LANGUAGES AND DIALECTS

As a project funded by the European Commission, the emphasis of SPEECON's data collection activities is clearly on European languages and dialects. Recordings will thus be made in the countries indicated gray in the map below, the languages being Danish, Dutch, UK-English, Finnish, Flemish, French, German, Swiss and Austrian German, Italian, Polish, Portuguese, Spanish and Swedish.

In addition, corpora will be compiled for Hebrew, Japanese, Mainland and Taiwan Mandarin, Russian, US-English, and US-Spanish.

DISSEMINATION OF RESULTS

While the intermediate results of SPEECON can always be gathered from the project's website and will be presented at exhibitions and conferences during the project's lifetime, the resulting databases will be made available through ELRA some time after the project. For details, keep an eye on the ELRA website at http://www.elda.fr

SPEECON PARTNERS

- ⇨ DAIMLERCHRYSLER
- ⇨ ERICSSON
- ⇨ IBM
- ⇨ LERNOUT & HAUSPIE
- ⇨ NATURAL SPEECH COMMUNICATION (NSC)
- ⇨ NOKIA
- ⇨ PHILIPS SPEECH PROCESSING
- ⇨ SIEMENS AG
- ⇨ SONY
- ⇨ TEMIC
- ⇨ PANASONIC*

* external, non-funded partner

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SPEECON

SPEECH DRIVEN INTERFACES
FOR
CONSUMER DEVICES

v. 1.2

THE PROJECT

SPEECON has been launched under the auspices of the European Commission's IST programme in February 2000 with a scheduled lifetime of three and a half years. Put into action by an industrial consortium lead by Siemens, SPEECON promotes the development of voice controlled applications for consumer devices such as television sets, video recorders, audio equipment, toys, information kiosks, mobile phones, hand-held computers and car navigation kits. SPEECON's activities include

- ⇨ a market analysis of the consumer electronics domain,
- ⇨ the specification of functionalities for future voice driven applications,
- ⇨ the description and measurement of acoustic conditions under which these applications will operate,
- ⇨ the design of speech databases for 20 languages and dialects,
- ⇨ the definition of quality standards for equipment, databases, annotations and transcriptions,
- ⇨ the development of tools to adapt language data to various acoustic environments
- ⇨ the development of demonstator applications showing the potential of speech to create user-friendly human-machine interfaces.

At present the SPEECON data collections are well under way and will be finished during 2002. Latest news and developments can always be gathered from the project's website at http://www.speecon.com .

VOICE DRIVEN CONSUMER PRODUCTS

The only speech-enabled consumer devices with a notable number of sold pieces so far have been mobile phones with voice dialing and programming capabilities. Slowly, however, voice control is finding its way into areas such as information kiosks, audio & video devices, automotive applications, toys and hand-held PCs. Prototypes exist in each of these domains and a number of companies, including partners in the SPEECON consortium, have announced the launch of products within the next few months. Applying speech technology in everyday applications makes sense both from a user-centred and from an economic point of view. Speech enabled products help facilitate the use of highly complex user-machine interfaces and, according to a Frost&Sullivan market study (Report #3664-62), open up business opportunities with a growth potential of 54 per cent annually.

VARYING ACOUSTIC CONDITIONS

One of the major obstacles speech recognition has to overcome is the heterogeneity of acoustic environments, in which devices have to operate. Mobile phones, for example, have to work in quiet office surroundings as well as in busy train stations and in cars with open windows at 120 km/h. For the training of speech recognition products, current technology largely requires authentic data from all potential operating environments. One of the goals of SPEECON is therefore to produce recordings under real conditions such as office, living room, public places and cars.

The data deriving from SPEECON will then be used to describe the acoustic peculiarities of each environment and to develop adaptation techniques that allow for robust recognition across environments.

DATABASE DESIGN

In contrast to speech-driven applications in the telephone network and desktop domains, consumer devices present a comparably new field of interest for most research institutes and companies. Accordingly, no large-scale data collections like SpeechDat for telephony are currently available for microphone-based recognition. One of the objectives of SPEECON is therefore to make linguistic data available for a wide variety of potential applications. Apart from the exploration of adaptation techniques, one of the major outcomes of the project will be twenty 600-speaker databases containing

- ⇨ isolated and connected digits
- ⇨ natural numbers
- ⇨ *yes/no* responses
- ⇨ quantity measures (currency amounts, distances ...)
- ⇨ dates and times
- ⇨ spelled items
- ⇨ proper and place names
- ⇨ application keywords and phrases
- ⇨ coverage of grammatical units
- ⇨ spontaneous language
- ⇨ phonetically rich words and sentences

All items are being recorded in various environments and from speakers of different age groups.