Building a university library web site for Victor - an example of the personas method

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Abstract
This paper describes the development of a new university library website, incorporating the innovative ‘personas’ method. Personas are the qualitative aspects of users – their motivations, constraints, needs etc. These were established by depth interviews. A set of ‘personas’ was created, which assisted the planning of the optimum layout, prioritising library asset visibility and generally meeting information needs. A site usability evaluation was also undertaken of the resulting interface. The study made the team much more aware of user needs and behaviour, and how site design can play a crucial role in service provision. The persona method turned out to be a valuable tool in creating a site catering for the widest possible spectrum of users.

Keywords: User needs, usability, personas, interface design.

1. Introduction
This paper describes the development of a new university library website which incorporated the innovative ‘personas’ method. Personas are the qualitative aspects of users – their motivations, constraints, needs etc. – elicited from in-depth interviews. This method facilitated consideration of the needs and attitudes of a wide spectrum of potential users, and assisted the planning of the optimum site layout and content to meet these. Set tasks were undertaken on a mock-up site to test usability and refine the interface. The study made the team much more aware of user needs and behavior than previously, and highlighted how choices made on the website make a real difference for users. In short, the persona method turned out to be a valuable and appropriate tool in creating a site catering for the widest possible spectrum of users.

2. Methodology
In-depth interviews were undertaken with 19 library users (and potential users) in establishing information and study needs, using the ‘personas’ method as described above. This entailed asking participants about their circumstances, methods of study, course requirements, use of the current library website, searching procedure etc. In addition they were asked to perform a common task at the library website and provide a ‘running commentary’ on their actions. This served as a complement to the interviews, revealing that there might be a discrepancy in what the users think they do and what they actually do. Based on this information the 19 users were grouped into segments, each representing a way to behave and feel in relation to the library website. Finally, the personas were created out of the segments, making them into potential users, about whom various scenarios could be formulated.

Usability tests were carried out with a total of 11 library users, representing a
cross-section of library users (thus not intended to reflect the exact profiles of the five personas established). Of major importance was the home page – the gateway to all the services and resources provided by the library. For the test, the page under scrutiny was not viewable in a browser. The 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 one of the authors (Williams and Hanson-Baldauf, 2010; Williams et al, 2004, 2002). This consists of three phases:

- Free browsing (in this case, the ‘free browsing’ was minimal, as – for technical reasons – only the home page was accessible during the trials)
- Set tasks, consisting of finding where to access different resources and services
- Debriefing interview

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).

3. Results

It became clear that two key factors were apparent in user behaviour and attitudes: the amount of time invested in finding information or using other services; and current knowledge. These were formulated into a grid with a vertical (time investment) and horizontal (current knowledge) axes. Four segments were identified using this visualisation. A fifth segment was added to cover the practically-oriented services.

Out of the five segments, distinct personas were formulated. These ranged from the ambitious ‘Emma’ (top left), prepared to spend time to learn about effective searching, to ‘Viktor’ (lower left) who wants quick information and who
expects the library website to work ‘like Google’. In the top right there is ‘Carl’, a 2nd year PhD student and part-time lecturer who is already knowledgeable with regard to available resources etc., and is prepared to invest a lot of time accessing what he needs to carry out his different roles. Carl is contrasted to Elisabeth (lower right) who, as an experienced researcher familiar with the research area, does not have to spend much time at the library website.

It is worth describing one persona in detail, for illustrative purposes. Thus, Viktor’s profile is:
“Motivators and emotions in relation to the library website:
- Wants to find materials as quickly as possible
- Has as primary goal to finish the task in order to move on
- Is content with a result that is ‘good enough’
- May feel overwhelmed and ignorant when he sees all the resources and services presented on the website, but copes by focusing on finding the quickest and simplest solution to the task.”

In addition to the above, personal details were added which did not, necessarily, directly inform service provision or website design, but which made the personas ‘real’. As Mulder and Yaar (2006: pp.161-176) say ‘Personas work because [usability] teams can get to know them and think about them as real people, and thus, these teams can start making decisions about the Web site based on this realistic cast of characters. […] Because personas are all about inventing realistic people, details make all the difference’.

Even with the domestic and personality details that was formulated, however, there was some relevance to service provision and website design, as can be seen from the rest of Viktor’s profile, below:
“Occupation: Student, third semester (as such, needing to undertake many course assignments, rather than a large dissertation project)
Age: 20 years
Housing: Shares an apartment with two other students (a fact which influences his study habits and use of the library, as outlined below)
Hobbies: Working out at the gym, playing video games, socialising with friends.
Personality traits: Unconcerned, sociable, comfortable, rarely in a bad mood”.

It quickly became apparent – echoing the principal of Universal Design (e.g. Gould and Lewis, 1985) – that what worked for Viktor generally served the other user-types also. The site was therefore designed principally with ‘Viktor’ at the forefront. However, different pages on the site were optimised according to the needs of whichever ‘persona’ most required the resources on each one, on the grounds that servicing the most needy would satisfy all patrons. As an example as regards to practical tools, ‘Josephine’, the persona created out of the fifth segment, was most in mind. This is because she is the kind of person who is keen to explore new things. Also, she likes getting things done. If her study group needs a room she is the one who will enter the library website and book it. For pages offering services targeted at researchers, however, meeting the needs of Elisabeth was considered to be most effective. She undertakes research and teaches graduate students. Her work includes writing for publication, and as such she is required to submit these into the university
repository of research articles. She is results oriented and expects the library website to be easy to use.

In sum, the needs, abilities of the personas, and hence of library patrons in general, were catered for by making many critical services more visible, such as inter-library loans, librarian help and (for Elizabeth), the repository submission system. Goal-oriented activities like group room reservation, book requests and Library card registration were made easier and appeared in a more prominent place. On the contrary instructional resources were demoted to lower down the page or to other pages – unlike on the former site, where everything was given the same priority. This was not done because they were seen as ‘lesser valued resources’ but because the team supposed Viktor mainly would use the goal-oriented activities. The instructional resources are still valuable to Emma, for example, but she will take the time to find them anyway.

The search function was placed in a more prominent position and so gave easier access to subject guides - shown to be underused in interviews (and in computer logs of the site, actually), but considered a vital resource by librarians. The new ‘homepage’ appears in Figure One. Note that the picture is a ‘filler’ for the space occupied by drop down and pop up – in the case of ‘Subject guides’ – menus.

![Figure One: Jonkoping University library ‘home page’](image)

Overall, people appeared to like the site very much, saying variously that it looked more attractive, was more easily accessible and less cluttered. People were also impressed with the central search/tabs layout that had been instigated, which was felt more accessible than the site with which they were familiar. 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.

Of much interest, of course, was the way in which participants used the search facility. Five resources were searchable: journals, databases, books, Google scholar and the library website. The tasks were set up to see how easy it was to
access resources, and so they included those to find appropriate databases; known items, such as a specific journal article; publications by a specific author; books in a particular discipline (as well as general learning resources, available via ‘Subject guides’ and not keyword searching).

Findings suggested that, although the interface was considered more intuitive than previously, knowledge of when to search ‘databases’ and ‘journals’ was poor. For example, with regard to finding a known journal article, the most efficient route would have been to search for the journal title under ‘Journals’ and then access the volume and issue number. Several people, however, took the longer route of searching for an appropriate database for the subject, and from there using the article or journal title or author fields to search. Two people searched Google scholar.

Other problems elicited were that only a minority of participants knew the content of subject guides or even that they existed. There were also ambiguities about the meaning of ‘order books’, a heading leading to the services ‘inter-library loans’, ‘acquisition suggestion’ and ‘article request for distance students’. This non-technical heading was chosen in order to be easily understood by the library patrons. However, two participants thought this referred to books that were in the university stock, on loan and available to be reserved. Also, the team considered changing the wording of the sub-headings to reflect the user situation rather than the solution (e.g. instead of ‘inter-library loans’ the label would become ‘the book/article you need is not part of the library collection’ and for ‘reservations’, ‘the book you need is currently on loan’). However, this was considered too verbose.

The web site was further amended as a result of the usability study, and at the time of writing (March 2011) 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 an instantaneous judgement on various particular aspects of the site.

4. Conclusions

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 reconstruct 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. 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. There were indications that some of the first year students did not have any experience of databases or were unaware of the
presence of various databases in the system and of how to use them. Results more generally suggest that many people are not able to conceptualise the structure or functions of bibliographic services. As with other work by one of the present writers (Williams et al, 2008) the study exposed again the need for extensive library user education.

The study made the team much more aware of user needs and behaviour than previously, and highlighted how choices made on the website make a real difference for users. In short, the persona method turned out to be a valuable tool in creating a site catering for the widest possible spectrum of users.

**References**


