

# An introduction to the multimodal HuComTech project

<http://hucomtech.unideb.hu/hucomtech>

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- HuComTech:
- Human-Computer Technologies
- Hungarian Communication Technologies

# Short description

- $\approx$  1.3 million EUR for 2009-2012, EU-Hungary co-financing
- Aim: to study human-human communication in order to enhance the effectiveness of human-computer interaction

- Corpus:
- appr. 60 hours of video-recordings of 111 speakers aged 18-29, including
- $\approx$  450.000 word tokens
- 15 read sentences
- 10 minute guided dialogues (job interviews)
- 15 minute free dialogues

- Annotation:  $\approx$  1.5 million annotations (mostly manual but also automatic) at 28 levels, including
- video: gaze, eyebrows, headshift, handshape, touchmotion, posture, deictic, facial expressions, emblems, comevent (start, end)
- audio: speaker, agent, wordseg, discourse (turn management), emotional, prosody (F0, intensity, pause), fluency

- spoken language syntax: clause boundaries, clause hierarchies, missing constituents, wordseg
- pragmatics: unimodal, multimodal (turn management, attention, deixis, information, agreement)

- research modules involved:
- computational linguistics
- communication theory
- psychology
- digital image processing
- engineering (robotics)

- current results:
- web-based database (SQL)
- conversion of metadata into ELAN for local search
- framework of data fusion for robotic validation

- plan for the near future: make metadata and data available through CLARIN and CESAR

- possible uses of the data:
- linguistics (esp. the syntax-prosody interface)
- language technology (text-to-speech, recognition)
- communication studies
- cognitive studies (collaboration with cognitive psychologists)
- robotics

# Thank you.

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