

**INTERSPEECH 2006 -  
ICSLP  
Ninth International  
Conference on Spoken  
Language Processing**

**Pittsburgh, PA, USA  
September 17-21, 2006**



**Optimizing Components for Handheld Two-Way  
Speech Translation for an English-Iraqi Arabic  
System**

**Roger Hsiao (1), Ashish Venugopal (1), Thilo Köhler (2), Ying Zhang (1,2), Paisarn Charoenpornasawat (1), Andreas Zollmann (1), Stephan Vogel (1), Alan W. Black (1), Tanja Schultz (1), Alex Waibel (1)**

**(1) Carnegie Mellon University, USA; (2) Mobile Technologies LLC, USA**

This paper described our handheld two-way speech translation system for English and Iraqi. The focus is on developing a field usable handheld device for speech-to-speech translation. The computation and memory limitations on the handheld impose critical constraints on the ASR, SMT, and TTS components. In this paper we discuss our approaches to optimize these components for the handheld device and present performance numbers from the evaluations that were an integral part of the project. Since one major aspect of the TransTac program is to build fieldable systems, we spent significant effort on developing an intuitive interface that minimizes the training time for users but also provides useful information such as back translations for translation quality feedback.

[Full Paper](#)

Bibliographic reference. Hsiao, Roger / Venugopal, Ashish / Köhler, Thilo / Zhang, Ying / Charoenpornasawat, Paisarn / Zollmann, Andreas / Vogel, Stephan / Black, Alan W. / Schultz, Tanja / Waibel, Alex (2006): "Optimizing components for handheld two-way speech translation for an English-iraqi Arabic system", In *INTER\_SPEECH-2006*, paper 1712-Tue1A10.6.