Chapter II
Use of Experimental Ethno-Methods to Evaluate the User Experience with Mobile Interactive Multimedia Systems

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ABSTRACT

This chapter discusses research initially supported by the Vodafone Group Foundation and the British Royal Academic of Engineering, and subsequently by the BT Mobility Research Centre. It aims to unfold the user experience in future scenarios of mobile interactive multimedia systems, such as mobile iTV with plausible significance in entertainment, work, and government environments. Consolidated and experimental ethnographic data gathering techniques have been used to understand how peripatetic and nomadic users such as commuters and travelers interact in real contexts, taking into account their physical and social environment together with their emotions and feelings during interaction with the system. This approach potentially enhances the consistency and relevance of the results. This chapter also envisages how mobile users could become a sort of ‘DIY producers’ of digital content, prompting the emergence of mobile communities that collaborate to create their own ‘movies’ and exchanging them not only with other users but also places (real and virtual environments) and objects (intelligent objects and other digital-physical hybrids). This work illustrates that mobile and pervasive TV would go further than merely broadcasting TV content on handhelds; it will be a platform that will support collaboration and enhancement of creative skills among users.
Experimental Ethno-Methods to Evaluate the User Experience

INTRODUCTION

Interactive TV demands active participation by viewers, and as a result, it considerably affects people’s experience with television and their TV-related social behavior. Users’ adoption of powerful handhelds with multimedia features, together with an increasing interoperability between platforms, results in the expansion of the iTV consumption beyond the domestic context. We can define this ‘almost everywhere TV’ as ‘pervasive TV.’

The presented research explores realistic and relevant future scenarios for pervasive iTV and for pervasive interactive multimedia systems that address the demands, needs, and desires of a specific category of users: commuters. Likewise, novel processes and structures for content creation, sharing, and consumption that match the nomadic lifestyles of commuters, and embody their values, are investigated.

This research shows that there is, in fact, a growing interest by users in mobile interactive multimedia systems. However, these systems are different from the conventional concept of TV broadcasting on mobile phones. The scenarios that arise in this research are more related to non-professional users co-producing and sharing media content in applications for mobile devices, the internet and iTV for small network communities. According to a recent research by Deloitte Touche Tohmatsu, “Companies have invested significant sums in developing mobile television services so far, but mobile television has had muted commercial impact. Its disappointing performance is likely to continue in 2007. A key reason for this will be weak consumer demand” (The 2007 edition of DTT TMT Industry Group’s Telecommunications Predictions, 2007).

There are several research projects addressing different aspects of pervasive interactive multimedia systems and distributed multimedia systems and services (Arreymbi, 2006; Butscher, 2006). Many of them explore either the area of mobile and pervasive games (Barrenho 2005; Capra et al., 2005) or the experimental interactive arts (Frisk 2005).

Furthermore, much of the current research focuses on specific interactive aspects such as the screen (Pham, 2000; Zheng, 2005), the sound (Scheible, 2005), or the digital content in general (Goularte, 2004), but disregards the influence of the context. However, the scope of this project is to analyze the user experience (UX) in a holistic way in order to understand which elements and applications of interactive multimedia systems are suitable in specific contexts, providing the user with a high quality experience.

BACKGROUND

Industry has often failed to understand and forecast users’ needs and expectations in sectors that are normally characterized by innovation-driven approaches (such as telecommunications and iTV). Many companies developed applications for handhelds or iTV using inappropriate ICT resources that require massive modifications in users’ habits resulting in perceptive or cognitive overload. Consequently, the market’s response to investments in developing new products (e.g., mobile TV broadcasting) has not been positive to date. Rapid changes in users’ habits and technological advances have generated enormous uncertainties and call for innovative research and development methodologies. As the aspects that need to be considered here have a diverse nature, a cross-disciplinary approach that includes human factor studies, behavioral theories, socio-cultural and economic trends, technological developments and emerging technologies markets, interactive arts, product design, and so forth is necessary. Moreover, several techniques such as collaborative and user-centered approaches that focus on users’ cultural, social, behavioral and ergonomic backgrounds must be combined.

Many network operators in Europe, the USA, Japan, Korea and Canada are starting to broadcast TV on handhelds (see Table 1). This is commonly defined as mobile TV.

There are several reasons that might undermine the success of such operations. The first one is related to the intrinsic physical diversity between
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