

# An Innovative Distributed Speech Recognition Platform for Portable, Personalized and Humanized Wireless Devices

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## Abstract

In recent years, the rapid growth of wireless communications has undoubtedly increased the need for speech recognition techniques. In wireless environments, the portability of a computationally powerful device can be realized by distributing data/information and computation resources over wireless networks. Portability can then evolve through personalization and humanization to meet people's needs. An innovative distributed speech recognition (DSR) [ETSI, 1998],[ETSI, 2000] platform, configurable DSR (C-DSR), is thus proposed here to enable various types of wireless devices to be remotely configured and to employ sophisticated recognizers on servers operated over wireless networks. For each recognition task, a configuration file, which contains information regarding types of services, types of mobile devices, speaker profiles and recognition environments, is sent from the client side with each speech utterance. Through configurability, the capabilities of configuration, personalization and humanization can be easily achieved by allowing users and advanced users to be involved in the design of unique speech interaction functions of wireless devices.

**Keywords:** Distributed, speech recognition, configurable, wireless, portable, personalized, humanized.

## 1. Introduction

In the current wireless era, cellular phones have become daily-life necessities. People carry their own handsets and make phone calls anytime, everywhere, while public payphones have

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