

The European Project MEMORIES: a contribution to the audio archiving and retrieval processes

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MEMORIES, a three-year research project within the Sixth Framework Program of the European Union (FP6-IST-035300), is now ended. It started on June 1st 2006, with seven partners: R&D organizations, users (archives, media), and a research institute. MEMORIES' aim was to develop an audio semantic indexing system allowing information retrieval for access to archive content. Many approaches have been developed for improving the acquisition, management and retrieval processes. The specific focus of Memories was to contribute to the definition of solutions, namely with three specific objectives:

- 1.- Improving the acquisition process of audio material, using source separation, automatic segmentation and speech-to-text facilities.
- 2.- Proposing an 'Open specification' [based exclusively on standards and norms] for representing the information packages of the 'OAI model' (ISO 14721 'Open Archival Information System').
- 3.- Obtaining an efficient access and retrieval despite the fact that the documentation of the audio assets has been tailored and could come from various cultural organizations.

The tests were made on the basis of different sets of documents, corresponding to three different 'Profiles' : News, Radio interviews, Classical music.

The project has led to a demonstrator integrating several tools in a single workflow. The main tools are now continuously developed :

- a "Clip Manager", a tool integrating the result of different preliminary processes : segmentation, speaker recognition, speech-to-text, etc. and thus giving the user a general view on the audio document, and a powerful way to annotate it,
- a "Generator of Autonomous Asset Entities" (AAE) using an "Open Exchange Definition" based on standards, ensuring the persistence of the assets, their interoperability between different systems, with rich models of metadata.
- An "Enhanced Information Retrieval" system, using automatically build associations, relations and indexations from the indexed, structured and restored media. It is built upon an implementation of the DAM system developed by Memnon.
- A "General Software Library" (GSL) for "Single Sensor Source Separation", for which the efficiency for indexation, structuring, restoration and enhancement have been demonstrated and validated through user's tests.

The ontologic profiles ("Core" profile; "Interview" profile; basic "Music" profile) developed during the project on the basis of the AXIS architecture will be made freely available in the Open Repository which will be set up soon by the Unesco.

The presentation will demonstrate the main tools resulting of the project.