MagicARTS: An Interactive Social Journey in the Art World

COLLABORATIVE GROUP VISITS IN VIRTUAL REALITY MUSEUMS

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Museum Visits

- People typically visit museums in groups
- Social interactions and conversation are key aspects for engaging museum experiences
Mobile Based Museum Visit

- Privileges personalized experience but hinders social interaction

**Solutions**

- **Synchronized Listening**
  Sotto Voce, SFMOMA mobile app

- **Shared Projection Spaces**
  Shared display devices, multiple mobile screens creating shared view areas

Sotto Voce Interface [Grinter 2002]

Cultivating Mobile-mediated Social Interaction in the Museum [Katifori 2016]
Virtual Museums

Google Arts Project: MoMA, NY

Second Life example (Artopolis Gallery)

Virtual Fine Arts Museum
The MagicARTS scenario

- A private, virtual gallery for small, closely connected groups (e.g. family & friends)
- The museum visit is a collaborative activity.
  - How to support social interactions?
  - How to combine personal moments to social encounter?
The MagicARTS Gallery

- Common space syntax
- Playful avatars
- Voice Communication
- Teleportation
- First Person & Third Person Camera view
Selecting an Artwork

- Content gradually added on gallery walls
- Surrounding video & narrative display
  - Visible to all group members

During the two months separating his arrival in Auvers-sur-Oise and his death on July 29, the artist made about 70 paintings, over one per day, not to mention a large number of drawings.

This is the only painting representing in full the church in Auvers that may sometimes be distinguished in the background of views of the whole village. This church, became under the painter’s brush a flamboyant monument on the verge of dislocating itself from the ground and from the two paths that seem to be clasping it like torrents of lava or mud.

If one compares this painting with Claude Monet’s paintings of the cathedral in Rouen, painted shortly afterwards, one can see how different Van Gogh’s approach was from that of the impressionists. Unlike Monet, he did not try to render the impression of the play of light on the monument. Even though the church remains recognisable, the painting does not so much offer the spectator a faithful image of reality than a form of “expression” of a church. The artistic means used by Van Gogh anticipate the work of the fauvisits and expressionist painters.
Engaging with narrative content

- Individual delivery of audio/video content
- Headphones & HDM signal personal engagement phase
- Group members are able to differentiate their paths
- Social encounter is combined to isolated moments of personal engagement
Walking into the Artworks

- Blending 2D to 3D virtual reality art
- “Walk through” the painting
  - Collision detection
- “Switch the light off/on” functionality
Shared Projection Spaces

- Animation projected over the artwork
- Location-based triggering
- Shared synchronized audio
MagicARTS’ Social Interaction

✓ Voice-communication
✓ Joint Exploration
✓ Shared Projection Spaces

• Gestures
• Audio cues signaling social activity
• Emotion Sharing
Emotion Sharing

- Emoticon selection
- Visualization with floating “Emotion Bubbles”

Motivation: Provide a point of discussion
Implementation: Unity

- Server – Client architecture
- First User connects as both Server and Client (Host)
- CMD – RPC used for communication
Future Steps

- **User studies**
  - Individual vs group visit
  - Compare 2 “social” versions
    - Visitor behavior and dynamics
    - Relation to group size

- **Upgrade from desktop to HMDs**
  - Effects on social awareness, behavior and overall experience