

The University of Idaho Library seeks the support of an IMLS National Leadership for Libraries Project Implementation Grant in the amount of \$249,894 to continue building and supporting the community and codebase that underpin [CollectionBuilder](#), an open source digital exhibit framework powered by modern static-web technologies and deployed on lightweight infrastructure. Developed *by* librarians *for* librarians, CollectionBuilder's minimal-computing-based approach offers a sustainable and pragmatic alternative to traditional digital collection platforms. Its static-web development framework minimizes infrastructure costs, security risks, and ongoing maintenance while its open, scaffolded nature strengthens collection creators' knowledge of digital infrastructure, data management, and web development, making it a viable and empowering solution for librarians looking to gain greater agility and agency over their systems.

During their IMLS NLG-L [Planning Grant](#),¹ the CollectionBuilder team successfully developed and improved [CollectionBuilder's code](#), created extensive [documentation](#), and developed a foundational community of users via online promotion, conference [presentations](#), virtual and in-person [workshops](#), [partnerships](#) and communication and collaboration with over 50 [individuals and institutions](#) that has led to the publication of 150+ CollectionBuilder sites.² The success of these initial community-building efforts and their indication of CollectionBuilder's continued relevance and potential is evidenced by the project team's receipt of a 2021 National Endowment for the Humanities Digital Humanities Advancement Grant³ and the increased use of CollectionBuilder by Library and Information School (LIS) Instructors and Students (a key audience for our proposed grant) and other users across the world.⁴

Fostering community around the CollectionBuilder development framework has been—and continues to be—a priority for the project team: while our Planning Grant gave us the means to establish an initial community of users, we recognize that for CollectionBuilder's potential to be truly realized we need to support the continued growth of that community and dedicate ourselves to ensuring it remains strong and sustainable over the long-term. To this end, the CollectionBuilder project seeks funding to support: 1) the recruiting, hiring, training and two-year employment of a new Digital Scholarship Librarian solely devoted to growing and supporting the CollectionBuilder community; 2) travel funds to enable the project team to teach and promote CollectionBuilder at national conferences and symposia; and 3) a systematic incentives program that will provide stipends to members of our target communities (digital librarians, open source developers, and LIS students and instructors) to use CollectionBuilder and contribute to its development via structured feedback and suggested improvements.

What Is CollectionBuilder? - We refer to CollectionBuilder as a framework rather than a tool or software because it is not a program that one downloads and/or an application one signs into via a phone or browser. The CollectionBuilder framework exists as a repository on GitHub that users copy and modify by replacing the default configuration values, metadata spreadsheet, and digital objects with their own. Once replaced, CollectionBuilder iterates over a user's data to create a series of static HTML, CSS, and JavaScript files. These files in turn produce an engaging website that contains a map,

¹ A condensed version of our [IMLS Planning Grant Final Report](#) can be accessed via the [About](#) page of the CollectionBuilder website.

² See [Supportingdoc1.pdf - Appendix A: CollectionBuilder Reference Links](#) for a list of resources including promotional materials, articles, and documentation produced during our Planning Grant.

³ The NEH Digital Humanities Advancement Grant, "Powering Digital Humanities Teaching and Learning with Static Web Approaches," (NEH HAA-281018-21) is led by the CollectionBuilder project team and collaborators at the University of Oregon with the goal of developing scaffolded tools and documentation that use the CollectionBuilder framework to introduce digital humanities (DH) students and instructors to basic digital literacy concepts. We call this approach to DH pedagogy "[Learn-Static](#)," and see it as stemming from and contributing to our community-building efforts around CollectionBuilder.

⁴ See [Supportingdoc3.pdf - Appendix C: CollectionBuilder 'in the wild'](#) for a list of some current CollectionBuilder users.

timeline, word clouds, and other visualizations, as well as browsing features, item pages, and new, reusable data formats that can be downloaded by users and processed/indexed by machines. Once generated, a CollectionBuilder site can be served from any web server simply by copying the files to a server directory or by using free static site hosting services such as those provided by [GitHub Pages](#), [Cloudflare Pages](#), and [Render](#).

CollectionBuilder provides a range of templates, from a learning-focused basic version powered by a linked Google Sheet, to a fully featured base ready for extensive customization.⁵ This allows users to scaffold their learning and adoption of the framework, starting with the basics and gradually moving on to more advanced templates while gaining data and static web skills. Our documentation and codebase are written with this scaffolded learning model in mind, allowing users to build skills that are transferrable to other web projects, including those like CollectionBuilder that follow the [Lib-Static](#) approach such as [Wax, Ed](#), and [Oral History as Data](#).⁶

Project Justification

Goals, Objectives, and Needs Addressed

The CollectionBuilder project grant will "improve the ability of libraries and archives to provide broad access to and use of information and collections" (IMLS Program Goal 3) by focusing on the ingredients necessary for creating sustainable digital collections and digital exhibits: malleable, preservation-focused development frameworks and the personnel capable of using, maintaining and improving them. We believe this project addresses all three objectives listed under Goal 3, and that these objectives, appropriately, also represent the significant needs we are seeking to address with this grant:

Objective/Need 1 - Inclusivity CollectionBuilder will "[a]dvance digital inclusion, broadly defined" (Objective 3.1) by inviting more people and organizations to directly control their digital infrastructure rather than relying on proprietary systems and contract developers. The capacities and expertise of GLAM professionals are often thwarted by the design and adoption of enterprise systems. Those who manage these systems, be they meant to support digital collections, institutional repositories, or other platforms, spend much of their time learning how to use and troubleshoot the admin interface rather than developing fundamental data and web development skills. This represents a great opportunity cost for the library profession overall, as the profession includes many that are inherently interested in the fundamental components of web/software development—data, classification, and representation—whose time is spent instead learning platform-specific interface features.⁷ CollectionBuilder, in contrast, invites its users to engage in a common software development model—using Git, GitHub, code editors, data files, HTML templates, and Jekyll's built-in development server—that empowers them to customize code and design elements without worrying about damaging a production instance. The problem-solving and web development skills that this educational experience enables can be applied to a variety of library tasks, from website design and publication to complex data transformations, providing increased return on investment in people inside the library.

⁵ See [Supportingdoc4.pdf - Appendix D: Technical Overview](#) for a detailed description of how CollectionBuilder works, and an overview of the current templates.

⁶ See [Supportingdoc2.pdf - Appendix B: CollectionBuilder at the University of Idaho](#) for examples of the various ways we have employed CollectionBuilder to create digital exhibits and digital scholarship projects at our institution.

⁷ A phenomenon otherwise known as "buttonology," in which users learn how to navigate a specific system but not the fundamental technological concepts that underlie it. See John E. Russel and Merinda Kaye Hensley, "Beyond Buttonology," *College & Research Libraries News*, vol. 78 no. 11, 2017. <https://crln.acrl.org/index.php/crlnews/article/view/16833/18427>.

Objective/Need 2 - Sustainability) This project represents an "innovative approach to digital collection management," (Objective 3.2) especially in regards to the inherent sustainability and preservation built into its functioning. Because of its minimal approach using the static site generator [Jekyll](#), CollectionBuilder offers a viable means to cheaply and securely create websites using the base components of any digital collection—a spreadsheet and a folder of files—that will require little or no ongoing maintenance once built. In contrast to the dynamically-generated pages of content management system platforms, static websites provide several benefits, including: faster performance, immediate scalability, lower bandwidth usage, minimal hosting requirements, fewer security vulnerabilities, and simple version control. This simplicity means that static sites are easier to preserve and more sustainable than dynamic sites: due to its reliance on static files, in ten years a CollectionBuilder site, even if left unmaintained, will still look and work the same way it does now. Moreover, the organized project code, structured metadata, and standards-based HTML are preservation and migration ready. This long-term stability and sustainability better matches the common realities of GLAM initiatives, which are often driven by bursts of funding and labor to set up and create new collections, yet have minimal resources allocated to ongoing maintenance and preservation. By preparing the data in preservation-ready packages as an integral part of the development workflow, and truly minimizing maintenance costs after deployment, CollectionBuilder provides a viable option to power new collections without sacrificing sustainability.

Objective/Need 3 - User Friendly) The responsive, modern styling and visualizations incorporated into CollectionBuilder combined with its inherently customizable and modular codebase ensures that the project "[s]upport[s] the design and development of online library and archives services that meet user expectations for operating in an online environment" (Objective 3.3) both now and in the future. CollectionBuilder supports features users expect to find in a digital collection: a browse page and item pages. But it also goes beyond those expectations by producing visualizations that allow for contextualization of the collection from a variety of vantage points. This approach challenges the traditional notion of digital collections by inviting users to explore the possibilities of what a digital collection can become, even if we as curators cannot yet imagine what those possibilities might be.⁸

How is CollectionBuilder Different? - All three of the needs detailed above are partially fulfilled by the inherent differences between CollectionBuilder and other digital collection and digital exhibit platforms commonly adopted in libraries. Traditional fully-featured digital collection platforms, such as CONTENTdm, Samvera, or DSpace, are complex server-side web applications that require a subscription or hosting service, or significant in-house development and IT capacity. For smaller organizations and projects, and for the teaching and learning context, the large infrastructure overhead, ongoing maintenance costs, and system administration requirements (or equivalent subscription costs to a 3rd party) make these solutions impractical.

Omeka is a good counterpoint for CollectionBuilder, as it is a well known, mature, and impactful digital library platform built on a comparatively lightweight infrastructure. Omeka emerged as a viable alternative to heavier, less-flexible traditional platforms over 15 years ago. Its relative simplicity enabled new use cases in teaching and digital scholarship, for example setting up a small collection for a course for students to experience digital curation or creating a digital exhibit for a unique research project. However, Omeka still requires ongoing maintenance of a LAMP stack server appropriately scaled to the volume of users, presenting infrastructure challenges to sustain often time-limited projects on an ongoing basis. Additionally,

⁸ See Bethany Nowviskie, "speculative collections," *Bethany Nowviskie*, Oct. 27, 2016. <http://nowviskie.org/2016/speculative-collections/>. Nowviskie asks, "How do you position digital collections and digital scholarly projects more plainly not as statements about what was, but as toolsets and resources for what could be?" CollectionBuilder's collections as data model allows users to experience digital collections not only as cultural heritage to be consumed, but also "technology to be used."

customization of the platform is not trivial, and in an institutional context, deployment of new Omeka instances will often require support of IT and system admins.⁹

CollectionBuilder provides a solution to some of these issues, extending the "lightweight" possibilities of Omeka in the same opportunity space between narrative tools (TimelineJS) and full digital repository platforms (Samvera, CONTENTdm, etc), by going even further with the minimization of infrastructure. Gone is the LAMP stack server, database, PHP application, and admin interface, truly minimizing the infrastructure requirements, security risks, and ongoing maintenance. Instead of users interacting with the forms and menus of the Omeka admin interface, CollectionBuilder users work directly on the template project code, metadata, and objects, using our documentation as a guide. In doing so, they learn web development and data transformation skills that are useful in a variety of contexts. The initial learning curve is steeper than that required to work with Omeka, but users learn fundamental skills, not how to use Omeka—and the learning curve to self-host, customize, and take full control over an instance is significantly less. Finally, because CollectionBuilder sites originate from spreadsheets,¹⁰ the approach takes advantage of librarians' skills with editing metadata and organizing digital files and rewards their work with a customizable website that contextualizes their collection. A completed project is self-contained with no external dependencies, resulting in organized data and metadata ready for preservation (and migration) alongside a fully functional web site.

All this is to say that CollectionBuilder represents a different type of approach that can be used in many of the same ways as Omeka, with different costs and benefits that will weigh out differently depending on the user's context and goals. These costs and benefits are more explicitly treated in **Supportingdoc5.pdf - Appendix E: A Comparison Between Omeka and CollectionBuilder**.

Target Group and Beneficiaries

We are targeting our grant work at two specific audiences: digital librarians and those about to become digital librarians, i.e. LIS Students. As detailed below in our Project Work Plan, we will be supporting, building, and incentivizing community participation, contribution, and feedback with this grant. We will focus on digital librarians specifically because CollectionBuilder can help them to build and troubleshoot—both through its own use and through the skills its use engenders—the maintenance, creation, and improvement of discovery tools for their libraries. We believe that by targeting this group of practitioners, CollectionBuilder and the Lib-Static methodology it employs will become more commonly implemented for a wide variety of tasks in libraries and other cultural heritage organizations, leading to the development and release of more and more sustainable digital collections. This will benefit a wide swath of library and archive patrons across the world who use digital collections, digital exhibits, and home-built discovery tools to interact with local collections and data.

A larger goal of the CollectionBuilder project is to enhance the availability and usefulness of unique collections more broadly by providing collection data openly for reuse and contextualizing the collection items themselves. This benefits all users of digital collections and exhibits. We believe "Special" collections should be treated as such. As anyone who has spent time exploring them can attest, archival collections often come to mean more than the sum of their items due to their own histories as collections and to the accretive powers of the objects within them. Most digital collection platforms, however, focus on item-level discovery and provide minimal description of collections themselves.

⁹ See **Supportingdoc8.pdf - Appendix H: Letters of Commitment**, pages 2, 3, & 4, for descriptions of Omeka's limitations for instruction as presented by two of our advisory board members who are also LIS instructors. As advisory board member Maggie Dull describes it, "The locked-down and shared instance [of Omeka]... limited students' ability to explore the back end and make any configuration or customization options, hampering their ability to understand how and why the system works."

¹⁰ In the case of our CollectionBuilder [Google Sheets template](#), a user can simply paste in a link to their spreadsheet to produce a collection.

CollectionBuilder allows librarians to express the sum of a collection via its metadata-driven capacity to provide customized interactive features and visualizations, and our focus on expanding the capacity for users to write *with* a collection via [multi-modal about pages](#)—curating collection data to tell the collection's stories—further expands stewards' ability to contextualize collections. The *collections as data* imperative—making collection data available in flexible formats to drive machine reading and reuse—underlies much of our development, but our discovery-centered, *collections in context* design model is just as imperative for us, putting renewed focus on context at the fore.

Project Work Plan

To best explain what we plan to do and accomplish through this project, we first define who will be administering the project and then explain what resources will be used to support it and how we will include the perspectives and input of our target audiences in their uses. This information will help to contextualize the project activities and the order in which we'll accomplish them, as well as justify the ways we intend to measure our progress and disseminate our results.

Administration

All funds and activities will be administered by the University of Idaho Library with the assistance of our colleagues at the U of I Office of Research and Economic Development. The project team directing this project consists of the core team of University of Idaho Librarians that have been developing and promoting CollectionBuilder since it was first envisioned in 2018. We are Devin Becker, Olivia Wikle, and Evan Williamson. Becker will continue to serve as PI and project director; Wikle will continue to direct the educational and communications portions of the project; and Williamson will continue to serve as technical director. We will also hire a new Digital Scholarship Librarian to assist our work, and whomever is hired for this position will be a central member of our team. A note: We will NOT be hiring an outside developer. We have been responsible for all the code so far, and in doing so, we have become the leading experts on the framework and are confident that we can maintain and improve any code going forward.¹¹

Resources

We faced three primary challenges during our initial planning grant related to resources needed for successful development, and we hope to use the funds of this project grant to address those challenges and define our objectives.

Challenge 1 - Time/Personnel: Our biggest challenge during our first two years of building and maintaining CollectionBuilder was finding enough time to keep up with the maintenance and creation of the codebase, documentation, and educational resources. We know from using open source software ourselves that any hiccup or problem encountered in the learning process can shut down an individual's exploration of a new tool or project, and since CollectionBuilder is often used by individuals who may be new to developing websites, we realize the standard for our documentation and educational resources must be high. We established [significant \(and well regarded\) documentation content](#) during our Planning Grant, but it is a challenge to keep the documentation and the tutorial videos that supplement the documentation up to date, especially as we add new features and fine-tune our workflows.¹²

¹¹ During our planning grant, we did hire a developer to work on a more complex version of CollectionBuilder (CollectionBuilder-Elastic) that uses Elasticsearch to create a hub-like, search repository to connect multiple instances of CollectionBuilder. We continue to work with that developer on this project—which will warrant a different grant and more specialized development in the future—but we see CollectionBuilder-Elastic as complementary rather than essential to the main goals of the CollectionBuilder project.

¹² See [Supportingdoc9.pdf - Appendix I: Letters of Support](#), page 11, for CollectionBuilder-user Hillary Richardson's testament to CollectionBuilder's quality documentation: "I felt confident in following the steps outlined in the documentation pages on my own, which is invaluable, considering the number of DH 'tutorials' in existence that have the opposite effect."

In order to help us better keep up with these tasks and, more importantly, to build new mechanisms of engagement and communication, we will need to increase the amount of human hours spent on the project. To do so, we will be hiring a full time Digital Scholarship Librarian (**\$110,000 Salary (\$55,000 / year) + \$33,110 Fringe**) whose main focus will be on supporting and building the CollectionBuilder user/developer community. The current 3-person project team will also be dedicating at minimum 10% of our time during the two and half years of the grant, which our Dean has committed to in his letter of commitment (**see Supportingdoc8.pdf - Appendix H: Letters of Commitment, page 1**).¹³ A large portion of that time will be dedicated towards providing our new colleague with the training, mentorship and support they will need; we will also continue developing and improving the codebase and building the tutorials, documentation, and other educational resources to help with the use of the framework.

Centering this grant cycle around the addition of a librarian is a considered choice—CollectionBuilder development grew out of and remains centered with librarians, not an external software development team. As librarians, we may not be professional programmers or computer scientists, but we are immersed in the needs and aspirations of our organizations and uniquely situated to ideate pragmatic, sustainable, and learnable approaches to problems. Once hired, we will train and work with the individual in this position so that they are able to contribute to all aspects of the project, with the hope that they will be able to assist with community communications and support work soon after being hired. To be clear, the person filling this position will not be left on their own to accomplish the complex goals of this project; rather, they will be a vital member of our collaborative team. We will all work together to connect to our communities and to connect our communities with each other. Ultimately, the Digital Scholarship Librarian will gain valuable professional experience in the areas of project management, metadata creation and transformation, web development, digital preservation, community building, and communications.¹⁴

We have also created an advisory board whose members will be excellent mentors for the Digital Scholarship Librarian, while also offering expertise in building community around this type of project and/or experience with the audiences we hope to reach. Our advisory board will feature 3 digital librarians, two of whom (Kate Thornhill, University of Oregon and Maggie Dull, University of Rochester) teach in LIS programs, and one (Alex Merrill, Washington State University) who has long experience developing the community-based digital collection platform [Mukurtu](#), in addition to a dedicated LIS faculty member (John Walsh, Indiana University). Each advisor will receive a stipend for their work (**\$4,000 for 4 \$1,000 stipends**). In addition to serving as advisors in their areas of expertise and as mentors for our colleague, we will also ask that they provide regular feedback on the project and its progress.

Challenge 2 - Awareness: Our second biggest challenge was marketing, i.e. making people aware of what CollectionBuilder is and how it differs from the typical digital exhibit offerings available. We engaged in a tremendous number of presentations and workshops to promote the project, but we know we still have a great deal more to do to build awareness. During this next stage, our new Digital Scholarship Librarian will help a great deal with a variety of marketing tasks. Since we intend to use this grant award to significantly build the community of institutions and individuals using CollectionBuilder, the primary characteristic we will look for in a Digital Scholarship Librarian is the capacity *to build community through effective communication*. Interest and aptitude in regards to web development and

¹³ We initially were including this time as a voluntary cost share, but our Office of Sponsored Programs denied our request to do so, due to its negative effect on our ability to negotiate F&A rates nationally.

¹⁴ We emphasize professional experience for this position because we are dedicated to assisting the person who occupies the position move on to other desired employment after the two years of funding is ended, be that at the University of Idaho Library or elsewhere. In keeping with the advice provided in the 2018 IMLS-funded project and white paper "[Collective Responsibility](#)," by [Sandy Rodriguez et al.](#), which provides analysis of and solutions for equitable grant-funded positions in digital libraries, the individual in this position will receive full benefits, mentoring, professional development opportunities, a clear timeline and training for their work, and other professional assistance so that this grant-funded position will be a valuable addition to the individual's career.

digital collections will also be important qualifications, but as we saw with our work with graduate assistants and our library staff members, we can teach people to become adept at the use and application of CollectionBuilder. So we will put a premium on the incumbent's communication and community-building skills, and we are structuring the position to leverage those skills via collaborative projects, outreach, and educational responsibilities.¹⁵

The project team and the Digital Scholarship Librarian will also continue to grow the CollectionBuilder community of users through conference presentations, online and in-person workshops, and other venues through which we can teach and promote CollectionBuilder and the Lib-STATIC methodology (**\$15,773 for travel**). Our diligence in engaging in these key activities during the first IMLS grant cycle has established a foundational community of users, ranging from complete beginners to established developers, who have provided important feedback on the tool's features and inspired concrete changes that make it more adaptable in a variety of contexts.

Challenge 3 - Effective Feedback: As mentioned above, we were able to use feedback to improve CollectionBuilder quite a bit during the planning grant. We also have become quite adept at intuiting from commits on GitHub and through hiccups during our workshops some of the pain points of our workflows, which we are constantly working to improve. This is a specific type of feedback (breakages or problems) that often comes from a specific type of user (inexperienced). Overall, we would benefit from more formal and systematic feedback from a wide variety of users that covers not only CollectionBuilder and its various templates, but also the promotional material, documentation, and educational resources we use to build and support its community of users.

To gather more specific feedback, we will create an incentives program that encourages digital librarians, developers, LIS Instructors, and LIS students to engage with CollectionBuilder and provide feedback by offering stipends for the review of and/or contribution to the project (**\$18,200 for 18 total stipends at varying amounts**)¹⁶. These incentives will be rolled out to the different target audiences throughout the course of the grant as both a means to gather feedback from the targeted communities *and* as a means to promote the tool to those receiving these calls. (See **Supportingdoc7.pdf - Appendix G: Incentives Program Overview** for a full description of this program.) We intend for this more formalized mechanism of gathering feedback to create a type of (feedback) loop whereby the improvements we make to CollectionBuilder using this feedback help us expand the awareness of the framework, which will in turn allow us to gather more feedback. All participants in the incentives program will also be invited/encouraged to become an ongoing contributor to the project. We will maintain consistent contact via email, solicited feedback, and a dedicated listserv after their initial work is done with the hopes that these participants will form a core group of users and proponents for CollectionBuilder.

We are confident in the effectiveness of this approach, as we've seen and participated in similar incentives programs within professional librarian-developer and digital librarian communities. We believe this approach will also be successful in the context of LIS education, as we have already seen that CollectionBuilder is being used in LIS programs without any direct encouragement or contact from us: American Studies Professor Katherine Walden (University of Notre Dame), and LIS Professors Maggie Dull (University of Maryland) and Paul Jason Perez (University of the Philippines) have used CollectionBuilder with success as part of their curriculum during the

¹⁵ See **Supportingdoc6.pdf - Appendix F: Digital Scholarship Librarian Position Description** for more detail. Our belief that the incumbent should be first and foremost a librarian and rather than a developer aligns with the sentiment expressed in "[Digital Infrastructures that Embody Library Principles: The IMLS National Digital Platform as a Framework for Digital Library Tools and Services](#)," by Trevor Owens et al., which maintains that the tools libraries use and develop should be anchored in core library principles.

¹⁶ See **Supportingdoc7.pdf - Appendix G: Incentives Program Overview** to review the full description of the Feedback/Contribution Program.

2021-2022 academic year.¹⁷ To further ensure that CollectionBuilder is well-suited as an educational tool and to establish efficient and effective methods of receiving feedback from students and instructors, we will be soliciting the advice of our advisory board members who hold expertise in LIS instruction (Dull, Kathryn Thornhill, and John Walsh).¹⁸

Activities

To spread this work out effectively over the grant's time period, we plan to focus the first year of grant activities on building the capacity and numbers of the CollectionBuilder community, with special attention being given to making sure the code, documentation, and tutorials are current. During the second year of our grant, our focus will turn to establishing CollectionBuilder as an effective learning tool for LIS students and LIS instructors. By building the community and working on the integral pieces of CollectionBuilder the first year, we will ensure that our templates, documentation, and educational resources are in a mature state when they begin being used by LIS programs, and that there will be a more robust community of users for students and instructors to turn to as they teach and learn the framework. The third, half-year of the grant will be spent reporting our progress out to the community more broadly and formally via a white paper and by producing a sustainability program for the project going forward, which will also be included in the white paper.¹⁹ Our themes and activities for each year are laid out below:

Year 1: Expand and support the CollectionBuilder community

- Recruit, hire, train, and integrate a Digital Scholarship Librarian
- Establish and promote community infrastructure including listserv, Github forum, and social media presence
- Incentivize developers and digital librarians to test, use, and contribute to the codebase of CollectionBuilder
- Gather feedback from developers and digital librarians and incorporate them into the CollectionBuilder community as informal and formal advisors/champions
- Use feedback to improve technical underpinning, workflows, and educational capacity of CollectionBuilder

Year 2: Establish CollectionBuilder as a learning tool for LIS students and digital librarians

- Incentivize LIS instructors to incorporate a CollectionBuilder section into their courses
- Incentivize LIS students to learn and use CollectionBuilder to improve their web development and digital library skills
- Gather feedback from instructors and students and incorporate them into the CollectionBuilder community as informal and formal advisors/champions
- Use feedback to improve technical underpinning, workflows, and educational capacity of CollectionBuilder

Year 3 (half-year) Disseminate results and plan for future developments

- Formally present grant findings and activities to the community via a white paper

¹⁷ See [Supportingdoc9.pdf - Appendix I: Letters of Support](#), page 8, for a letter from Prof. Perez (University of the Philippines), who emphasizes the importance of CollectionBuilder not only for teaching technical skills, but also to convey the importance of equal access to information. As he states, "I am now using CollectionBuilder in teaching here at the University of the Philippines School of Library and Information Studies. In our digital curation class, my students decided to create a collection of the banned books in light of the recent book banning of leftist publications, which is happening here in the Philippines. Another group of students is creating an exhibit of the Martial Law years as a response to the widespread historical revisionism related to Marcos Jr, the late dictator's son, running for president in our May 2022 elections. I cannot express how important and empowering CollectionBuilder has been for my students and me."

¹⁸ See [Supportingdoc8.pdf - Appendix H: Letters of Commitment](#) for descriptions of Dull, Thornhill, and Walsh's relevant experience and their commitment to ensuring CollectionBuilder remains a strong teaching tool.

¹⁹ Note: Thematizing each year of the grant will not mean, for instance, that community building work will not take place during year two or that we will only focus on sustainability at the end of the project. Rather, we will use these foci as guiding lights for our work during the years ascribed while continuing to work on other aspects of the project.

- Create a roadmap for the tool going forward, including a sustainability plan and a consideration of technical advancements and changes to the framework
- Consider future funding sources and apply for appropriate opportunities

These activities will be managed using an Agile approach that the CollectionBuilder team currently practices for this and other CDIL projects. The team uses task lists, GitHub issues, regular meetings and strategic project sprints to maintain and improve the project. We will continue to use this approach, with the hope that the newly hired Digital Scholarship Librarian can take on the project manager role after being fully trained and onboarded to the project.

Progress

During our planning grant, we collected regular surveys from our workshop participants, requested informal feedback and suggestions from those we helped to use CollectionBuilder, and consistently observed and used web analytics and GitHub data to make improvements to our documentation and promotional materials. We also received extensive feedback from our Planning Grant advisory board. We will continue using these tools if awarded a Project Grant, and will add more regular implementations to ensure the effectiveness, efficiency, quality, and timeliness of our work (see our Performance Measurement plan for more). As detailed in the "Challenge 3 - Effective Feedback" section above, we will also use our Incentives Program to gather both specific and more general feedback about our users and their experience using CollectionBuilder. We will survey all participants in the program both prior to and after their participation to measure their understanding of CollectionBuilder and their views on its effectiveness and use. When we move our focus to LIS programs, we will also collect data on core web development competencies of the students that participate, and gather data from the LIS instructors using specific questions about the educational effectiveness of the framework and our educational materials.

Dissemination

As detailed in "Challenge 2 - Awareness" above, communicating project findings will be a constant goal of this project. We intend to do this informally through conference presentations, publications, workshops, and other community-building and marketing measures. Our incentives program is also a means of dissemination, as whenever we put out a call for one of the incentives programs, we'll be able to post an announcement to a large variety of listservs that should reach many members of our target audience. Sending self-promotional emails to these listservs often seems gauche; by offering an opportunity to the community to contribute and provide feedback, we hope to accomplish our goals of both building community and raising awareness. As such, we will also include a project update section in each of these calls, detailing where we are at with our project and providing links to learn more.

More formally, as detailed above in our activities section, we will release a white paper (both as a PDF and as a website) to the community that includes a roadmap for future development at the conclusion of the grant, as well as links to all templates, code, documentation, promotional material, and exemplary CollectionBuilder projects developed over the course of the project's existence. All our work will be openly available via GitHub and other public repository platforms, and we will encourage all collaborators to work in a similar open fashion.

Diversity Plan

By lowering IT requirements, simplifying development, and minimizing costs, CollectionBuilder invites librarians to get directly involved in controlling their digital infrastructure and building capacity internally. This has the potential to impact diversity in digital libraries by opening opportunities to small and medium size institutions and libraries with less funding to take part in innovative digital scholarship activities traditionally dominated by larger institutions, bringing more underserved voices to the table.

Additionally, we believe that including those that represent and support unique viewpoints and needs in the implementation, testing, and development of CollectionBuilder is an ethical necessity.²⁰ We plan to continue our current partnership with the [Recovering the US Hispanic Literary Heritage \("Recovery"\) Program](#) through which we are actively developing a [multilingual template](#) for CollectionBuilder. This multilingual template will make CollectionBuilder more extensible to diverse populations in the United States and across the world. We have seen, for instance, particular uptake of the tool with LIS students in the Philippines and researchers in Germany, and we hope this addition will make CollectionBuilder even more popular with those who do not speak English as a first language.

Our incentives program will also prioritize diversity in its selection process. We will seek out and prioritize participants for this program that are from and/or work with communities outside of those we belong to and work with. We will use their feedback along with our other participants' feedback to guide our work, paying special attention to the nuances and particular challenges their perspectives might uncover for us. This work, and our work with the Recovery program will be essential to our stated goals of increasing and expanding the user community of CollectionBuilder and its establishment as an educational tool for the libraries and archives community.

Project Results

With funding from this grant, we intend to establish CollectionBuilder as an open and inclusive digital collection/exhibit framework that provides web development and educational opportunities for librarians, empowering them to create sustainable, data-driven digital exhibit websites that prompt users' further exploration and research. That CollectionBuilder has already established identifiable benefits to society can be seen in the evidence we have presented via letters of support from national and international users, and our examples of CollectionBuilder 'in the wild.' The variety of CollectionBuilder use cases and collection types that already exist reflect the framework's modularity and demonstrate that CollectionBuilder instances are "readily adaptable, generalizable, and usable by other institutions and communities." The deliverables of this grant—CollectionBuilder code, documentation, workflows, and community—will ensure that the framework's adaptability is truly versatile and sustainable across institutional and educational contexts as we incorporate feedback from librarians, developers, and LIS students and instructors.

Digital projects created with CollectionBuilder are inherently sustainable and migratable, and while we hope that the community we build around the CollectionBuilder framework during this grant period will be a key factor in sustaining the style of development behind it, we also recognize that the work to establish this community will not end when the grant period ends. To this end, the University of Idaho Library Dean has committed the core project team to support this project by serving as troubleshooters for and advocates of CollectionBuilder for three years post-award. As our Dean notes, CollectionBuilder has transformed our daily practices and collaborative development abilities, so continuing to support its approach is a priority for our Library both financially and organizationally.²¹

This grant will provide us with the support to grow CollectionBuilder and its development approach into a mature project. We will expand our user base to new communities, better support our current users, and build increased functionality and learning objectives into the codebase and documentation of CollectionBuilder. This will bring additional benefits and development opportunities to the librarians and other information professionals who build digital exhibits and will benefit society as a whole by enabling the creation of better-contextualized and more engaging digital collections and exhibits that truly express the special nature of the cultural heritage collections that are stewarded by large and small organizations across the United States and the world.

²⁰ Efforts to shift the research and scholarly ecosystem towards openness and sustainability should recognize that all aspects of a project need to include individuals who belong to and serve diverse communities. See Altman et al., 2018. "[A Grand Challenges-Based Research Agenda for Scholarly Communication and Information Science.](#)" *MIT Grand Challenge PubPub Participation Platform*.

²¹ See [Supportingdoc8.pdf - Appendix H: Letters of Commitment](#), page 1.

Digital Products Plan

Type – *What digital products will you create?*

This grant will fund the continuing development of the CollectionBuilder project, an open source framework for creating digital collection and exhibit websites. Digital products created by this grant project will include:

- CollectionBuilder software (source code): the framework is a set of project templates that users copy and edit to generate custom digital collections and exhibits. Each template consists of modular HTML, SASS, JavaScript, and Ruby components which are knit together by the static generator Jekyll to output a complete static web site (i.e. a folder of HTML, CSS, JSON, and JavaScript files). The framework is built on top of a stack of popular, mature, and well-documented open source web development tools including the Bootstrap front-end framework and JavaScript libraries such as jQuery and Leaflet, but specifically aims to keep dependencies simple and easy to manage. We chose to use Jekyll as CollectionBuilder's static site generator as it is the most popular and widely used static generator and has quality support and documentation available—however, the templates can be ported to other generators. The modular components of CollectionBuilder can be adapted and reused in other contexts.
- CollectionBuilder documentation and learning resources: CollectionBuilder documentation and tutorials are written in Markdown and published openly online using websites built with the Jekyll static generator. The source code is openly shared online.
- CollectionBuilder presentations and publications: scholarly talks, papers, and reports related to this phase of development will continue to be archived and published using the CollectionBuilder OSF repository: <https://osf.io/5sevc/>

Availability – *How will you make your digital products openly available (as appropriate)?*

CollectionBuilder software and documentation is developed in the open on GitHub in public repositories using version control and project management features available on the platform. All of our code and content for the templates, documentation, and website can be accessed via our GitHub organization found here:

<https://github.com/collectionBuilder/>.

Hosting the source code on GitHub allows anyone to discover, view, and download the complete code for free. GitHub collaboration features allow anyone to contribute to the code and documentation via Pull Requests, Issues, and Discussions in addition to the main project team. GitHub features also facilitate others reusing the code and editing their own copy of the templates.

Resources generated for any public presentations, workshops, and publications related to this phase of work on CollectionBuilder that are not directly incorporated into the web sites, will be shared in appropriate open access

repositories. For example, many previous CollectionBuilder teaching outlines and presentation slides are shared in an [OSF repository](#).

Access – *What rights will you assert over your digital products, and what limitations, if any, will you place on their use? Will your products implicate privacy concerns or cultural sensitivities, and if so, how will you address them?*

All CollectionBuilder code is openly licensed under the MIT License, which is included in each project's repository. The MIT License was chosen because it is: a) one of the simplest open licenses to enable permissive reuse, b) used by the majority of dependencies in static web projects, and c) commonly used and well understood in software and academic projects. All CollectionBuilder text content and media assets will be licensed Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0). The CC BY-SA license is stated in the project README and displayed on central web pages. CC BY-SA is commonly used and well understood in library communities. These permissive licenses ensure that CollectionBuilder code, documentation, and content can be reused and adapted by others while only requiring attribution. Contributors and dependencies will be acknowledged in the project repositories.

CollectionBuilder software does not collect data from users, send any information back to the project, or contain culturally sensitive materials. As with any web project, institutions who choose to deploy a website built using CollectionBuilder will face decisions involving privacy (in any web analytics packages they add) and cultural sensitivity (in their digital collections content). CollectionBuilder documentation hopes to point to best practices for these issues, however, the policies and implementation are solely the responsibility of the user.

Sustainability – *How will you address the sustainability of your digital products?*

CollectionBuilder's source code, documentation, and tutorial content is composed of all standards-based plain text files. This makes the project assets ready for digital preservation and migration to new systems. GitHub repository hosting provides robust long-term preservation and programs such as [Arctic Code Vault](#) for very long term scenarios. Copies of the source code are kept locally on storage at University of Idaho.

For users, starting a CollectionBuilder project involves creating a complete copy of the project template on GitHub, their local machine, or platform of choice. Each project is self-contained with no dependencies on the central CollectionBuilder repositories. Once finished, they do not generally require any updates or support from the actively developed CollectionBuilder repository. Additionally, CollectionBuilder's design requires organized digital objects and metadata, so the process of creating a project prepares self-documented packages that are ready for deposit in preservation storage or for migration to other systems.

The University of Idaho Library uses CollectionBuilder to generate all digital collection and digital scholarship projects and remains committed to long term use and maintenance of the project. This commitment is formally acknowledged by the letter of commitment from Library Dean Ben Hunter (page 1, Appendix H - Letters of Commitment).

Organizational Profile

Included below is an excerpt from the University of Idaho's (U of I) mission statement, as approved by the Idaho State Board of Education (SBOE) in June 2016, then reviewed and submitted May 2017:¹

“The University of Idaho will shape the future through innovative thinking, community engagement and transformative education. The University of Idaho is the state’s land-grant research university. From this distinctive origin and identity, we will enhance the scientific, economic, social, legal and cultural assets of our state and develop solutions for complex problems facing our society. We will continue to deliver focused excellence in teaching, research, outreach and engagement in a collaborative environment at our residential main campus in Moscow, regional centers, extension offices and research facilities across Idaho. Consistent with the land-grant ideal, we will ensure that our outreach activities serve the state and strengthen our teaching, scholarly and creative capacities statewide.”

The U of I serves communities throughout the state and beyond. As of Fall 2020, over 10,791 students, who come from all 50 states and 73 different countries, are pursuing higher education at the U of I. The U of I’s residential campus (Moscow, ID), educational centers in four other Idaho locations (Coeur d’Alene, Boise, Idaho Falls, and Twin Falls), as well as the research/extension facilities and programs in 42 of 44 Idaho counties employ over 6,000 faculty and staff in support of students and community members throughout the state. Through U of I’s outreach efforts, we build partnerships with stakeholders across Idaho and beyond to create opportunities that foster knowledge and education for youth, college students, and adults.

Founded in 1889, the U of I’s land-grant mission is visible in our engagement with the community, transformative educational experiences and opportunities, and our drive to “shape the future through innovative thinking.” The U of I’s community includes our students, faculty, and staff; those who live in Idaho; and individuals throughout the U.S. and the world. As a land-grant university, we recognize that our work cannot be limited to our campus boundaries and contexts; as such, we seek to address the local issues that are relevant to our own communities as well as the societal needs and global issues that affect us all. Through our teaching, research, and outreach, the U of I “brings Idaho to the world” by building contextually competent partnerships with local, national, and international collaborators. These partnerships help transform the educational opportunities of our students and allow researchers to leverage the unique experiences and knowledge of all collaborators to seek innovative and sustainable solutions to these complex challenges.

As the largest library in the state of Idaho, the U of I Library reflects this land-grant mission by “bringing the world to Idaho and Idaho to the world.” In the past 5 years, the library has developed a culture of, and dedication to, innovative library practices, adding a Data and Digital Services Department, a makerspace, several ‘open’ and data focused librarian positions, and, with the College of Letters, Arts, and Social Sciences (CLASS), opening a digital humanities center, the Center for Digital Inquiry and Learning (CDIL). CDIL’s mission is to connect, open, and build tools and platforms that bring people together and facilitate the sharing and accessing of content and knowledge. Members of this grant team are associated with the Data and Digital Services Department and CDIL, which is primarily staffed and fully directed by members of the grant team.

¹ University of Idaho, “Strategic Plan and Process: FY 2019 - FY 2024,” last modified March, 2019, <https://boardofed.idaho.gov/resources/university-of-idaho-strategic-plan/>.