Introducing HCI - a Practitioner's Guide

Steve Cummaford
IMG Media
McCormack House
London
W4 2TH

steve.cummaford@imgworld.com

John Long
University College London
Gower Street
London
WC1H 0AP

j.long@ucl.ac.uk

ABSTRACT

HCI continues to grow in popularity amongst commercial practitioners, many of whom have no formal training or education in HCI. Conferences, such as HCI 2007, offer an attractive means for practitioners to increase their knowledge and skills. However, many such practitioners can find it difficult to understand how research presentations relate to their specific needs. They often fail to make the most of their attendance at conferences and can struggle to pull through knowledge from the HCI research reported into their own practices, due to their lack of HCI training. This tutorial presents an introduction to the discipline of HCI in the form of a practitioner's guide, and so seeks to help delegates identify conference sessions, which offer the most promise for delivering value to the commercial practitioner. In so doing, it suggests ways in which the research can be pulled through into their practices, so increasing their engagement with HCI.

1. INTRODUCTION

Discussions with attendees at various conferences (including the HCI series) have indicated that this lack of HCI training reduced the benefit of conference attendance. In particular, they welcomed support in orienting themselves to the general theme of the conference, relative to their goals, and then selecting specific sessions to attend. The tutorial therefore meets the aims of the stated conference theme by supporting a better understanding of 'HCI not as we know it' by introducing such practitioners to 'HCI as we know it'. In addition, the tutorial offers first time conference attendees support in maximising the value of their attendance, and thus encouraging their future attendance at the HCI conference series.

The tutorial presents an overview of the historical and theoretical foundations for HCI, followed by an overview of the UCD lifecycle. The UCD approach is then used to illustrate how the research, reported at conferences, can be pulled through into practice. The specific knowledge requirements of the participants will be identified via practical exercises. Audience participation during the tutorial will be via small group exercises, conducted during the sessions.

© Steve Cummaford and John Long, 2007

Published by the British Computer Society

Volume 2 Proceedings of the 21st BCS HCI Group Conference

HCI 2007, Lancaster University, 3-7 September 2007

Devina Ramduny-Ellis & Dorothy Rachovides (Editors)

2. LEARNING OBJECTIVES

The learning objectives are:

- To understand the historical development of HCI as a discipline.
- To review and agree the theoretical foundations of HCI and the UCD development life-cycle.
- To identify how HCI research knowledge can better support their own practices.
- To identify sessions and presentations in the conference programme, which offer most promise for uptake in the participants' future work.

Following tutorial attendance, participants should be able:

- To define HCI activities with reference to the theoretical foundations of HCI.
- To understand the relationship between (academic) research and (commercial) practice.
- To identify HCI techniques, which address their specific needs in current and future work.
- To plan their conference attendance in the light of their learning requirements.

The tutorial is designed for practitioners with little or no formal training or education in HCI, who wish to make the most of their attendance, with reference to their specific knowledge requirements. Prerequisites for attendance are therefore: an interest in understanding HCI and how it can be integrated into participants' own work, to increase the effectiveness of their design activities, and to facilitate effective pull-through of research knowledge into their own practices.

3. OVERVIEW BY SESSION

3.1 History and theoretical foundations of HCI

Session 1 presents an overview of the development of HCI as an academic and commercial discipline, from early time and motion studies through to World War 2 Ergonomics of sonar and radar systems to the present day, via the advent of the PC and interactive computing, virtual reality; mobile telephony and the notions of usability, user experience and affective interaction, that is, including the new frontiers, associated with the theme of HCI 2007. The theoretical foundations for HCI are defined, focusing on the need to specify successful design in terms of achieving performance targets, based on frameworks, modelling and notions of process. The theoretical foundations are presented in order to orient participants to the concepts presented later in the tutorial. The relationship between academic research and commercial development is presented

using timelines, to illustrate the status of current research programmes as drivers of future commercial practice.

3.2 Overview of HCI in the system development lifecycle

Session 2 presents an overview of HCI methods, in context of the system development lifecycle. The 'prototype and test' approach of usability engineering is contrasted with the HCI engineering approach of using models of the user, device and domain during design. The benefits of this approach are demonstrated via examples taken from recent work undertaken by the tutors. The practical component of the session involves the selection of specific methods for hypothetical design projects, and justification of the resources required in order to undertake these methods during the design process.

3.3 Relations between HCI research and practice

The first afternoon session explores the relationship between HCI research knowledge, and HCI techniques to support requirements definition, design, and evaluation. Examples of established HCI knowledge and techniques are related to their research antecedents, in order better to understand the potential for research knowledge to support future HCI practice. Examples of research knowledge to be presented at the conference will then be discussed in the light of this relationship.

The session will be illustrated with a case study of the redesign of a high-traffic website, conducted by one of the tutors. The case study is intended to support delegates in mapping HCI research knowledge and design techniques to domains with which they are likely to be familiar, thus enabling a better understanding of the pull through of research knowledge into practice.

3.4 Conference programme review

The final session will review the conference programme in terms of the practitioner's introductory guide to HCI, in order for the participants to identify the most promising sessions for the specific needs of the participants. The session will commence with a practical exercise, in which the participants will, in the manner of UCD user requirements, exposed and

agreed in Session 2, identify their key knowledge requirements, and goals for conference attendance. The conference programme will then be reviewed, in the light of participants' needs identified during the practical exercise. The aim of the session is to identify the conference presentations and interactive sessions, which offer the most promise for incrementing participants' knowledge and meeting their specific requirements. Delegates will be encouraged to identify the relations between the conference programme and their specific needs, both in terms of Conceptual and Detailed Design, in the manner of Session 2. Thus, they will put their new understanding of the discipline of HCI to work. The application will facilitate more effective participation in the conference generally. It is hoped that such a perspective will result in greater knowledge transfer from HCI research into practice, thus achieving the conference's general aims of exploring the new frontiers of HCI.

3.5 ABOUT THE PRESENTERS

Steve Cummaford worked as a Research Fellow in the Department of Psychology, investigating the design of effective e-commerce interfaces, before being appointed Lecturer in HCI, University College London (UCL). He continues to be active in teaching and research. He was a founding partner of Amberlight Partners, a leading HCI consultancy based in London, designing and evaluating websites for clients including Autotrader, AOL, Ask Jeeves, MSN and Yell. Steve is now at IMG Media, where he designs and produces websites and mobile applications, for clients including Manchester United, FIFA, The Open Championship, O2, Vodafone and Miss World.

Emeritus Professor John Long worked for Shell International as a line-manager. He then joined the Medical Research Council's Applied Psychology Unit, Cambridge conducting HCI research and managing major consultancy projects. He was Director of the Ergonomics & HCI Unit (UCL), where he supervised and mentored both students and members of academic staff. He has authored/co-authored over 200 publications and managed more than 40 grants. He has acted as consultant to numerous companies, on a wide range of practices. He was awarded the Bartlett Medal for research and received the IEA's Outstanding Educator Award. He is currently Emeritus Professor at the UCL Interaction Centre.