Multilingual aspects of spoken document retrieval

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Goal
This research aims to improve multilingual access to multimedia document collections by overcoming several constraints emerging on various levels in the multimedia information retrieval framework, such as speech processing, indexing and user query processing.

Focus areas
1. Automatic speech recognition (ASR)
   - mono-lingual (one model to one language) for general speech processing
   - multi-lingual (one model to multiple languages) for language detection, mixed and/or non-native speech processing
2. Machine translation (MT)
   - for speech recognition output (transcript)
   - for building multi-lingual indexes
   - for user queries
3. Cross-language information retrieval (CLIR)
   - for retrieving information across languages to user queries

Context
The context of this research is the MESH project. MESH stands for: Multimedia sEmantic Syndication for enHanced news services and is a project which intends to develop a system able to extract, compare and combine content from multiple multimedia news sources, providing end users with a “multimedia mesh” news navigation system.

Website:
http://www.mesh-ip.eu

Status of the current work
Our goal in MESH is to develop ASR systems for three different languages: Spanish, German and English. At the moment we got a WER of 48% for the Spanish system and 25% for the English system.

Future work
- LM improvements for the Spanish ASR
- German ASR development
- Multilingual ASR development
- ASR and statistical MT combination to achieve improvements in spoken document translations
- Finding the most suitable MT approach for CLIR in multimedia context