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Simulating Human-to-Human Dialogue for the Prediction of Conversational Quality

The experienced quality of a telephone conversation does not only depend on degradations of the network like codec, noise, or packet loss, but also on the type of the conversation, its content, but also on the personalities of the speakers themselves. Previous work has shown that for example the interactivity of a conversation changes how a delayed transmission affects the perceived quality of that conversation. Human-to-human dialogue simulation combines methods from the area of speech quality prediction and user simulation in spoken dialog systems to model human behavior during telephone conversations.

This approach of simulating a conversation requires a system that is able to combine the prosodic cues in the speech signal, the semantic content as well as the concepts shared between the interlocutors.

This talk outlines the simulation approach from the spoken dialogue and conversational quality point of view and introduces a framework that is able to model real-time dialogues in order to simulate goal-oriented conversations and turn-taking behavior.