Design versus Design - from the Shaping of Product ot the Creation of User Experiences

**Jan Gulliksen, Ann Lantz, Kerstin Severinson Eklundh and
Lars Oestreicher**

CID, CENTRE FOR USER ORIENTED IT DESIGN

Författare: Jan Gulliksen, Ann Lantz, Kerstin Severinson Eklundh and Lars Oestreicher

nordi**CHI**2000

Design versus **Design**

From the shaping of products to the creation of user experiences.

Jan Gulliksen, Ann Lantz, Kerstin Severinsson-Eklundh and Lars Oestreicher

Human-Computer Interaction (HCI) involves a set of processes, dialogues and actions employed by a user to interact with a computer to perform a specific task [Baecker, Grudin, Buxton, & Greenberg, 1994]. Hence, HCI deals with everything that in one way or the other can affect or influence the actual use of an IT-system. But, it also involves the processes by which we study, develop and create designs of such IT-systems.

Design versus design

Design is a difficult concept used in many different ways. Industrial and graphical designers use the word design in a totally different way than e.g. software engineers, system developers and behavioural scientists. The concept of design has its origin in the art disciplines and it can be defined as "a creative activity that involves bringing into being something new and useful that has not existed previously" [Jones, 1981].

Within industrial design, design is often referred to as the physical shaping of a product, based on theories of product semiotics and the results of a function analysis. *Industrial design* can be defined as "the arrangement of formal elements to a whole, considering technical, ergonomic, economical, social, aesthetic and other factors, mainly in mass-produced products (but also environments or services) with a specific function given in advance" [Monö, 1974]. Even though industrial designers have a long tradition of user involvement, the notion of the user is embarrassingly absent in such a definition, and in fact, recent definitions rather stress that "design concerns itself with the meanings artefacts can acquire by their users" [Krippendorff, 1995].

"*Engineering design* is the use of scientific principles, technical information and imagination in the definition of a mechanical structure, machine or system to perform pre-specified functions with maximum economy and efficiency. Design refers to both the process of developing a product, artefact or system and to the various representations (simulations or

models) of the product that are produced during the design process" [Preece, Rogers, Sharp, Benyon, Holland, & Carey, 1994].

Despite these various definitions of design, the term is often misused for the entire software development process, thus in practice putting the design into the hands of the software engineers. This is neither good nor appropriate in that only a smaller subset of the decisions that are made during the software development process are directly related to the design. As a complement, we argue for a thorough understanding of the users and their tasks and experiences. This should result in a maximisation of the satisfaction and entertainment of using the resulting artefact.

Nordic traditions and focus

Experimentally oriented researchers state that results that have not been obtained in the laboratory are of no scientific value and therefore useless. With the speed that the science of HCI develops, however, it is both unwise and impossible to subject every observation to laboratory study. Therefore, laboratory studies can serve as an important input to the development process, but, only as a complement to the study of real users in context. It is important to go out in the field and study how people actually work, individually and in teams, and especially the "fine-grained details of the information used in the real world" [Neisser, 1976].

The Nordic tradition recognises the extensive "use" of the users in the process of designing IT-systems. The concept of User Centred System Design, as Norman & Draper [1986] first used it-, emphasises the study of the user in the production of human-computer interfaces, but without necessarily involving them in the process. Today most developing organisations claim to do user centred design and development, but the procedures and end-results can vary significantly.

The lacking focus on the users and their tasks in traditional systems development has over the last decades found itself challenged by the growth of user centred methodologies and processes. What is commonly known as the Scandinavian approach to systems development stresses the importance of the user participating on *equal terms* as the developers [Greenbaum & Kyng, 1991]. The American terminology used for the approach is what is known as *participatory design* [e.g. Schuler & Namioka, 1993] which even further has developed to stress the importance of the democratic aspects of the user. *Cooperative design* [Bjerknes, Ehn, & Kyng, 1987; Ehn, 1988] grew out of an emphasis of the cooperation with the end-user's organisations (and union organisations) to amplify the legal and democratic right of the users to influence and control the work situation of the future. The general assumption is that the users should be not only involved, but in control of the analysis and design process.

Regardless of the approach, Nordic perspectives imply that users are of an undisputed importance in the user interface analysis, design and evaluation phase. However, this is not

always unproblematic since the users not always are aware of their work behaviour, nor are they experts in design and human-computer interaction.

The aim of the conference is therefore to bring together the various disciplines that make up the notion of design to challenge the concept of design based on these disciplines. We have invited researchers and practitioners who share the beliefs in the potential of incorporating the users in the process and to discuss various ways of doing so. And, above all, we come together to share ideas and experiences about the design of IT from traditional computer systems to ubiquitous computing, from usability to user experience, for the benefit of the broadest possible range of users.

References

BAECKER, R., GRUDIN, J., BUXTON, W., & GREENBERG, S. (1994). *Readings in Human-Computer Interaction: Toward the year 2000, 2nd edition,* Morgan Kaufman Publishers, Inc.

BJERKNES, G., EHN, P. & KYNG, M. (1987). *Computers and Democracy.* Gower Publishing Company Ltd., England.

EHN, P. (1988). *Work-Oriented Design of Computer Artifacts.* Arbetslivscentrum, Sweden.

GREENBAUM, J. & KYNG, M. (Eds.) (1991). *Design at Work: Cooperative Design of Computer Systems.* Hillsdale, NJ: Lawrence Erlbaum Associates.

JONES, J.C. (1981). *Design Methods: Seeds of Human Futures, 2nd Edition,* London: Wiley.

KRIPPENDORFF , K. (1995) Redesigning Design; An Invitation to a Responsible Future, In Päivi Tahkokallio & Susann Vihma (Eds.) Design - Pleasure or Responsibility?, Helsinki: University of Art and Design, pp. 138-162.
Available: http://asc.upenn.edu/usr/krippendorff/REDESGN.htm

MONÖ, R. (1974) Analysis and evaluation of the designfunction (In Swedish: Analys och värdering av designfunktioner), Stockholm, ISBN 91-524-0189-8)

NEISSER, U. (1976). *Cognition and Reality.* San Francisco: W H Freeman.

NORMAN, D.A. (1986). Cognitive Engineering. *In D.A. Norman & S. Draper (eds.) User Centered System Design,* Lawrence Erlbaum Associates, Inc., Hillsdale, New Jersey.

PREECE, J., ROGERS, Y, SHARP, H., BENYON, D., HOLLAND, S., & CAREY, T. (1994). *Human-Computer Interaction.* Addison-Wesley Publishing Company, Wokingham, England.

SCHULER, D., & NAMIOKA, A. (eds.) (1993). *Participatory Design: Principles and Practices.* Lawrence Erlbaum Associates, Inc., Hillsdale, New Jersey.