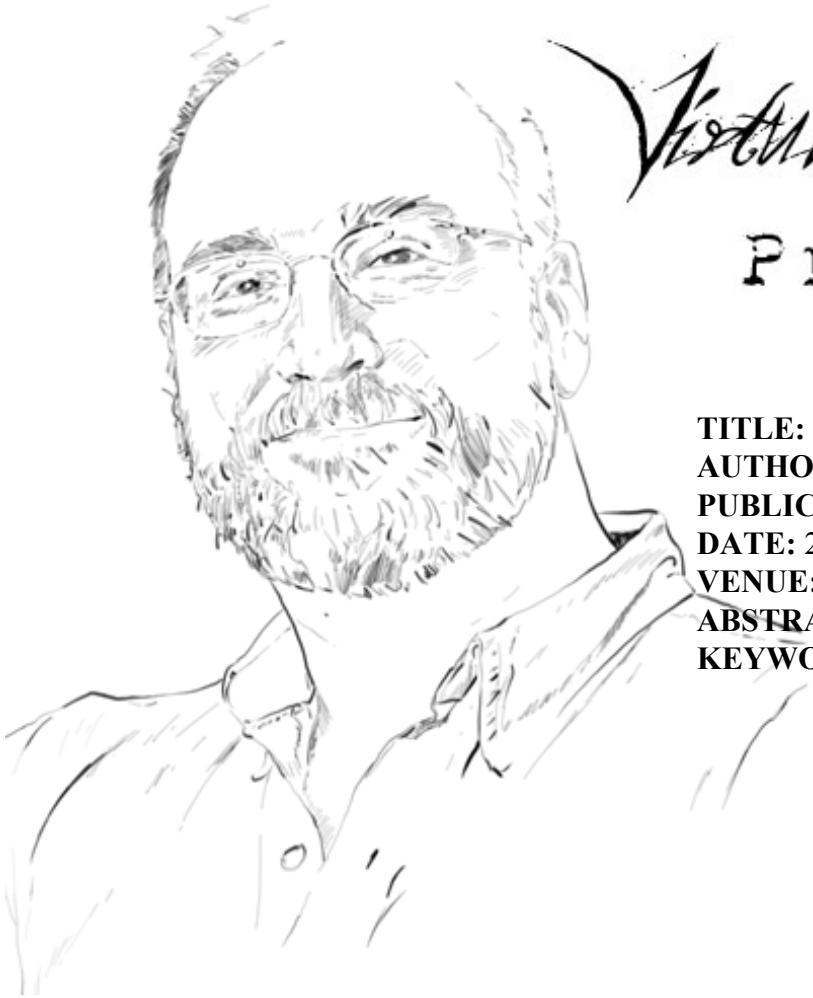


Virtual Dave Lankes

Presentation

http://www.DavidLankes.org

TITLE: Using Virtual Reference to Rule the World
AUTHOR(s): R. David Lankes
PUBLICATION TYPE: Presentation
DATE: 2007
VENUE: Information Online Satellite Workshop, Sydney, NSW, Australia.
ABSTRACT: Covering the operational and strategic aspects of virtual reference.
KEYWORDS: Virtual reference, Web, Librarianship

Using Virtual Reference to Rule the World

R. David Lankes
Slides at:
http://www.DavidLankes.org

A New Twist on Authority Control

R. David Lankes
Slides: www.DavidLankes.org
Director, Information Institute of Syracuse &
Associate Professor, School of Information Studies
Syracuse University

- David Lankes: What is the dewey number for books on tattoos?
- A librarian will be with you in about a minute. Please do not use your "back", "forward", or "refresh" buttons, or you will be disconnected.
- [Librarian - A librarian has joined the session.]
- Librarian: hi. I'll try to find that for you.
- Librarian: The books in our library are at call number 391.65 and 391.6

- Librarian: I'm answering your question from a library in Calif. What library do you go to? I could look and see whether there are books there on tattoos.

- David Lankes: do you know the corresponding dewey that would be?

- Librarian: Would you like for me to do that?

- David Lankes: I don't need a specific book, just making a funny graphic for a talk I'm doing.

- Librarian: Libraries use the same dewey number for the books. That way you could go to another library and look for a similar book in the same area.

- Librarian: And you should find books in your library under the same dewey number I just gave you, if your library has books on the subject.
- David Lankes: I know, but I would like to know the actual subject hitting that matches the dewey number.
- Librarian: When I searched my catalog, I used the keyword term "tattoos".
- David Lankes: Do you know a place on the web, or have access to the Dewey classification system?
- David Lankes: Perhaps WebDewey?
- Librarian: WebDewey? What is that? I looked up ...
- Librarian: tattoos in our online system at Books In Print and found the book "Tattoo Icon" and they list it at 391.65
- David Lankes: WebDewey is a way to look up terms in the dewey classification system...in essence the resource they used to assign that book to the number 391.65
- David Lankes: It's no big deal. The number was a great help.

- Librarian: Another title: "Tattoo Nation: Portraits of Celebrity Body Art" has the dewey number: 391.6/5
- Librarian: Is there a site on the internet for WebDewey?
- David Lankes: It probably is just called "tattoos" in dewey, but I'll be talking with catalogers and sometimes they actually know what names the actual numbers correspond to. Knowing a little about Dewey it might be either tattoos or body art or something else.
- David Lankes: http://www.oclc.org/dewey/versions/webdewey/
- David Lankes: You have to pay for access.
- Librarian: I'm not a cataloger. You probably have more knowledge on this than I do at the moment.
- David Lankes: No problem. Thanks again. Have a good day.

- Librarian: You are right that it could be found under different keywords. I was trying to find the most direct, quick answer to your question.
- David Lankes: And I got it. I asked for the number. That's what I needed.
- Librarian: You're welcome. Thanks for the challenge. Have a good day, yourself.
- David Lankes: The name was just a follow-up if you knew.
- David Lankes: bye.

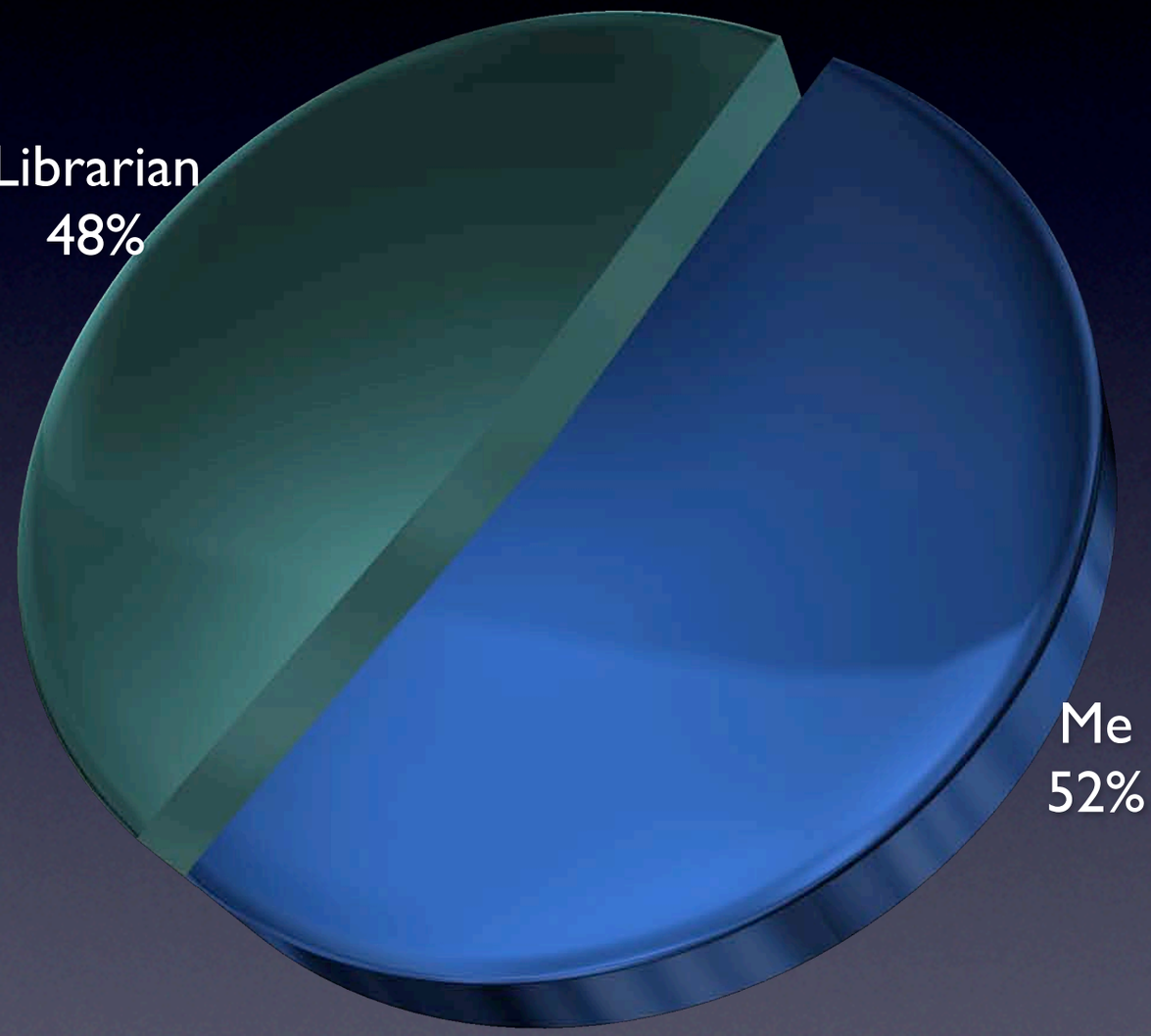
Post Game Summary

Post Game Summary

Total Messages	29
Librarian	14
Dave	15

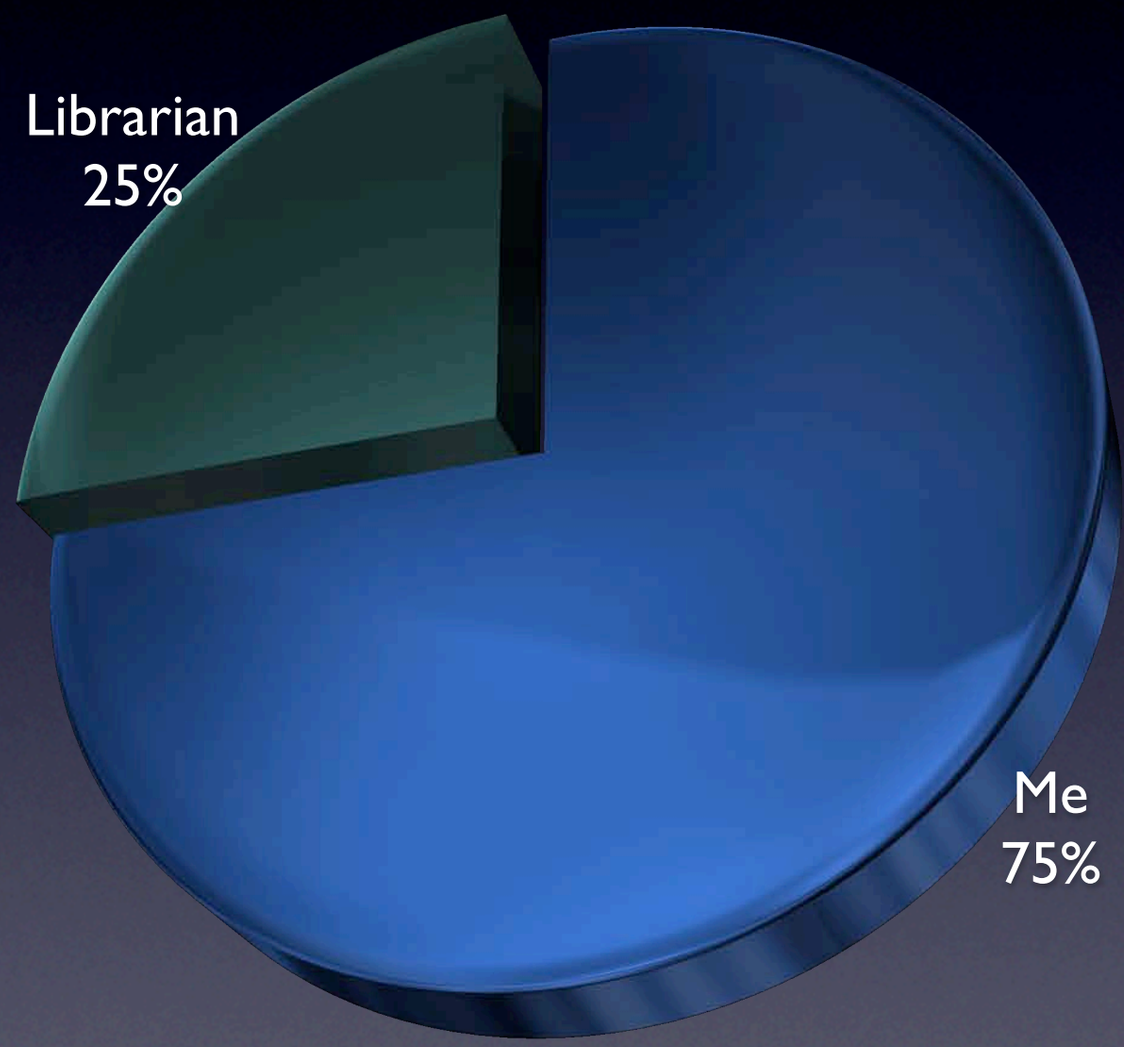
Post Game Summary

Total Messages	29
Librarian	14
Dave	15



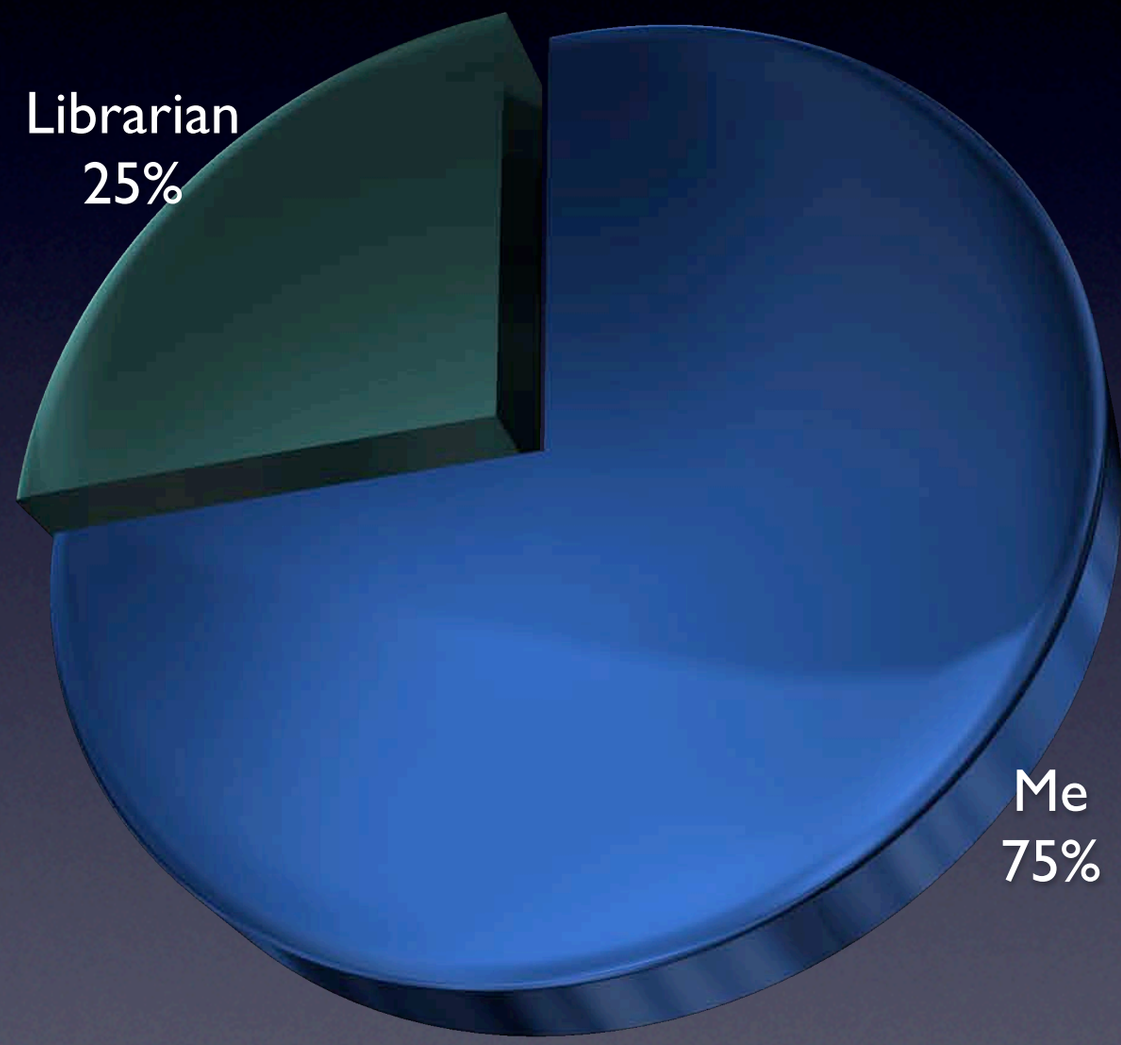
Post Game Summary

Total Messages	29
Librarian	14
Dave	15
Closing Messages	4
Librarian	1
Dave	3



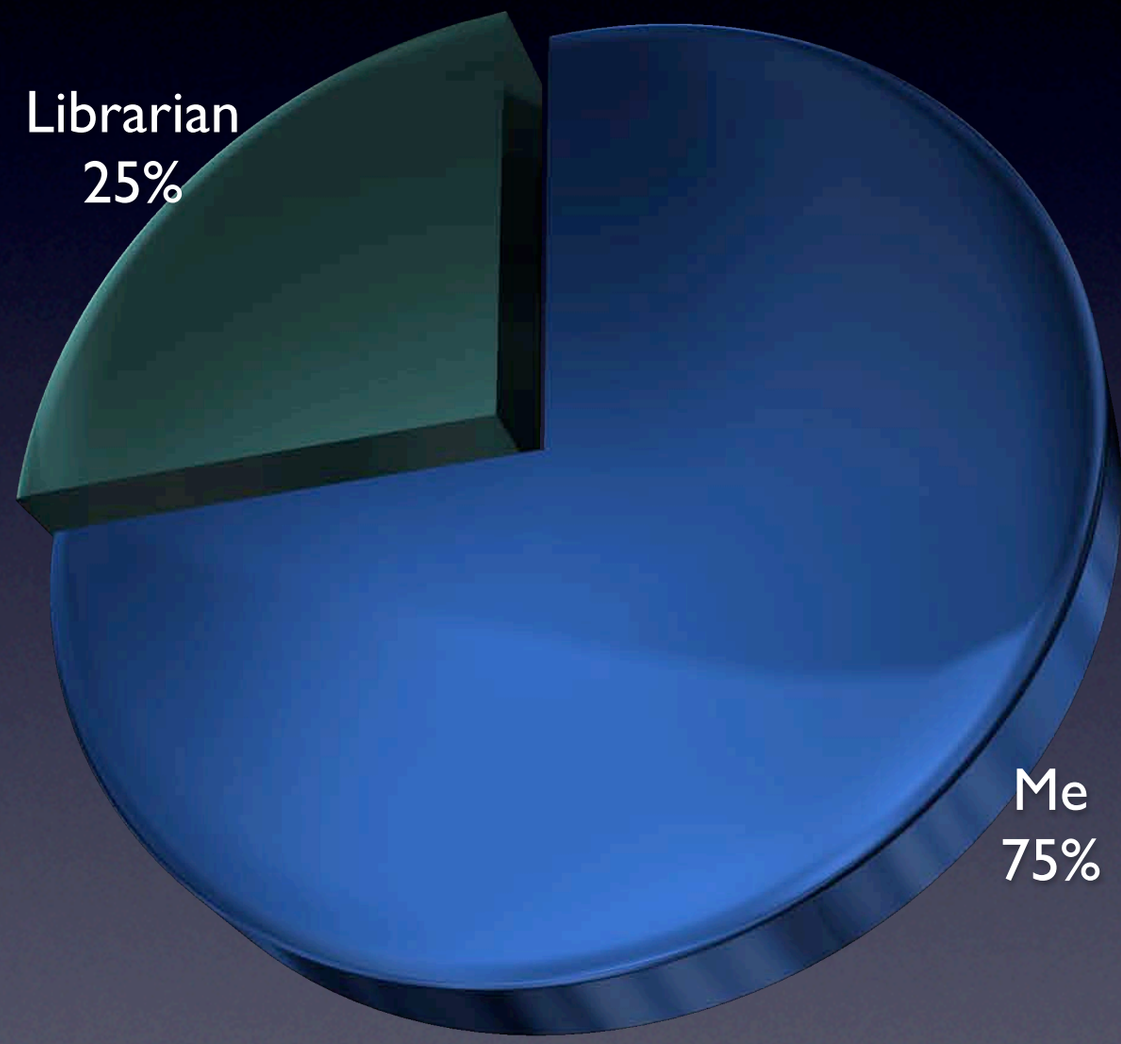
Post Game Summary

Total Messages	29
Librarian	14
Dave	15
Closing Messages	4
Librarian	1
Dave	3
Reference Questions	5



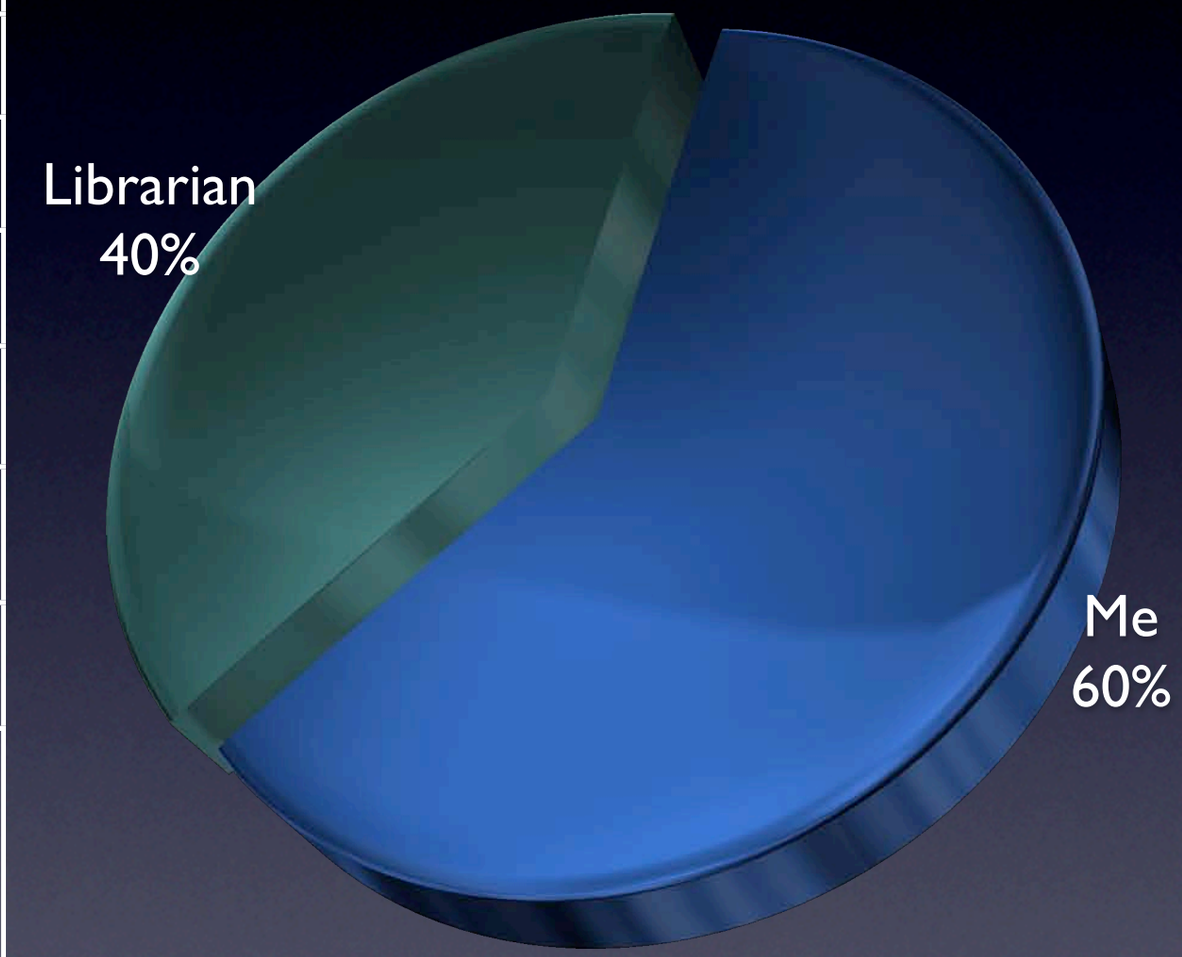
Post Game Summary

Total Messages	29
Librarian	14
Dave	15
Closing Messages	4
Librarian	1
Dave	3
Reference Questions	5
Librarian	2 (What is Web Dewey, Site for Dewey)



Post Game Summary

Total Messages	29
Librarian	14
Dave	15
Closing Messages	4
Librarian	1
Dave	3
Reference Questions	5
Librarian	2 (What is Web Dewey, Site for Dewey)
Dave	3 (Dewey Number, Class and Site for Dewey)



Uncomfortable?

- Reference is at once both the most public, and private function the library offers
- While we call it public service, we don't have the same transparency as technical service

Libraries Have it Backwards

- Reference is an Unnatural Act
  - Admitting Ignorance is Uncomfortable - the Greedy Librarian Problem
- Self Promotion is Human Nature

Agenda

- Why Virtual Reference
- Basics of Virtual Reference
  - General Digital Reference Model
  - Technical Opportunities
- Expanding Reference Service

Reference by Any Other Name

Reference by Any Other Name

Digital Reference

Reference by Any Other Name

Email Reference

Digital Reference

Live Reference

Virtual Reference

Chat Reference

eReference

Reference by Any Other Name

Email Reference

Online Reference

Digital Reference

Live Reference

V_Ref

AskA

Virtual Reference

Chat Reference

eReference

Dig_Ref

Reference by Any Other Name

Email Reference

Online Reference

Digital Reference

Live Reference

V_Ref

AskA

QuestionPoint

Virtual Reference

Tutor.com

Docutek

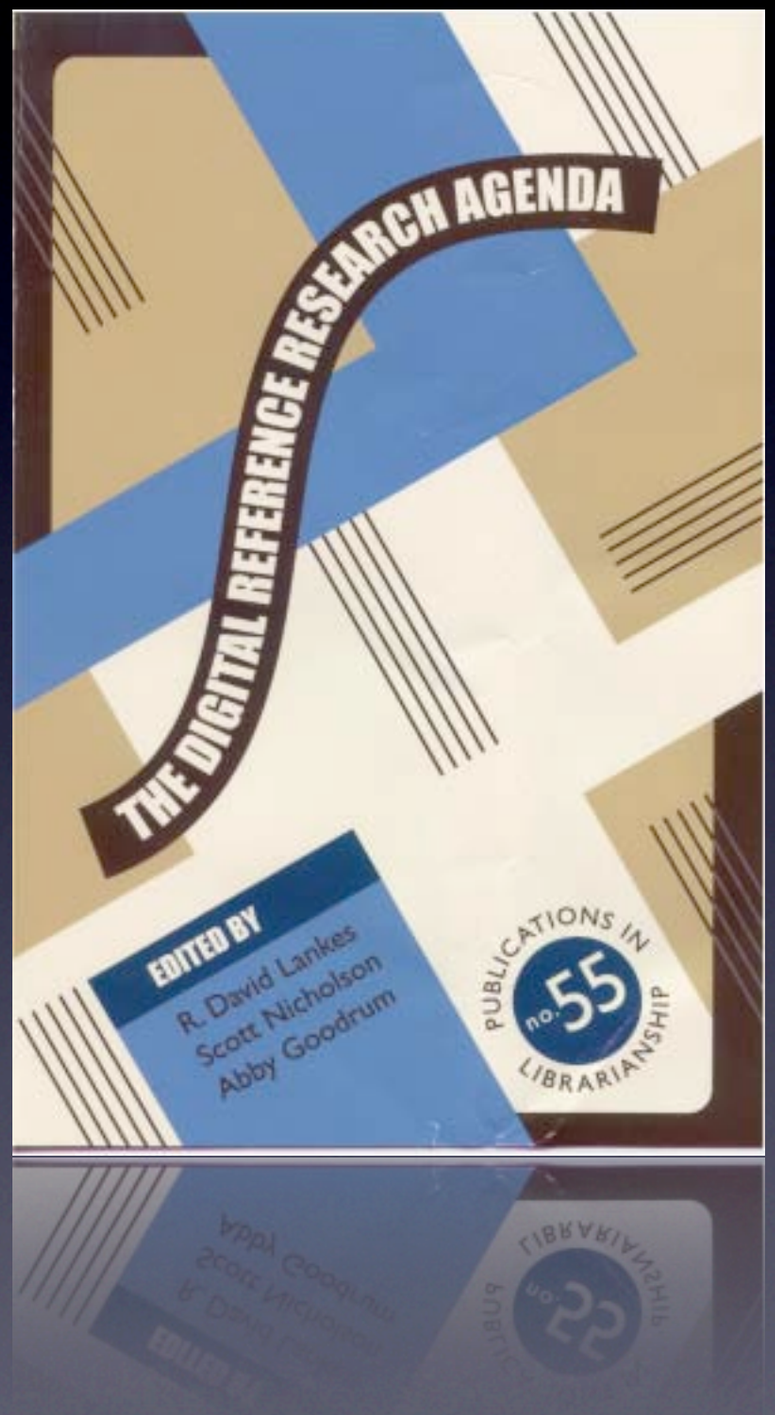
eReference

Chat Reference

Dig_Ref

"The use of human intermediation to answer questions in a digital environment"

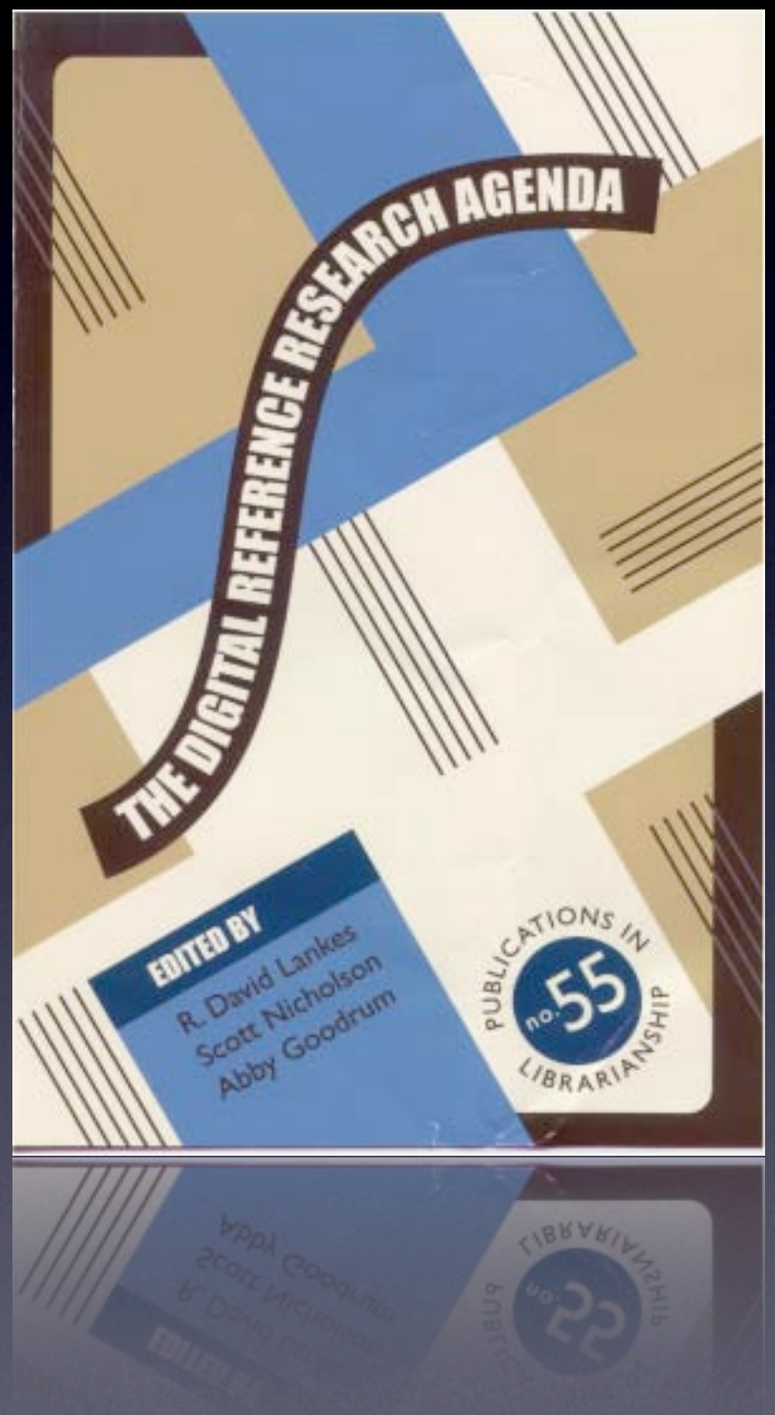
- The Digital Reference Research Agenda



"The use of human intermediation to answer questions in a digital environment"

- The Digital Reference Research Agenda

An agenda to increase the technical knowledge (and capacity) of libraries and to build bridges (and respect) to the digital library and other communities.



Lankes' Virtual Reference Perspective

- Reference is an Island of Chaos in a Sea of Library Order...That's a Good Thing
- Virtual Reference is Different from Traditional Reference - It Creates Artifacts by Default/Design
- Virtual Reference is Beyond Libraries

Purpose, General

Purpose, General

- Answer the Needs of the Constituency

Purpose, General

- Answer the Needs of the Constituency
- Know the Needs of the Constituency

Purpose, Internal

Purpose, Internal

- Organizational Development and "Bonding"
  - Develop Group Identity
  - Common Policies
  - Provide Even Service Distribution
  - Provide Innovation Opportunities
  - Training

Purpose, External

Purpose, External

- Raise Visibility

Purpose, External

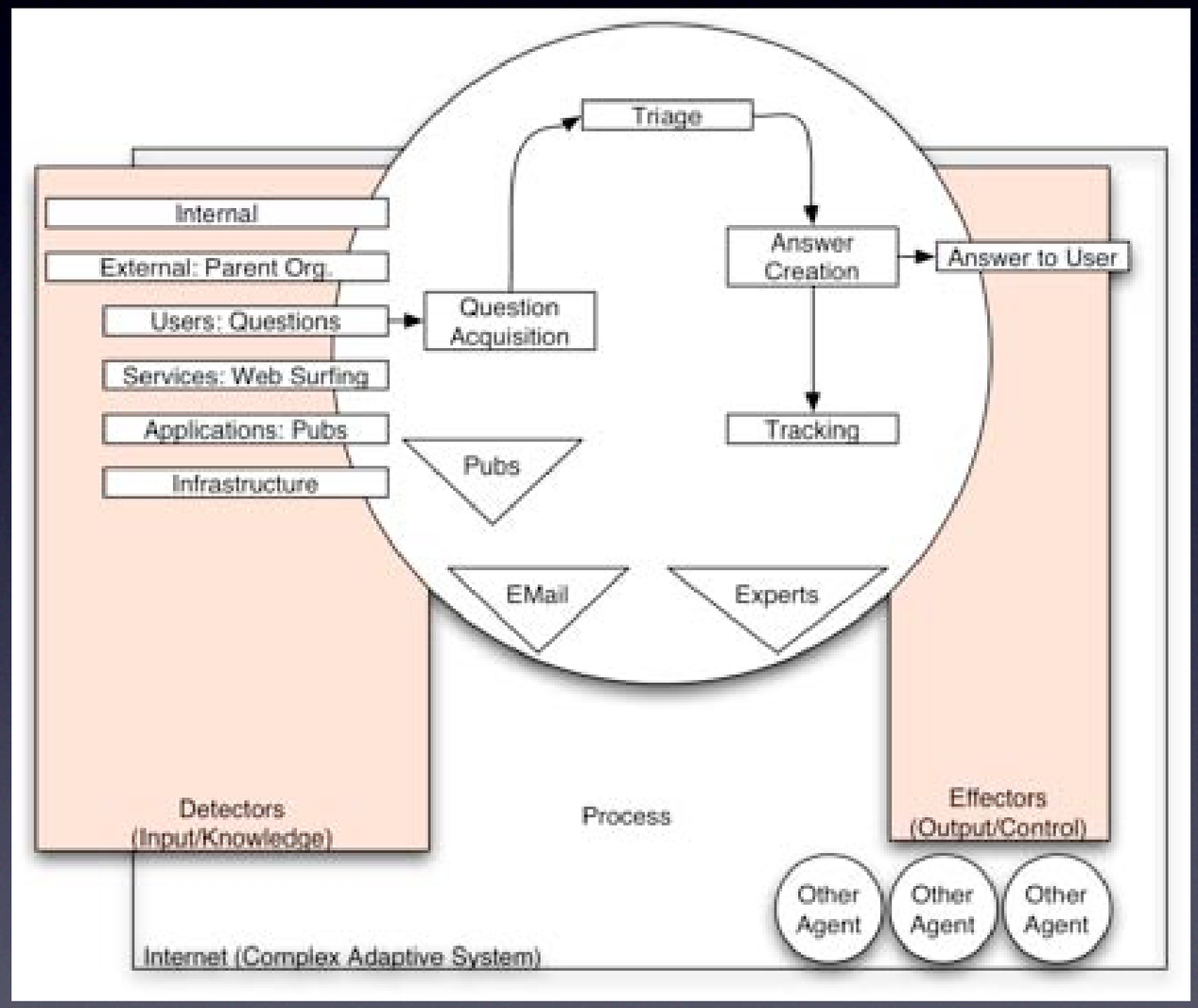
- Raise Visibility
- Demonstrate Innovation

Purpose, External

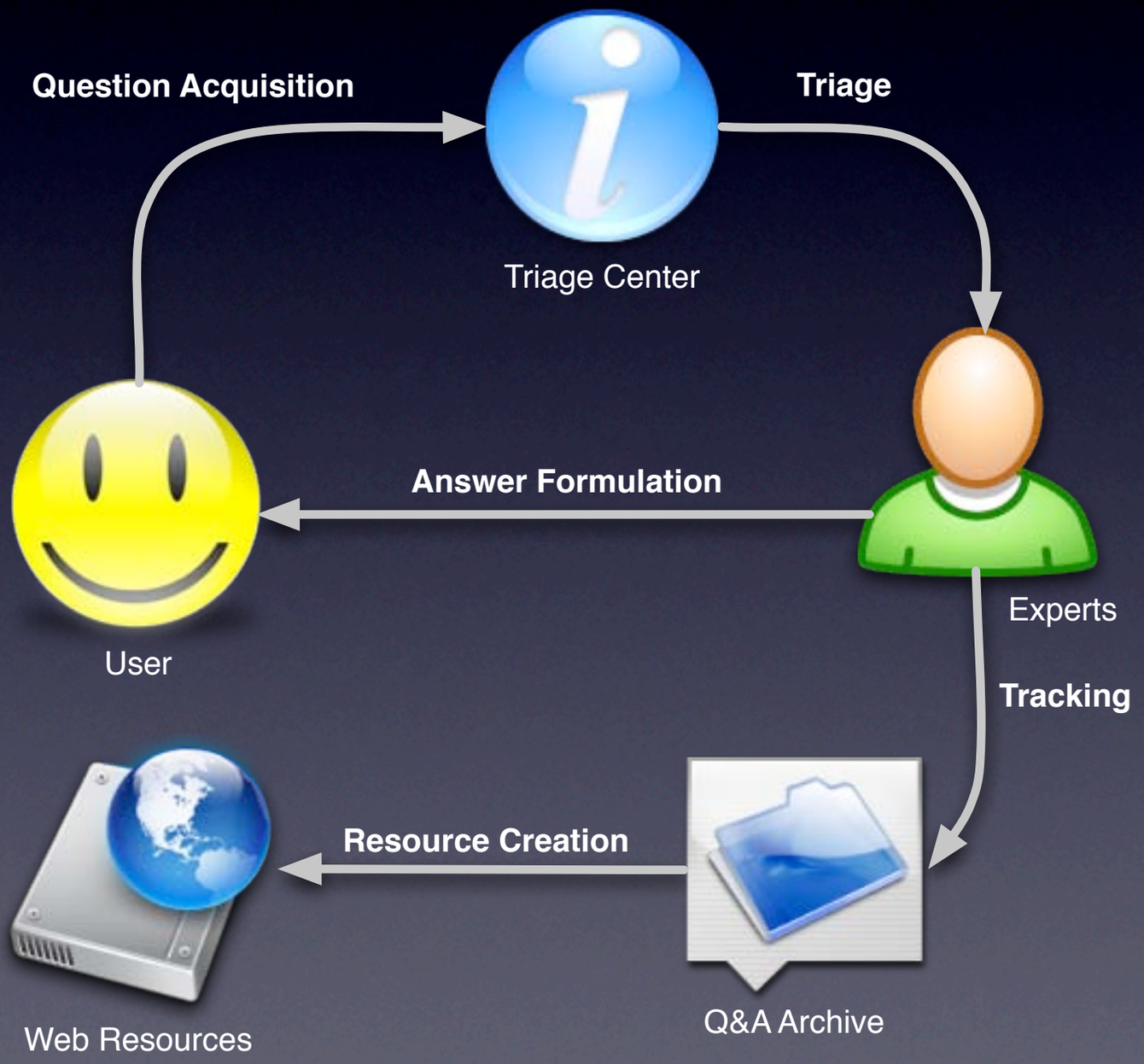
- Raise Visibility
- Demonstrate Innovation
- Provide Expanded Service
  - Time: Use Time Zones to Your Advantage
  - Expertise: Disconnect Reference from a Physical Collection

General Digital Reference Model

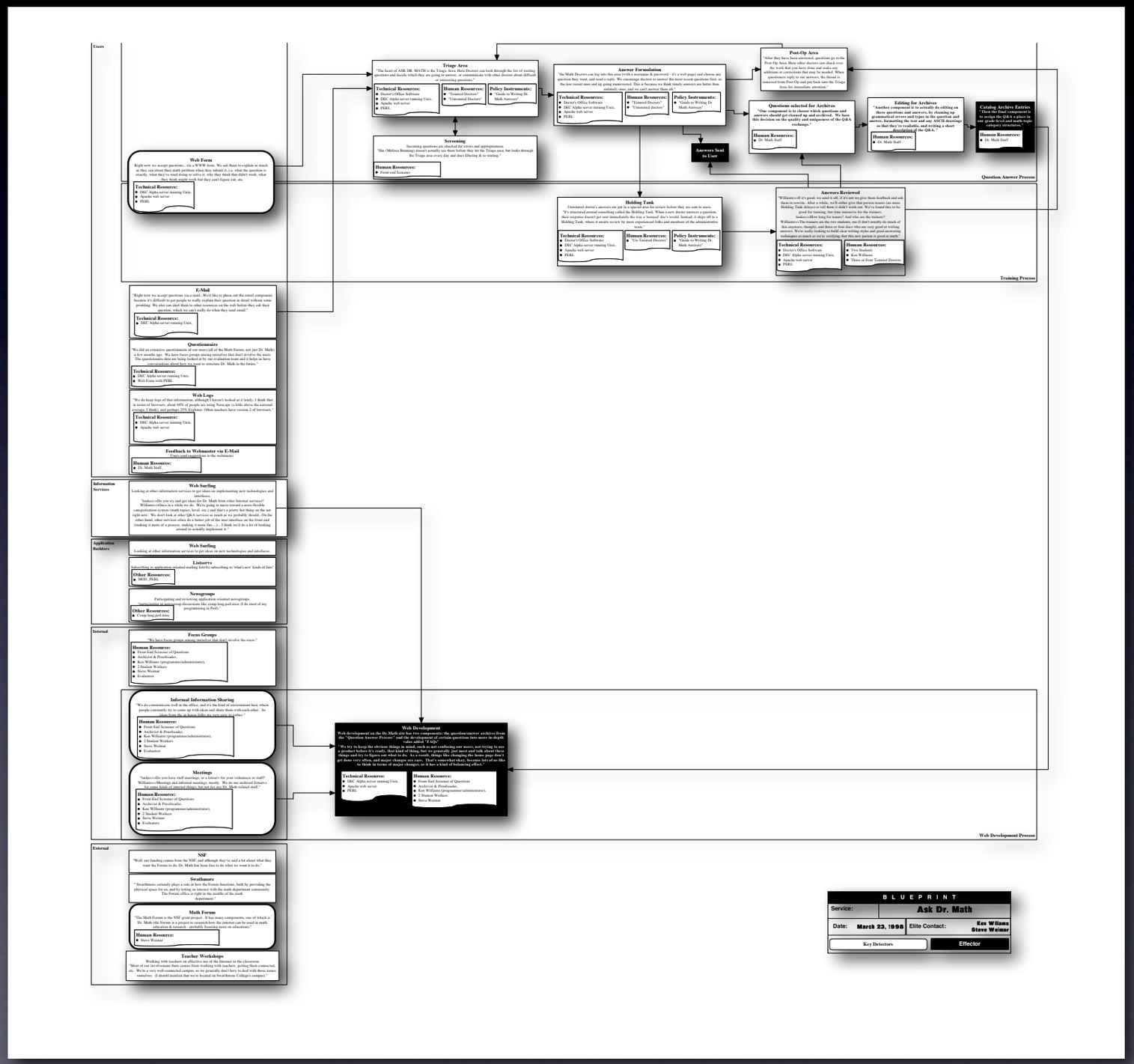
General Digital Reference Model



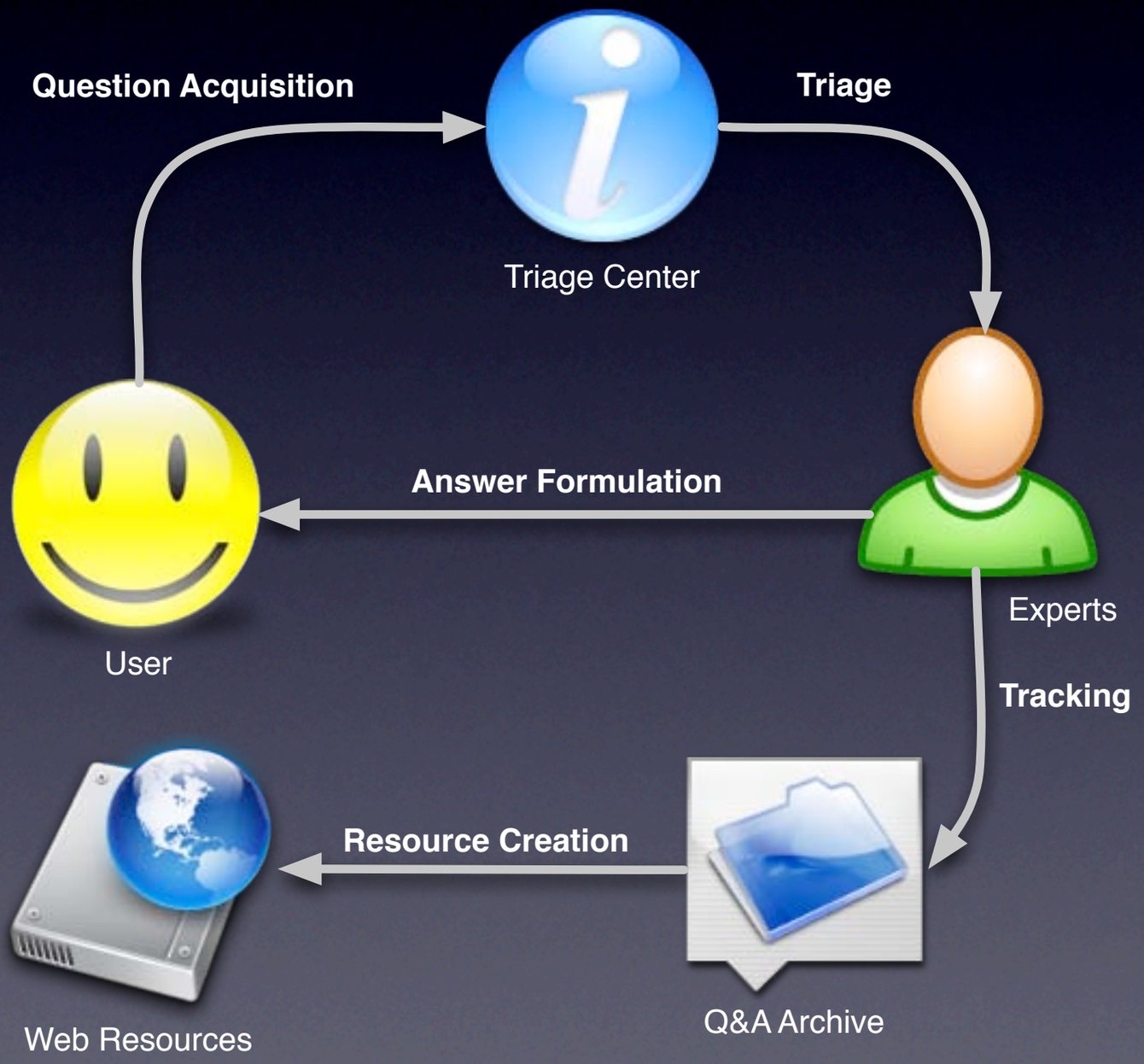
General Digital Reference Model



Blueprints


Users
Triage Area
"The heart of ASK DR. MATH is the Triage Area, the place where Doctors can look through the list of waiting questions and decide which they are going to answer, communicate with other doctors about difficult or interesting questions."
Technical Resources:
Doctor's Office Software
DEC Alpha server running Unix.
Apache web server
PERL
Human Resources:
"Untrained Doctors"
"Untrained Doctors"
Policy Instruments:
"Guide to Writing Dr. Math Answers"
Screening
Incoming questions are checked for errors and appropriateness
"She (Melissa Running) doesn't actually see them before they hit the Triage area, but looks through the Triage area every day and does filtering & re-routing."
Human Resources:
Front-end Scrooner
Answer Formulation
"the Math Doctors can log into this area (with a username & password - it's a web page) and choose any questions they want, and send a reply. We encourage doctors to answer the most recent questions first, so the less recent ones end up going unanswered. This is because we think timely answers are better than untimely ones, and we can't answer them all."
Technical Resources:
Doctor's Office Software
DEC Alpha server running Unix.
Apache web server
PERL
Human Resources:
"Untrained Doctors"
"Untrained Doctors"
Policy Instruments:
"Guide to Writing Dr. Math Answers"
Answers Sent to User
Post-Op Area
"After they have been answered, questions go to the Post-Op Area. Here other doctors can check over the work that you have done and make any additions or corrections that may be needed. When questioners reply to our answers, the thread is removed from Post-Op and put back into the Triage Area for immediate attention."
Questions selected for Archives
"One component is to choose which questions and answers should get cleaned up and archived. We base this decision on the quality and uniqueness of the Q&A exchange."
Human Resources:
Dr. Math Staff
Editing for Archives
"Another component of our archiving is editing on three questions: it involves tidying up grammatical errors and typos in the question and answer, formatting the text and any ASCII drawings so that they're readable, and writing a short description of the Q&A. "
Human Resources:
Dr. Math Staff
Catalog Archives Entries
"Then the final component is to assign the Q&A a place in our grade-level and math-topic category structures."
Human Resources:
Dr. Math Staff
Question Answer Process
Web Form
Right now we accept questions - via a WWW form. We ask them to explain as much as they can about their math problem when they submit it, i.e. what the question is exactly, what they've been doing to solve it, why they think that didn't work, what [illegible] kind might be, but they can't figure out, etc.
Technical Resource:
DEC Alpha server running Unix.
Apache web server
PERL
Holding Tank
Untrained doctor's answers are put in a special area for review before they are sent to users.
"It's structured around something called the Holding Tank. When a new doctor answers a question, their response doesn't get sent immediately to a waiting user. It is instead routed to a page off to a Holding Tank, where it awaits review by more experienced folks and members of the administrative team."
Technical Resources:
Doctor's Office Software
DEC Alpha server running Unix.
Apache web server
PERL
Human Resources:
"On Untrained Doctors"
Policy Instruments:
"Guide to Writing Dr. Math Answers"
Answers Reviewed
"Williams<<If it's good, we send it off, if it's not we give them feedback and ask them to rewrite. After a while, we'll either give that person tenure (no more Holding Tank delays) or tell them it didn't work out. We've found this to be good for training, but time-sensitive for the trainees."
Jacobsen<<Do you have any sense of the error rates?
Williams<<The trainees are the two students, me (I don't usually do much of this anymore, though), and three or four docs who are very good at writing answers. We're really looking to build clear writing styles and good answering techniques as much as we're verifying that this new person is good at math."
Technical Resources:
Doctor's Office Software
DEC Alpha server running Unix.
Apache web server
PERL
Human Resources:
Two Students
Ken Williams
Three or Four Tenured Doctors
Training Process
E-Mail
"Right now we accept questions via e-mail. We'd like to phase out the email component, because it's difficult to get people to really explain their question in detail without some prodding. We also can alert them to other resources on the web before they ask their question, which we can't really do when they send email."
Technical Resource:
DEC Alpha server running Unix.
Questionnaire
"We did an extensive questionnaire of our users (all of the Math Forum, not just Dr. Math) a few months ago. We have focus groups among ourselves that don't involve the users. The questionnaire data are being looked at by our evaluation team and it helps us have conversations about how we need to structure Dr. Math in the future."
Technical Resource:
DEC Alpha server running Unix.
Web Form with PERL
Web Logs
"We do keep logs of that information, although I haven't looked at it lately. I think that in terms of browsers, about 60% of people are using Netscape (a little above the national average, I think), and perhaps 25% Explorer. Often teachers have version 2 of browsers."
Technical Resource:
DEC Alpha server running Unix.
Apache web server
Feedback to Webmaster via E-Mail
Users send requests to us by the 'webmaster'
Human Resource:
Dr. Math Staff
Information Services
Web Surfing
Looking at other information services to get ideas on implementing new technologies and interfaces.
"Jankee<<Do you try and get ideas for Dr. Math from other Internet services?
Williams<<Once in a while we do. We're going to move toward a more flexible categorization system (math topics, level, etc.) and that's a pretty hot thing on the net right now. We don't look at other Q&A services as much as we probably should...On the other hand, other services often do a better job of the user interface on the front end (making it more of a process, making it more fun,...). I think we'd do a lot of looking around to actually implement it."
Application Builders
Web Surfing
Looking at other information services to get ideas on new technologies and interfaces.
Listservs
Subscribing to applications-oriented mailing lists/by subscribing to 'what's new' kinds of lists'
Other Resources:
MOO, PERL
Newsgroups
Participating and reviewing application-oriented newsgroups.
"participation in newsgroup discussions like comp.lang.perl.misc (I do most of my programming in Perl)."
Other Resources:
Comp.lang.perl.misc
Internal
Focus Groups
"We have focus groups among ourselves that don't involve the users."
Human Resources:
Front-End Scrooner of Questions
Archivist & Proofreader,
Ken Williams (programmer/administrator),
2 Student Workers
Steve Weimar
Evaluators
Informal Information Sharing
"We do communicate well in the office, and it's the kind of environment here where people constantly try to come up with ideas and share them with each other. So ideas from the in-house folks are very easy to effect."
Human Resource:
Front-End Scrooner of Questions
Archivist & Proofreader,
Ken Williams (programmer/administrator),
2 Student Workers
Steve Weimar
Evaluators
Meetings
"Jankee<<Do you have staff meetings, or a future for your volunteers or staff?
Williams<<Meetings and informal meetings, mostly. We do use archived listservs and newsgroups for internal things, but not for any Dr. Math-related stuff."
Human Resource:
Front-End Scrooner of Questions
Archivist & Proofreader,
Ken Williams (programmer/administrator),
2 Student Workers
Steve Weimar
Evaluators
Web Development
Web development on the Dr. Math site has two components: the question/answer archives from the "Question Answer Process" and the development of certain questions into more in-depth value added "FAQs"
"We try to keep the obvious things in mind, such as not confusing our users, not trying to use a product before it's ready, that kind of thing, but we generally just meet and talk about these issues and then implement changes. Because we're a relatively small group, changes can get done very often, and major changes are rare. That's somewhat okay, because lots of us like to think in terms of major changes, so it has a kind of balancing effect."
Technical Resource:
DEC Alpha server running Unix.
Apache web server
PERL
Human Resource:
Front-End Scrooner of Questions
Archivist & Proofreader,
Ken Williams (programmer/administrator),
2 Student Workers
Steve Weimar
Web Development Process
External
NSF
"Well, our funding comes from the NSF, and although they've said a lot about what they want the Forum to do, Dr. Math has been free to do what we want it to do."
Swathmore
" Swarthmore certainly plays a role in how the Forum functions, both by providing the physical space for us, and by letting us interact with the math department community. The Forum office is right in the middle of the math department."
Math Forum
"The Math Forum is the NSF grant project. It has many components, one of which is Dr. Math (the Forum is a project to research how the internet can be used in math education & research - probably focusing more on education)."
Human Resource:
Steve Weimar
Teacher Workshops
Working with teachers on effective use of the Internet in the classroom
"Most of our involvement there comes from working with teachers, getting them connected, etc. We're a very well-connected campus, so we generally don't have to deal with those issues ourselves. (I should mention that we're located on Swarthmore College's campus)."
BLUEPRINT
Service: Ask Dr. Math
Date: March 23, 1998
Elite Contact: Ken Wiliams
Steve Weimar
Key Detectors
Effector

General Digital Reference Model



Question Acquisition

- How Do Users Ask Questions
- Modes: IM, E-Mail, Web?
- Integrated with Other Reference?
- Web Forms

VR Modes

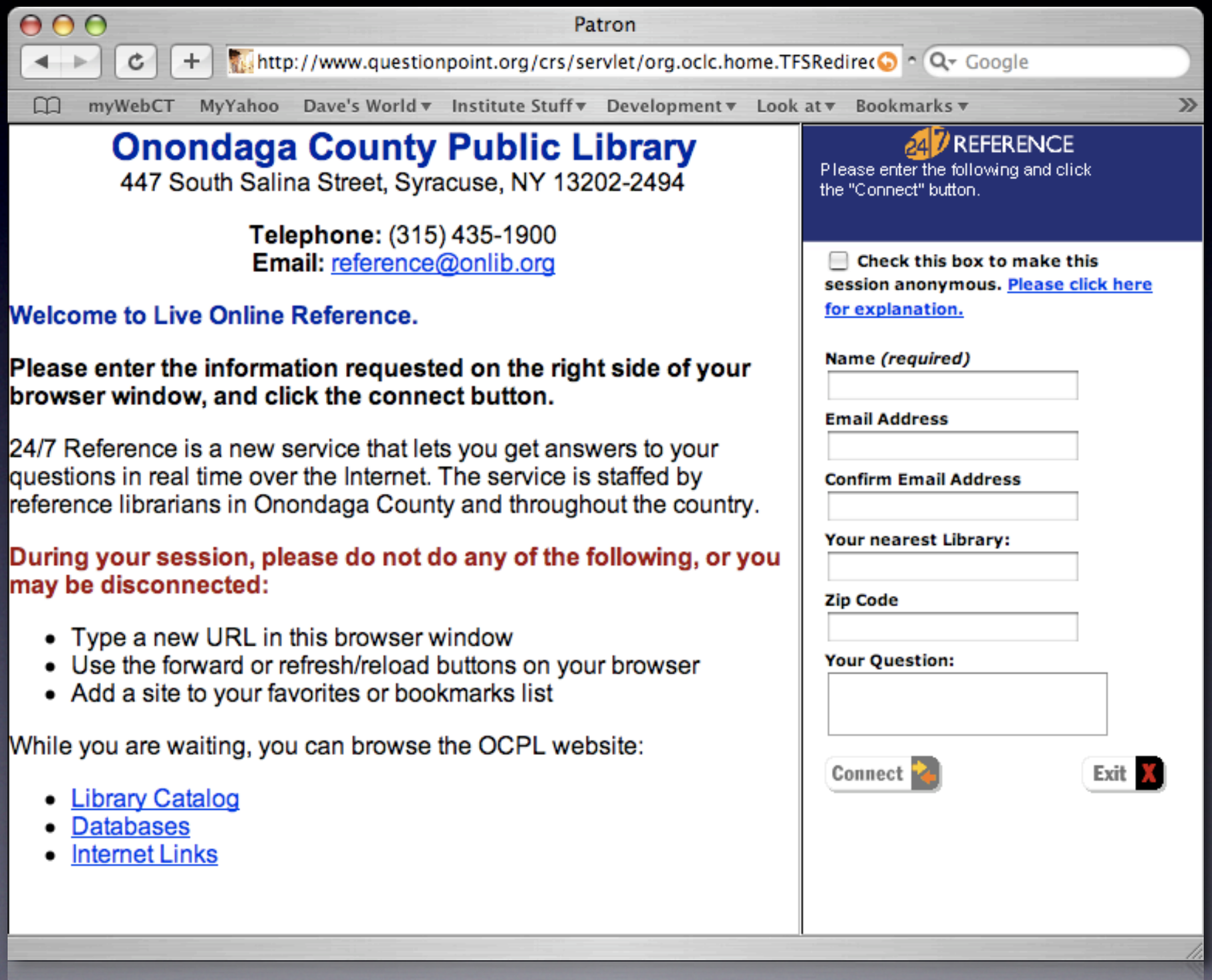
- Commercial “Chat” VR Software
- E-Mail
- IM
- Blogs
- Custom Web Applications

“Chat”

- Library Centric Software
  - Good: Matches Needs and Expectations of the Library Community
- Bad: Doesn’t Match Anyone Else’s

http://207.21.232.103/pdfs/Internet_Status_2005.pdf

Typical

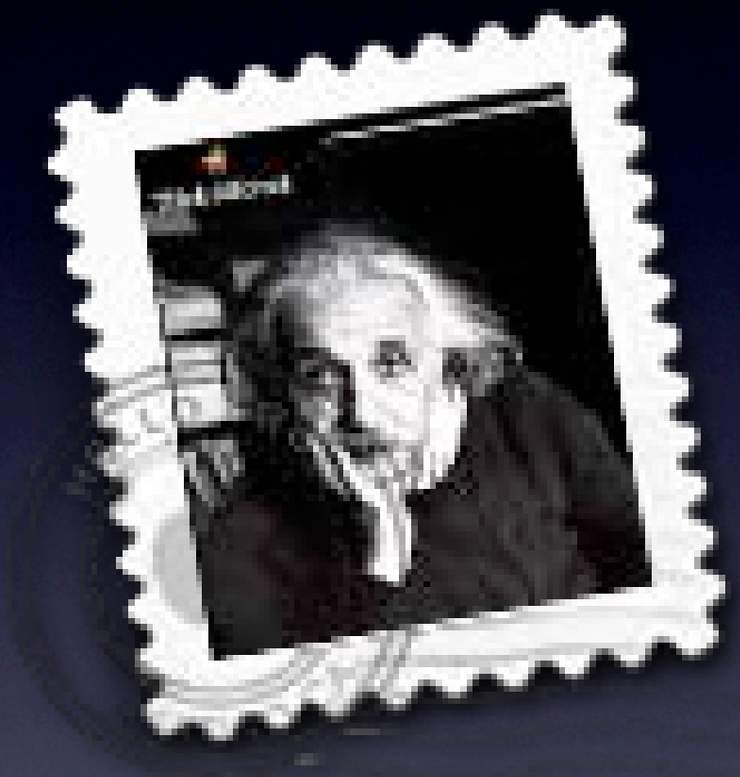

Patron
http://www.questionpoint.org/crs/servlet/org.oclc.home.TFSRedirec
Google
myWebCT
MyYahoo
Dave's World
Institute Stuff
Development
Look at
Bookmarks
Onondaga County Public Library
447 South Salina Street, Syracuse, NY 13202-2494
Telephone: (315) 435-1900
Email: reference@onlib.org
Welcome to Live Online Reference.
Please enter the information requested on the right side of your browser window, and click the connect button.
24/7 Reference is a new service that lets you get answers to your questions in real time over the Internet. The service is staffed by reference librarians in Onondaga County and throughout the country.
During your session, please do not do any of the following, or you may be disconnected:
Type a new URL in this browser window
Use the forward or refresh/reload buttons on your browser
Add a site to your favorites or bookmarks list
While you are waiting, you can browse the OCPL website:
Library Catalog
Databases
Internet Links
24/7 REFERENCE
Please enter the following and click the "Connect" button.
Check this box to make this session anonymous. Please click here for explanation.
Name (required)
Email Address
Confirm Email Address
Your nearest Library:
Zip Code
Your Question:
Connect
Exit

Commercial "Chat"

Pros	Cons
Meets Expectations of Librarians	Meets No One Else's Scripts
Archives	Archives on Hosted Servers
Queuing	
Statistics	

E-Mail

- 58 Million Americans do E-Mail at Least Once a Day - Number 1 Activity



http://207.21.232.103/pdfs/Internet_Status_2005.pdf

E-Mail

Pros	Cons
Part of Daily Workflow	So is Spam
Accommodates Rich Media Types	Like Viruses
Well Established Protocols	Set in the 1980's

Instant Messaging

- 53 million adults trade instant messages and 24% of them swap IMs more frequently than email. IM also gains a following in workplaces

http://www.pewinternet.org/pdfs/PIP_Instantmessage_Report.pdf

Instant Messaging

Pros	Cons
Free	Proprietary (are you violating terms of service?)
Real Time	No Queuing
Cross Platform	Limited Media Types
Can Create Trascripts	Data Stored by Company

Blogs

- 7% (8 million people) of the 120 million U.S. adults who use the internet have created a blog
- 27% of internet users say they read blogs
- 5% of internet users say they use RSS aggregators or XML readers
- 12% of internet users have posted comments or other material on blogs.

http://www.pewinternet.org/pdfs/PIP_blogging_data.pdf

Blogs

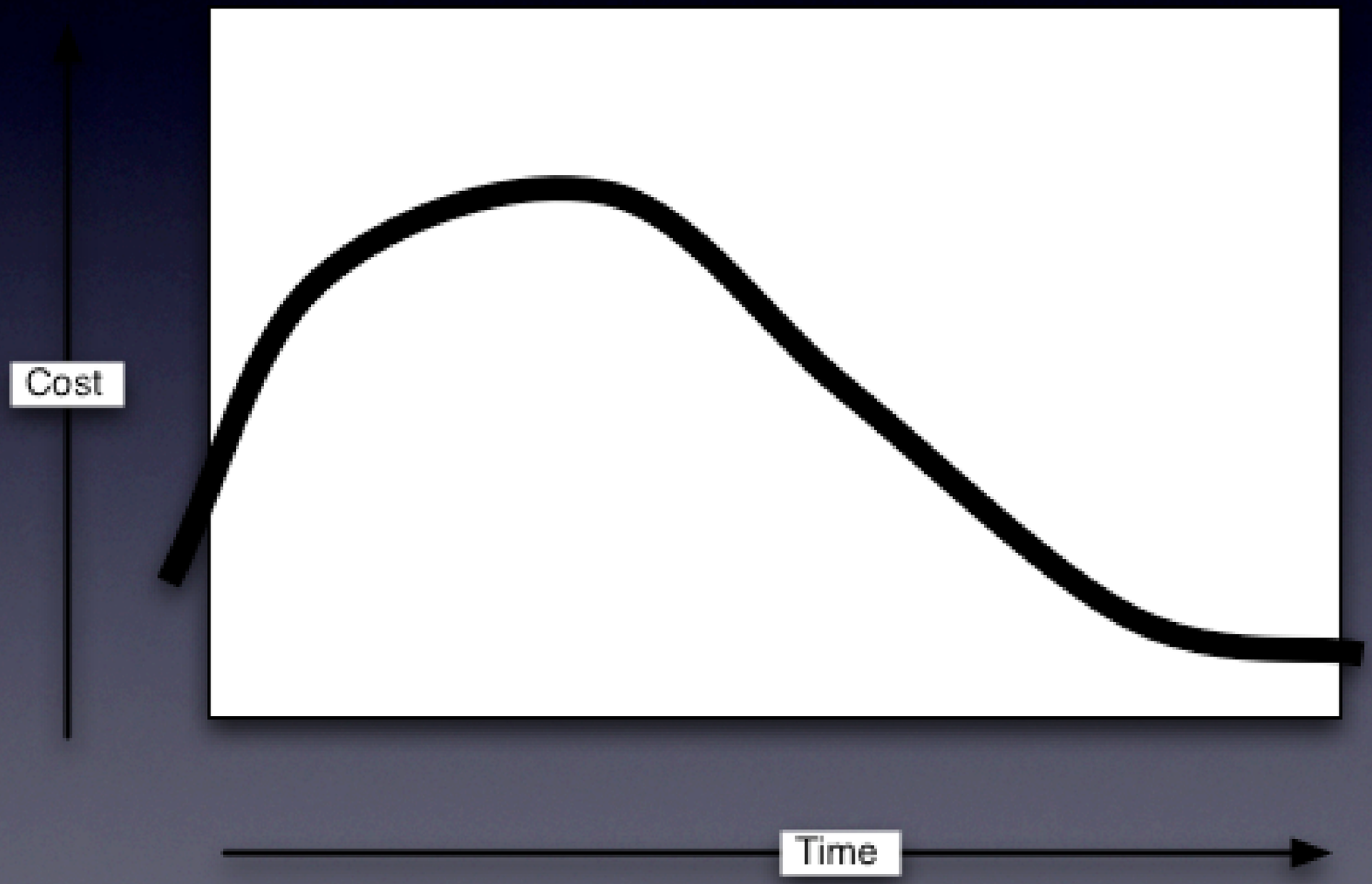
Pros	Cons
Easy to Update	Built for Diaries
Built in Comments	Comment Spam
RSS	Hard to Highlight Comments
Modifiable	PHP Knowledge Needed

Custom Web Apps

- Do not be Afraid
- Rise of Open Source and LAMP

http://207.21.232.103/pdfs/Internet_Status_2005.pdf

Costs on a Curve



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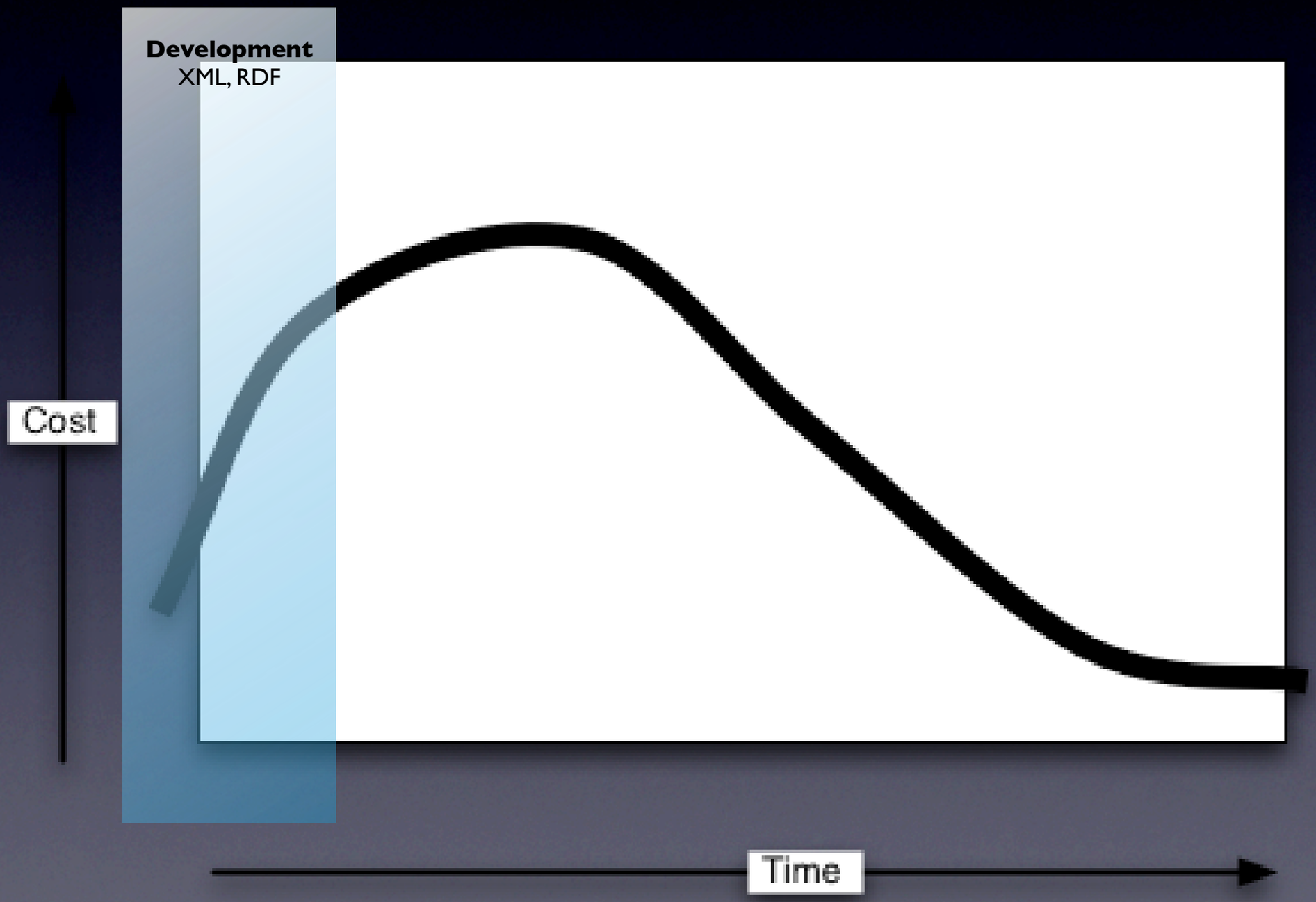

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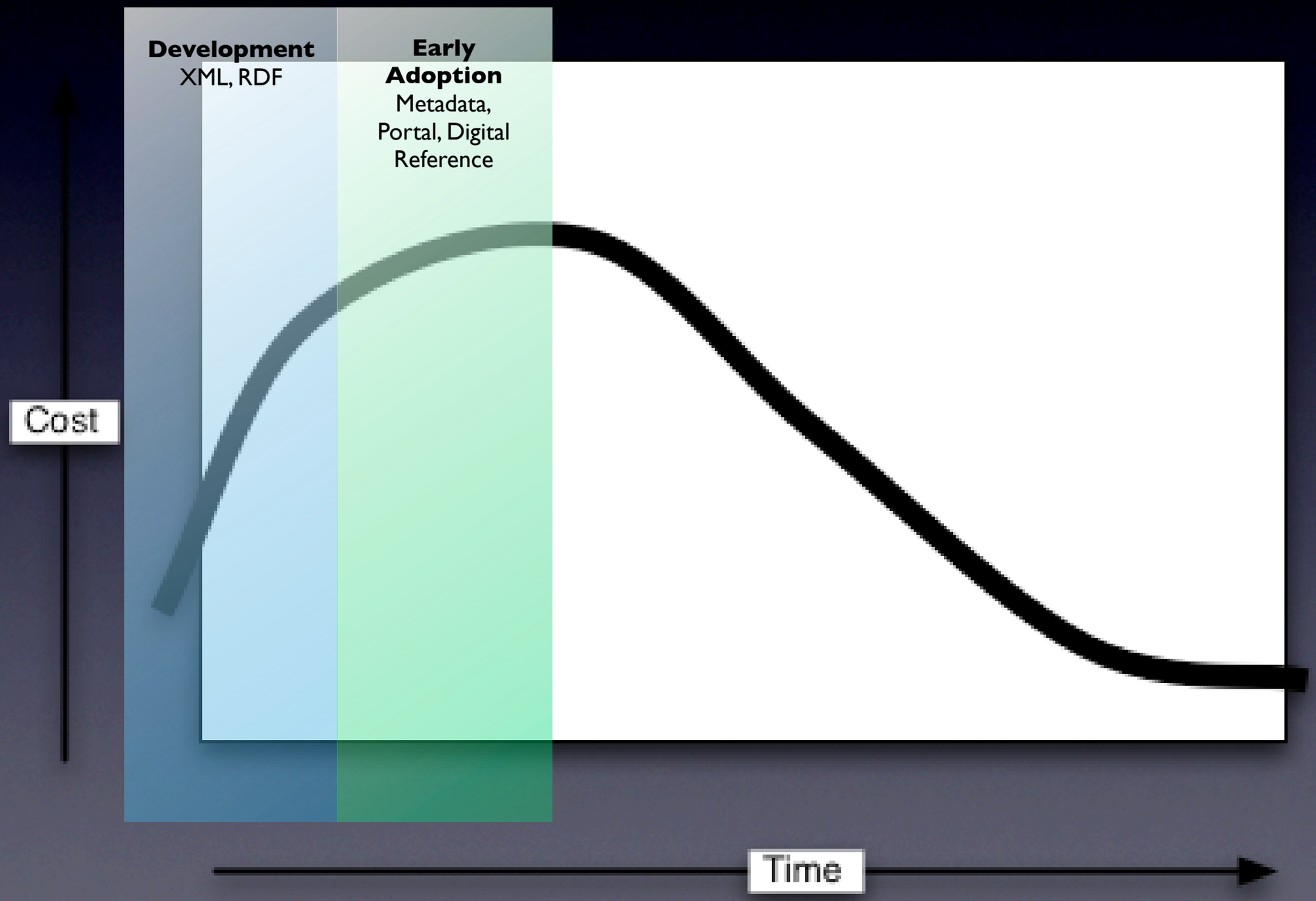
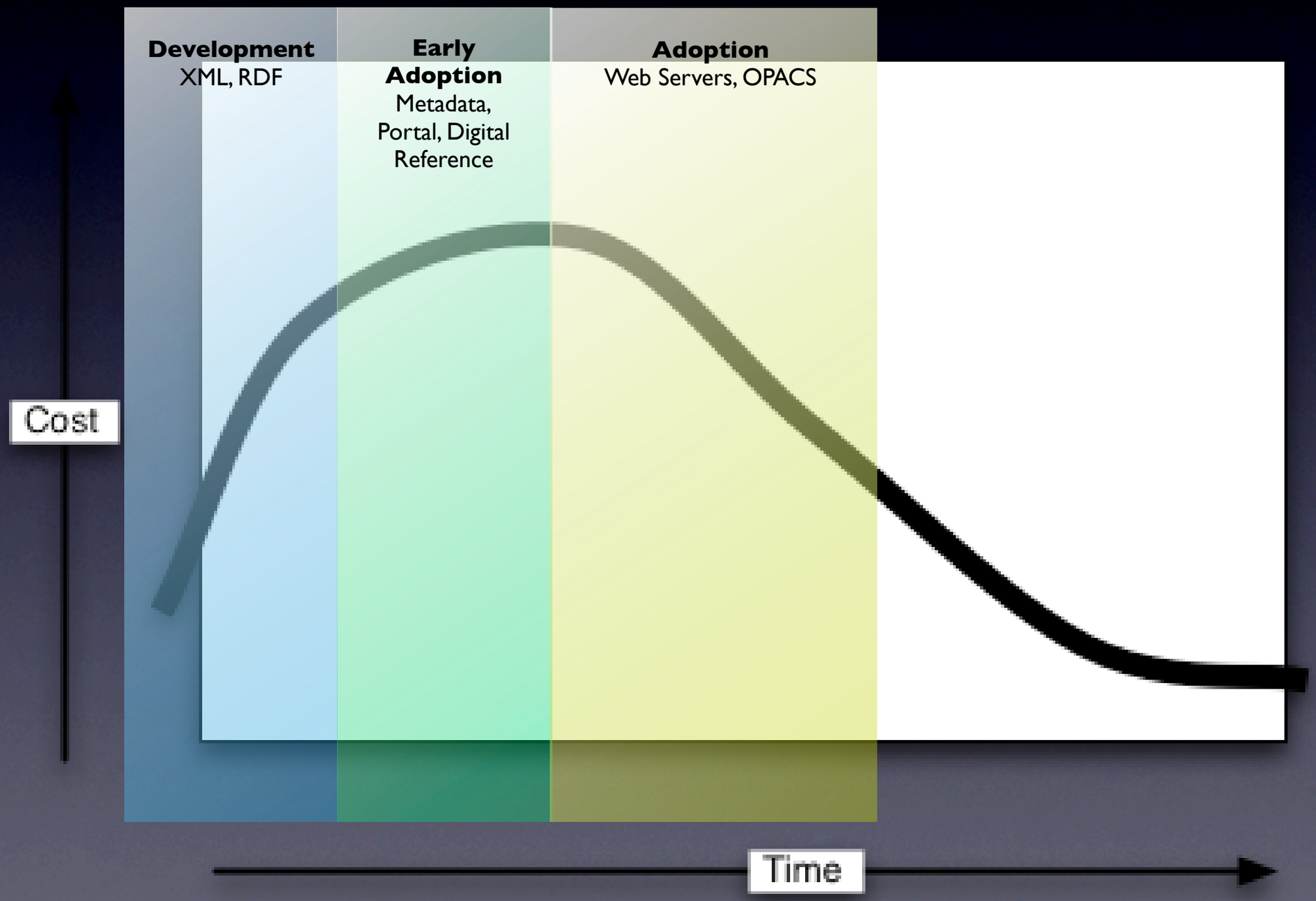
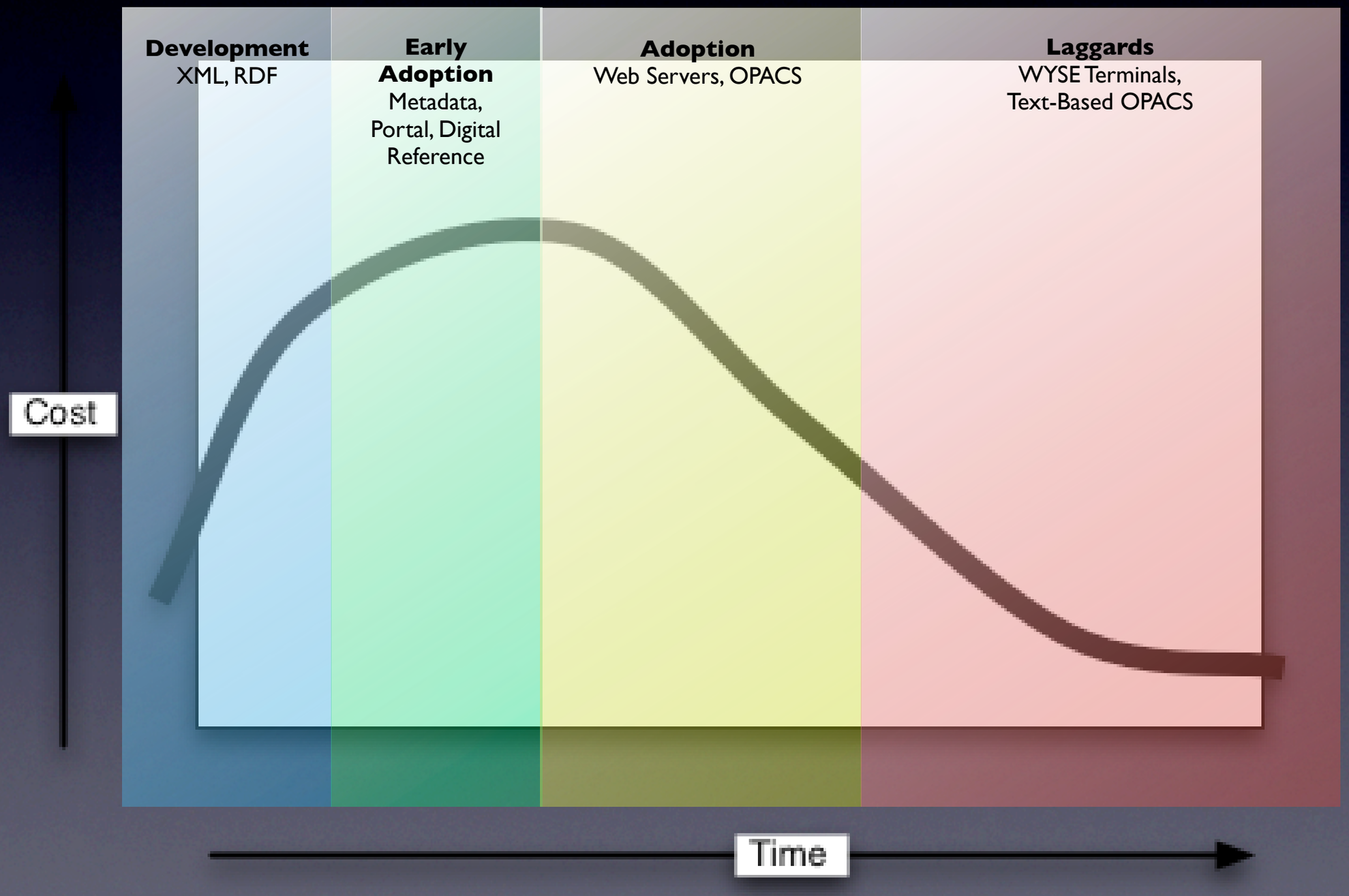


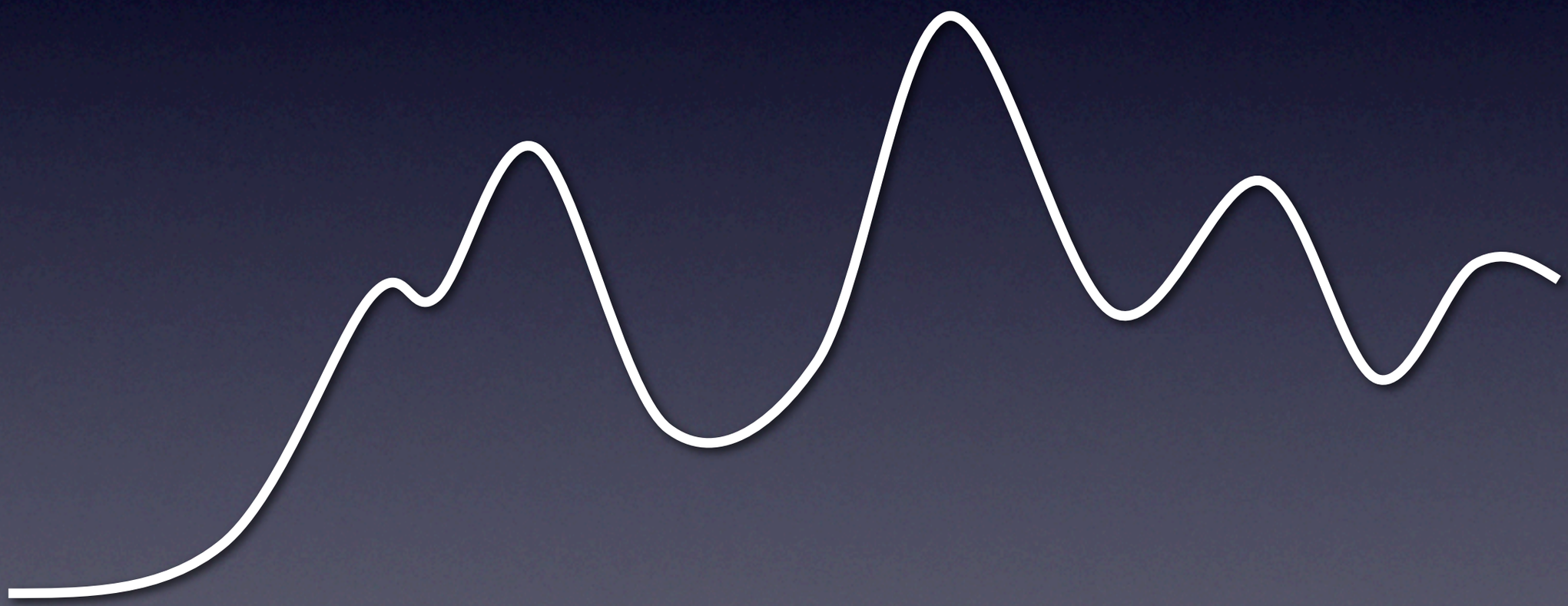
Costs on a Curve



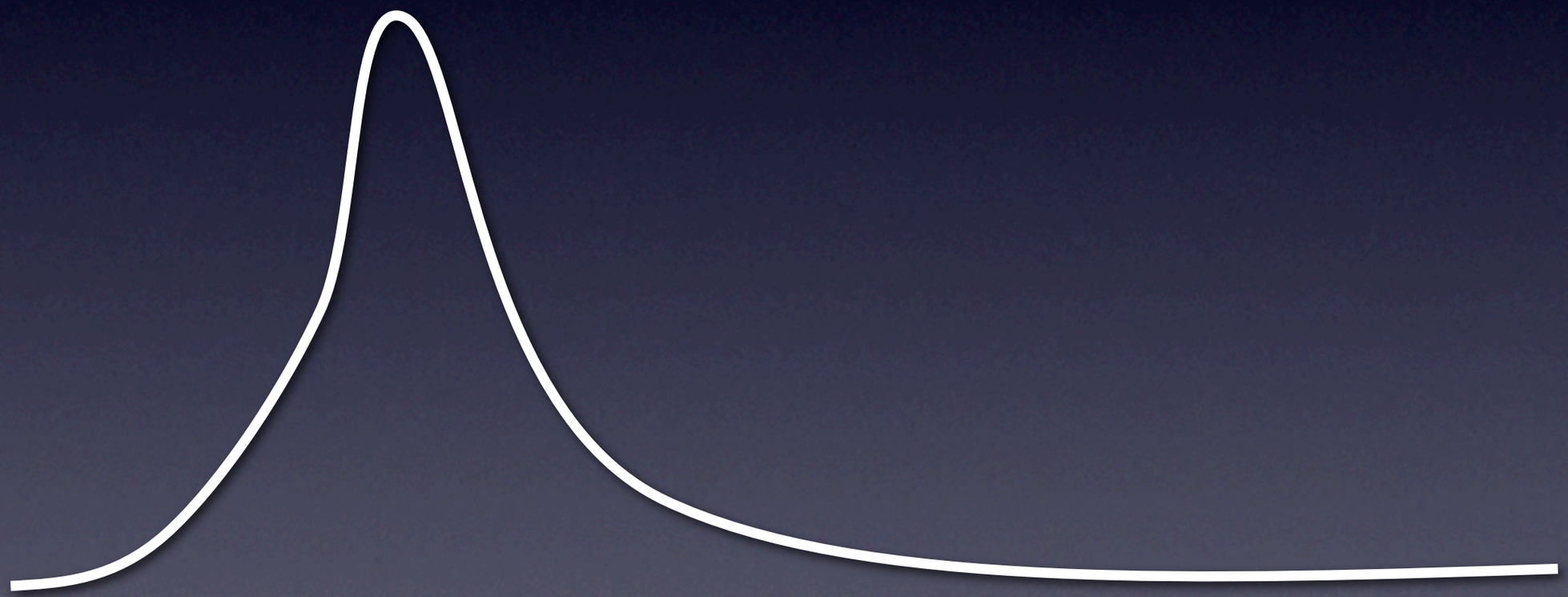
Costs on a Curve



Learning Curve



Learning Curve with Web Development Environments



Learning Curve with Web Development Environments?

- OS Integration
- Database
- Web Server
- Scripting Engine

Proprietary Solutions

Microsoft

- .ASP, .NET
- OS: Windows
- Database: MSSQL, Access
- Web Server: IIS
- Scripting Engine: ASP

Macromedia

- ColdFusion
- OS: Windows, Linux, Unix
- Database: Various
- Scripting Engine: Coldfusion

Advantages

- Software Reuse
- Basic Services: Security, Backup, Statistics, etc.
- Built-in Functions: Database Connectivity, Display, XML, etc.

Disadvantages

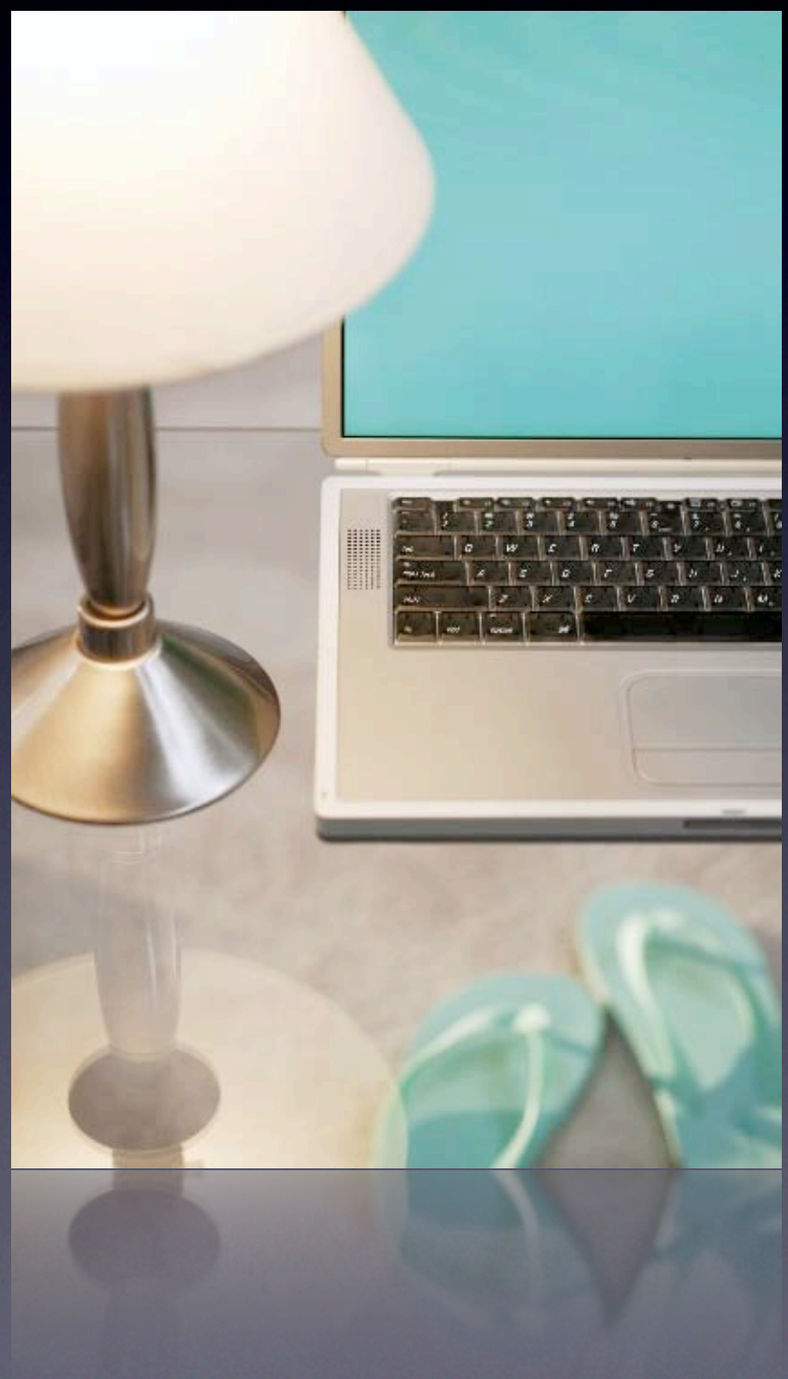
- Locked Into Vendor Design Path and Timeline
- OS Lock-In
- Limited Ability to Disseminate Product
  - Expensive to Replicate Environment

Open Source Advantages

- A Great Deal of Pre-Existing and Diverse Work
- Large Scale Distributed Building Community
- Increasingly Sophisticated Systems
- Increasingly Standardized Development/ Implementation Environment

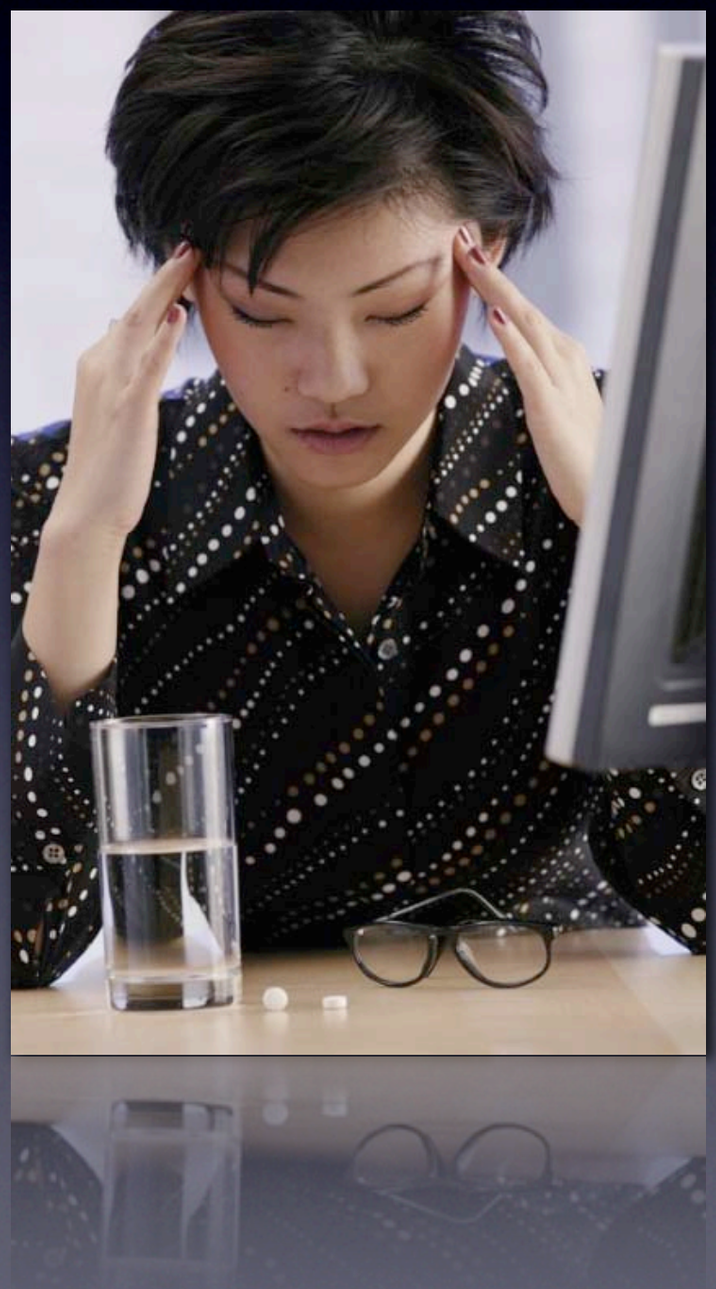
LAMP Emerges

- Linux - OS Integration
- Apache - Web Server
- MySQL - Database
- PHP, PERL, or Python - Scripting Engine

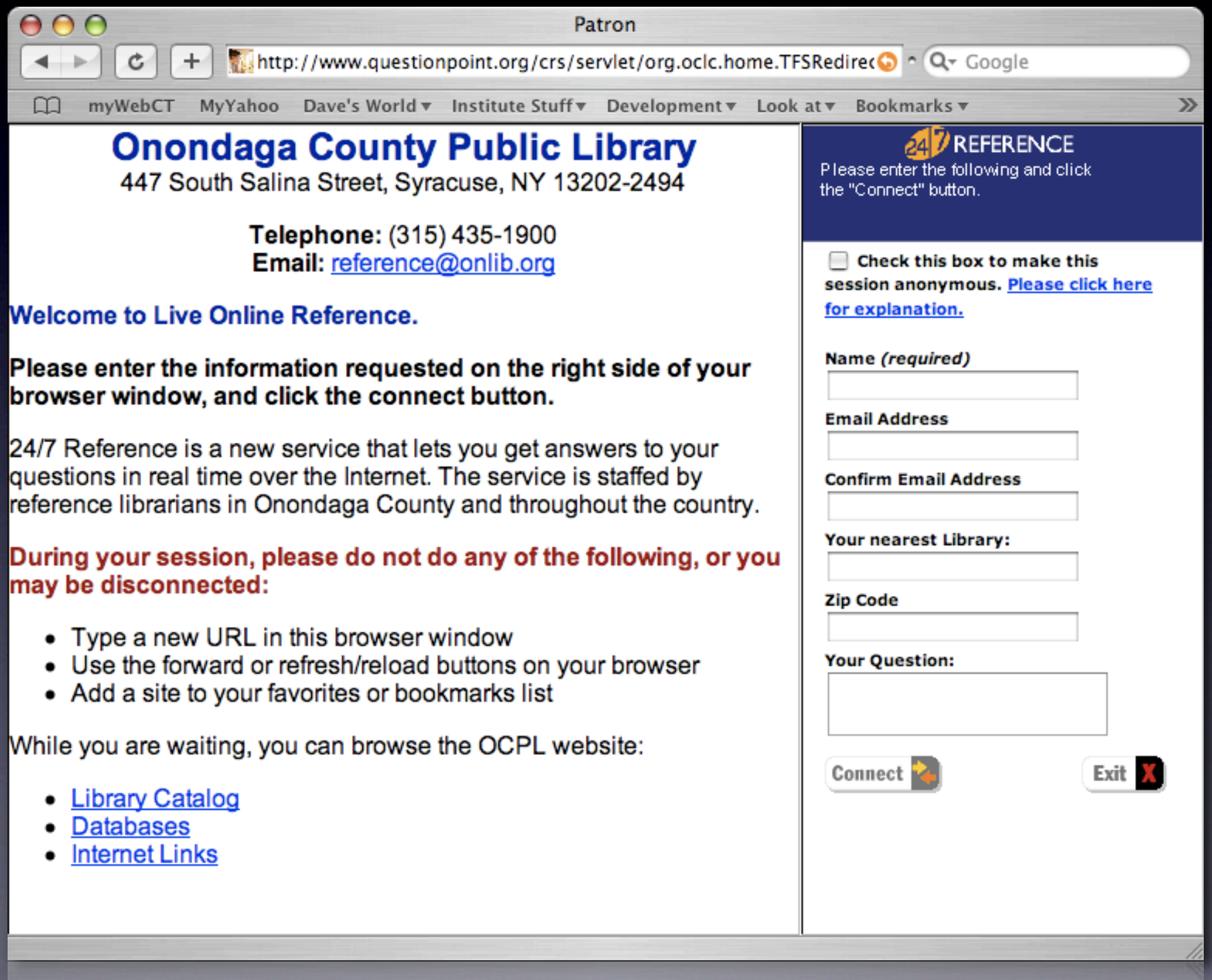


So What Will Your Form Look Like?

- Your Face on the Internet IS the first Step in a Reference Interview



Typical


Patron
http://www.questionpoint.org/crs/servlet/org.oclc.home.TFSRedirec
Google
myWebCT
MyYahoo
Dave's World
Institute Stuff
Development
Look at
Bookmarks
Onondaga County Public Library
447 South Salina Street, Syracuse, NY 13202-2494
Telephone: (315) 435-1900
Email: reference@onlib.org
Welcome to Live Online Reference.
Please enter the information requested on the right side of your browser window, and click the connect button.
24/7 Reference is a new service that lets you get answers to your questions in real time over the Internet. The service is staffed by reference librarians in Onondaga County and throughout the country.
During your session, please do not do any of the following, or you may be disconnected:
Type a new URL in this browser window
Use the forward or refresh/reload buttons on your browser
Add a site to your favorites or bookmarks list
While you are waiting, you can browse the OCPL website:
Library Catalog
Databases
Internet Links
24/7 REFERENCE
Please enter the following and click the "Connect" button.
Check this box to make this session anonymous. Please click here for explanation.
Name (required)
Email Address
Confirm Email Address
Your nearest Library:
Zip Code
Your Question:
Connect
Exit

Accessibility Info
Subject Collections
Arts & Humanities
Business
Computers
Education
Entertainment
Health
Law & Government
Regional
Science & Tech
Social Science
Ready Reference
Almanacs
Calendars
Dictionaries
More...
Reading Room
Books
Magazines
Newspapers
KidSpace
TeenSpace
Special Collections
Blogs
Literary Criticism
Science Fair
More...
Searching Tools
FARQs
Pathfinders
Search this Site
Web Searching
About the IPL
IPL Audio/Video Tours
Teach with the IPL
Contact Us
Ask a Question

W3C XHTML 1.0
W3C CSS

IPL Ask A Question Form

Need an answer fast? Hundreds of our most popular questions and answers are listed on our Frequently-Asked Reference Questions pages.

Want to know more about how the IPL "Ask a Question" Service works?

Please review our Privacy Statement before submitting your question.

* required information

Name*		
E-mail*	Provide a complete e-mail address (**example:** *fluggly@aol.com*) so that we can reply.	If you have parental or mail controls turned on, please add *iplref@ipl.org* to your allowed mail list.
Confirm e-mail*	Enter the **same e-mail address** here as you did **above.**	This helps to ensure that we have your correct e-mail address, and that you will receive a reply as quickly as possible.
Where do you live?		Knowing where you live helps us recommend resources that are relevant, and accessible, to your area.
Deadline for reply*	No Need By Date †**3 days** are usually needed for us to reply.	†If you need an answer in less than 3 days, please consider these other resources instead of the IPL.
Subject*	select...	
How will you use this information? *		Understanding the context and scope of your information needs helps us to deliver an answer that you will find useful.
Is this for a school assignment?	Yes No	
Your question*		A human being will read your question, so please use complete sentences. The more you tell us, the better the answer will be. What do you already know about your subject or question?
Sources already consulted		Knowing where you've already looked will help us keep from sending you someplace you've already been.

Submit Question

Please review our Privacy Statement before submitting your question.

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This page was last modified on 23 Feb 2006.

Ask a Librarian (Library of Congress)

http://www.loc.gov/rr/askalib/

Google

myWebCT MyYahoo Dave's World Institute Stuff Development Look at Bookmarks

Library of Congress >> Especially for Researchers

Ask a librarian...

Chat with a Librarian

an online reference service from the Library of Congress

Reference Correspondence Policy - Error Reports - Virtual Reference Shelf - Virtual Programs and Services

Select a link below, based on the subject of your question:

General Collections

- Business
- Humanities/Social Sciences
- Law NEW!
- Local History/Genealogy
- Newspapers/Periodicals
- Science/Technology

International Collections

- African/Middle Eastern
- Asian
- European
- Hispanic *(select a language)*:
  - English
  - Español
  - Português

Special Formats & Genre

- American Folklife Center
- Geography & Maps
- Manuscript
- Microform
- Motion Pictures & Television
- Music & Performing Arts
- Prints & Photographs
- Rare Books & Special Collections
- Recorded Sound

Digital Collections

- American Memory Historical Collections
- Digital Reference Team
- Learning Page (for K-12)

Other Library Programs and Services

- Access to Collections
- Borrowing Accounts
- Cataloging in Publication
- Copyright Registration and Programs
- Federal Research Division
- Interlibrary Loan
- Nat'l Library Service for Blind/Physically Handicapped
- Preassigned Card Numbers
- Photoduplication Service
- Preservation

- Still don't know where to send your question?

The Library of Congress

Search the Library's Web Site

Ask a librarian...

an online reference service from the Library of Congress

Digital Reference Team

Link to Home Page

Please read the following before you begin:

- You will receive a reply within five business days.
- This Ask a Librarian form uses QuestionPoint, a global, collaborative reference service. May we have your permission to forward your question outside the Library of Congress if necessary and to archive your question and corresponding answer? Yes
  (All personal information will be removed prior to archiving.)
- See the Library of Congress policy on privacy for further clarification.

Chat with a Librarian

Monday through Friday
2:00 - 4:00 PM
Eastern Time
(except Federal Holidays)
Today is
Friday March 24 10:20 AM

Questions

Ask a Question | Check Your Questions and Answers

Asterisk (*) denotes required field.

*E-mail Address:

*Confirm e-mail address:

*Question:

*Your Name:

*Reason for Research: Select one:

*Education Level: Select one:

Mailing Address:

*City and State/Province:

*Zip/Postal Code:

*Country:

Telephone Number:

Resources consulted (Where have you looked already?):

Ask

Please Note: Your reply will be sent via email. If you want to follow up, or check the progress of your answer, you will need to create a password the first time you visit our "Check your Questions and Answers" page. Use the address in the email notification you receive to set up your account.

Services we can provide
- Assistance using digital collections/services
- Assistance on searching the Library of Congress Online Catalog
- Response within 5 business days

Reporting errors to the Library
- *General errors:* use our error report form
- *Catalog/authority record errors:* use our Catalog/authority error report form

For other questions, try...
- The Virtual Reference Shelf - a selected listing of free Internet reference tools, compiled by the Library of Congress.
- For questions on using the Online Catalog, try the Frequently Asked Questions

Some questions are better answered elsewhere:
- Public Libraries - your local public libraries may offer online services for finding information.
- See the Library's MINERVA project or the Internet Archive.
- Technical information for American Memory; Digital Preservation and MARC Standards.

If you have any problems with this service, please use our Ask a Librarian Error Report Form.

Build Your Own

Pros	Cons
Control	Responsibility
You Pick Features	You Create Features
Lots of Open Source	Open Source “Support”
Not Hosted	Not Hosted

Triage

- Who Gets the Next Question? Who Decides?
- Automation Question Routing
  - Sandwich Interface: Question → Search → Expert
- Consortial Level Issues
  - Know who you are "triaging" to

Facets of Quality

User Transactions

- Accessible
- Prompt Turnaround
- Clear Response Policy
- Interactive
- Instructive

Service Development and Management

- Authoritative
- Trained Experts
- Private
- Reviewed
- Provides access to related information
- Publicize

Answer Formulation/ Experts

- Are All Librarians Equal
- Including Experts from Across the Academy
- Resources to Use in an Answer
- Answer Policies
  - Types of Answers, Appropriate Use

Tracking/Statistics

- Who Needs What Statistics?
- How Can we Anticipate Trends?
- How Can We Improve Quality?

Quality Standards

- Courtesy: The behaviour of the library or institution's staff
- Accuracy: The "correctness" of answers provided by a digital reference staff
- Satisfaction. Users determination of their success in interacting with the digital reference service
- Repeat Users: The percentage of users that re-use a service after first encounters
- Awareness: The population user group's knowledge that the service exists
- Cost: The cost per digital reference

Performance Measures

- Descriptive Statistics and Measures: Statistics and Measures to determine the scale and scope of a digital reference service.
- Log Analysis: Statistics that can be derived from analysis of logs generated by web and digital reference software packages
- User Satisfaction Measures: Statistics and metrics seeking to understand the user view of a digital reference service.
- Cost: Measures that gage outlay of financial resources to run an ongoing digital reference effort.
- Staff Time Expended: Measures to determine staff time dedicated to digital reference

Descriptive	Log	User	Cost	Staff
Number of digital reference questions received	Number of digital reference sessions	Awareness of Service	Cost of digital reference service	Percent of staff time spent overseeing technology
Number of digital reference responses	Usage of digital reference service by day of the week	Accessibility of service	Cost of digital reference service as a percent of total reference budget	Percent of staff time spent assisting users with technology
Number of digital reference answers	Usage of digital reference service by time of day	Expectations for service	Cost of digital reference service as a percent of total library or organizational budget	
Total reference activity	User's browser	Other sources user tried		
Percentage of digital reference questions to total reference questions	User's platform	Reasons for use		
Digital reference correct answer fill rate		Reasons for non use		
Digital reference completion rate		Satisfaction with staff		
Number of unanswered digital reference questions		Delivery mode satisfaction		
Type of digital reference questions received		Impact of service on user		
Total number of referrals		Additional services that need to be offered		
Saturation rate		User demographic data		
Sources used per question				
Repeat users (return rate)				

Resource Creation

- Take Back the Web!

TAKE THE WEB!

Mrs. Angelina Eberly firing off a cannon

Do You Have Control of the Web?

- Can You Update Information on Your Web Site in 15 Minutes - From any Computer? From Home? From Tokyo?
- How Many "Brands" are on Your Web Site?
  - Library, Academy, EBSCO, ISI, OCLC...
- Is "Your Web Site" and the Academy's the Same?
- What Does Your Site Promote...Librarians or Buildings?

Key Technologies

- RSS/Blogs
- Web/Wiki
- IM
  - “Chat Reference” is not chat
- E-Mail
- 4 Colour Offset Printers and Large Format Ink Jet Printers

“I'm not a cataloger”

“I'm not a cataloger”

Reference *IS* Tool Building

- Reference is a Delightful Island of Chaos in a See of Structure
- Pathfinders, Bibliographies
- Websites, Blogs, Wiki's
- Who is Better Qualified to Design Cross-Content systems?
- Open Source Comes to the Masses

BYOS: Build Your Own Search Engine

- Google "Roll Your Own"
- Lot's of Good Open Source Search Engine Packages
- Sphider
- Nutch

Beyond Reference

- Cataloguing as Customer Service
  - Organize Data and Materials for Faculty and Other Units
- Archiving and Preservation
- Document Management

Old Model

- Library as a Separate Process and Collection from the Academy's Core Business
- Enhance and Facilitate
- Emphasis on External Documents

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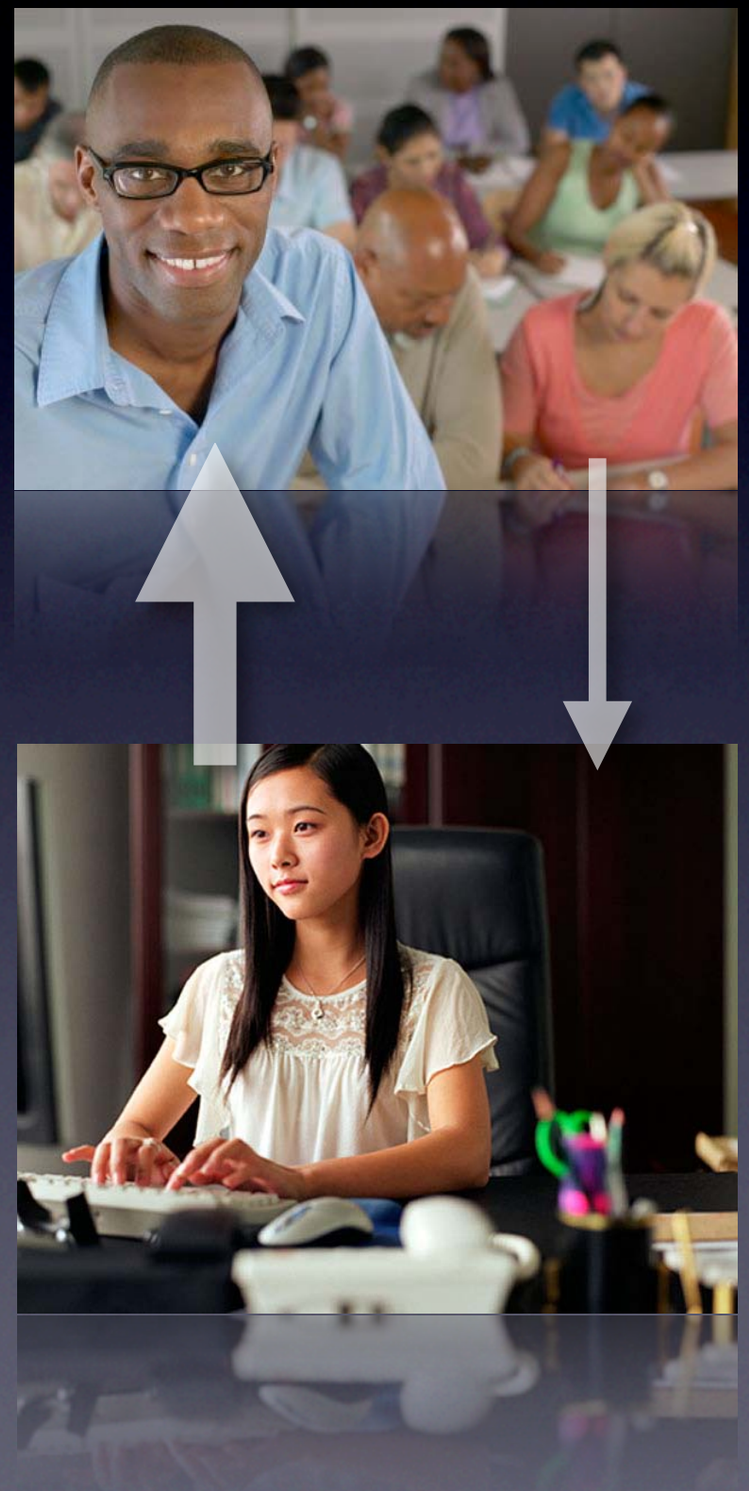
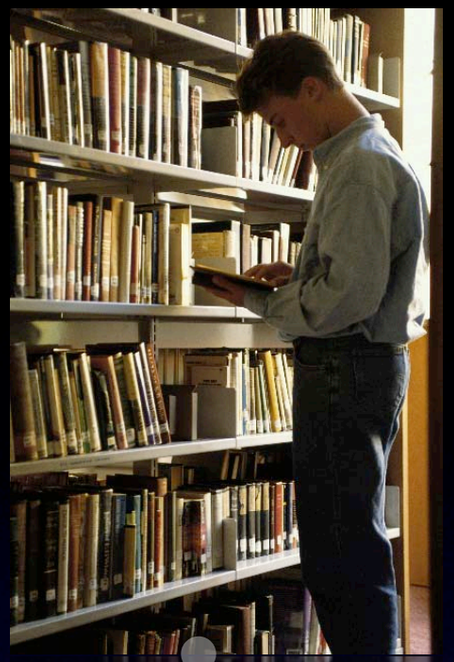


New Model

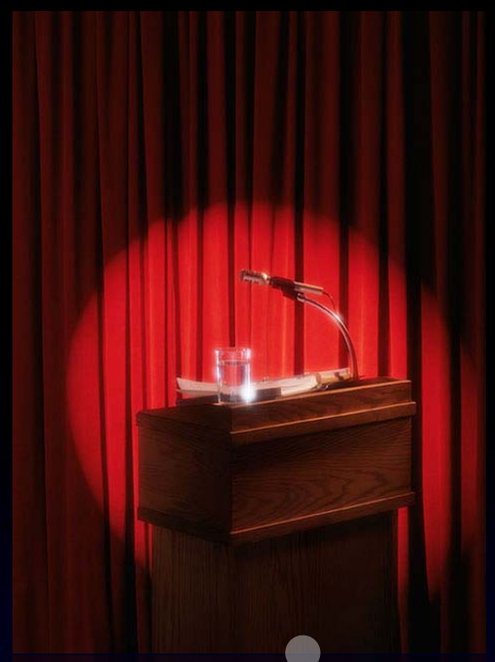
- Library as Information "Collector" and "Enhancer" of the Organization's Information
- Institutional Repository
- Emphasis on Synthesis
- Sees the Complexity of the Academy



Planning

Gathering

Publishing



Disseminating

What Does This Mean for Reference

- Don't Wait...Burn the Desk
  - or at least use it as cool furniture in your home like the card catalogues you store CD's in
- Become Part of Core Organizational Activities (Grants, Records Management, etc.)
- Attend Institutional Meetings

Defining the Team

- Core Librarianship: Access, Organization, Design, Conservation
- Extended Family: Coders, Marketers, Content Experts
- Everything Old is New Again - Subject Scholars, Historians, etc...

Some Ideas

Projects and Tactics to Take Over the World

Be an Active Part of the Tenure Process

- Begin an "In Depth" Citation Review Service

- Make It Part of Standing Tenure Practices

Be an Active Part of the Research Process

- Be the Sustainability and Clearinghouse Portion of a Research Project
- Create a Depository Data Program
- Make It Part of Institutional Review

Be an Active Part of the Training Process

- Banish the following: Bibliographic Instruction, BI - Use "Instruction"

- Create Information Instruction Training for the Organization (not just the community)

- Become the Instruction Materials Archive and Data Warehouse

Be an Active Part of the Dissemination Process

- Be the Full Service Web Host for the Community
- More Than Just Space
  - Design, Blogs, Content Management, Document Delivery

Questions, Corrections, Arguments