UBorrow

Program Evaluation
November 2017

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Executive Summary and Recommendations

UBorrow is both a resource sharing program with a specific set of policies and an underlying set of technologies that enables it. The Big Ten Academic Alliance Libraries' continued investment over the past five years saw annual increases in requests and program participation with 422,839 loan requests filled. By 2016, nearly two-thirds (66%) of physical materials borrowed by BTAA members from other libraries were supplied from within the BTAA's collective collection, up from less than half (48%) in 2011. We also have been able to serve our patrons better by providing longer and consistent loan periods and reducing recalls, while at the same time allowing interlibrary loan staff to maintain and improve many existing workflows. UBorrow was recognized by the interlibrary loan community with the conferral of the Rethinking Resource Sharing Innovation Award in 2012.[1] A recent survey of the BTAA ILL Directors recognized the increased automation and efficiencies associated with UBorrow while pointing to areas where further improvement is warranted and desirable. We must work to reveal the BTAA's deep and rich collections to our users by the most unobtrusive and effective means possible. This will require continued high-level collaboration and greater investment in Uborrow, which has become a natural extension of the robust resource sharing culture within the BTAA. The five-

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[1] The BTAA press release on the award can be found at https://www.btaa.org/news-and-publications/news/2012/06/20/cic-s-uborrow-wins-the-rethinking-resource-sharing-initiative-s-2012-innovation-award.

year-old UBorrow initiative is an overall success that has moved resource sharing in the BTAA forward to benefit patrons and improve workflow efficiency.

Therefore, we recommend that:
- The member institutions continue to invest in the UBorrow program and provide strong support for its continued development.
- The BTAA renews its contract with OCLC/Relais for the next three years, as there are no immediately obvious alternatives to the current UBorrow software and technical solution, and time is needed to explore and customize additional options in a rapidly changing resource sharing environment.
- The Library Directors appoint a cross-functional BTAA Library Task Force to investigate and recommend investment and changes in UBorrow to ensure its continued development and fitness for the needs of the BTAA.
- The continued development of the UBorrow program be guided by the following principles:
  - Our collections are one of our greatest strengths, and finding ways of exposing them to the whole of the BTAA is essential to our mission.
  - Timely resource sharing is essential to undergird access to a true collective collection and to meet the expectations of our users.
  - Collaborative initiatives across the BTAA require continued support, development, and investment in order to ensure ongoing benefits for all.
  - We need to engage with other consortia in order to shape the evolving resource sharing environment, to learn from their experiences, to develop best practices and standards, and to promote opportunities for cross-consortial borrowing.
- There are practical considerations and goals that may also guide continued UBorrow development and investment. We should:
  - Consider ways to address issues resulting in uneven benefit of UBorrow participation to member libraries, including load-leveling mechanisms that align lending request volume with borrowing.
  - Explore how to provide two-day fulfillment of requested materials to patrons across the consortium as user expectations for fast delivery continue to increase. This enhancement will require an investment by institutions and a rethinking of process, and is supported by the ILL Directors and expressed as an important improvement to be made to UBorrow.
  - Consider provision of central support from the BTAA or a contracted member for technical work to support local implementations and integrations with discovery and fulfillment systems.
  - Work with OCLC to ensure that the complex needs of high-volume research libraries are addressed in the context of the development of Tipasa and consortial borrowing solutions (see Appendix A).
  - Integrate the rich BTAA collections into our disparate discovery tools in a way that is not disruptive to users and is in fact largely invisible to them.

Background

The roots of UBorrow stem from two reports, created by the Interlibrary Loan Directors of the (then) CIC in 2009 and 2010, that articulated the need and desire for a consortial borrowing system.[2] In September 2010, the CIC Library Directors appointed a "Task Force on Consortial Borrowing for the CIC Libraries" to examine current and potential options for consortial borrowing. This task force, which included individuals representing public services, resource sharing, and IT perspectives from five BTAA libraries, conducted an environmental scan of consortial borrowing systems and released a report in January 2011 that recommended an innovative approach that "would use Relais D2D for the patron interface but would transfer requests into the ILLiad interlibrary loan system for processing." This was an economical approach that greatly benefitted our users and allowed member libraries to choose their level of participation.

Six libraries (Chicago, Iowa, Michigan, Michigan State, Northwestern, and Penn State) agreed to become initial implementers of the service, which formally launched in January 2012 under the name "UBorrow." By the end of 2013, Maryland, Minnesota, Nebraska, Purdue, Rutgers, and Wisconsin had also joined UBorrow as full participants, while Illinois, Indiana, and Ohio State chose to participate only as lenders.

The initial deployment of UBorrow consisted of an interface that allowed patrons to conduct searches of BTAA library holdings, to place unmediated UBorrow requests for material available within BTAA collections, and to place mediated interlibrary loan requests for material not readily available. However, almost immediately after launch, UBorrow began to evolve and has since undergone continual improvement:

- February 2012: Some libraries began integrating UBorrow into their local discovery systems by placing links within their catalogs and OpenURL resolvers that re-executed searches within the UBorrow interface.
- April 2012: ILL staff began using an ILLiad client add-on developed by Atlas Systems that allowed them to convert traditional interlibrary loan requests into UBorrow requests. This add-on worked even for those libraries that had not implemented the patron interface for UBorrow.
- June 2012: An ILLiad server add-on began providing lending libraries with the call numbers and locations of the material they were asked to supply, eliminating the need for staff to spend time looking up this information.
- Winter 2014: The ILL Directors created collection "tiers" that allowed UBorrow to give priority to collections from which materials could be quickly retrieved and shipped and lower priority to those that take longer.

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[2] "Rationale for Implementing a Direct Consortial Borrowing System among the CIC Libraries" (March 2009) and "Discovery and Fulfillment: Taking Another Look at Direct Consortial Borrowing" (March 2010).

- March 2014: The Library Directors agreed to underwrite the costs of development for web services that made it possible to determine availability of UBorrow material outside of the UBorrow discovery interface.
- Autumn 2015: The web services created in 2014 became the foundation for a second ILLiad server add-on that automatically ran on new ILLiad loan requests and converted them into UBorrow requests without staff mediation if they could be filled via UBorrow. In the succeeding two years, more than 85,000 requests received via ILLiad were automatically converted to UBorrow requests in this way.
- Summer 2017: Improvements to the add-on were implemented that allowed UBorrow availability to be determined for requests without ISBNs by doing combined author, title, publication date, and format searches. This enhancement allowed more requests to be converted automatically to UBorrow. Currently, 45% of new UBorrow requests are generated by this add-on.

Accomplishments

In its first five years of operation, the UBorrow consortial borrowing service filled 422,839 loan requests, allowing the BTAA libraries to place greater reliance on the BTAA collective collection as a source for needed materials. In the year before the launch of UBorrow (2011), BTAA libraries obtained less than half (48%) of loans from other libraries from within the consortium, but by 2016, nearly two-thirds (66%) of loan requests were supplied from within the BTAA collective collection.[3]
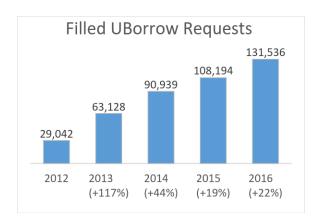

Fig. 1 Total Filled UBorrow Request by Year

During the past five years, the UBorrow program not only has successfully filled almost half of a million loan requests, but has also:

- Created a greater reliance on the collective collection of the BTAA.
- Allowed BTAA libraries to maintain their workflows while improving the success rate of filling requests.

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[3] Usage data taken from the UBorrow reports database (https://reports.lib.uchicago.edu/uborrow/) and OCLC Statistics (http://www.stats.oclc.org).

- Collectively created and implemented policies, such as extended loan periods, that benefit our campus communities.
- Allowed libraries to customize their participation levels based on perceived local needs.
- Created an environment where technical innovation thrives and continuous improvements are made.

As a result of this collaborative effort, each year of operation has seen substantial increases in the use of UBorrow due to both greater patron use and technical innovations. The BTAA's approach to consortial borrowing resulted in UBorrow receiving the Rethinking Resource Sharing Innovation Award in 2012.

Our users—undergraduates, graduate students, and faculty alike—have responded favorably to the introduction of UBorrow. By increasing access to materials and lengthening the loan period for books to a predictable twelve weeks, UBorrow has enabled graduate students to prepare better for comprehensive exams and to write theses and dissertations more comfortably. In particular, it has alleviated frustration and inconvenience associated with recalls. Testimonies from users attest to this and other benefits. For example:
- One graduate student at the University of Chicago described UBorrow as "a wonderful service that has greatly expanded access to the more popular books in the library's holdings," while another described the switch to UBorrow as replacing "fighting with other students" with "a peaceful and harmonious scholastic existence."
- Students at the University of Maryland reported that UBorrow provides access to required readings before financial aid is available and allows them to avoid purchasing materials they may only need for a few weeks, thus reducing their financial burden.
- Users also credited UBorrow with creating a greater sense of community within the BTAA. A former student at the University of Minnesota described UBorrow as a "vast network of university libraries…[that] made me feel very involved, connected," while researchers at the University of Maryland described it as "like having 15 research libraries down the block" and "the BEST thing about being #Big10."[4]

As the 2016 snapshot (Figure 2) on page 7 shows, UBorrow does not currently benefit all BTAA libraries' patrons equally, though all libraries benefit from greater efficiency in lending. Five of the BTAA libraries (Northwestern, Maryland, Minnesota, Chicago, and Michigan) account for 64% of UBorrow requests while all of the BTAA libraries are asked to fill roughly the same number of requests. Differences in amount borrowed are due to a variety of factors including the extent to which UBorrow has been promoted locally, whether UBorrow has been integrated into local catalogs and OpenURL resolvers, and participation in other consortial borrowing arrangements (including state, regional, and local systems) that may provide faster turnaround times or simply provide an alternative to the BTAA for filling requests.

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[4]UBorrow reduces recall requests by 30 percent," the University of Chicago Library News, http://news.lib.uchicago.edu/blog/2013/02/01/uborrow-reduces-recall-requests-by-30-percent/; open text responses from UMD 2014 UBorrow marketing campaign evaluation survey and 2017 LibQual survey; tweets to @UBorrowUMD; email message to the authors, September 19, 2017.
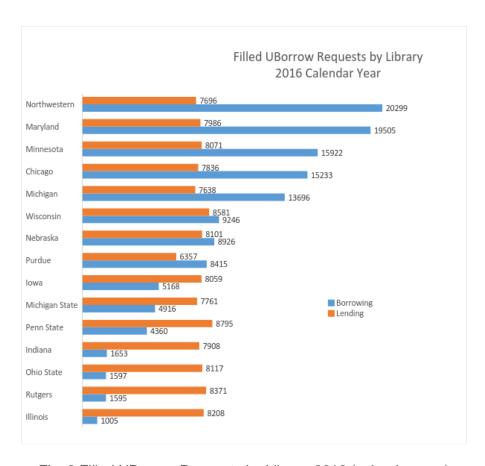
Fig. 2 Filled UBorrow Requests by Library 2016 (calendar year)

Strengths of the Program

UBorrow provides a valuable service to the research community of the BTAA. When surveyed in September 2017, all of the BTAA ILL directors agreed or strongly agreed that UBorrow allowed the consortium to share their collections within the consortium more effectively, and answers to other questions related to the success of UBorrow were generally positive, especially among full participants (Figure 3). The program's many strengths are reflections of its thoughtful implementation and its continued, attentive curation. In particular, UBorrow:

- Allows for **flexible implementation** based on local context. The current system requires only the requesting library to use Relais D2D; the library filling the request can do so in ILLiad and thus needs no additional software or financial commitment. Likewise, licensing an NCIP responder is not a requirement for borrowing or lending via UBorrow.
- **Increases automation** through the use of ILLiad server add-ons and the Relais web services API. These tools convert traditional ILL requests into UBorrow requests and populate call number and location information in the appropriate fields for lending libraries, thereby eliminating the need for staff at both the borrowing and lending libraries to manually process these requests.

- Routes requests to the libraries most likely to fill them by checking **real-time availability** through Z39.50 and by utilizing pre-supplied collections profiles to verify which collections and materials are available for loan. Together with the tiering of locations based on their speed to supply, these automation and verification features allow users to obtain physical items **faster and more reliably** than via traditional interlibrary loan.
- **Improves workflows** for interlibrary loan processing staff, allowing them to spend less time on routine loan requests and concentrate on more complex requests. Since 2016, UBorrow routing has been used to process book chapter requests without staff mediation. While this automation does not necessarily allow for reduction or reallocation of staff, it does permit ILL staff to provide greater request fulfillment, better customer service, and explore new services.
- Remains **very affordable** despite continued development. The BTAA's total investment, including the capital needed for start-up, has been very reasonable (see Appendix B), and the current annual maintenance cost of $5,265 is a small fraction of what our libraries pay to support other resource sharing subscriptions and library systems. When surveyed in September 2017, 11 of the 12 ILL directors from libraries that pay to participate (92%) agreed or strongly agreed that "UBorrow is a good investment for my library."

As seen in Figure 3, the ILL Directors—even those whose schools only partially participate—had positive reviews for the program and noted a number of strengths. For a full listing of the survey responses, see Appendix C.
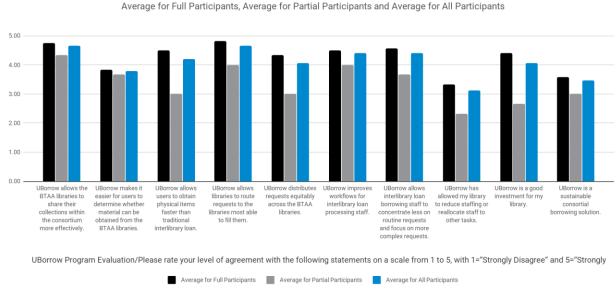

Fig. 3 Summary of Question 4 of the Program Evaluation

Current Limitations of the Program

Despite the technical innovation and collaborative effort that have been brought to bear on improving UBorrow, there are still limitations to the current system. These limitations include:

- **Reliance on distributed Z39.50 searching** to determine holdings. This leads to slow keyword searching, limits search results to 500 records per institution, and imperfectly deduplicates search results into merged title records for placing requests. The latter stems from inconsistencies in whether ILS/LSP vendors index ISBNs in their general keyword search and differences in handling of diacritics and non-Roman character sets in catalog records.
- **Lack of a shared index.** This creates a disjointed discovery environment and prevents more effective searching of the breadth and depth of BTAA holdings. The Ivy Plus libraries are currently undertaking an initiative to build a shared index for their BorrowDirect consortial service.
- **Need for improved search parameters and strategies for disambiguation.** For example:
    - Resolve issues with distinguishing correctly between print copies and ebooks.
    - Distinguish multiple copies from multiple volumes and enable users to effectively request specific volumes from institutions with available copies.
- **Limited automation on the lending side** of the transaction. Only the first lender benefits from automatic population of the call number and location and routing for printing and retrieval; if the first library cannot fill the request (which happens approximately 15% of the time), additional lenders must process the request manually.
- **Hybrid architecture.** This is a signature strength as well as an inherent weakness. The integration of three systems—Relais D2D, ILLiad, and OCLC interlibrary loan—to fulfill these unmediated requests is relatively fragile; it is especially vulnerable to components or connections breaking during upgrades. Contractual service agreements with Relais International and Atlas Systems have ensured ongoing maintenance of this hybrid system and have mitigated the impact of system changes, but unanticipated, brief UBorrow service interruptions have followed several upgrades.

Additional needs and desires were expressed by the ILL Directors in the survey for this program review. The most notable are:

- **Need for greater technical support** for add-on changes following upgrades and to troubleshoot and resolve issues as they arise. This may require consideration of part-time centralized support and coordination for UBorrow within the BTAA.
- **Better integration of UBorrow** into local discovery tools and the ILS/LSP. While integrations are currently possible with the Relais Web Services API and NCIP, the ability to implement them locally depends on other factors, notably the extent of customization permitted by the discovery tool's vendor, licensing an NCIP responder, and technical support for implementation.

- **Faster delivery.** While the ILL directors praised the service's more reliable turnaround time as compared to traditional ILL, they stressed the need to reduce turnaround time from its current average (6 days) to match the current retail standard (2-4 days).

Challenges and Opportunities

The current resource sharing environment is subject to external forces beyond our control. What we can control is how we react to them; we must formulate thoughtful, well-planned responses to the challenges facing this program. UBorrow has been quite successful in creating a strong consortial commitment to resource sharing across the BTAA, and this commitment should be leveraged to tackle the challenges and opportunities that lie ahead. Challenges include:

- **Uncertain future of ILLiad/Tipasa.** As OCLC continues to develop their new Tipasa cloud-based resource sharing software that will replace ILLiad, there are concerns amongst the consortium that a new system will not be as robust as is needed by the BTAA. ILLiad has significantly evolved over the years and has allowed for customization and has been very well supported by Atlas. As a group the BTAA has been able to leverage Atlas's willingness to develop new functionality, and there is concern that this flexibility and eagerness to innovate will be lost as we transition to OCLC's new product.
- **Technical shortcomings.** These, along with an uncertain future for our resource sharing systems, need to be addressed. We must engage continuously with OCLC to influence the future development of our systems as ILLiad is replaced by cloud-based Tipasa.
- **Competing consortial commitments.** Statewide resource sharing networks and other regional consortia impede some libraries from participating fully in UBorrow. However, there is an opportunity for a technological solution that facilitates unmediated lending and borrowing of resources through a variety of consortial systems. We need to be able to easily move requests between disparate systems to borrow materials from various consortia without time-consuming, complex workflows.
- **Financial concerns.** Because we have been able to operate and optimize the current version of UBorrow with relatively small financial investments from each institution, there is potential for OCLC's purchase of Relais to create unforeseen financial pressures. However, the three-year contract proposed by OCLC for Relais D2D maintenance and support includes only very modest increases during the life of the contract.
- **Logistics.** Moving material around the country in a timely fashion is a significant challenge. Reducing UBorrow delivery time was the number one area in need of investment and improvement according to the survey, and it is a great opportunity to work together to find an effective and efficient solution. Our users' expectations, which have been shaped by the "get it now" retail landscape, have changed in the past five years. Addressing this issue would help to bolster use and may make UBorrow a more attractive option to libraries that currently do not participate fully.

Acknowledging the challenges of UBorrow also highlights the great opportunities for furthering consortial partnerships within the BTAA. Collectively, we can:

- **Inform collection building** across libraries, not only through the sharing of materials but also by using the data we collect to help make acquisitions decisions locally and throughout the BTAA.
- **Support consortial activity,** such as the cooperative cataloging program, which are key pieces of the future state as we continue to think more about the collective collection within the BTAA.

Recommendations

This program study led to the conclusion that UBorrow is a valuable and valued service for the BTAA's patrons and staff overall. The BTAA libraries should further invest and develop UBorrow to allow it to align more closely with and more fully realize the BTAA D2D vision as outlined in *A Vision for Next Generation Resource Delivery*.[5] During our analysis, it was noted by a majority of the ILL Directors that UBorrow's increased automation and associated efficiencies have been very beneficial for our libraries. ILL is an area where we have made significant advances, but further improvement is warranted and desirable. We must work to reveal our deep and rich collections to our users in the most unobtrusive and effective means possible. Doing so will require continued high-level collaboration and greater investment in Uborrow, which has become a natural extension of the robust resource sharing culture within the BTAA.

The five-year-old UBorrow initiative is an overall success that has moved resource sharing in the BTAA forward to benefit patrons and improve workflow efficiency. Therefore, we recommend that:

- The member institutions **continue to invest in the UBorrow program** and provide strong support for its continued development.
- The **BTAA renews its contract with OCLC/Relais for the next three years**, as there are no obvious alternatives to the current UBorrow software and technical solution, and time is needed to explore and customize additional options in a rapidly changing resource sharing environment. The three-year contract that OCLC has proposed includes only very modest annual price increases, and implementing that contract would give the BTAA the time it needs to chart a course for the future.
- The **Library Directors appoint a cross-functional BTAA Library Task Force** to investigate and recommend investment and changes in UBorrow to ensure its continued development and fitness for the needs of the BTAA.
- The continued development of the UBorrow program be **guided by the following principles**:
    - Our collections are one of our greatest strengths and finding ways of exposing them to the whole of the BTAA is essential to our mission.
    - Timely resource sharing is essential to undergird access to a true collective collection and to meet the expectations of our users.

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[5] https://www.btaa.org/docs/default-source/library/attachment-8-btaad2dactioncommitteereportdraft.pdf?sfvrsn=0

- - Collaborative initiatives across the BTAA require continued support, development, and investment in order to ensure ongoing benefits for all.
    - We need to engage with other consortia in order to shape the evolving resource sharing environment, to learn from their experiences, to develop best practices and standards, and to promote opportunities for cross-consortial borrowing.
- There are practical considerations and goals that may also guide continued UBorrow development and investment. We should:
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    - Explore how to provide two-day fulfillment of requested materials to patrons across the consortium as user expectations for fast delivery continue to increase. This enhancement will require an investment by institutions and a rethinking of process, and is supported by the ILL Directors and expressed as an important improvement to be made to UBorrow.
    - Consider provision of central support from the BTAA or a contracted member for technical work to support local implementations and integrations with discovery and fulfillment systems.
    - Work with OCLC to ensure that the complex needs of high-volume research libraries are addressed in the context of the development of Tipasa and consortial borrowing solutions (see Appendix A).
    - Integrate the rich BTAA collections into our disparate discovery tools in a way that is not disruptive to users and is in fact largely invisible to them.