Digital Television for All: User Preferences and Designers’ Views on What Would Suit the User

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Abstract. This paper presents results from a user study and a set of design sessions conducted in a broadcasting company. During the design sessions, the designers created new concepts of interactive television programs for given TV viewers. The creative work was based on user profiles collected in the preceding user study. The aim of research was to include the future users into the product development in the early stages of new product design. Both TV viewers and designers created innovations of future interactive applications and the results are discussed.

1 Introduction

Design activities have been called ‘a process of communication among various audiences’ [3]. Interactive television programs and services for digital television are an example of novel products that must meet the needs of a broad range of audiences. For example, re-design of many consumer products is based on modifications made to the latest product versions to meet the new user needs. Sometimes a fresh marketing campaign will do. Concept design of new and novel products on the other hand faces many challenges. Modifications made to previous product versions are not enough for the television audience, as TV viewers want to get surprised by new television programs, not the old ones.

Interactive television programs and applications have been a subject of research in a number of studies. There are results from prototyping personalized TV news [9], usability testing Electronic Program Guide prototypes [6] and designing on-screen displays and remote controls [8]. There are also results from an ethnographic study of set-top-box use [10], a study resulting in a set of user groups for digital television [4] and a user study resulting in new concepts of interactive television programs made by TV viewers [5]. The next subsection deals with issues concerning user research and user centered concept design for digital television.
1.1 Methods

The study presented here consists of a user study and a set of design sessions held in a broadcasting company. It is a continuation of a study resulting in a set of user groups for digital television [4]. The aim of research was to include the future users into the product development in the early stages of new product design. The new products are interactive television programs and applications for digital television. The user study took place in study participants’ home environment. Five women and five men in the age range of 16-78 years received an envelope with questionnaires, separate questions, two diaries and a disposable camera. The approach has been adapted from a research called ‘Cultural Probes’ and other, more traditional ethnographic methods [7, 1, 10]. The study participants also designed innovations of future interactive applications for themselves. A subsequent one-hour interview with the researcher revealed more of the study participants’ needs for specific types of information and their thoughts of the television in the future. The interview materials were analyzed to find important examples and user experiences [11]. The approach was not an ethnographic user study as it was the user study participants who collected the data instead of researchers. The approach enabled the study participants themselves to gather the results in their home environment, explain them and give their interpretations as why events happened. An ethnographic study made by an observer would not reveal enough of the user’s motives to watch television.

A series of five design sessions followed in the public service broadcasting company YLE (Finnish Broadcasting Company). YLE’s share of total TV viewing in the Finnish-language television network was 43% during year 2001. Each session included a researcher and two participants from YLE: concept designers, producers, television editors and audience researchers. Altogether ten participants from YLE took part in the sessions which took 60-90 minutes each. The session participants explored the user profile, discussed about their findings and then designed new concepts of interactive television programs. A lively discussion provoked the session participants to imitate the program hosts, television announcers and the studio audience. The new program concepts were therefore created with the help of storytelling and role playing [3, 2]. The aim of each session was to concentrate specifically on one TV viewer at a time instead of groups of people familiar from the audience research. At the end of a session, the user’s innovations were presented to session participants as a feedback. They could now compare their new concepts to user’s innovations. This was a way to provide an instant feedback to designers.

2 Results

Results from the user study and the five design sessions are presented here next. In the user study the emphasis was put on finding user preferences and expectations instead of particular user needs. Digital television is a novel product and it is not possible to perform research on user needs concerning a product or service the user has never used before. For new concepts of interactive television programs and services, it was