# Creating Digital Cultural Heritage Collections in an Urban Academic Library Setting

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## Abstract

As libraries develop digital cultural heritage collections the relationship with the organizations that own the collection are vital to the success of the process. This is ground that libraries have typically not operated. Organizations external to libraries that own collections have many needs beyond the simple digitization process. IUPUI University Library is an urban academic library that has worked on developing relationships with external organizations for almost ten years. During this time there have been many hurdles and lessons learned. This paper highlights some of the trends in relationship building with community organizations and offers two unique case studies that demonstrate the challenges libraries are likely to face. Other academic, research, and public libraries can benefit from developing relationships similar to those described and enhance the creation of cultural heritage collections.

Key Words: digital library; cultural heritage digital collections; community partnerships; academic libraries

## Introduction

Indiana University-Purdue University Indianapolis (IUPUI) University Library is located just west of the center of downtown Indianapolis, Indiana. Being geographically located in the heart of the city, presents the opportunity to engage

with a great number of organizations that house materials related to the culture of Indianapolis. It is part of the Library's mission to connect people with our resources, our services and each other. IUPUI University Library is rooted in community collaboration and has partnered with over thirty-five organizations to provide worldwide access to over eighty digital collections that would otherwise be hidden within the walls of the organization. The successful creation of these digital collections is less about the methodology of digitization and more about institutional partnerships built on human relationships. While all digitization projects involve outreach, digitization, image manipulation, metadata creation, and content management system implementation, each project is unique and customized to the needs of the organization and the organization's vision for the completed digital collection. The library partners with organizations to ensure that the selection and description of materials captures and provides online access to the history of the organization. Thus, the creation of each digital collection follows a unique path.

IUPUI University Library recognizes that each organization has varied needs. While one organization might only require digitization services because they have the capacity to carry out the remainder of the project, others might require digitization, metadata, and access services. The library has created the flexibility to accommodate many levels of need to create digital collections from beginning to end.

This article recounts the creation of unique digital collections for two prominent Indianapolis organizations. Each case shares the story of the migration from material to the digital environment.

## Literature Review

Academic libraries across North American continue to experience an increase in demand for digitization (Tharani, 2012). In some cases large libraries have even participated in high profile, extensive digitization projects. The HathiTrust, for example, involves a consortium of organizations, including the University of California and the State University System of Florida as well as Boston College, Harvard, Indiana University and others. The HathiTrust Digital Library is a digital preservation repository that provides long-term access and services for public domain and in copyright materials. The HathiTrust digitization process gathers content from a variety of non-academic partners, including Google, the Internet Archive, and Microsoft as well as from the participating universities. (HathiTrust n.d.). HathiTrust, and similar initiatives, pursue mass digitization. The goal of mass digitization is not to create collections but to digitize everything, or in this case, every book possible (Coyle, 2006).

In contrast to mass digitization, many libraries are involved in the careful and individual selection of materials to be digitized. This type of digitization arises out of preservation projects whose aim is to produce replacement copies of texts that are

deteriorating or to make rare physical collections more widely accessible (Coyle, 2006). Although digitization might be considered a core service of an academic library, digital collection building is usually managed as part of discrete projects rather than general library services (Mugridge, 2006). Nonetheless, with advances in information technologies, academic libraries are now in a position to reimagine digitization as part of their library services (Tharani, 2012).

Some libraries focus on the collaborative nature of digital projects. For example, the University of Saskatchewan library funded a collaborative research initiative in order to identify and explore issues and considerations that academic libraries face in mobilizing digitization off-campus (Tharani, 2012). In collaboration with Simon Frazer University, a collection of the late Dr. Alwaiz Abualy (1919-2008), who was a prominent scholar of Islam, was selected for digitization. The collection was in fragile condition and the libraries worked with the family to establish a digitization plan that met the considerations of the family and also served the needs of the libraries to complete the project. Considerations included: off-site digitization at the family estate; selection of items as directed by the Abuali family; metadata standards as recommended by academic librarians; and shared determination of digitization for access, preservation or both. In addition to thinking about the needs and wishes of their community partners, it is also important for academic libraries to realize the strategic value of digitization activities in the context of their own services and mission (Tharani, 2012).

Zorich et al. (2008) and Bishoff (2009) have also recognized the importance of collaborations and have called for more collaboration among libraries, archives and museums (LAMs) in developing digital collections (Middleton, York, 2014). Along these lines, the Digital Public Library of America (DPLA) is a national initiative that is underway to provide a portal for sharing digital collections through metadata. Thus the DPLA has the potential to increase collaboration among digital library initiatives.

Many statewide organizations have the capacity to participate in initiatives like DPLA while other organizations lack active digitization programs. Thus, many LAMs that have excellent collections are left to look for partners that have the infrastructure for digitization. In *Collaborative Publishing in Digital History*, Middleton notes that academic libraries like IUPUI University Library and Middle Tennessee State University's Walker Library have digitization programs that can address this need by seeking content partners. By strengthening existing partnerships and proactively seeking new opportunities, libraries that do not have unique primary resource collections can take a leading role in digital history collections (Middleton, York 2014). As the cases that follow demonstrate, libraries that aim to seek out content partners should expect to develop flexible approaches to project management. These approaches are more likely to succeed if all project-partners are invested in the outcomes and are clear about the potential benefits.

# Case Studies

A digitization projects consist of multiple processes and functions. The proposed Collections Digitization Framework (Tharani, 2012) provides a foundation to successfully create a digital collection. These activities include:

1. Decide: Qualify collections and items for digitization to support the library's mission.
2. Deploy: Identify and mobilize required resources to support digitization activities.
3. Digitize: Generate digital surrogates for physical items selected for digitization
4. Describe: The creation, collection dissemination, and management of metadata to describe digitized items.
5. Deposit: Facilitate submission of digital surrogates to appropriate local, archival, or access servers and repositories.
6. Display: Provide support for presenting, searching, and discovery of digital items through appropriate servers and systems.
7. Direct. Planning, administration, and monitoring of the digitization activities.

Using the Collections Digitization Framework, IUPUI University Library divides the processes and functions into two categories. The first category is work that will be performed by temporary employees. These employees are typically student workers that are hired to perform activities three (digitize) and, potentially, four (describe) depending on the nature of the material. The second category is work performed by full-time library staff members. IUPUI University Library has a Digitization Coordinator who oversees the digitization schedules and coordinates metadata creation with temporary employees. The Digitization Coordinator oversees activities two, four, five and six (deploy, describe, deposit, and display). Two Digitization Assistants assist in the management of those processes. The Digital Scholarship Outreach Librarian is responsible for activities one and seven (decide and direct). The librarian is responsible for building and sustaining the collaboration as well as determining the organizational needs of the digitization project.

The two case narratives that follow demonstrate how IUPUI University Library has exercised creative and flexible approaches to creating digital collections with Indianapolis community organizations.

## *Indianapolis Recorder* Newspaper

What began as a two-page church bulletin by co-founders George Pheldon Stewart and William H. Porter, the *Indianapolis Recorder* is now one of the most enduring African-American publications in the United States. Established in 1897, the *Indianapolis Recorder* focused on local people and events in Indianapolis but also reported national events. Throughout history, the *Indianapolis Recorder* has documented the socio-economic and political climates that affect every-day community life. The newspaper has documented the activities of civil rights activists, Philip Randolph, Martin Luther King Jr., Malcom X, Edgar Evers, Thurgood Marshall, and John F. Kennedy. The 1980's and 1990's brought newsworthy events including Indiana Black Expo, and the Circle City Classic. Today, the *Indianapolis Recorder* is owned by the William G. Mays family who has sustained the newspaper's commitment to being a major voice in the local community, the state of Indiana as well as nationally and internationally.

Until recently, the historic collection (1899-2005) of the *Indianapolis Recorder* was dispersed across various locations including the Indiana Historical Society and the Indianapolis Recorder office. Most of these holdings were on microfilm. Recognizing the local and national importance of this publication, University Library implemented a plan to seek copyright permission to digitize the collection. By providing access to a digital version, this project increases the newspaper's reach and allows readers to freely browse and search the collection from anywhere in the world.

## Digitization Project Plan

The *Indianapolis Recorder* has sustained the commitment to being a major voice in the local community, the state of Indiana as well as nationally and internationally. In 2008, IUPUI University library was granted permission to digitize the entire historic run of the *Indianapolis Recorder* (1899-2005). The collection consisted of 83 rolls of microfilm. Digitizing from paper was not an option; no complete set of papers was available for this work. IUPUI University Library is equipped with a variety of scanners to handle bound volumes, slides and negatives, large format items and audio and video formats. Unfortunately, the library was not equipped with the expertise or the hardware and software to conduct a large microfilm project. These issues led to leading the library to examine options for these processes in the project. The library had to weigh some tough questions. Should the library invest in training, equipment, and technology to digitize microfilm in-house? If investments were made, would future projects include digitizing more microfilm? If investments were not made, would the library miss future opportunities to digitize microfilm collections?

Prior to this project, all digitization was performed in-house. Processes and workflows were established simplifying how to determine staffing needs, equipment, and budget requirements. After performing research in the area of

microfilm digitization, the library decided to reach out to Lyrasis to guide us through the process of working with a vendor to outsource the microfilm digitization.

Founded in 2009, Lyrasis is a non-profit organization that partners with member libraries, museums, and other cultural heritage organizations to create digital collections (Lyrasis, n.d.). Joining with other organizations, such as Archives Space and the Digital Public Library of America, the library acquired membership status with Lyrasis to work on *the Indianapolis Recorder* and other projects.

## Funding Agency

IUPUI University Library is fortunate to have the opportunity to work with the Indianapolis Foundation, a local foundation that has a fund designated to benefit public, academic and high school libraries in Marion County, Indiana. The Indianapolis Foundation was especially interested in the *Indianapolis Recorder* project because of its collaborative nature—the project involved digitization experts (IUPUI University Library) and a long-time community member (*Indianapolis Recorder*). The Foundation was also interested in providing access to the long record of journalism that the newspaper provided for the Indianapolis community. Putting the *Indianapolis Recorder* online raises awareness of the newspaper's important role in Indianapolis history and helps shape the local community's cultural identity. The online collection promotes and bolsters the newspaper's national reputation and makes the development and content of the historically important newspaper available to researchers across the country and beyond.

The project was funded by the Library Fund, a fund of the Indianapolis Foundation for $24,000.00.

## Budget Narrative

The *Indianapolis Recorder* grant budget was created taking into consideration an unknown workflow. The grant budget was based on the Lyrasis quote for digitization and the remainder of the budget covered image manipulation (file naming and quality control) and advertisement, -a short video. Image manipulation was estimated at 225 hours. IUPUI University Library's estimated contributions included administration of the project and the CONTENTdm import process. The time estimated for this process was 150 hours.

The actual time spent on the project was vastly different than estimated number of hours.

Figure 1 shows the differences in time to perform quality control and image manipulation tasks by hourly staff. The library absorbed the costs that were accrued for the additional hours to complete the tasks. Figure 2 displays the discrepancy between the estimated and actual time required to complete the CONTENTdm import performed by library digitization staff.

Figure 1. Indianapolis Recorder Grant Funded Estimated/Actual Hours for library staff-quality control and image manipulation.

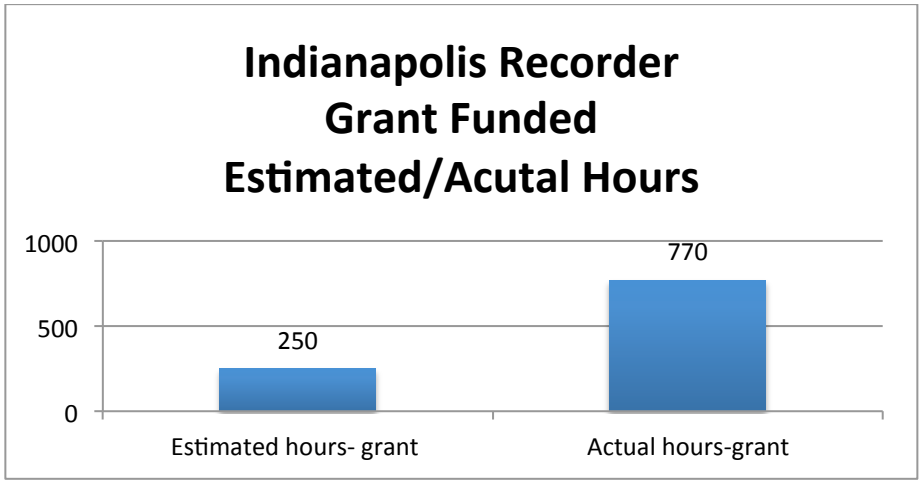
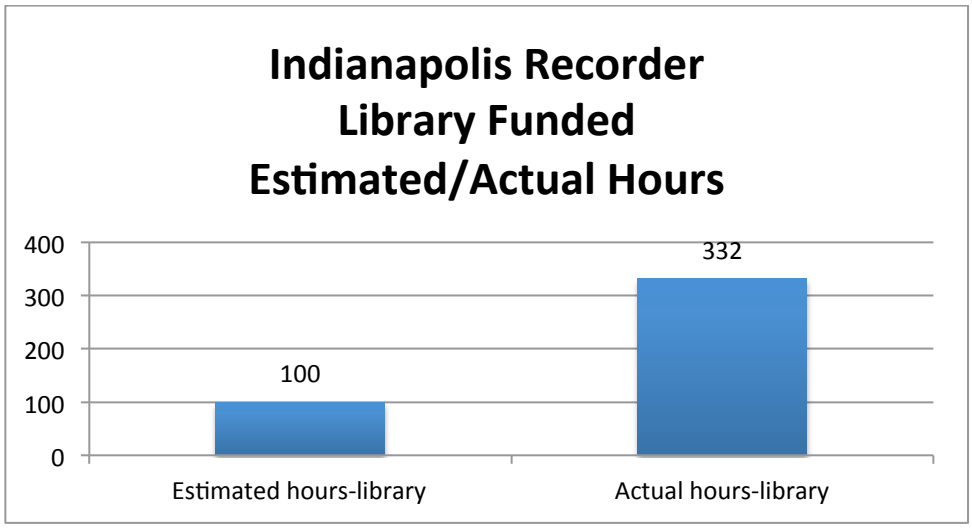



Figure 2. Differences in hours spent for library digitization staff for, CONTENTdm processes.




## Lessons Learned

The *Indianapolis Recorder* project was the first outsourced digitization service for IUPUI University Library. The library lacked the experience to create an accurate estimate for an outsourced newspaper project. The main processes were underestimated including: image manipulation, quality control, and CONTENTdm importing and uploading.

The collection consisted of 90,461 digital files. While the library understood that the project would include a massive number of image files, the reality of organizing and

manipulating the collection was overwhelming. Each file had to be opened to ensure quality as well as to make sure that pages were not duplicated. Mistakes were found on occasion and Lyrasis remedied any issues with regard to the quality of the files and duplication.

Importing the digitized newspaper into the content management system proved to be another unforeseen challenge. IUPUI University Library uses CONTENTdm as the primary content management system to display cultural heritage collections. The *Indianapolis Recorder* collection contains mostly textual material. CONTENTdm struggled to handle the Optical Character Recognition (OCR) that was generated during the upload process. IUPUI University Library technology support was called upon to trouble shoot this data processing issue. It has been determined that while CONTENTdm was built to handle large textual collections, OCR has proven to slow the upload process. Constant monitoring must take place to make sure the upload process completes.

Although the estimate of time required to complete the project proved to be incorrect, IUPUI University Library acquired the necessary experience to handle a large, outsourced digitization project. The library is better positioned to make estimations of required time, hardware limitations and personnel skills needed to complete future projects.

IUPUI University Library embarked on a project with unforeseen challenges and the opportunity to gain experience of working with outsourced material, a massive number image files and hardware and software limitations. It forced the library to consider alternative workflows in image manipulation. The Indianapolis Recorder project set precedence to how the library thinks about future digitization that includes large textual collections.

## Indianapolis Motor Speedway

On May 30, 1911 the Indianapolis Motor Speedway (IMS) held the first Indianapolis 500 Race; Ray Harroun clocked a speed of 74.602 mph in his Marmon "Wasp" to win the race. Since 1911, the IMS has been the scene for ninety-six Indianapolis 500 races. The organization owns a vast photographic collection of nearly every race; the collection contains over four million negative slides. With a collection of this size, the IMS faces preservation challenges as the negatives begin to deteriorate. Recognizing the urgent need to preserve its historic assets, the IMS contacted IUPUI University Library to discuss preservation needs as well as to begin the discussion about creating a historic digital collection of a select group of photographs.

## Digitization Plan

The process of developing a digitization plan for the Indianapolis Motor Speedway project began with the selection of negatives to be included in the digital collection.

With such a vast collection, one would think it would be difficult to determine a starting point. Unfortunately, selection was simplified by selecting the negatives that were deteriorating due to poor storage conditions. Over the course of three years 15,000 (5,000 per year) deteriorating negatives were preserved in digital format.

The creation of the digitization work plan was based on the needs of the partnering organization. Initial meetings with the Motor Speedway introduced the opportunity to provide mobile digitization services in order to complete the project. The negative collection resides at the Indianapolis Motor Speedway Museum and the museum prohibits the removal of negatives from the premise.

IUPUI University Library was flexible in providing the ability to provide support through technology and personnel to compliment the restrictions placed on the collection. A temporary, on-site digitization station was built to facilitate the digitization of the negatives. The digitization station included a laptop, negative scanner and external hard-drive to transfer files back and forth between organizations. An IUPUI University Library staff member was designated to work on the IMS project and time was divided between the IMS Museum and IUPUI University Library. The distance between the Indianapolis Motor Speedway and the IUPUI University Library is approximately 4 miles. The staff member could travel between organizations with relative ease.

Negatives were digitized, manipulated, and described at the museum. Once a large number of images were completed, the images were transferred to an external hard-drive and taken back to the library. Images and metadata were uploaded into CONTENTdm to provide online access to the collection.

## Funding Agency

The Library Services and Technology Act (LSTA) was signed into law September 30, 1996 as part of the Museum and Library Services Act. As a result, federal LSTA funds are distributed from the Institute of Museum and Library Services to states for the purpose of increasing the use of technology in libraries, fostering better resource sharing among libraries, and targeting library services to special populations. (Indiana State Library, n.d.).

University Library in collaboration with the Indianapolis Motor Speedway applied for LSTA funding to digitize, create metadata and provide online access to 15,000 negatives.

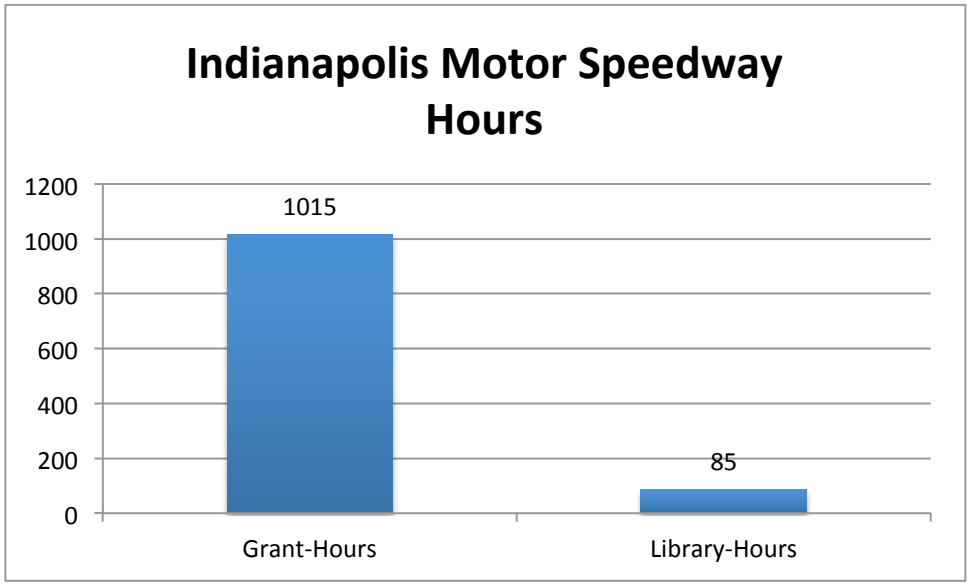
## Budget

The Indiana State Library placed a $20,000 budget cap on LSTA digitization grants. This cap simplified the process of creating a budget for the project. Budget estimates were created based on past experience with negative collections.

Estimates would include hourly personnel costs for digitization and metadata. An estimated 5000 negatives would be digitized and metadata would be created under the $20,000 budget cap. The library's contribution to the project would include: project administration and the CONTENTdm import process.

Figure 1 provides the number of hours spent on the Indianapolis Motor Speedway Collection.

Figure 1. IMS Project Hours (per year)




## Lessons Learned

While there were no unforeseen issues in the digitization process, the offsite set-up was a first for the library. IUPUI University Library typically performs digitization and metadata tasks within the walls of the library. The staff is familiar with the technology, network capacity, and software necessary to complete a project. Processes and workflows have been defined and streamlined to perform tasks in a seamless manner.

Creating a mobile digitization station provided unforeseen benefits to workflow processes and tasks. The Indianapolis Motor Speedway photography staff was responsible for selection of negatives from the collection. There was constant interaction in this process as the IUPUI Library staff member could engage with the IMS staff and could provide digitization expertise. Metadata was created simultaneous to the negatives being digitized. Having access to the IMS on a daily basis facilitated the creation of rich metadata—an outcome that could not have been accomplished on site at IUPUI University library.

IUPUI University Library staff members became embedded in the Indianapolis Motor Speedway photography center and collaborated with IMS staff to create the

collection. As a result of day-to day contact, the desire to think creatively about adding additional collections resulted in securing funding to create digital stories that included original audio clips for every year of the race. The Speedway historian was interviewed to create 8-10 minute videos that captured each year of the race. These interviews are now included in the Indianapolis Motor Speedway Collection.

The collaboration with the IMS still continues even after the three years of grant funding has expired. The sustainability of the digital collection is the responsibility of IUPUI University Library, but the addition of new negatives will be supported by the Indianapolis Motor Speedway photo center. The photo center has budgeted 1,000 hours of work per year to continue digitizing historic negatives.

The IMS digital collection would not have been possible without the flexibility and coordination of IUPUI University Library and IMS staff members. By creating a mobile digitization environment, the challenges of the restrictions of digitizing the negative collection no longer existed. IUPUI University Library and the IMS were able to work collectively to create a historic digital collection capturing Indianapolis 500 racing.

## Conclusion

IUPUI University Library is an urban academic Library that has engaged in creating digital cultural heritage collections since 2006. While the library provides technological support (both in terms of equipment and expertise) to community organizations, the key to building successful digital collections is less about the technology and more about developing a relationship with that organization. It is about understanding the needs of the organization and determining desired outcomes for the project. By creating flexible workflows and processes, the goal of creating a successful digital collection that all partners value can be met.

The *Indianapolis Recorder* and Indianapolis Motor Speedway projects allowed IUPUI University Library to experience two completely different ways to tackle collection challenges. The *Indianapolis Recorder* project involved both a massive volume of content and a format (microfilm) that the library had not formerly digitized. To meet these challenges, the library developed a working relationship with a vendor (Lyrasis) for outsourcing. The library, however, underestimated the amount of time that it would take to complete a project of this size. Although the learning curve was steep, the library developed a new capacity for future large digitization projects.

The Indianapolis Motor Speedway project also developed the library's digitization capacity. By providing us with an opportunity to understand a community organization's concerns and the resulting restrictions on how their materials could

be used, we developed the ability to provide digitization services outside of library building. As a result, library staff members became embedded in the IMS photo center's daily workflow. Expertise from both organizations contributed to a digital collection with rich metadata and supporting historical documentation.

IUPUI University Library continues to partner with community organizations from the Indianapolis metropolitan region to create digital cultural heritage collections. The success of future projects will depend on the library's ability to meet the needs and interests of partners and to respond with creative and flexible project management solutions. Successes will continue to be measured based on the opportunity to act creatively and provide flexible workflows and processes to each project.

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