Access to Information in Digital Libraries: Users and Digital Divide

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Outline

- The Context
- Digital Divide
- Role of Digital Library Researchers
- Access to Digital Information
- Human Information Behaviour
- Problems and User Comments
- Possible Solutions
- Discussions
The Context: WSIS

- World Summit of the Information Society, Geneva, 10-12 Dec. 2003:
  - Declare our common desire and commitment to build a **people-centred**, **inclusive** and **development-oriented** Information Society, where everyone can **create**, **access**, **utilize** and **share** information and knowledge.
We recognize that education, knowledge, information and communication are at the core of human progress, endeavour and well-being.

All stakeholders should work together to:

- improve access to information and communication infrastructure and technologies as well as to information and knowledge...
Digital Library R&D: Goals

- To improve access to information
- To facilitate creation and distribution of information
- To help in making optimum use of information in all activities
- To help in the creation of a global information society
Questions

- But, how far have we succeeded to achieve these goals, and
- What are the major problems ......
Digital Divide

- The perceived disadvantages of those who are either unable, or do not choose, to use the appropriate ICT to perform their activities, decision making, learning and pleasure
- Access to digital libraries and information services is significantly influenced by digital divide
- Proper access to, and use of, digital libraries is a key to bridging digital divide
Digital libraries and information

Digital information resources can be accessed in a no. of ways, e.g., through:

- Institution’s library webpages
- Webpages of specific digital libraries such as NDLTD, NCSTRL, NZDL, ACM digital library, PubMed
- Subject Gateways, such as SOSIG, Biz/ed, OMNI
- Search service providers such as Dialog, Ovid online, Proquest
- Web search tools: search engines including meta search engines
Questions

- Do the users always find it easy to get access to the right information?
- How easy are today’s hybrid libraries to find all the information resources required to solve a problem or accomplish a task?
- What can we learn from the recent human information behavior research?
### Human Information Behaviour

<table>
<thead>
<tr>
<th>Issues</th>
<th>Web</th>
<th>Online IR</th>
<th>OPAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queries per user per session</td>
<td>1-2</td>
<td>7-16</td>
<td>2-5</td>
</tr>
<tr>
<td>Terms per query</td>
<td>2</td>
<td>6-9</td>
<td>1-2</td>
</tr>
<tr>
<td>Doc viewed/session</td>
<td>&lt;=10</td>
<td>approx 10</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Queries with adv. options</td>
<td>9%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Queries with Boolean operators</td>
<td>8%</td>
<td>37%</td>
<td>1%</td>
</tr>
<tr>
<td>Queries improperly formatted</td>
<td>10%</td>
<td>17%</td>
<td>7-9%</td>
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HIB: General Comments

- Users find it difficult to formulate complex queries.
- In general users spend very little time on searching a given web search tool or database.
- In most cases users formulate very short and simple queries with one or two search terms and very few search operators.
- Users spend very little time in deciding the usefulness or relevance of the retrieved items.
- Very few queries contain advanced search features.
Current Digital Libraries

- We have a variety of digital library services
- Users are most likely to use a hybrid library
- A hybrid library provides access to a variety of electronic information resources and services
- Most HLs provide separate interface for each resource type
Oxford University Libraries

Oxford has a rich and diverse library service. The University itself has major research libraries and libraries in faculties and departments. The colleges also have libraries, these function mainly to serve the needs of their own members, but the older colleges often also have early collections with research value.

See also A Brief Survey of Oxford University Libraries.

Some major research libraries:
- Bodleian Library
- Bodleian Law Library
- Radcliffe Science Library
- Sackler Library
- Social Studies Libraries
- Taylor Institution Library
The Bodleian Library is the main research library of the University of Oxford. It is also a copyright deposit library and its collections are used by scholars from around the world.

The buildings within the central site include Duke Humphrey's Library above the Divinity School, the Old Schools Quadrangle with its Great Gate and Tower, the Radcliffe Camera, Britain's first circular library, and the Clarendon Building.

In addition, the Bodleian consists of nine other libraries, in separate locations in Oxford: the Bodleian Japanese Library, the Bodleian Law Library, the Hooke Library, the Indian Institute Library, the Oriental Institute Library, the Philosophy Library, the Radcliffe Science Library, the Bodleian Library of Commonwealth and African Studies at Rhodes House and the Vere Harmsworth Library.
User Reactions to a Search

- In a study, 55 PG students were asked to choose a research topic and conduct a literature search using a hybrid library.
- They were not given any specific time limit, but were advised to stop when they found that the retrieved information was adequate, or nothing was found after spending quite a bit of time on any specific resource type.
- They were asked to note down the search process, and the difficulties encountered.
Some user comments

- For a successful search users need some basic ICT and information literacy skills
- Different systems – online search services, e-journals, etc. have different search interfaces
- Familiarity with the search topic, structure of the digital library and the organisation and content of the various systems helps
- Some search options, e.g., ‘keyword’, ‘subject’, ‘title keyword’, and ‘subject keyword’, are often confusing
User Comments (2)

- Off-campus searching is often very time consuming and frustrating.
- Sometimes a search produces too many hits and needs a lot of time to decide the relevance.
- A lot of useful information is available on the department and faculty intranet sites which are not accessible through the library web pages.
- Library webpage does not link to subject gateways.
- Organization of information on the main library page has an impact on the user’s selection of a specific digital library service; sometimes the specific services are hidden under several layers.
Given the multiple variety of information resources, it is often difficult to decide which one to use; to decide the most relevant items is even more difficult.

While searching for information across a range of systems, the results from one particular search are to be saved first, then the user has to come back to the library webpage, and choose another system to search; often the user has to go through the whole process again.

Selection of appropriate search terms is a big challenge, especially for a complex or an unknown topic, and yet this is the first step in any search.
Possible Solutions

- Provision for more digital literacy training
- A one-stop window for searching all varieties of digital information
- Cross-database search facilities through one interface
- Provision for user-driven information access systems
- A task-based information access system for providing access to library, internet and intranet resources
Discussions

- Any Questions:
- Thank You!