Publishing the system as open source

A description of this system, including this article, is accessible on our website:
http://video-digitalisierung.mediathek.at

The next step, to take place in 2011, will be a systematic publication of the entire project on our website. The scripts, documentation and descriptions will be published under the GNU General Public License (GPL). Our intention is to give back code, which we used for free from the internet, enriched with our input. We took some individual applications and are giving back an entire system. All applications, which we had to modify, did not just become orphaned versions for our own use. Depending on the development structures of external tools, we're not only sending our changes back to the upstream developers, but we are also collaborating with some of them, as well as directly committing into the official source tree. In another case we were successful in getting the developers to take our needs into account during their future development. The original FFV1 codec is not able to deal with more than 1 core. This will be changed in future updates. Triggered by our request, the developers have already started working to modify the FFV1 codec for multithreading. Tests show that the processing will be much faster and that files processed with this codec can run on even less powerful PCs.

Conclusion

The primary and most important messages of this project paper can be summarized in two statements:

- There is a third alternative format for long-term video preservation.

- There is a system available as open source software that is able to deal with a huge number of video formats, including this third alternative, and that helps to organize the complete workflow from digitizing through analysis and documentation to archiving. (http://video-digitalisierung.mediathek.at)

Our results might assist other institutions in deciding how to preserve their video content. For the Austrian Mediathek this decision has been made. For us, the FFV1 codec is currently the most complete solution, and practice shows that our system is a professional alternative to commercial solutions. If other reliable codecs become available or the jpeg2k codec fulfills its potential, which it already claims to do but in fact does not, the FFV1 codec would enable us to migrate to these newer codecs at any time and losslessly. The question is: Will there be any need to do so?

THE CNRS — MUSÉE DE L'HOMME AUDIO ARCHIVES: A SHORT INTRODUCTION

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The historical and institutional context

The CREM works on the preservation, documentation and dissimination to a global audience of one of the greatest archives of ethnomusicology in Europe. The *Centre National de la Recherche Scientifique* (National Center for Scientific Research, CNRS) and the *Musée national d'Histoire Naturelle* (National Museum of Natural History, MNHN) share the property of the archives, supported by the *Ministère de la Culture* (Ministry of Culture) and the *Université Paris Ouest* (Paris Ouest University, formerly called Paris 10 University). These audio archives[10] were founded by the french musicologist André Schaeffner in 1932, returning from the Dakar-Djibouti expedition (directed by Marcel Griaule) in 1931 in Africa where he collected both musical instruments and records. The sound archives and the organology department were named *Département d'ethnologie musicale*[11] (Department of Musical Ethnology) of the *Musée d'Ethnographie du Trocadéro* (Museum for Ethnography at Trocadero square, next to the Eiffel Tower), then *Musée de l'Homme* (Museum of Mankind) in 1937. In 1968, under the direction of the French ethnomusicologist Gilbert Rouget, the department became the *Laboratoire d'ethnomusicologie* (Laboratory of Ethnomusicology) of the CNRS. Since 2007, after integrating the *Laboratoire d'Ethnologie et de Sociologie Comparative* (Laboratory for Comparative Ethnology and Sociology, LESC), the team is now called *Centre de Recherche en Ethnomusicologie* (Research Center for Ethnomusicology, CREM). In 2009, the CREM left the museum, under construction, to be hosted at the *Université Paris Ouest* in Nanterre (in western suburbs, next to business center *La Défense*).

The Collections: historical and contemporary records

Since the foundation in 1932, this archive has been closely related to scientific research and a large number of historical records have entered the collections. These include Schaeffner's cylinders recorded during the Dakar-Djibouti expedition, lacquer discs recorded by Gilbert Rouget during the Ogooue-Congo expedition in 1946 with the first records of pygmy music, and our first magnetic tapes recorded in the field by Gilbert Rouget in 1952 in west Africa.
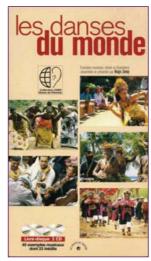
Today, this audio archive constitutes a major human cultural heritage, with more than 6000 collections. It includes about 3700 hours of commercial records; nearly 5000 discs. some very rare; and about 3800 hours of unpublished records (made during fieldwork and other expeditions). The archive, still expanding and supporting contemporary fieldwork, is acquiring more and more audiovisual and digital formats. Most of the collections are of traditional and popular music, but they also feature oral traditions and spoken word from around the world and in numerous languages.

Some of the fieldwork recordings began to be published in the 1940s in the "Musée de l'Homme" then "CNRS-Musée de l'Homme" collections. Now, there are about 150 references published on several types of disc, making up some some very famous series, such as "Voices of the world" or "Musical instruments of the world". All these references are now out of print and are no longer available to the public or libraries.

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10   For more informations on the history of the audio archives, see Pitoeff, Pribislav, 'Histoire des archives sonores du musée de l'Homme', *Annuario degli archivi di etnomusicologia dell' accademia nazionale di Santa Cecilia*, 1.1993, Libreria Musicale Italiana, pp 143-149.

11   For more informations on the history of department, see Rouget, Gilbert, 'Le Département d'ethnomusicologie du Musée de l'Homme. Maison mère de la discipline en France et dispositif en péril', *L'Homme* 2004/3-4, No. 171-172, pp 513-523.

The unpublished records also cover a wide range of carriers now preserved by the Audiovisual Department of the French National Library (Bibliothèque nationale de France). These include our oldest records — 400 cylinders recorded by Léon Azoulay (from the Anthropological Society of Paris) at the Universal Exhibition in Paris in 1900 —, the lacquers discs recorded directly in the field during the 1940s and 1950s, and of course magnetic tapes, recorded from the 1950s to the 1990s.
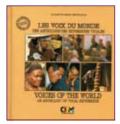

Figure 1. Published series from the CREM collections © CREM – Le chant de monde

TELEMETA: an audio Content Management System for the Web
Joséphine Simonnot, research engineer, CNRS, Research Centre for Ethnomusicology[12]

Researchers in the field of humanities disciplines such as anthropology and linguistic, work with a wide variety of documents including pictures, sound recordings and videos. The time-based nature of these audiovisual materials raises issues of access and visualization. As these resources are research materials, it is important to allow their access and management, as well as their preservation and distribution. For sound recordings, it is essential to manage the sounds together with their associated metadata, to enrich them and to facilitate access to them.

As there was no open source application available on the market, the CNRS Research Center for Ethnomusicology (CREM), the Laboratory of Musical Acoustics (LAM), and the Sound Archive of Aix-en-Provence (MMSH), have been working together since 2007 on the design of an innovative, collaborative and interdisciplinary tool. For these teams, whose core activity is to work on and manage sound records, the project had a double mission: to meet their specific management needs and also to satisfy the demands of the research sector.

The multimedia Web application TELEMATA has been on line since 2008. It is specifically designed to give access to audio archives and their associated metadata, to facilitate the work of researchers and to enhance the availability of data from the database catalog, according to common standards and interoperability.

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