

Application of Web 2.0 Technologies in Libraries: Designing RSS enabled Library web site-A DCE Experience

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The paper describes the role of Library web site in information dissemination and conceptual outline of emerging technologies with special reference to Web 2.0 services that are transforming the structure of the web and their potential impact on the environment of Library & Information Centers and Learning Content Management Systems (LCMS). This paper presents an overview of Web 2.0 including definitions, technologies involved and ways of writing XML code for RSS

Web 2.0, Blog, RSS, Atom, CSS, Social Networks, XML.

Introduction

Internet and online resources are fast becoming the first point of approach for information. Libraries all over the world have been making determined efforts to exploit the internet technology for improving the quality of library services in general and for integrating the e- resources in particular. Keeping this in view, library websites are coming up increasingly.

Library websites are designed to meet a range of needs, providing access to both internal library resources and appropriate Internet resources. Users expect library websites to act as 'Gateway to library resources'.

FUNCTIONS OF LIBRARY WEBSITE

Library website performs different functions. Bhat(2009) identifies them as under:

- i. It serves as a workstation where user finds databases, electronic texts and online catalogs, all in one place;
- ii. It is a tool for integrating both printed and online resources;
- iii. It is a vehicle for making the library services available on the internet;
- iv. It helps to market the library services in the quickest way.
- v. It is used as a window to the WWW by making available both subscribed and evaluated free e-resources for the benefit of library users.
- vi. It serves as a communication tool through which news about library resources, events, working hours etc can be disseminated to the users.
- vii. It enhances the image and visibility of library.

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BASIC CONCEPTS RELATING TO WEBSITES

Home Page

The homepage is the main page or starting page of a web site. Typically, the home page serves as an index or table of contents to other documents store at the site. It is the welcoming page of the website.

Search box

Search box is a box placed on a Web site to help the user search the site for a specific word or term. Additional search boxes can also be made available to find information elsewhere on the web.

Sitemap

A **site map** (or **sitemap**) is a graphical representation of the architecture of a web site. It is a web page that lists the pages on a web site, typically organized in hierarchical fashion. This helps visitors to get a feel of the contents of the entire website in one look.

Webmaster/Web administrator

A **Webmaster /Web administrator** is a person responsible for designing, developing, marketing or maintaining a website. The webmaster may also be called a system administrator, the author of a site, or the Web site administrator.

Navigation

In the context of websites, navigation is the science and skill of moving from one page to another.

Links

It is another word for hyperlink. Hyperlink (or simply called Link) is an icon, graphic, or word in a file that, when clicked with the mouse, opens another file for viewing or it takes the user to another location in the file. Web pages often include hyperlinks to other pages at the same or another website.

CONTENTS OF LIBRARY WEBSITE

The contents of library website in any institution are determined by the users expectations while visiting the site.

According to Elsevier User Centered Design Group Study (Jasek, 2004), the following are the four most important tasks the users have while visiting a library site (in the context of academic libraries).

- a) Conducting research to find materials such as journal articles, indexes and books
- b) Finding course materials such as lecture notes, reserved books, suggested links, question papers etc.
- c) Finding information about the particular library such as location, opening hours etc
- d) Getting help in using a library and library website

Novlgian and Zumer (2004) suggest that due to their hybrid nature, modern library websites should include at least:

- Information on traditional library holdings;
- Information on and access to (licensed) electronic resources;
- Information on and access to library's own electronic resources; and
- Links to other interesting information.

By studying various special library websites, we can notice that the following are the standard contents

- i. Opening hours, Loan hours, Library notices etc
- ii. Library OPAC
- iii. List of journals, videos etc
- iv. Instruction on location of the library, particularly in case the parent organization is spread over a large campus.
- v. Library rules and regulations
- vi. Information on branch libraries (if available)
- vii. Staff contacts (telephone, email etc)
- viii. News about the special programs, events etc
- ix. Facilitates for feedback, library surveys
- x. Welcome messages
- xi. Links to evaluated e-resources. This is a combination of subscribed e-resources, databases and free web resources. This facility minimizes the time consuming searches and reduces the need for clients to critically evaluate the resources.

Web 2.0 Concept

The World Wide Web has undergone many innovative changes, such as changes in application design (e.g., the look and feel components), development technologies and tools (e.g., Java scripts, Flash technology, etc.), and services provided (e.g., commerce, social networking, collaboration, etc.).

In recent years there has been a significant rise in social network web sites and online applications where, "like minded users share resources, create tags and label contents and rate them in some way. Such applications vary greatly, ranging from web sites where you can add, organize and share: bookmarks (e.g., del.icio.us), academic references (e.g.

CiteULike.org), and photographs (e.g., Flickr.com). One thing that all these web sites have in common is their emphasis on online collaboration and the sharing of resources among users.

Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an "architecture of participation." (O'Reilly Radar, 2005).

Web 2.0 harnesses the Web in a more interactive and collaborative manner, emphasizing peers' social interaction and collective intelligence, and presents new opportunities for leveraging the Web and engaging its users more effectively.

Web 2.0 Tools & Technologies towards Libraries

Web 2.0 is an umbrella term encompassing several new Web technologies, which is describe in the following sections.

Blogs

A blog, short for Web log, is a powerful two-way Web-based communication tool .A blog is a Web site where people can enter their thoughts, ideas, suggestions, and comments. Blog entries, also known as blog posts, are made in journal style and are usually displayed in reverse chronological order. A blog entry might contain text, images, or links to other blogs and Web pages, as well as to other media related to its topic. Most blogs are primarily textual, but some focus on photographs (photoblog or photolog), videos (videoblog or vlog), or audio (podcast). A blog written from a mobile device such as a pocket PC, mobile phone, or PDA is called an *mblog*, and real-time blogging is known as liveblogging. A blog can be private (internal to an organization) or public.

Wikis

A wiki is a simple yet powerful Web-based collaborative- authoring (or content-management) system for creating and editing content. It lets anyone add a new article or revise an existing article through a Web browser. Users can also track changes made to an article. The term wiki is derived from the Hawaiian word wikiwiki, which means fast or quick. The user-generated online encyclopedia Wikipedia (<http://en.wikipedia.org>) is a wiki.

Mashups

A Web mashup is a Web page or Web site that combines information and services from multiple sources on the Web. Similar to music mashups, where artists combine, for example, vocals from one song with the music from another, Web mashups combine information and/or complementary functionality from multiple Web sites or Web applications. A Web mashup server lets you connect, collect, and mash up anything on the Web as well as data on some backend systems. Mashups can be grouped into seven categories: mapping, search, mobile, messaging, sports, shopping, and movies. More than 40 percent of mashups are mapping mashups

Tags, Folksonomy, and Tag clouds

Tags are keywords added to articles in blogs or Web pages via social page tag tools such as del.icio.us (<http://del.icio.us>), Technorati, and Yahoo's My Web. Most blogs and Web publications use tags. Tags are also known as labels, and the process of creating tags is known as tagging.

Folksonomy refers to user-created taxonomies of information. It is an ad hoc classification scheme that Web users create as they surf the Web to categorize the content they find online. It uses collaboratively generated, open-ended tags or labels that categorize content such as Web pages, online photographs, and Web links. A special feature of folksonomies is that they don't have a hierarchy as in professionally developed Taxonomies with controlled vocabularies, and hence they're inherently open ended. Folksonomies (such as user-created tags for photos on Flickr and tags for book marking in Del.icio.us) can, therefore, respond quickly to changes, innovations, and fads in how users categorize content on the Web.

Social Book Marking is the process by which users bookmark interesting pages and assign tags to each. Users can then share their tagged bookmarks (see, for example, del.icio.us). Social book marking is a great way of capturing contextual knowledge.

Really Simple Syndication (RSS)

RSS is a family of Web feed formats used for syndicating content from blogs or Web pages. RSS is an XML file that summarizes information items and links to the information sources. It informs users of updates to blogs or Web sites they're interested in Web or blog RSS feeds are typically linked with the word "subscribe," an orange rectangle, or with the letters XML or RSS in an orange box. Feed reader or aggregator programs can check a list of feeds on the user's behalf and display any updated articles they find. Popular Web browsers have built-in feed readers or aggregators, and you can easily add feeds to your Web page. Atom is another syndication specification aimed at resolving issues of multiple incompatible RSS versions

Steps in Designing RSS Feeds

Planning

A number of important questions need to be considered before designing a RSS feed for the library website

1. Purpose of the RSS feed. What we want the feed for? It is for promotion?
 2. Audience
 - i. The desired audience will have a great impact on how the feed is created and what will be the contents.
 - ii. Products/Services
- Which ones will be publicized through the feed?
 - How to arrange them on the feed?
 - iii. Making patrons use RSS feed
- What you will be doing to attract people?

Brainstorming has to be made by the library staff on the above issues at the planning stage and the necessary information needs to be gathered. A focus group meeting, involving the library users and taking their views too will be of help.

5.2 Implementation

Once the planning is done, the following are then next steps:

- 1) Make a document containing initial thoughts and revise it if needed
- 2) Select a tool for designing
- 3) Design the feed
- 4) Put it on the website ,Publicise it and monitor it closely
- 5) Evaluate and change it accordingly

Creating RSS Feeds

Various tools are available for designing the RSS feed, such as MyRSSCreator, Feedfireone etc. apart from XML which is used by DCE Library

Using XML Programming

XML stand for eXtensible Markup Language designed to exchange and transfer Information like other markup languages i.e. HTML ,XML also uses tags .However unlike HTML where tags are pre defined in XML user (programmer) defines tags. XML documents are commonly stored in text files that end with the extension .xml, although this not a requirement and any text editor can be used.

Web 2.0 Technologies and DCE Library

Delhi College of Engineering is one of the oldest engineering institutes in India established in 1941 and known for quality education in the country. The college library provides web based services to users and uses web 2.0 technologies like RSS Tool Bar and Blogs to keep users updated. The library web site can be accessed at www.library.dce.ac.in. A screen shot of home page is given below



XML coding used by DCE Library for RSS FEED

```
<?xml version="1.0" encoding="UTF-8" ?>
= <rss version="2.0">
= <channel>
<title>DCE Library: Annoucements</title>
<link>http://www.dce.edu/library/</link>
<description>Get the latest annoucements from DCE Library</description>
<language>en_US</language>
<copyright>© Copyright 2008, DCE Library. All Rights Reserved.</copyright>
<pubDate>Thu, 6 Apr 2008</pubDate>
<lastBuildDate>Thu, 6 Apr 2008</lastBuildDate>
<category>DCE Library Annoucements</category>
<ttr>60</ttr>
```

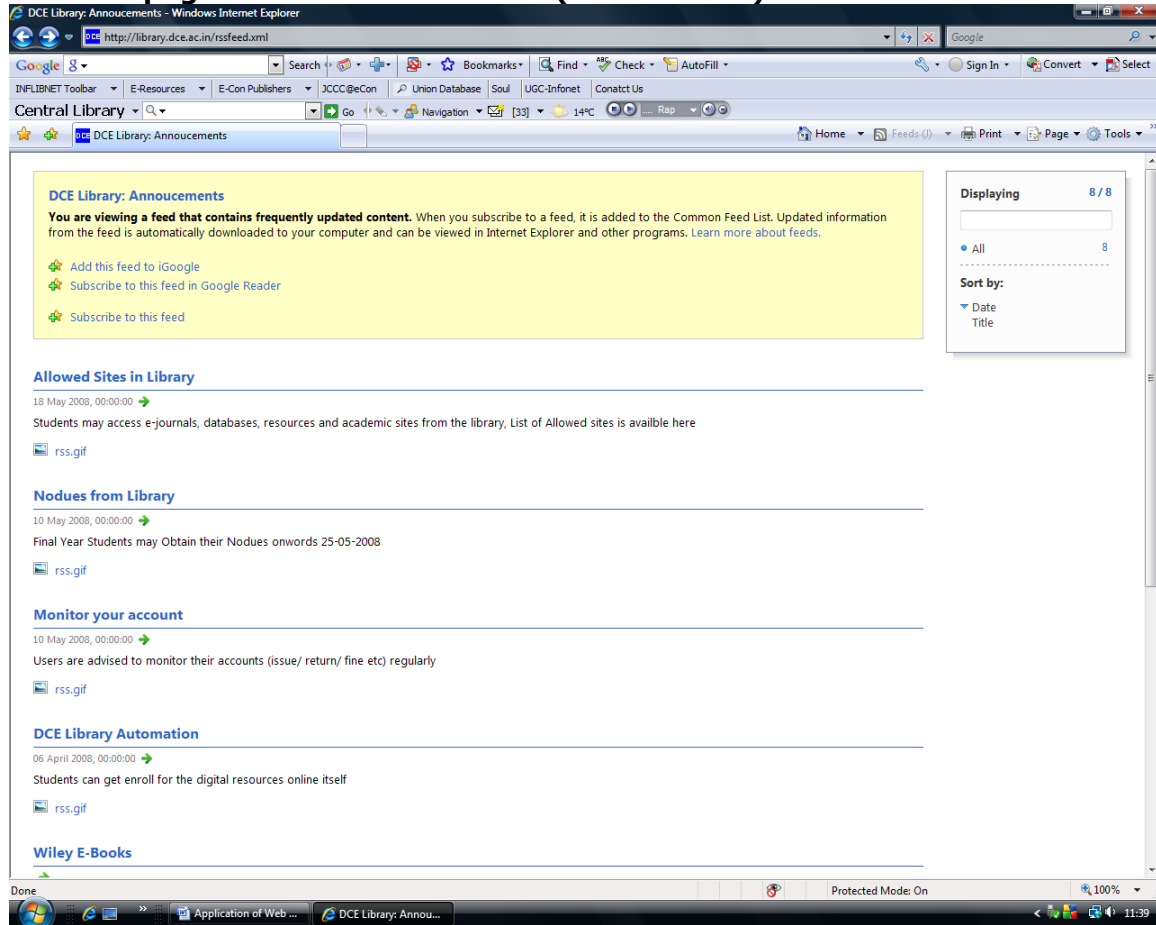
```

= <image>
<title>DCE Library</title>
<url>http://dce.edu/library/images/library.gif</url>
<link>http://www.dce.edu/library/</link>
</image>
= <item>
<title>Sites Allowed in Library</title>
<link>http://www.dce.edu/library/allowedsites.php</link>
<enclosure type="image/gif"
url="http://www.dce.edu/library/images/rss.gif" />
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isPermaLink="true">http://www.dce.edu/library/allowedsites.php</guid>
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institutions, and related useful resources. Students may view the list of
allowed sites in library</description>
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library membership</description>
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Text Books, Reference Books, On-Line journals, CD- Databases etc. A Print
format of requisition form may also be obtained from the
library.</description>
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2008</description>
<pubDate>Thu, 10 May 2008</pubDate>
</item>

```


</channel>
</rss>

How the page Looks in Feed Reader (screen shot)



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See <http://del.icio.us/>.

See <http://www.flickr.com/>.

See <http://www.CiteULike.org>