CoUnSiL

Videoconferencing Environment for Remote Interpreting of Sign Language in Higher Education

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Introduction

“There is the lack of qualified interpreters capable of interpreting highly specialized courses at universities.”

• Existing tools are insufficient
  • Video quality fluctuates (Google Hangout, Skype, ...)
  • Expensive (H.323/SIP)
  • Missing special features such as raising hand or user roles

• Timeline
  • Since 2013: cooperation between Teiresiás and SITOLA laboratory at FI MU
  • 2014: Student’s project at FI MU – prototype implementation
  • 2015–2016: CESNET Development Fund
Classroom topology
Features

- Client-server architecture
- Roles: teacher, interpreter, student
- Up to 10 participants
- Multiple video streams (all-to-all), selective audio
  - Video resolution from 240×180 up to 640×480 pixels
  - Sustainable framerate (min. 25 frames per second)
  - Low latency (up to 200 ms)
- Presentation or other content from computer
- Based on commodity HW and existing SW tools
  - Web cameras, USB speakerphones
  - Windows, Linux, OS X
  - UltraGrid & CoUniverse
CoUnSiL Client(s)

- Role-specific layout
- User-defined layouts

- Raise hand and giving floor
- Self-view
User testing

• Simulated lecture scenario
• Held at Teiresiás seminar rooms
• Half-dozen of trials
• 20–40 minutes long
• 2–5 “students” + teacher + “remote” interpreter
• User feedback after the session
  • Suggestions for improvements
  • Advice for future work
  • Task prioritization
Limitations

• Requires high-speed networks
  • Sorry, no WiFi 😞
• Public IP address
• Up-to-date hardware
  • the more participants, the more powerful PC
  • Tailored to FullHD resolution (1920×1080 pixels)
Conclusion

• CoUnSiL = videoconferencing system for sign-language interpretation
  • Low latency & high video quality & sustainable framerate
  • Up to 10 participants
• Use cases: lectures (primarily), seminars and discussions
• User-driven development (simulated lectures)
• Stable final version on July 2016
  • Open source software
Thank you for your attention.

http://sitola.cz/counsil

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