

FRIDOM: Fusion pour la Recherche et l'Indexation de Documents Multimédia

1 – Motivation

Retrieval of multimedia data is a highly challenging problem which plays a key role at the core of several industrial technologies and products: search engines, video on demand (VoD), video games, accessibility to audio-visual heritage...

Every day, multimedia documents are produced in large quantity. They are made up of information that is multimodal (text, image, sound...), heterogeneous and redundant.

Each modality is currently processed separately. The challenge is to make a **fusion** of the information and processes to better retrieve the documents.

2 – Proposed approach

A PhD thesis will explore the following axis:

1. Describing each media in order to exploit the possible redundancy.
2. Modeling the uncertainty on data as well as its incompleteness.
3. Merging heterogeneous data for multimedia indexing and retrieval.
4. Taking into account the available information to relate the documents at a semantic level.
5. Designing the system to be able to support large-scale databases.

3 – Partnership

The **CEA LIST** expertise deals with natural language processing as well as image and video retrieval. Their algorithm are designed to be able to process large-scale corpuses.

The **ECP MAS** has a high level expertise in multimedia knowledge extraction as well as in fusion for knowledge integration.

4 – Evaluation

Above the classical measures used in the related scientific community, the outputs of this project will be evaluated in the context of **international benchmark campaigns**. User-based evaluation will also be considered to better match the real industry needs.

