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 Digitization Programme. When complete, it will make 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, which will be developed further in consultation with the user community. The project is funded by the Joint Information Systems Committee (JISC) under its Digitisation Programme.

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

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

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. While the emphasis continues to be 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

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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.

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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 planning for digitization. Issues raised during the workshops are explored further on the new ASR blog at http://britishlibrary.typepad.co.uk/archival_sounds/

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 CDs, recordable CDs, DAT tape, Betamax 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 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 bidding 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 encoded in 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.

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

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 digital archiving processes. Consequently the co-ordination of BLAP-S and METS created the conditions to 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.

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The Archival Sounds Recording service will also deliver images and transcripts which are 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 artefact.

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 artefact.

The ASR2 project will ensure that the ASR service complies 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) TC04 Guidelines on the Production and Preservation of Digital Objects.

Access

The British Library's Archival Sound Recordings web site provides UK Higher and Further Education staff and students free access to approximately 32,000 recordings. Currently there are over 16,000 fully searchable recordings located on the site with a further 20,000 to follow by the end of the project. A small proportion of the currently available recordings can be freely listened to as streamed files. These recordings can be found in the following sections:

- Accents and dialects
- Ethnographic wax cylinders
- British wildlife recordings

Although accessible through streaming, the recordings in these particular sections are not available for download. All recordings in other sections are available for download within academic institutions.

The recordings on the service form only a fraction of the holdings 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 metadata from 10 different collections is in various states of completion. The Project Team added these existing sources and new metadata into the Product Database. As described earlier, the British Library Application Profile - Sound (BLAPS) enables flexible linking between objects ie. images to sound files, but also identifies relationships between different places on an analogue disc, or different segments of an interview in the textual data.

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

The project has also published its full METS profile. This will assist data managers in the future and might well be of assistance to others intending to develop digital archives of sound recordings.
http://www.bl.uk/profiles/sound/

The BL has in total over 3½ million existing catalogue entries 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 currently 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.

ASR's original METS records are viewable on the web and indexed by Google. The ASR2 project uses a slightly different schema; the website will be upgraded and more material will be added before going live and ASR1 metadata will be converted into the same schema to ensure consistency.

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.

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The task of clearing rights within such a large project can be daunting. A considerable number of rights owners still need to be located and contacted to ensure that all the recordings selected for inclusion can ultimately be added to the service. As the rights reside with these third parties, it may not be 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.

Involving users
The original funding proposal for ASR2 included supporting statements from a number of academics. The project has not always been able to consult as widely as it would have liked on the selection of content due to the complex nature of the community, though every effort was made to do so. Selection has been based on the following criteria:

- Complexity of digitisation
- Availability of documentation
- User need
- Complexity of Intellectual Property Rights

In order to develop an interface which will 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 is developing an ASR 'online community' for broader engagement. These forums provide the project feedback, advice and expertise on the development of the service. They also allow academics, students and funders to share expectations and support the effective dissemination of information about the service.

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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 – WAV. Although a proprietary format owned by Microsoft it is widely used. There are no restrictions on how to write 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. BL use a particular instance of the

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WAV format - the EBU-approved BWAV format. This version provides additional 'header space' where further information about the project can be added. Even so, the team does not make full use of this added capacity. The header can also include time stamp instances.

An audio file can be 2GB or larger. Metadata (including things relating to corrections/updates) is held in a separate XML file connected to the digital object. A BWAV player can be used to 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 Service (DLS) while the delivery system is the Archival Sound Recording section of the British Library website. These pages are built from archival packages exported from the DLS. This 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 team has been able to commit four staff members to the ongoing maintenance of this project 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. Consequently the project has had to think carefully 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 ASR delivery site to be re-exported from updated master 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 in the future. Such a trial could be useful for the range of services that use the BL's DLS .
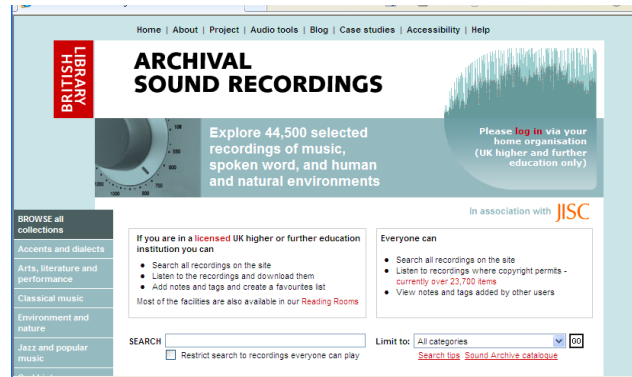
Archival Sound Recordings are online at: http://sounds.bl.uk/