Controlled Digital Lending
Environmental Scan
Spring 2022

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Executive Summary

- Controlled Digital Lending implementation is by and large in a nascent/pilot phase at most institutions surveyed, often within the scope of related access services
- Large-scale solutions are not common, with most institutions awaiting an opportunity to collaborate
- Questions of risk remain, but are mitigated by thorough standards and consultation with legal counsel
- Technology is imperfect and libraries are doing the best they can with the resources at hand. More robust technology to support CDL is not yet available.
- Experiments appear to help identify appropriate workflows and stakeholders

Overview

We interviewed 17 libraries selected based on the group members' prior knowledge of a CDL operation, or based on selection as a peer institution. While still largely theoretical in some of the institutions we interviewed, even in those institutions conversations were starting. Of our 17 interviews, 12 currently have a form of CDL in production or pilot status.

Interviews consisted of hour-long talks with either a point of contact or team at each institution, with questions and conversation being informed by a worksheet template which contains space for most possibly relevant information.

Information was shared by our interviewees under the condition of confidentiality and anonymity. This version of the report has been edited to accommodate that agreement so that our findings might be shared more widely.

Models of Access

Portable Access

For the purposes of this environmental scan, we use the term "Portable Access" to refer to circulation of a digitized title in DRM-wrapped, downloadable format in place of a physical format title in a controlled manner, mirroring that of a physical loan, while maintaining a 1-1 "loan-to-own" ratio.

Remote Access

Across many of the interviews, interviewees employed the term "CDL" to describe an extension of existing digital access to resources. To differentiate this from "Portable Access", we will use the term "Remote Access": providing users with time-based, institution-based, or otherwise restricted *browser-based* access to materials (text, AV, distinctive collections, etc) without file dissemination (i.e. view-only, no downloads). Institutions who conflated the two ideas seemed to do so partly based on research needs during and after the COVID-19 shutdown period, as well as the potentially higher legal risk of allowing this broad access, and technological limitations.

HathiTrust's Electronic Temporary Access Service (ETAS) was an example of Remote Access in production. Cornell, along with most interviewees, participated in ETAS with great success (despite pain points). Cornell's broad level of access was due in large part to the major digitization projects that had occurred in cooperation with Google Books and contributions to the HathiTrust project over time. ETAS maintained a 1:1 Loan-to-own ration during operation.

Internet Archive

In lieu of implementing their own CDL solution, some institutions have opted to participate in the [Internet Archives' Open Libraries program](#) (IA). This entails submitting a list of ISBNs or MARC records to IA to find matches or "overlaps" across the holdings. IA then returns a list of links back to IA for all matched records, that the institution may add to their own catalog records for books they wish to be accessible by this mechanism. In doing so, the institutions are providing patrons with an alternative to access by making users aware of the item's availability in the Open Library. More than 150 institutions have conducted the overlap match, with more than 80 libraries "flipping the switch" to link users to that content on IA. Approximately 2/3 of those are academic libraries. Linking out is generally considered to be a legally protected activity, regardless of the outcome of the pending litigation against IA by the major publishers. IA provides browser-based shorter windows of access, following the "Remote Access" model, as well as longer term loans, following the "Portable Access" model (i.e. providing downloads using Adobe Content Server on the library side and Adobe Digital Editions on the patron side).

This activity, and IA's standard Open Libraries program, should be considered distinct from both institutional implementations of CDL, as well as wholly separate from IA's "temporary National Emergency Library," which did not maintain loan-to-own ratios during its operation.

Anecdotally, usage of items on IA is quite low, mirroring what one might expect from low-circulation materials.

Technology

We examined technologies related to delivery mechanisms and access control, as well as request management technology. Some implementers are able to leverage existing technology, primarily Alma-D and the Alma-D addon, Leganto, and some are using "homegrown" systems such as Princeton's [Figgy](#), [CalTech's DIBS](#), and [Fordham's G-CDL](#). However, most implementers are utilizing "bootstrap" systems – cobbled together through a combination of a few different technologies including (but not limited to): Box, Canvas, Google Drive, Ares, and ILLiad, often in conjunction with their "homegrown" systems.

Some of the "bootstrap" libraries had investigated other existing technology, such as DIBS or [Backstage Library Works](#), but determined those were not sufficient for their needs. Many workflows were created on-the-fly due to the pandemic, and many implementers expressed interest in fine-tuning or investigating other, more robust or scalable solutions in the future. Due to the cost, both in dollars and labor, there was frequent mention of waiting for a collaborative/consortial technology solution. Likewise, the impending developments of Project ReShare were mentioned, although the timetable for those developments remains unknown.

Notably, Adobe Content Server (ACS)/Adobe Digital Editions(ADE) does not appear to be in use beyond IA's implementation. The cost and technical labor of maintaining the service, as well as the lack of ongoing support for ADE, are serious hurdles to library adoption. While there are other "Licensed Content Protection" (LCP) solutions in development, none have come to the forefront for use. That said, it is clear that the commercial space is taking note of market need.

Scope/Materials

Nearly all active implementations or pilots are limited to scanning for reserves, although some are providing on-demand patron initiated requests on a limited basis. Many provided on-demand scanning during the height of the pandemic shutdowns and have scaled back since. Very few are undertaking scanning of selected collections vs limited scoping with reserves or case-by-case patron-initiated. Only two of the institutions are using a collection-based approach, albeit limited to specific subject areas.

Textbooks

Across many interviews, the question of CDL for "Full-Feature Textbooks" (in this case meaning the high-cost, larger volumes) was raised. We observed three basic categories of consideration:

- a) Offering full-text scans for CDL
- b) Offering scans of the first few chapters during the first weeks of the semester
- c) Not offering Textbooks for CDL.

The reasons for option "c" were clear: Textbook publishers are reputed to be highly litigious, and licenses may be obtained (with the caveat of whether that license was considered to be priced "reasonably") for most editions in undergraduate programs. Option "a" is addressed further in the final section, Developing Spaces.

Non/Low-Circulating Materials

Two sets of materials were discussed in several interviews as being prime candidates for CDL:

- Rare, distinctive, and fragile materials - Institutions may want to restrict lending, but are unable to provide full-text scans if the items are still protected by copyright.
- High-density offsite storage facilities - These tend to house low-circulation materials, and solves part of the issue of sequestration, as opposed to material held in browsable collections. Institutions who had or were planning on building Harvard-Depository style facilities and systems were especially keen on the idea of providing access to those volumes via CDL.

Workflow

Request Management

For most, the departments that manage CDL are primarily their access services/reserves/resource sharing departments, although staff from other parts of the library such as scholarly communications, technical services, and collections may also be involved. Scanning is done by either access services departments or digitization units. Some CDL initiatives have been limited to specific unit libraries, such as law libraries, which may be separately administered from a main academic library system.

Requests are received via various mechanisms (see Technology) and evaluated based on internal criteria. All interviewees include an initial check for existing, purchasable licensed resource. Some that are providing on-demand, case-by-case services require extensive evaluation of each item. Once the item is determined to be eligible for CDL, the item is pulled, marked as unavailable in the catalog, and sent for scanning. Basic OCR is applied, and the item is uploaded to the delivery platform. The item must then be placed in a non-public location for the duration of the availability of the digital copy. If based on a patron request, the patron is notified and directed to the digital item. If the digital loan is time-limited (i.e., reserves), once the digital loan expires the item is then returned to the circulating collection.

Scanning

Scanning is a laborious task that takes up a major spot in the workflow. Institutions have different levels of support for scanning depending on size and need. Several institutions have an [IA Scribe](#) that they use to scan items and deliver them to the Internet Archive, keeping local copies as well. Much of the work in many institutions was done by either digitization units or access services, using a variety of scanners, including high-end, high-speed scanners for use with disbound material, standard heavy-duty overhead scanners, older flatbeds, or even scanners that were formerly for public use. Institutions with offsite facilities reported having robust scanning operations at those sites, with locally held copies being sent out for processing. Reported turn-around times for requests varied from a few days to several weeks depending on the type of request, size of material, and volume of requests being handled.

One institution chose to take advantage of a renovation to scan the entire contents of the affected library.

Discovery

Once an item has been scanned, we encountered a wide range of discoverability options across our interviewees:

- Discoverable links directly in catalog for public domain items, viewable by anyone
- Discoverable links directly in the local catalog and accessible to authenticated patrons
- Item held behind a "wall" and only viewable to a subset of patrons, i.e., students and faculty in a class
- Not discoverable at all beyond a patron receiving the direct link

Loan Periods

Most institutions make the material available to a patron for 2-3 hours, often with the option to renew. "Wait lists" or "holds" were possible in most cases, so patrons could reserve a spot in line. Some institutions offered longer loan periods, but this was less common than offering a standard short loan. Comments about typical usage statistics seem to bear out this approach.

Scalability/Volume Management

Most of our interviewees noted the high-touch, manual nature of CDL offerings. Managing request volume to scale with existing scanning operations was an important consideration. The steps requiring the most manual labor were scanning and the subsequent sequestration of physical copies, as well as removing digital access and re-shelving items in circulating locations.

Managing request volume in order to scale with their physical operations was also a significant challenge for most institutions. Some noted that their service has significant turnaround times, often taking multiple weeks, which is communicated to the patron early in the process. Setting the expectation of longer turnaround times ensured the volume of requests remained low, as other access options (i.e., limited scanning via document delivery or borrowing of the physical item) were available to the patron much more immediately. Some impose specific service limitations, i.e., a specific number of items scanned for a course. One interviewee, whose institution is not limiting requests beyond existing electronic availability, noted that they were receiving such a high volume of requests for CDL that they were unable to keep up with the demand using existing staff, and had to hire additional staff to support the service. In some cases, institutions do not advertise or promote the service to patrons, but instead offer it as an ad-hoc solution, under limited circumstances, which includes taking into account the patron's location, the nature of the requested material, and the capacity of the service providers.

Legal Considerations

By Any Other Name…
Across most interviews, we observed a reluctance to use the term "Controlled Digital Lending" to describe any service, whether it fit the definition of CDL or not, due to the fear of litigation. This

chilling effect can be attributed to both the current litigation against the Internet Archive, as well as the only-recently-resolved [Georgia State](#) case around electronic course reserve material and fair use.

In conversation with interviewees and experts, the key aspects of the IA case are a) whether or not IA may be considered a "library" and thus be able to avail itself of the "library exceptions" of §108 of the Copyright Act and b) The failure of their National Emergency Library to maintain a loan-to-own ratio. On this latter point, it bears noting that of the 2mm+ volumes in IA, the lawsuit focuses on just 127 titles, most of which are more "popular" works.

There will surely be broad implications for CDL in any decision made by the courts, but there is a strong sense that (reasonable) activities by academic libraries will remain protected.

Limitations

In surveying responses about reception in counsel's offices, we saw more liberal use reflected when the programs focused on course reserves. Most institutions implied that their counsel's office was consulted regularly, but that the libraries themselves were steering within limitations mutually agreed upon. The more liberal lenders cited several aspects of potential consideration around what materials would be eligible for CDL. Noteworthy considerations include: Date of publication (e.g. Pre-1989 works are less likely to have electronic versions); whether the item was license-able at a reasonable rate from publishers or other vendors; whether each item had identifiable rights information in the catalog record; maintenance of the loan-to-own ratio; Regular auditing of digitized materials to ensure best practices; whether the item is a "full-feature" textbook; whether the item had a particularly high profile or other reason for attracting litigation (e.g. The Catcher in The Rye);

Some institutions had plans in place to purge scan files on a regular basis (e.g. end of the semester). This reflects best-practice around course reserve materials, but would be prohibitive in terms of labor and unnecessary with regard to the law for broader CDL programs.

User Authentication

Standard institutional user authentication was mentioned by most institutions. However, several institutions mentioned that a review of institutional practices around issuance of user credentials was necessary, specifically around "sponsored users" so that the potential patrons of CDL programs was not inflated (a problem that would affect access to all resources). One more conservative institution chose to vet users on a case by case basis, likening the process to access to a reading room. At the same time, access during the COVID shutdown for international patrons was mentioned as especially important. Some libraries encouraged these users to use a VPN for access.

N.B. All models of CDL require the maintenance of the 1:1 loan to own ration. This prevents concurrent users from viewing the same item unless there are multiple physical copies of that item in the collection and removed from circulation for the period of access.

Digital Rights Management

Use of DRM, watermarking, and similar security tools were mentioned as features of off-the-shelf and similar bootstrap solutions, but the absence of details may be attributable to the type of access (Remote Access) being provided, as the DRM employed in Portable Access (e.g. ACS/ADE) is costly and requires major technological investment to implement.

Accessibility

Implementers were not attempting to meet minimal standards of accessibility compliance (ex. WCAG) with their programs. Most run text through automated optical character recognition (OCR) software, but most considered accessibility to be an alternate access pathway, with intention to refer users through their accessibility workflows and relevant campus agencies.

Developing Spaces

Project ReShare and the Boston Library Consortium (BLC)

The BLC recently [joined Project Reshare](#) with an initial $100,000 financial commitment from the BLC intended to accelerate the development path for CDL functionality within the ReShare client. (IPLC will migrate the Borrow Direct service to ReShare in summer 2022.)

Ivies Plus Libraries Confederation CDL Summit

From IPLC correspondence:

- "Planned for Summer 2022, The purpose of this summit is to convene members of IPLC's 6 key groups (Assessment, Collection Development, IT, Resource Access & Sharing Strategy, Scholarly Communication, and Technical Services) to discuss strategy, infrastructure, and institutional interest and commitment to pursuing Controlled Digital Lending (CDL) arrangements across IPLC, including both short-term and long-term approaches to leveraging CDL for consortial lending.
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- We expect this meeting series to result in actionable next steps toward real, collective investment in CDL solutions that will have benefits for sharing collections across the partnership. At the conclusion of this summit we expect to have outlined a basic framework for collaboration on a IPLC CDL pilot project, with at least preliminary commitments from institutions that would like to participate."

CUL plans to have representatives from Collections, Resource Sharing, IT, and Copyright Services attend the sessions.

Hachette v. Internet Archive

As noted above, the outcome of litigation against the Internet Archive around their CDL projects will likely have some impact on the terrain. What is not known is how long any trial might drag out. As onlookers observed in the Georgia State case, these matters can take an incredibly long time. The Summary Judgement phase of the trial will begin this Summer, but of course, there is no timeline for summary rulings once that begins.

International Implementations

A number of Canadian libraries are undertaking CDL initiatives or initiatives that meet the general descriptive character of CDL. These include programs affiliated with an academic library collective and academic and public libraries working with IA's program. [Controlled Digital Lending of Library Books in Canada](#) is a recently released white paper that outlines the legal and practical rationales surrounding CDL in Canada, with reference to the US law-based White Paper.

A recent decision of the Supreme Court of Canada, [York University v Canadian Copyright Licensing Agency](#) reaffirmed the principle of technological neutrality in questions of copyright and fair dealing. The decision in another SCC case about digital communications and copyright is pending, and library association intervener parties asked the court to ensure that its ruling would continue to affirm technological neutrality for permitted library activities, including interlibrary loan and possible CDL initiatives.

A large CDL project is underway in India through an academic law library. The analysis by a copyright lawyer involved in that project of differences in the copyright law of India in comparison with the copyright law of the US as they are implicated in digital activities of libraries are available in an [unpublished paper.](#)

Atlas Systems & OCLC

Atlas System's ILLiad developers and OCLC's Director of Resource Sharing are participating in regular conversations about workflows with the resource sharing community using Atlas products or OCLC resource sharing functionalities. OCLC hopes to integrate CDL solutions into Worldcat to make requests for materials seamless for institutions who opt-in.

CUL's Access Services Strategy Team (ASST)

ASST is beginning to consider a proposal to re-imagine how we manage reserves in a new landscape where undergraduates have ebook access to all of their course materials through the book store for a flat fee, and where more items are available in electronic formats.

Appendix A: Glossary of Terms

Accessibility

- OCR - Optical Character Recognition: recognizes text in a digital image, makes text searchable
- WCAG compliance - Web Content Accessibility Guidelines as standardized by the World Wide Web Consortium

Alma-D

- Available feature for Alma libraries to include their own "digital resources" (i.e. library owned or created items, distinct from licensed "electronic resources") in their catalog. The system's file management offers controls for any access limitations required by an institutions CDL implementation, and can be augmented in cooperation with the vendor as needed.

Ares

- Atlas Systems' request management software for reserves

[Backstage Library Works](#)

- A digitization on-demand service for CDL

Bootstrap CDL

- Using existing local technology resources to implement Controlled Digital Lending e.g. Scanning item, placing in Box folder with watermark, download restriction, and time-limited access. These solutions are high-touch and not done systematically.

Canvas

- Web-based course management system for students and faculty

Concurrent users

- Multiple patrons can access the item digitally at a time

Controlled Digital Lending

- Circulation of a digitized title in place of a physical one in a controlled manner, mirroring that of a physical loan, while maintaining a 1-1 "loan-to-own" ratio.
- Print titles must have been legally acquired before the creation or lending of digital derivatives

Course Reserve

- Library-owned or personal items available to students in a class for short-term use in order to maximize availability

DIBS

- Caltech DIBS ("*Digital Borrowing System*") is the Caltech Library's basic implementation of a web-based controlled digital lending system. The system was developed in the year 2021 to [help Caltech students and faculty continue their studies and work](#) during the global COVID-19 pandemic. Available on [Github](#)

Digital Derivative

- A digitized version of a physical library item, regardless of physical format (books, physical media, art, etc.)

Digital Rights Management

- Technological means to manage allowed uses and dissemination of digital assets; i.e., file duplication, distribution

Document Delivery

- Limited scans of material supplied to local patrons from the local collections

Figgy

- [Figgy](#) is Princeton University Library's digital repository where staff ingest, build, and publish digital objects from their collection. For CDL, Figgy serves as the home for CDL objects (books digitized as PDFs), orchestrates a workflow for automatically ingesting CDL objects daily, and provides the CDL viewer that shows up in the catalog as well as mediated access to CDL checkouts by users. Available on [Github](#).

G-CDL

- Fordham's Google Drive-based CDL solution. Available on [Github](#)

HathiTrust ETAS (Emergency Temporary Access Service)

- Allows HathiTrust member libraries that suffer disruption to normal operations to obtain legal access to specific digital materials corresponding to physical books held by their own library.

ILLiad

- Atlas Systems' request management software for interlibrary loan and document delivery. ILLiad offers customizable request web pages and workflows that encompass the process from request to delivery to return. Scans provided via ILLiad are downloadable, printable, and held on an individual users' account for 30 days before automatic deletion.

Interlibrary Loan

- Sharing material between libraries and institutions via lending physical material (returnables) and limited scans from local collections (non-returnable).

Internet Archive Open Library

- A program through which the Internet Archive and their library partners participate in controlled digital lending of resources
  - Users can discover texts either through IA or their participating library, however the actual loan or access happens only with IA
  - Remote Access available in one-hour loan increments
  - 14-day loans include both Remote Access and Portable Access options once the loan is executed, with the latter reliant on Adobe DRM and Adobe Digital Editions.

Leganto

- Ex-Libris product for course resource management

Portable Access

- Providing users with DRM-wrapped files with built in time-based access and other restrictions.

Remote Access

- Providing users with time-based or otherwise restricted browser-based access to materials without file dissemination. (i.e. no downloads)

ReShare

- [Project ReShare](#) is designing an open source, highly-scalable platform that supports discovery, fulfillment, and delivery workflows, with a focus on user-centered design. The Ivies Plus Libraries Confederation has approved moving the Borrow Direct service from OCLC Relais to ReShare in summer 2022.

Resource Sharing

- Sharing library resources with participating institutions

Temporal Access Control

- Loan period - How long the patron can access the item
- Renewable - Patron can extend the loan
- Wait list/holds/recalls - Another patron can restrict extending the loan and be placed on a list to access the item

Turnaround

- Time from patron request to delivery

Appendix B: Further Reading

Controlled Digital Lending by Libraries:
https://controlleddigitallending.org/

Controlled Digital Lending of Library Books in Canada:
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4031054

Digital Libraries, Copyright and the COVID-19 Pandemic: A Comparative Study of India and The United States:
https://dx.doi.org/10.2139/ssrn.3965155
(N.B. A discussion was held with Fordham Law School Library in 2021 by a Cornell LLM student as research for a copyright seminar supervised by one member of the Task Group. That discussion is summarized at p. 22 of this paper.)

Future Thinking: ASERL's Resource Guide to Controlled Digital Lending for Research Libraries:
https://www.aserl.org/wp-content/uploads/2021/03/Future_Thinking__ASERL_Resource_Guide__March-2021.pdf

Hachette v. Internet Archive (via The Electronic Freedom Foundation):
https://www.eff.org/document/answer-7

Interoperable System of Controlled Digital Lending:
https://www.niso.org/standards-committees/is-cdl

The Library Technology Market's Failure to Support Controlled Digital Lending:
https://scholarlykitchen.sspnet.org/2021/10/25/guest-post-the-library-technology-markets-failure-to-support-controlled-digital-lending/

Open Libraries from Internet Archive:
http://openlibraries.online/learn/