

Digitizing of Bulgarian National Radio Archives

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Abstract. The paper discusses issues connected with the audio archives digitization in the Bulgarian National Radio (BNR). It contains an overview of the audio archive digitization process, the current situation about the BNR archives, setting up a workplace for BNR digitizing of audio archives. The workplace for digitizing of audio archives manages the document creation, verification and approving the file passport, with metadata as a part from the electronic catalogue in the BNR archives phonotque. Examples are provided to demonstrate the procedures of digitizing in details.

Keywords: Digitization, Bulgarian National Radio, Metadata Standards, Audio Archives.

1 Introduction

In the last few years the world of broadcasting has changed significantly. Broadcasters deliver the production in several different formats for different audience platforms. Now there are more ways of delivering and consuming media. New formats to represent audio programmes are being considered.

Sound is the most important element of the radio archive. Digitizing sound/audio is an important part of the process of radio production nowadays. The need for digitization – for preservation and for access is essential part of the radio stations. We cannot overstate the huge importance of audiovisual archives as a cultural and historical resource [1].

There are specific feature for radio archive digitalization:

- The digitization material have to be accepted for broadcast, radio production and archive/preservation [2];
- There are specific characteristics for Quality levels, Access levels, Copyrights, Storing – long term, short term, Cost-efficiency, Outsourcing or digitizing in-house;
- The radio collections include: Images/pictures, Video, Text, and Audio. The target of this paper is the audio archive digitizing;
- Radio audio digitizing have to satisfy: the broadcast production/archive, the editors, and to be accepted from the web ;

- When dealing with audio, it is important to have in consideration some specific needs for the goals of Bulgarian National Radio.

The EBU broadcasters use digital technologies to offer enhanced services to the audience and to reduce their operating costs. The goal is a networked storage. Such type of storage allows multiple users to have simultaneous access to the same material for editing, viewing and research. Such systems offer faster editing, improved productivity and better security. The digitalization include steps for preservation planning – mapping the collections; setting priorities; making a collection strategy, a preservation strategy and a preservation plan. Problems for workflows and audio digitization from many different analogue formats have to be solved with the digitalization process.

In what follows, in Section 2 we describe an overview of the sound archive digitization process. Section 3 gives an overview of the current situation about the BNR archives. Setting up a workplace for BNR digitizing of audio archives are presented in section 4. Examples of rules for BNR metadata creation are outlined in Section 5. The paper finishes with some conclusions and plans for future work in Section 6.

2 Overview of the Sound Archive Digitization Process

Digital audio has, over the past few years, reached a level of development that makes it both effective and affordable for use in the preservation of audio collections of every magnitude [2]. The integration of audio into data systems, the development of appropriate standards, and the wide acceptance of digital audio delivery mechanisms have replaced all other media to such an extent that there is little choice for sound preservation except digital storage approaches. Digital technology offers the potential to provide an approach that addresses many of the concerns of the archiving community through lossless cloning of audio data through time. However, the processes of converting analogue audio to digital, transferring to storage systems, of managing and maintaining the audio data, providing access and ensuring the integrity of the stored information, present a new range of risks that must be managed to ensure that the benefits of digital preservation and archiving are realised [3].

The main guiding principles taken from European Broadcasting Union digitalization appropriate for BNR audio archive digitalization are:

- Transparent boxes;
- Open source collective;
- Flexible resources;
- Digitize as much of radio content as cheap and efficient as possible;
- Create access to as much as possible for as many as possible.

Unfortunately, the real benefits of digital production can be achieved only when all production has become digital. Today we dispose of a mixed environment of analogue and digital production which brings increased complexity for the radio production staff. Existing staff received intensive training on the new technologies because of the

need to learn completely new skills in order to be able to work on the new radio platforms.

Nowadays radio archives become so large (millions of items) that they need complex processes to:

- accept (or reject) material for archiving;
- produce indexes or catalogues;
- manage the use of archive materials.

The storage requirements often become so large that the archives have to be moved to a separate site – typically remote from the users (producers). The result is that archives are not immediately accessible to production staff – and so they lose value. Networked storage of archives offers the perfect solution to this problem. Digital production systems can “liberate” the archives by giving producers easy access to the entire archive. Most broadcasters typically do not spend much money on their archives because there is no short-term benefit.

Archives need to be protected by digitizing their contents as soon as possible. The task of digitizing broadcasters’ archives is not trivial because even small broadcasters have huge archives. Converting all of the films and tapes into digital formats requires specialized equipment and huge amounts of effort, 3 hours per hour of content. The metadata are locked in intranet catalogues and are not searchable outside of the individual radio stations (online). The amount of digitized audio of original recordings is growing; archives are in transition to digital only services (that is a high quality file for broadcast plus a slim mp3 for intranet-pre-listen editorial needs). It has to take into account also the ethical principles for sound and audiovisual archives.

The preservation of the digital files does not end with their creation and the capture of metadata. Digital audio and video formats have their own preservation issues. For example, rapid obsolescence of digital technology and media instability makes digital media particularly vulnerable to loss (most have a life span of 5-10 years). We need to monitor the files regularly to ensure they remain accessible and useable. Preservation may involve regular refreshment or regular replication to formats that can maintain their ‘essential characteristics’. The process of shifting from one digital format to another is often referred to as ‘transcoding’.

The International Association of Sound and Audiovisual Archives (IASA) have also developed principles regarding the digital preservation of audiovisual materials [4]. There are also EBU Core 3.1 Metadata standards and guidelines relevant to digital radio [5] [6] and Metadata standards and guidelines relevant to digital audio [7]. Media Asset Management (MAM) is an ongoing challenge for archives. The process of digital migration is bringing some of the underlying challenges to light.

3 Current Situation about the BNR Archives

The BNR archive fund collects, summarizes, processed, stored and make available documentary and archival sources of written and audio information necessary for the creation of professional radio. Structural department units are: Music Library (Pho-

noteque); The Gold fund – the national sound archive; Supplemental editing; Library. After more than three decades hard work for the digitization of sound recordings, the last decade brought good levels of consensus on the best approaches to use. The practices for creating digital audio continue to be refined. Practices for the preservation digitization of sound content—at least in the radio archives —are still in not mature stage. The workplace for digitizing of audio archives is a workplace for creation, verification and approval a file passport with metadata as a part from the electronic BNR catalogue in the phonoteque. The BNR archive contains material which is of great social, cultural and historical importance. The Golden Fund is the national sound archive, so it needs to protect:

- Sound
 - e-catalogue
 - different carriers
- Images
- Video
- Text
- Digital preservation

Rules for filling, storage and use of archival material in BNR are adopted by the Board of the National Radio of 13/12/2013, and entered into force on 13.12.2013 [8], [9], [10].

4 Setting up a Workplace for BNR Digitizing of Audio Archives

The digitalization process in the BNR will follow the EBU best practices guide on archiving and archivist training, establishment of a shared online workspace for the exchange of materials, construction and coordination of a shared database [11], [12], [13]. The following process is established:

- I. Select a collection for digital conversion;
- II. Plan the approach to digitization;
- III. Produce digital collection and access aid;
- IV. Store in digital archive;
- V. Create Framework;
- VI. Assemble digital collection;
- VII. Test and refine;
- VIII. Release Collection;
- IX. Update.

The produce the passport creation includes:

- Step 1: level 1 technician;
- Step 2: level 2 editor;
- Step 3: level 3 producer/editor in chief.

5 Examples of Rules for BNR Metadata Creation

Some examples for the BNR metadata rules creation are:

- Chambers names are not written in quotes.
- Philharmonic orchestras and ensembles - is displayed as indicated on the original media and both have gained popularity.
- For the purposes of the programs must be noted folklore region, size, function of song and keywords.

Some of the mandatory data for the introduction of a work:

- Name of producer, entered / corrected the record.
- Sound recording team - names sound editor, sound engineer, and record list.
- Type of media - audio CD, DVD, DAT, mp3, bar, plate, HDD.
- Type of record - AAD, ADD, DDD, analog mono, stereo analog, digital mono, stereo digital.
- Speed Bar - 38, 9:53, 19:05, 76.
- Date of entry, date of implementation, date of first broadcast, the date of recovery.
- Type of record - studio, documentary, concert, contest, festival hit.
- Original registration number.
- Copy the registration number.
- Identification number of the carrier.
- Versions - original cover processing.
- Source.
- Status of entry.
- Notes.
- Ceded rights.
- ISRC – code.

6 Conclusion and Future Work

Central infrastructure for storing, managing and sharing radio (media) collections will be piloted at the BNR. The list of the fifteen DC elements official definitions and suggested interpretations for audiovisual contexts are enriched with Descriptive Metadata, which is used in the discovery and identification of an object; Structural Metadata, which is used to display and navigate a particular object for a user and includes the information on the internal organization of that object, such as the intended sequence of events and relationships with other objects, such as images or interview transcripts; Administrative Metadata, which represents the management information for the object (such as the namespaces that authorise the metadata itself), dates on which the object was created or modified, technical metadata (its validated content file format, duration, sampling rate, etc.), rights and licensing information. The digitalization process is very challenger and will open the BNR channels to wider public.

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