

Real-Time Conference Translation

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Over the years, mobile and communication technologies have made it possible to get more and more people connected across the globe. However, speech-to-speech technologies enabling effective interpersonal communication among people who do not share the same common spoken language are still being developed. The goal of such translation technologies is to overcome critical language barriers in the real world to enable effective collaboration and understanding. Carnegie Mellon University is the world leader in real-time speech translation technology. CMU is the first to demonstrate the feasibility of real-time speech to speech translation in the 1980s. Directed by Prof. Alex Waibel, the interAct center at CMU has developed the world's first real-time simultaneous speech translation system. Unlike conversational speech translation where users explicitly stop after one sentence, continuous speech such as lectures and conference presentations poses several technical challenges for speech translation including the need to automatic segment the input continuous speech, to remove disfluent expressions, to adapt users' topic etc. We have developed technologies to address the above issues and demonstrated the real-time speech translation when users receive live translations of a lecture in their own language.

As the real-time speech translation system translates the lecture/presentation of the speaker into multiple languages at the same time and the synthesized voices are delivered live to the audience, it requires a reliable high-bandwidth network. In a lot of cases, the audience or the speaker is moving at high speed (driving or riding the train) while giving or receiving the speech translation, WiMAX is an ideal network platform for real-time speech translation. We will work closely with Clearwire to study, test and evaluate the feasibility of such systems over the 4G network. In particular, we will test the quality of user receiving speech translation while driving on the highway.