requirements</td>
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<td>The Player must be represented by an avatar.</td>
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<td>Female Non Player Character required: Anna the Lawyer</td>
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<td>Inventory Item: Last Will and Testament (LWT)</td>
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<td>Player can not progress beyond Game State XYZ until LWT added to Inventory</td>
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<td>4</td>
<td>Specifications</td>
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<td>Could easily reach 50 pages</td>
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Implications

- Everyone can do that last part
- Second-level implications, general domain knowledge
- Third-level require knowledge about the implementation
- Early feedback vs late feedback
A *Priori* Knowledge

- Require domain knowledge
- Understand preproduction and production
- Know the technology constraints
- Often ends up as a compromise
Challenges for RE

- Communication between stakeholders → Normal
- Focusing on goal and resist feature creeps → Normal
- Influence from prior work → Normal
- Media and technology → Less Normal
- Importance of NFRs → Less Normal
- Gameplay requirements → Unique
Thanks