RESOURCESPACE REQUIREMENTS IN CONTEXT

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BAMPFA Film Library and Study Center
Michael Campos-Quinn
Nancy Goldman

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Overview

BAMPFA will be using ResourceSpace as the access front end for audiovisual objects ingested into our digital repository. RS will serve a handful of primary functions:

- Provide an interface for users to search for assets
- Display basic descriptive metadata
    - For BAMPFA Film Collection assets this will be drawn (in most cases) from our FileMaker collection management database
    - For other assets, this will be user-submitted
    - This will also include:
        - Ingest process unique identifier for each asset
        - LTO tape ID for master files/Archival Information Packages
- Provide means to preview and download deliverable access files
- Provide links to internal webapps for ingest/LTO migration

Technical context

BAMPFA staff will ingest several primary types of audiovisual assets into our digital repository with access-level derivative files hosted in ResourceSpace (RS). The digital repository consists of OAIS-based Archival Information Packages (AIPs) containing master files, derivatives, technical and descriptive metadata, as well as a database tracking digital preservation actions taken on each asset. Assets to be ingested must

be placed in a shared directory on our closed network. Our internal webapp looks in this directory and users may select a variety of options during the ingest process. It then uses several microservice scripts to perform transcoding, package files, create technical metadata reports, and generate checksums (including a checksummed manifest for each AIP).

For BAMPFA Film Collection assets, our webapp uses the FileMaker XML API to query our collection management database using a unique ID for the asset and return metadata as JSON. This is saved as part of each film collection AIP, and sent to ResourceSpace in the API call that posts derivative files to RS. This also includes the unique identifier (UUID) that is assigned to the ingest process for each asset.

For non-film collection assets, the webapp does not currently have a means to take in user-supplied metadata, so all that is sent to RS on ingest is the ingest UUID and the asset filename. A detail that we would like to explore is the possibility of supplying RS with some of the technical metadata generated on ingest. This could easily be part of the JSON sent to RS, but we are not certain yet how or whether that would be useful (for example, recording in RS the encoding format of the preservation master file, versioned checksums for the master or other files, etc.).

The microservice that produces access-copy video files generates a “high-quality” H.264 encoded video wrapped in an mp4 container. This derivative should be sufficient for both research access and display in our small theater. A copy of this file is sent to RS as our digital surrogate for the object and saved in the RS filestore directory. ResourceSpace should create its own very small derivative that is sufficient for preview within RS only.

For audio master files (BWF/WAV), the microservice uses LAME to encode an mp3 access copy. This should be the resource that is played back directly from within RS.

For multi-part objects being ingested (most notably scans of multi-reel films) the webapp currently creates a record for the first element (“Reel 1” for example) and adds the other reels as “alternative files” that are displayed below the preview for Reel 1. One known issue is that we would like these alternative files to be viewable in the same type of video.js player as the primary files. *see section “Known Unknowns”

When AIPs are migrated to LTO for long-term storage, the LTO tape ID is sent to the RS record for the asset. This can be searched by archive and digital media staff who

may need to retrieve the master file for post-processing, preservation needs, exhibition, or other reasons.

Our metadata mapping can be found here. It is currently under revision but the PFA collection fields are mapped to our dev RS instance. One goal is to provide an additional form in our webapp along the lines of this example that will allow users to submit non-film-collection descriptive metadata at the time of ingest. Our AIPs also include a PBCore-compliant XML file generated from the supplied technical and descriptive metadata.

Asset profiles

Type	**Owning department(s)**	**Master file format(s)**	**Access format**	**Notes**
Film scan	Film Collection	ProRes 4:2:2 DPX + PCM	H.264 in .mp4	
Video transfer	Film Collection	ProRes 4:2:2	H.264 in .mp4	
DCP	Film Collection			Not able to take in this format yet
Digitized cassette	Library	BWF	mp3	
Event videorecording	Digital Media Comms?	ProRes 422	H.264 in .mp4	
Lecture videorecording	Digital Media			
Artist interview	Comms?	ProRes 422	H.264 in .mp4	
Promo video	Comms?	-	H.264 in .mp4	
PFA speaker recording	Library	BWF	mp3	
Event audio recording	Comms	mp3	mp3	

User profiles

- Archive staff:
    - Ingest film collection assets
    - Migrate packages to LTO
    - Manage LTO storage (new tapes, monitor available space)
    - Update metadata
    - Download derivative access files
- Digital media staff:
    - Ingest lecture/event recordings
    - Update metadata
    - Download derivatives
    - Retrieve master files for post processing
- Library staff:
    - Ingest audio recordings
    - Update metadata
    - Download access files for researchers
- Communications staff:
    - Ingest event recordings, promo videos
    - Update metadata
    - Retrieve mezzanine/master files for re-edits?
    - Download access copies to post online?
- Admin
    - First line system troubleshooting
    - System monitoring
    - Coordinate vendor(s), identify requirements for additional technical contractor
    - Work with staff to develop requirements for new features to be built by contractor
    - Preservation planning, recommend preservation activity schedule
    - Probably some other stuff
- Public Researcher
    - Can only view shared collection
    - No download
    - No search

Known unknowns

There are a handful of questions we are already aware of that we will need Montala's expertise to either make decisions on or save for a later implementation. The most basic requirements we have for ResourceSpace per se are already met by a standard installation.

However we will need help with some workflow and logistical planning regarding technical metadata, user roles and permissions, and making room for some future improvements as needed.

- Playback in browser of alternative files
- Playback "original file" (BAMPFA lo-res proxy) instead of making a preview in RS
- User roles/permissions
- Version control
- Dev/production environments
- User submission of metadata for assets not in PFA collection management system
- RS "collections:" how would we use them?
- Should we have a public account for research viewers in the library?
- Expose RS to additional staff in our building network (136.152.253.*)
    - Security implications?
    - Restrict to specific staff computers?
- Adding technical metadata to RS records
    - We need to decide this internally: is it needed/helpful?

Unknown unknowns

There are also some goals that are most likely going to be reserved for a later implementation, and will need some development to achieve.

- Exporting metadata updated in RS to AIP
- Requery FileMaker to retrieve new metadata
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