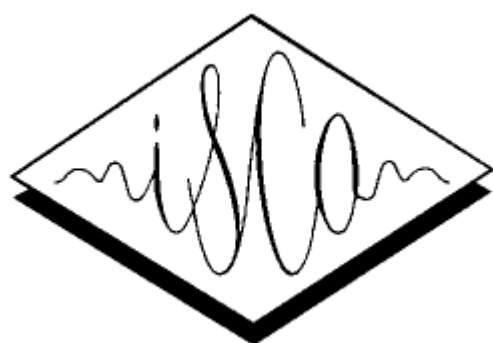


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A Grammar-Based Chinese to English Speech Translation System for Portable Devices

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Portable devices such as PDA phones and smart phones are increasingly popular. Many of these devices already have voice dialing capability. The next step is to offer more powerful personal-assistant features such as speech translation. In this paper, we propose a system that can translate speech commands in Chinese into English, in real-time, on small, portable devices with limited memory and computational power. We address the various computational and platform issues of speech recognition and translation on portable devices. We propose fixed-point computation, discrete front-end speech features, bi-phone acoustic models, grammar-based speech decoding, and unambiguous inversion transduction grammars for transfer-based translation. As a result, our speech translation system requires only 500k memory and a 200MHz CPU.

[Full Paper](#)

Bibliographic reference. Fung, Pascale / Liu, Yi / Yang, Yongsheng / Shen, Yihai / Wu, Dekai (2004): "A grammar-based Chinese to English speech translation system for portable devices", In *INTER_SPEECH-2004*, 1577-1580.