3.20 Speech-Based Just-In-Time Information Retrieval

**Keywords**
Just-in-time information retrieval; real-time document recommendation; speech-based retrieval; meeting assistants

**Key contact researcher**
Dr. Andrei Popescu-Belis
andrei.popescu-belis@idiap.ch
Tel.: +41 27 721 77 29

**Technology Transfer Office**
Dr. Florent Monay
Dr. Hugues Salamin
tto@idiap.ch
Tel.: +41 27 721 77 72

**Corporate Sponsorship Program**
See Section 4 of the present document

**File reference & version number:**
N/A

---

**Functional description**
We have designed a system that uses words from a conversation between users to create implicit queries, submits them to a search and retrieval system, clusters the results and displays suggestions of documents that are potentially relevant to users at a given moment in the conversation. At the core of the system lies an algorithm that extracts a relevant and diverse set of keywords from a conversation fragment, avoiding ASR noise. These are then clustered according to conversation topics. Retrieval results from several implicit queries are merged and ranked by rewarding diversity. Moreover, we can also allow users to ask explicit queries in speech, and expand them based on the conversational context.

**Innovative aspects**
- Extract relevant and diverse keywords, avoiding noise
- Use topical clustering to formulate implicit queries
- Rank results by rewarding diversity
- Expand explicit queries using context

**Commercial application examples**
- Real-time document recommender system in meetings
- Document recommender for lecture recordings

**More information**

**Software & IPR status**
Research software, demonstrator (Idiap Showroom).