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Faster Digital Output: Using Student Workers to Create Metadata for a Grant Funded Project

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INTRODUCTION

Archives and special collections experience pressure to digitize and make more of their holdings available online. Creating online digital collections is time consuming. Not only do the individual analog items need to be scanned, but descriptive metadata must be created for web searches and for historical context. According to the 2004 Institute of Museum and Library Services (IMLS) survey, archives cite lack of staff time as one of the top two hindrances for undertaking digitization projects.[1] Often, archives and special collections cannot hire additional professional staff to carry out digital projects. Keeping up with traditional processing and handling reference requests consume regular staff time.

One way to fill this gap is by leveraging the use of student workers. In May 2010, the National Endowment for the Humanities (NEH) awarded Archival Services, a division of University Libraries, at The University of Akron a two year, $303,200 grant to inventory, preservation re-house, digitize, and make available online over 23,400 photographic negatives from the Goodyear Tire & Rubber Company. Undergraduate and graduate student workers completed a majority of the work on the project. The following case study examines the challenges and successes of managing student workers in an academic library archives department to complete a large-scale grant-funded digital

[1] Institute of Museum and Library Services, *Status of Technology and Digitization in the Nation's Museums and Libraries* (Washington, D.C.: Institute of Museum and Library Services, 2006): 85, accessed December 19, 2012, http://www.imls.gov/assets/1/AssetManager/Technology_Digitization.pdf.

project. Specifically, the study examines training student workers to create metadata, observing students as they fit into an archives work environment, and maximizing student work as they developed expertise and leadership skills.

LITERATURE REVIEW

Archives and special collections have understood the researcher demand to digitize original materials, especially images, and place them online for at least a decade. IMLS reported that 94 percent of the 395 archives that responded to their survey had digitized at least one item in the past twelve months and 66.3 percent provided access to at least some of their digital images on the Web.[2] As more digital objects go online, the need for comprehensive, complete metadata becomes more apparent. In a 2004 survey of Association of Research Libraries (ARL) and Greater Western Library Alliance (GWLA), the archives departments at 24 percent of responding libraries were creating metadata.[3] Three years later, a new survey of ARL member libraries found the percentage of libraries with archivists creating metadata had tripled to 72 percent.[4] With the user demand for digital access increasing, archivists must find ways to create online content while continuing to complete the myriad of other duties.

In an academic library setting, many librarians agree that the student worker is essential to a successful environment. Student workers cover shifts at the circulation desk, provide reference support, work in technical services, and manage the stacks. Library literature discusses management, funding, and training of the student worker. However, it is difficult to find an article that specifically addresses using student workers to create metadata, despite evidence in the literature that libraries are employing student workers for this task. The percentage of academic libraries using student workers to create metadata varies between surveys

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[2] Ibid, 84.
[3] Michael Boock and Ruth Vondracek, "Organization for Digitization: A Survey," *Portal: Libraries and the Academy* 6, no. 2 (2006): 197-217.
[4] Jin Ma, *Metadata* (Washington, D.C.: Association of Research Libraries, 2007): 18.

from 24 to 57 percent.[5] In one survey, metadata creation was the second most common task, following digitization (e.g., scanning), which student workers undertook on digital projects.[6] Since none of these surveys identified the department affiliations of student workers working on digital projects, there is no data that specifies the number of institutions using archives students to complete metadata.

While academic library literature covers many aspects of student workers, current archival literature rarely addresses the important, and often essential, feature of employing students.[7] The most recent book that addresses the importance of student workers in archives is *Archival Internships: A Guide for Faculty, Supervisors and Students* by Jeannette A. Bastian and Donna Webber. Bastian and Webber explain how offering archival internships can help institutions augment staffing levels at no or little financial cost. In order for an internship to be successful and meaningful for the intern, institutions need to provide projects that expand the student's professional skill level versus menial tasks.[8] However, it is important to note that interns work in a different dynamic than other student workers in archival settings. In most cases, interns already have some coursework in archival theory and declared an interest in archival work as a profession, while other student workers may have different professional aspirations and do not necessarily view their archives job as essential training for their future careers.

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[5] Percentage of libraries using student workers for metadata creation was reported as 24 percent in Boock and Vondracek, "Organization for Digitization," 208; 39 percent in Laurie Lopatin, "Metadata Practices in Academic and Non-Academic Libraries for Digital Projects: A Survey," *Cataloging & Classification Quarterly* 48, no. 8 (2010): 731; and 57 percent in Ma, *Metadata*, 18.

[6] Boock and Vondracek, "Organization for Digitization," 208.

[7] Recent archival literature has focused on general management and training of students: Nora Murphy, "When the Resources are Human: Managing Staff, Students, and Ourselves," *Journal of Archival Organization* 7, no. 1/2 (2009): 66-73; Judith A. Wiener, "Easing the Learning Curve: The Creation of Digital Learning Objects for Use in Special Collections Student Training," *Provenance* 28 (2010): 58-81.

[8] Jeannette A. Bastian and Donna Webber, *Archival Internships: A Guide for Faculty, Supervisors, and Students* (Chicago: Society of American Archivists, 2008): 43.

Regarding student workers in general, two 1992 publications remain the seminal articles in archival literature. Barbara L. Floyd and Richard W. Oram's "Learning by Doing: Undergraduates as Employees in Archives" surveyed large university archives and found that a majority of archives employed student workers and that they performed a variety of tasks.[9] The survey reported that 37.3 percent of respondents indicated that students performed "professional" tasks, which led Floyd and Oram to conclude that a majority of university archives had students "perform moderately complex tasks that require intelligence, judgment, and specialized skills."[10] The Society of American Archivists publication *Student Assistants in Archival Repositories A Handbook for Managers* outlines a number of ideal skills and qualities, including research skills and an interest in the work, for student workers in an archival setting. The handbook identifies three types of work carried out by students: reference, technical, and administrative services.[11] Metadata, not a widespread practice in 1992, falls under technical services.

Discussions on using student workers to complete digital projects, including metadata creation, are absent from archival literature. As archives and special collections respond to increased demands to make more collections available online, it is important to understand what activities can be successfully delegated to as well as best practices for managing student workers on digital projects. This case study addresses this gap in the literature.

PROJECT DESCRIPTION

The ultimate goal of the grant project was two-fold: preserve the original 23,400 photographic negatives to the fullest extent possible and create digital surrogates for increased access. The negatives, covering the years 1912-1951, include glass plates, nitrates, and acetates in various stages of deterioration. The images

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[9] Barbara L. Floyd and Richard W. Oram, "Learning by Doing: Undergraduates as Employees in Archives," *American Archivist* 55, no. 3 (Summer 1992): 440-452.

[10] Ibid., 441-442.

[11] College and University Archives Section of the Society of American Archivists. *Student Assistants in Archival Repositories: A Handbook for Managers* (Chicago: The Section, 1992): 35-41

are of high research value for historians, scholars, enthusiasts, and genealogists. Subjects of special note include lighter-than-air flight, blimps, tire production, parade balloons, and industrial workplace conditions. Most interesting from this time period are the World War II-era images of Goodyear products used in the war effort. NEH designated the project a "We the People" project.[12]

As specified in the grant, undergraduate student workers and two graduate assistants from the Department of History carried out the majority of the work. Archival Services faculty and staff contributed as a project director (head of the department), a project manager (assistant archivist), and a metadata specialist (special collections cataloger). Students began the project by creating an inventory of the title, date, negative number, and photographer of each negative using Microsoft Excel. The archival principle of original order was followed, given that the photographer arranged the folders by year and by negative number therein. This inventory became the basic format for the digital surrogate's metadata. While the students typed the inventory, they also re-housed each negative in an acid-free envelope and placed the negatives in acid-free boxes. The Northeast Document Conservation Center (NEDCC) digitized the original negatives. After digitization, the students created metadata for each of the 23,400 images. The images and corresponding metadata were then uploaded to The University of Akron Digital Resource Commons (UA DRC) (http://drc.uakron.edu/), an online digital repository, for immediate public access. As a final preservation step, the student workers packaged the original nitrate and acetate negatives and placed them in cold storage.

Using student workers to complete the bulk of the grant project work was necessary in order to complete the project within the two year period specified in the grant. At about seven minutes per image, creating metadata for all 23,400 images took over 2,730 hours. The permanent archives staff could not have devoted that much time to the project and still complete their regular job assignments.

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[12] "We the People is an NEH program designed to encourage and enhance the teaching, study, and understanding of American history, culture, and democratic principles.""We the People: An Initiative from NEH,"accessed October 18, 2012, http://www.wethepeople.gov/.

MANAGING STUDENT WORKERS

Training and Quality Assurance of Metadata

Comprehensive training is essential for student workers to be successful. For this grant project, departmental staff conducted in-house student worker training, necessitating a large investment of time at the beginning of the project and when a new student worker was hired. Metadata creation required the most extensive training. While the students worked on inventorying and rehousing, the project metadata specialist developed a project metadata manual for the students that defined the Dublin Core metadata fields to be used and specified how data should be entered in them (Appendix A). The UA DRC is part of the statewide OhioLINK Digital Resource Commons, and the OhioLINK Digital Resources Management Committee (DRMC) Metadata Taskforce's Metadata Application Profile was used as the basis for the manual.[13] Project management decided the collection's importance warranted the creation of full detailed item level metadata records for each image. All possible Dublin Core fields in the OhioLINK DRC Metadata Application Profile were used, including optional fields, such as *coverage.spatial* for geographic information and *format.extent* for size (Appendix B).

The metadata specialist also created guides on searching and using controlled vocabularies. Using a controlled vocabulary for subject terms was necessary for the UA DRC's *browse by subject* functionality to work properly for the collection. To make subject heading assignment easier for the students, the metadata specialist selected the Library of Congress Thesaurus for Graphic Materials (TGM) over the more commonly used Library of Congress Subject Headings (LCSH).[14] LCSH is a very complex

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[13] OhioLINK Digital Resources Management Committee (DRMC) Metadata Subcommittee. *OhioLINK Digital Resources Commons (DRC) Metadata Application Profile* (Columbus, Ohio : OhioLINK, 2010), accessed Sept. 15, 2012, https://3213580494339773771-a-ohiolink-edu-s-sites.googlegroups.com/a/ohiolink.edu/drmc/Home/Subcommittees/Metadata/drmc_metadataprofile--10-5-10.pdf.

[14] In the ACRL Spec Kit survey 47% of institutions used TGM versus 96% who used LCSH. Ma, *Metadata*, 22.

controlled vocabulary that requires extensive training to properly apply and formulate subject heading strings, while TGM is a smaller thesaurus with fewer rules governing heading construction. Additionally, Library of Congress has a free and easy-to-use online database for searching and locating TGM terms that the students were able to navigate with minimal training. When applicable, the students assigned names and place terms from the Library of Congress Name Authority File (LCNAF) to supplement the topical terms from TGM. One disadvantage to using TGM over LCSH was some minor loss of specificity in subject headings. For example, the collection included many photographs of workers in rubber goods factories, and while LCSH includes the heading, *Rubber industry workers*, there is no comparably specific term in TGM, and the more general subject heading *Employees* had to be used. This loss of subject specificity was compensated for by reducing the training time needed on controlled vocabularies, freeing students to devote more time to actual metadata creation and, ultimately, complete the project on time.

The metadata specialist conducted individual metadata training sessions with each student. Training was practical and oriented specifically to the needs of the Goodyear images; general metadata theory was not covered. Instead, students were instructed on the importance of the end user's perspective and encouraged to consider what terms a researcher might use. The project metadata specialist stressed the inclusion of sufficient keywords in an image's metadata for a researcher to locate specific images out of the thousands in the collection. To assist students in understanding the most important topics, the project manager provided a list of the collection's most researched topics, such as blimps, World War II, employee pictures. By focusing on the end user's perspective, students created quality metadata without having theoretical knowledge.

Practice is an essential component of metadata creation training. During their initial training session, the students wrote metadata for several images with their trainer. Following training, the metadata specialist reviewed each student's work until his or her error rate was minimal (roughly under 5 percent). Later training sessions were refined based on common problems observed during metadata review. The most common error was a student failing to be specific enough in either his/her description or

choice of subject headings. For example, with over three thousand images featuring a tire, descriptions needed to be more detailed than "A picture of a Goodyear tire." The next most common problem was students failing to match the capitalization and singularity/plurality used in the TGM Thesaurus on the subject headings they entered. As a result of continual training refinements, students trained later in the project had a lower initial error rate than their predecessors and a shorter review period.

Including time spent reviewing metadata, the metadata specialist spent approximately forty hours on training for each student. On average, the total number of images reviewed by the metadata specialist for each student ranged from 200-600. Throughout project, ten students received metadata training bringing the total amount of the time the metadata specialist spent on student training to roughly 400 hours. In total, the amount staff time invested in training, while extensive, was about 15% of the total 2,720 hours students spent on metadata creation and resulted in the production of high quality and consistent metadata from the student workers.

After a student's review period under the metadata specialist, the project graduate assistants conducted quality control though spot checking to correct metadata errors. As more students moved from full review to spot checking, the amount of spot checking became too overwhelming for the graduate assistants. The project manager assigned each student a partner to check each other's metadata. Engaging students in spot checking had several benefits. Occasionally, students became fatigued with metadata creation and made errors, such as getting misaligned in their spreadsheet and entering data in the wrong columns. Spot checking not only prevented these errors from being published online; it also increased the variety of a student's work helping to reduce fatigue errors.

Another benefit of students spot checking each other's work the exposure to examples of other students' metadata records. One drawback of having multiple metadata creators is that it reduced overall consistency between records, especially in terms of subject access. Choosing subject headings for images is a rather subjective art, with different people often choosing very different aspects of an image to highlight through subject headings. Through

reviewing each other's work, students discovered what subject headings their partner assigned to a particular topic and discussed the best subject headings for that situation. This helped improve the overall consistency of metadata in the collection.

Fitting into the Archives Work Environment

Previously, the Archival Services staff hired student workers to perform routine tasks, such as inventorying, preservation re-foldering, shelving special collections books, and scanning. The majority of their duties were not professional-level, and they worked on various tasks rather than on one ongoing project. With the NEH project, student workers performed professional tasks by creating full metadata records and worked for two years consistently on one project. Overall, the project benefitted the students, as they gained workplace skills and responsibilities. Staff as well as students learned and adjusted during the project, especially relating to the physical work environment, the repetitive nature of tasks on this project, and student worker dynamic of balancing academics and job requirements.

As with most modern archives, space – both storage and work – is not profuse. The physical facility did not readily accommodate five additional work spaces and the grant did not fund computer equipment. A relatively small corner of the processing room was arranged as the project area and the university library purchased three work stations and laptop computers. This provided sufficient equipment and space because the five students rarely worked simultaneously. The arrangement was physically adequate but not always mentally conducive to work. Each student's unique personality contributed to the environment; some students needed to complete their metadata in quiet while others preferred to socialize. The more introverted students wanted to work alone while the extroverted students viewed the project as a group effort. Surprisingly, there was very little conflict between the students – eventually ten personalities in total.

The personalities of the student workers also affected their enjoyment, or lack of enjoyment, of archival work. At times, the students on this project found their assignments tedious and boring. Inventorying and re-housing over 23,400 negatives became dull.

To combat the boredom the project manager offered a small variety of tasks, such as performing quality control, assisting with uploading to the digital repository, and preparing the negatives for cold storage. Ultimately, though, the tasks as outlined in the grant application were to inventory, re-house, and create metadata. The repetitive nature of the project was most acute for students who worked long blocks of hours; a few students worked eight hours a day. Along with repetition, the success of the project required readable penmanship, attention to detail, and recording accurate information. The project manager assumed each student possessed these attributes. It soon became clear that each student had his/her own strengths and weaknesses. The professional staff needed to be cognizant of each person and match students with their strengths and buffer them from areas in which they struggled.

Although the students on this project were asked to perform professional tasks, they were not professional archivists and worked in a different dynamic. First, the students were enrolled at The University of Akron for an academic education, and both staff and student workers prioritized academics higher than work. Some students worked thirty hours a week in the summer and reduced their schedules to six to ten hours during the academic year and the work room was nearly empty during final exams. While this could have been problematic, the ebb and flow of the student schedule balanced over the two year project. The graduate assistant contract required the two students to work twenty hours per week, compensating for the fewer undergraduate hours. On a grant-funded project with strict deadlines, summer employment was essential. All students reduced their hours during the semester, but a few students discovered they could not balance both work and academics and resigned. At the start of the project, the archives' staff, perhaps naively, assumed the same five students (two graduate assistants and three undergraduates) would remain on the project throughout the two years. Since the undergraduates did not work as many hours as originally budgeted, funds were available to hire additional undergraduate students during the second year of the grant. In the end, ten students worked on the project over the two-year period and only one of the original hires stayed through the entire project.

Emerging Leaders and Expertise

As mentioned previously, Archival Services staff needed to match student workers with tasks that met their strengths. Sometimes this meant allowing and encouraging a student to emerge as a leader or expert in a particular project area; graduate assistants in particular served as leaders in the project, providing support to the undergraduates and testing project workflows. The Goodyear grant project was the University Libraries' first large scale digitization project and it took some time to determine best practices. Two graduate assistants started creating metadata before the other students and immediately discovered workflow issues that negatively impacted metadata creation speed. Due to the volume of images, project management opted to batch load images and metadata into the UA DRC. This entailed entering metadata information into an Excel file from which it was later extracted into the proper DC.XML file for uploading. Initially, the metadata fields were ordered in the Excel file so that entire rows could be copied from the collection inventory with new metadata fields to be added at the end of the row. Unfortunately, this resulted in fields not being in the order that students needed to logically fill them out. For example, students needed to refer to the image title (a field copied from the original inventory) to assist in writing descriptions, but separating the two fields were several columns on the spreadsheet, which required scrolling back and forth between them. The graduate assistants worked with the metadata specialist to reorder the metadata fields into a more user friendly layout. This collaboration between staff and students strengthened the success of the project.

Student leadership was not limited to the graduate assistants. Throughout the course of the project, the undergraduate students took on more advanced tasks not originally expected of them, including assigning subject headings to images and doing quality control checking of other students' work. In both cases, the graduate assistants performing those tasks became overwhelmed and the undergraduates assisted in order to meet the grant deadline. The undergraduate students received the same in-house training on metadata as their graduate level counterparts and there was little noticeable difference between the metadata created and subject headings assigned. This illustrates that with training,

undergraduate as well as graduate students are capable of completing professional-level work, such as metadata creation.

Every student developed his or her own niche in terms of subject matter based on image assignments and personal interests. For example, one student became an expert on farm equipment, another on identifying balloon pilots, and another on chemical products. Students passed along their knowledge by providing assistance on assigning subject headings and writing descriptions for images in their category of expertise. Initiated by one of the graduate assistants, the students maintained a shared document called "Metadata Cheat Sheet" in which they noted useful subject headings and other helpful information. With ten different students, the project had its own army of subject experts.

The variety of subject expertise in the student worker pool was also enhanced by including non-history majors on the grant. The project graduate assistantships were tied to The University of Akron's Department of History and originally departmental staff also targeted history majors for the undergraduate student worker positions. It was assumed that due to their interest in the subject, history majors would find working with the historical images in the Goodyear collection interesting and therefore be invested in their work. When hiring additional undergraduate student workers for year two of the grant, a lack of applicants from the history department necessitated offering the positions to three students from different disciplines (two English majors and one biology major). The metadata these students produced was comparable to that produced by the history majors in terms of both quality and quantity. In addition, the two English majors helped others with grammar and sentence construction, improving the quality of writing in the image descriptions.

Allowing student workers to assume leadership and subject expertise rather than limiting them to repetitive mundane tasks greatly enhanced the success of the project. Through their work, the students at times gained a better understanding of workflow issues and some subject areas in the collection than the permanent staff who supervised them. Additionally, students taking ownership of certain aspects of the project increased their engagement in the project and ultimately the quality of their work.

CONCLUSION

In today's professional environment, archives must do more with less: less funding, less staff, and less resources. However, the demand for online access to primary resources has not lessened. This case study demonstrates that work usually reserved for professional archivists or catalogers can be completed by student workers, and possibly interns or volunteers.

A number of lessons were learned during the grant period. One was that quality training is essential and must be done by an archivist, librarian, or cataloger. Once trained, students can help each other throughout the project but initial instruction must come from a professional with a theoretical and practical background. Quality training is time consuming but results in less time correcting errors, a richer metadata record, and greater accessibility of information. A time investment is critical, both to the student and the professional staff.

Training and supervising students is an ongoing learning experience because each student is different. Work style, knowledge base, and communication methods vary between each student. The most important lesson learned during this project was that capitalizing on each student's strengths created a more cohesive work environment. Some students found certain tasks to be tedious, while others enjoyed them. Matching each student with his/her strengths required the supervisors to observe the students' work and to learn their personality traits. Ultimately, the project resulted in making one of The University of Akron's flagship collections accessible and searchable online and enhanced the university's educational environment by providing students with experiences outside the classroom.

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Appendix A: Goodyear Photographs Metadata Manual: An Element by Element Guide (adapted from the OhioLINK Digital Media Center (DMS) Metadata Application Profile)

Enter metadata for each image in its own row in the Excel Spreadsheet. Each column represents a metadata field. If you need to repeat a field (such as subject) you will need to add another column with the second value.

Variable Elements

identifier:other (a.k.a. Image File Name --MANDATORY)
Enter the image file name.

2123D_29

date:created (MANDATORY)
Enter the date of photograph creation from folder in the form YYYY-MM-DD. (Leave month and date off when not given.) Circa dates should be entered as year followed by a question mark. When no date is given make an educated guess on the year or range of years. When giving an estimated year range enter in the form YYYY? – YYYY?.

1926	*Year only given.*
1926-06	*Year and month only given*
1926-06-02	*Full date known.*
1926?	*Use for ca. 1926 or when guessing that the year is most likely 1926 but date is absent from inventory.*
1920?-1929?	*No date given in inventory and guessing that the photograph was taken some time in the 1920s.*

date:issued (MANDATORY)
Enter the same date used in date:created.

contributor:photographer
Enter name of the photographer in the form [last name], [first name]. Determining the full name of the photographer may require research. If the photographer's full name cannot be discovered enter what information you do have. If the photographer is unknown leave field blank.

Smith, John	*Photographer's first and last name known.*
Barnstorff	*Only photographer's last name known.*
T.W.	*Only initials known.*

format:medium (MANDATORY)
Enter the type of negative in the format it appears in the Thesaurus of Graphic Materials http://www.loc.gov/pictures/collection/tgm/ (TGM)

Nitrate negatives
Acetate negatives
Glass negatives

format:extent (MANDATORY)
Dimensions of original negative in inches.

4 x 5 in

equipment:digitizing (MANDATORY)
Copy the model of camera from the metadata embedded in the image file. For glass plate negatives list the make and model of the scanner.

Sinarback eVolution 75, Sinar M Camera

date:digitized (MANDATORY)
Date the digital image returned to Archival Services. For batch 1 this date is 2010-09-17.

2010-09-17

title (MANDATORY)
Use title from image folder as entered in the inventory, omitting any initial articles. When no title is given supply a brief descriptive title based on the image contents. (Do not use *untitled* or *no title.*) Capitalize the first letter of important words. To make each title unique, add the negative number at the end in parentheses.

1922 Indy Race (A1841f)

coverage:spatial (a.k.a. location)
Coverage spatial is the location where the photograph was taken. Enter cities in the form they appear in the Library of Congress Name Authority File http://authorities.loc.gov/. Briefly: U.S., Canadian, and Australian cities in the form *City (State/Province--maybe abbreviated).* Other cities in form *City (Country).* Leave out foreign diacritic marks since DSpace cannot handle them. If the location of the image is not readily identifiable then leave blank.

Akron (Ohio)
Detroit (Mich.)
Montreal (Quebec)
London (England)
Bonneville Salt Flats (Utah)

description (MADATORY)
Provide a one to three sentence description of what is pictured in the image. This field is the one spot in the record that you can provide historical context so be as specific as possible. If you have multiple photographs from the same folder and it is easy to specify in your description how they vary, please do so. However if the differences are too slight or complex to describe, it is okay for different images to have the same exact same description. Also mention here any major imperfections that the researcher should be aware of. At the end of the description identify the image as either a black and white or color photograph.

Example: Side view of Goodyear Railroad Engine with two men posing as driver and stoker. Top and upper left side of negative is partially deteriorated. One black and white photograph.

subject (MANDATORY)
Provide one or more subject keywords about the contents of the image. Each separate keyword needs to be in its own column. Be as specific as possible when assigning subject keywords (i.e. use *tire industry* over *rubber industry* when applicable.) For retrieval consistence, a particular keyword needs to be entered the exactly the same way in all metadata records it applies to. (For example we do not want one record to have *donuts* and another to have *doughnuts*.) To assist in this we will be using subject terms from set thesauruses. For topical keywords we will use the Library of Congress Thesaurus for Graphic Materials (TGM), searchable online at http://www.loc.gov/pictures/collection/tgm/. Also provide as subject keywords the names of any individuals that are identified in the image. Name form should match the Library of Congress Name Authority File (http://authorities.loc.gov/). Names of individuals who do not appear in the authority file (probably the vast majority) should be entered in the form Last name, First name. Leave out any foreign diacritic marks because DSpace cannot handle them.

Airships
Tire industry
Potter, Harry
Arnstein, Karl, b. 1887

Constant Elements (to be entered right before upload)

contributor:author
For the purposes of this collection Goodyear is the author of the images.

Goodyear Tire and Rubber Company

type
Type is a Dublin Core defined terms for the format of the resource. For this collection all items are images.

Image

publisher:OLrepository
Name of repository that holds parent original object.
Archival Services, University Libraries, The University of Akron.

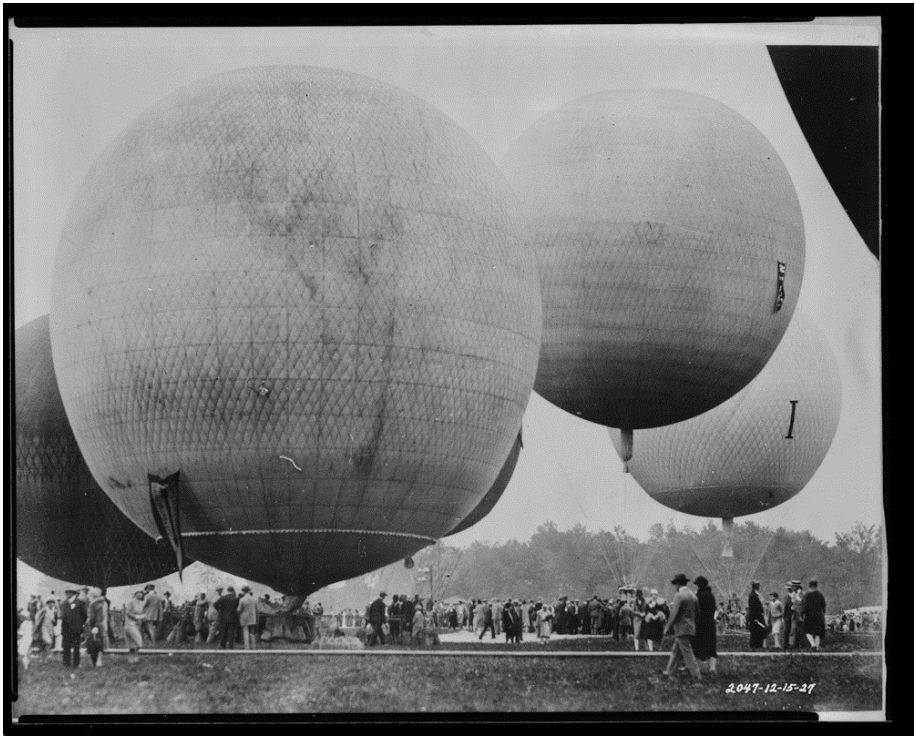
publisher:digital
Entity responsible for making the resource available
University of Akron. Archival Services

rights
Copyright statement.
This image is protected by copyright law of the United States (Title 17, United States Code). Copyright to this image lies with The University of Akron which makes it available for personal use for private study, scholarship, or research. Any other use of this image including publications, exhibitions, or productions is prohibited without written permission of The University of Akron Archival Services. Please contact Archival Services at archives@uakron.edu for more information.

relation:ispartof (a.k.a Collection Title)
Name of the collection the original image is part of.
A Goodyear Tire and Rubber Company Records, Photographic Negatives and Prints

publisher:OLinstitution
Name of OhioLINK Institution hosting item.
University of Akron

Appendix B: Example Metadata Record



Field Name	Data
dc:identifier.other	2047_27
dc:date.created	1927-12-15
dc:date.issued	1927-12-15
dc:contributor.photographer	Barnstaff
dc:format.medium	Nitrate negatives
dc:format.extent	8 x 10 in
dc:equipment.digitizing	Sinarback eVolution 75, SinarM
dc:date.digitized	2010-09-17
dc:title	Gordons Bennett Races- Ford Airport, Detroit (2047)
dc:coverage.spatial	Detroit (Mich.)

dc:description	Six gas air balloons on the ground during the Gordons Bennett Races at the Ford Airport in Detroit, Michigan. One black and white photograph.
dc:subject	Balloons (Aircraft)
dc:subject	Balloon racing
dc:contributor.author	Goodyear Tire and Rubber Company
dc:type	Image
dc:publisher.OLrepository	Archival Services, University Libraries, The University of Akron
publisher:digital	University of Akron. Archival Services
rights	This image is protected by copyright law of the United States (Title 17, United States Code). Copyright to this image lies with The University of Akron …
publisher:OLinstitution	University of Akron