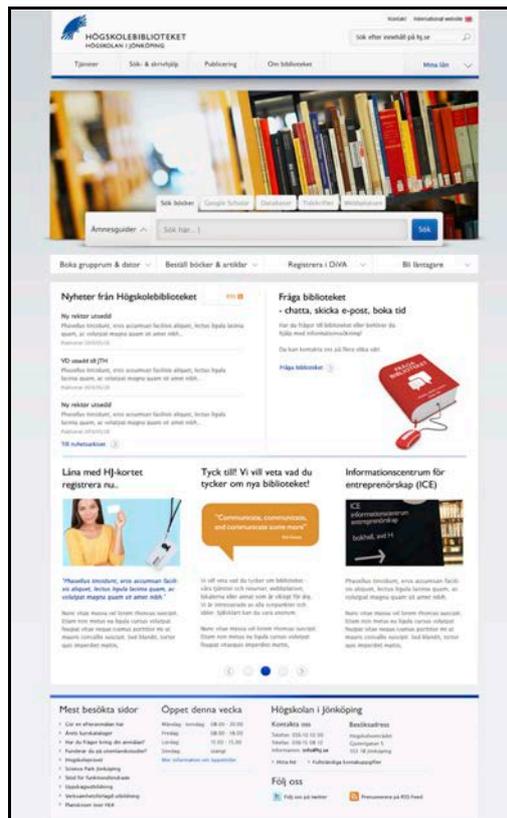


Report on testing the usability of the proposed new Jönköping University library (Högskolebiblioteket i Jönköping) interface



Peter Williams
CIBER, Department of Information Studies
University College London

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Background

This report describes a small-scale study carried out to test the usability of the new Jönköping University library website 'home' page. The page had been developed following extensive interviews with users, following the 'personas' method of web site evaluation. Personas have been described as "archetypal" users ... focus(ing) on ... what type of people they are, what their motivations and constraints are, what they do and why, what their goals are' (Burton-Taylor, 2006: p1). This information was useful in determining what different user types or 'personas' required from the website and how they might attempt to obtain it. The exercise also served to highlight any issues related to the website as it was originally.

Following the 'personas' phase of the research, the new website was developed that addressed the needs and issues elicited. The test reported here describes the extent to which the 'home page' of the site facilitated access to the resources and services available and actually met user needs.

Methodology

The method consisted of a participatory observational study of a small number of volunteer participants using the site individually in the presence of a researcher.

Sample

Eleven students were recruited to undertake the usability sessions, ranging from first year to fourth year undergraduates. There were more first years (four) than others, although overall a good range was achieved. Disciplines ranged from nursing and social care to law and journalism, although there were no participants studying the sciences. The sample was small, but it is worth mentioning that in the field of web usability, between three and ten participants are generally considered adequate (George, 2008). Indeed, Internet usability 'guru' Jacob Nielsen (Nielsen, 1994) recommends the use of between only three to five 'evaluators'. He argues that only a small number of people is required to elicit the major issues that arise in, for example, navigation or text size. This is because the aim of usability studies generally is to only elicit issues, problems and areas of interest, in terms of the interaction between the individual and the computer, not to measure their extent or prevalence.

Procedure

The tests were carried out over a two-day period (26th and 27th August, 2010) in a lecture room in the university library, using a laptop. The page under scrutiny was not viewable in a browser, however. The external design team used the software Photoshop to produce an image, and this was converted to a pdf file. However, the main 'drop-down' menus were visible. On 'mouse-over' (passing the cursor over the active area) the menu seemed to appear. In fact, the page

jumped to one showing the drop-down, although to the user all that happened was the drop-down appeared as expected. However, there were no links to the resources themselves. Only the routes to them were shown.

The procedure followed, as far as possible, that undertaken in previous work by the same author (Williams and Nicholas, 2006; Williams et al, 2004, 2002). This consists of three phases:

- Free browsing
- Set tasks
- Debriefing

During the sessions, participants were asked to provide a 'running commentary' on their actions, evaluating the site as they did so. This technique is commonly called 'think-aloud' (Branch, 2000) or, more formally, 'protocol analysis' (Ericsson and Simon, 1993), and has been undertaken before in exploring website use, both with young subjects (Branch, 2001; Madden *et al*, 2006) and adults (e.g. Benbunan-Fich, 2001). It is also the adopted procedure of the present writer.

Each phase of the session is described in detail below.

Phase one: free browsing

This consisted of eliciting general impressions of the site, during which the global question is asked: 'please give me your views generally on this page and its contents?' The researcher prompted if necessary for opinions on content, navigation, layout and labels. By asking generally about use of the original website and about the library, this phase also gave the researcher an indication of the prior knowledge of the participants.

Phase two: specific tasks

This phase of the session consisted of a series of questions constructed to test the accessibility of various aspects of the site. The questions were divided into two themes: resources and services.

Searching for resources

These questions were arranged in a logical order to progress from the accessing of resources generally to that of 'known-item' searching. The specific questions, with the rationale behind them, were:

- Can you show me what resources are available to access in your subject area?
Rationale: This question tested knowledge of the resources available under the heading 'subject guides'. Staff were particularly concerned that the new website provided easy access to this section, as it is considered to be particularly useful – material is arranged by discipline and includes reading lists, appropriate databases (and links to them) and other resources of specific relevance to particular subjects.
- What would be an appropriate database to use to search for material on nursing?
Rationale: This question tested whether any knowledge gained (e.g. in researcher feedback) from question one could be applied to a different

subject area. In fact, only two of the four participants who had to be informed about the resource first chose it for this second question. One admitted, however, that he assumed he had to search for an alternative route through the system, as he had already been asked a question for which this resource was the answer.

- Where would you go to find a book with 'education' in the title?
Rationale: This question takes the searcher to a slightly higher level of specificity, being concerned with only one resource (books) and a key word (education) albeit that key word is broad enough to be a whole discipline. It tests understanding of the tabs arrangement and search box.
- How would you find this article:
 - Chen Y, Germain C, Yang H (2009) An Exploration into the Practices of Library Web Usability in ARL Academic Libraries
Journal Of The American Society For Information Science And Technology 60(5) pp953-968*Rationale:* This question related to a 'known-item'. The task tests the participants' abilities to determine the most efficient way of accessing it using the resources available, and thus their knowledge of 'databases' and 'journals' points of entry. The most efficient route would be to search for the journal title under 'journals' and then access the volume and issue number – although it could be argued that putting the full article title into Google scholar might also access the paper rapidly. It was also possible to find it by searching for an appropriate database and from there using the article or journal title or author fields.
- How would you find other articles by the same first author?
Rationale: This tested participants' abilities to switch from 'journal' searching to 'database' searching (because, of course, the same author may have written for more than one journal. Google scholar would be less help here as there was likely to be more than one 'Chen' indexed in Google (as this platform is not discipline specific).

Searching for services

Questions in this section were more random, as each facility was more discrete (e.g. and less interlinked than, say, journals and databases). Nevertheless, as explained below, the order of two of the questions did turn out to be unexpectedly important. The questions were:

- You need a journal article but find that the university does not have either a paper or electronic copy. How would you ask the library to get one for you?
Rationale: It seemed logical to link the previous section to this one – so hence a first question on accessing a resource, but this time through an intermediary (the librarian). There had been much debate about the appropriateness of the term 'inter-library loan' and so the more general term of 'order books' was used. The sessions tested whether this was a good substitute.
- Where can you find out what time the library closes on a Thursday?
Rationale: The answer to this question can be found at the bottom of the page (and, hence, tests whether participants actually take the time to scroll down) or under 'services'.
- You need to talk to a subject librarian. How do you find out whom to contact?

Rationale: It is thought that many students do not know there are designated subject librarians. This tested participants' knowledge of these staff and how to contact one.

- You have a general library question – how would you contact the library?
Rationale: There are many ways in which a librarian may be contacted (chat, email or phone), and of interest was the preferred means of the participants and the reasoning behind their choices.
- How do you register to become a library user?
Rationale: Every student will be required to carry out this task, so it is very important that the link by which one can do so is visible and understood.

The first seven participants gave enough information for the test to concentrate on a small number of elicited issues for day two of the test. These final three participants were not given set tasks, but simply asked for their views on the meanings of certain labels (e.g. 'Subject guides') and for their overall impressions of the site.

Phase three: debriefing

This phase was designed to give participants the opportunity to add to earlier comments in the light of their experiences in undertaking the set tasks. In addition, it offered the researcher the chance to further quiz participants on the thinking behind their actions in undertaking the tasks, and to clarify any issues arising during the course of the sessions.

Results

General impressions

Overall, people appeared to like the site very much, saying variously that it looked more attractive, was more easily accessible and less 'full' (the word 'cluttered' might have been used by a native English speaker. People were also impressed with the central search/tabs layout, which was felt more accessible than the current site.

Regarding specific features, two participants felt there was too much news (especially as the lower row scrolled horizontally to show more items), one saying that the content was not of particular relevance to most students, who only use the site to access resources.

Only one person mentioned the 'My loans' link (saying he uses it extensively) There were only two reported problems with the top drop-down menus:

- The subject of bibliometrics was mentioned. Many participants looked only very briefly at these (particularly 'Publishing') which might be indicative of them deciding that the resources were not important for their needs
- One participant did not understand 'library education' (sub-menu item from 'services')

No-one looked at the 'Most popular pages' list, and people only glanced at the lower section (with the three visible items including a reminder about registering and the facility to offer one's opinions.

Demographic differences

Three demographics were asked of participants:

- Subject being studied
- Level (e.g. Undergraduate; postgraduate etc.)
- Year

Of most relevance was the answer to the third of these. There were a number (three) of first year students who were just starting their courses, and one other who has started in January and was therefore only in her second semester. These students all reported to have had some experience with databases and knowledge of journal articles, although they all struggled with the questions related to known-item searching, and did not access the 'subject guide' link. Indeed, those who did so had already found it (or been told about it) at various points during their university careers.

Points arising from specific questions

Searching for resources

Task One: Only 4 out of 7 accessed 'subject guides', and two of these did so after looking at other site areas (e.g. one chose 'search books' at first.

Task Two: Two participants still did not choose subject guides immediately, even after it was explained with regard to Task One.

Task Three: No problems occurred in carrying out this task

Task four: Four participants chose 'databases' rather than the quicker route via 'journals'. One chose Google scholar.

Task Five: Two participants chose journals again, four chose databases and one chose Google scholar (the same participant as above)

Searching for services

Task One: Everyone first selected one of the methods of contacting the library. Two then chose 'Order books' on being told there was another method possible. Two thought the 'order books and articles' referred to those that were available at the university (but that may be on loan, but available to be reserved)

Task Two: One person failed to scroll down to find the answer.

Task three: Two participants did not select 'contacts', but the top drop down menu; three selected general chat etc. Only two chose the 'contacts' option at the top right of the screen.

Task four: No problems occurred.

Task five: Four participants looked first at 'Lana med HJ-kortet' before noticing 'Bli lantagare'.

General points related to the set tasks

- The location of tabs appeared to work really well. One person said it was the most important feature.
- One person did not understand that the top search box was for searching the whole university (maybe not recognising 'hj.se' in the URL)
- A suggestion was to include a 'Did you know?' or 'Tip of the day' that could address the issues arising (such as about ordering books etc.)

Major issues elicited from the sessions

Three major issues were elicited on day one of the sessions that were explored with participants on day two:

- Main university search box versus the library site search: It appeared to be confusing for some participants to have two search boxes on the page, and was not immediately clear what each search.
- Subject guides link: Some participants did not access this resource at all during the session.
- Order books link: Much concern had been expressed about how to describe interlibrary loans and acquisitions, and this new label had been chosen. However, again it was not used by participants, although necessary to carry out Task one of the 'Services' section.

Participants on day two were asked to give their views on these issues. The findings are given below:

1. Main university search box v library site search

- Everyone on day two knew the university-wide search box
- One person thought the library tab searched all the databases and other resources
- Another said he was confused about the library tab. The others all knew

2. Subject guides link

- The word 'Portal' was suggested, but admitted there was not a good equivalent word in Swedish
- Another said that now the link was more visible – especially with the submenu appearing – there would not be a problem with the terminology

3. Order books link

Ideas from participants included:

- Using a 'mouse-over' box to explain the facilities
- Have a message on JULIA where no results are returned to say that books can be obtained elsewhere. This would work in a 'known-item' search (e.g. where the user searched for a specific item and found zero results) but not where a zero result occurred from a keyword search.

Ideas were also forthcoming from the research team following the user sessions. These included:

- Substitute the 'Fraga biblioteket' link for the entries under the 'order books' link
- Change the wording to reflect the user situation rather than the solution (e.g. instead of 'inter-library loan' write 'the book/article you need is not part of the library collection' and for 'reservations', 'the book you need is currently on loan'.

The web site was amended as a result of this study, and at the time of writing (September 2010) plans were being considered for continuing the evaluation, possibly by using the 'guerrilla' method of testing, in which a large number of

people are asked at random to make a instantaneous judgement on various particular aspects of the site.

Conclusion

One important finding of this study is that there was universal acclaim for the new website, with all those participants who were familiar with the original one affirming that the new design was superior, both in aesthetic terms and in being easier to use and to find required materials. This outcome clearly shows the appropriateness and effectiveness of using the 'personas' method to re-construct the site (and also, of course, the merits more generally of consulting users in the process!)

Despite this positive feedback, the study highlighted a number of important issues related to both web usability and the organisation of resources that were elicited from the set task element of the sessions. With regard to the former, the main issue was that of terminology and the different meanings attached to labels by information professionals and library patrons respectively. Clearly, if certain terms mean one thing to users and another to librarians, the site will be less usable than would otherwise be the case. Even where non-technical terms are used (e.g. 'subject guides') evidence emerged of different conceptions of this term. Regarding the organisation of resources, the main issue that emerged was that of user knowledge about and understanding of the various assets available. Many participants failed to suggest using the 'Journals' search when seeking to access a 'known-item' and there were also indications that some of the first year students did not have any experience of databases and were unaware of the presence of various databases in the system and of how to use them. As with other work by the present writer (e.g. Williams et al, 2008) the study exposed again the need for extensive user education. The Jönköping University library staff are to be applauded for their continuing efforts in this area.

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References

- Benbunan-Fich, R. (2001) Using protocol analysis to evaluate the usability of a commercial web site. *Information Management*. 39(2) pp151-163.
- Branch J.L. (2000). Investigating the information-seeking processes of adolescents: the value of using think alouds and think afters. *Library and Information Science Research* 22(4): 371-392
- Branch J. L. (2001). Junior high students and Think Alouds: Generating information-seeking process data using concurrent verbal protocols. *Library and Information Science Research*, 23, 107-122.
- Burton-Taylor S (2006) Personas: bringing the user alive *The Web Usability Partnership website* <http://www.webusability.co.uk/personas-white-paper.pdf> (accessed 13.02.10)

- Ericsson K A, Simon H A 1993 *Protocol Analysis: Verbal Reports as Data* MIT Press, Cambridge, MA.
- George, CA (2008) *User-Centred Library Websites: Usability evaluation methods* Oxford: Chandos
- Madden, A.D., Ford, N.J., Miller, D., Levy, P. (2006). Children's use of the internet for information-seeking. *Journal of Documentation*, 62(6), pp744-761
- Nielsen, J. (1994). Report From a 1994 *Web Usability Study*. Retrieved July 13, 2003 from http://www.useit.com/papers/1994_web_usability_report.html (Accessed 25.02.09)
- Williams P, Fieldhouse M, Rowlands I (2008) The Google generation: myths and realities about young people's digital information behaviour *in* Nicholas D, Rowlands I (Eds) *Digital Consumers: reshaping the information professions* London: Facet pp159-192
- Williams P, Nicholas D (2006) Testing the usability of information technology applications with learners with special educational needs *Journal of Research in Special Educational Needs* 6(1) pp31-41
- Williams P, Madle G, Weinberg J, Kostova P, Mani-Saada J (2004) Information for the public about disease: usability issues in the development of the National Electronic Library for Communicable Diseases *Aslib Proceedings* 56(2) pp99-103
- Williams P, Nicholas D, Huntington P, McClean F. (2002) Surfing for health: user evaluation of a health information web site Part 2 - fieldwork. *Health Information and Libraries Journal* 19 (4) pp214-225