Archival Sounds

The British Library

This is one of four case studies created to illustrate digital preservation practices within digitization, sharing honestly the challenges of establishing digital continuity from a project of limited lifespan. It is selected from 16 projects which were funded by the JISC Digitization Programme between 2004 and 2009. This programme has provided digital access to collections of international significance that would otherwise be inaccessible. In doing so it has also generated an opportunity to learn about the critical success factors in digitization, such as ensuring long term access from short term projects. Each case study is based on an interview carried out on behalf of the JISC by the Digitisation Preservation Project.

Introduction

The Archival Sound Recordings (ASR) service is the result of a development project in the British Library to increase access to the library's extensive sound archive collections. A segment of this digitization was funded by the JISC Digitisation Programme. It makes 8,000 hours of digitized audio freely available to the Higher and Further Education communities of the UK.

The Archival Sound Recordings Project has had two phases. The first phase (ASR1) delivered 12,000 recordings. The Archival Sound Recordings 2 Project builds on work completed under the first phase, delivering more online multimedia content. This includes traditional and classical music, oral history interviews, public talks by leading artists, playwrights and authors, recordings of new and experimental music, and images of commercial record catalogues.

The new recordings can be accessed through an enhanced version of the library website, developed in consultation with its user community.

The primary difference between this and the earlier phase of the ASR project is the provision of more content from the collections, as well as in the development of tools to improve user interaction with the content. This has included the development of Web 2.0 functionality such as semantic tagging and interactive book-marking.

Beryl Bryden in 1976, interviewed in 1989 for the Oral History of Jazz in Britain collection

While the emphasis is on delivering materials for teaching, learning and research, it also provides access to everyone where possible, rather than exclusively to the Higher and Further Education sectors of the UK.

The project is based on a careful assessment of needs. During the earlier phase of the ASR project, the Library conducted a number of workshops to explore the potential use of audio for teaching, learning and research. Although not explored in this case study it is worth noting that this assessment of needs is good practice. If done sensibly it can help preservation

Key Message

Long-term access is improved when content and metadata are wrapped in a single package. In this way data managers will be able to access technical and administrative information with the content. The METS standard can help achieve this.

planning for digitization. More details on the project are at: http://sounds.bl.uk/TextPage.aspx?page=projectinfo

Content

The material digitized in this project was nearly all analogue sound recordings though some digital content was also processed. Originals were presented on variety of formats including commercial discs, open-reel tapes, DAT tape, Betamax and audio cassette tapes. The project also processed a small number of images of record labels (on shellac discs), record catalogues, histories of recorded music and transcripts of material in spoken word. The transcripts were done to help accessibility, but the number of these were limited on account of cost.

The core work of the ASR2 project was the generation of audio master recordings in the BWAV format, TIFF images from the original products and derived copies (JPEG, WMA and MP3) for web delivery.

Standards

The earlier stages of this project meant that by the time ASR2 began, the project team had already explored and had considerable experience with standards relating to digitization of audio and images, the associated metadata and the development of the web interface.

Various standards for the encoding and delivery of metadata were evaluated as part of the project's procurement process. Having explored the available solutions with suppliers, the Library decided to deliver all metadata in the XML-based Metadata Encoding and Transmission Standard (METS). METS can incorporate many disparate kinds of information in a single record or group of records while providing a consistent archival structure. For instance, METS can contain legacy information about the archival original while also documenting the process of digitization and audio segmentation, together with the provision of standard descriptive data compliant with Dublin Core.

The project team was also in a position to develop and use standards promoted by the British Library. The descriptive data taken as standard for the ASR project was driven by the British Library Application Profile for Sound (BLAP-S). An application profile is a set of specifications of the metadata terms identified as most useful for describing particular items and collections.

BLAP-S was an audio-oriented extension of the existing British Library Application Profile. BLAP-S information is embedded in the METS record of each item on the site. The British Library has recently committed to the adoption of METS as a standard for managing some of its

The archival sound recordings include bird songs and other wildlife recordings.

digital archiving processes. This co-ordination of BLAP-S and METS enhance preservation.

First-time users of the service may see little initial benefit in the application of these standards, but in the longer term METS will drive improvements in search and retrieval functions, enable information sharing and interoperability with the wider research community, as well as being a transparent technical record of the creation of a digital object. For example, the ASR service contains many oral history interviews, some over 40 hours long. These interviews have been segmented into short chunks to make them more accessible, but users also needs to be able to easily locate all the other parts of the interview, as well as the information pertinent to each part. METS facilitates the documentation of relationships between a set of digital objects that need to be presented together.

> METS ensures consistent and detailed labeling of objects

The Archival Sounds Recording service will also deliver images and transcripts related to particular audio files. METS enables all of these resources to be referenced in a single document, which can be updated to include new information as it becomes available, helping to ensure the long-term preservation of the digital file.

METS ensures consistent and detailed labeling of objects and is ideal for the ongoing preservation of digital objects, allowing an object or series of related objects to be located in a digital repository and retrieved with a full description of how it has been derived from the original. The project brings the ASR service into line with the Open Archive Initiative Protocol for Metadata Harvesting (OAI-PMH). Standards used for audio digitisation follow

the International Association of Sound and Audiovisual Archives' (IASA) TC-04 "Guidelines on the Production and Preservation of Digital Audio Objects".

Access

The British Library's Archival Sound Recordings web site provides UK Higher and Further Education staff and students free access to approximately 44,500 recordings for streaming and download. More than 50% of recordings can be freely listened to as streamed files. Highlights of the site are blogged each week at: http://britishlibrary.typepad.co.uk/archival_sounds/

The recordings on the service are only a fraction of The British Library Sound Archive but reflect its diversity through the inclusion of recordings of speech, music, environmental sounds, and sound recording history.

Metadata

The data describing the recordings has been derived from the British Library Sound Archive's existing catalogue. The Project Team added these existing sources and new metadata into the Product Database. As described earlier, the British Library Application Profile - Sound (BLAP-S) enables flexible linking between objects but also identifies relationships between different places on an analogue disc, or different segments of an interview in the textual data.

The project has also published its full METS profile (at: http://www.bl.uk/profiles/sound/). This will assist data managers and will be of assistance to others developing digital archives of sound recordings. ASR's METS records are viewable online and are indexed by Google.

The BL has in total over 3½ million existing catalogue entries of sound recordings in MARC format. The ASR project took a selection of these, marked up and converted to Dublin Core, and formally in METS. At the time of writing, the METS Board – which promotes and assesses applications of the standard – is considering the ASR's audio METS profile for ratification. The metadata includes descriptive and technical metadata i.e. information about the recording and how it arose, where it came from and the engineering process.

Intellectual property rights

The clearance of third-party rights has been important to the success of this project. Innovative licensing arrangements to permit use of material in teaching and research environments have been sought with commercial publishers as well as with individual rights owners and their representatives.

The task of clearing rights within a large project can be

The collection includes 64 interviews with Jewish survivors of the Nazis: eye witnesses of the holocaust.

daunting. Some rights owners still need to be located and contacted to ensure that all the recordings selected for inclusion can be used. As the rights reside with third parties, it has not been possible to add all of the content selected at the start of the project. The project team and the funders were aware of this from the outset.

> The clearance of third party rights has been important to the success of this project.

Involving users

The original funding proposal for ASR2 included supporting statements from a number of academics. The project made every effort to consult widely on the selection of content. Selection was based on user need, complexity of intellectual property rights, complexity of digitization and availability of documentation.

In order to develop a web interface to work with a wide variety of audio content, the project involved representatives of user communities in the development of the service. A cross-disciplinary 'User Panel' was established and the project developed an ASR 'online community' for broader engagement. These forums provided the project feedback, advice and expertise on the development of the service. They also allowed academics, students and funders to share expectations and support effective dissemination.

Digital preservation

Surprisingly, preservation planning for audio can be simpler than for text or images. The project team established early on that there was really only one standard file format for sound – uncompressed WAV. Although a proprietary format developed by Microsoft it is widely used and there are no restrictions on creating

software needed to render or alter files using this format. The downside is that it takes up a lot of storage compared with compressed files, although as storage costs have dropped in recent years, this is no longer a critical issue. BL use a particular instance of the WAV format - the EBU-approved BWAV format. This version provides additional 'header space' where metadata can be added. Even so, the team does not make full use of this added capacity.

> Preservation planning for audio can be simpler than for text or images because there is really only one standard file format – the WAV format ... The downside is that it requires a lot of storage.
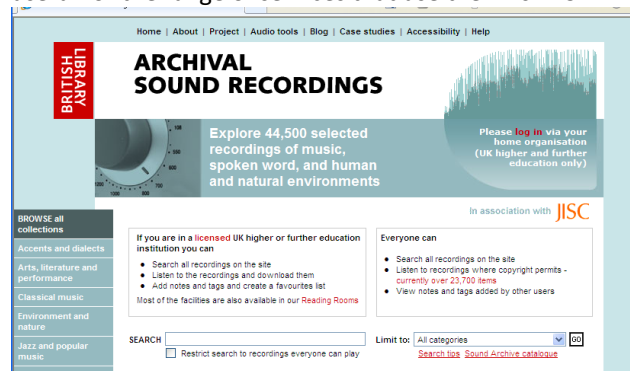
An audio file of an hour's duration can be 2GB or larger at high resolution. Metadata (including notes on corrections/updates) is held in a separate XML file connected to the digital object. A BWAV player can read the extra metadata in the BWAV file header.

The delivery and preservation systems on which the service depends are separate, but connected. For preservation, the project uses the British Library's (BL) Digital Library System (DLS) while the delivery system is a standard web server. Web pages are built from archival packages that will be stored in the DLS. The ability to transport an archival package is uncommon and very advantageous. It means that the full METS files are available within the delivery site for users to access or read. As described previously, the team has captured significant preservation metadata, including provenance data about the analogue source of the audio file and technical metadata about the master digital version of the audio files. Another strong positive is that the BL has been able to commit four staff members to the ongoing maintenance of the service as part of its continuing management of the Archival Sound Recording collection.

As with many digitization projects, the separation of preservation and delivery copies of data is desirable but creates conditions where these can diverge. The project team has had to think carefully about how descriptive metadata or other preservation metadata will be updated. In technical terms this requires a process to allow for the metadata and METS files on the delivery site to be re-exported from updated masters in the DLS.

Looking to the future, and looking beyond ASR2, the adoption and proliferation of Web2.0 technologies implies much more interaction in the development and interpretation of content. The conditions exist for users to contribute or correct metadata or to contribute new and relevant content. This extends the risk of dislocation between delivery and preservation services. Institutions implementing such services may wish to consider the place of user-generated content within their preservation strategies, and may need to inform users of this policy so as to ensure transparency.

Further areas of possible development for ASR2 might include a proof-of-concept 'rendering for display tool' which will prove to the BL that it could develop systems to retrieve and deliver from its DLS. Such a trial could be useful for the range of services that use the BL's DLS .

Archival Sound Recordings are online at: http://sounds.bl.uk/