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# ICMR LIBRARY BULLETIN


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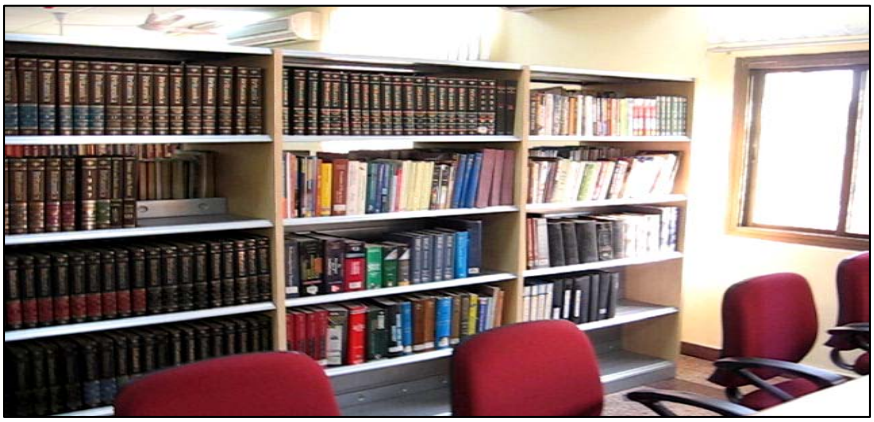


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# Library 2.0: An Overview of Next-Generation Library

## Introduction:

In this era of globalization things are changing with tremendous speed. Library and Information centres are also not remain untouched. Libraries, for their survival are also undergoing significant changes by incorporating the new technologies so that they could provide the users much better services. It is known to all of us that today ICT is playing a leading role in information dissemination. Libraries and Information centres which are engaged in collecting, processing and dissemination of information is also using the technologies for better service. Till now libraries and Information centres are only using those web technologies which provide one way communication of information i.e. via text – based tutorials which are static. But things are changing as much better web technologies are now appearing through which the libraries and information centers can improve their services. These web technologies will certainly replace the first generation of web technologies. Second generation of web technology is providing more dynamic, user friendly environment, as it is interactive, attractive and media – rich. Earlier web technology is only providing the information in Static manner but the coming technology will allow the user to exchange his ideas and convey his requirement to the information centres through much more sophisticated tools. These tools will make the library page not only attractive but interactive with the inclusion of animation in it. These features will not only allow the users to use the resources but also to contribute and collaborate with libraries.

## What is library 2.0?

How Library 2.0 can make a difference is a matter of prime concern. It can be seen only after discussing some definitions of Library 2.0. Library 2.0 is a term coined by Michael Casey.

i) It is the application of interactive, collaborative and multi – media web based technologies to web based library services and collection.
ii) Library 2.0 is nothing but it is the use of web technology in making the services much more attractive, interactive where users can contribute and at the same time able to

evaluate the services provided.

iii) Library 2.0 is very much influenced by technology driven, two-way, social interaction between staff and staff or staff and patrons.

## Important Characteristics of Library 2.0:

**i)** ***Focuses on users:-*** Users are the main element of library 2.0. In Library 2.0 user defines his need and get the desired with interactive support from the Library. Users here also act as contributors.

**ii)** ***Proper use of Multimedia:-*** Library 2.0 technology uses Multimedia to make the things much more attractive. The services that are being provided through Library 2.0 use video and audio effect.

**iii)** ***High level of Communication:-*** As it includes instant messaging and wikis facilities thus Library 2.0 supports communication in both ways.

## Various Technologies on which Building Library 2.0 is Based:

Some of the web technologies which can act as base for creating and maintaining the Library 2.0 are listed below.

**i)** ***Asynchronous Messaging:-*** It is that technology which allows real-time communication in text form between the individuals. Instant messaging makes the two way communication possible. Using this technique libraries and Information centres can provide the reference service to its users in real-time. We can use this technology in helping the users like if they get struck in their searching of online resources help could be provided through Instant messaging service.

**ii)** ***Weblogs (Blogs):-*** Blogs are another form of publication. These are essentially the best way of presenting the views and ideas in front of others. They lack editorial governance. These can be included in collection policy or we can have an automated blog – collection development system.

**iii)** ***Wikis:-*** These are a kind of open web-page, where anyone registered with the wikis can publish and can also evaluate the services of the library. It is similar to weblogs

but differ in the sense that it provides some right to user to post their views. Wikis is a nice platform for the users to express. Library and Information centers could also get benefit of it as they can obtain the feedback from the registered users in doing so they can not only evaluate themselves but also can improve their services.

iv) ***RSS Feeds:-*** RSS stands for Really Simple Syndication. RSS feeds are automatic alerts sent to user about topics of their interest as soon as they become available. RSS feeds provide users a way to syndicate and republish on the web.

v) ***Streaming Media (Video-Audio):-*** Multimedia on the web-page can make it much more interactive. The libraries can use media rich facets (both audio-video) in their web page to make it much more interesting and at the same time much more interactive.
The Association of College and Research libraries Instruction section provides a database of tutorials, many of which are web 2.0. Many such kind of tutorials use flash programming, screen cast software, or streaming audio or video.

vi) **Flickers:-** These are the tags which are used for the data search they act as a link to main source of information**.** These act as a metadata tag for the searching.

## Conclusion:

The library 2.0 technologies helps in building of virtual application involving the users in imparting service, which can further help library to perform better. As search engines are providing much better and user friendly environment it is difficult for the libraries and Information centres to retain their user with the age old, slow, unresponsive and unattractive approach. There is a need of change not only to retain the old users but also to add some new one also that can be possible only if we start using latest tools in web technology like that are available with Library 2.0 approach.

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# OPEN SOURCE SOFTWARE (OSS)

The biggest news in the software industry in recent months is **open source**. Every week in the technology news we can read about IBM or Oracle or Netscape or Corel announcing plans to release flagship products as open source or a version of these products that runs on an open source operating system such as Linux. Dozens of new open source products along with regular news of upgrades, bug fixes, and innovative new features for these products are announced every day at web sites followed by thousands.

## Open Source Software: What it is?

A variety of interpretations exists with regard to the nature of free and open source software, sometimes confusing it with different kinds of gratis software or liberally using the term for either the development process, the software product or a particular licensing scheme. Free and open source software is also often mentioned in the same breadth as open standards or interoperability, which are distinct issues in their own right.

Many of the servers and applications running on machines throughout the wired world rely on software created using the open source process. Examples of such software are **Apache**, the most widely used web server in the world, and **sendmail**, "the backbone of the Internet's email server hardware." Open source means several things.

- Open Source Software typically created and maintained by developers crossing institutional and national boundaries, collaborating by using internet based communications and development tools.

- Products are typically a certain kind of “free”, often through license that specifies that the application and source code (the programming instructions written to create the applications) are free to use, modify, and redistribute as long as all uses, modifications, and redistributions are similarly licensed.

- Successful applications tend to be developed more quickly and with better responsiveness to the needs of users who can readily use and evaluate open source applications because they are free;

- Quality, not profit, drives open source developers who take personal pride in seeing their working solutions adopted;

- Intellectual property rights to open source software belong to everyone who helps build it or simply uses it, not just the vendor or institution who created or sold the software.

The **Open Source Initiative (OSI)** defines Open Source Software as software providing the following rights and obligations:

- **Free Redistribution**
  Anyone who received the software legally can share all of it with anyone he likes without additional payments.

- **Source Code**
  The source code of the software must be distributed as well or be available at reasonable reproduction cost.

- **Derived Works**
  The modification of the software and the distribution of this derived work must be allowed.

- **Integrity of Author's Source Code**
  The distribution of modified source code must be allowed although restrictions to ensure the possibility to distinguish the original source code from the derived work are tolerated, e.g. requirement of different names.

- **No Discrimination Against Persons and Groups**
  The license must not discriminate against any person or group of persons.

- **No Discrimination Against Fields of Endeavour**
  The license must not forbid the usage of the software in specific field of endeavor, e.g. business or genetic research.

- **Distribution of License**
  The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

- **License Must Not Be Specific to a Product**
  The rights given by the license must not be different for the original distribution and any other one even when it takes place in a totally different context.

- **License Must Not Contaminate Other Software**
  The license must not demand any condition on the software distributed along with the licensed software, e.g. 'distribution only with other open-source software' is not allowed.

**How It Works?**

Open Source is a term coined in **March 1998** following the Mozilla release to describe software distributed in source under licenses guaranteeing anybody rights to freely use, modify, and redistribute, the code. The intent was to be able to sell the hackers' ways of doing software to industry and the mainstream by avoid the negative connotations (to suits) of the term "free software".

In other words, when a programmer starts an open source project, he publishes the source code for anyone to use and invites other programmers to

collaborate with him in the development of the project. Volunteer programmers can then add, update or fix the code.

Users of an open source software may use, modify and redistribute the software and code freely as long as they comply with the **license agreement**.

## Open Source Licenses:

An **Open source license** is a copyright license for computer software that makes the source code available under terms that allow for modification and redistribution without having to pay the original author. Such licenses may have additional restrictions such as a requirement to preserve the name of the authors and the copyright statement within the code. One popular (and sometimes considered normative) set of open source software licenses are those approved by the **Open Source Initiative (OSI)** based on their **Open Source Definition (OSD)**.

**Open source licenses** may be broadly categorized into the following types:

**(1)** Those that apply no restrictions on the distribution of derivative works (we will call these **Non-Protective Licenses** because they do not protect the code from being used in non-Open Source applications). Some of the examples are **Apache Software License v.1.1; Apache Software License v.1.1; Open Group Test Suite License; etc.**

**(2)** Those that do apply such restrictions (we will call these **Protective Licenses** because they ensure that the code will always remain open/free). Some of the examples are, **Apple Public Source License v.1.2; Artistic License; Common Public License v.1.0; GNU General Public License v.2.0; GNU Lesser General Public, etc.**

## Is Open Source Good For The End User?

Let's list the pros and cons of open source in the perspective of the end user, starting with the cons.

**Cons:**

- Some open source projects assume the end users have more technical knowledge than they actually have. This is mainly true in earlier versions of the application development.
- Some open source projects are being abandoned in the middle of the development. This is especially true when it comes to less-than-popular projects
- Sometimes it's hard to get the support for the open source application-paid or free. Gain, this is true for not-so-popular projects.

**Pros:**

- Open source application are mostly distributed free of charge.
- Open source development puts the end user above any commercial considerations.
- Users can get involved in the development of their preferred software; submit bugs, request new features, etc. It is not like sending bugs and request features to a proprietary software

company, if you ever tried to do it with favorite proprietary application you probably realized that you usually don't know if and when your bugs and requests will be addressed. In open source projects you have access to the list of current bugs and requested features, as well as, to the development roadmap.

- Security holes are found and fixed generally faster than in proprietary software.
- Updates, bug fixes and new versions are available more frequently.
- Access to the source code allows the end user to customize the application as he sees appropriate, providing he has the necessary knowledge or resources to modify the code.
- The user can search for security holes or back doors by himself. There has been some concern by government agencies, as well as by private companies, that the proprietary software companies may include a back door entrance in the application. The software developer or any third party aware of the back door, may take advantage of it, enabling them access to classified information. Having access to the source code, although do not totally eliminates this possibility, gives the end user (government agencies, banks, corporations, etc) the ability to make sure such back doors do not exist, something you cannot do with proprietary software.
- If anything happens to the developer or company involved in the project, you can always ask other developers to continue the project. As a matter of fact, many projects were abandoned in the middle of development, by the founder, and were picked up by others who continued the development afterwards.

**Some important points to be consider when choosing an open source application.**

- Make sure that the selected open source application is popular, has an active community and is updated frequently.
- Make sure the technical knowledge requires to install, run and maintain the application is within one's current knowledge or available resources.
- Make sure to always get the latest stable version and that the application is in production phase and not a beta or alpha version. Due to the nature of open source, all applications are available for download from an early development stage, and they are not necessarily ready for use by the end user. As a rule any software version smaller than 1.0 (such as 0.8), does not have the full functionality implemented and may have more bugs than a production line application has.

## Open Source and Libraries:

Open source could improve libraries, as it has many strong cost advantages

1. OSS costs much less to get initially. OSS isn't free in the

monetary sense, because the “free” in “free software” refers top freedom, not price.

2. Long-term upgrade costs are far less for OSS systems.
3. There’s no license management or litigation risk in simply using OSS. Some OSS do have legal requirements, in case a program is modified or embed the program in other programs, but proprietary software usually forbids modifying the program and often also imposes licensing requirements for embedding a program.
4. OSS can often use older hardware more efficiently that proprietary systems, yielding smaller hardware cost and sometimes eliminating the need for new hardware.

OSS used in the libraries with a few line descriptions,

1. **Greenstone digital library software (GSDL)**, **www.greenstone.org**. It is a comprehensive suite of software for building and distributing digital library collections.
2. **DSpace- http://dspace.org/**. It is an institutional repository system “that captures, stores, indexes, preserves, and redistributes an organization’s research data”.
3. **Fedora- www.fedora.info/** Sponsored by the University of Virginia Library and Cornell University with support from the Andrew W. Mellon Foundation, the Fedora project is “devoted to the goal of providing open-source repository software that can serve as the foundation for many types of information management systems”.
4. **Mylibrary- http://www.deway.library.nd.edu/mylibrary/Mylibrary** is developed by Erics Lease Morgan. It is portal for library written in pert language with foundation of relational database application using MySQL and postgreSQL.

## Conclusion:

There are some very powerful solutions available today that could be used to create a much more resourceful library, whether it's a large college or state financed operation, or a local community library that before probably didn't do much for that community in the technology department. **By using open source software in the library, money that otherwise would be spent on software solutions can be used for other important resources**, such as purchasing additional media resources (books, magazines, DVDs), or can be used to hire educated, technical support that provides patrons with the know how to better use already existing resources. In addition, this free software is constantly being updated, changed, and customized to meet the library's needs.

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# NEWS

**Fourth International Conference on Webometrics, Informetrics and Scientometrics & Ninth COLLNET Meeting, July 29 - Aug 1, 2008, Berlin, Germany**.

COLLNET is a global interdisciplinary research network of scholars who are concerned to study aspects of collaboration in science and in technology. *The Scope of the Conference is* Quantitative aspects of science of science.Collaboration and communication in science and in technology. Science policy. Combination and integration of qualitativeand quantitative approaches. Theoretical, methodological and applied aspects.

**NACLIN Organises its Eleventh National Convention on Knowledge, Library and Information Networking, from Nov 4 to 7, 2008, at Karunya University, Coimbatore**.

For more information, you may please have a look at: http://www.naclin.org

**12th International Conference of the International Society for Scientometrics and Informetrics, July 28-31, 2009, BIRME, Rio de Janeiro, Brazil.**

The ISSI 2009 Conference will provide an international open forum for scientists, research managers and authorities, information and communication related professionals to debate the current status and advancements of Scientometrics theory and applications, with emphasis on the progress of scientometrics and science in developing countries. ISSI 2009 is aimed at a broad multidisciplinary audience. It includes researchers, policy-makers, educators, librarians, information science professionals, and students interested in the dynamics of research productivity, scholarly communication networks, information retrieval and evaluation.