Digital Preservation Policy

Organizational Overview

The Methuselah Music Project (MMP) is an online collective dedicated to the preservation of performed live music of all varieties and in all forums. The MMP is, at present, a small archive consisting of a smattering of currently-touring musical artists, with a presently de minimus- but existent- collection of legacy materials that have been digitized. It is the goal, however, of the MMP to become Digital destination of past concert experiences- recent and far-reaching- encompassing both the aural experience and other digital and digitized content of a particular live music event.

While there are many music sites, and in particular ones that cater to live music experiences. But oftentimes the content available to the end-user is in lossy formats, or with damaged or incomplete recordings, and the preservation of the content is on an ad hoc basis; meaning it can be threatened by data manipulation at multiple points. As the ultimate goal is the dissemination of as-close-to-the-real-thing as possible recordings of live musical events, the verifiable preservation of such content is paramount.

Data Collected & Stored

The ultimate goal of the MMP is to house the audio files in the most accurate, cleanest format possible; this means, at present, lossless (and eventually, the capacity to house even uncompressed files) audio formats. The objective is a repository for the "master" live recordings of music. Edited (read: "cleaned") files are accepted, but not in compressed, lossy formats.

The prominent examples of file formats that will be promoted are:

Phase 1
Lossless Formats

- FLAC
- WavPac
- ATRAC
- Monkey's Audio
- Dolby's TrueHD
- shn
- TTA
- ALAC

Phase ?
Uncompressed formats

- WAV (sans uncompressed files)
- AIFF
- DSD
- BWF

NDSA Adherence (Levels of Digital Preservation. Retrieved May 15, 2020)

At present, the MMP does not adhere to NDSA standards, though this policy is created with the intent of reaching at least NDSA Level 1 compliance in short order.

The present storage is on local servers/databases, cloud-accessible through the servers' proprietary network(s) (i.e. Western Digital's MyCloud Pro Series). There are some steps of Level 1 NDSA compliance that are met by the MMP small team's capabilities:

Security/Control

The team has identified the individuals who have read, write, move, & delete authorization, and in tiered structure (moving forward, the structure will evolve so as to protect against the accidental deletion of Master files). Once the content is uploaded, it is the in the hands of the MMP team, and rights and control are outside the purview of the uploader(s) (even if the uploader is a team member).

Admins (no deletion capabilities): Corky Wolfcastle; Diomedes Jackson; Nestor Gondolli

Admin plus Deletion: Clytemnestra Rothchild; Todd Parker

Metadata

The team performs weekly inventory of content, including backing it up across multiple servers; crucially, however, these servers are within close proximity of each other.

File Formats

As stated previously, the MMP will accept lossless audio formats from the outset during Phase 1. In fact, MMP currently has the capabilities of verifying file formats and has relationships with the content creators to know what is entering the system (Level 2).

Storage

While the MMP does have documentation for content location across servers and its content is in stable storage, it does not currently have full compliance with that facet of Level 1.

Currently, the data is stored on multiple local servers, but within geographic proximity to each other (sometimes on the same property). The first step for the MMP is to host 2 copies of a file in geographically disparate locations (with more copies/server space as capabilities expand). This will require a more robust and secure cloud system, one that is established in the cloud storage industry for an added sense of security regarding failsafes. Storage will also be the largest expenditure (discussed later), both in the local server hardware costs as well as paying for server space in the established cloud ecosystem.

Data Integrity

As with storage, there are some elements of Level 1 compliance to which MMP currently adheres, yet some of the crucial elements are lacking; namely, the variability of generating

information with and without content, as well as verifying the files themselves through virus-checking and checksum procedures. This will be solved with the cloud storage solution.

Future NDSA plans

It is the Northern Star for the MMP to achieve Level 4 of NDSA compliance- the most closely related facets to audio files of live music being:

- Storage
    - addressing hardware and software obsolescence; geographic diversity in storage, with enough variation to safeguard against a variety of natural and geopolitical threats.
- Data Integrity
    - Replacing and repairing damaged content
- Content
    - Ability to transfer/copy files between formats and operating systems to ensure content can be accessed in a multitude of forums

The first steps towards achieving these goal is contained in this policy: expanding the MMP to utilize enterprise-scale cloud storage solutions for the archiving and preservation of live music experiences.

Metadata to be collected

The MMP currently collects the following metadata attributes, realizing fully that there is the potential to add more dimensions, especially should the collection grow to include more than just the audio files. Required dimensions in **bold**

- **Artist**
- **Date of performance**
- **Geographic Location**
- **Venue**
- **Audio source**
- **File history (original recording equipment-> file capture-> format changes)**
- Setlist
- Notes
- Instrumentation
- Artist personnel
- Artist support crew
- Time of day of performance
- Historical context

Workflow/Procedure

The workflow for the MMP preservation process will follow the basic OAIS procedure (basic workflow chart below)

Software

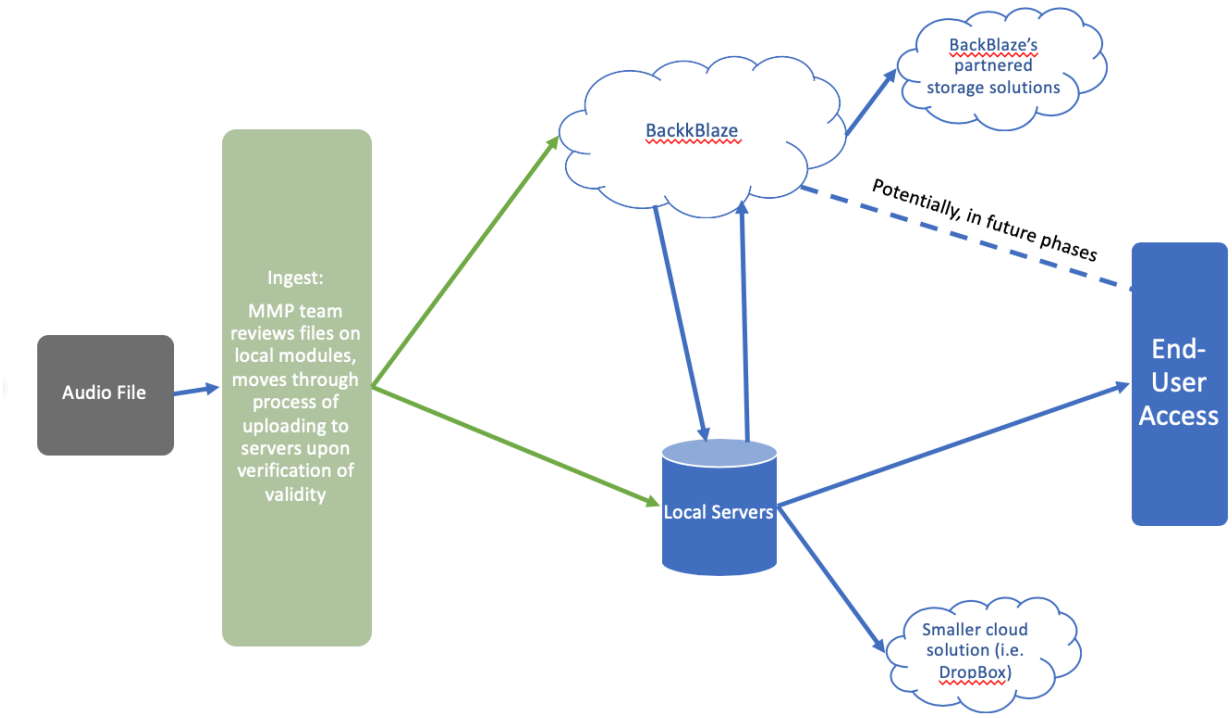
(Backblaze Business Backup. Retrieved May 30, 2020)

MMP will use BackBlaze cloud storage solution. The benefits of this system include: affordability (over something like Amazon's S3 servers), compatibility with S3, their utilization of SHA-1 checksum procedure, automatic/automated backups, web-based admin interface, integration with MSP360 (another storage solution) for redundancy, and the ability to create user-facing apps on top of their database to grant access to the content. The current cost is $5 per month per TB of data. Using the barometer of a 3-3½ hour concert taking up roughly 350MB in a lossless file format, the MMP could host roughly 2,850 long-form concerts at $5 per month ($60 per year).

Hardware

(My Cloud Pro Series PR4100. Retrieved May 28, 2020)

Local nodes will be outfitted with the Western Digital MyCloud Pro Series PR 4100 (retails $739.99 ea). Benefits include: 8 TB of storage; compatibility with MacOS and PC's; ease of operability; cloud access on its own network; multiple backup options; and its own integration with cloud services like DropBox and Plex.



Public Preservation Policy

The Methuselah Music Project endeavors to preserve the master recordings of live music recordings in an uncompromised and uncompressed format. This is to allow for users of the content to edit the material as they see fit for their personal use; the sound mixing, levels, et al.

The storage of the content is ensured by the MMP team's ability to gather it from contributors, personal collections, and other forms of acquisition. The preservation is ensured through a multi-step, redundant process for safeguards, with multiple people-in-the-loop at the various steps, and uses cloud storage solutions that use verification algorithms to ensure the veracity of the data.

Sources

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