The challenges of creating connections and raising awareness: experience from UCLIC

Ann Blandford, Rachel Benedyk, Nadia Berthouze, Anna Cox & John Dowell

UCL Interaction Centre, University College London, Remax House, 31-32 Alfred Place, London, WC1E 7DP, U.K.
A.Blandford@ucl.ac.uk

Abstract. With current disciplinary structures and academic priorities, Human–Computer Interaction faces ongoing challenges: is it a discipline in its own right, or simply a sub-discipline of computer science, psychology or design? Is it a science or engineering discipline? Should it concern itself with developing theory or improving practice? UCLIC aims to find appropriate middle ways on such questions: it conducts scientifically-based HCI research with a view to improving practice, and thus have an impact on society. It is based in the disciplines of Psychology and Computer Science and promotes participation across the disciplines. Research and teaching cover cognitive, affective, physical, social and technical aspects of interactive system design and use.

Keywords: human error; digital libraries; design practice; formal models; affect; cognition; social and organisational impacts of technology.

1 Introduction

UCL Interaction Centre (UCLIC) was established in 2001, as an interdisciplinary group spanning Computer Science and Psychology. It succeeded the Ergonomics Unit, which had once been based in Engineering and latterly in Psychology, and it inherited an established Masters course in HCI with Ergonomics. Since its formation, it has faced challenges, some of which are inherent to the discipline and others of which are specific to UCLIC's situation. We outline some of these challenges here.

2 Selected challenges

One obvious challenge is that of creating connections across disciplines. UCLIC is staffed by academics from both Psychology and Computer Science. This 'dual belonging' is essential to the work of UCLIC for maintaining effective dialogues with specialist peers and ensuring awareness of relevant research developments in the contributing disciplines. Nevertheless, it poses challenges of sustaining those effective dialogues, finding the points of common interest and developing shared understanding. For example, where UCLIC researchers work on applied problems

such as interactive search [3] and human error [5], they can draw on the work of colleagues in Psychology on attention [4], but the applied problems are often of less immediate interest to the theoreticians.

As well as connections with the contributing disciplines, there is a challenge to create connections more directly between them. One strand of research is exploring how findings from psychology and other social sciences can be expressed in forms that can readily inform computer system design and, conversely, how the need for a better understanding of system users can create new research agendas in cognition, emotion and interaction (i.e. developing theory that is appropriately framed for informing practice).

As well as the challenge of creating connections with the contributing disciplines, there is that of creating connections with applied disciplines such as health informatics, clinical psychology and information studies, where the roles are typically reversed: HCI can provide useful established theory and methods on how to design effective systems for applied purposes, and the challenge is to find the cases where the domains of application provoke the development of new theory. For example, Attfield et al [1] relate empirical findings about writers' use of information systems to design theory. Similarly, Berthouze is investigating how technology capable of recognizing affective states from body language [2] can help chronic pain patients and their clinicians in dealing with the affective experience of pain.

Finally, we highlight the challenge of raising awareness in the broader practitioner and user community. In a recent interview, a Human Factors practitioner told us that his remit was to "give the customer what they ask for, not, you should note, what they need." This illustrates that general awareness is low – of the discipline, of the issues we address and of the factors that contribute to a positive interactive experience. Students enrolling on our Masters course in HCI with Ergonomics often tell us that they recently discovered that HCI exists as a discipline, with a body of knowledge and a set of skills to be learnt, and they are excited and delighted to have made this discovery. Educating students is an important part of our remit for facilitating HCI awareness and practice. However, improving public awareness clearly remains a challenge, for both UCLIC and the broader HCI community.

References

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