

A Survey of Suspense Models in Storytelling and Computer Games

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Introduction & General Framework:

- This is a comprehensive survey of suspense models in storytelling and computer games.
- We analyze the existing models of suspense and identify the key components.
- By identifying those components, we have a clearer idea of what factors affect suspense, and thus an idea as to how suspense can be managed and manipulated.

Survey of Existing Models

- We identified several existing models of suspense through literature review.
- These models were sorted into two groups:
 - Cognitive Models
 - Computational Models
- Models were also considered in relation to their focus.
 - Game-Based Storytelling
 - Non-Game-Based
- We read and analyzed the literature, identifying aspects most models shared in order to identify components of suspense.

Identification of Components

- Through literature review we identified several components of suspense, typically mentioned in most existing models.
 - Desire
 - Outcome
 - Events
 - Conflict, Resolution, and Obstacle
 - Uncertainty
 - Emotion
 - Point of View
- These components can be manipulated to manage suspense.

Desire, Outcome, and Suspense

- The first two components, Desire and Outcome, create the initial framework for suspense.
- Suspense happens in the space between the creation of a desire and the revelation of an outcome.

Desire is the beginning of suspense.

The suspense ends when the outcome is revealed.

- Desire is often tied to an outcome.
- When the outcome happens, there is no longer a desire.

Creating and Using Events

- Suspense can be manipulated through the creation of events.
- Events take place in between the creation of the desire and the outcome.
- Events create a temporal distance between these two, delaying the revelation of the outcome.
- Events contain Conflict, Resistance, and Obstacles.

Conflict, Resistance, and Obstacle

- Conflict, Resistance, and Obstacle serve two purposes:
 - Justify delay of outcomes
 - Create tension to hold viewer's interest
- These are used to both create suspense and keep the experience engaging.
- Without Conflict, Resistance, or Obstacle, viewers may get bored. However, with too much, viewers may grow tired or frustrated.

Managing Uncertainty

- Here we identify two types of Uncertainty:
 - Fundamental Uncertainty
 - Ambiguity
- We manage each type of uncertainty differently.
- We manage fundamental uncertainty by managing information
 - Withholding/releasing information
 - False/contradictory information
 - Mystery/dramatic irony
- We manage ambiguity through making success seem more or less likely
 - Creating/removing threats
 - Providing/depleting resources

Managing Emotion

- Suspense emotions are positively and negatively valenced prospect emotions:
 - Hope
 - Fear
- Because hope and fear are based on outcomes, these emotions can be managed by adjusting the clarity, probability, and desirability of the outcomes.
- Other emotions can enhance hope and fear, as well as the residual emotions.

Point of View

- Each character has different desires. Each desire can be associated with its own line of suspense.
- These lines of suspense can be connected between characters.
- We also need to differentiate the viewer's desire and the character's desire. They are not always the same.
- In a situation where the point of view switches between characters, the viewer follows different characters and their lines of suspense.

Summary/Discussion

- After conducting a thorough literature review, we analyzed many existing models of suspense for storytelling and video games, both cognitive and computational models.
- Through our research, we were able to identify components of suspense.
- With the components identified, we also identified multiple possible ways to manage and influence suspense through those components.
- By manipulating these aspects of a narrative and/or game based on our research, one can fine-tune the level of suspense of a viewer.

Future Work

- Experimentation to quantify the effectivity of using these components to manipulate suspense in a narrative and/or game context.
- Developing a new, comprehensive model of suspense using this research.
- Implementation of that model into storytelling and/or game design strategies.
- Creation of an affective game engine.

Questions?

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REU Site in Immersive Media Computing

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- By identifying those components, we have a clearer idea of what factors affect suspense, and thus an idea as to how suspense can be managed and manipulated.

Method:

- We identified several existing models of suspense through literature review.
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 - Game-Based Storytelling and Non-Game-Based
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Component Analysis:

- We identified components of suspense and related methods to manipulate suspense.

Desire	Create suspense by creating a desire
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Outcome	End suspense by reaching an outcome
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Events	Create suspense by adding events
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Conflict, Resistance, Obstacle	Manipulate suspense by creating conflict, resistance, and/or obstacle
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Uncertainty	Manipulate by managing information or making success seem more or less likely
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Emotion	Manipulate by adjusting clarity, probability, and desirability of outcomes
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Point of View	Create multiple lines of suspense by introducing multiple points of view
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