Socio-Technical Issues of Participatory Design in the Developing World

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ABSTRACT

This article describes how the VeSeL project which involves a distributed team of technologists and users from different cultural backgrounds is attempting to manage the process of user involvement and participation. In this case the developers are distributed but linked by a number of communication technologies while the users have very few technological means of communicating with the developers. It describes how the contrasting social and community issues of both the developers and the users can be understood and managed. [Article copies are available for purchase from InfoSci-on-Demand.com]

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INTRODUCTION

One of the Millennium Development Goals established by the United Nations in 2000 states “Make available the benefits of new technologies—especially information and communications technologies (ICT)”. Technology is considered among the greatest enablers for improved quality of life but its deployment in the developing world has sometimes been ineffective, thus sug-
gesting that there is a need for increased technology research in developing regions. In particular, as a result of their disadvantaged socioeconomic position, rural African communities experience disadvantaged digital information access both in terms of the ICT itself and the skills required for the effective use of this technology, e.g. literacy and computer skills. Thus was born the EPSRC sponsored VeSeL project. The objective of the VeSeL project is to explore the use of ICT by bringing it to groups of rural farmers in order to promote e-Science and provide local communities with access to information to improve the profitability of their farm products and quality of life. The project started in September 2006 by establishing the feasibility of collaborating with groups in Kenya. Since then, there have been three field visits using contextual enquiry and cultural probes to elicit the villages’ requirements. The information obtained was utilized to develop the first prototypes and to provide an ICT resource kit which could be used to establish electronic communication with the users to facilitate the development of ICT artifacts. Implementing the resource kit and distributing it among the users has required two further visits by project members.

This article describes and reflects on the experiences of a multicultural and multidisciplinary group of technologists implementing distributed participatory design in the VeSeL project attempting to address the global digital divide in Kenya. The VeSeL project involves the identification of novel ways of deploying existing ICT that are genuinely beneficial to the users. In addition, the project requires the development of new HCI methods and/or the adaptation of existing ones. The overarching aim of VeSeL is to enable rural communities in Sub-Saharan Africa to use advanced digital technology to improve their agricultural practices and literacy levels. Collaboration between various UK and Kenyan institutions will enable the project to define the most urgent information requirements for a rural farming community and to design the appropriate technologies to meet these needs. This may mean providing sensors to give information about soil quality, cameras to take pictures of crops or the internet for up-to-date weather information and communication with other villages and the world beyond.

A team of UK experts in telecommunications, renewable energy sources, sensor technology, education and user interface design drawn from five UK universities are working with local experts at University of Nairobi, non-governmental organizations (NGOs), agricultural information providers and teacher trainers.

The Challenges

We recognize that research suggests only between 30% and 40% of ICT systems produced are ever successfully implemented and used for the purpose for which they were designed. ICT projects in developing regions, according to
Appropriating Heuristic Evaluation for Mobile Computing
Computer Interaction and Innovation in Handheld, Mobile and Wearable
Technologies (pp. 20-41).
www.igi-global.com/chapter/appropriating-heuristic-evaluation-mobile-
computing/52406?camid=4v1a

Networked Business Organizations: Topics for Actionable Research
Transformation in the Digital Era (pp. 235-255).
www.igi-global.com/chapter/networked-business-
organizations/29038?camid=4v1a