



# *Virtual Dave Lankes*

## Presentation

<http://www.DavidLankes.org>

**TITLE:** The Roles of Digital Reference in a Digital Library Environment

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**ABSTRACT:** An invited presentation on digital reference, integrating digital reference into digital libraries, and the evolution of digital reference knowledge bases

**KEYWORDS:** Virtual reference, digital reference, china, complexity, knowledge base

# The Roles of Digital Reference in a Digital Library Environment

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- “The use of human intermediation to answer questions in a digital environment”
- An Active International Community, Primarily Library-Based, of Practitioners and Researchers
  - Digital Reference as a Peer-to-Peer Library Service
- Philosophy that Every Digital Library needs a Digital Librarian

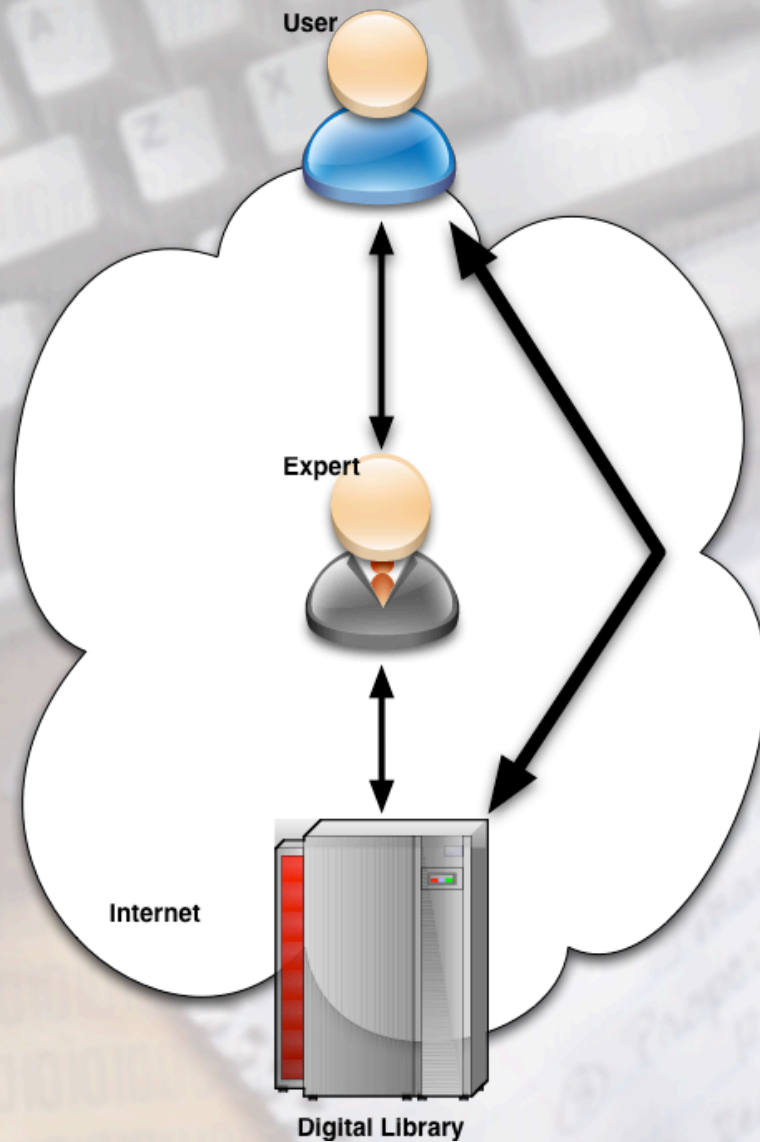
# What is Digital Reference

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- The background of the slide features a blurred image of a desk with a stack of papers, a pencil, and a faint overlay of binary code (0s and 1s).
- Technical Standards
    - QuIP -> NISO AZ
  - Quality Standards
    - Quality Study
  - Education Initiative
    - DREI
  - Research Agenda
  - Software Market Place

# Digital Reference Initiatives

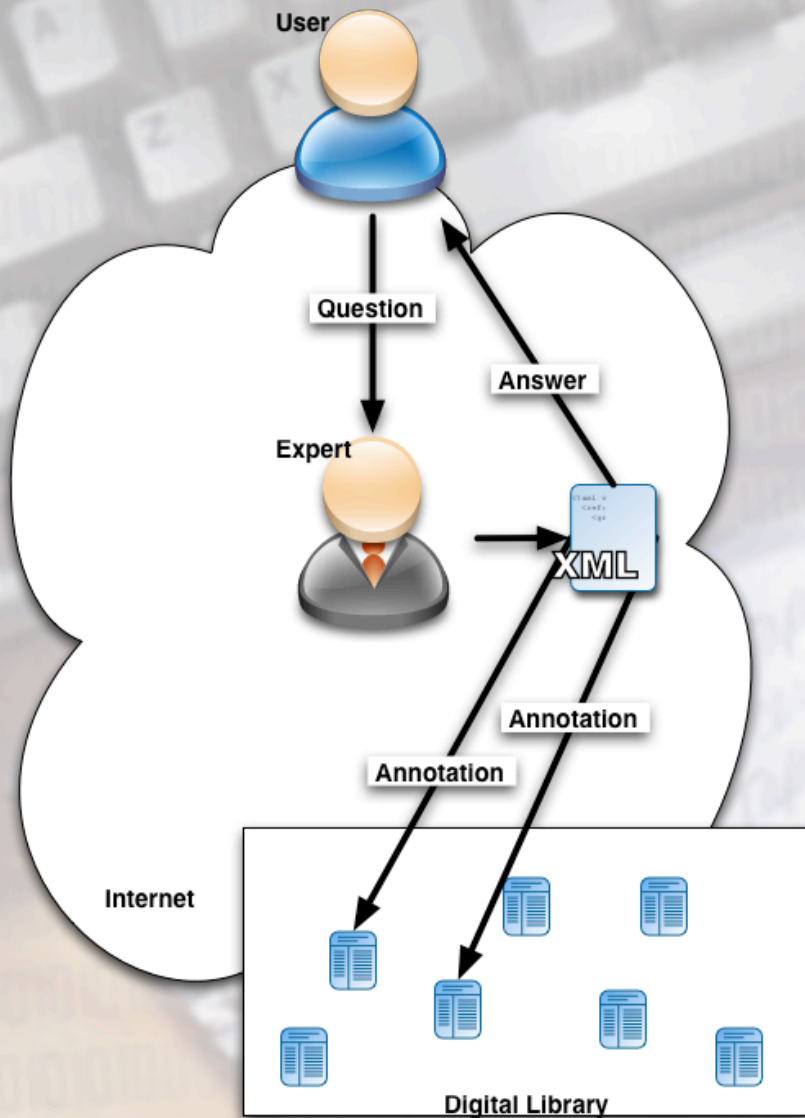
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- Traditional Model
  - Annotation Model
  - Accretion Model

## Models of Integration with DL



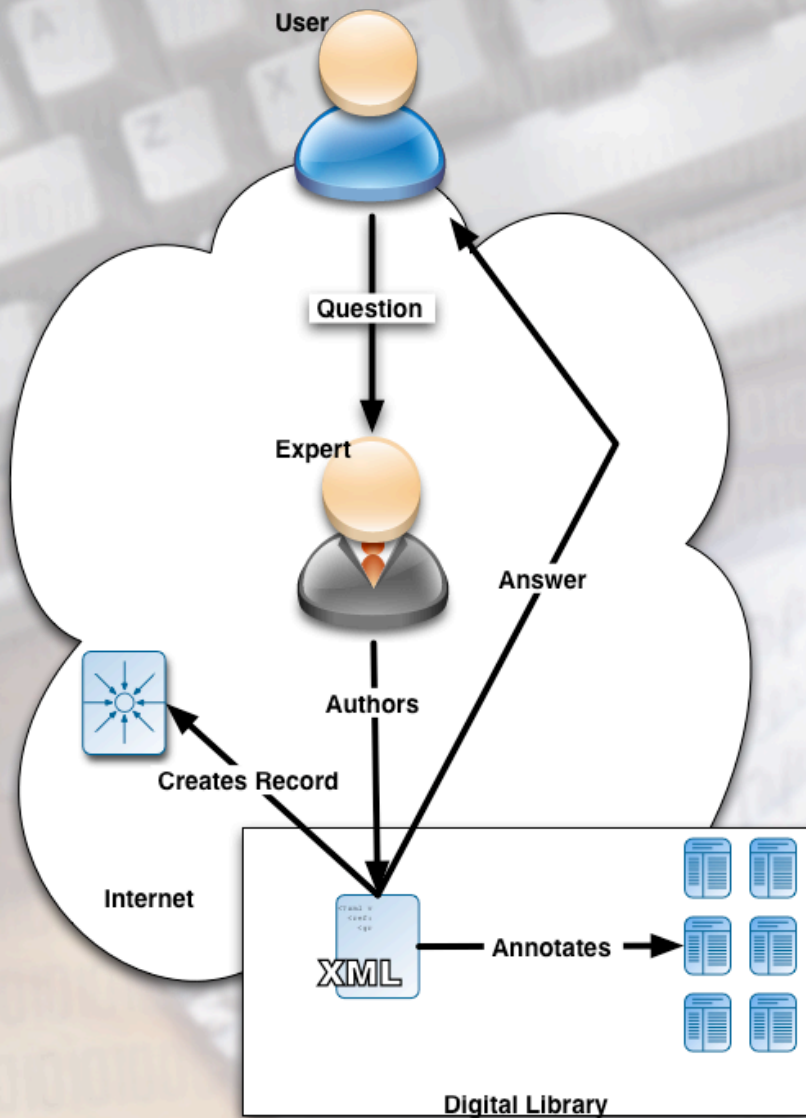
- Information & Referral
- Expert Serves as “Advocate” to the Collection
- Expert can Synthesize and Span Collection Limitations
- Intermediation and Direct Access are Equivalent in Reach

# Traditional Model



- Digital Reference Enriches the Collection
- Persistent Annotations
- Annotations Consist of Pointers and Comments
- “Reference Review” as New Form of Quality Assessment

# Annotation Model




- Reference Authoring
- Answers are Part of the Collection
- Annotations to Resources Outside Existing Collection Creates Stub Record

# Accretion Model

The Educator's Reference Desk: Resource Guides

http://www.eduref.org/ Google

MyYahoo Dave's World Resize Page News Institute Stuff Quartz Stuff Development Look at




# the Educator's Reference Desk<sup>sm</sup>



INFORMATION INSTITUTE OF SYRACUSE

Site Search  go [advanced search](#)

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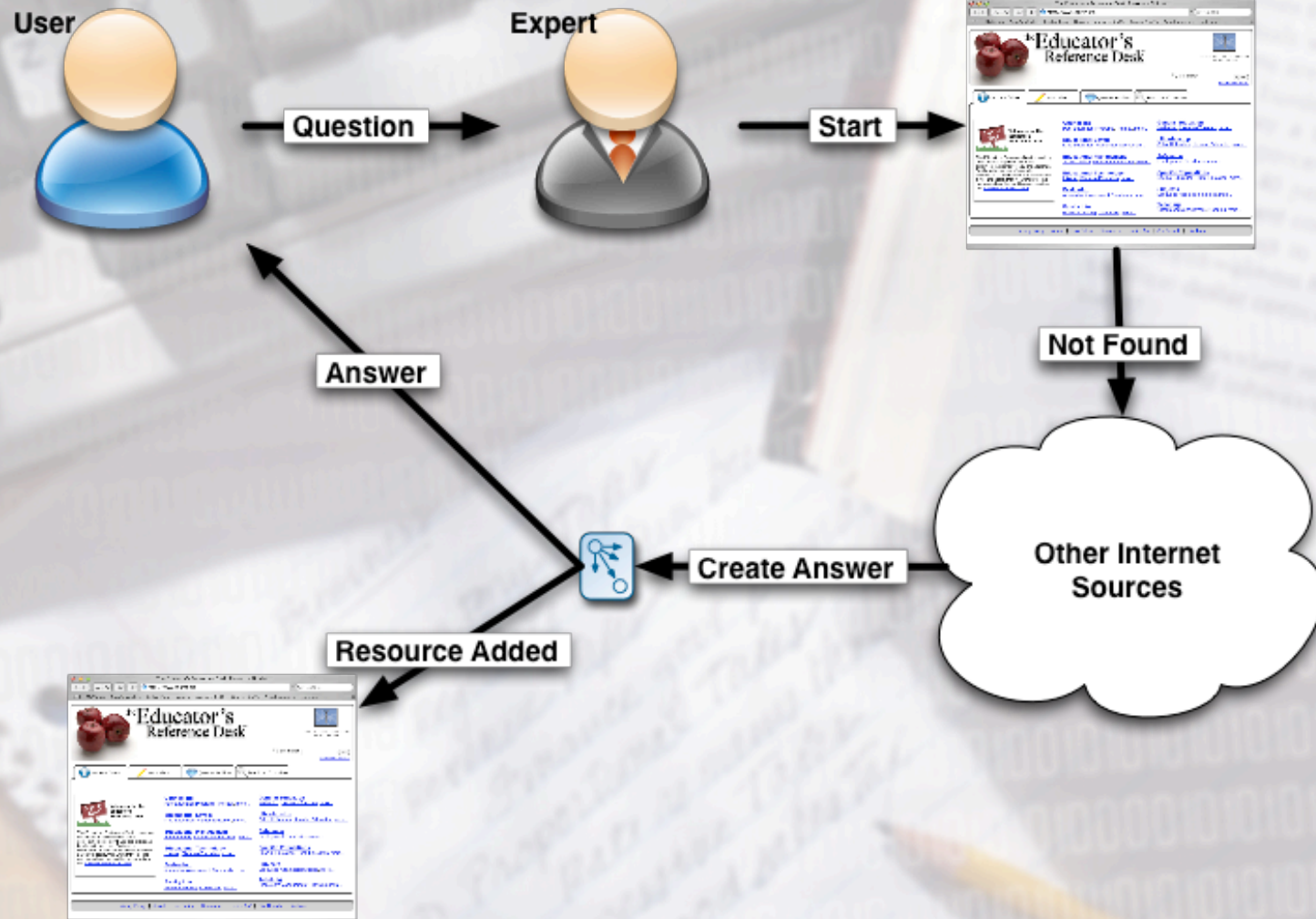
**Volunteer for the Educator's Reference Desk**

The Educator's Reference Desk is seeking volunteers to help build our online collection. Interested? If you are a librarian familiar with sources of education information on the Internet and with an hour a week to spare, then we want you! Find out more about this exciting opportunity at our [volunteer information page](#).

<p><b><a href="#">Counseling</a></b>  <a href="#">Peer Education Programs</a>, <a href="#">Therapy</a>, <a href="#">more...</a></p> <p><b><a href="#">Educational Levels</a></b>  <a href="#">K-12 Education</a>, <a href="#">Higher Education</a>, <a href="#">more...</a></p> <p><b><a href="#">Educational Management</a></b>  <a href="#">School Safety</a>, <a href="#">Educational Facilities</a>, <a href="#">more...</a></p> <p><b><a href="#">Educational Technology</a></b>  <a href="#">Internet</a>, <a href="#">Distance Education</a>, <a href="#">more...</a></p> <p><b><a href="#">Evaluation</a></b>  <a href="#">Alternative Assessment</a>, <a href="#">Standards</a>, <a href="#">more...</a></p> <p><b><a href="#">Family Life</a></b>  <a href="#">Home Schooling</a>, <a href="#">Child Care</a>, <a href="#">more...</a></p>	<p><b><a href="#">General Education</a></b>  <a href="#">Motivation</a>, <a href="#">Learning Theories</a>, <a href="#">more...</a></p> <p><b><a href="#">Librarianship</a></b>  <a href="#">School Libraries</a>, <a href="#">Librarian Education</a>, <a href="#">more...</a></p> <p><b><a href="#">Reference</a></b>  <a href="#">Employment</a>, <a href="#">Directories</a>, <a href="#">more...</a></p> <p><b><a href="#">Specific Populations</a></b>  <a href="#">Special Education</a>, <a href="#">Rural Education</a>, <a href="#">more...</a></p> <p><b><a href="#">Subjects</a></b>  <a href="#">Language Arts</a>, <a href="#">Social Studies</a>, <a href="#">more...</a></p> <p><b><a href="#">Teaching</a></b>  <a href="#">Classroom Management</a>, <a href="#">Planning</a>, <a href="#">more...</a></p>
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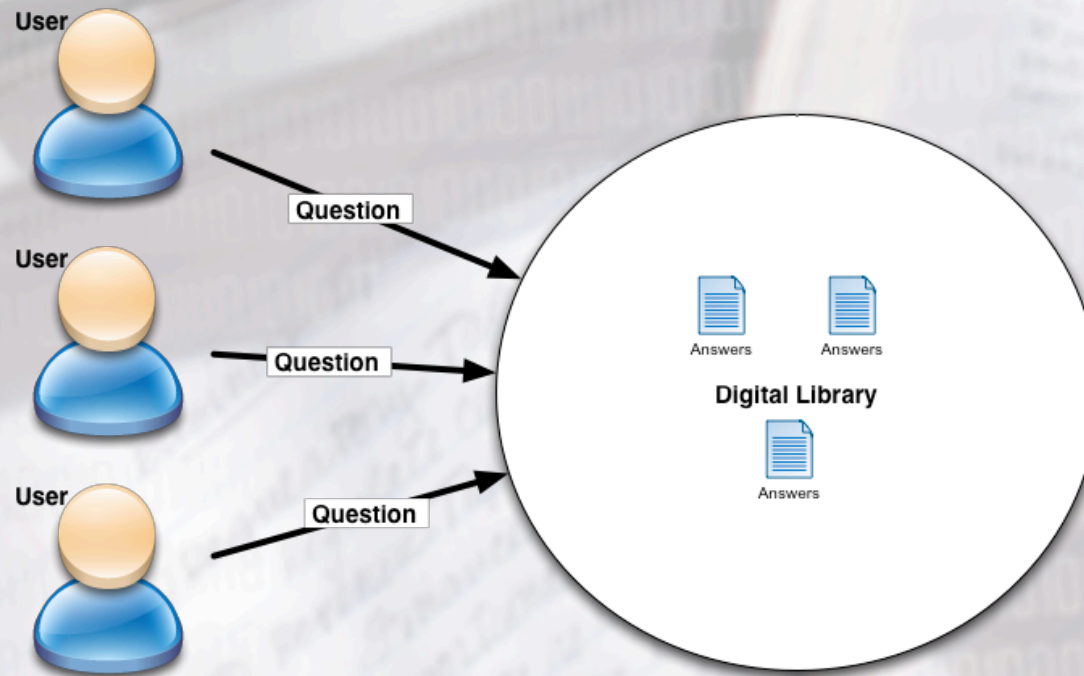
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# AskERIC/EduRef as Example



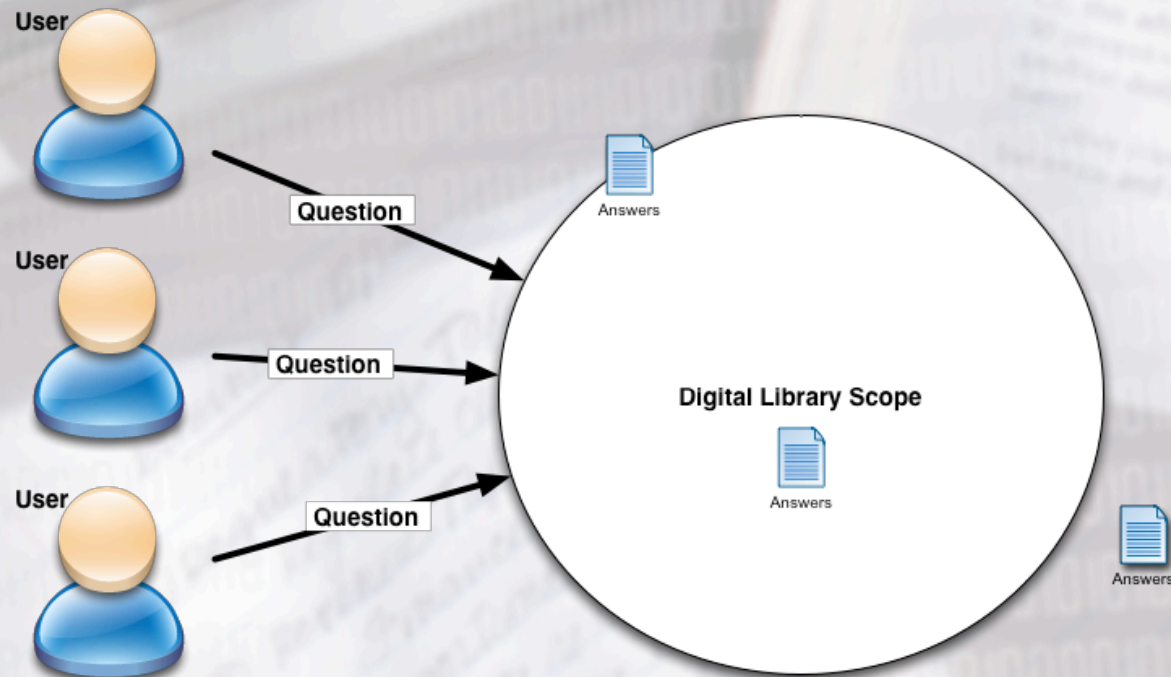
# Accretion Process

- Will the Collection Cluster or Build on the Edges



Issues

- Or do Users Ask at the Edges of their Knowledge



Issues

- Possible Utility of Knowledge Bases
  - Alternative Source of Answers
    - Help Desk Model, Saturation
  - Resource for Expert
    - “Brain Box”
  - “First Order” Resource
    - Disconnected from Reference Process

**The Next Frontier: Knowledge Bases**

- All or Edit
  - Either all transactions are searchable or services use an extensive deductive editing process
- Primarily Deductive
  - Context Dependencies
  - Metadata Creation
  - Chunking
  - Fact Shifting and Temporal Dependencies
- Seed and Weed
  - Edit them in, then have to weed the archive

# Current Approaches

- Treat the Output of Reference Transactions as Semi-Structured Digital Object
- Semi-Structured Objects have Static and Dynamic Attributes
  - Static: User ID, Expert ID, Content
  - Dynamic: Age, Topicality, Annotations
- Create a “Space” for These Objects/Agents to Interact
- Create Performance Systems for Agents

## A New Approach: Induction

- Performance System
  - Tags (Object Attributes)
  - Internal Model
    - Weighting Scheme for Object Comparison
  - Geometry
    - Means of Determining Proximity for Clustering
- Attributes of the Environment
  - Means of Comparison (Pairwise? Neighboring Nodes?)
  - Synchronization Scheme

# A Complex Knowledge Space

- Digital Reference has a Proven Place in Digital Libraries
  - Different Levels of Integration of Human Expertise
- Digital Reference is Increasingly Institutionalized
  - Standards (technical and quality)
  - Software
  - Research
  - Community

Conclusions

- Librarians, not the Collection make a Library

Digital Librarians