Videoconference Communication Support

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Goals
- Brief description of RIT and NTID
- Cisco funded research
- 2013 Review of findings
- 2014 Initial findings
- Discussion

Rochester Institute of Technology
http://www.rit.edu/overview/at-a-glance
- Nine colleges
- 18,292 students
- 3,781 faculty & staff
- Technology programs
- Diverse community

NTID Background
http://www.ntid.rit.edu
- Founded in 1965 by Congress
- 1,432 Students
- Approximately 245 faculty, 275 staff
- Support services

NTID Instruction
- Direct Instruction
  - Approximately 500 students
  - Faculty sign and teach
  - Small classes
- Supported Instruction
  - Approximately 600 students “cross registered”
  - “Mainstreamed” classes with other RIT Colleges
  - Interpreters, Captioning, Notetaking, Tutoring

Cisco Research
- Three Strands
  - NG911
  - Avatars
  - Telepresence
- Equipment Donation
3. Determine “best practices” when working with TP and interpreters

- Face-to-face within the TP system
- Remote with the TP system

9 Scenarios/4 Days/Summer 2012

- Variables:
  - Number of Deaf/Hearing participants
  - Level of interaction among all participants
  - Level of technology within the TP system
  - Different kinds of TP systems
  - Location of interpreters
    - When IN the environment and when REMOTE

Our Goals for Participants

- Interpreters:
  - To have the same interpreters across scenarios
  - Nationally certified
  - Flexible
- Deaf participants:
  - To have the same “students” across scenarios
  - Experience with interpreters
  - Willing to give feedback
- Hearing participants:
  - To have the same “presenters” across scenarios
  - Some knowledge/experience working with interpreters

What We Did

- Assigned everyone a “role”
- Ran the scenario, with 2 working interpreters and a third one observing/advising
- Distributed written feedback forms to all
- Conducted approx. 15 minute de-briefings with all participants
- Made minor adjustments from feedback, took a short break, moved on to next scenario
Cameras are voice-activated.

Problems for Deaf participants.
- In the room, near the screen.
- In the other room, near the presenter.
- Problems with lack of eye contact, re-adjusting tiles on the screen.
- Quality – wow!!

Future – lots of possibilities!!

Variables
- Numbers of hearing and deaf individuals participating.
- Deaf person leading or managing presentation.
- Level of interaction among participants.
- Level of technology “emersion” or sophistication of TP.
- True Telepresence.
- IP-based videoconferencing (PolyCom).
- Google+ Hangouts.
- Location of interpreters.
- Either side of communication.
- Live or remote.

Scenarios
- Deaf manager explaining employment opportunities.
- Job interview.
- Professional development workshops with Clarke Schools.
- Given.
  - Deaf presenter/leader of discussion.
  - Cisco systems (1300 & 3200).
  - Google+ Hangouts.

2013 Investigation

Report on Each Scenario

2012 Results - Primary Themes
- Cameras are voice-activated.
- Problems for Deaf participants.
- Problems for interpreters.
- Actual positioning of interpreters.
- In the room, near the screen.
- In the other room, near the presenter.
- Problems with lack of eye contact, re-adjusting tiles on the screen.
- Quality – wow!!
- Future – lots of possibilities!!

2013 Investigation
Four Levels of Telepresence Technology

Infrastructure of Networking

3 Scenarios Reviewed Today
- Job Interview – Google+ Hangouts (3)
- Presentation – IP Based, one screen systems (5)
- Presentation – IP Based, one screen system with Google+ (7)

Job Interview – Google Hangouts (3)
- One deaf and one hearing, presenting to 5 deaf students;
- Interpreters were remote.
- Google+ Hangouts on all systems.
- Standard conference call system using for audio

Job Interview – Google Hangouts (3)

Overall, how successful was your meeting? (Survey 1)

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<th>Interview</th>
<th>Overall</th>
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<th>Attendance</th>
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All functions met all expectations except for non-verbal communication.
Job Interview – Google Hangouts (3) Recommendations

- Google option to provide split screen of input/site
- Kudos to auditory feedback by morning/mouvement and distinguish speaking
- Establish guidelines to prevent having different speakers
- Google option to let in participants of video large screen (e.g., presentation, interpreter, 995)
- Interpreters were remote, single screen
- Audio through IP system

Presentation – IP Systems (5)
- One deaf presenter to 3 deaf and 3 hearing participants at Clarke Schools for the Deaf in MA
- Interpreters were remote
- Audio through IP system

Presentation – IP Systems (5)

Presentation – IP Systems (5)

Presentation – IP Systems (5)

Presentation – IP Systems & Google (7)
- One deaf presenter to 3 deaf and 3 hearing participants at Clarke Schools for the Deaf in MA
- Interpreters were remote
- Audio through IP system
Quality of video was judged high for TelePresence to TelePresence and TelePresence to Videoconferencing. Good flow of communication using Google+ once past the initial learning curve. Communication flow was good when using all systems, once turn taking and speaking guidelines were established. Video quality of Google+ was adequate, but meetings longer than 60 minutes were tiring. Ability to control one's own display on Google+ was appreciated by all users. Participants preferred to have the primary speaker and interpreter sharing one screen.

Establish communication guidelines before every meeting. Ensure all participants understand how to use the videoconference systems prior to major meetings. Turn off all audio on systems when using Google+ in order to combat echo and feedback problems. Separate, landline audio conference calls with speakerphones functioned much better than audio within the individual videoconference systems and computers. Provide voice interpreters with remote microphones so they can work off screen and away from the system microphones.