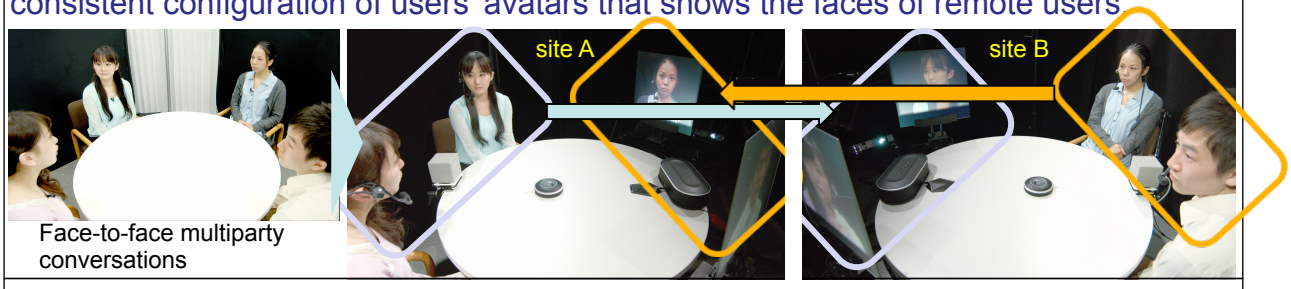
25 Making eye-contact with people in teleconference

～Social telepresence with eye-contact using kinetic avatars～

Abstract

In video conference, the inability of eye contact with remote partners has been a major obstacle for natural communication for many years, unlike face-to-face settings. This exhibit introduces a new experimental system called MMSpace, which aims to look for design principles for better telecommunications. To enhance nonverbal communications exchanged with head motions, MMSpace incorporates a kinetic display avatar that can change its pose and position in synchronized with human head motions, and newly integrated a mechanism that can allow the users make eye contact with remote partners. Multiple kinetic avatars are configured to construct symmetric multi-to-multi conversation spaces, so that users can naturally participate in spatially separated multiparty conversations, closer to face-to-face settings. Research using MMSpace is expected to leads to advanced teleconference/telepresence systems and tools for communication science and education.

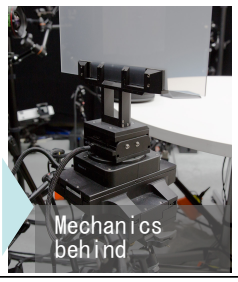
-Feature 1: MMSpace targets multi-to-multi remote conversations, and allow participants talks with remote partners like face-to-face settings, due to the spatially consistent configuration of users' avatars that shows the faces of remote users



-Feature 2: Highly maneuverable kinetic avatars in terms of accuracy, latency, and silent mechanics can enhance nonverbal communications among remote places.

Projection mapping on semi-transparent panel displays remote user's face just in front of you

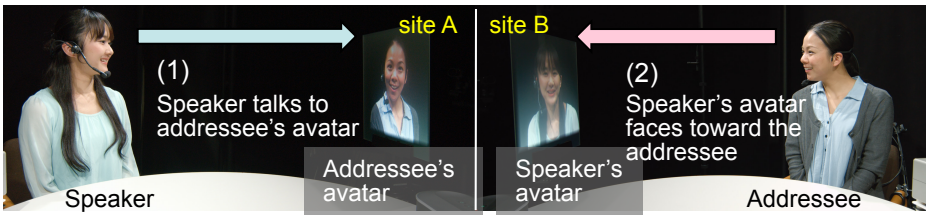
Panel pose/position dynamically changes in synchronized with human head motions, e.g. nodding, shaking.



Kinetic avatars outperforms static avatars in terms of

- ◆Understanding of reaction
- ◆Sense of mutual understanding
- ◆Easy to know other's gaze directions, facial expressions and gestures.
- ◆Eye contact
- ◆Sense of close presence of partners

-Feature 3: Virtual eye contact through avatars: you can talk to the eyes of partner



(3)
In response, addressee looks back to speaker's avatar, and then mutual eye contact among two can be established through both avatars

【Reference】

[1] K. Otsuka, "MMSpace: Kinetically-augmented telepresence for small group-to-group conversations," in Proc. IEEE Virtual Reality 2016 (VR2016), pp. 19-28, March, 2016

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