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Knowing me, knowing you. Making user perspectives an integrated part of library design thinking

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KNOWING ME, KNOWING YOU
MAKING USER PERSPECTIVES AN INTEGRATED PART OF LIBRARY DESIGN THINKING

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Abstract

User experience (UX) refers to users' emotions, experiences and behavior when using products, systems and services. Traditionally, UX is applied to assess changes with websites and operating systems, but libraries have started applying the same usability principles to their physical spaces and services. NMC´s Horizon Report 2017 estimates that valuing the user experience is on-trend the coming years.

Used as a set of tools in library development, UX methods enables us to understand and improve library users' experiences. Mixing qualitative and quantitative techniques to obtain deeper insights into user needs: A key point being to discover needs users themselves are unaware of.

In this paper, we present on-going research on and development of library spaces and services at the University Library of the Norwegian University of Science and Technology. We aim to continuously develop our fifteen libraries as inspiring learning environments for students and researchers. UX methods are central to our projects on a small and large scale, and we have actively sought our users' perspectives during library planning the last five years. However, we will argue that we still need to explore ways of implementing findings from using UX methods, to anchor the importance of user perspectives in library development, and to integrate changes based on UX methods among our coworkers.

The paper will present four UX projects at our libraries combining several methods, with examples from the interpretation and processing of collected data. We will discuss (1) why UX is a good model for developing library spaces and services, (2) the challenges of identifying, implementing and evaluating measures, and (3) how involving our coworkers in UX methods is the best way to further integrate UX in developing our libraries. The key to success is knowing both ourselves and our users and their needs, and to use methods with both users and employees in mind.

Keywords

UX, EX, User Experience, Employee Experience, Library Development

Introduction

In this paper we present on-going research on and development of library spaces and services at the University Library of the Norwegian University of Science and Technology (NTNU UB). We aim to continuously develop our fifteen libraries as inspiring learning environments for students and researchers. For the last five years we have actively sought our users' perspectives during library planning. Thus UX or User Experience methods are central to our projects on a small and large scale. We continuously work to explore ways of implementing findings from using UX methods, to enforce user perspectives in library development, and to integrate changes based on UX methods among our colleagues. One important aspect is to include the employees´ experience (EX) in these activities. The key to success is knowing both ourselves and our users and their needs, and to use methods with both users and employees in mind.

The paper will present four projects at our library combining several UX methods, with examples from the interpretation and processing of collected data.

About NTNU University Library

NTNU UB is a public scientific library, with 15 branch libraries at campuses in Trondheim, Ålesund and Gjøvik in Norway. The main object of the library is to support research and education. The primary users are students and employees at NTNU and St. Olavs Hospital. NTNU has recently conducted a merger with three university colleges. From the library´s point of view this merger has led to a focus on providing equal services to students and faculty in the three cities. Continuous development is vital to achieving this aim.

How UX is implemented at NTNU UB

UX - User Experience refers to users' emotions, experiences and behavior when using products, systems and services. UX methods enables us to understand and improve library users' experiences and give us deeper insights into user needs. A key point is to discover needs users themselves are unaware of. UX and design thinking is considered to be useful methods to secure the user's perspective in the development of the library. At NTNU UB UX activities is organized in an open forum. Different people can participate depending on who is involved in projects at the time. We do not want to set up a permanent group, but instead involve as many as possible to learn and work with UX.

Four projects at NTNU UB

We will present four different projects conducted at our branch libraries. They all apply UX as a method for developing physical areas and/or services. In our projects, we use different methods, both quantitative and qualitative, and they vary in scope and elaboration.

Benchmarking – a tool for comparing and evaluating services, 2013 -

The Benchmarking project of three European health libraries started out in February 2013, participants are the Medicine and Health Library at NTNU, Norway, the Bibliothèque des sciences de la santé at the UCL in Brussels, Belgium, and the Kuopio University Hospital Medical Library at the UEF, Kuopio, Finland. Best practice benchmarking is used especially in strategic management, where organizations evaluate various aspects of their activities in relation to best or better practices in other organizations. The benchmarking project focuses both on "knowing me" and "knowing you". We involved library employees both to reflect on their

role in the library and to help us finding the value of the library, and used UX methods to take the users' point-of-view.

Aim

The project aims to find and implement best practices, covering different areas of library activity from the users' viewpoint.

Methods and results

The basis of the project was the following research questions:

- How is the physical library space used? We compared both library space in general and the library as a learning space.
- How are library services integrated? We looked into how library services are Integrated in student/researcher/clinician work, how information skills training is integrated in curricula and how the collaboration with other university services like ICT and student services works out.
- How are library services marketed? We looked into each library's communication strategies and ongoing marketing projects.
- What is the value of the library? We investigated methods and indicators to measure value.

Method 1: Collaborative collection of data

The first step of the project was to collect statistical information about both the libraries and universities, the plan was to compare the activities and results. We realised that traditional statistics was not very helpful, even though we used standard ISO indicators. Statistics can be compared but did not bring useful information into our project partly because they were extracted from different contexts.

Method 2: Structured and semi-structured interviews

As a part of the project the project group visited all the three involved libraries. At each library, we interviewed library users and staff.

Interviews with library users: we chose 6 - 8 different spots or areas in each library and observed and talked to individual users, pairs of users and groups of users and asked why and how they used the library space.

- What do you use this library for?
- Why do you (study/read/work/group work) right here?
- Where would you study if the library did not exist?

We observed a wide range of activities: reading lecture notes and other study material, discussing, writing lab reports and research papers, doing group work, searching for information, using library books and their own books, using their own laptops and library computers. We observed both similarities and differences. Though most of the user activities were similar in all the libraries, the users appreciated somewhat different aspects of the libraries' space perhaps guided by furnishing and design of premises, but which also could be explained in different learning cultures at the three institutions. The library "… *has a good atmosphere for studying*" (student UCL) "… *is not too quiet, not too noisy and gives the ability to work together*" (student BMH) and "… *there is always a librarian around to keep the peace*" (student, UCL).

Interviews with staff: we interviewed three staff members at each library about their job and role in their library. We also invited them to share their views on the meaning and impact of their work and of the library in general.

- What value does the library (and your role in it) add to the university?
- What would it mean if the library did not exist/provide the services?
- In your opinion, is the library doing the right things/providing the right services?

Our colleagues were willing to share, and what started as interviews soon turned into collegial discussions, where we found ourselves taking part in processes where people reflect on the meaning of their work and the value of library with outsiders. It was a chance for free expression and reflections where we ended up finding the value together. The discussions were an

opportunity to map needs expressed by users with staff views, and can be used to trigger and develop, a more user-oriented activity in the library

Method 3: Focus group session and interactive workshops

To get a broader insight of both international benchmarking and the value of libraries we invited members of EAHIL (European Association for Health Information and Libraries) to take part in the project by commenting and discussing benchmarking as a method and to come up with ideas on further work in the project. In 2015 10 colleagues from all over Europe took part in a focus group interview session on how to proceed with the project. Focus group is a qualitative method, the results cannot be generalized to a population, but can say something about trends. Our group suggested that we figured out what we want to measure at this point, that we use indicators, and that we must focus on fewer topics.

At EAHIL2017 we facilitated a workshop called Cooperation and benchmarking – finding the value and impact together, where we invited the participants to take to help us to identify more future oriented indicators. We ended up with 10 new and exciting ideas to take further.

Figure 1 Participants and results from the EAHIL workshop

The benchmarking project is ongoing, but what we have learned from each other is already implemented in our own libraries. From the UCL library we learned about marketing and their main project Biblio-Jack. Learning points from NTNU focus on the library as a place. The recipe for success with library planning is cooperation with all parties involved - students, other library users, architects, hospital planners and last but not least, ICT people. From UEF we learned about organization and systematic evaluation of user education.

Room for New Knowledge, 2014-

Room for New Knowledge is an on-going research project on and development of the library space at the Medicine and Health Library at NTNU, which moved into new facilities in 2013.

Aim

Our aim is to develop the library into an inspiring learning environment for student and researchers, as well as offer an arena for scientific communication.

Methods

The quantitative method used in this project was developed and tested during spring 2015. Two interns from OsloMet - Oslo Metropolitan University conducted a study using traffic counting and short interviews. The project gave insights on counting of traffic as method, as well as valuable data on library use. We have continued counting traffic and have modified the counting process to include qualitative observations. This includes using the field for comments more actively to indicate user behavior and levels of noise in different zones. We attended the workshop on UX for libraries with facilitators from the UX-team at Oslo University Library. The team encouraged us to explore new methods for gathering user perspectives, influenced by ethnography and design studies. Among the methods introduced and tested at the workshop were storytelling, cognitive mapping and open interviews on a given topic.

Method 1: Counting traffic

We have focused on observations during counting. Observations from the forms included:

- use of private laptops versus our public computers
- use of headphones
- working alone or together
- levels of noise in different areas
- re-arrangements of furniture by users

Based on the observations we made a visual mapping using color markers indicating the findings on maps of the library premises. This was done to quickly detect any patterns of use, e.g. which group study rooms or study spaces were most popular, and if some areas were quieter than others.

Figure 2 Visual mapping. Green: group work, blue: solitary work, pink: use of headphones

Method 2: Open interview

We conducted an hour-long interview with a 3rd year student who is an active user of our library. The interview started with some open questions about her use of the library and we followed up interesting statements. We also included a cognitive mapping of the library. We mainly asked her to tell us about her own study habits, but she also provided insights into her classmate's study habits, use of study spaces and library resources.

Method 3: Short interviews on site

We conducted 16 interviews with students and employees at NTNU. Overall the users we asked were very content with the physical library space and facilities. Several of the students also liked that it was quiet but not too quiet, so that they could talk while working.

Figure 3 Students using a corner with comfy seating and low tables for reading and writing

We also asked them to respond to different suggestions for development, based on our previous studies, which seemed to resonate with the students:

"*I think a meditation space would be good. To be distracted from working for a while, lower my shoulders and stretch a bit.*" (Student 1st year)

Results

From our interviews and traffic counts, we mapped out several measures and have implemented some of them. Actions include providing sheltered spaces for quiet study versus more open, active group work zones. We have installed a water dispenser and plan to set up lockable stations for charging of mobile phones and laptops.

The initial round of traffic counting in 2015 identified some general activity zones, but the method gave little insight into qualitative aspects. Extracting findings from this data is also challenging as it depends largely on what you have looked for from the beginning. However, it can give an overall picture of what areas in the library are used the most and at what times of the day.

In-depth user interviews have provided more qualitative findings and has the benefit of providing insights into different users' habits, needs and perspectives. It also works as a means of making the users aware of their own library experience and their opportunity to shape the library. The data collected from in-depth and informal interviews has proven to be easier to process and transform into actions, than the quantitative data.

A challenge in user research is to process and interpret collected data. We were able to limit the amount of collected data somewhat by conducting quantitative research before the qualitative interviews. Findings from traffic counts gave us a basis for mapping the library space and enabled us to pinpoint target areas for further research through interviews.

Continuous testing is a central point in UX and means that implementation and testing can be done at different stages of development. Our experience is that new ideas for development are most efficiently formed through direct interaction between staff and users. Working with user-based development of a library does not have to mean that librarians cannot suggest and initiate development themselves, but that this is best done in dialogue with users.

Self-service hold shelf, 2017-

Evaluation of the self-service hold system at the Medicine and Health Library; a small-scale UX project.

Aims

The aim of the project was three-fold. First, we wanted to determine whether the employee's assumptions of a dysfunctional self-service hold system was correct. The second objective was to pinpoint where the difficulties arise and what the user experiences with the system are. Thirdly, we aimed to improve the self-service hold system according to the user preferences in close cooperation with our colleagues.

Methods

In order to reach our three study aims we applied several methods: quantitative observation, qualitative and explorative observation, semi-structured interviews as well as a questionnaire.

We conducted 13 observations of users picking up books from the hold shelf. To evaluate the functionality of the self-service hold system, each observation was categorized as problematic or not.

In the observations, we mapped the movements and behavior of the users and followed up with a semi-structured interview. We formulated the questions to ascertain whether the users experienced any problems picking up the book, understood the system or had any suggestions on how to improve it. We also asked if they were first time users or not.

To improve the self-service hold system in a process including the staff managing the system, we developed the following method. The results from the observations and interviews were presented in a team meeting. The library staff answered a simple questionnaire about their attitudes towards the results and possible solution to areas identified as problematic in the UX-project. Decisions on changes in the self-service hold system was based on a discussion encompassing both the UX and the EX.

Results

Our study supports the assumptions that the self-service hold shelf system does not function optimally. In our observations, 46% experienced problems using the system.

The observations identified several areas of difficulty managing the self-service hold shelf system:

- Explaining where the hold shelf is located
- Registering the book
- Explaining how the books are organized in the hold shelf
- Assisting with finding the book
- Explaining that the student card is the library card
- Explaining where to pick up article copies

Movement patterns and interviews revealed that two of the users managed the self-service hold system for the first time. One user preferred going directly to the desk instead of using the self-service system. Furthermore, the users commented on signage, on not carrying their student card for self-registration and on the contents of the Pick-up message. Most notable, the interviews revealed that none of the users understood the organization of the books in the hold shelf. By keeping an open interview, we gained knowledge of which set up they preferred. Five of eleven preferred an alphabetical set up by the title of the book.

The assumptions and experiences of the staff corresponded with most of the findings from the observations of and interviews with the users. The exception was the users´ preference of an alphabetical set up in the hold shelf. To improve the self-service hold shelf system the team decided to make some changes. On a short term we organized the books in the hold shelf according to the users´ preferences. On a longer timeframe, we will create user-friendly signage of the self-service area as a whole.

TREFF – a new foundation for the University Library's service desk, 2017-2019

A large ongoing project at the University Library is "TREFF – a new foundation for the University Library's service desk".

Aim

The aim of this study is to explore and develop the library desk service.

Methods and results

We are using a variety of methods to reach the aims of the project: mapping of service desk activity (including observations), focus group interviews, individual interviews, surveys and literature studies. As a partly externally financed project, we have taken the opportunity to obtain some methodological support by an external partner.

The basis of the study is the following research questions:

What is the purpose of the student's use of the library desk? To answer this, we register what questions the students ask in the library desk and sort them into predefined categories. The registrations are conducted in all 15 branch libraries in 4 different weeks spread throughout the academic year. Results so far, after three weeks of registration:
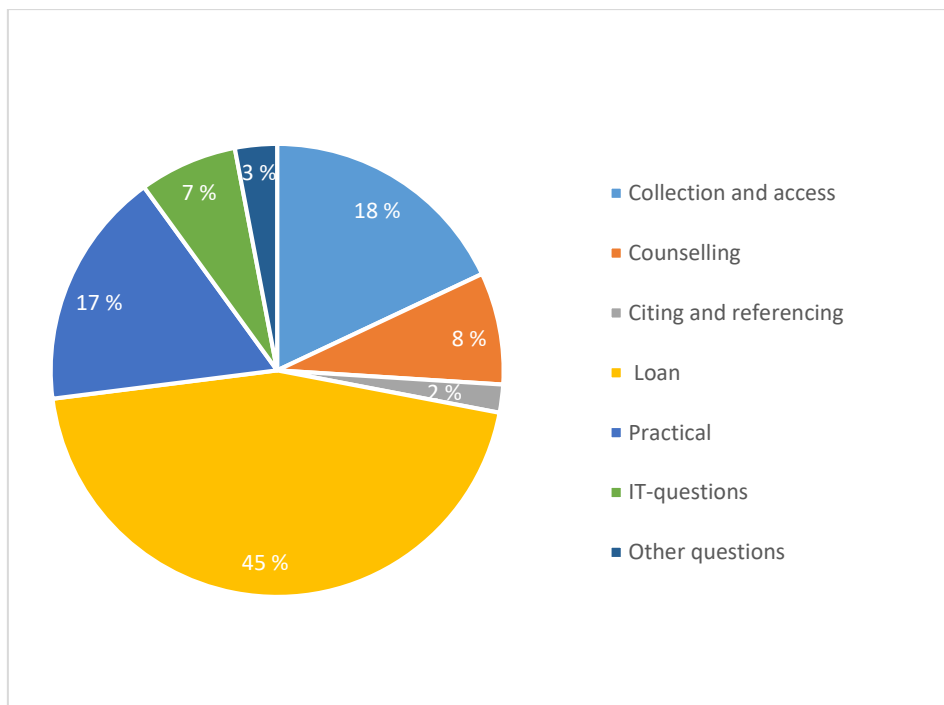

Figure 4 As we can see, we find most of the questions in the categories Loans (45 %), Collection and Access (18 %) and Practical (17 %).

How do library staff and students experience the meeting that takes place at the library desk? To answer this question, we have explored both librarians´ and students´ experiences by conducting individual and focus group interviews with students and a survey to the library staff. Our preliminary findings show that students seem to have insufficient knowledge of the type of help they can get in the library desk and they seem to focus most on what they can see in the library room, the books and other print material.

"*The librarians are there to help you find a book, to look after the books, not to answer PC stuff*" (Bachelor student).

This corresponds well with the result of the chart above. That being said, when the students actually ask, they are very satisfied with the help they get at the library desk.

"*Only have positive experiences with the people in the desk. Yes, get the help I need, the few times I ask*" (Bachelor student).

As for the library staff, they agree, almost everybody thinks the students are generally satisfied with the help they get. At the same time, they occasionally observe that students do not ask for help at the desk even though they are likely to need it.

"*It seems that they do not want to disturb the librarian. Maybe we look busy or they do not know they can ask*" (Librarian).

Most respondents work at the library desk 1-3 times a week. They consider this as an adequate amount and they see the work as professionally challenging and interesting. There is some positive correlation between how often you work at the desk and how satisfied you are with this work.

A very high number of respondents think that the library desk is an important meeting place between libraries and students. Having said that, those who work very rarely at the desk, do not to the same extent consider the desk as an important meeting place.

Based on the data gathered, what actions can we undertake to develop the library desk service? We will use the results from questions 1 and 2 to identify measures for improvement. At this point, we consider it appropriate to complement the project with UX methodology. TREFF is focusing not only of the users of the library, but also on the employees (knowing me, knowing you). Thus we have identified measures aimed at both sides of the counter. Some examples, suggested by both students and staff:

- Rebuild / restructure the front desk area in one or more of the libraries. For instance, establish welcoming zones.
- Information materials – placards and flyers at the library / campus / library desk - what can you ask for in the library desk? In order to inform students about what the library can actually do for them, there is a lot more to be done. On this issue, we will collaborate with communication people in the organization.
- Pop-up library desks both in the library room and outside.
- Discuss and clarify the role of the library desk service in the organization, purpose, aims, competencies needed and so on. The process should involve the whole organization, both management and employees.

The fourth and last research question in the project is about evaluating the actions taken to develop the library desk service further. In this phase, we plan to use UX methodology as well as more traditional methods.

Knowing you – knowing me

The Benchmarking project initially had a quantitative focus but numbers and statistics were not as useful when comparing libraries that have completely different contexts and are in a sense incomparable. Non-traditional methods like UX in addition to standard statistics were useful to find value and impact.

In the **Room for New Knowledge project** we continuously implement measures based on collected data. Continuous testing and implementation of measures is a central point in UX design studies, and means that both can be done at different stages of development. Throughout our research we have started with asking users what they want or need. Based on the findings we then plan and implement actions. These can, in turn, be tested with users again to see if the realization of an idea worked as planned. However – this UX project uncovered issues regarding workplace communication – that is, the project teams' endeavours were not always communicated to the rest of the library staff.

In the **Self-service hold shelf project**, we became aware of the importance of testing assumptions. We found that observations combined with short open-ended interviews are good methods for doing so. The project also focused on finding god ways to involve library staff in development processes and in decision-making.

One of the main findings in the **TREFF project** is that the users have some assumptions of the library services. For instance they are not aware of the range of resources and competencies librarians actually hold. On the other hand, library staff also have certain assumptions of the users' experiences, often without knowing if these are based in reality. This mirrors the findings of the self-service hold shelf project. How do we become aware of these assumptions and challenge them? When setting up and planning UX projects, being aware of unrecognized assumptions is important. In TREFF we have gathered both UX and EX, and we have kept both these perspectives throughout the research process. We have identified measures aimed at both sides of the library desk. On one hand we seek to improve user knowledge about our competence through signage and campaigns – on the other hand we seek to discuss and clarify the role of the library desk service.

What we can conclude from our four projects is that UX can give insights into the role and value of the library from our users' perspectives. We can also conclude that gathering UX data is challenging, as there are many methods to manage, different user groups to take into account and prioritize among. Library improvement is continuous work.

We have also learned a lot about ourselves through working with UX methods. Some of the projects lost sight of our colleagues who have their own experiences with the library. UX methods are still new to us, and it takes time to learn how to use them correctly and to implement measures based on the collected data. In this process, it is easy to overlook the importance of seeing the employees' perspectives. Our efforts to include our colleagues have had a positive impact both for our projects and for our working environments. Both the employee and user experience should be explored in UX projects, to enable staff to become aware of their assumptions and needs. EX can make or break an UX project.

Knowing yourself also means knowing your library as an organization. Evaluating UX-projects at our library have given us the opportunity to reflect on how we work with UX collectively, and how our organizations' culture affects this work.