Smarter Libraries through Technology

The State of Digital Lending in Public Libraries

By Marshall Breeding

Public libraries routinely lend digital materials, especially ebooks, audiobooks, and streaming video. For public libraries in the United States, circulation of books continues to far outpace digital lending. According to the most recent data set from the IMLS, US public libraries in aggregate circulated 2.2 billion print items and a total 348 million digital loans. Although no definitive statistics have been published, the proportion of digital lending to traditional circulation was substantially higher during the COVID-19 pandemic when most public libraries closed access to their buildings.

Public libraries face challenges in digital lending. The reading interests of their communities cannot be met through free public domain titles alone, but require access to current titles that are under copyright and are almost always acquired through commercial publishers. Library lending of print books falls under the first sale doctrine in U.S copyright law, enabling unrestricted use, including the ability to sell, give away, or lend.

This doctrine does not apply to electronic copies of books, which involve a complex set of business issues and technology components. The practice of Controlled Digital Lending aims to confer practices for print materials on digitized books owned by a library, though this concept is challenged by publishers who entered a lawsuit against the Internet Archive in June 2020.

Apart from Controlled Digital Lending, the ability for libraries to lend commercial ebooks depends on licenses that specify pricing and lending terms allowed by the publisher. There has been constant tension between the major publishers and public library lending services. While almost all publishers today offer their ebooks to libraries for lending, the pricing and terms continue to present challenges. Publishers see the need to constrain library lending to protect their digital sales. While the libraries continue to press for more favorable terms, the almost universal participation of publishers in library ebook lending services represents important progress relative to the early years of these services.

Publisher terms for ebooks specify provisions in library lending policy and the duration of the license. Some licenses may allow one simultaneous loan for a title for each subscribed copy for a fixed period. Other options may allow multiple simultaneous loans, but with a cap on the total number of loans allowed. Once the license period expires or when the item reaches its loan limit, the library would need to repurchase the license to continue access. Publishers compare these limits to physical books that wear out in the course of library lending and need to be replaced.

Commercial publishers generally do not offer libraries an option to purchase ebooks permanently. Douglas County Libraries in Colorado led an initiative, beginning in 2012, where libraries purchased ebooks from publishers and provided controlled access through their own digital platforms, using Adobe Content Server for digital rights management. While some smaller publishers initially endorsed this model, it failed to gain acceptance among the broader publishing industry and the initiative fell away in about 2014. (see "Technology to Empower Library Control of E-book Lending" *Smart Libraries Newsletter*, August 2013). Transaction-based and term-limited licenses have become the established business model for library lending.

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Libraries are able to get more flexible terms for digital content from sources other than the largest commercial publishers. Califa Group, a nonprofit membership consortium, for example, created the Enki Library, which includes persistent digital content. This collection includes self-published titles, public domain ebooks, graphic novels, and other materials from some smaller publishers. (See https://califa.org/enkilibrary). BiblioLabs, through its BiblioBoard platform, likewise offers tools and content selections available to libraries with perpetual, multiuser access. (BiblioLabs was recently acquired by LYRASIS.)

Despite these challenges, almost all public libraries in the United States offer some level of ebook lending. Libraries subscribe to ebook lending services directly or through consortia. The offerings of individual libraries may be supplemented by regional or statewide programs.

Public libraries make substantial investments in ebooks and other digital content. According to aggregated statistics reported to IMLS, public libraries in the United States spent $449,240,581 on electronic content and $761,564,869 on print in 2019. Expenditures on digital resources have grown steadily in the past decade, while print spending has plateaued.

Public libraries depend primarily on commercial providers for their digital lending services. OverDrive launched its library ebook lending service in 2003 and has continually advanced the capabilities of its platform. Other competitors include cloudLibrary, originally developed by 3M Library Systems and now part of bibliotheca; the Axis 360 service from Baker & Taylor; and ODILO. Hoopla offers audiobook, music, and other streaming digital content. Kanopy specializes in streaming video, filling an important need as libraries move away from lending DVDs. While OverDrive ranks as the dominant provider of digital content services to libraries, it faces substantial competition in the United States and globally. OverDrive recently acquired Kanopy, expanding its offerings of streaming video content.

The ebook lending services have continually made improvements in their capabilities and usability. Today, library patrons can easily check out, download, and read an ebook with a few quick steps. In the early years of library ebook lending, the process required of patrons borrowing their first ebook was notoriously complex, involving downloading software and setting up multiple accounts with passwords. Library advocacy initiatives exerting pressure on publishers and digital lending providers led to this streamlining.

ReadersFirst

This concern with the complexity of the commercial ebook lending products led to the formation of the ReadersFirst initiative (http://www.readersfirst.org/), which grew from discussions within New York Public Library in 2011 into a broad-based coalition of public libraries. It remains active, with over 300 participants. Fragmented technologies with little interoperability among ebook lending services and ILS vendors led to the complexity of borrowing ebooks from the library. The Readers First principles were issued in June 2012 and have been broadly endorsed by the public library community. In brief, these principles state:

- Search and browse a single comprehensive catalog with all of a library's offerings at once…
- Place holds, check-out items, view availability, manage fines and receive communications within individual library…
- Seamlessly enjoy a variety of e-content…
- Download e-books that are compatible with all readers…

(See http://www.readersfirst.org/program for complete statements.)

The ReadersFirst Working Group performed a detailed assessment of the interoperability capabilities of library-oriented ebook distributors and in January 2014 published its findings in the "ReadersFirst Guide to Library E-Book Vendors" (https://readersfirst.squarespace.com/s/ReadersFirst-Guide-Library-E-Book-Vendors.pdf). In this assessment, OverDrive (85) earned the highest compliance score, followed closely by cloudLibrary (80), and Axis 360 (80). The vendor matrix included in the Guide shows the substantial progress that the major ebook providers made in connecting their platforms with library ILS and discovery products.

The ReadersFirst initiative led to important progress. Integration of digital lending services with the library's local ILS, including seamless authentication for patrons has become routine. Modern easy-to-use apps to search, select, and download ebooks and audiobooks are available from the commercial lending providers and from library-based services.

Major changes have transpired in the nonprofit library lending arena in recent months.. This issue of *Smart Libraries Newsletter* will cover the ongoing evolution of the Library Simplified and SimplyE initiative driven by the New York Public Library along with the recent launch of the Palace Project by LYRASIS, including its acquisition of BiblioLabs. In the September issue we will cover OverDrive's acquisition of Kanopy and report in detail on LYRASIS's acquisition of BiblioLabs.

Public Library Partnerships Support New Ebook Lending

A longstanding partnership among the New York Public Library, the Digital Public Library of America, and LYRASIS has split into separate projects. The initial project, featured in the June 2019 issue of *Smart Libraries Newsletter*, involved the SimplyE ebook reading app and the Library Simplified Collection Manager, both developed primarily by NYPL as open source software, and the DPLA Exchange, a marketplace for libraries to purchase ebooks for lending. LYRASIS and other organizations provided hosting and support services to libraries and consortia.

In June 2021, NYPL and LYRASIS announced that their organizations would pursue independent strategies for digital lending services. NYPL will continue to develop and support SimplyE and Library Simplified for its own use and for library organizations with implementations. LYRASIS has launched the Palace Project to develop a new commercial turnkey library lending service in partnership with the Digital Public Library of America and with funding from the Knight Foundation and IMLS. The Palace Project will make use of open source components, including those initially developed by NYPL, to create a new library digital lending service with fully integrated technology components, consistent branding, and comprehensive support. It will include the DPLA Exchange, rebranded as the Palace Marketplace. LYRASIS will provide hosting and support services.

Almost all libraries offer some level of ebook lending, usually provided through commercial organizations such as OverDrive, bibliotheca, Baker & Taylor, and Hoopla. As commercial offerings have matured, broad concern for streamlining library lending has driven interest in a new app for library patrons that brings together all the digital content a library offers while providing a nonprofit business model for digital content procurement.

Library Simplified and SimplyE: A Library-Built Service

In parallel to the ReadersFirst initiative, the New York Public Library began the development of new technical infrastructure in support of ebook and audiobook lending. Driving factors included the general complexity of commercial ebook lending services at the time, the need to have separate ebook reading apps for each supplier, and the absence of adequate branding for the local library. NYPL and other libraries shared

a concern that their patrons were associating the ebook collections in which they invested heavily with the vendors, rather than the library itself.

The New York Public Library led a collaborative effort in about 2012, including other ReadersFirst participants, to create new software and processes to improve digital lending. This effort resulted in the creation of the SimplyE ebook reading app, the Library Simplified Circulation Manager, as well as a marketplace service for libraries to purchase digital content apart from the incumbent commercial services. NYPL programmers performed much of the technical design and software development, often supplemented by developers from other organizations.

In addition to tapping internal development capacity and funding, these ebook initiatives have been supported through grants from the IMLS and private foundations. In 2013 NYPL received the initial $500,000 Leadership Grant from IMLS in support of the development of new technologies for library ebook lending aligned with the values of ReadersFirst (LG-05-13-0356-13). This project aimed to develop open source software, which would support the digital lending services for NYPL and be broadly shared among the library community.

The SimplyE mobile app, developed for IOS and Android devices, was designed so that library patrons could borrow ebooks and audiobooks across multiple content providers all fully integrated with the local ILS. It was designed to optimize ease of use, protect patron privacy, and incorporate current technologies and relevant standards. SimplyE was developed under an open source license, allowing its use by other libraries and for other organizations to extend its capabilities.

The development of the SimplyE incorporated other open source components. NYPL joined the Readium Foundation (https://readium.org/) and made use of that project's open source components for audiobooks and for rendering ebooks in EPUB format. Other commercial and library-based ebook services have used this rendering engine.

Any digital lending environment must include digital rights management (DRM) features. Almost all publishers require implementation of cryptographic technologies to prevent leakage of ebook copies. The early library ebook lending services deployed Adobe Content Server to manage DRM.

In addition to the SimplyE app used by patrons, digital lending also requires and additional application to manage the handling of content items and connections with the library's

local ILS. This middleware, called the LibrarySimplified Circulation Manager, enables the SimplyE app to access content across the multiple providers of libraries' ebooks and audiobooks, including OverDrive, bibliotheca cloudLibrary, and Baker & Taylor Axis 360. The circulation manager is interoperatable with the content marketplace later developed by Feed-Books (since acquired by De Marque) and DPLA.

The SimplyE and Library Simplified Circulation manager have been designed to maximize patron privacy, collecting minimal personal information and not exchanging it with other services. Because the DRM service is contained in the platform, patron credentials do not go to a third party service, as may be the case with ebook sending solutions that rely on technologies from Adobe.

The SimplyE environment reduced its total reliance on Adobe DRM through the inclusion of LCP (Licensed Content Protection), an open source alternative that simplifies the management of controlled ebooks and addresses concerns for patron privacy. LCP provides DRM technology based on current encryption algorithms. It is a vendor neutral and self-contained solution. Avoiding third-party services, such as Adobe Content Server, also saves on possible transaction fees. The presence of accounts on an external service can pose privacy concerns, depending on how thoroughly transactions are anonymized. A self-contained implementation of LCP, where the license server is deployed within the digital lending platform itself, avoids the need to expose or share private information.

NYPL initially launched SimplyE as its production ebook and audiobook lending app in July 2016. Today SimplyE serves as a single unifying app used by NYPL patrons to borrow ebooks and audiobook, regardless of the originating vendor. Although over 400 libraries have implemented SimplyE to date, NYPL is one of the few public libraries looking to channel all digital lending through the app. Most other libraries have implemented SimplyE as an additional option to the apps from OverDrive, cloudLibrary, Hoopla, and others.

DPLA Open Bookshelf

Libraries are also interested in providing access to titles that are not under copyright or subject to licensing terms. These items would include titles in the public domain, works published by libraries, or other organizations able to provide unlimited and free access.

Serving this interest, the DPLA's Open Bookshelf offers more than 10,000 ebooks, freely available to download and read (https://freebooks.dp.la/). The Open Bookshelf has been assembled by a group of librarians and library school graduate students, called the DPLA Curation Corps, who

select and remove titles to create valuable collections across relevant categories.

A Library-Operated Content Marketplace

Another thread of activity focused on developing a new marketplace for libraries' purchase of ebooks and audiobooks from publishers. This marketplace would be operated as a noprofit and would advocate for pricing and terms more favorable to libraries.

This project, initially called the Library E-content Access Project, or LEAP, envisioned the development of a new platform for creating a catalog of ebooks and audiobooks that libraries can acquire for their lending collections, including the required technical components and business processes.

Efforts to create this marketplace began in 2015 with support of a $1.4 million IMLS grant to NYPL as the principal investigator. This grant supported inquiry and exploration of Library E-content Access Project in association with the Digital Public Library of America (IMLA grant LG-00-15-0263-15), funding investigations into the technology components and work with library partners across the US to develop sustainable business models.

NYPL issued a Request for Proposals in December 2015:

"Through LEAP, NYPL is seeking to establish a new Content Exchange (Marketplace) that is national in scope, collaboration, and impact. Partners envision the Content Exchange being open to all libraries to shop and buy/license content to serve to their users."

(https://librarytechnology.org/document/26462)

FeedBooks received the highest marks of the respondents to the LEAP RFP, but ultimately NYPL decided not to go forward with the launch of a marketplace. In 2017 DPLA, with the support of the Sloan Foundation, worked with FeedBooks to create the DPLA Exchange, which launched in late 2017.

FeedBooks was a Paris-based company established in 2007 as a digital book distributor. After financial difficulties the company went into receivership in June 2018 and was subsequently acquired by De Marque, a much larger digital content distributor based in Quebec City, Canada. De Marque provides ebook lending services to libraries in French-speaking regions through its Cantook Station service and provides the Cantook Hub as a secure digital vault for digital content. The company continues to operate the FeedBooks platform to power its own online publication catalogs and for its

clients such as DPLA. (See: https://www.demarque.com/en/about-de-marque/).

The DPLA Exchange (now the Palace Marketplace) is based on a partnership with De Marque, which provides both technical infrastructure and business processes support. Funds for the licensed ebooks flow through De Marque to the publishers. The Palace Project retains a portion of each sale, which is reinvested to support the project.

As an advocate for libraries, DPLA has worked with selected publishers to offer additional license options that may be attractive to libraries. Publishers generally offer the same list prices to all operators of ebook services, for-profit and nonprofit alike. DPLA, however, has worked to differentiate its position to allow more attractive lending terms. In addition DPLA has worked with selected publishers on alternative lending models to the licenses limited by time or transaction counts. DPLA is forging new license arrangements with publishers seeking the models shown in Table 1 (https://library technology.org/document/26436).

Table 1. DPLA-preferred licensing models

Preferred Model	Why we like it
Perpetual one-user-at-a-time access	The one-user-at-a-time model creates queues and "friction" for popular books but perpetual access ensures that the item will remain in the library's holdings and available to be discovered for years to come.
Bundles of 40 lends available 10 at a time	This new "bundle of lends" model is designed to help libraries promote books AND maintain availability, allowing the titles to have maximum discovery through the library but also ensuring that, if popular, the title is repurchased (in as little as 8 weeks). This option has been popular with libraries and many have acquired all the titles available on this model.
Bundles of 5 lends available simultaneously	This small bundle allows libraries to take a low-risk chance on a book they may not otherwise acquire. It also allows the publisher and author to collect a higher price on a per-lend basis.
Simultaneous multi-user access collections	Bundles of books available to an unlimited number of patrons allow libraries to promote titles without fear of long holds queues. This model also allows publishers to include and promote discovery of lesser-known authors and titles.
Community Reads	Community Reads licensing enables simultaneous access and empowers libraries to highlight a book without making patrons wait in holds queues for the recommended work. This is a great way to drive discovery of new authors and titles.

The DPLA Exchange will be the first to make ebooks from Amazon Publishing available for library lending. Amazon Publishing had previously withheld from libraries its directly owned titles. In May 2021, DPLA announced that it had concluded an agreement with Amazon Publishing enabling these titles to be acquired for library lending through the DPLA Exchange. This agreement was not characterized as exclusive. Similar arrangements may be forthcoming from other library ebook providers.

In addition to these ala carte licensing terms, DPLA can offer libraries the option to acquire bundles of content available for simultaneous multi-user access from more than 30 publishers in partnership with BiblioLabs, now owned by LYRASIS. This model allows libraries to make titles available to an unlimited number of patrons without holds accumulating.

Deployment and Development Partnerships

Few libraries have the financial and technical resources to deploy this set of components on their own. Several other organizations have established programs, often supported by grant funds, to provide services to help libraries implement SimplyE and the LibrarySimplified, Circulation Manager. The deployment of this environment involves the installation and hosting of the circulation manager, creating connections with the ILS of the library or consortium, and configuring each of components.

The following organizations offer fee-based services to host and support the LibrarySimplified environment.

- **Califa Library Group** in April 2017 announced it would offer services to libraries in California for the deployment of the SimplyE environment in partnership with Datalogics, a company that specializes in ebook and PDF technologies. (https://califa.org/simplye)
- **Amigos Library Services** received multiple grants from the Texas State Library and Archives Commission, the Arizona State Library, Archives & Public Records, and IMLS to build new web-based interfaces for SimplyE for access from desktop and laptop computers. Amigos also provides hosting and support services for SimplyE. (https://www.amigos.org/simplye).
- **MINITEX,** received a $695,000 grant from IMLS in May 2016 to perform further development of SimplyE. "The Minitex-led phase of development will enable a patron to access ebooks from their public library, their college library, and other shared statewide collections." (Press release, May 2016 https://librarytechnology.org/document/26461)

- **LYRASIS,** in April 2019, announced a partnership offering support for SimplyE, the Library Simplified Circulation Manager, and the DPLA Exchange. The organization would provide comprehensive support based on the open source software components that NYPL would continue to develop, the DPLA Exchange as an option for ebook acquisitions, and its own hosting services.

The model of providing commercial services surrounding open source software has become well established in the library community. Many different companies and nonprofit organizations provide commercial services for open source ILS products, such as Koha, Evergreen, and FOLIO. LYRASIS provides services surrounding open source projects including DSpace, Fedora, ArchvesSpace, and CollectionSpace. These commercial services depend on sustainable business arrangements that provide adequate resources toward the development of the open source software as well as meeting the business needs of each support provider.

A divergence of objectives between NYPL and those of LYRASIS and DPLA eventually led to a reassessment of the project. NYPL will continue to develop the SimplyE app and the Library Simplified Circulation Manager, focusing on the needs existing users. For NYPL SimplyE has become part of the service infrastructure and is increasingly positioned as its sole app for its digital lending services to its branch library patrons. The COVID-19 pandemic amplified the strategic importance of SimplyE for NYPL. During branch closures, its reading services entirely depended on it. NYPL and LYRASIS's joint announcement of separate strategies came this June.

Going forward, NYPL will continue to maintain the codebase for SimplyE, the LibrarySimplified Circulation Manager, and related components, though primarily focusing its existing users than looking to grow or expand (https://github.com/NYPL-Simplified). NYPL will also continue to work with other libraries and organizations already using these components.

LYRASIS and DPLA have strengthened their partnership in order to launch a new initiative based on the same open source technology components and the content marketplace operated by DPLA. Preparations for this new diverged strategy began in 2020, with LYRASIS receiving a $587,980 grant from the IMLS to develop a turnkey solution for eBooks and audiobooks based on the SimplyE software (LG-248567-OLS-20). A new github repository of Palace was created based on the library simplified code base. This fork of the open source software components reflects the separate trajectories of the library-based initiatives. Going forward LYRASIS would perform its development based on this repository, setting the stage for the Palace Project (https://github.com/ThePalaceProject).

LYRASIS Launches the Palace Project

LYRASIS and the Digital Public Library of America announced a new turnkey commercial digital lending application called the Palace Project (https://thepalaceproject.org). The John S. and James L. Knight Foundation has provided a $5 million grant in support of this new initiative.

The Palace Project will offer a comprehensive and seamless digital lending service for libraries. This service will bring together components gleaned from the earlier collaborations with NYPL, with comprehensive support and seamless integration. The open source components developed by NYPL will be refactored and rebranded, with new development performed by LYRASIS. The Palace Project software repositories will be developed independently, according to the needs of the Palace clientele.

The Palace environment includes:

- **The Palace App,** a patron-facing ebook and audiobook lending and reading app, with its initial version based on the SimplyE app developed by NYPL. The Palace App will be able to access content from all the major library suppliers, including OverDrive, Bibliotheca cloudLibrary, Baker & Taylor, and the Palace Marketplace.
- **The Palace Circulation Manager,** with its initial version based on the Library Simplified Circulation Manager.
- The DPLA Exchange will be rebranded as the **Palace Marketplace.** The current technology infrastructure and business arrangements with De Marque will remain in place under the Palace brand. The Marketplace will feature new license models negotiated by DPLA with publishers. To date, 25 publishers have agreed to some form of these new license bundles. The Palace Marketplace currently offers over 800,000 titles. Libraries can begin using the Marketplace without the need to pay a registration fee.
- The Open Bookshelf collection will be available to libraries implementing the Palace.

- Digital resources deployed though BiblioBoard can also be seamlessly integrated.
- Implementation, hosting, training, and support services will be provided by LYRASIS.

The Palace Project positions itself as a library-centered nonprofit alternative to the vendors that currently dominate library digital lending. It aims to give libraries more control over the acquisition and delivery of ebooks, to make digital lending service accessible even to smaller libraries with limited funding and technical capacity, and to increase access to digital content in underserved communities. LYRASIS will market the Palace to all libraries in the United States. A portion of the proceeds will fund future development. Much of the initial funding for the Palace Project has come through grant awards.

The Palace Project will be organized as a new business division of LYRASIS, led by Michele Kimpton, who will serve as global director of the Palace Project Division. Kimpton will shift to LYRASIS from DPLA, where she held the title of director of business development and senior strategist. She served as the chief strategist of LYRASIS (2015-2017) prior to her work with DPLA.

The leadership of the Palace Project also includes James English, product development strategist for the Palace Project, and Micah May, the director for ebook services for DPLA. May and English both worked for NYPL during the initial development of SimplyE and Library Simplified starting in 2012. The Oversight Committee for the project includes John Bracken, executive director for DPLA; Robert Miller, LYRASIS CEO, and Jorge A. Martinez, vice president and chief technology officer for the Knight Foundation.

The name of the project is inspired by the Eric Klinenberg's book *Palaces for the People*. Klinenberg sees libraries as one of the palaces that "bestows nobility on people who otherwise couldn't afford a shred of it. People need to have nobility and dignity in their lives." LYRASIS stated that this name came following a four-month process in branding research.

Crosby Kemper, director of IMLS, which has provided funding for the project, stated in a recent webinar that the Palace Project is consistent with its interest in making content available to the widest possible audience. The Palace Project will prioritize delivering content to people who otherwise may not easily have access, such as those who are socioeconomically under resourced. This grant falls within the equity focus of the Biden Administration.

At the time of the June announcement, work was underway to complete the refactoring of the technology components of the Palace service. LYRASIS expects the new service to launch in September 2021. The initial customers of the Palace will include about 100 libraries that LYRASIS was previously supporting using SimplyE, with others already in the pipeline for deployment.

LYRASIS is a nonprofit library services organization, formed through the consolidation of multiple antecedents, including SOLINET, NELINET, and PALINET. In June 2019, DuraSpace, which manages open source projects including Fedora and DSpace, became part of LYRASIS. The organization also serves as the organizational home for ArchivesSpace and CollectionSpace. According to tax filings, LYRASIS took in $79.5 million in revenue in its 2018-19 fiscal year. In that same period, DPLA reported revenue of $2.5 million.

Questions or suggestions for topics in future issues?

YOUR COMMENT COUNTS!

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