Part 3

BUILDING DIGITAL HUMANITIES
INFRASTRUCTURE AND PARTNERSHIPS
INTRODUCTION

The Emory Center for Digital Scholarship (ECDS), formed in 2013, brought together several existing library units and programs: the Digital Scholarship Commons (DiSC), the Electronic Data Center, the Lewis H. Beck Center for Electronic Collections, and the Emory Center for Interactive Teaching (ECIT). ECDS is tasked with “break[ing] down barriers” between these pre-existing units and “simplify[ing] the process of establishing partnerships with scholars.” The center’s creation brought these preexisting units, which were previously housed in separate areas of the library, into one space. Positioned in Emory’s Libraries and IT Division, the center is able to draw on the resources of both sectors to create and disseminate its work. As of 2015, ECDS had a staff of twelve full-time employees, five graduate research fellows, one postdoctoral fellow, and twenty-eight graduate students.

ECDS provides tiered levels of support in the areas of data management, digital pedagogy, digital publication, archiving, and digital exhibitions. Faculty, students, and staff may walk into the center for help with projects like finding data sources, creating a website, or editing videos. The center’s graduate student employees do much of the hands-on work with walk-in requests. Staff may also provide short-term consultations on projects that require more in-depth support, such as creating course content or developing digital pedagogical skills. For longer-term work, patrons may submit proposals for projects that require dedicated staff time. At the time of writing, ECDS was supporting over eighty projects in various stages of development.
Many of these projects incorporate publishing, whether through scholarly blogs, journals, or digital scholarship platforms. The center’s publication program is part of a larger movement toward publishing in academic libraries. In their study of library publishing activities, Katherine Skinner, Sarah Lippincott, Julie Speer, and Tyler Walters sketch the current landscape of the subfield:

[Library publishing] has been defined (broadly) as the set of activities led by college and university libraries to support the creation, dissemination, and curation of scholarly, creative, and/or educational works. Using formal production processes, more than 100 North American libraries currently publish original works by scholars, researchers, and students. These publications include journals, monographs, Electronic Theses and Dissertations (ETDs), gray literature, conference proceedings, data, textbooks, and websites.

Library publishing is differentiated from the work of other publishers—including commercial, society, academic, and trade—in large part by its business model, which often relies heavily on being subsidized through the library budget, rather than operating primarily as a cost-recovery or profit-driven activity. Libraries are relative newcomers to the field, largely beginning this work in a digital environment over the last 20 years.3

In January 2013, the Library Publishing Coalition (LPC) was launched to support libraries that were engaged in or wanted to build library publishing programs. Over sixty academic libraries—including Emory—joined the organization, whose mission is to foster “collaboration, knowledge-sharing, and the development of common practices for library publishers.”4 Indeed, library publishing is becoming increasingly common in academic libraries. A 2010 Institute of Museum and Library Services (IMLS)-funded survey found that 55 percent of respondents were either offering or interested in starting publishing services.5 The LPC’s 2015 Library Publishing Directory highlights the library publishing activities of 124 academic libraries from around the world. Additionally, the Publishing Directory’s survey illustrates a strong preference for open access, with 97 percent of campus-based journals being freely available.6
The center’s publication program reflects these trends. ECDS primarily publishes journals, websites, and other digital initiatives, including digital exhibits and interactive GIS projects. In its work, ECDS places particular emphasis on open-access publication and open-source software. All of the projects highlighted are freely available online, and the code for Emory-developed software platforms is open source. The center is largely funded through the institutional support of Emory’s Libraries and IT Division but has also received external funding from the Mellon Foundation. ECDS also receives support from software engineers in the library in developing and designing in-house software platforms.

In this chapter, I will focus on the digital scholarship projects and publication program of ECDS—though it should be noted that other units of the Emory Library also undertake publishing activities. (The Scholarly Communications office, for example, oversees the management of the university repository, including Emory’s electronic theses and dissertations.) I argue that collaboration—across the university and other institutions—is central to the center’s success. In addition to building partnerships, this work also requires significant institutional support to create scalable, replicable work. As Jennifer Vinopal and Monica McCormick note, digital projects run the risk of turning to “one-off” solutions that are not replicable. Digital scholarship needs are diverse, contend Vinopal and McCormick, and “in attempting to meet them without considering scale and sustainability, we risk developing narrowly focused or short-lived solutions that are difficult to maintain over time and with infrastructure that cannot be repurposed to benefit other projects.”

I will illustrate how ECDS’s philosophical commitment to open-source software and open-access publishing attempts to address some commonly encountered challenges in digital projects, and how each project has required specific kinds of institutional collaboration and assistance.

PROJECTS
Since ECDS’s inception, the center has provided support for a host of digital publishing projects. In addition to the four preexisting units, the open-access journal *Southern Spaces* came under the center’s purview as a project and serves as a model for faculty, staff, and students who are interested in starting their own publications. But ECDS also supports a wide variety of projects that we define as publishing, even if they do not resemble
“traditional” publications like monographs or journals. Given the center’s place in the library, we embrace “traditional library values and skills,” like preservation, “expertise in the organization of information, and a commitment to widening access,” while also advocating for an expanded definition of publishing that incorporates new platforms, methods of disseminating scholarship, and modes of creating knowledge.⁹

Here, I highlight several initiatives that represent our approach to publishing. Many of these projects are related to the study of Atlanta, while others draw on the strengths of Emory’s special collections and faculty expertise. I then turn to the support required to create and sustain a publishing program.

**SOUTHERN SPACES**

Started in 2004, *Southern Spaces* (https://southernspaces.org) is an open-access, peer-reviewed, interdisciplinary journal about the “regions, places, and cultures of the US South and their global connections.”¹⁰ Graduate student editorial associates and managing editors staff the journal, with senior scholars and practitioners as editorial reviewers. *Southern Spaces* uses Drupal as its content management system.

As senior editor Dr. Allen Tullos noted in his talk at the 2014 Digital Humanities meeting, it is still relatively rare to find open-access, peer-reviewed journals that support multimedia content.¹¹ Although a number of platforms are available for open-access publications, many of these only support text-based scholarship or allow for minimal integration of other kinds of media.

In the spring of 2015, *Southern Spaces* launched a redesigned site. As part of this redesign, the journal worked with Drupal consultants to create a series of modules as a “journal in a box.” These pieces include *Southern Spaces*’s backend workflow management module, developed to aid in the process of evaluating submissions and communicating with authors, editorial staff, and peer reviewers. During the next year, *Southern Spaces* plans to work within existing networks like the Library Publishing Coalition to promote and disseminate the Drupal distribution, which will be available on GitHub and on Drupal.org.

*Southern Spaces* also takes graduate student training seriously as part of its work. The staff consists of six to eight graduate students, depending on the semester, and they perform the bulk of the day-to-day editorial
work and site maintenance. The editorial staff conducts an initial review of submitted pieces, finds appropriate peer reviewers, helps authors procure media (and often rights to use images, audio, or text), edits video and audio, lays out and copyedits articles, and promotes published pieces on social media. Staff members train each other in these activities and receive technical support from library systems administrators, metadata analysts, scholarly communications specialists, and others. This cross training allows students to become familiar with editorial work, web design and markup, intellectual property issues, and media editing. Using these skills, editorial staff members from *Southern Spaces* have gone on to do digital scholarship work at institutions like the College of Charleston, the University of Pennsylvania, and the Digital Public Library of America.

**ATLANTA STUDIES**

*Atlanta Studies* (http://atlantastudies.org) is a multi-institutional collaborative publication that aims to both produce original research on the Atlanta region and provide a platform for data sets and other resources for studying the area (Figure 1). The site endeavors to reach a broad audience, with the editorial and advisory boards consisting of scholars, researchers, public intellectuals, archivists, and librarians from across the southeast.

![Projects & Resources](ATLS.png)

We here at Atlanta Studies want to highlight the great projects going on around town. We’ve also included some resources to make it even easier to learn more about Atlanta.

**PROJECTS**

- **Battle of Atlanta Tour**
- **Inman Park Squirrel Census**
- **Peoplestown Project**

*Figure 1.* *Atlanta Studies* screenshot, showing highlighted projects and resources.
Atlanta Studies developed from a series of informal meet-ups for anyone interested in the study of Atlanta—inside or outside the academy. These meetings grew into an annual symposium that has been hosted by different Atlanta-area institutions each year. Many of the papers from the symposia were fascinating and timely—and came from outside the academy or were aimed at a more general audience. Atlanta Studies arose from a desire to see this work published in an accessible venue. ECDS designed the site and agreed to host the long-term project.

The site features articles, longer-form pieces that explore historical and contemporary issues in the Atlanta region. Atlanta Studies also provides a place for curated blog posts, often highlighting projects or offering shorter examinations of Atlanta’s history and culture. While articles and blog posts are not double-blind peer reviewed, each piece is read and reviewed by two members of the editorial staff. Authors are encouraged to write pieces for a broad public. There is also a projects and resources section that features other work in the region, part of Atlanta Studies’ commitment to building a network of scholars, activists, and an interested public.

ATLMaps

ATLMaps (http://atlmaps.com) is a mapping initiative that invites users to contribute to the project. Initially developed at Georgia State University (GSU), ATLMaps is a collaboration between ECDS and GSU. The project “combines archival maps, geospatial data visualization, and user contributed multimedia location pinpoints to promote investigation into any number of issues about Atlanta.” ATLMaps aims to “offer a framework that incorporates storytelling reliant on geospatial data” and allow for collaborative curation of these data. The code for ATLMaps is available on GitHub.

Both contributing institutions have digitized historical and contemporary base layer maps. Users can then create their own projects on top of these layers, adding annotations, data points, and sound, video, or image files. ATLMaps also allows users to overlay contemporary and historical maps; a user might, for example, compare the historical boundaries of the city with present-day zoning (Figure 2).

ATLMaps represents a new kind of publishing initiative for ECDS: a project that invites crowdsourced contributions. While the project itself is currently being beta tested, we have had requests from institutions across
Figure 2. ATLMaps screenshot, showing the historical city limits of Atlanta overlaid on a contemporary map.
the country to help set up similar projects in other cities. By making the source code publically available, the center endeavors to provide reusable prototypes for other centers and interested individuals.

**GEORGIA CIVIL RIGHTS COLD CASES**

The *Georgia Civil Rights Cold Cases* project is an example of the center’s work with pedagogical initiatives across the university. The project grew out of an undergraduate course on cold cases of the civil rights era, cotaught by Hank Klibanoff, a journalism professor, and Brett Gadsden, a faculty member in African-American Studies. The course explores unsolved (or unpublished) racially motivated murders in the civil rights era. As the site describes:

> By using primary evidence—including FBI records, NAACP files, personal archives, family photographs, old newspaper clippings, court transcripts and more—and by immersing themselves in the scholarship of historians, journalists and memoirists, students come to see and understand a history that is little known from the inside looking out and long forgotten from the outside looking in.\(^5\)

The research for the project was undertaken by undergraduates in the course, under the supervision of the two faculty members. The project is open access and is hosted on a WordPress site. Representing ECDS’s commitment to innovative digital publishing, the project features essays by students in the course, maps, timelines, and primary documents about the cases.

**OPENTOURBUILDER**

The *OpenTourBuilder* application is a content management system for building geospatial tours in a mobile environment.\(^6\) Developed in partnership with software engineers in Emory’s Library and Information Technology Services, *OpenTourBuilder* was launched in 2014 with the Battle of Atlanta tour app (http://battleatl.org), a comprehensive tour of battlefield sites. ECDS also piloted *OpenTourBuilder* during a 2014 Summer Institute for Digital Scholarship with librarians from historically black colleges and universities. Institute participants created tours of their own campuses and libraries. In keeping with ECDS’s commitment to creating open-source tools, the code for *OpenTourBuilder* is available on GitHub.\(^7\)
As the first tour created with OpenTourBuilder, the Battle of Atlanta tour app demonstrated the versatility of the platform. Featuring twelve stops, the app “locates multiple features on an interactive map connecting them with written text, an archive of primary documents, and historical photographs about the battle itself.” Each stop includes videos, primary documents, and driving, walking, biking, and transit directions (Figure 3). The app is also accompanied by an essay on Southern Spaces providing further historical context and additional resources.

![Figure 3. OpenTourBuilder screenshot, showing a Battle of Atlanta tour stop with video and text.](image)

**READUX SCHOLARLY EDITIONS**

The Readux Scholarly Editions project builds on Readux, an open-source tool for reading, annotating, and publishing digitized texts. The initial phases of the Readux project allow users to search the content of TEI-encoded digitized books in Emory’s special collections, send books to
Voyant for textual analysis, and add PDFs of the books to Zotero. ECDS and library software engineers are developing the next phase of the project, which will allow for annotating and exporting of embedded annotations in web and e-book formats.

The pilot project for the annotation phase of Readux is the *Original Sacred Harp*, an early twentieth-century shape-note tune book. Jesse Karlsberg, a postdoctoral fellow at ECDS and a scholar of Sacred Harp singing, is providing the scholarly annotations and managing the project’s current phase. Annotations include the original editors’ notes about design and music notation. The *Original Sacred Harp* is an especially rich pilot project, given the unique challenges of encoding musical notations. The center has designed Readux so that it will be able to ingest any digitized text from Emory’s repository. Readux’s source code is available on GitHub, and ECDS hopes that it will be a model for others working in digital publications.

**ATLANTA EXPLORER PROJECT**

The Atlanta Explorer project is a suite of projects that aim to (1) make materials in Emory’s Manuscript, Archives, and Rare Book Library (MARBL) more accessible, (2) create tools for GIS research about historical Atlanta, and (3) provide a model for similar projects. Atlanta Explorer began with the digitizing of the 1928 Atlanta Atlas, a precursor to phone books. MARBL made these scanned pages publicly available on their Digital Historic Maps Collection page. Under the direction of geographer Michael Page, Emory graduate and undergraduate students constructed a geocoder, a “combination of software and spatial databases that can transform location data, often in the form of addresses, into geographic coordinates.” Students took the data from the Atlanta Atlas—including names, addresses, and racial classifications of inhabitants—and plotted them on the digitized maps. All told, the first phase of the geocoder assigned coordinates to over 70,000 buildings in the city. When completed to include the greater Atlanta area, the geocoder will map over 200,000 points.

For the next phase of the project, ECDS has begun working with an Atlanta developer, nVis360, to build a platform for users to explore three-dimensional renderings of the city circa 1930. In collaboration with these engineers, ECDS has developed a prototype of a downtown city block. Using the gaming platform Unity, users can walk through the historical city as
streetcars and automobiles pass. The locations of roads, streetcar lines, fire hydrants, and manhole covers are based on data from the digitized planning documents and maps.

The three-dimensional renderings also include information about each building and, when available, historical photographs. Archival sources from Emory and Georgia State University provided details about building facades. Wiki functionality is built into the Atlanta Explorer project, allowing users to add their own scholarship and data about places. ECDS is currently looking at funding options to expand this work and make the platform stable for beta testing.

LESSONS LEARNED AND RECOMMENDATIONS

ECDS draws on a number of preexisting Emory projects and resources. The Readux project, for example, repurposes code from an older project that library software engineers had developed. This “recycling” allowed us to make use of previous efforts and foster further collaboration with the software engineering team. Indeed, the center’s work is only possible through collaboration with Emory subject librarians, metadata specialists, copyright and scholarly communications experts, software engineers, and exhibit designers—to say nothing of ECDS’s partnerships with other institutions. Collaboration is a core part of the center’s mission and ethos.

Here, I want to turn to the lessons ECDS has learned from working on these projects and the center’s previous incarnations. I find Miriam Posner’s work on digital humanities in libraries particularly helpful and use her arguments as a basis for further recommendations.

INFRASTRUCTURE NEEDS

Digital scholarship cannot be undertaken lightly. In her article “No Half Measures: Overcoming Common Challenges to Doing Digital Humanities in the Library,” Posner argues that digital scholarship requires substantial institutional support in order to be successful. “We do not acknowledge often enough,” writes Posner, “that if a library is to engage in digital humanities activity, its leaders need to give serious thought to the administrative and technical infrastructure that supports this work.” Drawing on Trevor Muñoz’s scholarship, Posner notes that librarians (and, indeed, engineers, metadata specialists, and all others who are part of these projects) provide
intellectual labor to digital scholarship, and their job responsibilities should reflect this work. Thus, Posner offers, “many of the problems we have faced ‘supporting’ digital humanities may stem from the fact that digital humanities projects in general do not need supporters—they need collaborators.” A collaborative relationship requires commitment, especially from institutions.

In forming the advisory and editorial boards for Atlanta Studies, for example, we encountered anxiety over long-term support for the project. Understandably, our collaborators wanted to know that the project had the necessary infrastructure for longevity. ECDS was able to provide technical support and dedicate staff time to the project. Without this commitment, it would have been difficult to launch the publication. As is often the case for editorial work, Atlanta Studies’ board members generally do not receive much professional credit for their labor; journal editing often carries very little weight in the all-important tenure and promotion standards. The center knew that we would need to provide material support and labor to make the project successful. In the case of Atlanta Studies, this support included paid staff time to design the site, lay out and copyedit pieces, and provide editorial guidance.

Flexible infrastructure, Posner continues, is a key component of a successful digital humanities project in the library. In its position between library and IT services, ECDS is able to draw on the resources of both when necessary. OpenTourBuilder, for example, required the ECDS project manager to work closely with the library software engineers and front-end designer. This work included technical components—making sure the application could support multiple kinds of media—but also content considerations. Because the app was designed for public audiences, it was important for the text to be legible and easy to understand. Having open communication between different project stakeholders was crucial.

Likewise, ECDS staff must have access to the appropriate resources. Posner notes that digital humanities projects often require resources from many different parts of an institution, including “time from a developer, time from a designer, time from a metadata specialist, time from a system administrator, project management expertise, server space, a commitment to host the project in the long term. . . .” These resources are crucial for many digital scholarship projects, and it is important for staff to be able to draw on them easily.
The *ATLMaps* project involved a tremendous amount of collaboration—and resources—across institutions. We had to ensure that geoservers at Georgia State and Emory were properly working, obtain SSL certificates for user account creation, craft a terms of service agreement with the help of our scholarly communications office, secure permissions for all the media used—to say nothing of writing the code for the application and designing the user interface. It was essential for the center to be able to communicate with the project’s stakeholders and obtain the support *ATLMaps* required with minimal red tape. Ultimately, these projects have required tremendous support in the form of staffing, resources for development, design, and hosting, and institutional encouragement of library publishing activities.

**CONCLUSION**

ECDS has embraced library publishing, an emerging subfield that places the library at the center of intellectual output. We believe that the library can be the incubator and generator of scholarship, not just the archive or final destination. By taking a broad view of publishing, the center is able to provide a home for publishing projects that might not be supported in other venues.

In particular, ECDS is interested in supporting work that is public-facing. *ATLMaps*, *OpenTourBuilder*, *Atlanta Studies*, and the *Atlanta Explorer* projects are all examples of initiatives that want to engage publics outside the academy, in addition to providing resources for scholars. These projects also take existing Emory resources—digitized maps, images, and data sets—and make them publicly available. The center’s commitment to open-access publication and open-source software are not only part of this bent toward public scholarship, but are part of ECDS’s sustainability plan. By sharing resources with other institutions and developers, the center is able to cultivate collaboration and garner support for its projects.

The center has learned many lessons from its own development and the work of other digital scholarship centers. Digital projects require an incredible amount of institutional support. Beyond the staff time and money required for this work, a center must be able to draw on resources across the library (and often across institutions) in a timely manner. Staff working on these projects must also have access to the help they need quickly and without having to wade through layers of bureaucracy.
We have not always been successful in our endeavors. As Posner notes, doing digital scholarship cannot be “business as usual” in a library. To be successful, she writes, “a library must do a great deal more than add ‘digital scholarship’ to an individual librarian’s long string of subject specialties. It must provide room, support, and funding for library professionals to experiment (and maybe fail).”

Indeed, the center has seen projects flounder, fizzle, or fail to launch. And despite generous support from Emory, funding can still be a challenge. The Atlanta Explorer project, for example, will likely require external funding to build three-dimensional models of the entire cityscape of 1930s Atlanta. Providing long-term preservation plans for our projects can also be difficult. As anyone who has worked in the field of data curation knows, preserving something as seemingly straightforward as a web page raises a number of questions. (Even once-ubiquitous web technologies like Flash are no longer supported!) These are real challenges for digital publishing projects, but we have found that being part of communities like the Library Publishing Coalition connects us with others who are working on these same problems.

Despite these challenges, ECDS continues to develop its publishing program with these lessons learned in mind. At present, we have projects under way that will expand our efforts to include open monographs, open educational resources, and other formats of digital publishing. We continue to build relationships with other institutions and look forward to future collaborations.

NOTES

1 “About the Emory Center for Digital Scholarship,” Emory Center for Digital Scholarship, http://digitalscholarship.emory.edu/about/index.html.

2 ECDS considers student training to be a crucial part of its work. In addition to employing graduate students, the center runs workshops and a semester-long series aimed at equipping students with digital scholarship skills.


5 James L. Mullins, Catherine Murray-Rust, Joyce Ogburn, Raym Crow, October Ivins, Allyson Mower, Daureen Nesdill, Mark Newton, Julie Speer, and


8 Dr. Allen Tullos, the journal’s senior editor, also serves as ECDS’s codirector.


12 Stanford’s Jack Reed, formerly of Georgia State University, developed the prototype with colleagues at GSU. In the fall of 2014, the project moved to Emory for active development.


15 “About,” *The Georgia Civil Rights Cold Cases Project at Emory University*, https://scholarblogs.emory.edu/emorycoldcases/about.

16 “emory-libraries-ecds/OpenTourBuilder-Server,” *GitHub*.

17 Ibid.


The year 1928 provides a good snapshot of Atlanta development for several decades. Much city development halted during the Great Depression. Likewise, many building materials were requisitioned during World War II.


Ibid., 45.

Ibid., 47–48.

Ibid., 47.

Ibid., 51.