Auteur in a box

Technologies for Expanding the Vocabulary of Visual Communication

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“The mirror causes the image to repeat infinitely. Deep focus is used to enhance the repetition, which adds to Kane's loneliness as an old man and to his isolation.”

-Aaron West, AFS
“... the player’s ability to look through a portal, and in real time, view the room from the other portal’s point of view. Imagine looking through a portal to see yourself looking at yourself through a portal to see yourself looking at yourself. It’s nuts. “
- Portal review (sparkling wiggles blog)
“I asked myself whether it was technically possible to film it in the same way [real-time]. The only way to achieve that, I found, would be to handle the shooting in the same continuous action, with no break in the telling of a story that begins at seven-thirty and ends at nine-fifteen.”

-Hitchcock (Interview with Truffaut)
“And certainly, the use of cut scenes or any of the other crude crutches of computer game storytelling would have detracted from the relentless pace of the game and the freedom and control you have over your character.”

- IGN.com review
Expanding Vocabulary of Visual Storytelling

- Stills
- Editing
- Visual Fidelity
- Motion
- Color
- Real-Time + Dynamic
- Audio
- CG

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Expanding Vocabulary of Interaction

2D

Networking

AI

Physics

3D

Audio

RT GFX

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Taking advantage of Procedurality and Interaction
Challenge #1: Learning Aesthetic Preferences

Which composition is better?

(a)  (b)  (c)
Challenge #2: Adaptation

How to procedurally modulate experience?
Photographic Composition
Camera Games

- Afrika
- Pokemon Snap
Panorama

- Procedural generation of levels with visual variation
- Height curve generated during level load
  - determines height values
  - selection and sizing of objects based on height values
Computational Representation of Rules

- Balance
- Spacing
- Thirds alignment
Scoring
Results
Challenge #2: Adaptation
Example
Camera Control: Design Space
Player Modeling

1. Sensors (SC, BVP) are placed
2. Game instructions and experiment guidelines are given on-screen. Demographic data is collected
3. Subject plays training game (90 sec)
4. Subject plays game A (90 sec)
5. Subject rests (15 sec)
6. Repeat k times
7. Subject plays game B (90 sec)
8. Subject reports emotional preferences between A and B through 4-AFC
Player Modeling

- Blood Volume Pulse (BVP) → Heart Rate (HR)
- Skin Conductance (SC)
Results

- Information about enemies and maze are negatively correlated to challenge
- Information about tokens is positively correlated to challenge
Summary

- Computational Algorithms and Representations
  - Automated camera control
  - Computational models of cinematic conventions
  - Adaptive camera systems
- Tools and Interaction Techniques
  - Designers
  - Storyboarding/Interactionboarding
Thanks !