

What can librarians learn from the Internet's 10 most popular sites?

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Abstract:

This paper discusses results from research undertaken during 2005 which examined the Internet's ten most popular websites and the functions and features of these websites that can be applied to library web pages. Qualitative interviews were undertaken with library web developers to provide an understanding of some of the issues affecting the library web pages that are being designed and built today. The research results provide valuable information from popular and library websites that can be used to improve the design, functionality, use of technology, content, feedback and planning of our next generation of websites.

Introduction

In Australian libraries today we are seeing library web developers pushing the boundaries in terms of the technology used, functionality and ease of navigation within the websites and portals now being developed. There is no doubt that librarians have been early adopters of technology which is evident through the early development of OPACs, online databases and the building of web pages to assist our users to access stored information. The technology available now has given web developers the chance to design and build web pages that are easier to manage, update and modify which is hopefully leading to a positive impact on the user experience.

Given this information and our experience with technology and the Internet there is a debate that librarians should be leading the way in areas such as search interfaces and website functionality with our major skill set being that of managing information. (Griffiths, 2004) Have librarians missed their chance to lead the revolution in the way the general population search and access information? Are we as librarians losing the battle with the Internet search engine giants Google and Yahoo? Could Google overtake some of the main functions of our libraries in the way users research and investigate topics. Could libraries just become repositories with links to the popular search engines?

This paper examines the Internet's most popular websites currently in Australia using Nielson Net Ratings.

Australia: Top 10 Parent Companies Month of August 2005 Home/Work Panel

**Property
Name
Unique
Audience
(000)
Reach
%
Time
Per
Person**

Microsoft
8,691
80.28
02:41:01

Google
7,275
67.20
00:40:47

Yahoo!
4,829
44.61
01:21:51

Telstra
4,769
44.05
00:29:17

eBay
3,768
34.80
02:46:06

Australian Federal Government
3,220
29.75
00:24:59

News Corp. Online
3,084
28.48
00:40:48

Fairfax Digital
2,580
23.83
00:35:57

Time Warner
2,286
21.11
00:38:28

Apple Computer
2,196
20.29
00:36:23

(Nielsen-netratings, 2005)

There are problems associated with measuring the top 10 or most popular sites on the Internet. The companies that do measure these statistics measure them quite differently.

Another related problem is the difficulty in comparing Australia's results to other countries such as the United States or the United Kingdom. The author has used Nielsen Net Ratings for the information above, due to their experience and relative authority in this area. Many of the companies researched do not measure these statistics across countries. Nielsen Net Ratings have listed such statistics for Australia, the United States and the United Kingdom, and there is a pattern amongst the top 3 in all three countries with Microsoft, Google, Yahoo! websites leading the way with eBay and government websites following closely behind.

Why is this important? To obtain such a level of popularity, the Microsoft, Google and Yahoo! websites must be successfully meeting the needs of their users. If this was not the case then users would not be returning to these websites. This paper will not list poor (library and non-library) websites that are cluttered, with little consistency across their site (although many were found in the research for this paper), as this is not the focus of this paper. The functionality, design, use of technology, content and purpose of these popular websites must strike a chord with Internet users for them to keep coming back. These areas will be discussed in the comparison between the Internet's most popular websites and Australian library websites.

Methodology

Six library web developers were contacted to be interviewed for the research. The author felt it important to have representatives from academic, public and special libraries to provide adequate coverage across the field of librarianship. The six web developers were chosen at random through a search of Australian library websites, with the web developers contacted through a telephone call to the information desk asking to speak with the web manager. All six accepted and agreed to take part in a qualitative interview, with all participants to be kept anonymous. (The survey instrument is listed in the appendix as Appendix A). Anonymity was a deliberate aspect of the interview process, so respondents were able to discuss the websites that they manage in a more open and free manner. This allowed the author the opportunity to delve into areas such as how often the websites were updated, management's view of the functions of the website and results from the testing of website functionality on patrons.

The qualitative nature of the survey was also used deliberately, as it enabled the web developers to answer the questions but also gave the author the freedom to delve further into issues that were raised in the set questions.

Body

Australians have taken to the Internet in droves, with the total number of Internet subscribers in March 2005 at 5.98 million, which is up 15% from the March 2004 figure. (Australian Bureau of Statistics, 2005) Library users are becoming more familiar with the Internet and some of the search engines available such as Google. Reference librarians in academic libraries are grappling with students who are using Google to obtain significant amounts of information freely over the Internet, regardless of the content quality. Content quality is still

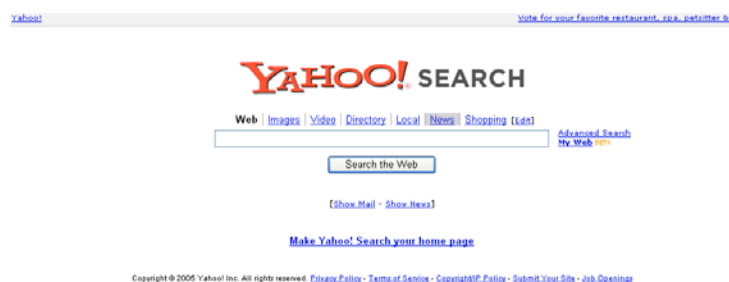
a very big issue for academic librarians and the information they supply to university students. Google Scholar may be seen as a threat to libraries as the task of searching for information that may be of some academic merit is being made a little easier. The key for the user here is access and the ease and speed to which the information is available and supplied. By simply entering a natural language query into an uncluttered screen users are finding information that must be of some relevance for them. This is information that they see as relevant not what librarians are directing them to, with the librarian as the intermediary being left out of the loop.

Design

The look and feel of a website has a big impact on the way users interact with a website. Some of the features that affect the look and feel of a website are the text, graphics, consistency through the site and navigation tools. Google and Yahoo! Search screens are very similar as shown below.



(Google, 2005b)



(Yahoo!, 2005)

Ninemsn proudly espouse that “ninemsn is Australia's number-one website destination, capturing the largest online audience in Australia, with 7.2 million people visiting ninemsn each month. This means that 73 percent of all Australians online use ninemsn regularly to get the news, information and communication services they want.” (ninemsn, 2005a)



(ninemsn, 2005b)

With such a tremendous amount of traffic heading to ninemsn it can be assumed that they are offering a website that must be meeting the needs of its client group as the client group must currently be able to navigate successfully through the ninemsn site to view the services and products they provide.

Consistency in terms of design is evident through many of the websites listed in the top 10. Most sites kept menu items or toolbars in the same place which makes navigating through an individual website far easier. Fonts and colours are kept consistent throughout the sites as well. This assists the users in becoming more familiar with the website's brand. This was raised as a significant issue by library web developers. Two of the library web developers stated that it was very difficult to maintain consistency in design across the entire library website as there were problems with the high number of pages on the sites and the constant upgrading of the style sheets. One librarian mentioned the problems with the inconsistencies in design and the impact this was having on the library in trying to build its own brand. The organisation's colours from the logo formed the palette for two web developers across their organisation to provide attractive colours for the website.

Design and brand features are extremely important in the most popular websites. Librarians are having to battle to build their brand in libraries. Take for example an academic library: users accessing information on the web may be shunted to the catalogue or a database. Once the user moves away from the library website and accesses a library database, such as ProQuest for example, the user will most likely encounter no information or branding from the host library that states this was a service offered by the library. The user may be under the impression that the database was able to provide the information, not the library.

Functionality

Many of the library web pages the author examined had menu items down the left hand side that could expand once selected to show further menu options. However, many of the top Internet sites also had a toolbar at the top of the screen that was consistent through the website, allowing the user to navigate freely to areas that were of interest. Examples such as ninemsn, eBay and Apple are given below.

Toolbar examples



(ninemsn, 2005c)



(eBay, 2005)

and

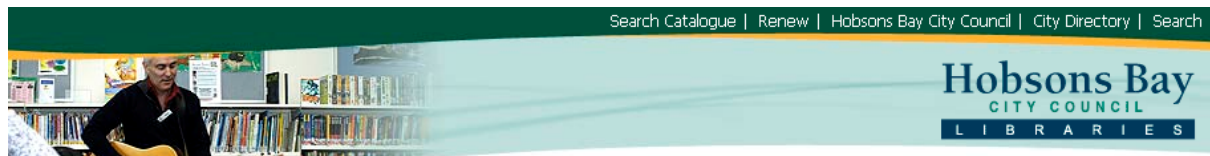


(Apple, 2005)

It should be noted here that toolbar examples from Library websites were difficult to find, as library websites are often well hidden on the parent company website. Several respondents stated that it was a challenge to have the link to the library placed on the parent company's home page. This may indicate that the library is not a truly valued part of the organisation. The library is now often put under the quick links part in a drop down menu.

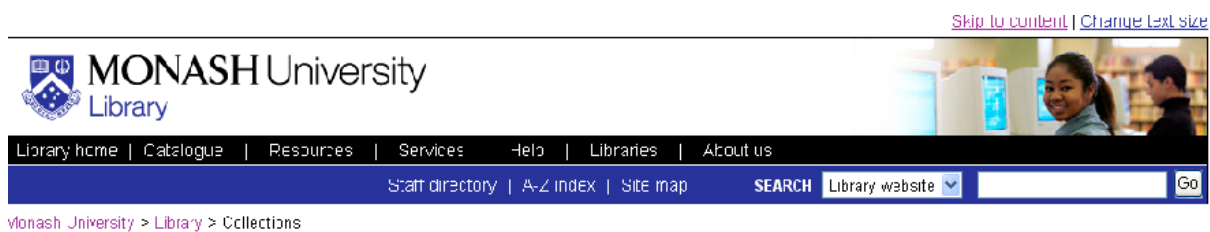
Responses from the survey have indicated that the functionality of the web page is greatly improved if there is consistency with menu items and links throughout the pages, so users can navigate easily throughout the site. The terms for each menu item or toolbar need to be chosen very carefully, so they can inform the user of current services or parts of the Internet site that may be of interest.

In a random search of public library web pages the author noted Hobsons Bay Libraries use a minimal toolbar across the top of their website and an extensive menu list down the left hand side of the page, whereas Frankston Public Library uses a slightly more extensive toolbar at the top and a small menu list on the right side of the page.



(Hobsons Bay City Council, 2005)

Monash University Library's toolbar is very clear, with links to the main areas of the library and a locator function under the toolbar that tells you where you are.



(Monash University, 2005)

Use of technology

There is little point in a team of librarians building quality content if the web designers and technology team are unable to provide the technology that allows seamless interaction.

Technology and its use in libraries varies enormously, depending on the size of the library and the number of staff that are able to capitalise on the technology. The bigger the library the more staff that have specialist skills in areas such as XML and Java. The two public library people surveyed stated they were the only technology people in the library service and that they often consulted the Technical support from the Council's IT Team. If there was specialist work beyond the skills of the IT staff the work would be pushed out to IT consultants/specialists. Large libraries in Australia such as the National Library and the State Library of New South Wales have the resources to employ specialist IT staff that have specific IT skills such as XML or Java experience.

One of the questions on the survey asked respondents to list technology that was currently being used on their library website; the responses were as follows:

- XML
- XHTML
- JAVA
- Cascading Style Sheets
- PHP
- WIKI

XML is being used by many libraries to provide dynamic content to library websites (Roberts, 2005). XML can be used to provide news updates through RSS feeds or Amazon book reviews from the library website.

A cascading style sheet “is a stylesheet language used to describe the presentation of a document written in a markup language. Its most common application is to style web pages written in HTML and XHTML” (Wikipedia, 2005) and have been around for quite some time. The value of this technology is that it allows library web designers to establish a set of rules in regards to design and format of a website. This was mentioned by all as a way of establishing some form of uniformity across the site, especially when you have a number of librarians contributing content and uploading pages.

PHP is a relatively new technology which stands for Hypertext Preprocessor. It is a programming/scripting language that is used to create dynamic content in Web pages that interacts with databases.

Wiki, which was established about the same time as PHP, allows librarians and their users to exchange, edit and build content collaboratively. For example librarians could build a wiki to share information about new technologies that affect libraries.

Technology was seen by all respondents in the survey as a way of assisting users to obtain the information they need.

The use of technology by librarians as compared with those of the top Internet search engines is quite different. There are many differences as Microsoft, Google and Yahoo! have the budgets and the teams of staff to build sophisticated seamless websites. Librarians are using the latest technology but not at the same level as the Internet’s main players. Teaming with these players may provide a needed link to boost the library users web experience.

Technology forms only one part of the equation in the development and success of a website and must therefore be seen as one tool to assist in the linking and delivering of the information portrayed in a website. If the content (the information component of the web site) is poor, no amount of technology can disguise the fact. Building seamless web pages requires harnessing the latest technologies to better deliver the content of the webpage.

Content

One of the librarians commented that the content on their website “was like a dog’s breakfast” and in need of more uniformity. Building quality content can only occur if there are guidelines and rules. Three of the librarians surveyed mentioned that in the past two years a team had been developed to look at how content was to be developed, who was responsible for specific parts of the website and how often it would be updated. Other details included the responsibilities for who would approve new content, check it for grammatical and spelling errors, provide the best link/URL for the page and who could upload the page. The guidelines were necessary for the successful management of the website and were often the key areas that the web developer in the libraries would manage.

A web developer from a university library stated that their role involved checking the new or updated pages for content and grammatical and spelling errors before it was loaded onto the Internet. In contrast, another librarian/web designer surveyed stated that the librarians were responsible for the content, spelling, grammar, metadata, quality assurance and uploading the page. This web developer stated it was difficult to maintain uniform standards across the

website. One of the main problems mentioned here was the issue of updating staff skills in relation to how staff upload pages, appropriately name the files and add accurate metadata.

Metadata was used by all web developers and it varied considerably on how it was used and the use of standards. Dublin Core was used by two with the other four responses stating they used standards to a certain degree. Those that used Dublin Core element sets only used a small portion of these to describe the websites they loaded; one developer stated they used 5 from the element sets, while another developer did not provide a specific set number.

Content management was seen as a big issue for all web developers, with one web developer stating their library had purchased a content management system called WebComm, produced by AusSoft Solutions, which allows library staff to mould the library's design and the functionality of the website.

Content in the popular websites does differ greatly, as the purpose and functions of many of the popular websites are vastly different. Some are search engines, while others are auction sites, news and/or media related sites etc. Building content is related to the purpose of the department or the organisation building the site. McGovern (2002) states that web and content developers should be keeping it simple, well structured and reader/client centred.

Librarians do have limitations placed on them in areas such as style sheets, branding and technology. These elements are imposed from the parent organisation and have a considerable impact on the way content is delivered to the user.

Planning process

Many of the librarians that were surveyed were relatively new appointments with one stating their brief was to bring the site into some sort of order. All respondents were asked to describe the planning processes that were put in place to implement their website. Responses included: A website committee was needed to be formed that had members from all the different sections of the library with the web developer as the chair of the committee. This committee would then make recommendations that would be put forward to the management committee and they would either approve or disapprove the request. This was felt to be a slow but effective means of managing the website as decisions that might have involved significant budget items such as an XML contractor for 3 months could be approved. It was also an efficient way of keeping the management committee up to date with what was happening in regards to the website.

Another web developer stated it was useful to have a very good relationship with the IT department. In this particular organisation the IT department was centralised with the library and other departments such as HR not having specific IT staff. The web developer believed this to be an advantage as the IT department had far more control and a significant budget which in turn provided the library with assistance in the areas of server administration and graphic design. This web developer also stated the IT department controlled the layout, design, colours and functionality of the website.

Listening to the users

Usability testing was mentioned by all web developers as a very useful way of gathering feedback on how the library's website was meeting the needs of its client base. In two out of the six occasions, usability testing had been outsourced, with significant testing taking place through the use of pop-up windows to obtain feedback, and focus groups to observe users working their way through the website and providing feedback on areas such as content, linkages and design features. One web developer stated the information that was obtained did not provide anything new for them, but it did provide them with more accurate data on their user profile, which can assist in content development.

Effective usability testing can be run in-house, with librarians taking on the responsibility of asking for feedback on the way clients use and navigate through a website. Librarians can undertake focus group sessions within a computer lab or with just one computer and provide the user with a set of instructions to complete a search or to locate an item in the collection. There are many texts available and articles on evaluating websites and services that can assist librarians in developing focus groups or surveys. Many IT departments have staff who can build an online survey that can be sent via email to users or can be built in as a pop-up once users have logged in or accessed a certain page. Another successful method used was online polls by one library to obtain feedback on user experiences.

It is common practice amongst the popular websites to beta test any developments that may be made to the website which allow bugs to be fixed. Google Labs (Google, 2005a) is an example where users are asked to provide feedback on areas that are currently under development. Unfortunately, libraries do not have the funding to have their own product feedback centre, such as the Microsoft Development Feedback Centre (Microsoft, 2005).

The important factor here is that testing be done and feedback provided to give a fresh view on the update or change to be implemented. With users and not librarians providing the feedback, it is free from bias. Once a website is changed or altered, it is important to continue to seek feedback from the users, to check if the library is still meeting their needs. Counters can be placed on pages within an Internet site to see if users are actually finding their way to certain pages. There are problems associated with using this type of information for decision making (Xue, 2004) however when used as just a basic count they are more than adequate to provide an indication of usage.

Web developer

The job titles of the six web developers who were surveyed ranged from director, through web co-ordinator to technician. Three out of the six web developers came from non library backgrounds. Those with non library backgrounds had bachelor degrees in IT or Information Systems. One web developer from a non library background thought it was a benefit her not coming from a library background, as she was able to comment on material being brought to the web committee that was in librarian speak and did not make sense to the lay person or client.

Web developers for the companies that produce the most popular websites have very specific skills with some holding advanced degrees in narrow technology fields. This assists those companies in integrating the technology to better meet the needs of their target audience.

Conclusion

Web developers have become critical appointments in a library's staffing allocation. This position has a direct role in how the users interact with the library's website, if not through the design, content or functionality they build into the website, then through the lobbying with the IT department.

Popular websites in Australia today such as Google, Yahoo! and eBay are providing excellent examples of what our clients are becoming accustomed to when they use the Internet to search for information or buying goods online, as shown in their high usage statistics. The research and development into these popular sites has been enormous, so librarians should be able to learn how these companies are successfully delivering content to their clients and importantly, how their users are interacting with their particular site.

This paper has discussed the features that keep the popular websites on top of the Internet world. Through their use of simplistic design, consistency with page layout, attractive colours, branding, technology as a tool and user feedback they have been able to lead the Internet revolution by delivering relevant content to their users.

Libraries are not far behind when you consider that money for research and development is short. Librarians and web developers are making significant advances in building seamless web pages, through enhancing the searching capabilities of the collections they hold and building a successful user experience of today's library websites. Our users are visiting us and accessing our collection more and more online; this experience must be favourable for them to keep coming back.

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Appendix A

What can librarians learn from the Internet's most popular sites?

Survey Instrument

Question 1:

What features distinguish your website from other sites?

Can you discuss the display of your website (colour, font, space, layout)

Can you discuss the functionality of your website – eg linkages

Can you discuss the technology behind your website (applications, XML, developments)

Can you discuss the metadata of your website. How important is it?

Can you discuss the content of your website? How often is it updated, changed? Is it aimed at a particular market niche?

Can you discuss the purpose of your website? Is it educational, marketing tool, search engine etc

Question 2:

Can you describe briefly the planning process that was put in place to implement this website?

Question 3:

How many staff do you have working on the website?

Question 4:

What skills, qualifications, experience do your web developers/content developers possess?