
CONFERENCE ABSTRACT

User-centred Design of Health Information Technology

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Introduction: This research study was carried out to explore the approach of user-centred design, with focus on end-user involvement in the development of health information technology. Two development projects were included: the EU-project United4Health and eHealth-extended Care Coordination, a regional project in Southern Norway. In United4Health, a collaborative telemedicine system for remote monitoring of chronic obstructive pulmonary disease patients was iteratively developed. In eHealth-extended Care Coordination, the information flow within inter-municipal health teams was addressed and a collaborative information system facilitating coordination between the municipalities was developed. In both projects, end-users were involved from early project idea until final deployment as active contributors in the user-centred design process.

Methods: From spring 2013 until summer 2015, 35 participants (health care professionals, patient union members and technicians) participated in workshops, seminars and user evaluations as a part of a user-centred design process. A mixed methods research approach including observations, semi-structured interviews and questionnaire was used for data collection [1]. The data analysis was based on a qualitative content analysis **Error! Reference source not found.**[2] from a human-computer interaction perspective.

Results: The user workshops contributed to outlining the context of use and establishing user needs. The workshops were the key to elicit users' requirements for the technology development, taking on board different aspects of user interface, interaction and functionalities. The next step in the user-centred design process was user evaluations including pre-test interview, task-based user test (both in the field and usability laboratory), System Usability Scale questionnaire [3] and post-test group interview. As a final step, a field trial was run with the active participation of voluntary patients and health care professionals. The field trial allowed studying the long-term and real-time usage of the technology. The results showed that all types of data collected were of high importance for the iterative development and an important step in the user-centred design process of both projects.

Discussion and conclusion: This research study contributes to the knowledge of user-centred design in several ways. Firstly, it provides an understanding on how to actively and efficiently involve users in

design and development of health information technology by conducting empirical research. Secondly, it contributes to the knowledge on how to run user evaluations in usability laboratory settings, health care environment and patients' homes. Thirdly, it provides recommendations for how user-centred design can contribute to the ease-of-use and user satisfaction for the end-users of health information technology.

References:

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