Subject Gateways : A Case Study of the Science Campus Library, University of Madras

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Abstract

Guindy Campus Library is the Science Campus Library of the University of Madras facilitating information access to the Science community belonging to the Schools of Physical, Chemical, Life, Earth, Energy and Environmental Sciences. Among the digital library services provided, the paper focuses on the Subject Gateways made accessible to the Faculty, Research Scholars and Students presently available only in the intranet as a case study.

Keywords : Subject Gateways, Portal, Digital Library

0. Introduction

Libraries have always been hybrid and complex information spaces and librarians are trained and experienced navigators of those spaces. With the advent of the web, libraries and librarians organize a large magnitude of information using the long established principles arising from traditional librarianship. There are new tools, standards and techniques emerging for the design, description, discovery and presentation of digital information, many of which are being developed in library environments.

1. Scope

This paper attempts to scan some of the digital library services provided by the Science Campus Library of the University of Madras with special reference to the Subject Gateways created specifically for their clientele, presently accessible on the intranet.

1.1 Overview of Digital Library Architectures
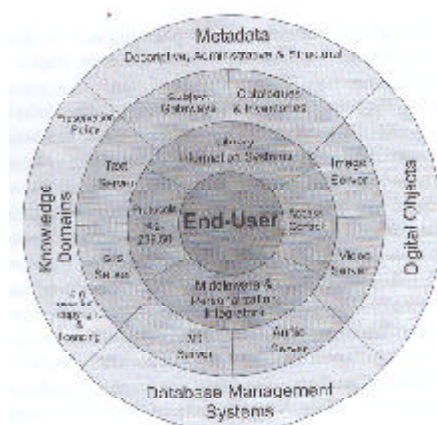

Fig. 1 OAIS model showing digital library functions

The above OAIS model (2001) shows many of the actual components that might be found in real working systems, with the user firmly located at the center, accessing resources within the controlled environment of the surrounding system components. In this context, particularly, we are concerned with the Information Systems for delivering documents and directing users to hybrid resources. In other words, the ring next to the Library and Information systems handles all requests for data objects through the data servers for the various media and information types, with supporting systems delivering Subject Gateways, Portals and Online Catalogues.

In summary, the outer ring provides structure and controlling mechanisms, the second ring serves content within a context defining system behaviors, while the inner ring provides access and interface mechanisms to present content to the user.

1.2   Definition – Portal vs Subject Gateway

In understanding the overview of the digital architecture and to lay focus on Subject Gateways it is required to note the difference between a Portal and a Subject Gateway.

A Subject Gateway facilitates access to networked resources for anyone who is looking for resources on that subject. A Portal, whilst also normally facilitating access to networked resources for anyone looking for resources on that subject, in addition offers a variety of additional services aimed largely, though not exclusively, at the relevant subject community. Furthermore, whilst gateways mostly "shallow mine" the resources in their subject areas by pointing towards them through hypertext links, portals tend to "deep mine" selected, resources in their subject areas by providing searching and sometimes other discovery services to all, or most, levels of these resources (Mac Leod, 2000).

2.   Portal of Guindy Campus Library

Guindy Campus is the Science Campus of the University of Madras consisting of the Schools of Physical, Chemical, Life, Earth, Energy and Environmental Sciences. The Guindy Campus Library catering primarily to this science community has designed its library portal based on these user needs and their proactive suggestions in content development.
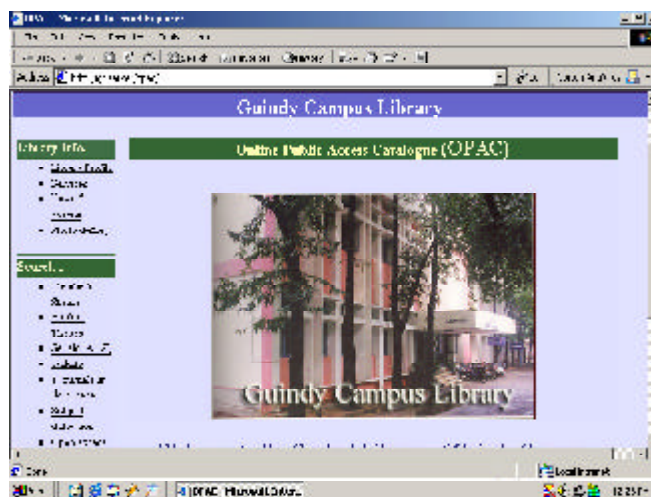

Fig. 2   Portal of Guindy Campus Library

Fig.2 shows links to the various e-services that are provided to the users besides the access to the library holdings.

The following figures restrict focus on the "Subject Gateways" developed on specific themes relevant to the Schools of Sciences in the campus.
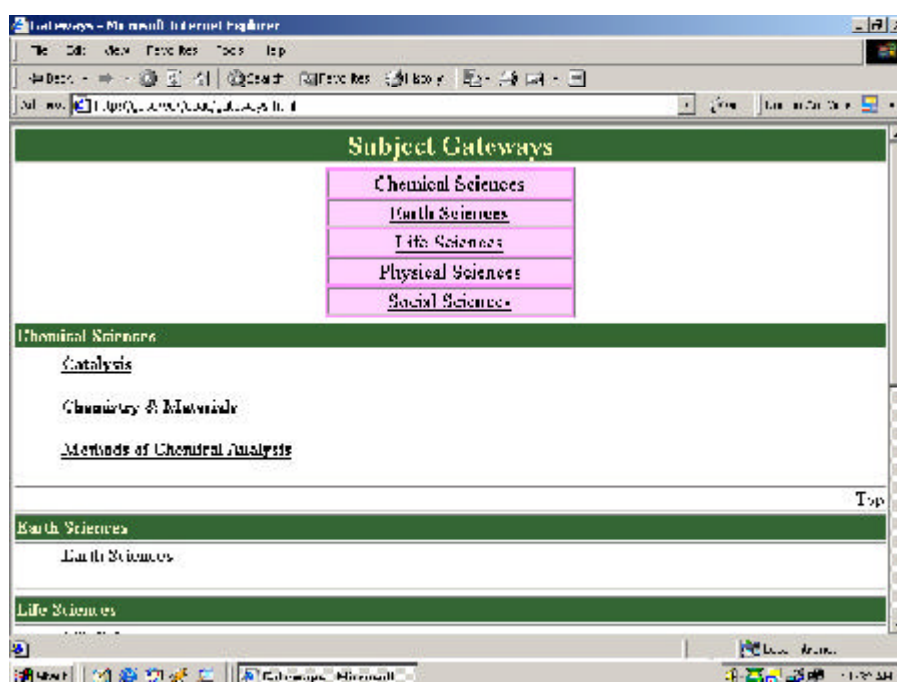

Fig. 3 Subject Gateways

Fig.3 indicates the five subject areas of Sciences based on which Gateways were compiled. In the category Chemical Sciences, Catalysis, Chemistry and Materials and Methods of Chemical Analysis are the themes.

Following Earth Sciences is Life Sciences which has themes of Microbial Biotechnology & Bioinformatics, Molecular Cell Biology and Techniques in Plant Biotechnology.

In the category of Physical Sciences, the focus area is Physics and in the Social Sciences category, Library and Information Science and Research Methods in Social Sciences are the themes.
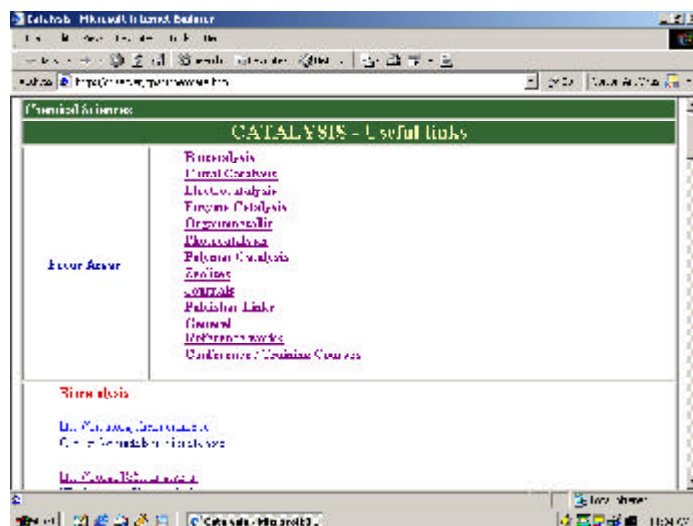
Fig. 4 Catalysis

Fig.4 illustrates compilation of useful links on the types of Catalysis such as Biocatalysis, Chiral Catalysis, Electro Catalysis, Enzyme Catalysis, Organometallic, Photocatalysis, Polymer Catalysis, and Zeolites. Besides these, there are links to centers for biocatalysis, forums, databases, journals, publishers reference works, conference and training courses.
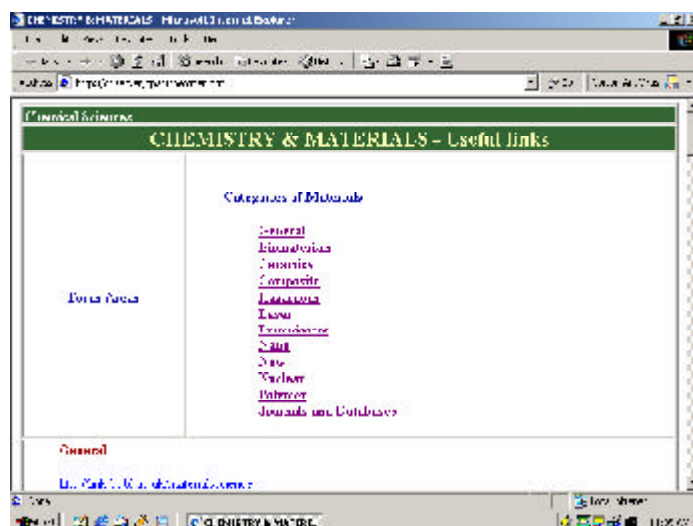

Fig.5 Chemistry and Materials

Fig.5-Besides links to different categories of materials such as Biomaterials, Ceramics, Composite, Hazardous, Laser, Luminescent, Nano, New, Nuclear and Polymer, electronic resource gateways for material science ejournals, catalogue guide for materials, databases and networks are provided.
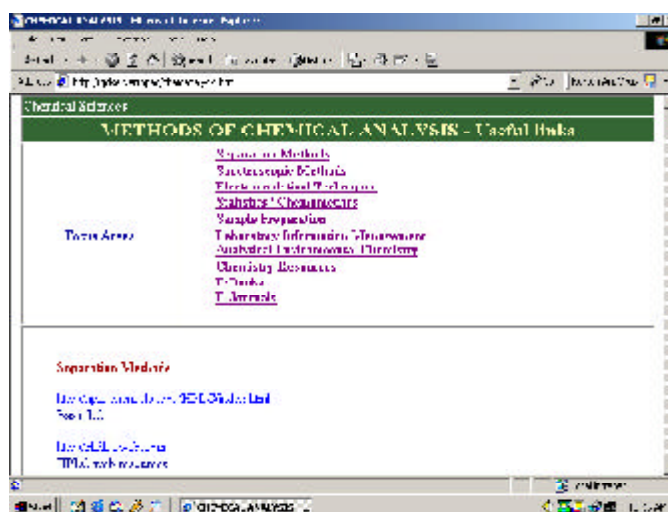

Fig.6   Methods of Chemical Analysis

Fig.6 - Different methods and techniques of chemical analysis, analytical chemistry resources, interactive labs, laboratory guides, catalogue of manufacturers and suppliers of scientific and lab equipment, societies, software, databases, e-books and e-journal links are furnished.
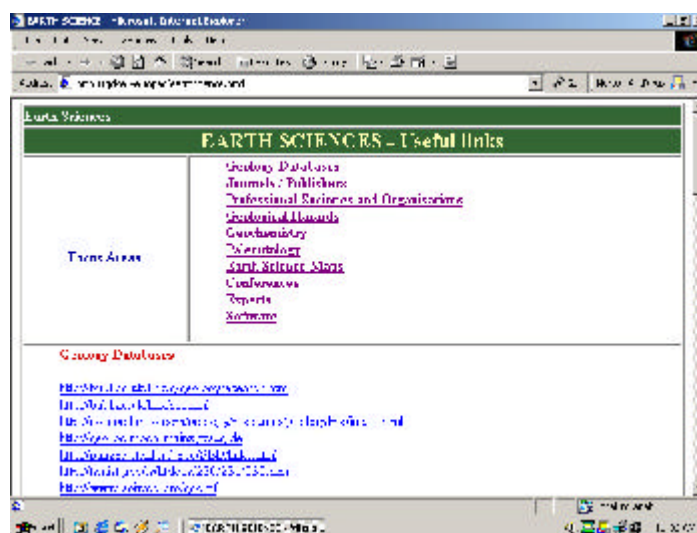
Fig.7   Earth Sciences

Fig.7 - Geology databases, journals and professional societies, geology labs online, geological hazards, paleontology, earth science maps, software, experts, research news and conference links are provided.
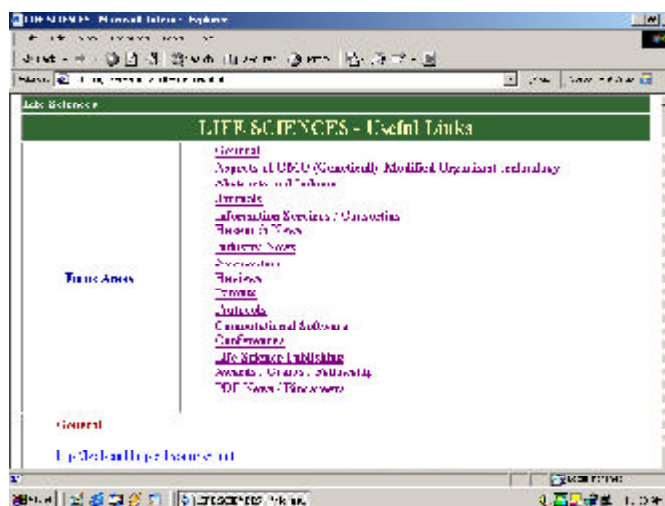
Fig. 8   Life Sciences

Fig.8 - Gateway to research in biological and biomedical research, endangered species, pesticide links, medicinal plants and properties, crustaceans, research and industry news, newsletters, reviews, patents, protocols, software, conferences and life science publishing are some of the areas to which links are provided. In addition to this, links to assays and compounds, journals, databases, indexes and abstracts, awards / grants / scholarship are also listed.
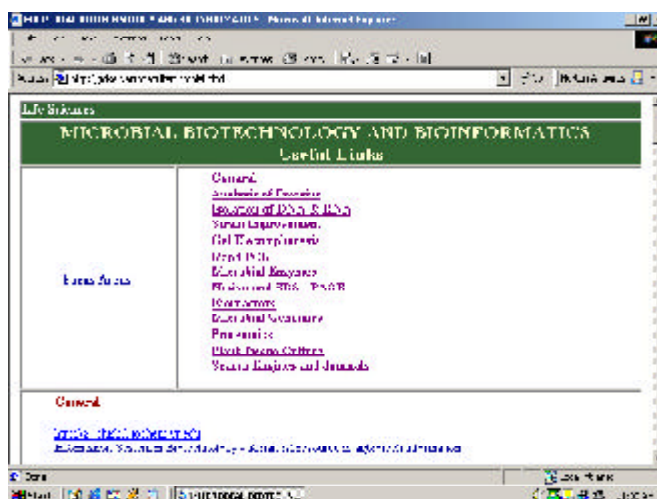
Fig.9 Microbial Biotechnology and Bioinformatics

Fig.9 - Useful links to focused areas such as analysis of proteins, isolation of DNA & RNA, strain improvement, gel electrophoresis, RAPD PCR, microbial genomics, proteomics, plant tissue culture are compiled, besides links to directories, databases, tools, tutorials, techniques, industrial products, specialized servers, power point presentations, scientific search engines and journals.
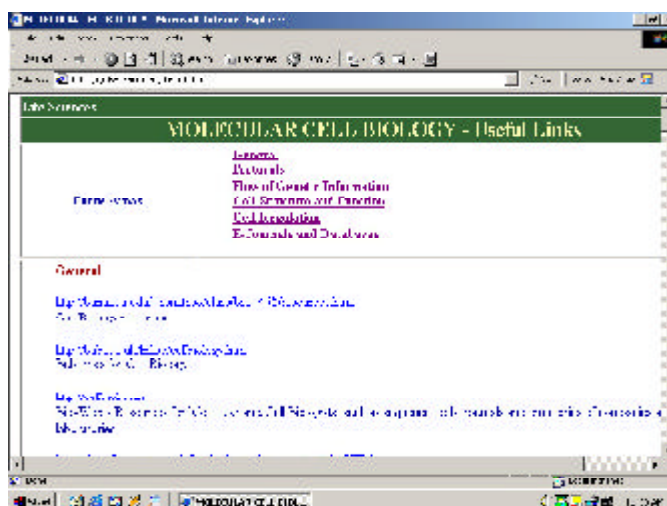
Fig.10 Molecular Cell Biology

Fig.10 - Links to useful resources, virtual libraries, gateways, tutorials, image gallery, software tools, RNA and protein synthesis, cell structure, cell signaling pathway - Free downloadable slides, hyper notes, e-journals and databases are furnished.
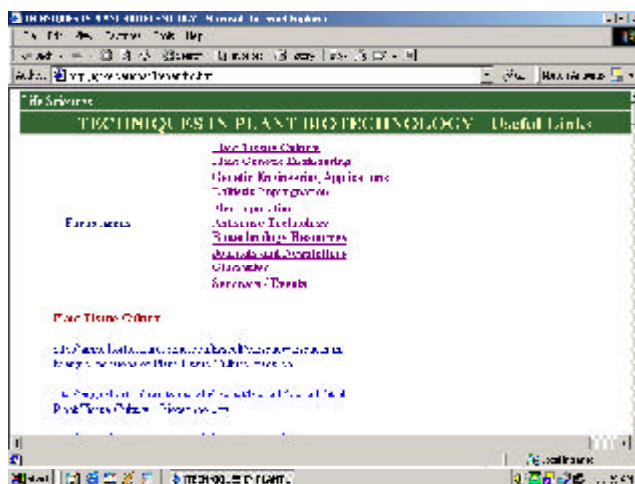
Fig.11 Techniques in Plant Biotechnology

Fig.11 - Plant biotechnology techniques such as plant tissue culture, plant genetic engineering, ballistic impregnation, electroporation, and antisense technology, biotechnology resources such as student guides, links to gateways to over 100 sites, databases, graphic gallery of process of biotechnology, biotech timeline, free resources, journals and newsletters, glossaries and links to seminars and events are the main areas for which useful links are listed.

Fig.12 Physics

Fig.12 – In the above discipline Physics, links to physics resources, news, glossaries, virtual lab, virtual library, reference desk for physics, noble laureates - 1901 to present, software, directory, journals, databases, research news, eprint archives and free journal links are compiled.

Fig.13 Library and Information Science

Fig.13 - In the Social Science category, Library and Information Science section provides links to resources for evaluating information sources, reference sources, resources for Library and Information Science, national online public access catalogue, coalition of library consortia, web tools for librarians, library services via World Wide Web, tutorial to find information on net, information skills, open sources, e-journals and databases and Library & Information Science e-groups.

Fig.14 Research Methods in Social Sciences

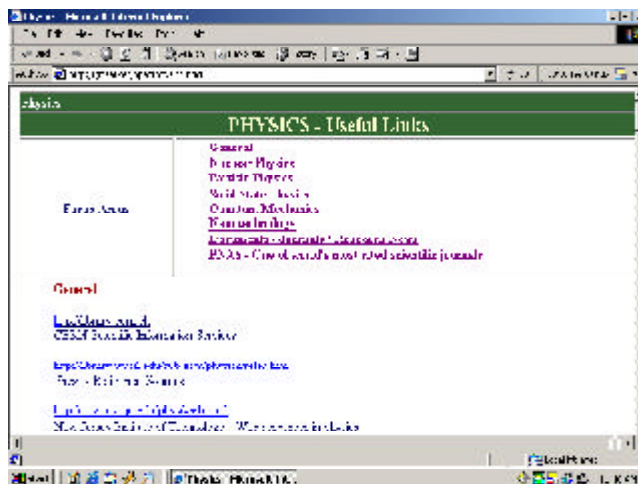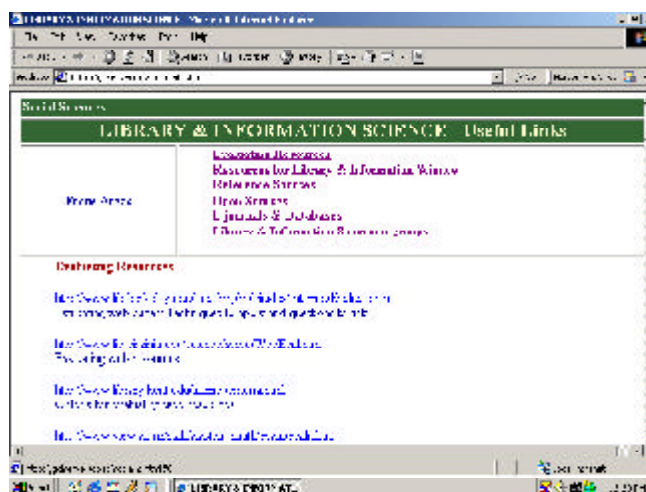Fig.14 - Research tools, Social Science Information Gateway, reference sources, ejournals and databases links are some of the areas covered, besides the links to qualitative methods such as survey resources, guide to questionnaires and survey guides, research methodology, tutorials, writing guides and qualitative data analysis software. Quantitative methods cover statistical resources, stat online textbook, free statistical software, training in statistics, statistical procedures and evaluation of information.

3.   Quality of Content

When selecting resources for gateways, it should be remembered that the content must make it easy for the gateway visitor to make decisions. The content should guide the thought process or else the user is likely to abandon the site.

Secondly the user must be confident that the resources connected from the gateway are reliable and have been verifiably assured. Trust in both the resources and the delivery mechanism is an intangible but vital benefit to be conferred on the user.

According to Fisher L.M. "On the Web, most information does not have an institutional warranty behind it, which really means you have to exercise much more judgment…. If you find something in a library, you do not have to think very hard about its believability. If you find it on the web, you have to think pretty hard".

4.   Conclusion

In this above context it is essential to state here that the subject gateways compiled by Guindy Campus Library were the result of understanding the users specific needs from profiling their use of resources. Regular inputs of information requests, information searches, discussions with the science community of the campus led to development of these gateways which in turn are illustrated periodically through orientation and training schedules for Faculty, Research Scholars and Students. Many more gateways on specific themes will be periodically uploaded for the benefit of the users.

The Library has come to realize that the means of providing access to resources will be critical to the success of any digital library implementation and this will continue to be a vibrant and fast moving area of technology advancement.

5.   References

1.   Deegan, M and Tanner, S. (2002). Digital futures: Strategies for the information age. London: Library Association Publishing. 20,148, 161-173 pp.

2.   Dussart, G. (2002). Biosciences on the Internet: a Student's guide. England: John Wiley and Sons Ltd. 173-178 pp.

3.   Mac Leod, R. (2000). Comment: What's the difference between a gateway and a portal? Internet Resources Newsletter (70). http://www.hw.ac.uk/libWWW/irn/irn70/irn70.html (25.11.2004)

4.   Consultative Committee for Space Data Systems. (2001) Reference model for an Open Archival Information System (OAIS). http://ssdoo.gsfc.nasa.gov/nost/isoas/us/overview.html (29.11.2004).

5.   Guindy Campus Library Online Public Access Catalogue(University of Madras, Chennai) (available on intranet only at present). http://gclserver/opac.unom.ac.in

About Author

Dr. R Samyuktha designated as Deputy Librarian, University of Madras, presently heading the Science Campus. Has work 20 years of experience with opportunities of heading the Medical Science Campus of Madras University and a Post Graduate College Library earlier. She is PhD(1995) in Lib.& Inf. Sc. from University of Madras. She has contributed about fifteen publications. Specializes in "Online Information Resources in Life Sciences, Medical Sciences, Physical, Chemical, Earth and Social Sciences". Organised several Workshops, National Seminars, Conferences, Lectures, Exhibitions, and Demonstrations of access to e-content. Participated in Workshops, National and International Seminars. Successfully completed the Library Automation Project of Science Campus Library of University of Madras.
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