Evaluating the library website:
Statistics and quality measures

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A. Usability

In the traditional library, users had to enter the library in order to use its services: the collections, the reading-rooms, the equipment, or the lending and help services.
With the development of electronic collections and services libraries have started to offer a new virtual "entrance" to their services: the library website. Users can "visit" the library and use many of its services from remote places, e.g. from their workplace or from home. Such visits, in analogy to the traditional physical visits, are called "virtual visits".
The library website may be the library's own domain, or it may be places within the institution's/community's website.
The quality of a library website can have different aspects[1]:

- contents
- language
- structure
- design
- navigation
- accessibility

Together these issues constitute the **usability** of the website. Usability is generally defined as:
> "the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use".[2]

There is an extensive literature about the usability of library websites, especially about usability tests in individual libraries. A recent bibliography of usability tests of library

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[1] See also: Poll, R. (2005), Assessing the quality of library websites, World Library and Information Congress: 71st IFLA General Conference and Council, Oslo, Norway, 14-18 August 2005, http://www.ulb.uni-muenster.de/bibliothek/projekte/outcome.html#presentation

[2] ISO 9241-11, 1998, International Organization for Standardization, Geneva

websites has been published by Letnikova[3] , another bibliography can be found on the website of North Carolina State University Libraries[4]. Detailed information about evaluating websites can be found on the websites of Jacob Nielsen[5], an authority on website design, and Ursula Schulz.[6]

There are different methods for evaluating the usability of a website:

1. **Evaluation with user participation**:
   - Web surveys: Surveys ask for satisfaction rates, purposes of a search, problems in searching, etc.
   - Focus groups: The website is discussed with a small group of website users who talk about their experiences and problems.
   - Group tests: Groups work on specified tasks, moderated by an expert.
   - Thinking aloud: A test user's verbalizing his or her thoughts when searching is recorded on tape.
   - Observation: Users perform a set of tasks and are observed either by video or by an observing person.
   - Transaction logs: Evaluation of use data as to frequency of use, most-used pages, ways of searching, etc.
2. **Evaluation without user participation**:
   - Heuristic evaluation: A small group of experts evaluates the website, based on the principles of usability.
   - Cognitive walk-through: Experts construct a "user scenario" and perform tasks of an imaginary user.

If the evaluation includes users, group tests moderated by experts have proved especially helpful, as users can directly speak about their experience when searching for specified topics and the expert has the best opportunity to find reasons for problems and failures in the search. The method will be especially useful for assessing whether the language and structure of the website is easy to understand for users. When evaluating the website by experts only, the cognitive walk-through seems to be the simplest way for detecting missing topics or roundabout ways to frequently used services.

The most important issue when designing a library's website is to consider the special needs, competences and behaviour of the individual library's population. This may differ widely between types of libraries. What users generally want when accessing a website is either to find a specific information (the opening times of the library, the way to get a user card) or to perform a specific activity (a catalogue search, a renewal). Users do not spend much time looking on a page. Normal users spend only about 35 seconds looking at the homepage, expert users about 25 seconds.[7] During this time, they should be able to recognize how they can get to the information they are seeking. Users generally scan the page instead of reading consecutively. Website design must take this into consideration.

B. The homepage

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[3] Letnikova, G. (2003), Usability testing on academic library websites: a selective bibliography, *Internet Reference Services Quarterly* 8,4, pp.53 - 68

[4] Library usability bibliography, NCSU Libraries, North Carolina State University, http://www.lib.ncsu.edu/usability/library-usability.html

[5] Useit.com: Jacob Nielsen's website, http://www.useit.com/

[6] Schulz, U. (2006), Web usability, http://www.bui.fh-hamburg.de/pers/ursula.schulz/webusability/webusability.html

[7] Nielsen, J. and Loranger, H. (2006), Prioritizing web usability, Berkeley, Cal., New Riders, p.30

The most important part of a website is its homepage. "A company's homepage is its face to the world and the starting point for most user visits."[8]
A library's homepage should
- guide quickly to frequently requested information,
- serve as efficient sign-posting to the services,
- apply user-friendly terminology,
- give an overview without confusing users.

If the homepage does not correspond to users' needs and terminology, they will either leave quickly, or they may spend much time by "clicking the wrong link and being lost forever in the wrong part of the site".[9] The goals to keep information on the homepage short and concise and yet to offer an overview of all services may be conflicting. Surveys show that there is often too much general information about the library, e.g. its history, organization, and mission, placed prominently on the homepage, information that would not matter to users in a quick search. Information on the homepage should be limited to the necessary.

C. A method for evaluating homepage quality
The following shows a simple method to evaluate the quality of a library homepage: "Speed of access via the homepage". The method is described more fully in the new IFLA publication on performance measurement in libraries.[10] In a cognitive walk-through, a small group of experts simulates user behaviour when seeking for specified information via the homepage. The following steps are necessary:
- Define the services that are most important for the library's clientele
- Define what terminology is adequate and comprehensible for describing these services
- Test the homepage as to the speed of finding the services (by counting the number of clicks and rating the terminology used on the homepage)

The decision whether the terminology is adequate to the library's population should be based on experience with users' searches, if possible on tests with users.

The following lists are meant as examples of what could be seen as the services or information that users most frequently seek. The lists were defined after evaluating 50 websites both for public and academic libraries in Australia, Germany, UK, and USA. The lists were then tested in several libraries. The survey showed that the most-used services may differ between regions or countries, but that libraries with similar mission show common traits in their websites. Additional issues could be added to the lists according to the library's mission and clientele.

Methods for searching the website like search functions, FAQ (frequently asked questions), sitemap, or A – Z have not been included in the lists, as the question is whether the main services can be found directly, not via search functions.

Possible main topics for the homepage of academic libraries:
- Address
- Way to the library
- Opening times
- Online catalogue
- Lending service

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[8] Nielsen, J. (2002), Top 10 guidelines for homepage usability, *Alertbox*, May 12 2002, available at: http://www.useit.com/alertbox/20020512.html

[9] Nielsen, J. and Loranger, H. (2006), Prioritizing web usability, Berkeley, Cal., New Riders, p.30

[10] Poll, R. and te Boekhorst, P. (2007), Measuring quality, performance measurement in libraries, 2nd revised ed., Saur, München, IFLA publications 127

- User card (how to get it)
- User account
- ILL/document delivery
- Reference service
- Databases
- E-journals
- Subject access (e.g. medicine, history)
- User training
- News, events

Possible main topics for the homepage of public libraries
- Address
- Way to the library
- Opening times
- Online catalogue
- Lending service
- User card (how to get it)
- User account
- Electronic collection
- Link collection
- Reference service
- Fees
- Services for children and juveniles
- Branch libraries
- Community services
- News, events

For academic libraries, access via subjects will be important, as the interests of students and staff will vary as to faculties. The broad range of electronic collections will make a differentiation of databases and electronic journals necessary.

For public libraries, services for children and juveniles, information about branch libraries and the issue of fees will be important. If the library's website is not part of the community's website, information about the community (e.g. history, events) should be mentioned on the homepage.

For the topics mentioned in the lists, in most cases several terms may be considered appropriate.

Examples:
- The user card
  The topic might appear under the terms: user card, library card, registering, membership, how to join
  Broader terms leading to the topic might be: circulation, borrowing, lending, loan service, use
- The reference service
  The topic might appear under the terms: reference, e-reference, reference questions, enquiries, ask a librarian, ask us
  Broader terms leading to the topic might be: information services, help services

When comparing the library's homepage with the list, the following rating could be used:

Service/information		Clicks	Points
	Direct information on the homepage, e.g. address, opening times, search box for the catalogue	0	10
	unmistakable term on the homepage	1	8
	unmistakable term on the homepage	2	6
	unmistakable term on the homepage	3	4
	unmistakable term on the homepage	> 3	0
	ambiguous term on the homepage	1	2
	ambiguous term on the homepage	> 1	0

The speed of access to the most-used services and information via the homepage could then be calculated by dividing the total number of points by the number of topics on the list.

D. How to get a better homepage
By using the evaluation method as described or other methods like tests and surveys, the library will probably find specific shortcomings of its homepage.
There are some general issues that should be considered for a homepage:
- FAQ (Frequently asked questions): Many libraries put a FAQ option on their homepage that lists frequently asked questions and their answers. But if a question appears frequently, it seems more efficient to put a link to the requested service or information directly on the homepage.
- Options for different user groups: Different user groups may have different needs and a different level of experience that will influence their search. The library should therefore offer options for different user groups on its homepage.

User groups that should be considered on the homepage could be:
- first-time visitors
- disabled persons
- external users
- children, juveniles
- seniors
- first-year students
- graduates
- faculty

A potential user planning a first-time visit will need information about address, way and opening times, about his options for registering and lending and possible fees. A graduate student will need direct access to databases and electronic journals, if possible via subject access, or to interlibrary lending and document delivery.
The language of the homepage – and of the whole website – should conform to user needs and should consider that reading on the screen is 25% slower than on paper:
- Library „jargon" should be replaced by terms users understand: Task-based links like "find books", "find articles", or "check loans" have proved to be easier to understand than terms like "databases", "e-journals", or "library record".[11]
- Abbreviations should be avoided, if the users are not quite familiar with them.
- Terms should be used consistently. It is confusing for users to find "journals" beside "serials" or "periodicals".
- If specific library terms cannot be avoided, they should be explained.

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[11] Kupersmith, J. (2006a), Library terms that users understand, available at: http://www.jkup.net/terms.html

An overview of library terminology and its problems in usability tests is given by Kupersmith.[12] An interesting study about students' perception of the terms librarians use in teaching was conducted in California State University in 2000/2001.[13]

Nearly all libraries offer additional options for searching on their homepage: A sitemap, an A-Z list, or a general "search". But often it is not explained what is meant by "search". The search function might concern

- the catalogue,
- the library website,
- the total website of the institution the library belongs to,
- or even the Internet.

It should be clearly stated what is searched when a user clicks on "search".

E. Statistics for website use

When a user accesses the library's website, this is called a „virtual visit" to the library.

"A virtual visit is defined as a user's request on the website from outside the library premises, regardless of the number of pages or elements viewed. A website visitor is either a unique and identified web browser program or an identified IP address that has accessed pages from the library's website."[14]

Virtual visits have been counted by libraries in different ways:

- Web browser visits: A Web browser program has been used by a person and has fetched pages from the library's website.
- IP visits: An identified IP address has been used by a person and has fetched pages from the library's website.
- Only homepage visits: "If the home page is a single HTML page, the deliveries are counted. If the home page consists of a frameset, however, the HTML document should be counted that comprises the most essential contents of the frameset."[15]

Counting virtual visits is not as simple as counting physical visits. The following problems can occur:

- Caching: The user's browser has stored the page the user visited, and at the next visit will pull the page from the cache, and the visit will not be recorded in the server's log files.
- One visitor does not always mean one person: In the transaction logs only IP-addresses are registered, and a proxy server may allow many visitors to be represented by the same IP-address.
- Website visits from robot or spider crawls and from page reloads may increase the numbers.

A method for counting homepage visits was developed by the German benchmarking project BIX.[16] The method will be used jointly by the libraries participating in BIX from 2007 following. The counts include only the library's homepage and the start page for the online catalogue. A "pixel" with a short text is inserted on each of the pages for counting purposes.

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[12] Kupersmith, J. (2006b), Library terms evaluated in usability tests and other studies, available at: http://www.jkup.net/terms-studies.html

[13] Hutcherson, N. B. (2004), Library jargon: Student recognition of terms and concepts commonly used by librarians in the classroom, *College & Research Libraries* 65,4, pp.349 – 354

[14] ISO 2789 (2006), Information and documentation – International library statistics, 4th ed., International Organization for Standardization, Geneva

[15] ISO 2789 (2006), Information and documentation – International library statistics, 4th ed., International Organization for Standardization, Geneva

[16] BIX. Der Bibliotheksindex, http://www.bix-bibliotheksindex.de/

The number of deliveries of the pixel is identical to the number of page deliveries. The advantage of this method is that it easy to use; the disadvantage is that access to other pages is not counted.

Only a few national or regional statistics have started counting virtual visits in addition to physical visits, for instance the German and Finnish statistics for academic libraries.[17] Counting not only physical, but also virtual library visits will certainly be an important issue for library statistics in the next years in order to show the gradual shift from traditional to virtual library use.

F. What can „web 2.0" add?
When libraries speak of offering web 2.0 services, they generally mean that they make use of "social software" for offering new services or old services in a new form.

"Social software enables people to rendezvous, connect or collaborate through computer-mediated communication. They are often used inside organisations or by communities of practice/interest."[18]

Social software allows users to participate in a website; they can add and rate items and cooperate with others that have the same interests. Social software is in most cases available free on the web. An overview of libraries using social software can be found in the wiki "Library success".[19]

The most-used social software in libraries is either weblogs or wikis.

Weblogs or blogs are websites with the following criteria:
- The items on the website are placed in chronological order (newest item first).
- The website is usually actualised daily.
- The website contains many links.
- It offers an archive and search function.
- It offers subscription services with RSS (or another) protocol, usually called feed.
- Most weblogs are organized in categories.
- The most important issue: The weblog offers a comment function. Users can add comments to the items.

Libraries use weblogs for the following purposes:
- News of the library: News are offered in chronological order, with a comment function. Experience shows that not many users add comments to library news.
- Library news for special user groups, e.g. "stuff for teens".
- News in a specified subject: Libraries show recent developments or interesting new sources, e.g. for students of medicine or for people interested in local history.
- Online calendars for events, not only in the library, but in its institution or in a special subject
- Accession lists of the library, organized as to subjects.

Weblogs have also been used for surveying users as to specified questions, e.g. asking for user opinion about a new service.

The advantage of weblogs is that users can comment directly and can subscribe to the site. But on the other side, users might not wish to get continuous information from the library. A solution can be to use a feed reader that collects new information from different sources the user has subscribed to and allows to browse it at any time.

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[17] Deutsche Bibliotheksstatistik, http://www.hbz-nrw.de/angebote/dbs/; Finnish research library statistics database, https://yhteistilasto.lib.helsinki.fi/language.do?action=change&choose_language=3
[18] Wikipedia, http://en.wikipedia.org/wiki/Main_Page
[19] Library success: a best practices wiki, http://www.libsuccess.org/index.php?title=Main_Page

Wikis are also collaborative websites that can be changed by anybody who has access to them. Wikis can have any structure or subject.

Libraries use wikis for many purposes, for instance for:

- Materials for courses in schools or universities, prepared by teaching staff together with the library
- Materials for special research subjects, where members of the research group add and comment
- Materials for a project (e.g. exhibition) where users can e.g. add personal material (photos, diaries)

An example would be a public library digitising its material on the history of the community during World War II and offering it on a wiki where the inhabitants of the community can add their own experiences or documents.

The advantage of a wiki is certainly that more people get involved in a topic and that thus more ideas and more material may be collected. But if the topic concerns a broad public, the wiki may be liable to corruption or information "noise", superfluous information. As in every kind of teamwork, probably after some time some person/s should be responsible for the contents.

Social bookmarking is another software that may be interesting for libraries. On a social bookmarking system, users store lists of Internet resources that they find useful. Other users with similar interests can view the links. The services allow adding, rating, commenting, tagging. Tagging means adding user-defined descriptors ("tags") to the resources.

Libraries use social bookmarking

- for collecting relevant resources for courses and classes in schools or universities,
- for showing relevant sources connected to an event or exhibition,
- for all kinds of special subjects.

Again, everybody who has access to the system can add resources and rate or "tag" resources and thus share experiences with others. A problem is that there are no standards for descriptors or tags, and that the personal view of one user may not interest others.

Podcasts assemble audio and/or video files at a web feed address. People can subscribe to this feed so that new items will be downloaded to their computer. Podcasts are apparently not as popular in libraries as other social software. Examples of libraries using podcasts can be found on the "Library Success" wiki,[20] additional material about podcasting in libraries on the Davidfree-wiki.[21]

Libraries use podcasting for varying purposes:

- audio/video recordings of library tours,
- audio instructions for using library services and resources,
- library news in audio form,
- materials for courses and classes, e.g. for music classes,
- audio/video recordings of university lectures that students can play back at their leisure,
- audio/video materials for special research subjects.

The main goal for libraries when using social software is to enlarge the communication with their users, to make users participate in library services by adding, rating and commenting. Other reasons can be

- to reach users in new ways,
- to make the library look up-to-date.

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[20] Library success: a best practices wiki, http://www.libsuccess.org/index.php?title=Main_Page
[21] Free, D., Library podcasting resources, http://davidfree.pbwiki.com/Library+Podcasting+Resources

But when making use of social software for presenting information, libraries should bear in mind that there is a growing aversion to still more and more information channels. People are afraid of information overload and refuse to subscribe to "feeds". "Unified messaging" and one-stop-shopping are certainly preferred.

Social software offers several problems:
- Opening the system to general participation will often lead to more "noise", superfluous information.
- Cooperative work may affect precision and quality of the information.

Using social software will be interesting for libraries, if it attracts users that cannot be reached in other ways, furthers effective communication or helps to collect additional information that the library could not have offered by itself.

Summary

Though there is a growing number of ways and means of contacting users and showing the library's services, the library website should always be the main starting-point for searches and the one virtual "entrance" to the library. The main criteria for quality of a library website can be summarized thus:
- Adequate language (to the population)
- Clear structure
- Options for different user groups
- All information up-to-date
- Short, concise information

The most important issue is probably, that the website, especially the homepage, should guide by the shortest possible way to the most-used information:

Users follow the line of minimum effort.