Design for Distinct User Groups: A Case Study of User-Centered Methods.

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The present case study provides an insight in the user-centered design process of two applications with comparable underlying functionalities, but two very distinct user groups. Both projects were realised in close cooperation with the multidisciplinary User Experience (UX) team of the Swiss Federal Railways.

User experience. Customer experience. User-Centered Design. Case Study.

1. INTRODUCTION

The UX team of the Swiss Federal Railways is a multidisciplinary group of experts in user research, usability evaluation, accessibility, interaction design and visual design. An intensive exchange between the disciplines and a strong focus on the user are the core values of the team.

Due to the wide range of projects realized at the Swiss Federal Railways – from developing websites and mobile application to the optimisation of the signalisation in train stations – the users as well as the applied methodologies are highly diverse. In this case study, we focus on two specific projects that aim at the revision of two sales applications with comparable underlying functionalities, serving two distinct user groups: on one hand, the internal tool Consulting And Sales Application (CASA), which is used by about 4'000 booking clerks as a daily working instrument. On the other hand, the public website of the Swiss Federal Railways sbb.ch, including a ticket shop, which is visited by about 330'000 users daily. Both applications were developed with the purpose to retrieve a train schedule and to issue train tickets, but are built very different regarding their usability and interface to suit the respective user group. CASA as well as sbb.ch were developed in in close cooperation with the UX team. During prototyping and testing, different key aspects for an optimal user experience for both user groups emerged.

With the distinction between employee experience and customer experience, Robier (2016) states that the consideration of the user group plays an important role in the development process to ensure an optimal match between system design

and user expectations. While employee experience focuses on enhancing the user experience for internal users, in this case booking clerks, customer experience is related to the external image of the company and should provide a good experience for the customer, in this case sbb.ch visitors.

2. CASE STUDY

Following user-centered design (Abrás, Maloney-Krichmar & Preece, 2004) principles, both sales applications were advanced in multiple iterative steps. Each iteration consisted of the analysis of user feedback, the adaptation of the prototype under scrutiny and user testings that generated feedback for the next cycle. The following sections provide a brief insight in the roles of the UX team's process, the chosen methodologies as well as its main results and their influence on the current state of the projects. The two applications releases are scheduled for early 2017.

2.1. CASA

Main driver for the redevelopment of CASA was the complexity of the former application and its resulting high training demands for new employees. In the first step of the CASA redesign process, workshops and semi-structured interviews with user of the former application were conducted in order to collect data for the creation of personas (Cooper, Reimann, & Cronin, 2010). The data was analysed regarding age as

Figure 1: Illustration of the two processes applied for the development of CASA and sbb.ch

well as different skills and expectations towards the new system. Based on these personas, a first clickable prototype created with Balsamiq was developed, which was then tested for usability with 22 users in three sessions. Scenarios that contained tasks concerning timetable as well as ticket sales, were created. Additionally, an observation (Baber & Stanton, 1996) was carried out. The feedback contained encouraging points, such as the greater ease to issue tickets even if the user had no previous experience using the application. However, also negative points were revealed by the tests. In some specific cases, the process to issue simple tickets took too long and was too sequential. The search for products was requested to be made more convenient and the offers easier to find and to customise. Further, the experience of the booking clerks showed to be a crucial impact factor on the satisfaction with the prototype. While inexperienced users benefited from the already mentioned facilitations, their more experienced colleagues missed a row of power user functionalities. The most-missed function was the possibility to call up train tickets through entering a code they had memorised during their training with the former application – a working method that is highly efficient and was underestimated during the prototyping phase. After including these improvements a second usability test was conducted. The overall rating of new prototype in general and the acceptance among all booking clerks in particular, was increased. This example shows the necessity to value the user's experiences and to challenge ideas from a user perspective.

2.1. sbb.ch

The creation of a contemporary design for the public website of the Swiss Federal Railways was the main goal of the project sbb.ch. While the visual design itself was created by an external agency, the UX team was responsible for the compliance of the digital guidelines in order to ensure congruence

with the company's brand requirements. Four series of usability tests with 34 participants (50 per cent commuter, 50 per cent leisure travellers) were carried out. Comparable to the CASA testings, scenarios including timetable inquiry, content search, language change, geolocation and search for opening hours were created for the tests and solved with an HTML prototype. The first test series aimed at an optimal navigation concept for the vast amount of content available on the website. A floated navigation and a mega drop-down were considered in this step, whereas the mega drop-down turned out to be more effective and easier to handle. The second testing phase covered the placement of advertisements in the navigation, an idea which was proposed to monetise the frequently used website. This idea was discarded after the findings revealed little attention to the advertisements while the navigation was perceived as overloaded. The last testings were used to consolidate the results and to define the final version.

3. CONCLUSION

Multidisciplinarity and the consequent application of user-centered methods contributed to the evolvement of two applications with very distinct user groups. However, the methodological approaches differed in some points. In the CASA project, a prototype was developed based on personas, which then was tested for usability in different iterations. Main learnings were that developed skills using the former application should be carefully taken into account while developing new solutions. In the case of sbb.ch, usability tests with an HTML prototype revealed the optimal navigation concept for the website and underlined again the value of iterative user testings.

In conclusion, both projects benefited from improvements in an early prototyping phase and are well on their way to provide a rich and well-fitting user experience with their upcoming release.

4. REFERENCES

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