Cooperative Architecture and Cooperative Development of a Course Reserves Tool

Randy Stern, David McElroy Harvard University

November 8, 2006



Course and Library Reserves Tool

What is the course reserves tool?

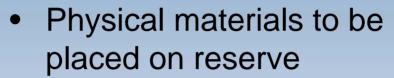
System Architecture

Cooperative Development



Course Reserves Lists

Contain citations for:

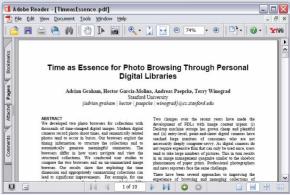




 E-journal articles and eresources

E-reserves (scanned readings)







Reserves List Tool - Goals

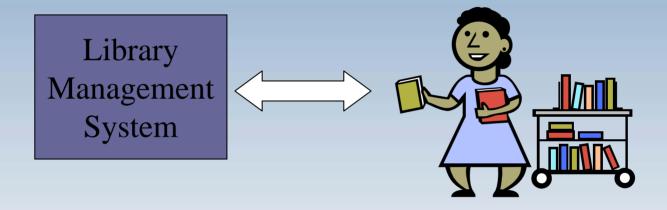


- Student view integrated with course web sites with digital links to on-line resources or ILS availability for hardcopy
- Ease of use for faculty and staff re-use of prior lists and enter new requests in standard course tool
- Minimize library work manage the workflow and re-use prior term data





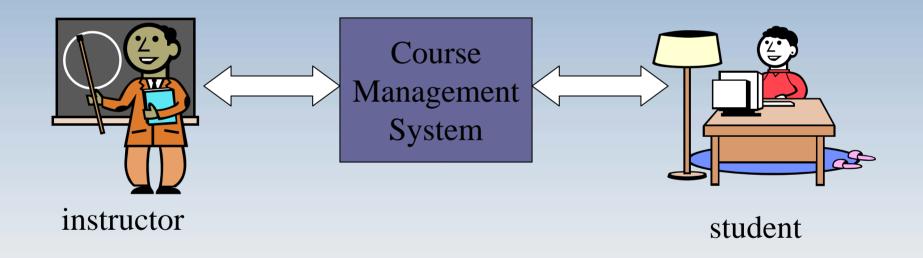
Reserves System



reserves librarian



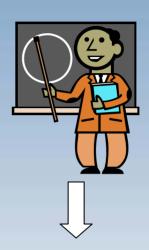
Course Management System



Two Distinct, Tailored Systems



Library
Management
System



Course Management System



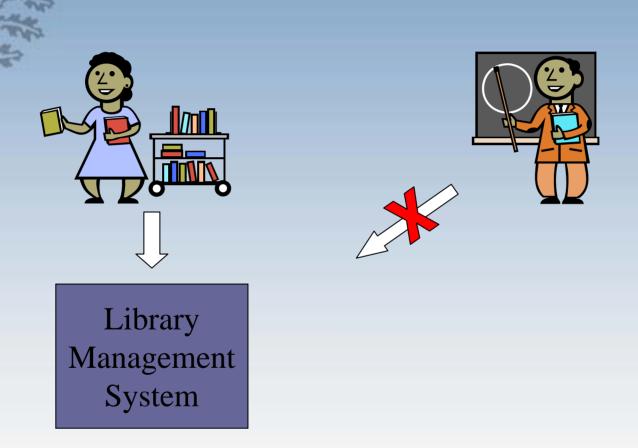
Use Profile Differences

during business hours

Librarian **Instructor** Librarian in Library Instructor in System Frequently CMS infrequently Reserves Tool Reserves Tool Use Optional Use Mandated Daily Reserves Management of Management Tasks Reserves infrequent Full Workflow Ease-of-Use by the **Untrained Expected** Training Expected Has Job-Specific Has Customizable **OLTP Environment** Web Environment Primarily in use

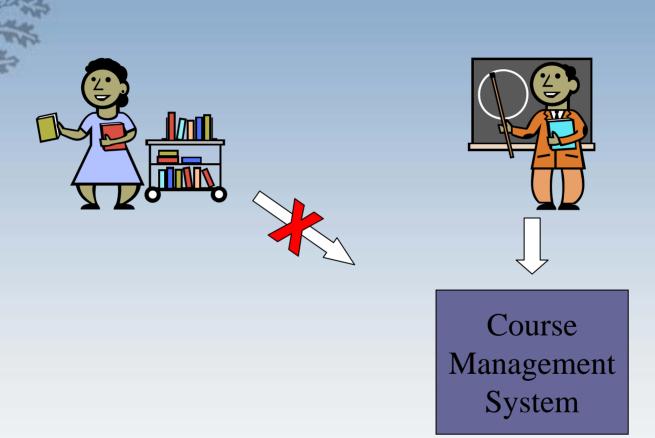
In use 24x7

Unthinkable Options



Library system isn't designed for the very infrequent user

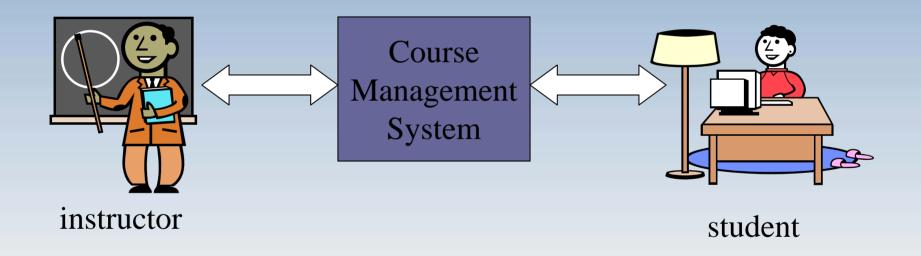




Course management system isn't designed for workflow



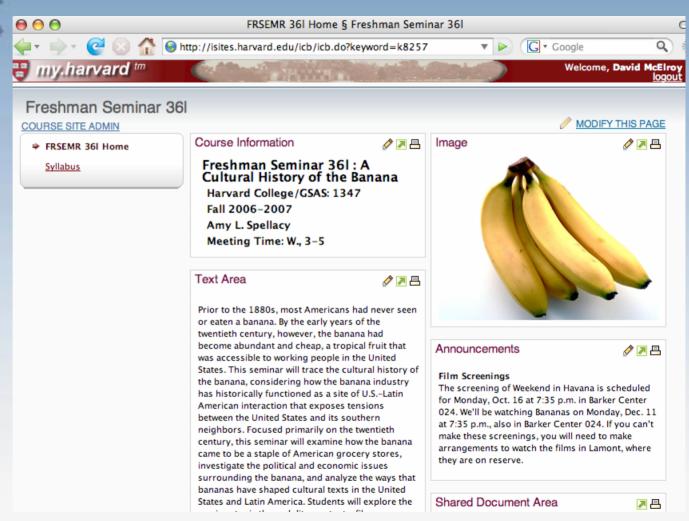
Course Management System

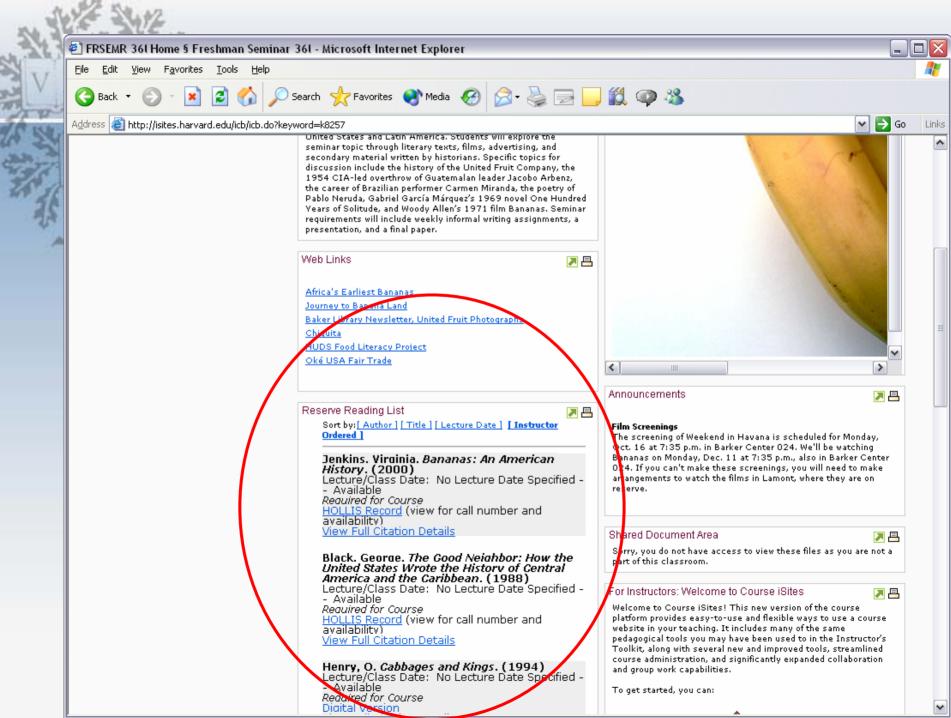




Student view –course site

http://isites.harvard.edu/k8257







Student view – Reserves List

Reserve Reading List



Sort by: [Author] [Title] [Lecture Date] [Instructor Ordered]

Jenkins, Virginia. Bananas: An American History. (2000)

Lecture/Class Date: No Lecture Date Specified -- Available

Required for Course

HOLLIS Record (view for call number and availability)

View Full Citation Details

Black, George. The Good Neighbor: How the United States Wrote the History of Central America and the Caribbean. (1988)

Lecture/Class Date: No Lecture Date Specified -- Available

Required for Course

HOLLIS Record (view for call number and availability)

View Full Citation Details

Henry, O. Cabbages and Kings. (1994)

Lecture/Class Date: No Lecture Date Specified -- In process by library

Required for Course

Digital Version

View Full Citation Details

Schlesinger and Kinzer, Stephen. Bitter Fruit: The Story of the American Coup in Guatemala. (2005)

Lecture/Class Date: No Lecture Date Specified -- Available

Required for Course

HOLLIS Record (view for call number and availability)

View Full Citation Details

McMillian, John. Electrical Bananas: An Epistemological Inquiry Into the Great Banana Hoax of 1967.

The Reliever (2005) -



Digital links

HOLLIS Record (view for call number and availability) View Full Citation Details

Roberts, Shari. .

Lecture/Class Date: No Lecture Date Specified --Available

Dequired for Course

Digital Version
View Full Citation Details

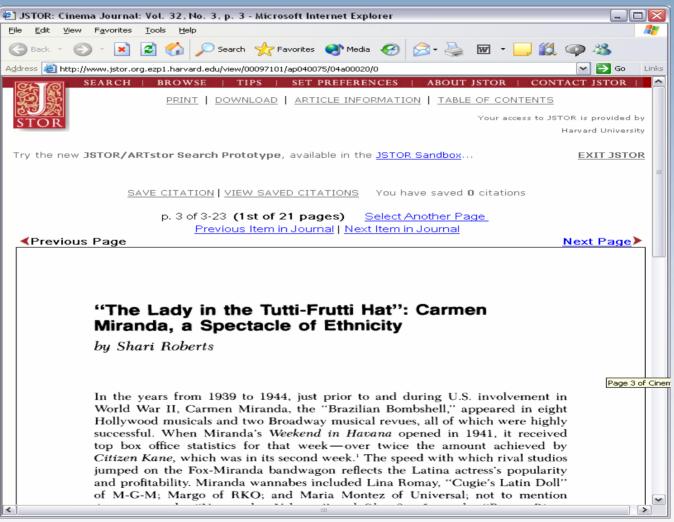
Allen, Woody. Bananas. (1971)

Lecture/Class Date: No Lecture Date Specified --

Available



Digital version





View Citation Details

<u>HOLLIS Record</u> (view for call number and availability) View Full Citation Details

Roberts, Shari. .

Lecture/Class Date: No Lecture Date Specified --

Available

Required for Course

Digital version

View Full Citation Details

Allen, Woody. Bananas. (1971)

Lecture/Class Date: No Lecture Date Specified --

Available

n 16 n



Citation Details

Reserve Reading List



Current Citation: (some bibliographic information may have

been edited by library staff)

Title: Bananas: An American History

Author: Virginia Jenkins

Publisher: Smithsonian Institution Press

Publication

Year

2000

Edition:

Volume/Issue: Pages:

Material: Book ISBN:

Status: Complete 364848 Citation ID:

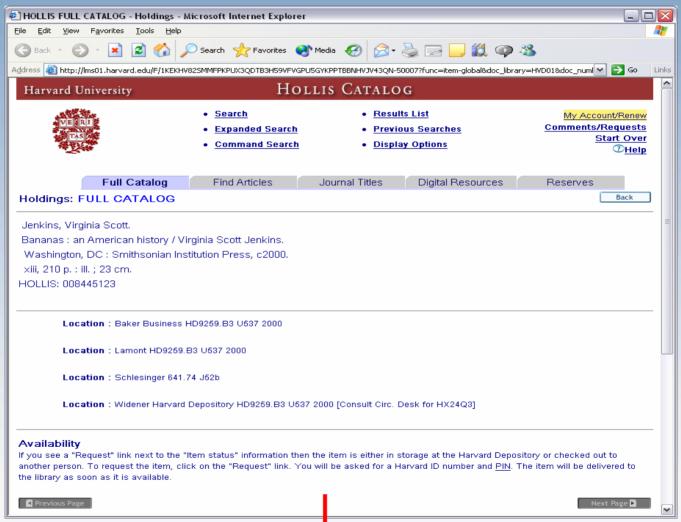
Library: Lament [<u>reshilla@fas.harvard.edu</u>]

http://lms01.harvard.edu/F/?func=item-**HOLLIS Record:**

global&doc library...

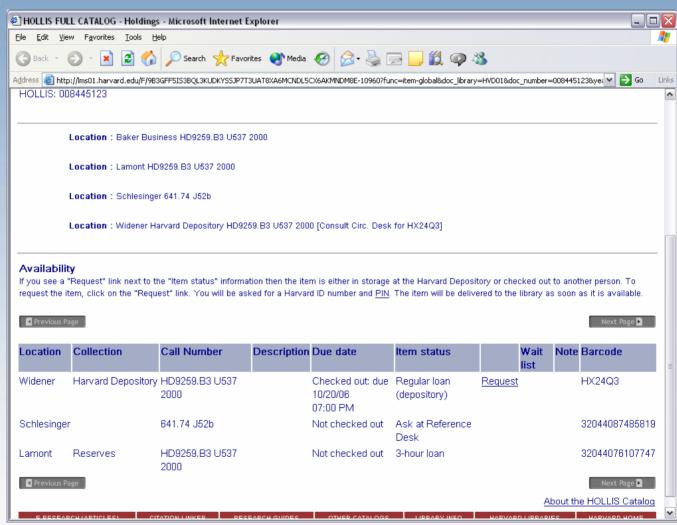


Link to location...





...and availability





Editing "Reserve Reading List"

You are currently editing the content of this Topic Box. You can also:

Rename this Topic Box, or Set access permissions, or Exit edit view.

Manage Reserves List

eorder Reserves List

Reuse Citations from Previous Terms

Add a New Citation

Supporting Library

Manage Reserves List

Welcome to the "Edit View" of the Reserves Tool! Using Edit View, faculty and course staff can submit requests for course readings to a supporting library and manage the list of readings to control what students see.

To submit a request, you can reuse a citation request from a previous term or add a new citation request.

Return to this "Manage Reserves List" screen if you want to modify the reserves list. You can edit individual requests to add a note or a lecture date, indicate a required reading, or hide the request from student view.

You can delete New or Reuse requests that the library has not yet processed. To delete requests that are in Process or Complete, you must contact the supporting library. You can send a message to the library by displaying the full request and clicking the library's email address.

Instructors also have the ablity to define a custom order of a reserves list. Go here to reorder the reserves list.

[Select All Citations] [De-select All Citations]

Title	Status	Delete	Edit
Bananas: An American History	Complete	-	<u> </u>
The Good Neighbor: How the United States Wrote the History of Central America and the Caribbean	Complete	-	<u> </u>
Cabbages and Kings	In Process	1	♠ Edit

Title	Status	Delete	Edit
Bananas: An American History	Complete	-	Ø <u>Edi</u>
The Good Neighbor: How the United States Wrote the History of Central America and the Caribbean	Complete	-	<u></u> <u>Edi</u>
Cabbages and Kings	In Process	-	
Bitter Fruit: The Story of the American Coup in Guatemala	Complete	-	<u> </u>
Electrical Bananas: An Epistemological Inquiry Into the Great Banana Hoax of 1967	In Process	-	<u> </u>
One Hundred Years of Solitude	Complete	-	<u> </u>
The Lady in the Tutti-Frutti Hat: Carmen Miranda, a Spectacle of Ethnicity	Complete	-	<u> </u>
<u>Bananas</u>	Complete	-	<u> </u>
Bananas Is My Business	Complete	-	<u> </u>
Carmen Miranda: The South American Way	Complete	-	



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The Good Neighbor: How the United States Wrote the History of Central America and the Caribbean	Complete	-	<u> </u>
Cabbages and Kings	In Process	1	♠ Edit



Copy Citation Requests to Current Term

Citation Reuse

Fall 2005-2006	
Copy Citation Requests to Current Term	
Select All Citations [De-select All Citations]	
Title	Select
Sourcebook/coursepack. FAS-2178	Г
International Public Health: Diseases, Programs, Systems and Policies	Г
The world health report 2002 : Reducing risks, promoting healthy life	Г
The world health report 2001: mental health: new understanding, new hope.	Г
Title	Select



Add a New Citation



To save time -- reuse citations from a previous term

To submit a new citation request to a supporting library for processing, please select the type of material you are requesting and your supporting library. Reserves staff at the supporting library will process this request and add a link to a digital version of the material and/or to the HOLLIS Catalog availability screen for a physical copy.

Course Term: FRSEMR 361 - Fall 2006 Book Material Type: Supporting Library Lamont

Which library supports my course?

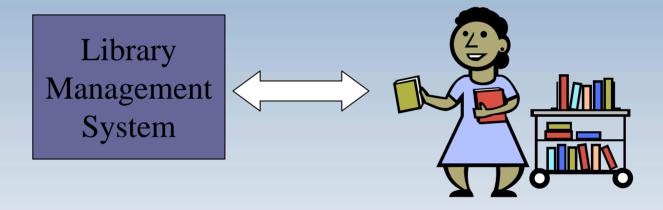




Fairment Number of Envelled Students.	
Estimated Number of Enrolled Students:	2
Lecture/Class Date:	Clear Date
Student View Display:	Show 🛨
Required Reading:	
Either HOLLIS number <i>OR</i> Title is require	
HOLLIS System Number:	
Title or Description:	
Author Last Name:	Author First Name:
Editor Last Name:	Editor First Name:
Publisher:	Year of Publication:
Author (of chapter or excerpt) Last Name	Author (of chapter or excerpt) First Name
Chapter Title:	
Page Numbers:	Volume:



Reserves System

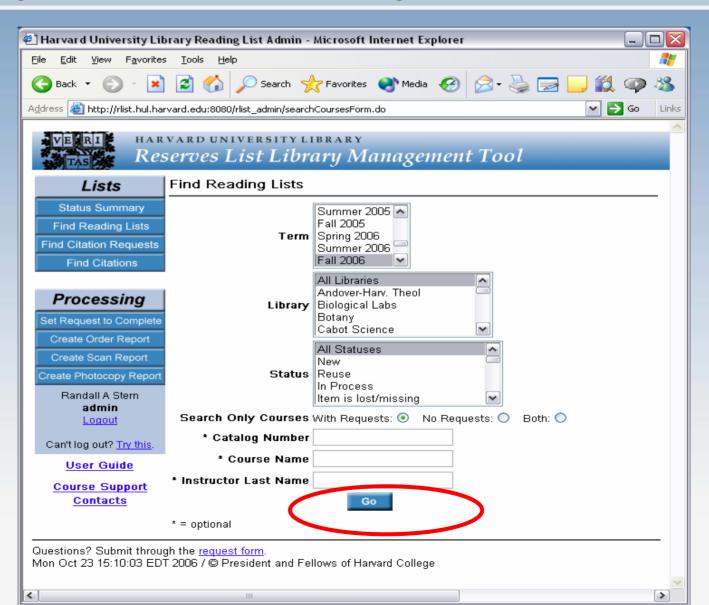


reserves librarian

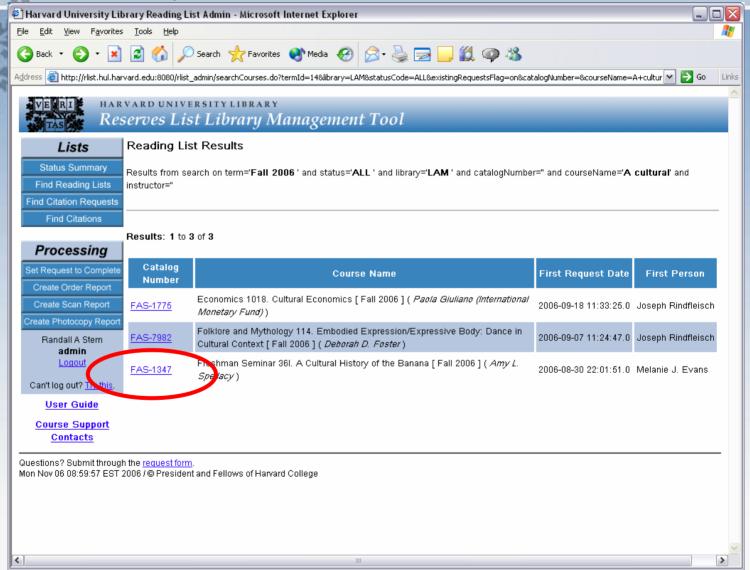


Librarian's Tool

http://rlist.hul.harvard.edu:8080/rlist_admin/loginForm.do?url=home.do

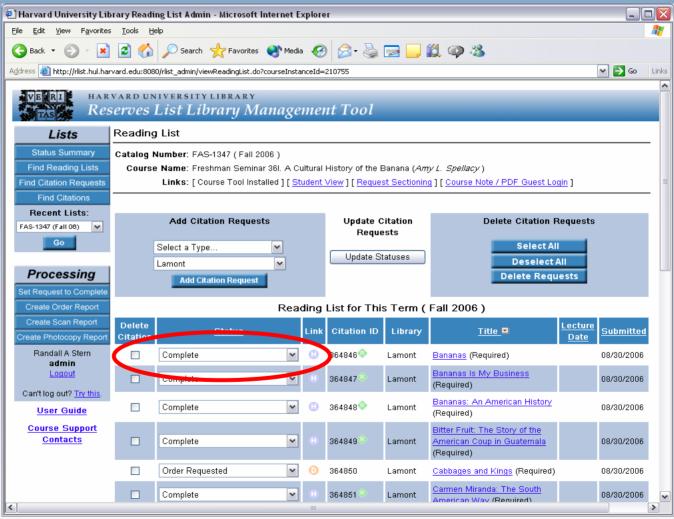


Library tool – List Results

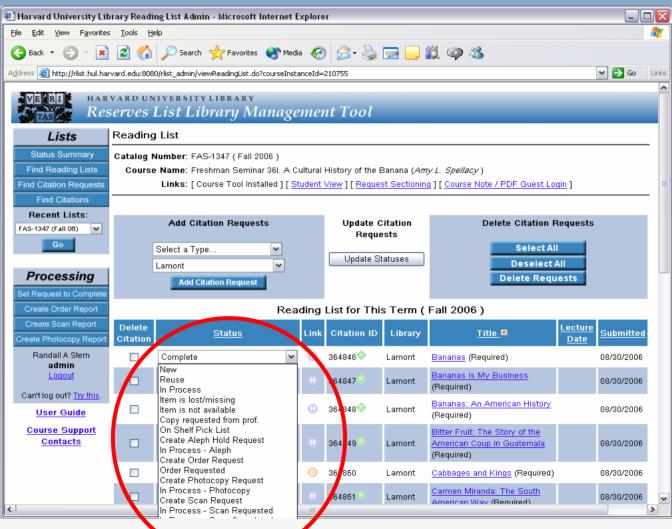




Reserves List

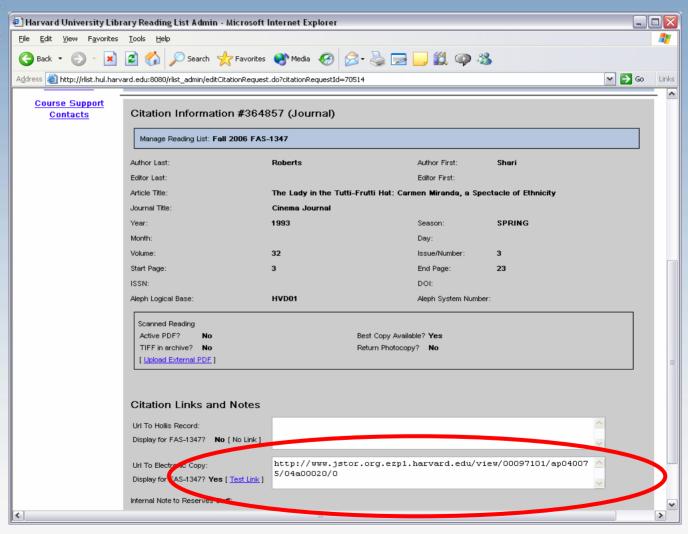








A journal citation

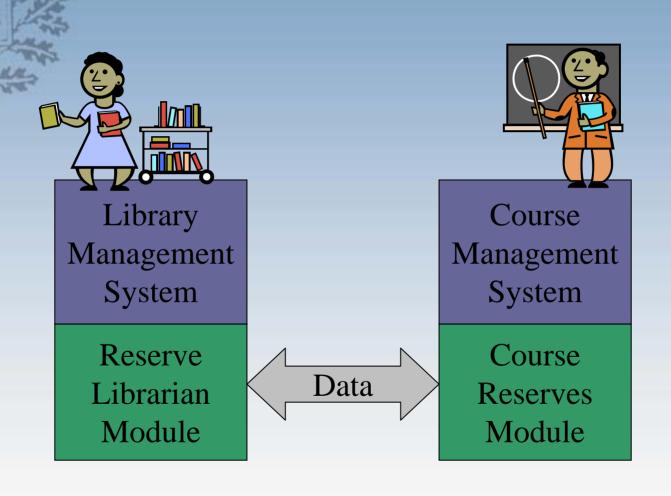




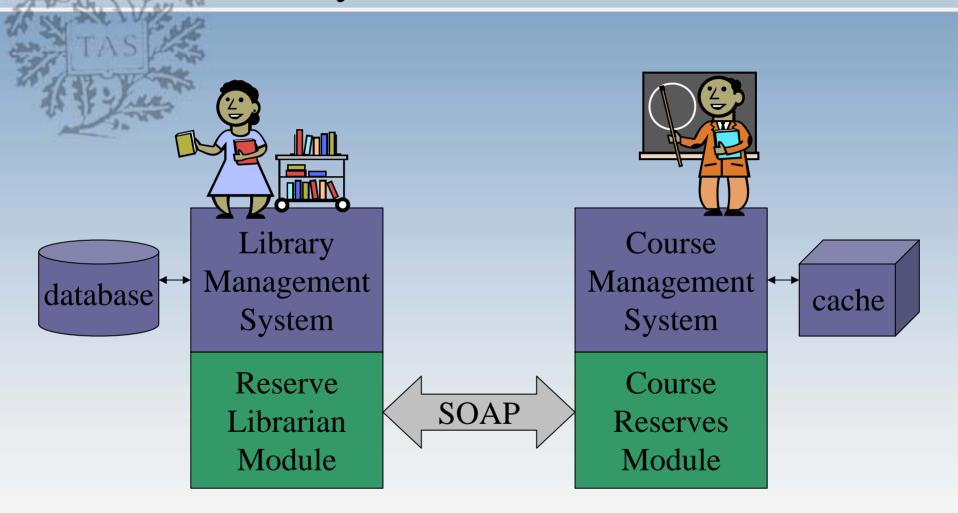
Data Sources

- A Reserves List is comprised of two types of data
 - Course Metadata Managed by Schools
 - Term/year
 - Catalog Number
 - Course Name
 - Head Instructor
 - Course Instance ID
 - Reserves Lists Managed by Libraries
 - Bibliographic Information (title, author, HOLLIS #)
 - Supporting Library
 - Lecture Date
 - Course Instance ID

Leverage Both Systems

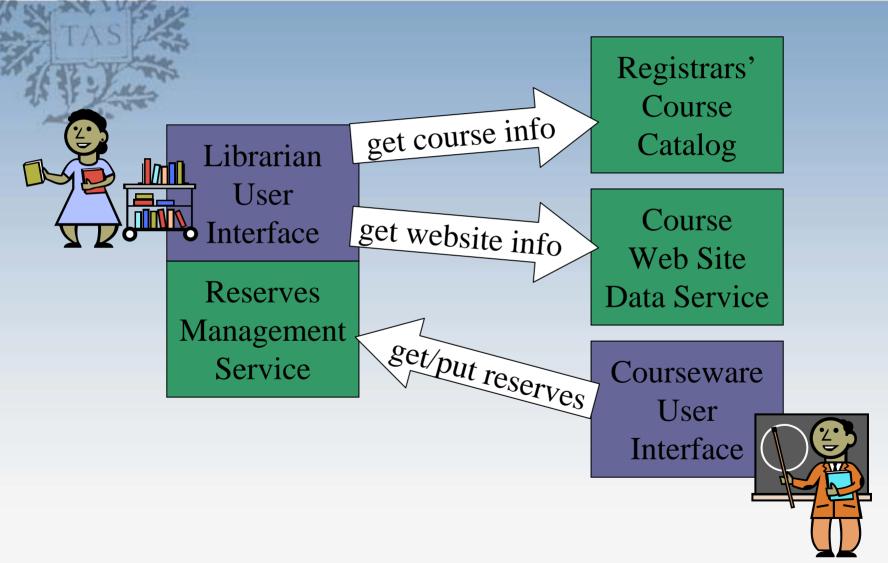


Join systems via SOAP



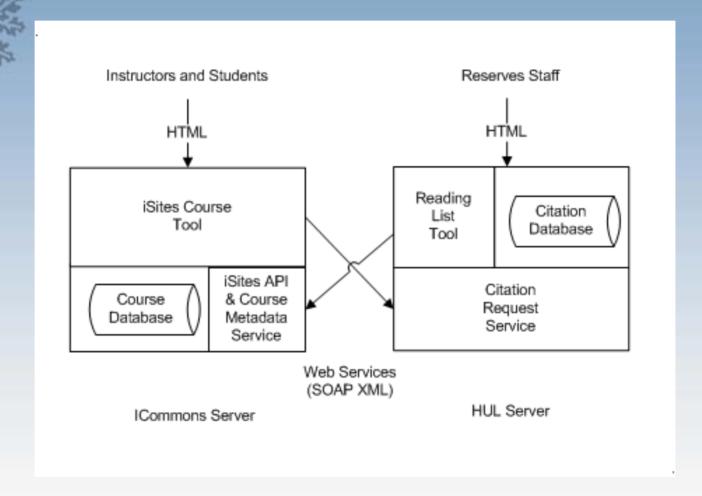


Service Oriented Architecture





Web Services

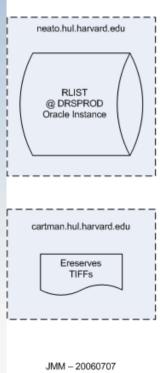


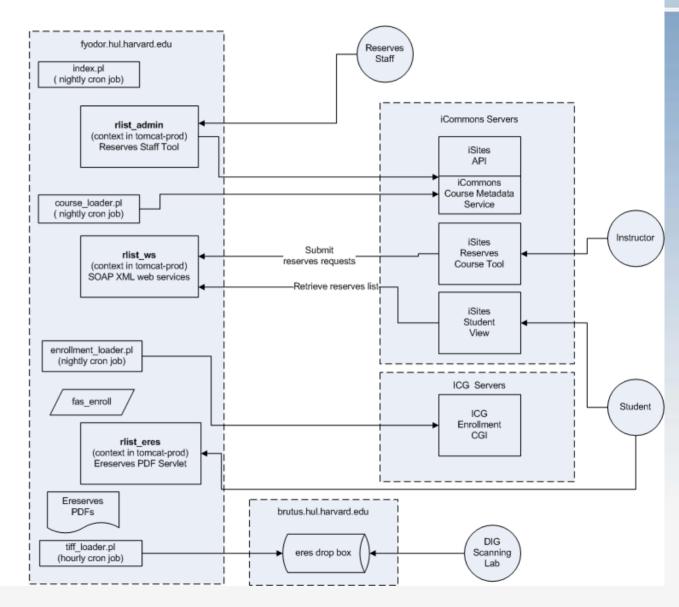


Technologies

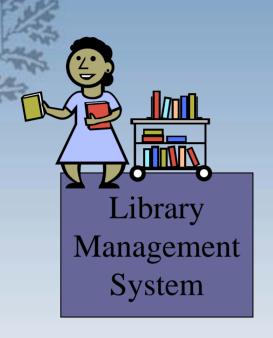
- Standards based bridge
 - SOAP
 - WSDL
- Library implementation
 - SOAP services Java, Tomcat
 - Staff tool Java/JSP/Oracle
- Course platform implementation
 - SOAP services perl
 - Course reserves tool perl

Reading List Server Architecture





Cooperative Development





Library IT:
OIS
Group

Cooperation

CMS IT: iCommons
Group



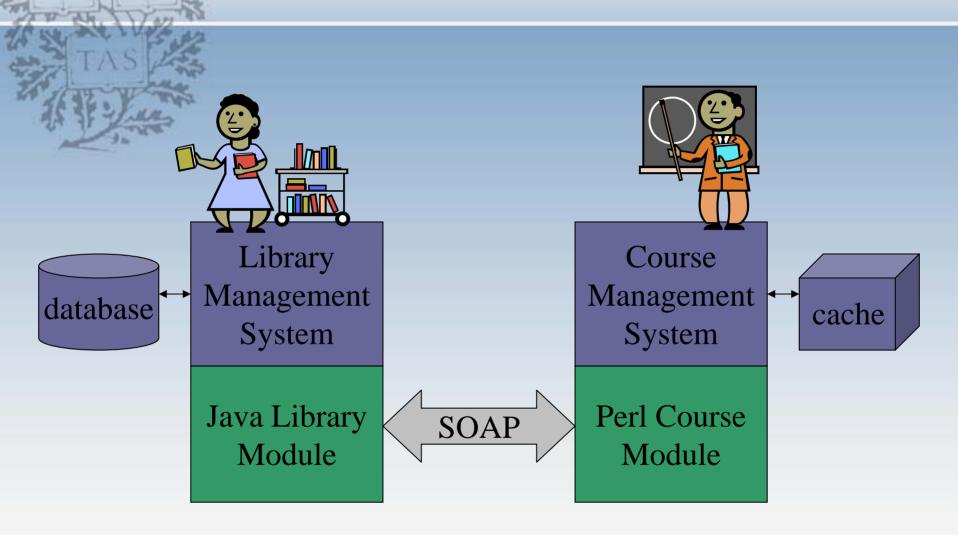
Technical Issues

- Library Service: a Java-based application running under Tomcat on Library infrastructure.
- CMS Service: a Perl-based plug-in running on the iSites Course Management System

Strategies

- SOAP for Platform Interoperability
- Test Harness for easy problem diagnosis
- Co-location for quick problem turn-around

SOAP: No Silver Bullet

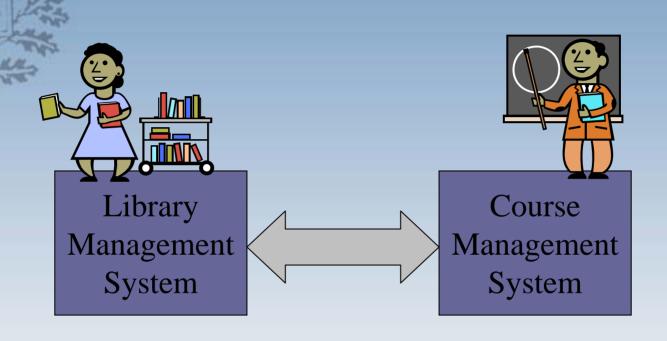


SOAP: Keep it simple

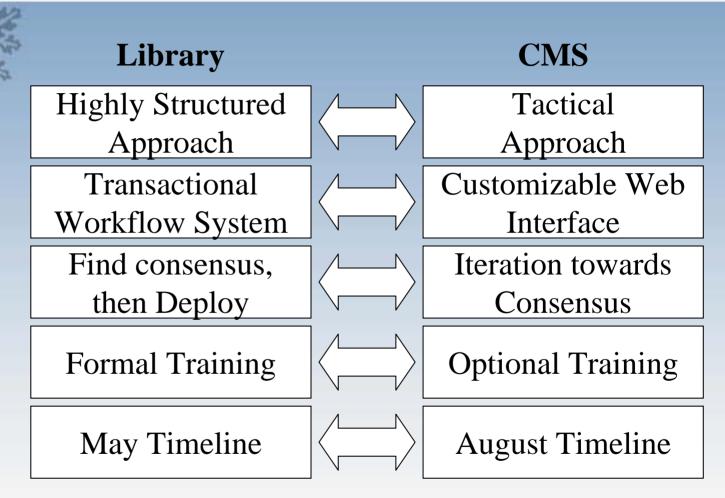


- Simple types only
 - ...for easy interoperability between heterogeneous systems
- Minimize SOAP calls
 - SOAP parsing performance
 - Minimize load on servers

More Issues!









Project Approach

- Library
 - Multi-Month Projects
 - Highly structured project plans
- CMS
 - Four to Eight Week Projects
 - Iterative delivery approach
- Impact
 - Release Timeline
 - Training Materials
 - User Consistency over Time



Project Structure Remedy

Retain Individual Practices

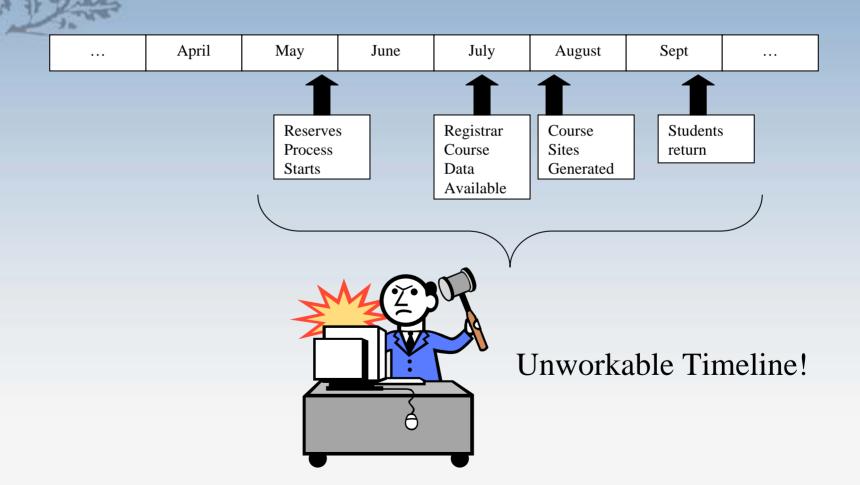
- Separate Requirements Gathering
- Separate Implementation Details
- Separate Training Materials
- Separate UI Design

Join forces where necessary

- Co-develop project goals
- Strict high level project timeline
- Weekly co-lead project meetings
- Co-develop communication protocols
- Co-locate developers to work together



Project Timeline Issues





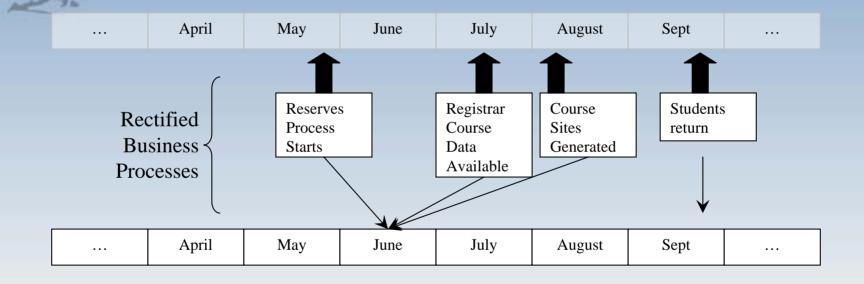
Disconnected Data Providers

- Reserves Process starts in May
- Course data available in July
- Course Web Sites generated in August

No Course Web Site for Reserves Process until August?

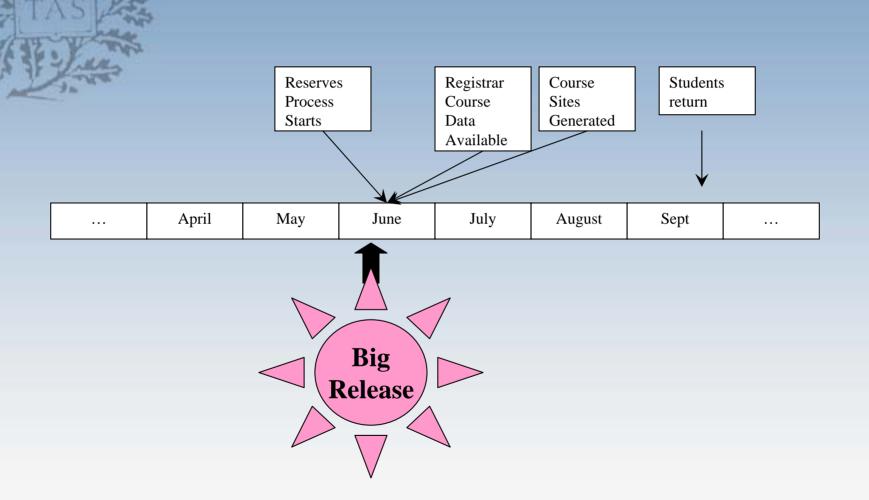
VERI

Rectified Project Timeline



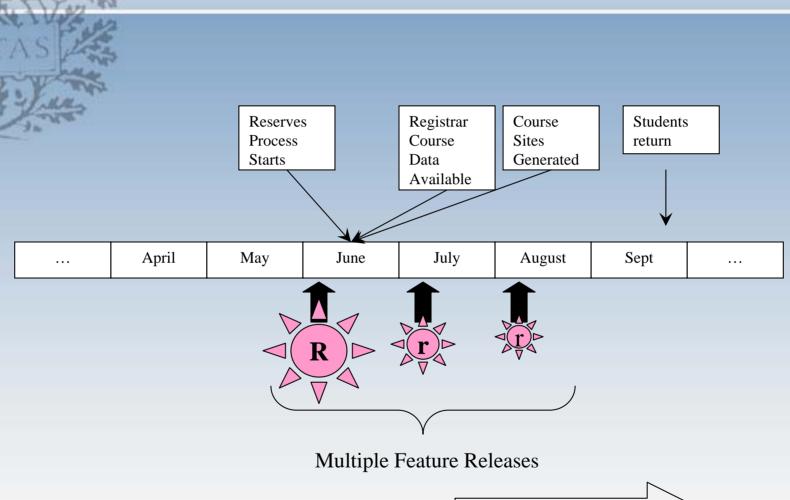
VERI

Initial Release Timeline





Release Timeline



Use grows with time



Training & Support

- Instructors
 - Highly localized training and support
 - Optional for Instructor
 - Additional support through library
- Librarians
 - Centralized Training



Availability

When this decentralized system breaks, who is responsible for fixing it?

- Two distinct owners
- Two sets of customers
- 24 x 7 availability



Availability

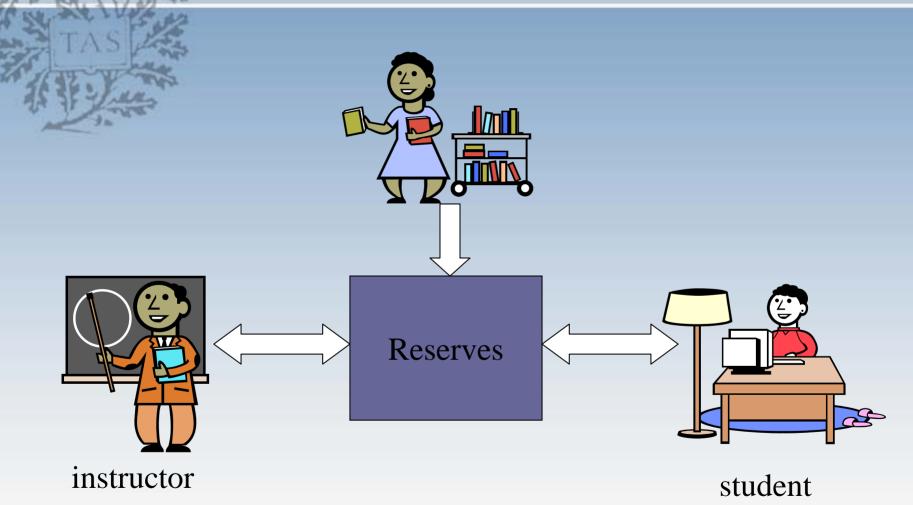
Solution: Everyone is Responsible

Conference Call

- All tech contacts & associated management get a call/page (24x7) regardless of "fault"
- Teams work together in isolating and correcting the problem
- Follow-up meeting scheduled

VERI

And it's working!



And it's working!

School (Fall 2006)	Total courses with at least one citation	Total courses sites	Total Reserves List Citations
FAS	473	1442	7601
HDS	78	144	1185
GSE	54	97	520
GSD	40	155	308
HLS	33	170	130
HSPH	1	121	2
Arboretum	0	40	0
EXT	0	293	0



Acknowledgements

- Library
 - Julian Marinus, SW Architect
 - Laura Morse, Systems Librarian
 - Julie Wetherill, Outreach Librarian
 - Chip Goines, SW Developer
- Course
 - Colin Murtaugh, SW Developer
 - Cris Wagner, SW Tool Developer
 - Paul Bergen, Head FAS Instructional Computing

