

Requirement Engineering and Creative Process

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"Requirements Engineering and the Creative
Process in the Video Game Industry"





Problem



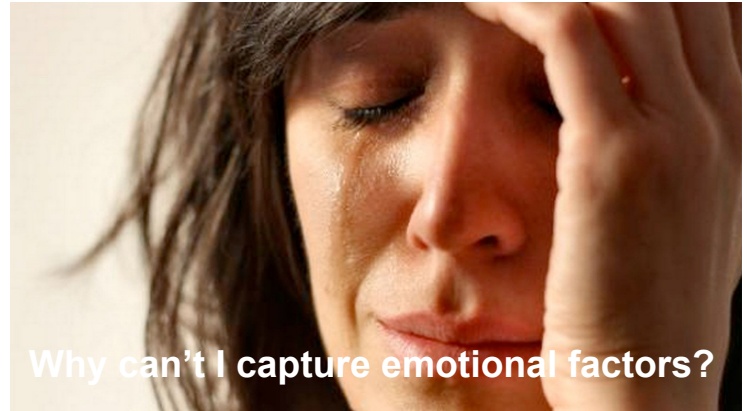
- Software engineering processes
- Success or failure often happen between preproduction and production
- NFRs like fun is hard to capture
- Miscommunication between game designers and game engineers





Background

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

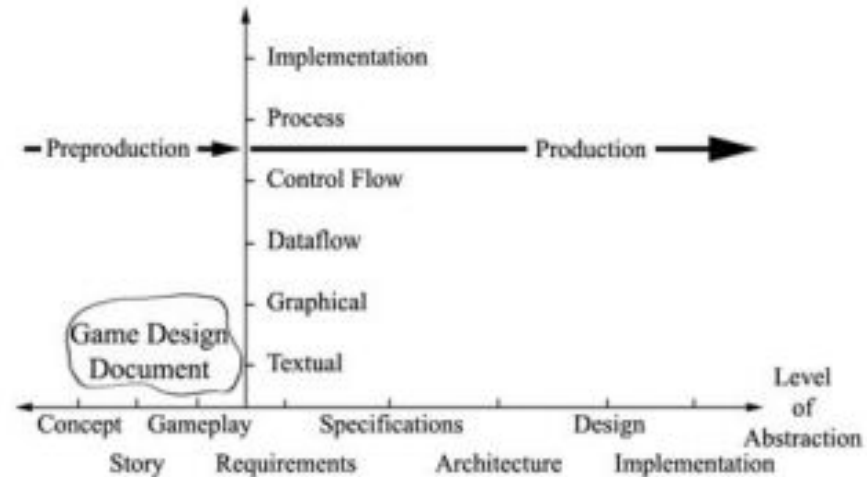


Why can't I capture emotional factors?



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

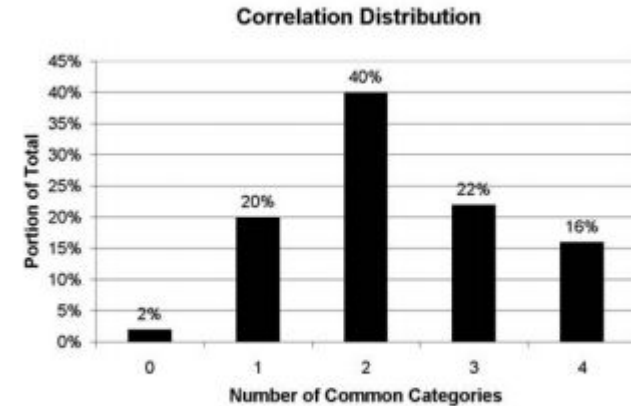
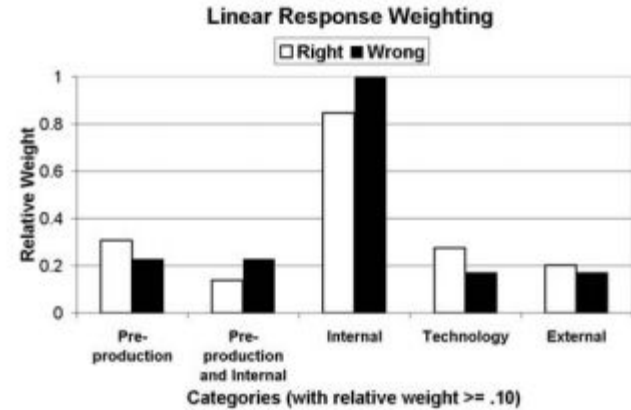


Figure 3. Correlation Within a Project



Documentation Transformation

Table 1. Documentation Transformation

1	Story	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.
2	Gameplay	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.
3	Requirements	The Player must be represented by an avatar. Female Non Player Character required: Anna the Lawyer Inventory Item: Last Will and Testament (LWT) Player can not progress beyond Game State XYZ until LWT added to Inventory
4	Specifications	Could easily reach 50 pages



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