Editorial:
Methods for Studying Technology in the Home

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The last fifty years have seen an exponential increase in the amount of technology embedded in and passing though home environments, creating spaces that are now technologically as well as socially, psychologically and environmentally complex. It is only in the last fifteen years that the study of Human-Computer Interaction in the home has entered the mainstream, with essential challenges and themes (Edwards & Grinter 2001, Blythe & Monk 2002) defined, and groundbreaking environments for research created and analyzed (Kidd et al., 1999). Diverse aspects within the domestic use of technologies, from childcare to health and wellbeing, to food, media, and energy, have now become the focus of detailed bodies of research in their own right.

This trend has brought with it unique methodological concerns which need to be considered by those researching and designing interactions with technologies in the home (Coughlan et al., 2013). This special issue has emerged from an ongoing interest within the Human-Computer Interaction community in the practice of performing research and design activities in and about the home. While home based technology research has been performed and widely reported previously we focus on the methods themselves, exploring the development of novel methods, and the implication of applying existing methods in home environments.

Four papers in this issue explore the implication of applying existing methods within the context of studying technology in the home. Mitchell et al. explore the application of two methods that focus on re-enactment within participants' homes; an interactive floor plan and a video ethnography tour. They analyse these within the context of a project exploring domestic energy consumption and digital media use. Their paper discusses the benefits of embedding design research in this way and the implications of their findings when considered in the context of current ubiquitous computing research trends.

Poole, Comber & Hoonhout discuss the use of disruption of household routines as a method to study home technology use. Through reflecting on three diverse research projects that practiced forms of disruption, they shed light on how different forms of this phenomena can employed in research to elicit valuable information about current and future use of technology, and identify a range of issues for the researcher to address. Based on this exploration, they go on to suggest best practices and challenges to be expected when employing methods that impact upon routine life in the home.

Ley et al. draw together results and reflections from two longitudinal studies that took the form of living labs, in order to unpack the application of this promising approach when used to study technology in the home. They explore a range of issues focusing on the management of dynamic relationships with participants, and the ethical implications of applying such methods.

Plowman argues that young children can be invisible in research around the home, and illustrates the methodological challenges of conducting research that includes this population, through reflections on a study method framed by an eco-cultural approach. This focuses on children's play and learning with toys and technologies. In turn they use this theoretical framework to identify and develop a range of methods that illuminate the home's unique mix of inhabitants, learning opportunities and resources.

Two papers present the development and application of novel methods designed specifically for the exploration of interactions with home centric technologies. Brankeart et al. propose a qualitative personal evaluation game method to evaluate home based assistive technology for people affected by dementia. They go on to test this approach during a three-week living-lab evaluation of a dynamic lighting application involving both those with dementia and their carers. In conclusion they find that the method can help maintain a positive researcher-participant relationship and generally draw insights into the daily lives of participants and their use of technology.

Brown et al. present and evaluate a novel alternative to traditional scenario based methods; 'Tailored Scenarios'. This dynamically presents participants with scenarios that include information about their own household, showing situations in which new technologies are installed and data about household members becomes shared. Their findings suggest that this approach is an improvement over standard scenario methods in terms of eliciting attitudes towards technologies that share information in the home, while also being easier to implement at scale than technology probe methods.

These papers not only highlight issues that need to be considered when studying technology in home environment, but also present potential solutions in terms of both practical methods and specific evidence-based advice. It is hoped that the papers in this issue will help to promote best practice and provide the grounding for developing further methods and toolkits, as studying technology in the home becomes an ever more common research practice.

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