Subject Gateway: Knowledge Discovery Tool by INFLIBNET

Yatrik Patel   **Swapnil Patel**

Abstract

Internet is one of the valuable and probably most used information resources in the libraries present days. Information Technology have made data retrieval easier and faster, giving rise to a substantial industry providing access to professional, business and scientific information. In Indian context a little progress has been made towards increasing the relevancy of the data with the initiation of various search engines and subject directories. In absence of these activities, information sources remain unreachable, unsearchable, hard to find and difficult to access. INFLIBNET Centre's" Subject Gateway" is an attempt to make the things somewhat simple. "Subject Gateway" allows user to browse subject lists of good quality and evaluated subject resources. A subject gateway allows libraries and related organizations to explore the usefulness of their subject expertise in the organisation of knowledge in the word of network -based, digital information. In this paper we have discussed development and implementation of "Subject Gateway" at INFLIBNET Centre.

Keywords: Subject Gateway, Knowledge Discovery, Digital Library

1.   Introduction

Subject Gateways is nothing but cataloguing of on-line information resources what librarians do for books in their libraries. Subject Gateways are supposed to be acting as librarian of internet resource that provides access of e-resources to e-users via internet. The concept behind subject gateway is providing easy and rapid access to internet resources as librarians are doing the same for their library. There are new web-tools, standards and techniques emerging for the design, description, discovery and presentation of digital information and Subject Gateway is playing vital role among them.

Subject Gateways are,

♦   Modern and innovative ways of providing information and services such as electronic resources, course specific, and document delivery.

♦   Subject Gateway is a structured compilation of resources of specific subject with a browsing mechanism.

♦   Complex library searches due to the cross functions and links between the online catalogue, journal aggregator databases, electronic resources etc.

Using Subject Gateways, the resources may be made display as a structured record listing as followed by some of the search engines which offers directory services. The display followed mainly only by broad subjects. But for arranging topics under study areas where the search of the subject

areas is thin and exact, broad directory structuring may not serve the idea. Representation of subjects to that level involves implementing a variety of skills in the part of secondary information work such as classification, document description and derivation of subject headings. The Subject Gateways' site redirects a user to the available e-resource where it is originally hosted.

A subject gateway can be also considered as services which provide access to web-based resources of specific subject area in easier manner. Simple Subject Gateways contains reference to the internet resources. and index that references list and give simpler search interface. A complex gateway gives a much improved facility via a system consisting of a resource database and indexes, which can be searched all through a web based interface. Subject gateways are also versioned as,:

- Subject -based information gateways (SBIGs)
- Subject based gateways
- Subject index gateways
- Subject trees
- Pathfinders
- Virtual libraries

2. Why Subject Gateways?

An immediate argument would be, do we really require subject gateways where as we are living in era of some of the most powerful search engines like Google,Yahoo or Altavista ?

The answer is, yes, because, Subject Gateways has its own role in contrast to search engines. More over Library users are increasingly going to the Internet, before they go to the library and Librarians are increasingly taking librarianship, out of libraries towards the Internet. The resources presently available on Internet are

- Not well organized

- Users may not able find what they are searching for, and waste time

- Search engines have no inbuilt mechanism for matching retrieval to the level or experience of the users or to the purpose of the study as they are not working as an expert.

- Accessibility is sometimes misleading, and different file formats and protocols which requires additional software to read files.

Following table differentiate broader differences and advantages of Subject Gateway over a Search Engine.

2.1 Difference between search engines & subject gateways

Table: 1	
Subject Gateways	**Search Engine**
Contains discipline specific resources	General resource is available.
High level of human input is there, as the selected resources must meet a number of criteria applied by a librarian or academician,who ensures that only high quality, relevant resources are included in the database.	It totally depends on the effectiveness of the search-engines algorithms.
The results are specific, precise, and linked to relevant documents.	Search results can be vast, unmanageable, and full of unimportant references and may not meet user needs.
Subject Gateway creates record using professional catalogue.	Search Engine creates records by automatic process using the webpage text and metadata provided by author of the website or HTML meta tag.
Entries are described in a more "human readable fashion"	Entries are displayed more as "raw-data."
It indexes resources.	It indexes pages.
e.g. Bubl,Intute, INFLIBNET	e.g. Google,Msn,Yahoo

3. INFLIBNET Subject Gateway for Academic Community

INFLIBNET Subject Gateway is one of the major attempts towards creating Subject Gateway for Indian Academic Community. It is having simple and user friendly browsing and searching interface for e-resources. More over this Gateway is also supposed to be one stop solution for Knowledge Discovery of Indian Resources

Key Concepts are .
♦ Cataloguing of Indian Resources,
♦ Provision of DDC (Dewey Decimal Classification) based Subject Classification and browsing.
♦ Provision easy and user friendly interface to search and browse Indian e-resources

Key Features,
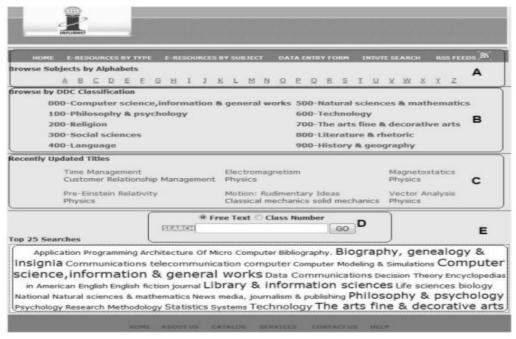♦ Based on international standards (MARC21)

♦ Browsing and Searching by different criteria, (e.g. Type of   Resource, Subject, Class Number as well as free text)
♦ Alphabetical filter by Subjects
♦ DDC Classification for Subject and SubClass
♦ Search Cloud of Top 25 searches with Number of Hits
♦ Direct record listing from search cloud.
♦ Recently updated title on Home page
♦ Detailed listing of Resources includes Abstract & description, Title, URI, Publisher, Last updated date, Language
♦ Searching facility from Intute (UK based Subject Gateway)
♦ Fast page navigation to E-Resources by type.
♦ Direct resource URL redirection from title listing
♦ RSS 2.0 Feed of latest resources

3.1   INFLIBNET Subject Gateway

3.1.1   Home Page

Main page of INFLIBNET Subject Gateways is having search and browse facility by different criteria's, Here, the page has been divided in to five major parts, keeping in view the design aspect according to user's search behaviour and ease of operation. The key concept of this design is user should reach to resources he/she wants within minimum possible clicks. Here follows the explanation of each part.

igure 1: Home Page

Part A: There are menu available for Browsing by Type, Browsing by Subject, Data Entry Template, Intute Search and RSS Feeds.

Below that there is a facility of alphabetical search by subjects. User can browse the subject with it resources available resources.

Part B: User can search by DDC Classification Scheme subjects with the class numbers. Going through that link it is further going to its subclass and resource listing page.

Part C: This Section is displaying Recently Updated Titles. User can go direct to the resource by clicking on title

Part D: There is a facility to search by free text (any field of record) and by class number. It will display resource listing page according to search criteria.

Part E: This section is displaying Search Cloud facility. In this section user can see the most frequently searched 25 keywords with number of hits of that keyword. Most frequently searched keyword would display with big font and in different colour. The user can directly go to the resource listing page from search cloud.

3.1.2 Browse by E-Resource Type

This page is to display E-resources by type. User can browse to available resources by its type with available resources in the bracket.

Figure 2: E-Resources by Type

3.1.3   Browsing Subjects

This page is having display of all the subjects with their class numbers. User can browse resource by subject and class number.
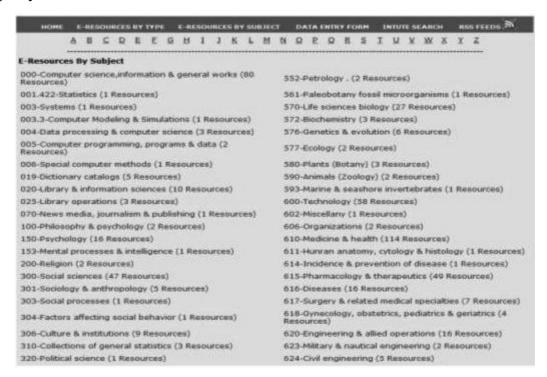

Figure 3: E-Resources by Subject

2.1.4   Record Listing

The below page is for record listing which is having facility to see the resource with its Description, Abstract, Author and Corporate Body, Publisher, Resource Type, Keywords, Language, URI and Last Update Date

User can go directly to the original site of the resource by clicking on the title.

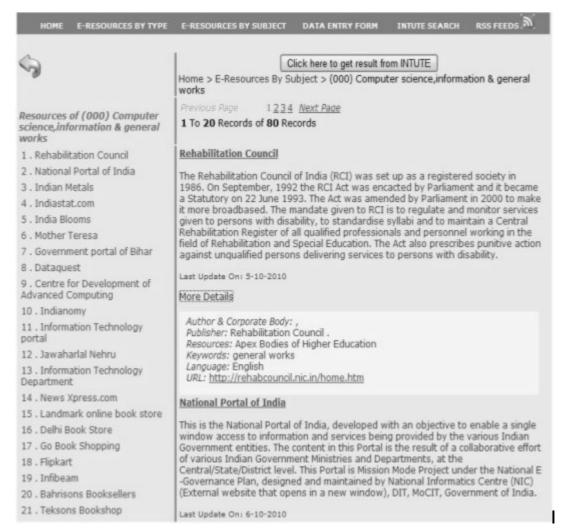User can search by the same criteria from intute website too.

Figure 4: Record Listing

3.1.5 RSS Feed

INFLIBNET Subject Gateway is also providing facility to generate RSS 2.0 Feed of latest 30 resources. Any user can subscribe to these feeds and can put it to its own website to get updated with the INFLIBNET Subject Gateway

Figure 5: RSS Feeds

3.1.6 Search from Intute

INFLIBNET Subject Gateway is having facility to search the resources available at Intute Subject Gateway which is well known gateway of UK.
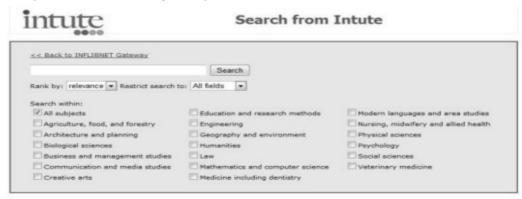

Figure 6: Intute Search

4.   Conclusion

Subject gateway serve as ready reference tool. INFLIBNET has tried to develop a tool which would become one of the major in knowledge management. It is having many facilities to build the knowledge management society and taking libraries and user to knowledge discovery and management. Thus, it is fulfilling the theme of this conference.

In future, Library world can have many more enhancements in this INFLIBNET Subject Gateway portal. We also intend to enhance this subject gateway by making it more versatile and interactive.

4. Reference

1. Information and Library Network Centre (INFLIBNET) Institutional Repository http://ir.inflibnet.ac.in

2. INTUTE Subject Gateway http://www.intute.ac.uk

3. Hawkins, Donald T. and Levy,Louise R. (1988) " Knowledge Gateways: The Building Blocks," Information processing & Management, vol. 24 (4), pp. 459-468.

4. CHANDRA, Joydip,(2004) Web Content Management with Subject Gateway, CALIBER 2004 http://ir.inflibnet.ac.in/dxml/bitstream/handle/1944/398/04cali_90.pdf?sequence=1

5. DESIRE Project Development of a European Service for Information on Research and Education, http://www.desire.org/html/subjectgateways/subjectgateways.html

6. Cross-Searching Subject Gateways http://www.dlib.org/dlib/january98/01kirriemuir.html

About Authors

Mr. Yatrik Patel, Scientist –C (CS)INFLIBNET Centre Ahmedabad.
E-mail: yatrik@inflibnet.ac.in

Mr. Swapnil Patel, Scientist - C (Computer Science), INFLIBNET Centre.
E-mail- swapnil@inflibnet.ac.in