AVIR – Audio-Visual Indexing and retrieval for non IT expert users[1]

R. Leonardi

Department of Electronics for Automation
University of Brescia
Via Branze 38, I-25123 Brescia – Italy
PHONE: +39-030-3715434. FAX: +39-030-380014
Email: leon@ing.unibs.it

Summary

The AVIR proposal originates from the demand for new solutions allowing common users to easily access, store and retrieve relevant audio-visual information from the vast amounts of resources at their disposal. The next generation of television systems will be connected to many sources of information and entertainment (TV and radio from air, cable or satellite, video and audio libraries, video tape/disk recorders, Internet). Literally hundreds of channels will soon be offered to the user, which could be disoriented by this overload of information. Users will not pay for just more extra channels, but will appreciate if the content in the channels is easily accessible and, more importantly, can be easily selected according to the user's personal interest. This can only be achieved if the broadcaster delivers meta-data describing the actual content in sufficient detail enabling for automatic handling by agents residing on the end user's system. AVIR investigates on novel procedures for automatic analysis and indexing of audio-visual information, specifically meant to support consumer services. The objective of this project is to investigate and experiment end-to-end solutions for delivering new added value services on top of digital video broadcast services, which will enable a better exploitation of multimedia information resources by non-IT experts.

As a result the project is building a prototype service user platform and will demonstrate its feasibility on a broadcast delivery chain. It takes into account extraction of high quality meta-data and electronic delivery of meta-data associated to audio-visual content, including adaptation of consumer receivers and recorders towards a personalized multimedia repository.

Intelligent agents based on a user interest profile will help the user to browse and access most relevant programmes via an intelligent, personal electronic guide. A low cost, high capacity home storage device, will also be used to increment the capabilities of the consumer system. Thanks to the received descriptors, advanced retrieval features can be implemented on the stored assets and, in combination with the user's profile, automatic recording feature is possible. A visual navigation system, a search engine and agents will help the user identify video material of interest on the home video-recorder, transforming it into a personal multimedia repository.

The presentation will provide some description of the technology being developed within the AVIR project as shown in Fig. 1. Emphasis will be placed on analysis and indexing techniques and on the means to deliver coded information to the consumer system.

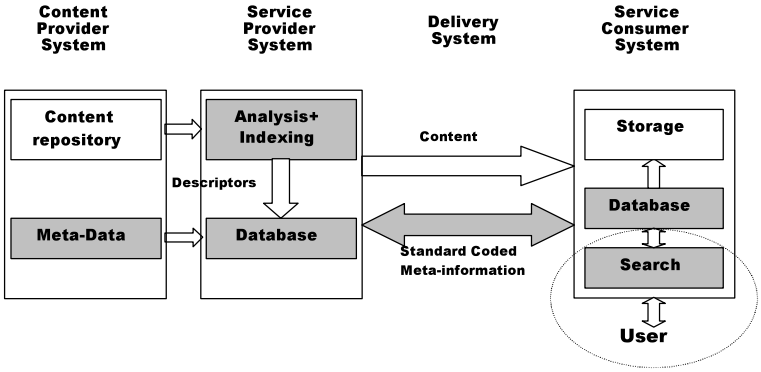

Fig. 1: Schematic drawing of the technology to be developed (grey blocks) within the context of the broadcast chain.

[1] This project is being carried out under the European ESPRIT programme - project no. 28798. For more information access http://www.extra.research.philips.com/euprojects/avir/