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How We Digitized a Special Collection With a Little Help From Our Friends

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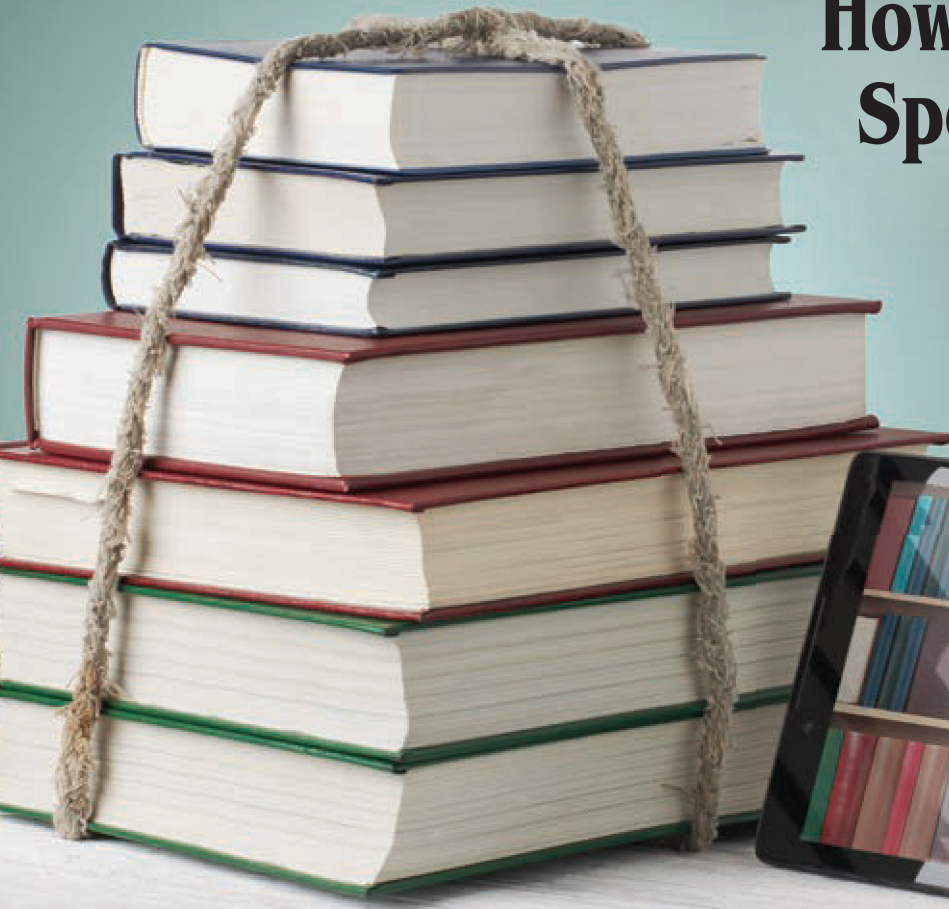
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How We Digitized a Special Collection With a Little Help From Our Friends



By Rachel Evans, Mandy Mastrovita, and Mary Willoughby

Since 2017, the Digital Library of Georgia (DLG)—a GALILEO¹ initiative housed at the University of Georgia’s (UGA) libraries²—has supported Georgia cultural heritage institutions statewide by offering a subgranting program that provides grant winners up to \$7,500 in services toward creating a digital collection. All content produced as part of these grants is available online for free, without paywalls or passwords, in both the DLG³ and the Digital Public Library of America (DPLA).⁴ New collections are promoted widely by DLG staff in press releases and through social media. By the end of FY2022–2023, we will have made collections from 42 statewide partners available.

In this article, we will break down the lifecycle of the DLG subgranting program using the digitization of our School of Law’s Lecture & Presentation Photograph Archive as an example to help demystify the mosaic of resources and services the DLG provides.⁵

Writing a Successful Grant Application

In 2020, the law library made its first attempt at one of the DLG subgrants for imaging and metadata services

to make its collections accessible. In evaluating subgrant applications, priority is generally given to organizations that lack the equipment, expertise, and budgets to digitize and describe material independently. In addition, resources with high educational value are also prioritized, since the DLG does significant outreach to K–12 students and teachers across the state. Although the law library’s initial application was not accepted for the 2020–2021 grant cycle to digitize a broader set of historical photographs, a revised digitization subgrant proposal was submitted and awarded for the 2021–2022 cycle. The revised application scaled back the project’s scope to 50 years of UGA’s law school addresses and lecture materials.

The earlier proposal covered a more extended period that included students and lesser-known law school community members. The final proposal focused on speakers who were better-known political figures and legal scholars. In addition, the first version of the application included a support letter from a law faculty member that focused on their historical research and how the proposed digitization could be useful to their work. Although the faculty member’s research was well-known internally and nationally in the legal academy, it was unfamiliar to the grant reviewers and was based on the premise of future research, not demonstrated use.

The process resulted in a sustainable digitized collection that will be of use to a broad group of users. ...



Top-left: a 1970s law library photograph included in our first digitization proposal application; top-right: a 1970s Law Day photograph also taken in the library but featuring former president Jimmy Carter and Senator Edward M. Kennedy taking a library tour, which was included in the second digitization proposal application; bottom-left: a bankers box with a selection of acid-free folders and pencil notes for organizing the final selection of archival photographs to digitize; bottom-right: a hard drive used to transport digitized image files

The second, successful application included a support letter from a UGA librarian who focused on the utility of the materials. This letter described a recent reference request for one of the items in the project proposal and how it was used in a patron's research. They also shared how digitizing the materials would make them more accessible for Georgia researchers and streamline the fulfillment process for the multiple libraries involved.

Understanding the selection criteria of a given grant is essential, as granting organizations serve specific user communities. Developing a narrative about how a digitization project serves an identified user community is key to a successful grant application. In the case of UGA's law school, identifying resources from its collections that met the criteria for Georgia's K–12 educators and students—one of the DLG's user communities—helped strengthen the application and yielded a slice of the DLG subgrant services budget.



A photograph of a Digital Library of Georgia imaging room at the University of Georgia's libraries

The DLG subgrant covered the digitization of a collection of around 500 photographs featuring 20th-century political and legal figures from Georgia and the nation, including former president Jimmy Carter; Supreme Court

justices Ruth Bader Ginsburg, Antonin Scalia, and Clarence Thomas; and Secretaries of State Henry Kissinger and Dean Rusk. Other prominent legal figures include Lawrence Lessig, Brooksley Born, and Sarah Weddington. Georgia political figures represented include former governors Carl Sanders, Roy Barnes, and Zell Miller, as well as U.S. senators Max Cleland and Sam Nunn.

The Digital Conversion Process

Getting Started

The subgrant conversion process begins with the partner (in this case, us) preparing a detailed inventory of its materials that includes a brief assessment of the condition of the items. This inventory establishes intellectual control over the digitization project, especially in unprocessed collections such as the photographs from UGA's law library. It also provides the basis for the safe physical handling of the materials by documenting any fragile items or those that may require extra care. After completing this work, the partner sends its materials to the DLG and delivers the items for digitization.

Imaging

Digitization of archival materials is more than just using imaging technology to create images for online display. The process requires reconceptualizing collections created in an analog environment in which access was mediated by humans to datasets that exist in a machine environment where access is mediated by algorithmic processing. Regularization and packaging of collection content into discrete units that can be associated with metadata is imperative for discovery. These units should, when possible, represent the existing structure of the collection and harmonize with the fundamental tenets of archival practice. The image-capture process is essential to this reimagining.

Digitized collections should represent the inherent characteristics of the originals as much as possible. Because of this, we optimize our imaging processes for visual fidelity to the originals and align our image capture and postproduction work according to Federal Agencies Digital Guidelines Initiative (FADGI) guidelines.⁶ We capture manuscript materials, photographs, or fragile bound items using a medium format 100-megapixel digital camera on a copy stand with integrated daylight-balanced LCD lighting. We capture images using a RAW workflow that preserves all data from the camera sensor and allows fully reversible editing techniques. These intermediary files plus the applied edits are processed to create archival TIFF files for long-term preservation. We also use these files to generate JPEG 2000 files for online display and any other derivative files required for the project.

Once imaging and derivative file creation are complete, we reconcile file identifiers with the identifiers used for metadata records to ensure they match. Then the files are loaded onto our International Image Interoperability

Framework (IIIF)⁷ server, and we create preview links so our metadata unit can see the items to describe them.

Descriptive Metadata Creation

Once the metadata unit receives the digitized content from the imaging unit, we build original metadata records using our guidelines⁸ and template.⁹ To flesh out these original records and identify important Georgia figures in these collections from UGA's law libraries, we conducted substantial research using the law library's Digital Commons repository.¹⁰ With this resource, we consulted UGA's School of Law class directories¹¹ within the Digital Commons and the School of Law's Lectures & Colloquia¹² collection.



A photograph of the Digital Library of Georgia's imaging and metadata department spaces at the University of Georgia's libraries

We also used essential DLG resources such as the Georgia Historic Newspapers¹³ database, where we consulted issues of the *Red and Black*,¹⁴ the University of Georgia's student newspaper, which reported on many law school visitors and lecturers. We used the Georgia Official and Statistical Register¹⁵ collection to identify Georgia politicians, judges, and government officials. This research process is time-consuming, but it adds substantial value. Researchers are aided exponentially when people are correctly identified and connected to the dates they appeared at UGA's School of Law.

Ingest Into Partner Repository

UGA's law library uses epress' Digital Commons as its institutional repository platform, which lacks several key fields used by the DLG.¹⁶ As a result, uploading and creating records for several hundred images required significant structural changes to crosswalk the metadata to the required schema. Using OpenRefine Description, fields were expanded to also include Extent, Subject, and Note metadata.¹⁷ The Note information mirrors the companion catalog records by reflecting the content of the MARC 591 and 856 fields. Completing this circuit of interoperable records dramatically increases the

likelihood of end-user discoverability of newly digitized resources.

Understanding in advance the fields or file types supported by your repository can save time and effort. For example, the DLG's publicly accessible image files came to UGA's law library as JP2s. Unfortunately, partway through uploading to the Digital Commons repository, UGA's law library learned that Digital Commons had ceased support for JP2s. The remaining files had to be converted to standard JPGs. Photoshop scripts turned out to be a quick solution for converting large sets of image files from one file type to another.



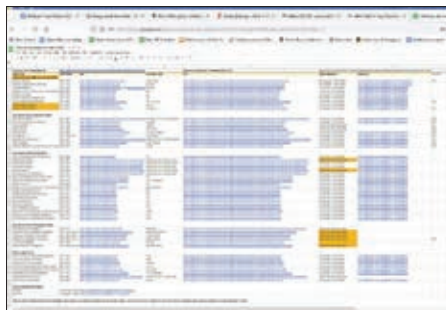
A screenshot of a MARC bibliographic record in edit view with the formatting for the Note 591 and 856 fields

Harvesting From Partner Repository Into DLG

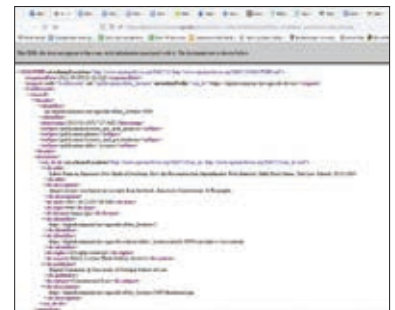
After UGA's law library ingested everything into its Digital Commons repository, the DLG harvested that data for inclusion in the DLG portal. In this process, the DLG again crosswalks or maps the harvested data to a standard format by aligning it with its best descriptive field. We also adjust minor differences and integrate specific fields to improve our users' discovery, sharing, and reusability.

For harvesting, the DLG uses REPOX,¹⁸ developed by Europeana¹⁹ based on the Open Archives Initiative Metadata Protocol (OAI-PMH).²⁰ OAI harvesting enables the DLG to aggregate metadata records hosted by its partners (data providers) and display them online in the DLG²¹ and by funneling them quarterly to the DPLA.²² With REPOX, the DLG has automated harvesting schedules for updates from partners such as UGA's law library. OAI harvesting has helped increase the number of freely searchable full-text items from UGA's law library from 29 to 3,000.

One of the harvested collections highlights is Historical Treatises,²³ a newly digitized set of rare Georgia legal titles dating from 1819 to 1917. It is funded by a project grant the Legal Information Preservation Alliance²⁴ awarded to UGA's law library.



Left: A shared Google Sheet of formatted URLs for Open Archives Initiative (OAI) harvesting of a law library series into the Digital Library of Georgia; right: A screenshot example of the OAI series result



Partner Fulfillment: Outreach and Access

Another lesson was related to the promotion of the collection once it became available online. The public relations side of the equation was trickier than expected for UGA's law library to navigate. Although the library is organized structurally as a part of the university's School of Law, many of the digitized photographs lent as part of the subgrant weren't officially held by the library's archives but instead housed in the school's Office of Communications.



A screenshot of the shared doc draft press release authored by the Digital Library of Georgia for the promotion of the University of Georgia law library's photos

Because of this, it was necessary to work with the director of public relations and communications at UGA's School of Law, the law library's director, and several additional librarians on staff at the tail end of the grant lifecycle. This took extra time because of the many people required to edit and approve the DLG's official press release. Upon approval, everything was promoted widely in press releases, social media, and email campaigns directed by the DLG.

Of course, promotion isn't all about press releases. As soon as UGA's law library received files from the DLG, it began looking for ways to make materials available and let its patrons know about the work. UGA's law library crafted its own physical exhibit of some of the original photographs.²⁵ These were linked to a digital exhibit using kiosks, blog posts, Instagram stories, QR codes, and bit.ly links on the item placards to share how they were discoverable through the DLG.

Digital Preservation

After the metadata has been created and the collection is available to the public, additional work must still happen to ensure the long-term viability of the converted collection. Digital resources are vulnerable to many ills, including accidental deletion of files or unrecoverable drive failures, as well as more subtle problems such as the obsolescence of a data type or its supporting technology. To guard against these risks, it is crucial to maintain redundant, verifiable

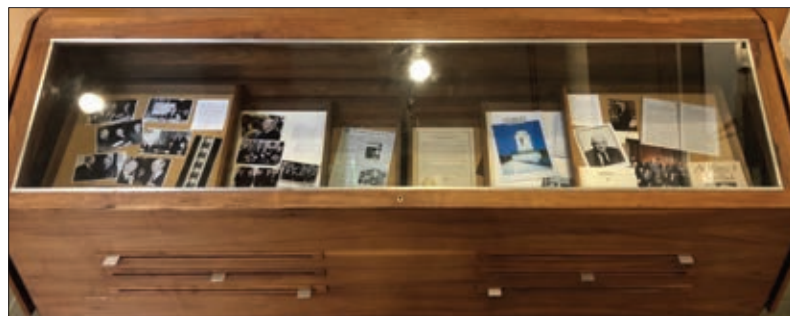
copies of both files and associated metadata that allow for disaster recovery or subsequent actions to maintain the utility of the digital collection.



One of the final digitized photographs from the law library's subgrant collection in the Edith House Lecture series

Thanks to the DLG's subgranting program, the image above is now accessible and discoverable in multiple platforms with rich descriptive metadata, and archival-quality files are being properly digitally preserved. This particular example used as one of three items in the official press release is of attorney, law professor, Carter administration staffer, and former Texas State Representative Sarah Weddington—best known for representing “Jane Roe” in the landmark U.S. Supreme Court case *Roe v. Wade*—speaking to an audience. She delivered UGA School of Law's 24th Edith House Lecture, “Some Leaders Are Born Women” on March 23, 2006. Inaugurated in 1983, the Edith House Lecture series brings outstanding female legal scholars and practitioners to UGA's School of Law.

The DLG uses the UGA's libraries' preservation repository, ARCHive, to store digital assets to ensure their long-term survival. We store high-resolution image files and preservation metadata that includes minimal descriptive and extracted technical information. This data is packaged using the Library of Congress' BagIt specification and uploaded to the ARCHive repository, where it is stored on disks that are monitored for data integrity and backed up to linear tape-open (LTO) format.



The Dean Rusk 113th birthday physical exhibit case arrangement displaying examples of the photographs from the subgrant digitization project, with labels linking out to the Digital Library of Georgia item pages and digital exhibit with short URLs and QR codes

Beyond the Subgrant: Benefits of Partnership

Through the multiyear growth of this partnership, the law library has not only been able to take advantage of digitization and metadata services, but it has also benefited from the DLG's experience. With the help of the DLG, the law library has learned how to improve in-house digitization, solidify its digital preservation plan, and expand its online resources from fewer than 30 to more than 4,000 items.

```

Command Prompt - cmd
C:\Users\jrevels\Desktop>certutil -hashfile %SystemDrive%\IPK_Digitized_Historical_Treatises_2001_22.tar
Usage:
certutil [Options] -hashfile infile [hashAlgorithm]
Generate and display cryptographic hash over a file

Options:
-include -- write redirected output to include
-err -- Display times in GMT
-seconds -- Display times with seconds and milliseconds
-v -- Verbose operation
-privatekey -- Display password and private key data
-pfx PIN -- Smart Card PIN
-add SMI_SMIH_SID_TYPE -- Numeric SID
                22 -- Local System
                23 -- Network Service
                24 -- Local Service

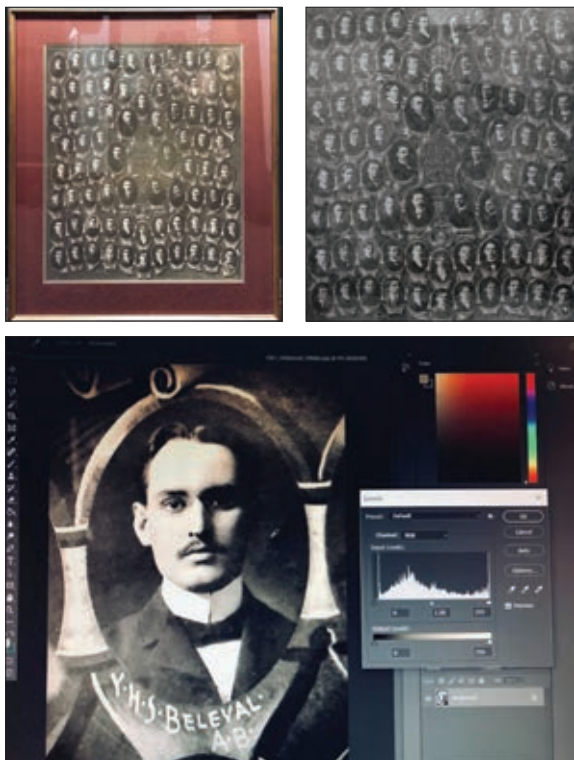
Hash algorithms: MD5 MD4 MD6 SHA1 SHA256 SHA384 SHA512

```

A screenshot of command line used to run checksums on TAR files for annually uploading in the University of Georgia law library's newly established cloud cold storage hosted by Amazon Glacier. This aspect of the law library's long-term digital preservation plan was a direct result of the Digital Library of Georgia's partnership and ongoing consultation relationship.

By working with the DLG, the law school library developed the capacity for independent digitization projects. Getting something as simple as advice on using a DSLR to photograph RAW without glare for large professional framed prints enabled the law library to make previously inaccessible images of influential UGA's law school graduates available online even though they were outside the scope of its successful subgrant application. An example is the inclusion of a portrait of Horacio S. Beval²⁶ from the Milestones in Diversity Rotunda Exhibit.²⁷

Looking back on the partner side of the process now that our digitized images are fully available online, we at the law library see that we have learned a great deal and have benefited tremendously from the subgrant program. The process resulted in a sustainable digitized collection that will be of use to a broad group of users, but—perhaps more

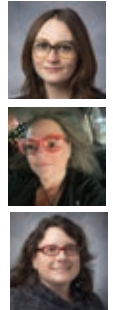


A series of photographs documenting the in-house digitization of archival materials the law library was able to make accessible thanks to the expertise shared from the Digital Library of Georgia's imaging department. This example shows the framed lithograph of the class of 1901, which included the only image in the school's collection of the University of Georgia's first Puerto Rican graduate, Horacio S. Beval.

importantly—developed relationships and skills that will be of enduring use in future efforts. ■

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Together at the University of Georgia, Evans, Mastrovita, and Willoughby have collaborated on the DLG subgrant project, as well as consulted on other grant-writing and digitization efforts.



Endnotes

1. GALILEO, galileo.usg.edu
2. University of Georgia's libraries, libs.uga.edu
3. Digital Library of Georgia, dlg.usg.edu
4. Digital Public Library of America, dp.la
5. Lecture & Presentation Photograph Archive from the University of Georgia's School of Law, digitalcommons.law.uga.edu/lectures_and_presentations
6. Federal Agencies Digital Guidelines Initiative (FADGI), digitizationguidelines.gov
7. International Image Interoperability Framework (IIIF), iiif.io
8. Metadata Guidelines, docs.google.com/document/d/1LtCncs-uMcE4HRQzPuvXHcr9ls3Md223mWz0shmb0w/edit?usp=sharing
9. Metadata Record Templates, docs.google.com/spreadsheets/d/1BMGHHKSSs_T_Bm8FB_SPKDH4Kd_DUKyoDawHXdBmPY/edit?usp=sharing
10. Digital Commons, digitalcommons.law.uga.edu
11. The School of Law's Directories, digitalcommons.law.uga.edu/classdir
12. The School of Law's Lectures and Colloquia, law.uga.edu/lectures-colloquia
13. Georgia Historic Newspapers, gahistoricnewspapers.galileo.usg.edu
14. *Red and Black* newspaper, gahistoricnewspapers.galileo.usg.edu/lccn/gua1179162
15. Georgia Official and Statistical Register, dlg.usg.edu/collection/dlg_sreg
16. bepress' Digital Commons, bepress.com/products/digital-commons
17. OpenRefine, openrefine.org
18. REPOX, pro.europeana.eu/data/repoX
19. Europeana, europeana.eu/en
20. Open Archives Initiatives Metadata Protocol, librarytechnology.org/document/9944
21. Digital Library of Georgia, dlg.usg.edu
22. Digital Public Library of America, dp.la/search?partner=%22Digital%20Library%20of%20Georgia%22
23. Historical Treatises, dlg.usg.edu/collection/ugalaw_historic-treat
24. Legal Information Preservation Alliance, lipalliance.org
25. Law Library's Original Photographic Exhibit: digitalcommons.law.uga.edu/exhibit/dean-rusk-digital-exhibit
26. Horacio S. Beval, digitalcommons.law.uga.edu/exhibit/rotunda-exhibit/horacio-beval-1901
27. Milestones in Diversity Rotunda Exhibit, digitalcommons.law.uga.edu/exhibit/rotunda-exhibit