



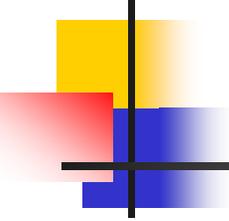
# The Scholar's Box: A Tool for Gathering, Creating, And Sharing Reusable Digital Learning and Research Content

Coalition for Networked Information - April 15, 2004

David A. Greenbaum, Director, UCB Interactive University Project

Raymond Yee, Technology Architect, UCB Interactive University Project

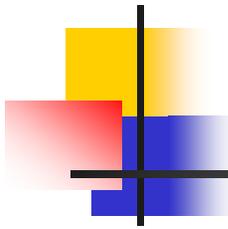
Peter Brantley, Director of Technology, UC California Digital Library



# Our talk

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- Context of Scholar's Box – Greenbaum
  - Demonstration and Overview – Yee
  - CDL Partnership and Scholar's Box – Brantley
  - Questions - Yee
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- Thank you to funders: Mellon Foundation, NSF, Department of Commerce, Department of Education



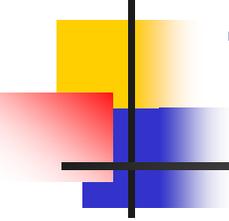
# UCB IU Mission

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The Interactive University (IU) uses the Internet to open UC Berkeley's knowledge and people to the public, especially K-12 schools, while adding value to campus teaching and learning.

Our goal is to use technology to democratize the content and community of the campus.

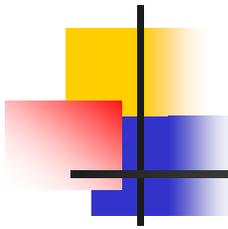
Vision: Widespread campus engagement and thousands of public users.



# Tools that will make it easier to:

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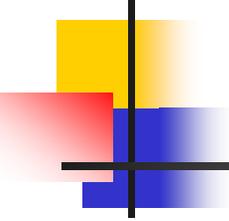
- Gather digital cultural objects from many sources, esp. cultural heritage collections
- Collaboratively create themed collections (resource sets) of research and learning materials for use by others
- Build personal collections of digital objects
- Integrate digital primary sources into teaching and learning products
- Interoperate with other common end-user and institutional tools to manipulate and present digital objects



# Helping content to flow

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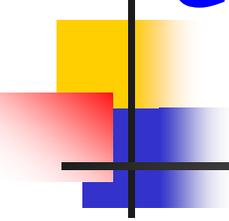
- In short, tools that enable content and collections to flow into teaching and learning practices both within and outside higher education ... build from core “scholarly primitives” ... enhance a culture of use and reuse of digital materials ... support and broaden the “scholarly knowledge cycle”



# From music ...

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"*Rip. Mix. Burn.* Apple, of course, wants to sell computers. Yet its ad touches an ideal that runs very deep in our history. For the technology that they (and of course others) sell could enable this generation to do with our culture what generations have done from the very beginning of human society: to take what is our culture; to "rip" it - meaning to copy it; to "mix" it - meaning to reform it however the user wants; and finally, and most important, "burn" it - to publish it in a way that others can see and hear. Digital technology could enable an extraordinary range of ordinary people to become part of a creative process." *Lawrence Lessig, The Future of Ideas*



*Gather.*

*Create.*

*Share.*

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# Gather.

# Create.

# Share.

## Sources

## Scholar's Box Tool and Products

## Destinations

Digital Libraries

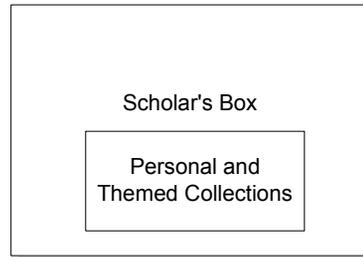
Museums

Learning Object  
Repositories

Metadata  
Harvesting/  
Metasearch

WWW

Materials from  
Personal  
collections



PowerPoint

Web-based  
Exhibition

Reading and  
Resource  
Lists

Flash X

Small Learning  
Objects

Endnote, etc.

Word and OO Text:  
Object-Embedded  
Narratives

Weblogs / RSS

METs + IMS  
Objects

Other Scholarly  
Formats



IU Digital Library

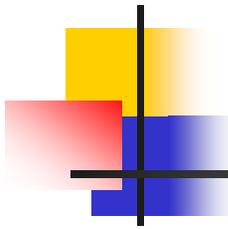
Digital Libraries  
and Museums  
(e.g., CDL)

Learning Object  
Repositories

Authoring Tools:  
- Powerpoint  
- Endnote  
- Weblogs

LMS  
Environments  
- Sakai

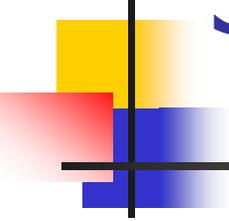




# The Scholar's Box approach

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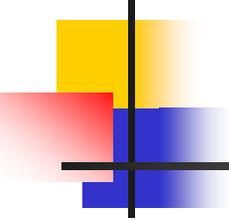
- We can **envision** possibilities for new information environments for scholars – with a focus on the scholar's point of view
- We **prototype** these possibilities and **test** ideas using Scholar's Box "in the small" as a **sandbox** to see how new flow of content and commentary can happen
- We **partner** with others to **scale up** and **institutionalize**



# Strands of SB work

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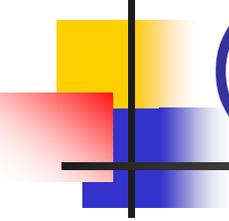
- Scholar's Box "**in the small**" (the software)
- Scholar's Box "**in the large**" the idea, plus technical frameworks implemented elsewhere



# Demo of Scholar's Box

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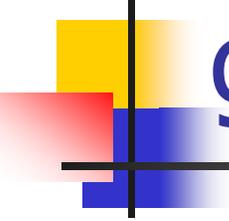
- For some screenshots, see [http://raymondyeen.net/wiki/ScholarsBox\\_2fEssaySeries\\_2fCurrentState](http://raymondyeen.net/wiki/ScholarsBox_2fEssaySeries_2fCurrentState)



# Current functionality in SB (some not demoed)

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- Gathering via search
- Sources: CDL, melvyl, amazon.com, google.com, CalPhotos, NSDL, RSS, METS files, desktop (local filesystem)
- Data and metadata gathered
- Building personal collections via drag and drop
- Organizing subcollections
- Annotations of items and collections
- Creates OO.o, PDF, HTML, RSS, IMS-CP, METS, Endnote references, weblog posts



# Possible Platforms for gather/create/share

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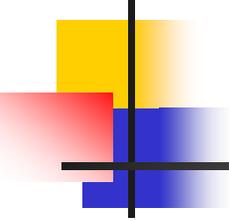
- Digital Library Service framework
- Chandler integration
- Learning Management Systems: SAKAI
- Browser extensions (client)
- Office Suites



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Tentative Practices:  
New Digital Services Architectures

Peter Brantley, Director of Technology, California Digital Library

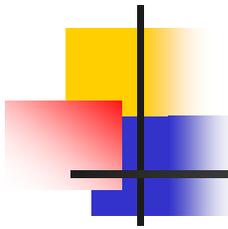


## CDL : Mission

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Harnessing technology and innovation -  
Leveraging the intellectual and cultural  
resources of the University of California -

The CDL supports the assembly and creative  
use of the world's scholarship and knowledge  
for the UC libraries and the communities they  
serve.

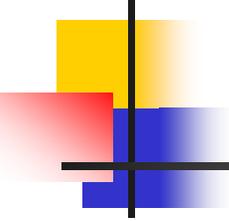


# Digital Expectations

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The task of the UC Libraries is to develop services that -

- Permit faculty and students to discover, access, and use information from a diversity of sources,
- In a manner that can be customized for the needs and preferences of each user, and
- Ensure that the digital products created with these resources can be captured, managed, and shared.



# CDL Common Framework

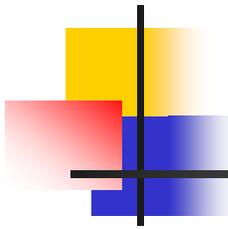
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## Composition -

- Assemblies of modular services for ingest, packaging, preservation, discovery, access
- Premised on fast, light, XML transactions

## Assumes -

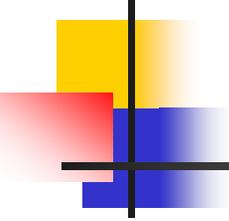
- Federated search engine with open APIs
- Privacy-enabling authorization *via* Shibboleth
- Replicated and redundant *via* SDSC's SRB



# CDL services architecture

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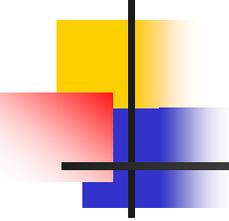
- The CF exemplifies CDL service model:
  1. Determine strategic needs
  2. Build for customer adoption and adaptation
- Core application built at CDL; customizations and derivative applications held at campuses
  1. Builds on campus strengths
  2. Preserves campus identities



# Connecting CDL to campuses

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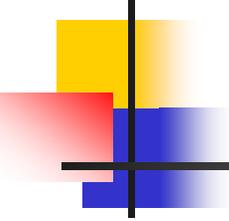
1. UC users access DL services through their own campus' library portals, not CDL sites
2. Faculty publish through an eScholarship Repository with look and feel of their ORU
3. CDL working to encourage intra-campus linkages with new academic systems like Sakai, ePortfolio



## Front-ends for users

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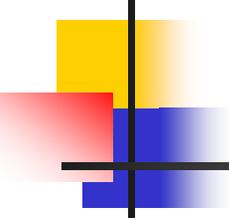
- End user tools must enable digital object re-use, re-purposing, and re-combination
- Local or individually-held collections must be integrated with the network of remote repositories
- Content located via federated metasearch and open query and retrieval protocols



## On the desktop

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- UCB Interactive University's Scholar's Box
  - Queries Melvyl, OAC, other repositories
  - Writes out IMS CP, METS, XML delivery
  - Outputs in office application formats
- TK3/TK4 multimedia authoring
  - Powerful authoring; weaker collection mgmt
- Tuft's VUE project
  - Designed to communicate with Fedora via OKI DR
  - Schematic layout and sequencing

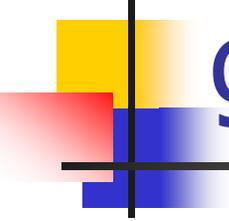


## Making it real

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- Hewlett-funded American West project and other CDL initiatives require some type of user tool for content re-use and personal collection management
- CDL will work with IU to develop a “ver. 0.9” of SB in Java and assess impact and usability
- Might be a browser-based java app, or a floating SB toolbar; assessment on-going

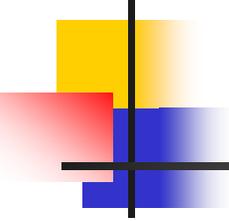




# Possible Platforms for gather/create/share

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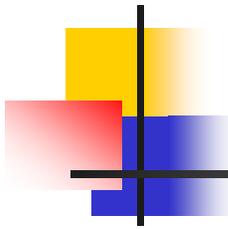
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- Learning Management Systems/portals (SAKAI)
- Browser extensions (client)
- Office Suites



# Discussion

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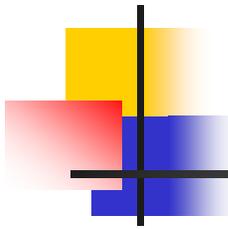
- Our question: what specific direction do you recommend as our next step?
  - Chandler integration
  - SAKAI
  - Office Suites
- What are next steps we can take to work together on envisioning/designing/institutionalizing infrastructure for gather/create/share?



# Talk to us!

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- Raymond Yee ([yee@berkeley.edu](mailto:yee@berkeley.edu),  
<http://iu.berkeley.edu/rdhyee>,  
<http://raymondyee.net/wiki/ScholarsBox> )
- Peter Brantley ([Peter.Brantley@ucop.edu](mailto:Peter.Brantley@ucop.edu),  
<http://cdlib.org> )
- David Greenbaum ([dag@uclink.berkeley.edu](mailto:dag@uclink.berkeley.edu),  
<http://iu.berkeley.edu/iu> )



# Acknowledgements

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- Special thanks to:
  - Tom Schirmer (Software Developer, Interactive University Project, UC Berkeley) for transforming the Scholar's Box from skeletal prototype to functional software
  - Chris Ashley (Manager, New Program Development, Interactive University Project, UC Berkeley) for seminal ideas that ultimately gave rise to the Scholar's Box, input on user interaction, and helpful feedback on this talk