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ADVISORY for 9 a.m. EDT Thursday, Oct. 27 - videoconference

Carnegie Mellon, University of Karlsruhe to Demonstrate Breakthroughs in Cross-Lingual Communication, Speech-to-Speech Translation

PITTSBURGH, Oct. 17 (AScribe Newswire) -- Carnegie Mellon University and the University of Karlsruhe's joint International Center for Advanced Communication Technologies (InterACT) will hold an international videoconference at 9 a.m. Thursday, Oct. 27, to demonstrate new breakthroughs in cross-lingual communication. The videoconference will take place in room 3305 Newell-Simon Hall on the Carnegie Mellon campus, and simultaneously at the University of Karlsruhe.

InterACT director, computer science professor Alex Waibel, who is a faculty member at both institutions, will demonstrate domain-independent, speech-to-speech translation in a lecture, which will be simultaneously translated from English to Spanish to German.

According to Waibel, current speech-to-speech translation systems allow translation of spontaneous speech in very limited situations, like making hotel reservations or tourist shopping, but they cannot enable translation of large, open domains like lectures, television broadcasts, meetings or telephone conversations. The new technology developed by InterACT researchers fills that gap and makes it possible to extend such systems to other languages and lecture types.

Waibel also will illustrate new ways of delivering speech translation services beyond traditional headsets and an audio system. One involves an array of small ultra-sound speakers that can deliver a narrow beam of audio in a foreign language to a particular individual, while others nearby hear the same speech in the original language as it's spoken without disturbance.

Foreign language translation also can be produced through a system that tracks and measures electrical currents on the surface of a person's cheek and throat as they mouth words instead of speaking aloud. The system takes the signal off of electrodes that recognize muscle movement, translates and delivers it as audible sound in another language.

"Thus," said Waibel, "by moving our articulators in English, we can demonstrate the generation of speech in Spanish, German or other languages. In the future, such transducers could be implanted, enabling a speaker to produce any language at will."

In addition to these new technological breakthroughs, Waibel and his colleagues will also demonstrate other developments, including delivery of speech via heads-up display and text, a PDA-based pocket interpreter for fieldwork such as medical relief or military operations, as well as simultaneous translation of videos of European Parliamentary

sessions.

About InterACT:

InterACT, headquartered at Carnegie Mellon and the University of Karlsruhe, is dedicated to promoting greater understanding among the world's people without removing cultural and linguistic individuality and diversity. Its researchers build speech, image and text translation technologies that help to improve communication by making the world's language barriers transparent.

About Carnegie Mellon University:

Carnegie Mellon is a private research university with a distinctive mix of programs in computer science, robotics, engineering, the sciences, business, public policy, fine arts and humanities. More than 8,000 undergraduate and graduate students receive an education characterized by its focus on creating and implementing solutions to solve real problems, interdisciplinary collaboration and innovation. A small faculty-to-student ratio is pervasive on its 110-acre campus. Carnegie Mellon is also distinctive among leading research universities because of conservatory-like programs in its College of Fine Arts. For more information, visit <http://www.cmu.edu>.

About the University of Karlsruhe:

The University of Karlsruhe, established in 1825, is the oldest technical university in Germany with programs that emphasize practical experience. Its Computer Science Department, the first of its kind to be established in Germany, was founded in 1972. It has long been ranked number one among other such departments at universities in the German federal union. The student population at Karlsruhe is 16,000. In addition to computer science, the university boasts particular research strengths in engineering, natural and economic sciences, as well as strong programs in the humanities and social sciences. For more information, see <http://www.uni-karlsruhe.de>.

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