

WHY CONTINUOUS USABILITY TESTING CAN AND SHOULD BE PART OF REGULAR LIBRARY ACTIVITY – FROM A UX LIBRARIAN’S POINT OF VIEW

The interest for user experience (UX) and usability in libraries has grown rapidly over the past years and has now become an essential tool for developing and assessing a library’s digital services and physical spaces. At Linköping University Library (LiUB) we are slowly moving towards a user-centered culture, where users are being observed interacting with both physical and virtual spaces, but this article will only focus on the library’s online presence. The main objective is to argue for continuous usability testing as a part of regular library activity.

The LiU Library Experience

The groundwork for the library’s systematic user involvement was done within a web strategy project in the spring of 2014. The web strategy established usability and user benefits as central to the continuous web development process. In order to accomplish a user-centered library website, we decided to find a doable model for user-involvement. The book *Rocket Surgery Made Easy: the Do-It-Yourself Guide to Finding and Fixing Usability Problems* by Steve Krug became our inspiration. The workflow for usability testing at LiUB is illustrated in Fig. 1.

Usability testing within the library sector is nothing new *per se*, but it is usually done in the process of launching a new or redesigned website/UI or implementing a new library system. Sometimes the tests are not conducted by library staff, but by external consultants. Our approach, however, is to use an in-house, continuous process which is applied not only to the library’s website structure, but also to other digital services.

Context

Linköping University (LiU) is one of 16 universities in Sweden. LiU has four campuses in three cities (Linköping, Norrköping, and Stockholm) and has four faculties: Science & Engineering, Medicine & Health Science, Arts & Science, and Educational Sciences. LiUB consists of four physical libraries, one on each campus, with approximately 90 staff members in total.

In order to make sure that LiUB contributes in a useful and valuable way to student learning and research, we have tried to find different ways to understand our users’ needs and behaviour. We use our insights to improve the digital library in order to provide a user-friendly and intuitive way for students and researchers at LiU to access the information they need for their studies and research.

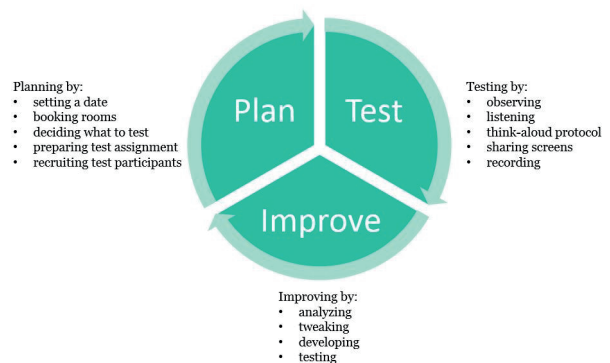


Fig. 1

We also decided to form a usability team at the library. The team consists of five people (of which three are librarians), including myself, with different skills and roles such as system manager, computer programmer, webmaster, UX expert, and cognitive scientist. Over the last 24 months, the usability team has gathered once a month to do testing.

For the tests we use randomly chosen employees and/or students as test participants, three per session. In my experience, engaging face to face is the most successful way to recruit users. For example, I usually recruit students I meet in the library. Regarding employees we

always recruit research or teaching staff such as PhD students, lecturers, university teachers, and professors. My experience is that most students and employees I ask are willing to help us as long as they can find the time for it. They all want to be part of a process that aims to improve the user experience.

When it comes to deciding what to test, we make a preliminary plan at the beginning of each semester. This plan sometimes changes during the semester. What we actually test depends on different projects in progress at the library. We never test systems or interfaces that we can't alter or modify ourselves to some extent.

We conduct usability testing monthly during each semester, which gives us approximately eight test sessions per year. This enables an agile and iterative approach to assessing the users' experiences of the digital library as well as helping in the development of our digital services.



Fig. 2

On the test day, the usability team divides into two groups in two different locations: a test room (see Fig. 2) and an observation room (see Fig. 3). The facilitator and one observer go to the test room, while the rest of the team goes to the observation room. Often the latter are accompanied by other observers and stakeholders; sometimes colleagues from other departments within the university such as the division for IT Services, sometimes external such as librarians from other universities.

We combine different methods like observation, think-aloud protocol, and capturing screen activity. By using different



Fig. 3

practices that complement each other, we avoid the uncertainty of using just one method. One of the benefits of triangulation of data is that we get a more complete picture of the usability issues that need to be addressed.

Each test person is given a specific assignment based on a common user scenario for the service to be tested. The test person attempts to complete the assignment while thinking aloud. If needed, the facilitator encourages the test participant to think aloud and describe what he/she is trying to do. At the same time, the team in the observation room records what the test person says and does. Primarily, we use Camtasia to record screen activity, and we set up an Adobe Connect meeting to share screens between the test room and the observation room. Obviously, we do not record anything without permission from the users. Before we begin the test session, the test participant signs a written consent.

After the test, the facilitator and observer from the test room join the rest of the usability team in the observation room and a debriefing session starts. We then collect and discuss the usability problems we have noticed and put them together in an aggregated list of feasible improvements. We also prioritize the things on the list.

After each test session, the usability team starts to improve the things listed. Depending on what the

problems are and what has to be done, we involve different colleagues outside the usability team. The recordings have proven valuable for the analyses and development in between the test sessions. They are an essential complement to the observers' notes.

Another valuable complement is so called guerrilla testing, which we do sometimes in between the monthly test sessions. This type of testing is both agile and flexible. It is a "low cost method of user testing. The term 'guerrilla' refers to its 'out in the wild' style, in the fact that it can be conducted anywhere [...]"¹ When we perform guerrilla testing, we approach people in the library and ask them to give quick feedback. This fits well with our thinking that some testing is better than no testing.

Outcomes

The improvements we have made as a result of what we have seen during our usability testing range from very small terminological changes to more structural changes on our website. One of the first things we tested was the information architecture for a new library website. For that, we used a tool called Treejack. We did one test session with students and one with employees. This enabled us to get valuable feedback on the site structure.

For several years, we had a tabbed search box on the library start page. Last year, we decided to renew the design, inspired by the design of the search box on the MIT Library's website. Before we launched the new search box, we made a prototype which we used to perform both regular usability testing and guerrilla testing. The feedback we got gave us useful input to the design process.

We have also tested different features and new services for the discovery tool, such as a new search service for e-publications. We tested this service twice – once with undergraduate students and once with PhD students. In addition to getting feedback on what adjustments to do, we also learned that undergraduate students have quite a different attitude to journals than PhD students have. We have seen this in other situations, for instance when doing interviews as part of the web strategy project in 2014, but seeing this again during usability testing confirmed our previous insights.

Things we have also tested and improved are terminology, holdings information, and link resolver user interface. Sometimes we make changes and then we do a new round of testing, but more often we get indirect feedback on changes we have done while testing new things.

A bonus effect is that LiUB's work has been noticed and recognized outside of the library, which has contributed to change the image of the library. Additionally, usability testing is an excellent way to make our services more visible to users.

Conclusion

A vast understanding about our users is the foundation of any user-centered development. By combining qualitative and quantitative methods and applying a UX-perspective we are better equipped to meet our users' changing needs and behaviour. It allows a more agile workflow. The trick is to keep it simple. We do not consider ourselves researchers. What we do are continuous modifications based on input we get from real users. Our motivation is to enhance users' experiences of the library's digital services.

Based on our experiences from the last 24 months, we have found that systematic usability testing can and should be a part of the regular library activity and that it can encompass so much more than just the website structure. The key to success is the model itself, particularly when it is carried out monthly during the academic year. By involving real users continuously, we avoid getting stuck in our own internal assumptions of how users interact with the library's digital services.

¹ GOV.UK. (n.d.). *Guerrilla testing: Getting input into products and services*. Retrieved 27 September 2016, from <https://www.gov.uk/service-manual/user-centred-design/user-research/guerrilla-testing.html>