

A Tutorial of Ten User Experience Heuristics

Leena Arhippainen

Center for Internet Excellence

P.O. Box 1001

FI-90014 University of Oulu

leena.arhippainen@cie.fi

ABSTRACT

This tutorial presents ten user experience heuristics for service and product designers and developers. The aim of the heuristics is to help designers to take user experience aspects into account when making design solutions. The heuristics are created based on the empirical user experience studies of mobile services. However, heuristics are general and can be used in any kind of service or product design and evaluation context (e.g. mobile services, web sites, applications). Using these heuristics, developers can find out negative and positive user experience issues that can be taken into account in further design iterations.

Categories and Subject Descriptors

H.5.m [Information interfaces and presentation]: (e.g., HCI): Miscellaneous.

General Terms

Experimentation, Design, Human Factors.

Keywords

User experience; heuristic evaluation; HCI; design; mobile service; web sites.

1. INTRODUCTION

User experience is an important factor for products' success [5][8], and is therefore one reason why user experience has become a central target in product and service design [10]. Although the interest in user experience (UX) in industry and academy is high, there is still a lack of systematic methods on how to evaluate user experience [10]. In many expert evaluations, Ten Usability Heuristics [7] are still the most used criteria, even though the approach in them is quite narrow focusing only on usability aspects. However, UX research needs something more. It needs heuristics for ensuring that new services and products could cause positive experiences for users.

The first general UX criteria for effective interaction design are introduced by Alben [1]. Service UX Evaluation Heuristics are

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presented by [11]. Playability heuristics for mobile games are also available [6]. All these heuristics are relevant for certain situations. However, in the UX heuristics, the focus should be on user experience issues. Also, heuristics should be general and easy to use in order to be able to be used by different professionals, for instance, by developers, interaction designers, and UX researchers, just to mention a few.

Colombo and Pasch [12] have derived from a flow theory ten heuristics for an optimal user experience, and then applied them to the human-computer interaction (HCI) area. According to Csikszentmihalyi's [13] definition, a flow experience is an optimal experience, where a user is totally focused on his/her task and forgot all surroundings. However, an optimal experience is a specific type of experience – not all experiences are optimal. ISO 9241-110:2010 standard defines user experience as: "*person's perceptions and responses resulting from the use and/or anticipated use of a product, system or service*" [4]. This means a more comprehensive approach to user experience than focusing only on optimal experiences. Therefore, the user experience research field needs general heuristics for design and evaluation in order to develop new services and products, which can provide positive experiences to users. It is important to develop and use low-cost methods for UX evaluation and utilize the collected information in the early development phase, because UX studies can give important feedback for the design [11].

The tutorial gives a practical overview of ten user experience heuristics developed by the author. The aim of these heuristics is to help designers and developers to take user experience issues into account when making design solutions. These heuristics can be freely used by any HCI professionals.

2. Ten User Experience Heuristics

These ten user experience heuristics are developed based on the empirical user experience studies [2], and they can be used for any kind of product or service design and evaluation context:

1. **Ensure usability.** Users experience usability. It is important to ensure that the designed service or product is usable.
2. **Provide utility matching with the user's values.** Utility of the product or service affects the user experience. Perceived utility forgives lacks in usability or other product qualities. Utility is related closely to the user's values. The user compares the utility of the product against his/her values when choosing to use it.
3. **Surpass the user's expectations.** Often, the user's expectations are negative for no reason. Expectations have been formulated via prior experiences or rumor of the product, and thus expectation may have nothing to do with

the product in question. The product should be able to catch the user's attention in a positive way and get a user start to use the product, and then surpass his expectations by easiness, pleasure, utility, whatever quality could fit in the case.

4. **Respect the user.** Know the target user groups. A user's background has a strong impact on how he/she will perceive the product or system. In addition to the user's needs and actions, designers are required to understand the user's values, prior experiences, user type, skills, restrictions, etc. The better the service fits the user's world, the better experiences the user will have.
5. **Design the product or service to fit the intended contexts.** The service or product is always used in particular contextual circumstances: the user is using a product in a physical situation, with a company or alone through the specific cultural habits and way of life in a certain temporal moment. All these context factors have impacts on user experience.
6. **Provide several ways to interact, leave choice for the user.** People are different and prefer several ways to interact with products and services. It is important to provide several ways to interact. Provide manual and adaptive controls and, touch, gestures and voice based controlling when possible.
7. **Respect the user's privacy and security.** The world is digital and technologically oriented. Even though attitudes have changed to be more open for technological solutions, people are still concerned about privacy and security issues. User experience is always dependent on the uncertainty of how reliable the service is in terms of privacy and security.
8. **Support the user's activities - do not force.** All services should be shown from a supportive perspective, e.g. how does this service support me in my actions and everyday life. The service is not allowed to force a user. Forcing will have a negative impact on user experience.
9. **Go for a perfect visual design.** From a user experience point of view, visual aspects have two meanings. The first is that the visual design can improve usability by making the user interface more understandable, consistent and guiding. The other meaning is to make the user interface aesthetically pleasurable by designing visual aspects. Moreover, selections in visual design, for instance, use of colors, can have an impact on user experience by the values one respect (such as health, fitness, nature, beauty).
10. **Give a surprise gift.** This means that people want more. Usability is not enough. "Jackknife phone" is not enough. Users need some extra, which makes them happy: surpass expectations, increase and improve user's experiences. Breadth of experience is not allowed to decrease. User experience is the seventh sense that people use for sensing technology – sensing life within technology.

3. CONCLUSION

This tutorial presents ten user experience heuristics for service and product designers and developers. The aim of the heuristics is to help designers to take user experience issues into account when making design solutions. These heuristics are created based on the empirical UX studies of mobile services, and they have been used in the different case studies. Researchers and practitioners need practical tools and methods for studying user experiences in

different development phases. Therefore, it is important to share these UX heuristics for the HCI community in order to increase the knowledge of cost-effective UX methods. These heuristics can be freely used in design and evaluation. The author would appreciate both positive and negative feedback if these heuristics have been found usable and useful.

4. BIOGRAPHY

Leena Arhippainen is a user experience researcher at Center for Internet Excellence. In the SILC project, she investigates user experiences of virtual and physical learning environments. In the previous Chiru project, her research topics related to 3D UI user experiences. In the ADAMOS project, she led UX studies and co-operated closely with sociologists from the University of Grenoble (UPMF), France. Arhippainen received her Master's degree in Information Processing Science at University of Oulu in 2002 and Ph.D. degree in 2009. Her doctoral thesis focused on UX research methods in mobile device contexts. She created ten user experience heuristics during her doctoral studies and they have been used in Interaction Design course and UX studies.

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This template can be freely used when evaluating and *designing for* user experience of any kind of product, system or service.

UX Heuristic	Y/ N /NA*	Comment
1. Ensure usability		
2. Provide utility matching with the user's values		
3. Surpass the user's expectations		
4. Respect the user		
5. Design the product or service to fit the intended contexts		
6. Provide several ways to interact, leave choice for the user		
7. Respect the user's privacy and security		
8. Support the user's activities - do not force		
9. Go for a perfect visual design		
10. Give a surprise gift		

*Y= Yes N= No NA= Not Applicable