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# Caltech DIBS

## Digital Borrowing System

Mike Hucka	<a href="mailto:mhucka@library.caltech.edu">mhucka@library.caltech.edu</a>
Robert S. Doiel	<a href="mailto:rsdoiel@library.caltech.edu">rsdoiel@library.caltech.edu</a>
Tommy Keswick	<a href="mailto:tkeswick@library.caltech.edu">tkeswick@library.caltech.edu</a>
Stephen Davison	<a href="mailto:sdavison@library.caltech.edu">sdavison@library.caltech.edu</a>

*Digital Library Development*  
*California Institute of Technology Library*  
*Pasadena, California, CA 93111*

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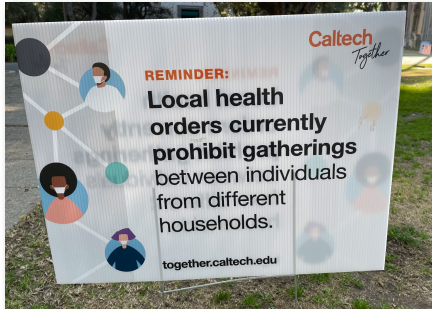
# Outline

**Origin & goals**

**Demo of DIBS**

**System architecture**

**Conclusion**



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## DIBS origin story

Pandemic → libraries close, classes go online  
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

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## 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.”*

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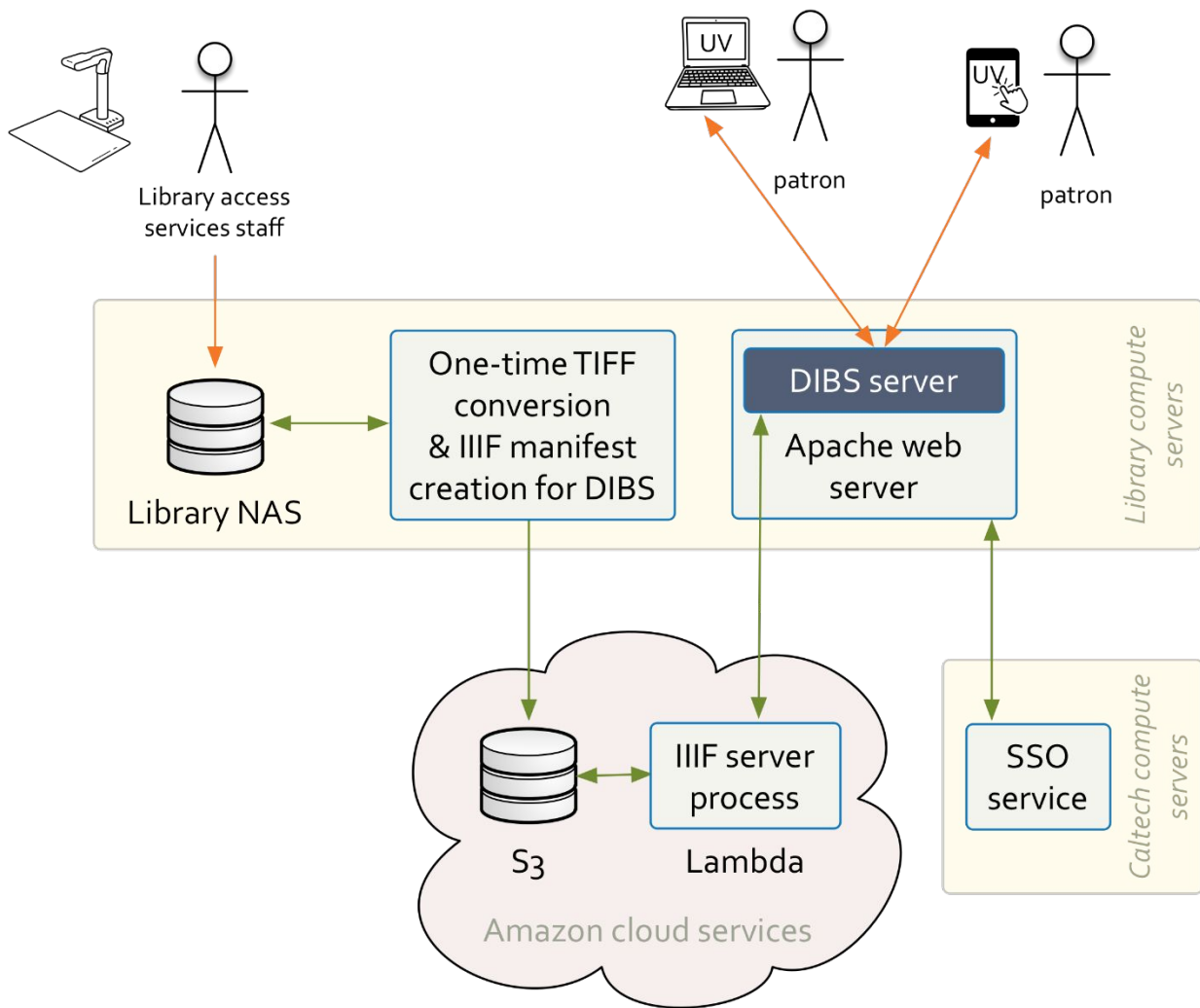
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## Loan policy

- 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





# 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)

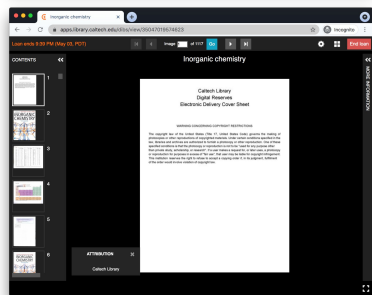
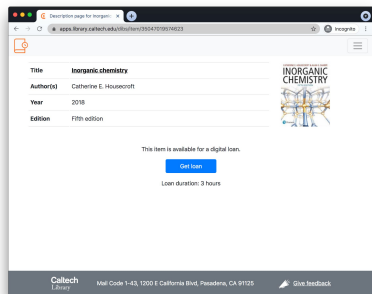
JavaScript

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



Barcode	Title	Author	Current active loans	Total loans in date	Average loan duration	Content retrieval attempts
20047018586479	The ghost map	Steven Johnson	0	0	Incur (borrowed)	---
20047018592039	Vector calculus	Jerrold E. Marsden, Anthony Tromba	1	54	2 hours	---
20047018576623	Inorganic chemistry	Catherine E. Housecroft	0	12	an hour	---
20047018621162	Principles of cognitive neuroscience	Dale Purves, ... [et al.]	0	0	a minute	---
20047018628627	Investments	Zvi Bodie, Boston University, Alex Kane, Universit...	0	14	2 hours	---
20047018627026	The two black birds	Samuel Johnson	0	1	> 30	---

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# 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

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## 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>



**Mike**



**Robert**



**Tommy**



**Stephen**

# Thank you!