



SAPIR – Search in Audio-visual content using P2p IR

Contribution to standards

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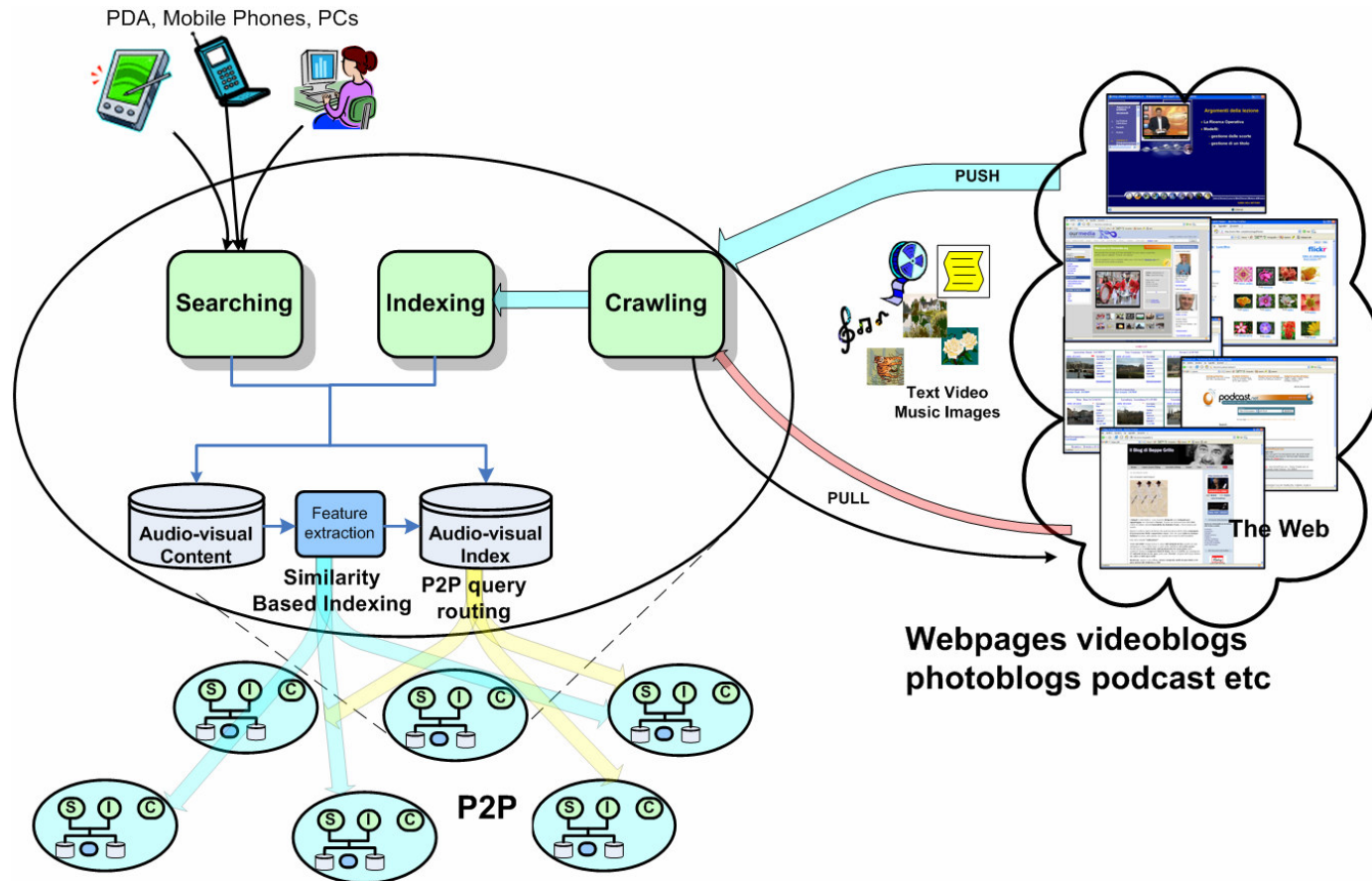
SAPIR Objectives

- Develop cutting-edge technology to index and search large scale audio-visual information by content
- Make information available on many devices, enhanced by social networking while keeping privacy and preventing fraud

SAPIR main research areas

- **Media-specific analyzing and understanding**
 - Automatic feature extraction from audio, video, image and music
 - Text summarization
 - Common semantic for feature representation.
- **Scalable and distributed (P2P) architecture**
 - P2P Architecture with well defined APIs
 - Index structures supporting similarity search
 - Push vs. pull technology
 - Caching
- **Multi-Modal and Ubiquitous**
 - User-peers accessing the network through PCs, PDAs and cell phones
 - Query by example paradigm – “A picture is worth thousand words”
 - Context aware/Social networking to increase result precision
 - IPR, Privacy, vs. Data sharing

SAPIR Architecture



Contribution to standards

We envision contributions to the following standards -

- MPEG-7:
 - also called “Multimedia Content Description Interface”, standardizes the description of multimedia content supporting a wide range of applications.
- MPEG-21:
 - its general goal is to describe an open framework which allows the integration of all components of a delivery chain necessary to generate, use, manipulate, manage, and deliver multimedia content across a wide range of networks and devices.
- OMA DRM (Open Mobile Alliance Digital Rights Management):
 - a standard to enable content providers to grant permission for media objects that define how they should be consumed. OMA DRM defines the protocols, messages and mechanisms necessary to implement the DRM system in the mobile environment.
- XQuery-FT:
 - A query language to do full-text search, as well as structured searches, against XML documents.

MPEG-7: Feature extraction

- Our contribution:
 - MPEG-7 defines a predefined set of tags such as Audio/Visual descriptors. We will investigate the possibility of proposing our custom “audio visual mpeg7 profile” to the mpeg consortium in order to refining this standard and to the EBU (European Broadcasting Union) in order to have a common agreement on its adoption.
- Standard body:
 - MPEG
- Companies involved:
 - TID and Eurix

MPEG-21 and OMA DRM: IPR solutions

- Our contribution:
 - a study of the main IPR methods (DRM, MPEG-21) would be addressed from the IPR point of view in a P2P environment. If these standards do not completely fit SAPIR requirements, minor adaptation or alternative solutions could be proposed.
- Standard bodies:
 - MPEG and OMA
- Companies involved:
 - TID, Telenor and Eurix

XQuery-FT: Query formulation

- Our contribution:
 - Propose extensions to XQuery-FT for querying combinations of structure, text and multi media features. We will probably use MPEG-7 to represent features and then use same MPEG-7 also in the query.
- Standard body:
 - w3c
- Companies involved:
 - IBM and CNR

Summary

- It should be noted that the above plan is subject to available open calls to contribute to the corresponding standard bodies