Three Product Implementations for Improving "Just-In-Time" Delivery of Library Resources

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Three Product Implementations for Improving "Just-in-Time" Delivery of Library Resources

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Abstract

The academic library plays a pivotal role within the organizational framework of higher education, supporting teaching, learning, and research with robust collections of materials in an array of formats. The value and ease of access to academic library collections within the higher education organizational framework cannot be understated. Accordingly, neither can the importance of interlibrary loan services from which users may gain access to materials beyond the local collection. In an effort to enhance access and discovery of materials, promote interlibrary loan services, and meet the goals and objectives of a new strategic plan, The University of Alabama Libraries implemented three new tools over the course of a few short months: Lean Library, Article Galaxy Scholar, and EBSCO custom linking. This article presents a case study detailing the implementation of these tools at a major research library.

Keywords: interlibrary loan, ILL, document delivery, Lean Library, Article Galaxy Scholar, custom linking

Introduction

Academic research libraries play a pivotal role in the university's learning, teaching, and research objectives. They provide access to robust collections and scholarly content supporting the curricula and research needs of the academic colleges and schools they serve. To meet the information needs of the faculty, staff, and student body, libraries offer multiple pathways to discover and access resources. Familiar examples for access and discovery include using a traditional library catalog or web-scale discovery system. In addition, there are times when users might want access to certain content not purchased or subscribed by the library, for which patrons are directed to interlibrary loan to borrow the materials from other libraries.

The library community understands that no library can own everything, and therefore library administrations must find a suitable balance in the "borrow vs. buy" philosophy. Of course, borrowing materials for users requires more staff and patron interaction after a need has risen. Whereas, under the buy or subscribe model, most of the engagement to purchase and set up article access occurs prior to any patron interaction. Regardless of which end of the spectrum different administrations may land, arguably all would agree the main responsibility of academic libraries is to make information available, and therefore, librarians are strategic in their decisions to purchase, subscribe, or borrow content for patrons' needs.

This research contributes to the literature with a case study of how technical services work can support interlibrary loan services and provide increased paths of discovery and access to library materials. The main purpose is to bring understanding to the technical complexities connecting interlibrary loan and technical services workflows, and to illustrate the usefulness of three separate product solutions. Next, the background section provides the location and technological setting of the study. This is followed by an examination of the literature regarding

the relationship between interlibrary loan and discovery tools, how the open access movement affects discovery, and the use of browser extensions to expand article findability. Afterward, the article details the process by which the technical services unit at The University of Alabama Libraries implemented Lean Library, Article Galaxy Scholar, and EBSCO custom linking to expand and enhance access and discovery of library materials and interlibrary loan services. A conclusion emphasizing the applied benefits of building support between access services and technical services ends the article.

Background

The University of Alabama is the state's flagship university and enrolls over 38,000 students across twelve different schools and colleges. The university has the Carnegie classification of Doctoral Universities – Very High Research Activity and carries a "reputation for academic excellence" (Johnson, 2021, para. 4). Accordingly, the University Libraries are essential to the university and provide "access to comprehensive scholarly information resources that support campus curricula and contribute to the impact of the research lifecycle" (University of Alabama Libraries, 2022, p. 2).

University Libraries have over five million volumes and support over 600 databases, including full-text journal packages, e-book collections, streaming media, digitized primary source materials, and more. The access and findability of materials occur through multiple strategically planned pathways such as the web-scale discovery layer, the Libraries' catalog, the native database interfaces listed on the SpringShare A-Z menu, and a custom-built single-search query tool called OneSearch. OneSearch is an application program interface (API) that retrieves results from the discovery layer, the catalog, the digital archives, the Libraries' website, and other applicable collections.

Before the Covid-19 pandemic, University Libraries averaged over 17,000 interlibrary loans annually; however, those metrics have declined in fiscal years 2020 and 2021. Similarly, the interlibrary borrowing counts have also declined over the same period of time. The decline in numbers is not a proxy for the value of the interlibrary loan and borrowing services. Instead, it might suggest an anomaly brought on by changes due to the pandemic. For example, during most of the calendar years 2020 and 2021, many vendors opened up expansive access to their collections, which extended access to content beyond the library subscriptions and might have reduced the operations of interlibrary loan services.

University Libraries recently unveiled a new library-wide strategic plan for 2022-2025. Overall, the strategic plan is purposeful in guiding unit and staff workflow and providing strategic direction. One of the strategic plan goals is to "develop relevant library resources and services that support and engage students throughout the research lifecycle" (University of Alabama Libraries, 2022, p. 5). Accordingly, this goal serves as the appropriate framework for expanding technical services work and developing cross-unit collaboration within the Libraries. More specifically, it allows the technical services unit to prioritize the visibility of interlibrary loan services and cultivate new opportunities to engage users with scholarly resources through the implementation of three products.

Literature Review

Discovery Tools and Interlibrary Loan

In 2012, Matthew B. Hoy noted, "While the quality and relevance of library search results are generally far better than Internet searches, users still routinely bypass the library for one simple reason: the Internet is more familiar and 'easier'" (p. 323). For this reason and others, the library discovery layer, which emerged in the late aughts as a unified library search interface,

was designed to mimic the functionality of popular internet search engines and bring the "one-stop shop" search model to libraries. The creation of the discovery tool was no doubt a pivotal moment for libraries in general, as multiple vendors developed and began offering their own versions, and implementation of the tool became widespread in libraries over time. Subsequently, multiple studies based on the impact of the implementation of a new discovery tool began to appear in scholarly publications. For example, Way's (2010) study on the impact of the discovery tool at Grand Valley State University revealed that the implementation of Summon, a discovery layer originally created by Serials Solutions, "had a dramatic impact on user behavior and the use of library collections" (p. 219). O'Hara (2012) found a similar result at the University of Manitoba, wherein full-text electronic journal retrieval increased after the implementation of Summon. However, some other studies indicated that the reaction to a new discovery tool implementation was not necessarily positive. Buck and Mellinger (2011) found librarians' reaction to be "ambivalent" and noted that confusion and frustration arose when trying to teach students how to use it. Nonetheless, Lundrigan, Manuel, and Yan (2015) found users to be moderately satisfied with Summon at Ryerson University.

The foundation of the discovery layer relies upon large indices to retrieve electronic content and can include the library's local holdings, both print and electronic, as well as metadata from thousands of publishers and content providers. Items that are not available in the library's local collection can appear in search results due to the comprehensive indices provided by vendors, leading many libraries to look for ways to incorporate and promote interlibrary loan (ILL) services within the discovery layer and further promote the "one-stop shop" model of a web-based search engine. In fact, several studies have touched on the relationship between the discovery layer and ILL. One such study conducted by Scott and Barton (2018) highlighted two

pilot projects that were conceived and aimed at further promoting ILL in the traditional OPAC and in the discovery layer for multiple sites at the University of Memphis, including one that involved creating ILL custom links in the discovery layer that automatically populate an ILL request form for the user (p. 76). Ward, Shadle, and Mofjeld (2008), who implemented WorldCat Local at the University of Washington, described the implementation process and noted that their ILL borrowing requests increased 123% in the first year of the implementation and accounted for 69% of incoming ILL borrowing requests (p. 24). Further, Musser and Coopey (2016) conducted a study at Penn State wherein they examined the impact of the discovery layer Summon to determine the effect of the implementation on ILL and loan requests, eventually positing that a discovery layer could decrease the number of requests, but called the impact at Penn State positive in that other concerns like incomplete citation data and requests for already owned items were not as prevalent (p. 651).

Bringing Open Access to Discovery

The open access (OA) movement brought about the desire to promote and make discoverable open access materials from within library discovery layers. In response, vendors and publishers began indexing open repositories for discovery tools, and pathways to make finding open access content began to emerge. The arrival of indices pointing to open access content such as the Directory of Open Access Journals, made OA content more discoverable, but as Bulock (2021) points out, the relationship between link resolvers and open access within a discovery tool is fraught with problems, including incomplete metadata leading to dead ends and issues with hybrid journals. Bulock (2021) also noted the inherent difficulty with any authentication barriers in place within a discovery tool and how to reconcile increasing discovery of OA content while still grappling with keeping non-institutional affiliated persons out of paid

content. In fact, Bulock (2021) noted, "This emphasis on paid, protected access is sometimes just too difficult to reconcile with OA resources" (p. 70).

Outside of the library discovery system, search tools to discover open access content have existed for quite some time, Google and Google Scholar among them. For example, Open Access Button allows users to search for an open access version of an article and offers to request an open copy of the article on the user's behalf. It utilized aggregate repositories from Unpaywall, CORE, OpenAIRE and more to bring back results and can be installed as a browser extension (OA.Works, n.d.). While not a browser extension, OAIster likewise searches across a large catalog of open access content and is fully integrated into WorldCat.org searches (OCLC, n.d.). Duffin (2020) undertook a study to examine open access tools such as these and their impact on an ILL fulfillment rate, finding that one in four articles in the study were freely available online, thus opining that the use of browser extensions and open access search tools in an ILL workflow might save time and money for ILL professionals (p. 423). Azadbakht and Schultz (2020) studied the usability of some of these browser extensions aimed at locating open access materials, including the Open Access Button, Lazy Scholar, Kopernio, and Unpaywall, finding that, overall, users desired simplicity and clear instructional materials when using them, citing confusion when linking failures occurred, among other issues (p. 11).

Library Browser Extensions

In addition to tools meant for discovering open access content, vendors and non-profit organizations alike have also released several browser extensions to improve the discovery of resources at the user's point of need. In 2007, Weber noted that having a library-based toolbar in the browser "adds power and convenience to a user's web explorations" (p. 30). DeVoe (2007) highlighted multiple browser extensions and plugins that were available in the early aughts for

enhancing library discovery and research, including OpenURL Referrer and LibX, both of which are now defunct (p. 79). Chilton and Thomas (2014) of the University of Connecticut (UConn) implemented LibX at UConn libraries in 2012, indicating that LibX features "an easy-access search box for library resources, links to library services, dynamic links back to targeted library holdings' information for citations and books found on free websites (such as Amazon and Wikipedia), and a 'reload current page with EZ Proxy' option for off-campus authentication" (p. 149). Conversely, Chilton and Thomas (2014) also noted that LibX was not without its challenges, as it did not provide any meaningful usage data for assessment and faced problems with both the Chrome and Firefox browsers during implementation (p. 150-151).

In 2019, Ferguson highlighted more recently developed library browser extensions like EZProxy Bookmarklet, Unpaywall, Kopernio, and Lean Library (p. 48). Specifically, Lean Library, which was created by Johan Tilstra and Jan Thij Bakker in late 2016 and subsequently acquired by Sage in 2018, provides multiple products wrapped into one browser extension. (Sage Publishing, 2018). In a review of Lean Library and its functionality, Hupe (2020) noted a unique aspect of Lean Library in the ability of a user to highlight text on a web page, right click, and perform a search in an integrated search engine, such as the library's discovery tool. (p. 518).

In studying the prevalence by which libraries promote or utilize browser extensions, De Sarkar (2014) found that approximately 57% of libraries studied promoted links to browser extensions somewhere within the library's website or through library blogs or wikis (p. 340). Accordingly, De Sarkar (2014) also found that the primary use for the browser extensions was for searching library catalogs from within the browser (p. 345).

Even so, in 2021, Lean Library released a whitepaper highlighting results from a study with a sample of over 3,000 participants at 1,392 institutions in 99 different countries. The

results of that study indicated that 79% of faculty and 74% of students begin research somewhere other than the library, noting that "the shift in workflows outside the library is clearly universal" (Hayes, Henry, and Shaw, 2021, p. 28-29).

Implementation of Lean Library

Lean Library is a web browser extension that can be installed on an individual's device. It provides convenient access to electronic library resources for users through appropriate prompts and wayfinding, such as prompting a user to authenticate to access resources, navigating to Loan request form. The University of Alabama Libraries' current strategic plan, which covers 2022 through 2025, outlines an objective to "Expand and promote high quality resources and collections that support curricular and research needs" ("University of Alabama Libraries Strategic Plan | University of Alabama Libraries", n.d.). This objective includes an action item to conduct a pilot launch of the Lean Library browser extension within University Libraries to "facilitate greater ease of collection access/use by off-campus library users" ("University of Alabama Libraries Strategic Plan | University of Alabama Libraries", n.d.). To meet the objective and begin the pilot, members of the Resource Acquisition and Discovery unit worked through the acquisition and initial setup of Lean Library in the summer of 2021 in anticipation of this objective and commencement of the new strategic plan. University Libraries chose to subscribe to Lean Library's *Workflows for LibGuides*, which is the intermediate product tier offered among three selections: Core, Intermediate, and Premium, each with increasing customization options. Lean Library also offers a free version, wherein users can utilize the browser extension to help discover open access materials.

Integrations

In order to take advantage of the robust features and customizations included with our subscription, several integrations between Lean Library and other products needed to be established. One necessary integration that had to be completed was connecting Lean Library to the authentication protocol. A connection to an authentication protocol, such as OpenAthens or EZProxy, allows Lean Library to prompt users to log in with their university credentials when accessing library resources from off-campus. For example, if a an off-campus user searches for articles directly on a publisher's website without first going through a proxied link, Lean Library will recognize the URL as included in the EZProxy configuration file and then prompt the user to log in for access to full content. University Libraries uses EZProxy for authentication, and the integration with Lean Library can be done either automatically through a connection to the local or hosted EZProxy server or through a manual upload of the configuration file. To conserve staff time, we chose to forgo any manual workflows and instead set up a connection for once daily automatic import of the configuration file. The Systems and Technical Processes Librarian, with help from library staff, worked with Lean Library to establish and test the connection. During this process, Lean Library representatives advised that stanzas in the configuration file for resources that were outdated or cancelled could result in users being led to a dead end. To do our best to prevent future errors or confusion for users, two staff members in the unit performed a configuration file audit to remove any old or outdated stanzas while the connection between the two products were established. Once the connection was successfully established and the configuration file audited, Lean Library performed a *Library Control Test* on our configuration file, providing us with a final report that indicated any broken links or stanzas that appeared so that we could address those links before going live. During the test, each URL in the configuration file was pinged for a response, and response errors were reported to our unit to

address. Finally, after a successful connection, audit of the configuration file, and a few error resolutions from the Library Control Test report, the connection to our authentication protocol was complete.

Next, a connection to an electronic holdings system, link resolver, and Interlibrary Loan request form had to be established. University Libraries uses EBSCO's Global Knowledgebase, Full Text Finder, and OCLC's ILLiad for these tasks, respectively. With help from EBSCO, the Coordinator of Acquisitions and Electronic Resources supplied Lean Library with configuration settings for EBSCO's LinkIQ in order to set up the integration to EBSCO's Holdings and Links Management. This integration allows Lean Library to direct users to locations where content is accessible. For instance, Lean Library will redirect a user toward the correct electronic holdings' location for an article if the user attempts to view the article in the wrong location (e.g., a user attempts to view an article on the Wiley platform, but access to the article is held on the Sage platform).

Further, integration between Lean Library and our local ILL request form in ILLiad needed to be completed, allowing users to request items at the point of need. For example, suppose the browser extension finds no match in the holdings or EZProxy configuration file, through open access channels, nor through our integrated electronic holdings. In that case, Lean Library can direct users to the ILL request form with metadata for the item pre-populated in the form. See Figure 1. University Libraries configured this feature with an OpenURL and query string and the help of OCLC. This configuration was relatively straightforward. As soon as OCLC provided the base URL and our customized query string, Lean Library was able to set up and implement this feature within a very short amount of time.

Figure 1. ILL Request through Lean Library

<Insert Figure 1. Lean Library ILL>

Finally, the *Workflows for LibGuides* product includes Lean Library Futures, which allows a small sidebar menu to appear on any specified webpage. These sidebar menus are also highly customizable and can be tailored for each site on which they appear. One feature of the sidebar menu is the ability to include SpringShare's LibChat so that users can chat with a librarian without ever leaving the webpage on which they are working. Integrating the University of Alabama Libraries' LibChat was also quick and straightforward. University Libraries supplied the script for SpringShare's LibChat to Lean Library, and after a bit of testing, the chat worked seamlessly.

Customizations

Lean Library allows for very granular customizations. Beyond colors, logos, and other branding throughout, University Libraries also took advantage of a customized download page which can be shared with patrons to promote Lean Library and provide the link and instructions for download. Furthermore, the Assist feature of Lean Library allows highly customizable popups to display on a webpage of choice wherein the libraries might want to provide instruction, announcements, or redirects to other locations. One such customization that University Libraries implemented was to customize a prompt to appear on the *New York Times* website notifying users of the availability of full-text holdings for the *New York Times* through ProQuest. Other Assist messages were added to direct users to archives or current issues of the student newspaper, *The Crimson White*, and to the full-text of *The Tuscaloosa News* through Newsbank.

Implementation of Article Galaxy Scholar

In spring 2021, access services personnel at The University of Alabama Libraries began investigating the usefulness of a new document delivery platform called Article Galaxy Scholar (AGS). In the preliminary review of the product, they determined that Article Galaxy Scholar would complement the work of interlibrary loan services without adding undue burden to staffing requirements or workflow. Once the decision was made to move forward in obtaining AGS, the technical services unit began the work surrounding license negotiation and product implementation.

AGS provides users three distinct options to access materials: 1) linking users to open access versions of articles, 2) providing users scholarly articles purchased by the library, and 3) providing users access to interlibrary loan services to borrow articles from a community of sharing partners ("Article Galaxy Scholar FAQ| Research Solutions/Reprints Desk", n.d.). AGS distinguishes the electronic holdings of resources through the hosting libraries' OpenURL service provider, which in the case of The University of Alabama Libraries, is EBSCO's Full Text Finder. By integrating through the link resolver, the AGS software engages users when their article request is not met by current holdings.

The AGS service offers libraries non-embargoed access to more than 30,000 journal titles ("Article Galaxy Scholar FAQ| Research Solutions/Reprints Desk", n.d.) for a minimal charge per article. Upon set up of AGS, the administrator can choose whether requested articles route through interlibrary loan first or directly to the just-in-time, paid version. Similarly, the administrator can decide if the user will have the ability within the interface to receive open access versions of articles.

By fall 2021, The University of Alabama Libraries had implemented Article Galaxy Scholar by linking services into the Full Text Finder menu landing page. The technical services

unit limited the scope of offerings in AGS to provide access to journal titles for which University Libraries does not have package subscriptions. Therefore, for the initial launch of AGS, University Libraries used the service to provide access to titles from Taylor & Francis. This pilot launch also limited buying privileges to specific faculty with higher-than-average interlibrary loan requests for Taylor & Francis content.

To indicate the limited scope of users during the pilot phase, the link to AGS within the Full Text Finder menu page was customized to reflect that use was "limited to pilot project users only" as shown in Figure 2. Individual faculty members in the pilot were notified and instructed on how to use the service. Though the link descriptor was customized to reflect that AGS was available only to pilot project users, there was worry that other faculty or students might trigger a purchase even though not a part of the pilot. To ensure a purchase was not triggered by someone outside of the pilot group, technical services staff entered only the faculty participants as registered users in the AGS administrative portal. AGS will automatically direct non-registered users to open access or interlibrary loan, thus eliminating this fear for staff.

Figure 2. Full Text Finder menu link to AGS

<Insert Figure 2 AGS_FTFMenu>

After launching the pilot of AGS, technical services notified access services that the product was ready for launch, and access services staff notified and instructed faculty on the new tool. After the set up and official launch of the pilot, the work of tech services to administer the product was very minimal. More faculty were added to the pilot, triggering a need to add additional registered users, and library administration requested usage statistics after a few months of use, which staff could download from the administrative portal. Besides those minimal maintenance tasks, the product has worked quietly and seamlessly, requiring little

intervention. Anecdotally speaking, the AGS service has been thus far successful for University Libraries in aiding users to gain access to content through multiple means. In the near term, discussions have begun regarding further expanding the AGS pilot to include SpringerNature journals and an additional select group of faculty members to meet their needs.

Developing the *One Button* with EBSCO Custom Linking

Another collaborative opportunity between interlibrary loan and technical services at University Libraries stemmed from a growing need to mirror customized document delivery service functionality found within the traditional catalog (Voyager), but not duplicated in the catalog records as displayed in the discovery layer. Staff had always referred to this feature, which transferred bibliographic record data from the Voyager catalog into an auto-filled ILLiad document delivery form, as the "One Button". The request was made of the technical services unit to develop a link to mimic the functionality of the One Button in the discovery layer alongside catalog records. University Libraries is a beta partner with EBSCO in the implementation of the FOLIO Library services platform; and with that implementation on the horizon, the FOLIO Implementation Task Force underscored the need for having the One Button appear in the discovery layer before the Voyager catalog might be sunset so as not to lose access to the link for patrons. Additionally, one of the important aspects of the One Button as it exists in the Voyager catalog is that it allows users to select how they would like to receive borrowed materials in addition to pre-populating bibliographic metadata in the ILL or Document Delivery request form. The desire was to have a near identical link and functionality within EBSCO Discovery Service so as not to have any degradation of service once the Voyager catalog was sunset.

Figure 3. Embedding One Button into EDS

<Insert Figure 3. OneButton_EDS>

Unfortunately, the institutional knowledge behind the development of the One Button within the Voyager catalog has significantly decreased over time and is still currently very limited. The code lies deep within the Voyager catalog's server, utilizing an out-of-date coding language, link syntax, and query string. Regardless, the One Button in Voyager has continued to work seamlessly over the years, and technical services began to investigate how to mimic the feature in the discovery layer, thereby giving users the ability to access the One Button from either the Voyager catalog or EBSCO Discovery Service.

One of the more challenging aspects of the build was developing the correct query link, or query string, to set the parameters of the outgoing URL. The One Button needed to be more than a link to an ILLiad form. Instead, the outgoing link from EDS needed to allow for the user to authenticate and then target a specific custom menu page from which users could then link to separate ILLiad forms, one form to request copies of serials or book chapters in the local collection and a second form to borrow items from campus branch libraries or the archive facility. The expected behavior would then be for a user to log in to their ILLiad account and each form would pre-populate with slightly different metadata, dependent upon the form, harvested from the catalog record within EDS. The two separate ILLiad forms and the need to transfer slightly different metadata into each form created extra complexities. One particular problem was the inability for the call number information to transfer from EDS to ILLiad. Unfortunately, there was no way to bring call number information into the form because of the way Real Time Availability Control (RTAC) is set up in EDS to pull our catalog information. As a workaround, a direct link to the item record in EDS populates in the notes section of each

ILLiad form, allowing ILL staff to go back to the original record the patron found if more information or the call number is needed.

In order to install this new function within EDS, the technical services personnel thought it would be best to develop the One Button using the custom linking options available to EDS administrators through EBSCOAdmin. The work began in a sandbox profile in EBSCOAdmin which allowed for investigatory testing of enhancements in a demo account that is not "live" to front-end users. It goes without saying that the creation of such a new feature takes time to implement, and the genesis of the One Button in EDS required a lot of trial and error within the custom linking interface. OCLC's customer support were able to help troubleshoot link syntax incongruencies, and EBSCO's customer support assisted in creating settings to make the custom link only appear alongside catalog records rather than on every record. The One Button was tested in the sandbox environment and then turned on in the live version once everything was in place, and together with EBSCO and OCLC, technical services staff were able to mimic the functionality in the Voyager catalog almost exactly.

Discussion

All three of these products, Lean Library, Article Galaxy Scholar, and the One Button, offer services that enhance access to resources, discovery, and the visibility of interlibrary loan services by connecting users to ILLiad or other document delivery options at their point of need. The implementations have also opened new channels for collaboration between previously siloed units within University Libraries, access services and technical services. As the units work together to offer seamless experiences to users, the implementation of these new services will be assessed, reflected upon, and documented in University Libraries strategic plan. Since these products are so recent in their development, the data presented in this article will provide a

preliminary glimpse of the value-added services these solutions will hopefully provide in the future.

Early Data

The breakdown of interlibrary loan referrals by each implementation is documented in Table 1. The total number of interlibrary loan referrals by all three tools for the testing period is 5,164 (see Table 1), or nearly one-third of the total average of yearly interlibrary loan requests. The One Button has the highest count at 3,210 referrals, followed by Article Galaxy Scholar at 1,552 referrals, and then the least number of referrals with Lean Library at 402 referrals.

<Insert Table 1. Interlibrary Loan Referrals>

While these counts might seem reflective of the services of each tool, it is more likely the referral counts reflect the different months in which the tools were considered officially launched and to whom they were advertised or available. For example, Lean Library was not officially launched until spring 2022 and has yet to be widely promoted as of summer 2022; however, early test data from a very small cohort of users from 2021 was included in Table 1. Further, access to Article Galaxy Scholar, while launched in fall 2021, is still limited to specific users and has not been widely promoted to the campus community. Even so, any user can click through to the Interlibrary Loan form through Article Galaxy Scholar, even if not a part of the ongoing pilot. Conversely, the One Button is widely promoted and available in the local discovery layer, though the link is limited to appearing alongside only catalog records. The differences between the time of implementation as well as the level of promotion or visibility given to each tool makes for an inelegant side-by-side comparison. Still, over time as these services are more

widely launched and promoted, a side-by-side comparison may provide a better foundation for assessment of these three services.

<Insert Table 2. Open Access Referrals>

One important function of Article Galaxy Scholar and Lean Library is the ability to deliver users to open access (OA) content when no subscribed content is available. Table 2 displays the open access referrals for both proprietary products. The One Button is designed only to direct users to the ILLiad form for requesting document delivery and does not provide a direct pathway to OA content; therefore, the product is excluded from Table 2. Still, even though the data are reflective of the pilot statuses of Article Galaxy Scholar and Lean Library, the counts provide early-level data for future benchmarking and assessment and give instant access to content for patrons at their point of need.

Challenges and Opportunities

Article Galaxy Scholar, Lean Library, and the One Button were unique implementations for technical services given that these products do not fit within the traditional structures of library electronic resources, such as databases or e-journal packages. While challenging, these implementations led to a broader discussion of shifting workflow paradigms and breaking down barriers affecting service opportunities. Workflow consisting of ongoing maintenance, troubleshooting, and further customizations for these products needed to be assigned, yet current and future decisions on what work should be done and by whom crossed the dividing line between public services and technical services. Likewise, the customizations necessary for each of the products required consultation with subject liaisons, instruction librarians, and access services to make sure that needs were met. Currently, and primarily, staff within technical

services manage the administration of these products, but as that work is done, further lines of communication between public-facing and non-public-facing librarians and staff must remain open to ensure the best service for users and return on investment.

Ample opportunity exists for expanding these three tools beyond current parameters. Thus far, Article Galaxy Scholar has fewer than twenty faculty users and is configured to purchase articles from Taylor & Francis only. Beyond the pilot phase, AGS could be expanded to more users and more publishers, opening up the opportunity for "just-in-time" delivery of resources to reach a broader audience. Discussions have recently commenced to open up AGS to other publishers besides Taylor & Francis where there may be a need. In addition, as Lean Library is further promoted to the campus, more ideas for custom settings and custom Assist messages give more opportunity to fine-tune the product, improve discovery of resources, and potentially increase Interlibrary Loan referrals or document delivery requests. Interestingly, the opportunity to integrate Article Galaxy Scholar with Lean Library is also a possibility. Currently, Lean Library links users to the Interlibrary Loan Request form in ILLiad when an article is unavailable in the local collection. However, as Article Galaxy Scholar expands to a wider campus audience, integrating the two products may provide unseen benefits to "just-in-time" delivery and interlibrary loan services.

Future Directions

The technical services unit within University Libraries will continue to offer all necessary support levels for these product implementations to succeed. One future direction that needs further polishing is the assessment of the whole process, which extends beyond product implementation. Indeed, staff have some guidance with specific goals and objectives in the University Libraries strategic plan, and while the strategic plan helps guide new initiatives, there

are more prescriptive aspects of the assessment loop of which staff still need to work out. For example, some questions which might guide future assessments include:

- When do Article Galaxy Scholar and Lean Library shift from pilot phases to fully implemented?
- Will the usage of these implementations influence collection management decisions?
- Is it possible to measure if usage from these implementations reflects an increased interlibrary loan fill rate?
- How can each proprietary product be expanded to further increase the visibility of services and access to materials?

For the near-term, anecdotal feedback from the affected staff in access services coupled with the preliminary testing data, will serve as the foundation for future assessment efforts.

There is plenty of room for further advancement of these products, opening them up to more promotion and a larger user base, and ensuring that users are knowledgeable and aware of the value-added services they can provide. One obstacle to overcome might be getting buy-in from end users who may be used to a specific or more traditional way of accessing library resources. Further collaboration between public services and technical services is also necessary for effective promotion. Future opportunities can also be gleaned from assessment of the data generated by these products. While preliminary data can only tell us so much, more data over time can reflect successes and opportunities for improving the visibility and functionality of these products to maximize their value and our return on investment.

Conclusion

These implementations were met with excitement and appreciation from public-facing staff and campus faculty, though longitudinal usage data yet exists to inform the full picture of the return on investment. Each of the three tools establishes a new method of discovery and just-in-time document delivery to serve increasingly diverse users with diverse workflows. In addition, the work to launch each product led to increased lateral communication and the opportunity to blend goals and objectives between two separate units. The work to implement Article Galaxy Scholar, Lean Library, and the One Button between the two areas also underscores the increasingly holistic nature of the work necessary to meet the needs of a diverse user base among rapidly changing technologies, and provided The University of Alabama the opportunity to rise to the occasion and provide the best service to our users and meeting the goals of the new strategic plan.

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Figure 1

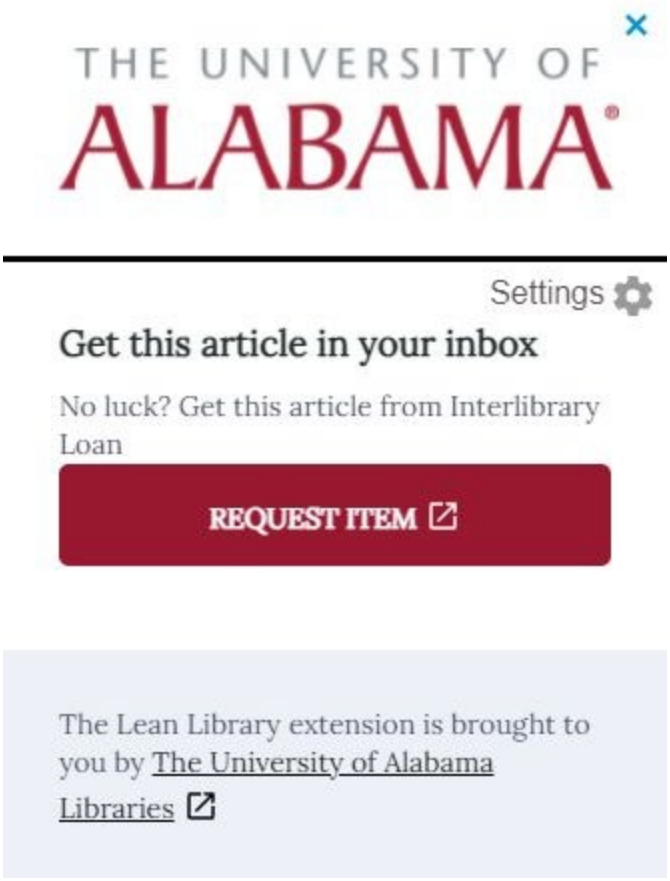

Figure 2

Figure 3

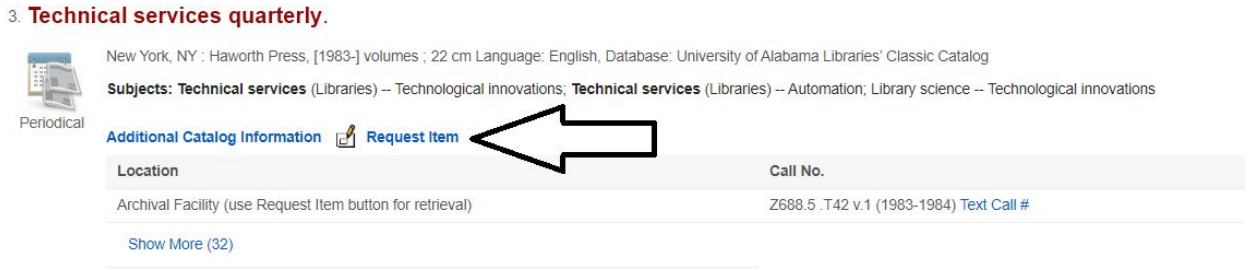

Table 1. Interlibrary Loan Referrals by Implemented Solution

Test Period		One Button	Article Galaxy Scholar	Lean Library
2022	June	176	70	159
2022	May	133	53	111
2022	April	291	202	53
2022	March	403	154	18
2022	February	448	217	19
2022	January	317	86	3
2021	December	146	72	16
2021	November	414	177	9
2021	October	485	217	11
2021	September	397	281	3
2021	August	n/a	23	0
Total ILL Referrals		**3,210**	**1,552**	**402**

Table 2. Open Access Referrals by Implemented Solution

Test Period		**Article Galaxy Scholar**	**Lean Library**
2022	June	26	18
2022	May	14	30
2022	April	33	12
2022	March	13	7
2022	February	30	3
2022	January	11	0
2021	December	11	6
2021	November	32	55
2021	October	23	7
2021	September	48	16
2021	August	1	0
Total Open Access Referrals		**242**	**154**