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## **STRUCTURE AND ARCHITECTURE OF THE WORLD WIDE WEB VIRTUAL LIBRARY**

**Ayesha Taranum**, Consultant-design Studio, Madura Garments, Bangalore  
E-mail: [a\\_tara@yahoo.com](mailto:a_tara@yahoo.com)

*A computer based collection of documents, building and individually configured by the user is a "virtual library". This paper discusses one such library, namely [www.vlib.org](http://www.vlib.org).*

### **1. VIRTUAL LIBRARY**

A virtual library is defined as a computer-based, tele-communications connected information system providing services as any conventional library does. But it is a collection of documents, being continuously built and individually configured by the user, which expands beyond any single library collection. As a concept of library science, the definition of the virtual library tends to reflect the views librarians and information specialists hold of their profession and the imminent changes in the library field; it is seen mainly as a medium of distributing information. Seen from this point of view, the major task of the virtual library is to facilitate access to information on matters users consider important. The basic task is not to give one view but to give a variety of views into public and private matters. The most specific and evolutionary characteristics of the virtual library, therefore, is the opportunity for a user to make a personal contribution to the collection of documents. Libraries will thus, not only be distributors and suppliers of information but computer connected, organized meeting places where a user-to-user power discourse is maintained.

### **2. SCOPE OF A VIRTUAL LIBRARY**

The virtual library is a creation of an interactive and co-operative process of libraries and readers. It is based on a system, disintegrated by a central administration nor a hierarchical structure. In such a library it is not the books that are at issue, rather it is information. Information is for use, in terms of equality and equity every one should be able to benefit from access to information to realize his knowledge potential. In the virtual library, digitized electronic 'books' and navigation systems are available. The reader may search concurrently one or more collections of different libraries. He may provide his interface with intelligent agents to

keep abreast with current affairs. Services of modern telecommunications make it possible to be aware of new information materials faster and more effectively than before. One such resourceful virtual library on the Internet is the [www.vlib.org](http://www.vlib.org). This site has been created with a hope that this centralized data, distributed responsibility database will serve as the definitive guide to the Virtual Library, providing a searchable index to the various parts of the Project. The mission thus of the virtual library is best described as *Expert information services, by the experts, for the experts*

### 3. CONCEPTION OF WWW.VLIB.ORG

The vlib.org is the brainchild of the creator of the World Wide Web, Tim Berners-Lee. Unlike the commercial catalogues, which are run by one company, the virtual library is a loose confederation of a number of universities, institutions and commercial organizations who compile pages of key links for particular area in which they are experts. The VL is the oldest catalog of the web, and is widely recognized as being amongst the highest-quality guides to particular sections of the web.

The WWW Virtual Library Project was started at CERN in 1991 by Tim Berners-Lee to keep track of the development of the World Wide Web that he had just created. Arthur Secret continued the project from 1993, at CERN until August 1995 (the project was sponsored at CERN by RARE, that merged with EARN to form TERENA in October 1994), then on its own until December 1995, and at the W3 Consortium since January 1996. It is in 1993 that the Virtual Library project started getting distributed.

These "virtual librarians" are either scholars, postgraduate students, or networked-information specialists employed by universities, libraries, and research institutes. Their task is to maintain accurate, comprehensive, current and annotated catalogs of online resources selected on the strength of their reliability, authority and usefulness to inquiry and analysis regarding the subjects of which they are experts. Together this team manages many tens of specialist subdivisions organized by topic, country and region. They offer access to numerous Internet resources from around the globe, including archives, library catalogs, documents, bibliographies, and electronic-journal registers and mailing lists. To help readers track new developments, country-specific virtual libraries are maintained. Their collaborative philosophy enables individual editors to focus on his or her area of specialization, to build on colleagues' expertise, and to avoid redundant web monitoring and web cataloging. Unlike general purpose Web searching tools such as Yahoo, Infoseek, or Altavista, the VL allows scholars to locate and access research-orientated online publications and resources.

The VL is a decentralized, distributed online resource catalog, which consciously avoids hyperbole and "infotainment", aiming instead at the narrow and selected audience of academics, librarians, journalists, and students. Individual indexes are put up on hundreds of different servers around the world. A set of catalog pages linking these pages is maintained at Stanford University (California), by Gerard Manning. The catalog is mirrored at six different places, they are

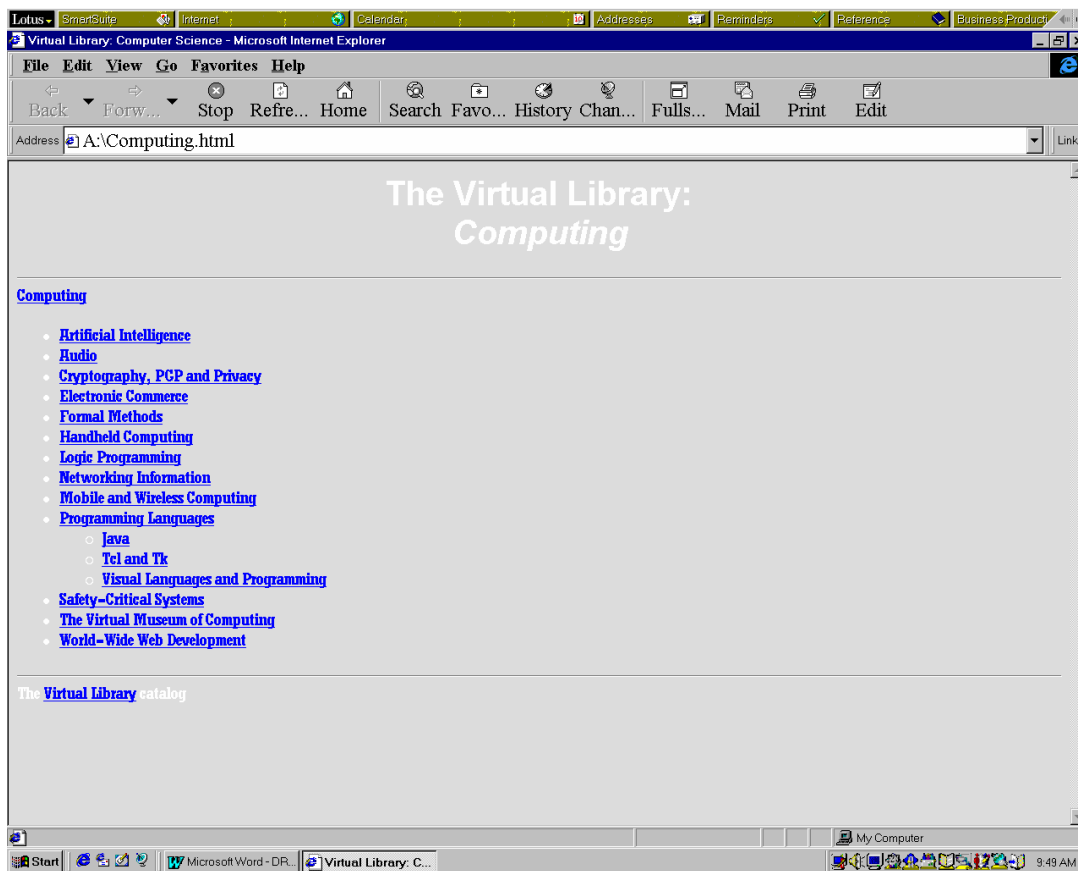
- ◆ Association for Asian Studies (AAS), USA
- ◆ International Institute of Asian Studies (IIAS),

- ◆ Netherlands Stanford University, USA
- ◆ Pennsylvania State University, USA
- ◆ University of East Anglia, UK
- ◆ University of Geneva, Switzerland [not regularly updated]

Each maintainer is responsible for the content of their own pages, as long as they follow certain guidelines. One person maintains the central catalog pages. A database of VL sections and their caretakers is also maintained by a few people, who maintain the VL mailing lists. The [www.vlib.org](http://www.vlib.org) home page is as shown in the Annex.

#### 4. BREAK UP OF THE VIRTUAL LIBRARY SITE:

The vlib.org catalogue consists of 14 main subjects, which are listed in a hierarchical manner and more than 287 virtual libraries form this network. The database of the site is a catalog of all the VL Divisions worldwide. This is a service provided to the 200+ Maintainers of the Virtual Library and the public at large. The subjects are classified broadly under 14 subject headings. These 14 subject headings are further classified under the parent subject, For example, the subject heading COMPUTING has various sub-divisions, a screen shoot of the computing section is as shown below.



Thus all the subjects headings have different number of sub-divisions. Engineering - 27 sub-divisions, Humanities - 15, Regional Studies - 14, Agriculture -14 Science - 11, Business & Economics - 9 and so on. Further divisions are also given under some of the sub-divisions for some of the subject, For example Science has 11 divisions i.e.,

Earth Science  
Bioscience  
Mathematics  
Physics  
Medicine and Health  
Statistics etc.

The vlib.org home page also hosts a search-engine, the allows searching based on Boolean operators. The result is in long or short format, which can be controlled by the users. This is a very useful search engine, which allows the user to get to the required data within minutes(Refer Annex.)

## **5. EVALUATION OF THE WEB-SITE**

Traditional databases available on the CD-ROM and from commercially available online services are usually evaluated on record cleanliness, scope of coverage, structure, and timeliness. Evaluating the scope and structure of a database and the cleanliness of the records are important steps in wise use of databases, even on the Internet. Bibliographic databases are easy to evaluate based on the accuracy and their static nature. Where as the Internet data are concerned, they are not static. They point to ephemeral pages that may have been accurately indexed at the time the database is created but which have since vanished, moved or changed or undergone a complete revamp. Therefore, all databases of web pages must be dynamic with constant attention given to the whole database. Despite this difference, Web databases can still be evaluated on scope, structure and currentness. We can evaluate this site by applying Ranganathan's Five Laws of Library Science.

In this context, keep in view the growing trends in Information Technology, we may perhaps agree that (1)

- ◆ Every reader his library
- ◆ Every contributor his contribution to the library

## **6. DRAWBACKS OF THE VL**

However, the VL is not free from demerits. For is to :

- ◆ Reoccurrence of information is very much a part of this library, for e.g. Gardening, appears in Bioscience, Recreation, and Agriculture; thus a proper indexing is necessary.

- ◆ Retrieval time: this depends mainly on the speed of the desktop. But since the data are spread over different areas all along the globe, it does take some time to access these sites.
- ◆ Data updation: The main site is updated every 7 days. But the sites maintained by the collaborators are not updated regularly, giving redundant data. Therefore, timeliness of the data cannot be assured on this virtual library site

## 7. CONCLUSION

Ranganathan's five Laws form the foundation for the virtual library by defining the minimum requirements for it. New information and telecommunication technology suggest that the scope of the laws may be extended to the virtual library appropriately. The virtual library:

- ◆ makes it possible for the user to configure a personal library and structure it;
- ◆ gives an opportunity as well as an obligation for the user to participate in building the library collection of documents and to use his/her right to act as an informed user of the society.

The virtual library can fulfill its tasks and function as a medium of social and cultural change, if its space is spanned by Ranganathan's Five laws of Library Science and, in addition, by two new laws formulated in the spirit of Ranganathan.

In the days of cyber library, electronic library and virtual library, the [www.vlib.org](http://www.vlib.org) stand out as a big example for its extra ordinary services. It has been growing at a fast pace and catering to the needs of the information hungry society. The search interface of the virtual library makes it easy for the user to retrieve data of his precise needs.

## 8. REFERENCE

1. Ranganathan's five laws of library science revisited, the challenge of the virtual library, Timo Kuronen and Paivi Pekkarinen, Herald of Library Science, V35, N1-2, Jan-Apr 1996.
2. [www.vlib.org](http://www.vlib.org)



