Equator: Mixing Media and Showing Seams

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RESUME

The Equator interdisciplinary research collaboration has been exploring the combination of media such as mobile devices and collaborative virtual environments. We have built collaborative systems for a number of application areas including cultural heritage and tourism, performance, games, medical monitoring and environmental science. These systems have generally involved online visitors to a building or the city streets interacting with on-site visitors to the building or the streets. Sometimes the people online, using new media, are also on-site, using old media. Overall, Equator explores the interconnection and interweaving of activity in heterogeneous media which are usually treated in an isolated way. A number of higher-level design concepts have either motivated this work, or have arisen from experimentation with and evaluation of such systems. In this talk I offer my perspective on Equator's approach to ubicomp and HCI, giving examples of system designs, user experiences and conceptual work, and how they too are interconnected and interwoven in our research.

CATEGORIES AND SUBJECT DESCRIPTORS: H.5.1 [Multimedia Information Systems]: Miscellaneous; H.5.3 [Group and Organization Interfaces]: Computer–supported cooperative work (CSCW).

GENERAL TERMS: Design, experimentation, theory.

KEYWORDS: Ubiquitous computing, CSCW, seams, seamful design.

INTRODUCTION

Equator is an 'interdisciplinary research collaboration', funded by the UK Engineering and Physical Sciences Research Council. It is a six–year project, involving roughly 80 people in eight academic institutions, working on ubiquitous computing and CSCW. It brings together computer scientists, sociologists, psychologists, designers, museum studies specialists and experts from other domains. We combine theoretical work, interactive systems design, infrastructure design, and studies of use and users. Equator's name comes from our attempt to move away from the idea of separate digital and physical 'worlds', and towards treating them as two halves of the world of everyday life. We work on the borderline, where new and old media are interconnected and interwoven by people's activity. Most of our systems involve a heterogeneous mix of media such as mobile computers, hypermedia and virtual environments—and the older media of the setting of multi–user ubicomp experiences.

In this presentation I will offer a view of some of Equator's recent research, with a bias towards Glasgow's work. We have been exploring and extending two of Mark Weiser's concepts: transparency and seamful design. The first is ubicomp's well–known ideal of the effective disappearance of computational media, so that we act *through* technology, not *on* it. Critical weaknesses in this concept are revealed by studies of ubicomp systems in use and investigation of its theoretical roots. As discussed in [1] and [2], I propose that transparency is an unachievable or incomplete ideal. One of our responses has been to explore seamful design, a less well–known concept that involves understanding and accepting 'seams' such as gaps and breaks in functionality, and the limits of sensing, communication and representation. Seams in interactive system designs and infrastructures show through in users' interaction, but we can design *for* such seams. We can help users understand and adapt our systems and their activity, with design that weave transparent use and more analytical use together into what Weiser called 'the fabric of everyday life'.

BIBLIOGRAPHIE

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