SAN DIEGO AIR & SPACE MUSEUM DIGITIZATION PROJECT

INTRODUCTION

The San Diego Air & Space Museum houses one of the largest and most comprehensive collections of aerospace related materials in the world. The collection includes books, documents, films, photos, periodicals, manuals, drawings, and other archival materials. Over the past several years, the Museum has begun the process of organizing and digitizing many of these collections. Digitization allows for greater public access to the collection, and assures that the materials will be preserved for future use.

The Library & Archives currently has 3 full-time staff members, 2 full-time grant funded staff members, and approximately 30 volunteers.

PROJECT GOALS

- Increase and improve user accessibility
- Preserve assets for future generations
- Standardize and improve consistency
- Improve efficiency and productivity
- Raise awareness of the valuable collections

PROJECT BACKGROUND (Flow charts)

When the project began, the book records were in a card catalog, audio visual and oral history records were in Excel, Manuals in Mac (floppy disc) and then Word, drawings in Access, and archival records were in a variety of formats.

In 2007 the Library's card catalog was converted by an outside company to MARC format and uploaded to EOS.web, a web-based integrated library system—which we named AeroCat. We also purchased EOS's Knowledge Builder module, which allows materials not formatted as a traditional bibliographic record (i.e., MARC) to be included (and integrated) in the catalog. Knowledge Builder records can be imported and exported from Excel spreadsheets using a comma separated value (i.e., .csv) file format.

The non-book records were converted to Excel, and customized search fields were developed for each type of material following national cataloging standards and practice. We also developed basic keyword lists for subjects and aircraft to improve search results. Although Knowledge Builder records are non-MARC, the fields chosen for each type of material mirror MARC fields and tags in case a future need arises to import these records into a MARC-based system. A lot of volunteer time was spent re-formatting and editing these spreadsheets before uploading to AeroCat. During this time, we also reviewed our processes and made changes to improve both productivity and efficiency.

ONLINE ACCESSIBILITY

The San Diego Air & Space Museum recognizes the importance of adopting new technologies, particularly in the areas of digitization and social media, to remain relevant to 21st century learners. Our efforts were aided by the creation of the Balboa Park Online Collaborative (BPOC), a group dedicated to helping institutions in the Park, where the Museum is located, with all technologically related issues. One of the priorities of BPOC was to assist with digitization. From its inception, the staff of SDASM has worked closely with BPOC to digitize collections. Even though digitization efforts had been going on for several years (mostly through the help of volunteers using flatbed scanners), it was recognized that the BPOC could greatly speed up this process. BPOC provided SDASM with initial equipment and helped secure funding for a recently completed two-year Library & Archives program dedicated to digitization.

During this project, the Museum has expanded its reach through the following platforms:

Online catalog (AeroCat): In addition to book records, *AeroCat* includes films, videos, oral histories, and other archival materials. And we just started adding Special Collections records, which have been downloaded from Archivists' Toolkit. As items are digitized, the hyperlink is added to the *AeroCat* record. The downside is that the catalog can only be accessed from the Museum website and is not searchable using Google and other Internet search engines.

Public online cataloging sites: The Museum lists its finding aids for special collections on the Online Archive of California (OAC) and National Union Catalog of Manuscript Collections (NUCMC) to further raise awareness of its collections to the public.

SDASM website: The Museum website acts as a portal to web accessible inventories of our collection. It also lists brief descriptions of special collections with links to detailed finding guides and links to photos on Flickr. These descriptions enable researchers to find our collections through Google searches. All finding guides are originally created in word doc and converted to a pdf to attach to the descriptions on the website. These however cannot be searched by internet search engines. The finding guides are also entered into Archivist toolkit, converted to EAD/MARC and uploaded into public online cataloging sites and AeroCat.

Social media sites: Social photo and video sharing sites, such as Flickr and YouTube, help the Museum reach individuals who are not already familiar with the Museum. Through the addition of metadata that is then converted into search engine-friendly keywords, the photos are easier for web users to find. Flickr and YouTube are avenues of dissemination appropriate for the intended audience as they are the most widely used sites of their type on the web. As our previous usage of Flickr and YouTube has demonstrated, the "aerospace audience" uses them to find the information they seek. In addition, both Flickr and YouTube use a "tagging" system, which allows images and videos to be prominently displayed on Internet web searches. Because of the amount of tagged content we already have online, results of a Google search for a certain aircraft would likely include SDASM's assets in the first few results. This fact makes our content highly accessible to interested parties.

The Museum's digitized collections were made available to the public on Flickr.com and YouTube. In 2011, the Museum's images were accepted into the Flickr Commons, which also houses images from the Library of Congress and other prestigious institutions. During the first 18 months of the project it attracted more than four million views. At the time, the 140,000 photographs digitized, represented only five percent of the Museum's total collection, yet elicited tens of thousands of comments from aviation professionals and enthusiasts from around the world. Many of these comments had enhanced the historical significance of the images. After evaluating the correctness and usefulness of Flickr.com and YouTube comments received, the input was integrated into our system to enhance the collection database. The dissemination of this information would not have been possible if we had not begun online digitization of our general collection. Due to the success of our initial digitization project we decided it was important to continue this effort, as well as initiate digitization of our special collections (e.g., Ryan and Convair image collections), which would likely generate even greater interest because of their unique subject matter.

We also use other social media sites to raise awareness about our collections and progress on our projects, such as Facebook, Library blog, Twitter, Pinterest.

Digital Asset Management System (DAMS): The Museum staff worked with BPOC staff to integrate a digital asset management solution that enables metadata to be distributed among multiple databases: EOS.web, Flickr and YouTube. API software was developed by BPOC for the transfer of data to occur to and from the DAMS. Our digital assets are entered and stored in the DAMS and fed out to the Museum's social networks. Crowdsourcing is verified and then pulled back into the DAMS to enhance the metadata. In the future, the DAMS will also manage the Museum's administrative records and history by storing policies, brochures, event photos and graphic art, etc. Materials will be accessible by departments for staff support. In addition, the system can be used in the future by the public to view and place reproduction orders for photos and film.

PROJECT RESULTS

On the whole, the project was an incredible success! The vast majority of digitized assets have been shared with the public online. In addition, this project is sustainable. The standards developed over the course of the project, and the documentation prepared along the way, will be of great help going forward to insure coordinated, consisting cataloging.

The fact that our archival materials can be searched on *AeroCat* has also had a large impact. Prior to this project, researchers had to search several databases to find a subject in various formats. Now, the researcher can do a simple search from anywhere in world using a simple catalog search engine or access our photos and videos through our website and social media sites.

What was once a bunch of piecemeal projects, in which important steps could easily be omitted or overlooked, is now much simpler. Researchers have also benefited, because retrieval is both easier and more complete.

The ability to use the DAMS as the one center for metadata and digital files is incredibly valuable and avoids duplication. Now, metadata and files only need to be loaded once. And by simply clicking on an icon, those assets can be uploaded to Flickr or YouTube. In addition, the ability to automatically ingest the tags and comments from Flickr into the Piction ensures that the incredibly valuable information gained from crowdsourcing is quickly and permanently stored in one location.

THE NUMBERS

- Digitizing at a rate of 5,000 images and 100 films per month
- Research requests have increased three-fold since our collections went online
- Received over 70,000 million views on Flickr in 4 years
- Received over 1 million views on YouTube in 1 year
- In a recent social media ranking on Pinterest, our Museum scored in the top 8 of Museums throughout the world for sharing its collections.

LESSONS LEARNED

1. We learned early on that the process needs to be as simple and straightforward as possible, because much of the work is being done by volunteers who are not archivists or librarians.
2. We have also seen the important of standardizing the cataloging and being consistent. The consistency makes retrieval much easier for our researchers.
3. The importance of planning in advance and coordinating the cataloging, indexing, and processing of materials cannot be overstressed. Similar processes and cataloging rules for all types of materials is easier for staff and volunteers and ensures more consistent access for researchers.