Enhanced Auditoriums for Attending Talks in Social Virtual Reality

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To the Extended Abstract

Motivation

- Social virtual reality systems enable distributed users around the globe to put on a head-mounted display and interact with each other as avatars in a shared virtual environment
- High degree of immersion combined with user tracking leads to more natural meeting experience than with 2D tools
- Many professional meetings like academic conferences have therefore moved to social virtual reality in recent years
- Replicating real-world auditoriums for attending virtual presentations, however, leads to limitations regarding visibility and the feeling of attending the talk together as a group

Our Solutions

- Two complementary enhancements to improve presentation visibility and the feeling of togetherness within groups
- Vis: Miniature copies of the speaker and their slides close to the viewers to improve presentation visibility
- **Tog:** Seating layout based on circular group tables to facilitate seeing the reactions and emotions of other group members
- Vis × Tog: Combination of seating layout based on circular group tables with an individual miniature copy of the speaker and their slides for each table

Initial User Study with 12 Participants in Groups of Three Human and Two Simulated Users









Task: Listen to a short scientific talk in each of the auditoriums (~ 2.5 min.) and discuss the most relevant facts afterwards (~ 2 min.)

Results: Visibility Questionnaire

- Significant visibility improvements introduced by the miniature copies
- Improvement smaller with group table layout since parts of the visual space are occupied by the other group members

Results: Social Presence Questionnaire

- Significant improvements in co-presence, affective understanding, and behavioral interdependence introduced by the group tables
- Miniatures in row-based seating layout even more isolating than conventional auditorium

Results: Preference Ranking

- Combination of both enhancements in one auditorium by far the most appreciated for talk attendance
- Worst preference ratings obtained for conventional auditorium



Take-Away Message

Take advantage of the capabilities of social virtual reality systems and rethink conventional auditorium designs for virtual presentations!

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