Digital Content Generation and their Management at A.I.R., Ranchi: A Case Study

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Abstract

"Save the time of the user". It has been the prime motive if any LIS professional. Media, be it print or electronic have played very important role in generating and disseminating various types of documents / information. This very aspect has brought media professionals and LIS professionals closer than ever before and both derive benefit from each other.

In this paper we present the a case study of All India Radio, Ranchi and try to represent the issues, technologies, management techniques, etc. that A.I.R. Ranchi takes into consideration regarding its digital content to cater the need of its listeners / users.

Keywords: Digital Container, Digital Library, Storage System

1. All India Radio (A.I.R.) Ranchi and Its Library

All India Radio (A.I.R.) Ranchi , the public service broadcaster of Jharkhand began its service on 27 July 1957 with the objective to inform , educate and entertain the public of this region " Along with shortwave (Frequency 4960/5985 KHz & 50 KW SW Transmitter) and medium wave(Frequency 549 KHz & 100 KW MW Transmitter). It broadcasts in FM mode (Frequency 103.3 MHz & 6 KW (VB) Transmitter). Also A.I.R., Ranchi has rich archival contents which are in the process of digitization and it is hoped that it will be prepared for multi platform delivery through the Internet, Mobile and broadcast system in near future.

The newly evolving Digital Programme Library at A.I.R. Ranchi may be called as the Regional Digital Audio Archive of Jharkhand as it is the only treasure house of old and precious recording of regional folk music and spoken words pertaining to the eminent personalities. Whereas the retro conversion of old spool tape recordings are being done in digital format, the studios have already been equipped with digital audio workstations to facilitate hard disk based system (HDBS) of recording. The LAN connecting the transmission control room with various studios and libraries are in the process of completion. Not far are days when A.I.R. Ranchi will have fully automated transmission studios and all recording , editing and playback equipment , including mixing console and master routers in digital mode, Nevertheless , digital audio contents or born – digital audio files have been started to be generated , organized and retrieved for broadcast purpose successfully and thus the focus of the library professionals has been shifting from physical library management to the digital contents generation and their management. Essentially the digital contents (Audio) generation and management system comprises the following components

i) Choice of digital container / storage media

ii) Handling and care of the digital container

iii) Digital contents generation , i.e., a) Getting set to record , b) Hard Disk Based System (HDBS) of audio recording , & c) Packaging (cutting, dubbing, editing ,etc.) of digital contents.

iv) Database creation for digital contents storage and retrieval system.

v) IPR or copyright law consideration.

2. Choice of Digital Container/Storage Media for Digital Audio

Except for live events broadcast, Radio broadcast has always been dependent on the storage media so that the contents to be broadcast could be edited to make them presentable and conforming to the law of the land as well as norms and ethics of the contemporary society and later on the packaged information could be retrieved at the time of possible use. The earlier devices which were used in A.I.R. include the drum for storing music and then vinyl records, magnetic tapes and now-a-days hard disks, Compact Discs (CDs), minidisks; DVDs, etc. are used for storing large amount of digital audio contents.

Table 1: A Comparison of Various Digital Audio Containers

Sl. No.	Type of Media	Year of Introduction (Approx.)	Linear /Non-linear	Storage Capacity	Audio Sampling Rate	No. of Bits	Compression
1	DAT (Digital Audio Tape)	1980	Linear	up to 24 GB	32 KHz 32/44.1/48 KHz	12 16	No
2	Mini Disk	1990	Non-linear	140 MB			ATRAC (An audio codec)
3	Flash Card	1990	Non-linear	up to 2 GB	Any	Any	Possible
4	Compact Disc (CD)	1980	Non-linear	700 MB	44.1 KHz	16	Possible in data format
5	Digital Versatile Disc (DVD)	1990	Non-linear	15.9 GB	192 KHz	24	yes, MLP
6	Hard Disk	1950	Non-linear	300 GB +	Any	Any	Possible
7	USB	1990	Non-linear	2 GB +	Any	Any	Possible
8	Memory Stick	1990	Non-linear	2 GB +	Any	Any	Possible

At present, compact disc and its variations, i.e. CD-R, and CD-RW are extensively used in A.I.R. to keep back-up of various programmes. Since film and classical music are released by the various music companies in wave format and are made available in CDs only, the CD media has become compulsory for procurement of outsourced programme due to copyright issues involved with them. This tiny digital container is very popular as it is very easy and cheap to produce CDs. One CD

can store up to 74 to 80 minutes of audio recordings, which is sufficient for any format of radio programmes. As the audio content is protected by broadcast right and copyright law, the digital contents are kept under vigil, and each time they are broadcasted over the air the specific entries of producer are made in the transmission log book for royalty payment.

3. Handling and Care of Storage Media

Unlike conventional audio storage media (especially magnetic tapes), the digital containers (i.e. CDs , DVDs, etc) do not require the factors such as temperature, humidity, light, etc. to be taken into consideration. Although centrally air-conditioned atmosphere is highly desirable for digital programme library of a Radio Station. The guidelines which are followed in digital programme library of AIR, Ranchi is:-

i)   Write on the CDs/DVDs only with felt tipped pens. Otherwise it will be spoilt.

ii)   Handle with care so that CDs/DVDs are not scratched.

iii) Take a backup whenever you are writing a CD/DVD. It should be noted that suitable antivirus software must be installed in all the systems.

iv)   Periodically clean the CD/DVD tray so that no dust remain which scratch CDs/DVDs.

v)   If at all any dirt or fungus forms on the CDs/DVDs , clean it with plain water and soft cloth to remove moisture.

vi)   Clean the CD/DVD drive lens with lens cleaner CD regularly.

vii) Use good quality CD/DVD for copying the finalized programme. Other wise the CD/DVD writer will become defective. Data error can also occur and the CD/DVD may not be usable in long run.

viii) Stack it in a vertical positions in racks other wise the weight of other material may distort the shape.

ix) CDs/DVDs are not very particular about temperature but it should not be subjected to very high temperature.

4.   Digital Audio Content Generation

The process of generation of digital content i.e. audio file involves two steps:-

i) Getting set to record   ii) Recording with hard disk based system (HDBS)

4.1 Getting Set to Record

This step involves recording and play back controls determination. As it is known that Windows OS has an inbuilt mixer for recording and play back of audio files most of the audio editors use these built in controls for selecting the source and regulating the audio level during recording and playback.

Occasionally, some audio editor may have its own recording and playback controls. Generally sound forge, the audio editor software is used in A.I.R. studios and this software uses the built in controls of Windows OS, so before getting set to record, one showed be familiar with the following points.

i) Windows OS has a built in mixer and most of the audio editor use this feature.

ii) This can be accessed from speaker icon in the bottom right side corner of the desktop.

iii)The source for playback can be selected from the play control mixer.

iv)The source for recording can be sleeted from the recording control mixer.

v) The recording source can be from the front or rear panel and should be selected accordingly.

vi) Microphone control includes on advanced feature to boost the recording level for low output microphones.

4.2 Recording with Hard Disk Based System (Hdbs)

Various audio editor software like multi track recording software cool edit, open swore software audacity and single track software Sound Forge, etc, are available and each and everyone of them has some unique features. In A.I.R.Ranchi studio, Sound Forge studio is available for audio recording, dubbing and editing. This software is having some very good features and is very handy for editing. Some of the features are

i) Five modes of recording are available.

ii) Gap detection and automatic labeling are possible.

iii) Audio tracks can be extracted from audio CDs for mixing with some files.

iv) 'Preferences' are the menu available to change various parameters of Sound Forge.

5. Database Creation, Updating and Maintenance for Digital Contents (Audio) Storage and Retrieval System

The basic task of the information professional attached with the digital programme library of a radio center has been the acquiring, storing, processing, retrieving and making ready the digital content for broadcasting. Keeping these tasks in mind, library and information professional have always been involved in compilation and maintenance of files of information in the form of database so that the information (i.e. digital content in our case) could be retrieved according to users need. This leads to the representation of users need

on one side and the document representation at the other. Like printed documents, digital audio contents also have different formats so the users approach towards them vary thus before document/data representation. It is pre- requisite to know the various formats of digital audio content and user approach towards them. These consideration help in the determination of

i)   Numbers of data fields to be defined.

ii) Standards names to be given to the data fields ;

iii) Type of data that each field will contain;

iv) The length of each data field;

v)   Whether the data is repeatable;

vi) Numbers of sub fields to a data field ;

vii) How should data be entered ;

viii) Which fields need to be indexed ;

ix) How should the fields be indexed ;

x)   How should the records be displayed .

"The core mandate of Akashwani (A.I.R.) is 'to inform', 'to educate' and 'to entertain' through spoken word and music. While information is delivered in words education and entertainment utilize either word or word and music both".

A broad outline of various formats of digital audio content of the digital programme library are given in Table -2 under the broad heads of –

I) Information,

II) Education,

III) Entertainment.

Table -2

Sl. No.	FORMAT	EXAMPLE	LIVE/ PRE- RECORDED PRESENTATION	USERS'APPROACH POINTS
I. Information				
1	Announcement	Programme Summary ,Slogans, Weather Reports and out look ,market rates, railway times, reservation positions, Government plans and policies, information about fair and festivals, SOS messages about lost persons etc.	LIVE PRESENTATION	Neither audio content nor the database entry is required to be made due is ever - changing and momentary nature of information However entry in the programme cue sheet is essential.
2	Messages	Address / Appeals through radio on various Occasions made by honorable president of India, Prime Minister, Governor ,Chief Minister etc.	Mostly pre - recorded	By the name of official designation, by talkers name ,by title / topic /theme, by date of broadcast
3	News	Global, National , Regional and Local news bulletins.	Live broadcast but generally back up are kept for future reference	by title of the news bulletin, by date and time of broadcast.
4	Radio Report	important event report with actual sound byte and ambience	pre recorded and edited	by title of events ,by name of producers by date of broadcast etc.
5	Eye-witness Account	first person report from the venue of occurrence or a post event recorded version	Live or pre recorded & edited	Incorporated in the news items and hence no separate database entry is required.
6	Resume	Brief account of any event or happening ,e.g., parliament and assembly reporting	Mostly pre – recorded	by title of event , by date of broadcast
7	Running Commentary	Big sporting and non sporting events	Live presentation	Back ups are not required.
8	Travelogue	first person account of experience of travel	pre recorded	by title of the programme, by the name of the place of visit, by date of broadcast
9	Feedback/Vox . Pop./Phone- in	listeners direct participation through phone in ,their reactions opinions etc.	pre recorded and edited	Database entry is not required due to momentary nature of information.

10	Jingles	products ,services information public service or a commercial ad comes in this category	pre recorded	by jingles title, by sponsor agency , by date of broadcast

II. Education

Sl. No.	FORMAT	EXAMPLE	LIVE/ PRE-RECORDED PRESENTATION	USERS'APPROACH POINTS
1	Radio Talks	Very popular format in Radio	pre recorded	By topic/subject, By title of talk, By talker's name, By Programme Section, By date of broadcast.
2	Interview/Dialogue	Interview/Dialogue with experts, knowledgeable personalities, public figures ,etc.	pre recorded	By topic/subject, By Interviewee, By interviewer, By Programme Section, By date of broadcast.
3	Discussion	More than two persons are assigned to discuss on a particular topic of interest to bring out conflicting view-points and to reach for consensus	pre recorded	By topic/subject, By participants, By moderator, By Programme Section, By Date of broadcast.
4	Documentary, Features, Docu-features	Developmental themes, historical perspectives, customs, rituals and events of archival value are presented. Documentary is based on factual records; features rely on imagery and emotional creativity with dramatics	pre recorded	By title, By Author(s), By Producer, By Programme Section, By date of broadcast.
5	Radio Quiz, Radio Lesson	Educational broadcast	pre recorded	By title, By Producer, By Programme Section, By date of broadcast.

III. Entertainment

Sl. No.	FORMAT	EXAMPLE	LIVE/ PRE-RECORDED PRESENTATION	USERS'APPROACH POINTS
1	Folk Songs/Tribal Music	The song which is sung by masses without knowing the period and author of that song	pre-recorded	By dialect, By the name of main singer, By title/first line of the song, By theme of the song, By Raaga of the song.

2	Classical Music (Carnatic & Hindustani)	a)Vocal Music (Hindustani) : i)Dhrupad-Dhamar,ii)Khayal,iii)Thumari, Dadra and Tappa.	pre-recorded or purchased from Music Companies	By Arist's name , By Raaga, By taal, By Instrument, By nature and broadcast time of Raaga etc.
3	Light Music	a)Devotional Music , b)Modern Music, c)Regional Music	pre-recorded or purchased from Music Companies	By first line of song, By singer, By Album's title, By keywords etc.
4	Film Music/Songs	Feature Film's songs	As per MOU signed between Music Companies and A.I.R., the royalty amounts are paid after broadcast.	By Film's title, By first line of song, By singer(s),By Composer, By lyricist, By theme, By Year of Music Release, By language, etc.
5	Drama/Serial	Radio drama or Radio serials are specially written. The scenes, time and place are depicted through words and sound effects.	pre-recorded and edited	By title, By Author, By Producer, By Artists, etc.
6	Radio Magazines	Special Audience Programmes	pre-recorded and edited	By Programme Section, By date of broadcast, etc.

Thus the information (users approach) regarding digital audio content is analyzed and structured in small units and finally ideas are represented into whole using database search strategy.

References

1. **Swarna Tarang** ,Golden Jubilee souvenir, 2007 – 2008, Akashwani club, All India Radio, Ranchi

2. **Prasar Bharti:** All India Radio 2007 – compilation, Prasar Bharti, Broadcasting Corporation of India, Directorate General: All India Radio, Audience Research Unit, New Delhi, 2008.

3. Digital program library, 1st ed.,2006, Staff Training Institute(Tech), A.I.R. & Doordarsan, Delhi.

4. **Vani:** Culture Your Voice,1st ed., September 2003, Staff Training Institute (Prog.), Prasar Bharati, Akashwani, Kingsway Camp, Delhi.

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