EXTENSION OF VIRTUAL REFERENCE : LIBRARY AS A FACILATOR

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Abstract

The paper focuses on diverse manifestations of virtual reference services on web. These virtual reference services can be further extended to cater the information needs of scholars by ushering in 'State of art' technologies of search engine optimization. The article discusses pros and cons of federated searching and discovery services and how does federated search help the users to find resources across library collections perceiving a VRD model of academic libraries for environmental education. Further it describes how a library can be facilator of these extended services.

Key words :- Web, SEO, VRD, Federated search, Google scholar, Discovery service.

1.   Virtual Reference Services (VRS)

Virtual reference is a new addition to library services that is gaining wide-popularity in public and academic libraries. Reference librarians interface with a wide variety of information queries, depending on their user populations and the type of libraries in which they work. Nevertheless, reference library settings should be prepared to assist patrons who need information. Furthermore, given the repaid development of virtual reference services such as e-mail and chat, reference librarians need to be ready to fulfill information requests in the online environment, and not just at the reference desk.

Virtual reference refers to a network of expertise, intermediation and resources placed at the disposal of someone seeking answers in an online environment. Digital reference can provide support for users who find online tools and resources unfamiliar, difficult to learn, or insufficient to answer their information needs. It can also provide valuable user feedback to collection builders so that they may better tailor their resources and maximize their investment in content creation.

According to DJ Foskett, reference service is currently humanism in practice because the aim is to help people, in a way or other, to secure great happiness through the possession of knowledge".

Margaret Hutchins equated the term reference service with reference work. She says, "reference service includes direct personal aid, within a library, to

persons in search of information whatever purpose, and also various library activities especially aimed at making information as easily available as possible".

In the present electronic and communication environmental reference service is not only confined to the library users but also to remote users. Some ties, it is termed as electronic reference (e-reference) service, digital reference (d-reference) service, virtual reference (v-reference) service, etc. What so ever may be the nomenclature, its basic function is to provide point-of-need reference service to information seekers at the place where they are and when they have a query.

"Virtual reference is reference service initiated electronically, often in real-time, where patrons employ computers or other Internet technology to communicate with reference staff, without being physically present. Communication channels used frequently in virtual reference include chat, videoconferencing, voice over IP, co-browsing, e-mail and instant messaging".

Is there something about answering questions online that necessitates one expert/librarian and one user2patron/ While one can make an argument that certain situations require one-on-one, say to preserve privacy, to prevent the ambiguity of multiple answers or perhaps to build and ongoing user relationship, in may cases this mode is the result of tradition and existing praxis based on limited resources in a physical world, Getting input on questions was expensive.

What if, however, the pool of expertise available to answer questions was radically increased? What if barriers like queuing in lines or holding on the telephone were removed? Certainly then reference could be a more social experience. There are plenty of examples of mediums for a more group-based question answering, In the Internet alone there are mailing list, web forums and the like. Yet one can ask: Are these examples of virtual reference? They meet the aforementioned definitions. In fact, the only reason these might be excluded is because they are not formally seen as an activity of reference staff as institutions called libraries.

Is there something special about librarians that creates the phenomenon "virtual reference" other than a term of practice? Perhaps. Certainly libraries approach reference from a very different perspective than most Internet users on mailing lists. Librarians are (or should be) trained not only in resources but also in the very process of question answering and negotiation (or as Radford [7] has called it, encountering). After all, anyone can nail together two boards, but that feat doesn't make anyone a carpenter. Librarians bring to question answering a suite of principles and ethics. Also, as part of a larger institutional focus on information organization, there is at least the opportunity for the information

exchanged in a reference transaction to be collection development, the writing of pathfinders and more).

2.   DIGITAL REFERENCE SERVICE

Digital reference service is an Internet-based question and answer service that connects the user with experts in a variety of subject fields and possesses specialized subject or skill experiences. In addition to this, experts also provide users with referral to other online and printed information sources. With the emergence of digital library and Internet, the concept of traditional reference service has changed. Even many non-library commercial organizations now offering digital reference service to their clienteles. While some are free, others need payment. In digital reference service, the web is used as a medium of communication for sending the questions and receiving answers, which is quite useful in providing answers to the factual questions.

3.   Collaborative Digital Reference Service (CDRS)- A case study

The Library of Congress launched the Collaborative Digital Reference Service in June 2000. At present, more than 100 libraries from various countries are participating in this collaborative venture. Some of the major libraries are Library of Congress, National Library of Australia, National Agricultural Library, National Library of Canada, Cornell University Library, University of Texas Library at Austin, University of Washington, University of Southern California, Metropolitan Cooperative Library System as Los Angeles, etc. The mission of this project is to provide professional reference service to the users at any time and information centres. It is a library to library network for asking and answering reference questions. It is an international web-based cooperative network of librarians and experts in various disciplines. It is a worldwide network of libraries in which OCLC builds and maintains a database of profiles of participating institution, maintains a question-and-answer database system that enables participants to catalogue answers and store then in a searchable/browsable database and provides help in marketing, registration, training and user support.

4.   Virtual Reference Desk (VRD)

This project is sponsored by the US Department of Education. It is dedicated in the advancement of digital reference and the successful creation and operation of human-mediated, Internet-based information service. The VRD project organizes and provides conferences on digital reference issues for information professionals in libraries and other contexts. The VRD does not actually answer question, but provides resources and links to experts that offer these services. The basic idea of VRD is that when a user asks a question and that can not be

answered by a participating library then it is forwarded to the VRD network for assistance.

5. Perceptions of Virtual Reference Desk (VRD) of academic Libraries for environmental education

Firstly we have to understand the basic concept of digital reference service and virtual reference desk. A digital reference service is an internet based question – answer service that the connects seeker of information with experts in a variety of subject fields related to environmental science and besides library virtual desk connects seeker of information with referral to other online, printed, open access / or participators networks or any printed information sources. Emergence of digital library and internet concept of conventional reference librarianship has changed. Digital reference service can he imparted by library via questions via e-mail or direct web- interface. Reference library professional has to think, analyse, plan and finally link the seeker of information t desired link. Some of prominent services already exist and very popular in European countries like.

Ask me	for all subjects	free of cost
All experts	″ ″	free of cost
ask librarian	for all subjects	free of cost
Dr. climate change	environment Sc.	gcrio.org (free of cost) [20]

Then there can be real time digital reference service where exchange of information in live (as it takes place in real time) between user and reference librarian but this kind of reference service in still under experimental stage in developing nations but undoubtedly this service has got more prominence in European Countries. Technologies used for real time digital reference are conferencing desktop streaming, digi-chat and some of top series are. [21]

- ask a question

- ask now

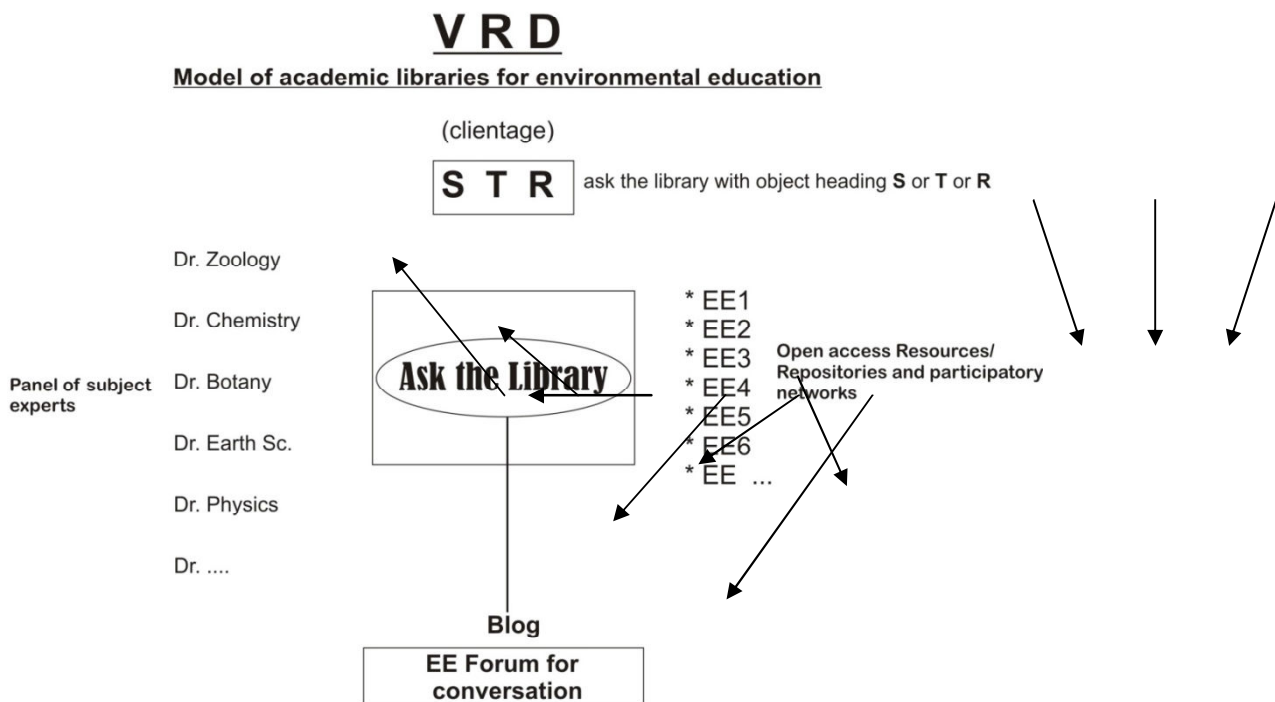- ask A librarian

- click for live help

5.1. What is virtual reference desk ?

VRD was first project sponsored by U.S. department of Education : VRD project organises, provides forum / connectivity to information seekers with resources VRD actually does not answers the questions. but provides resources and links to experts that may answer the information seeker.

The links may look like

- Ask Dr. Zoology

- Ask Dr. Chemistry

- Ask Dr. Botany

- Ask Dr. Geology

- Ask Dr. Physics

- Ask Dr. Scientist

5.2. Perception of VRD model (Figure)

VRD
Model of academic libraries for environmental education

(clientage)

S T R ask the library with object heading **S** or **T** or **R**

Panel of subject experts

Dr. Zoology
Dr. Chemistry
Dr. Botany
Dr. Earth Sc.
Dr. Physics
Dr. ....

Ask the Library

* EE1
* EE2
* EE3
* EE4
* EE5
* EE6
* EE ...

Open access Resources/ Repositories and participatory networks

Blog
EE Forum for conversation

VRD   -   Virtual Reference Desk

EE   -   Environmental Education

STR   -   Student, Teacher, Research scholar.

The above percepted model can be further upto-dated and prompted by ushering in 'state. of art technologies' about which we would he discussing now. Thus to reorient this model as "smart model" for 'smart services' we have to ponder over some new concepts that have been a matter of great discussion through conference papers and journals like "Federated search" and "discovery tools" in western countries.

Internet content is considerably more diverse and the volume is certainly much larger than commonly understood. In early days of Internet, it was reasonably easy to find information using a variety of software that were usually command driven. In order to overcome the lack of retrieval facilities, a number of search engines proved to be of great assistance but all search engines have their own short-comings.

6. Federated Search

Federated searching is a technology that allows users to search many networked sources from one interface. when students conduct federated search, they simply enter a word or phrase into computer and receive result from multiple targets. Thus Federated search helps users find resources across library collections. Federated search applications excel at finding scientific technical and legal documents whether they live in free public sites or in subscription sites. This makes federated search a vital technology for students, professionals and researchers.

6.1. what can Federated search do?

Federated search technology enables users to search multiple information resources simultaneously through one search query. Users can then view search results in a single integrated list. In other words if a user search "Jagular animal", he is fed with many answers like jagular car and many other 'answer bags' full of unwanted information. Federated search technology would rescue from all undesirable information on interface.

### 6.2. What is need and purpose of federated search tools?

Growths of different types of databases with numerous interfaces and logins means a user can on internet find it confusing while accessing information as we discussed in above case.

Library OPACS and web pages have been alienating users with their use of library terminogy and including long list of databases difficult to select.

Federated search tool first would transform a query and broadcast it to group of different databases with appropriate syntax. Secondly it would merge results collected from databases.

Thirdly it would present in unified format with minimal duplication.

6.3. Old Search Model (Figure)
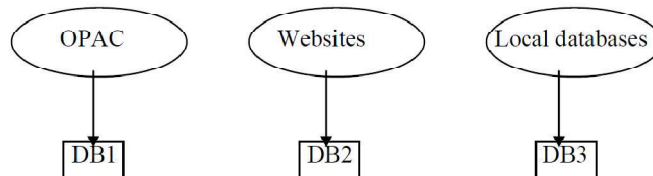
In the above old search model 11.3, each database requires its own unique search tool – In this kind of search model user submit their search query to individual database or search engine – such tools are very time consuming and user often don't desired information.

6.4. Federated Search Model (Figure)
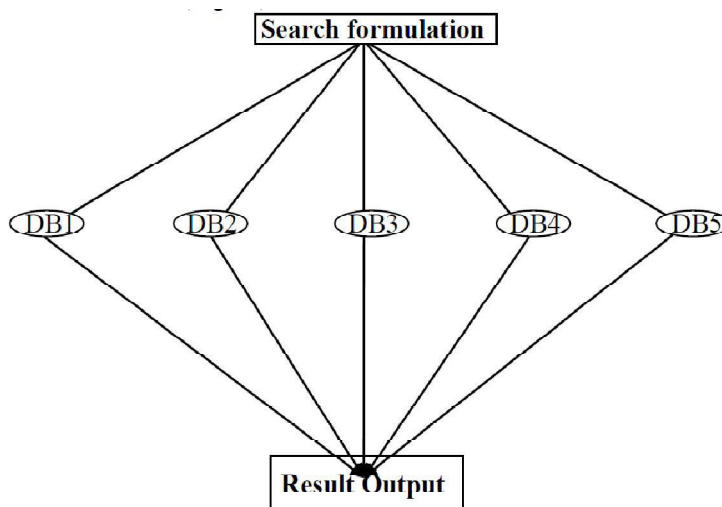
In the figure 11.4, using federated search, a single tool searches and accesses all databases with one, easy to use interface. It provides opportunity to users that they get their desired information from various databases and search engines.

The main four technologies used for federation search

Screen Scrapping of HTTP

Z 39.50 protocol

ZING – SRW protocol

XML gateway

Federated Search Provider

Google Scholar

Scopus

Liberty

6.5. Advantages of federated searches

It is difficult for most of students to choose appropriate, relevant, sites from hundreds of thousands of hits. Using federated search engine can be a huge time saver for researchers Instead if needing to search many sources, one at a time, the federated search engine performs the many searches on user's behalf. Federated searches qualify the authencity of information. for example, anyone can write a report on a topic and post it on internet. That does not mean information is totally checked for accuracy by using this new add – on feature to unstitutional's library automation system, students can better ensure the information they use for their research is accurate.

7.   Discovery Services

7.1. What is Discovery Services?

Search interface to pre-indexed meta data and / or full text documents – single, simple entry point.

Discovery Services don't search live sources like federated searches. Through single interface, users are able to search through all of the pre – indexed materials – including catalogue records, subscription databases and web content more quality than with existing meta search tools.

7.2. Who subscribes to and uses Discovery Services

University libraries

Large Public libraries

Within these libraries, Discovery Services are used by
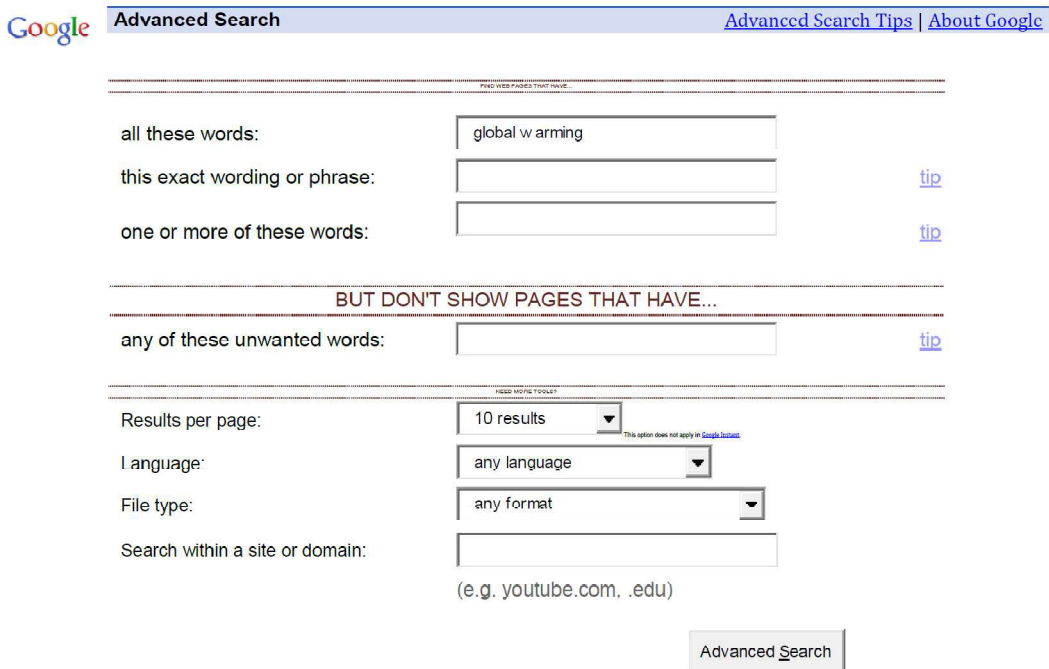
students

Staff faculty

Some one wanting a quick and easy solution

7.3. Examples of a Basic Search for 'global warming' (Figure)

There are multiple access points for retrieving information about global warming from 'Google scholar'.

Here user submit single search by term "Global Warming"

The Window provides opportunity to user to search through author, subject, time period, language etc.

8. ACCESS ISSUES WITH FEDERATED SEARCH

Verification, authentication, and certification can be difficult for the federated search vendor, Since federated search engines don't hold the data locally, meaning the engines perform the search and send the results back, the federated search engine must be able to access multiple, password-protected databases behind the scenes, all at one time, and show users their, results in one easy-to-read interface. The challenge for federated search vendors is to ensure that only licensed users can access databases in an appropriate manner, as specified by their license. This may required a library or a corporation to set up multiple areas where only certain licensed users can access a federated search.

Part of the process entails deciding what content different departments or user can access. This could generate an unwelcome amount of staff resource time to ensure authentication, verification, and interface display decisions. Authentication sets federated search engines apart from other more expensive and highly sophisticated enterprise search software such as Verity and Autonomy. Enterprise search engines usually restrict searches to internally generated, enterprise-wide information, ignoring subscription databases that enterprises have brought in house.

The number of different cookies a subscription database user makes the authentication process either a simple or complex procedure. All the user needs to provide is the ID, password, and files to be searched for each subscription database. The federated search engine will handle the rest of the authentication procedure. However, the initial setup process can take a number of hours to a number of days, depending on the complexity and number of subscriptions.

9. INTERFACE ISSUES WITH FEDERATED SEARCH

The second issue is the search query and results interfaces. For several years now libraries and corporate information centers have faced the "Google phenomenon." Many patrons believe that doing a Google search covers all the bases. Libraries now have an excellent opportunity to provide a simple, yet powerful interface that out-Googles Google. They can set up their interface base on subject and sources, or customize it to specific user needs. Libraries and corporations need to take not to Google's simple interface - - users expect an interface as streamlined as Google's. Uncomplicated and intuitive interface without a high learning curve will see expanded usage. Most of the federated search vendors allow clients to create their own "look and feel" for the search interface and results pages. However, if you do not have the staff resources, they will often allow a more static look where little decision making on your part needs to be done.

10. Recommendations and conclusions

Discovery Services if not integrated with federated search, may pose problem sometimes. Federated search is very important for organization that have particular sources they want to search that are not available from one of the discovery services. If a particular discovery Service has an index that's built from meta data of its documents and not from its full text. In that case Searching the index won't produce results that are as relevant as results obtained by searching the native source, assuming the native source provides full text search capability.

Opportunities for libraries and librarians have also been identified in emerging field of search engine optimisation. Search engine optimisation involves unproving the volume or quality of traffic to a web-site without using commercial means such as purchasing key words from search engine providers.

The skill set of librarians and this knowledge of information seeking behaviors has led to acknowledge the role of librarians could play as SEO scientists.

10.1. Environmental education conversation and Blog box

The library has been place that facilitates conversation, facilitation not only enriches conversation with diverse and deep information, it also serves as a memory keeper, documentry agreements and out comes to facilitate future conversation. The library serves this wital role for many of its users/or seekers of information i.e. is environmental education through EE conversation blog box model (see figure 10.2). Thus library activities such as building collection of artifacts inform scholars' research through formal conversation process where ideas are supported with evidence and methods.

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See also

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*   http://www.libertymarketing.co.uk /search engine optimization

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