Rich musical pickings with easier access to archives

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(PhysOrg.com) -- Digital sound archives offer enormously rich resources but accessing them is currently difficult, and often arbitrary. European researchers believe they have developed a solution, one that offers compelling new functions to digital sound archive access.

Digital sound archives offer enormously rich resources, but suffer from access problems. Sound material is often held separately from other materials and media. Worse, it can be very difficult to listen to or to browse the content, and there is no way to search it.

Existing solutions, which attempt to deal with these problems, tend to be library or content specific, of limited functionality, or difficult to use.

Music archives made Easaier

This is an issue that the EU-funded Easaier project sought to solve. Easaier stands for Enabling Access to Sound Archives through Integration, Enrichment and Retrieval, and the project achieved just that by developing innovative new methods for accessing sound archives.

The system functions are all combined within in a single user-configurable interface that allows users to access archives in a variety of useful ways.

For example, the system responds to the needs of amateurs and professionals by providing new ways to interact with, or retrieve, content

through a simple web-client access point that works in any web browser, or from an advanced user access system developed in a stand-alone application.

Metadata is used extensively in both applications, and can provide a wide range of information to users, including tempo, key and other technical and background information. To achieve this, Easaier created a music ontology for semantic metadata, which will have an impact well beyond the project's core aim.

Taking music further

But the system functions go further. "Of course, nobody just wants to find a piece of music. They want to play around with it, too, so we developed a series of tools that allow users to manipulate the sounds in a wide variety of useful ways," explains Joshua Reiss, coordinator of the Easaier project.

The Easaier system, for example, will allow students to slow down playback without altering the pitch. It will also allow them to separate specific instruments from a piece, and they can play back the piece an octave higher or lower, to hear how that affects it.

What's more, there are tools that can be used with speech, as well as a novel presentation of multimedia material, such as sound-source separation, equalisation and noise-reduction algorithms, and methods to synchronise video and audio streams in real time.

Crucial issue: what next?

Easaier has generated a lot of interest among music archives. "We have an agreement in principle with the British Library, we are currently

working on how they want to implement the system for their archive," explains Reiss.

The Irish Pipers Archive and the Irish Traditional Music archive are also interested in the system and have been testing and evaluating it. But that is only the beginning. A lot of the tools and technologies used in Easaier are currently at work in National and European projects. "They are being used for other projects and are receiving further development," Reiss reveals.

Some of the partners are commercialising or licensing their work to other companies. NICE is incorporating speech tools it developed in Easaier into its call centre management software, and the Dublin Institute of Technology has licensed its source separation tools to Sony Music.

In all, almost ten patents were taken out for various elements of the project, and Memnon, one of Europe's main players for audio archiving systems, has shown considerable interest in the project, while a start up company in the USA, called Platinum Blue, has licensed technology developed in part within the project.

"We are interested in any other ways the system could be commercialised or adapted to other products, too," notes Reiss.

What ever happens, it will mean music archiving, retrieval and manipulation will be made a lot easier.

More information: easaier.org/

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