



Caltech DIBS

Digital Borrowing System

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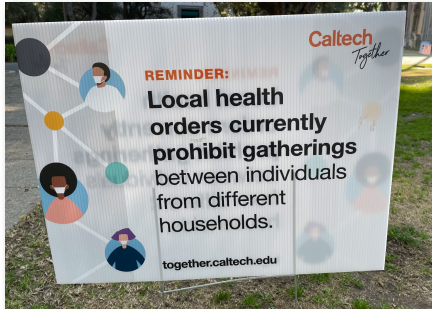
Outline

Origin & goals

Demo of DIBS

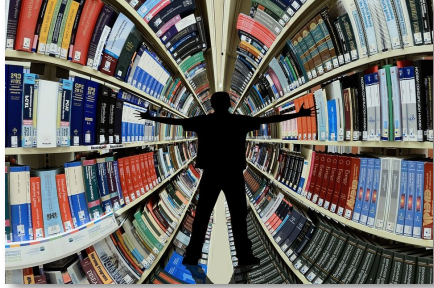
System architecture

Conclusion



DIBS origin story

Pandemic → libraries close, classes go online
Spring 2020: Password protected PDFs in Box
Decision in late 2020: do CDL – and a.s.a.p!
Investigated options, spoke w/ other groups
Found no suitable off-the-shelf solution
Jan. 2021: started development
Some ideas borrowed from Princeton



Position Statement on CDL

<https://controldigitallending.org/statement>

“... a good faith interpretation of U.S. copyright law for American libraries considering how to perform traditional lending functions using digital technology while preserving an appropriate balance between the public benefit of such lending and the protected interests of private rights holders.”

“CDL is about replicating with digital lending the legal and economically significant aspects of physical lending.”

DIBS design goals

- Keep it simple (concept, code, interface)
- Preserve patron privacy
- Serve scanned books using IIIF
- Use institutional single sign-on for auth.
- Limit interactions w/ other systems

“Everything should be made as simple as possible, but not simpler.”



Features

1. Adheres to the six CDL requirements
 2. Lightweight: only essential metadata
 3. Currently pulls bib info from TIND ILS; will pull from FOLIO by the end of summer
 4. Currently only used for course reserves
 5. Surrogates consist of tiled images served by a IIIF server, IIIF manifests
 6. Universal Viewer for user experience
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Possibilities

1. IIF as alternative to physical lending
 2. A different model for digital lending?
 - a. Distributed images servers
 - b. Discoverable resources
 3. Copyrighted materials are not the only material that may need “controlled access”
 - a. Special Collections Reading Room
 - b. Privacy, cultural concerns, etc.
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Adjunct objectives



Single Sign On authentication capabilities for local projects

<https://www.shibboleth.net/about-us/the-shibboleth-project/>



IIIF (International Image Interoperability Framework)
knowledge and capabilities

<https://iiif.io/community/faq/>



Standardize on the Universal Viewer

<https://universalviewer.io/>

Origin as single viewer across British Library websites

IIIF enabled

Extensible (3D, audio, video, PDF)

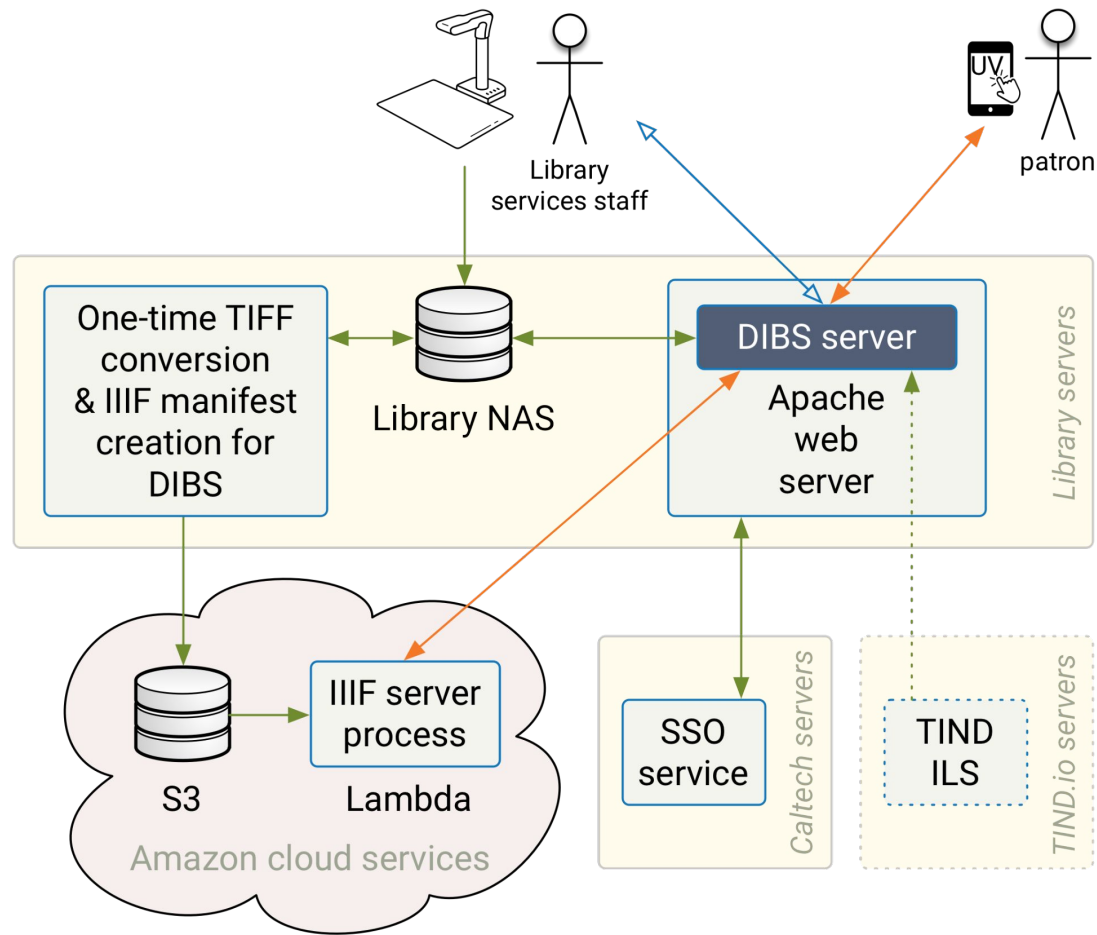


Loan policy

- Remove physical items from circulation
 - Limit people to 1 loan at a time
 - Limit loan durations
 - Impose wait between repeated loans
 - **No queue or reservation** (currently)
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Demo of DIBS

System architecture



↔ IIIF protocol

↔ Other protocols

⋯ One-time access

Software elements

Python (server-side)

JavaScript

Apache web server

Ubuntu 20

Software elements

Python (server-side)



JavaScript

Apache web server

Ubuntu 20

- Python scripts for image conversion & generation of manifests for IIIF
- Python-based DIBS server
 - Bottle for WSGI web framework
 - SQLite database for items & loans
 - Peewee ORM for database interface
 - Other Python packages


Software elements

Python (server-side)

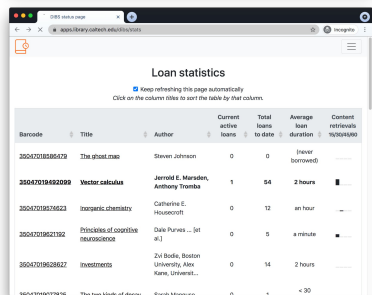
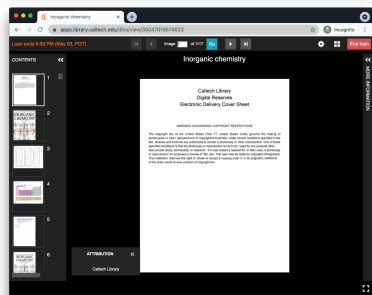
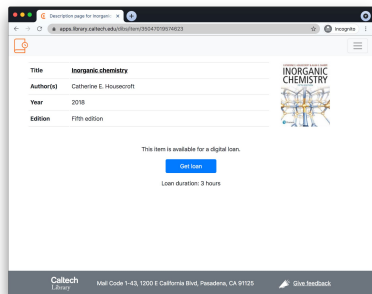
JavaScript

Apache web server

Ubuntu 20

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- IIF server back end (on AWS)
 - Universal Viewer (in browser)
 - Downloads are disabled
 - Interface is slightly modified
 - Custom AJAX-based calls to DIBS and misc. UI controls in web pages

Conclusion



Feature summary

DIBS is a basic, standalone, CDL implementation
Software developed in-house by Caltech DLD
Content scanned by Library collection services
Written in Python, JavaScript, HTML, CSS
Uses IIIF and the Universal Viewer
Uses institutional single sign-on
DIBS server runs as WSGI application in Apache



Future plans

- Link from Library's ILS records to DIBS items
 - Explore other scenarios w/ Caltech Archives
 - Switch to MySQL for DIBS database
 - Improve accessibility
 - Improve customizability
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Caltech DIBS (Digital Borrowing System)

Source Code <https://github.com/caltechlibrary/dibs>

License BSD 3-clause

Online docs <https://caltechlibrary.github.io/dibs>



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Tommy



Stephen

Thank you!