

Online survey as a new method to evaluate the usability of interactive software

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Software-Ergonomics as a multidisciplinary research field is concerned with the usability of interactive Software. In practice, evaluation methods for judging the usability of software are used, among others, user surveys with standardized questionnaires. One of these has now been transformed for the first time into an online version, this being the ISONORM 9241/10 (Prümper & Anft, 1997). According to its authors, the ISONORM represents an operationalization of the seven dialog principles in ISO 9241, part 10 (ISO, 1996).

The new online-questionnaire was compared to its paper version to discover possible differences. Following a pilot study with employees, a user survey was performed within the scope of a usability-evaluation of the Internet-application 'Telebanking' by the Swiss bank UBS. Therefore three surveys were employed in parallel: paper version, online via Internet and online via the banks network (Intranet). The paper questionnaire was delivered to the employees' work places. For the two online-surveys the subjects were asked via e-mail to go to a website containing the questionnaire and fill it in online. In all three surveys the same questionnaire containing a total of 40 items was used; differing only in the transmission medium (paper or online).

Altogether 137 UBS employees took part in the surveys (8 women and 129 men). The average age of the subjects was 34.7 years. They had an average experience of 11 years and 1 month with computers with an average of 29.3 hours per week.

The results of the three surveys were tested for differences. No statistically significant effect on the users judgement was found relating to the kind of survey (paper or online). All three surveys led to the same statements relating to the usability of the software. In regard to the frequency of computer use and experience with the Internet, the participants of the paper survey reported lower values than the participants of the two online surveys. The seven ISO principles could be replicated as dimensions in a factor analysis. The inner consistency of the ISONORM items was high in all three surveys (Cronbach's alpha above 0.9).

This new tool facilitates easy evaluation of Internet-applications directly by the users at home. The new method online survey can be employed for future applications according to the outlined procedure.

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