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## Book Review

F. MADDIX

*Human-Computer Interaction: Theory and Practice* Ellis Horwood, 1990. £18.95 ISBN 0-13-446220-3

For a reluctant book reviewer, the page of errata that fell out of my copy was less than encouraging. Secondly, glancing at the references, a mere 71 of them, it was obvious to me that this book is seriously under-referenced, particular as my name did not appear in appendix A, where the references are buried. In fact, one of my papers is referenced, but is so at a chapter end. Indeed, there is a problem with the whole style of referencing in the book which is inconsistent (sometimes names and dates, sometimes name and numbers, and some references in appendix A and some not).

If the references are one problem with this book, the content index is a more important second problem. At five pages, in double-column format, it at first looks adequate. However, the naturally suspicious will note that each index item has few page numbers associated with it, and at most only six, and this is a very rare exception. Taking what, for me, is becoming a standard test of HCI books, I looked up a couple of vital and difficult index entries: (i) task analysis; (ii) user modelling. Apart from my expertise in these two areas of HCI, they are informative because task analysis and the whole concept of tasks is central to HCI, as is user modelling, and both are technically difficult. In a word, the index is inadequate. 'Task analysis', 'Task model' and 'Tasks' yields but four index entries and 'User model' a mere two. Within the book there are numerous references to these two topics, some of them in bold (e.g. p. 226, 'The task') and some even as section headings (e.g. p. 44, 'Other User models'; p. 88, 'Task Analysis'), which just do not occur in the content index at all. I estimate that these two topics between them require two to three times the little indexing they enjoy. Indeed, one of my major criticisms of the book is that user modelling is not dealt with adequately as a topic. In fact, there is a great deal on users in the book, as is essential for any HCI book, but it is dispersed and it appears that the author is often not aware of the need to deal with the

whole issue in a coherent manner. To take one example for illustration, there is a whole section on 'Operator psychology' (pp. 247–8) which describes users in the context of their personality attributes, which is clearly an aspect of user modelling, yet, of course, it is not indexed either under 'User model' or even under 'Operator psychology'.

I wish I had had a chance to be the editor of this book, as overall it makes a very valuable contribution to the HCI textbook literature. Unfortunately I think it is structured in a manner that is odd and less than helpful. Like many HCI textbooks it has a few chapters of irrelevant material, most particularly chapter 3 on 'Information processing'. The focus of the chapter is wrong simply because information theory's definition of the bit is inappropriate for describing the information content of stimuli perceived by people because the actual content is determined by the state (knowledge, goals, task constraints) of the perceiving information processor (the mind). Furthermore, while I would have replaced this chapter with one on user modelling, I would still question its utility for practical HCI. To me it seems that there is a tremendous gap between a lot of psychological waffle (and I do have a doctoral degree in experimental psychology) about people and the impact (little) all this psychology has on the design of computer systems. Furthermore, I question how even some relevant user psychology can be transmitted to system designers, who generally do not have a background in 'difficult' subjects such as psychology, sociology, philosophy, economics, etc.

The division of chapters 7 and 8, 'Interfaces' and 'Visual interfaces' respectively, seems to me arbitrary. I also question the utility of chapter 12's 'Experimental studies', which describe four very brief student experiments and the results of which I would not trust for the design of real computer systems, which have to support particular types of user performing specific types of task. Certainly there is a need to balance these small examples with real software engineering examples, and it is here that chapter 13 ('HCI and design') fails. The author's heart is in the right place

with respect to the need to go beyond the direct end-user or operator, and that a social perspective is also essential, but this view, expressed in the early chapters, is not carried through the rest of the book. Similarly, I would have appreciated a section, if not a chapter, on ethical issues associated with computers since HCI, it has been argued, by being inherently interdisciplinary and user-centred, is particularly well positioned to address this topic.

Whatever it says in the preface, this is a student textbook and really one for computer science or information technology students. It has sufficient computer technology to maintain some interest for such an audience, but too much for those learning about HCI from other disciplines such as psychology. In this context, its overall weakness in psychology may be seen as an advantage. Since I do teach computer science undergraduates and master-level students about HCI, I intend to recommend this book next year as a primary reference source for my students. The book is not suitable for those in industry because of its weakness at providing advice and practical example of HCI in real system design and software engineering.

Finally, this is a book with a layout of which the publishers should be thoroughly ashamed. I would guess that this book has been prepared on the author's computer system and that the publishers have simply taken the author's version and printed it. The pictures, tables, etc. are not floated so that there are frequent, large blank sections at the bottom of pages. These blanks are not just unaesthetic but actually interfere with the book's semantics, since they do not denote the meaningful end of a section or topic. I know that Ellis Horwood have been publicly criticised in reviews before over such matters, and this is yet another example of what is wrong with far too much technology publishing today. I think the author got a raw deal, and what is really quite a good textbook has been ruined by an absence of the services that I demand from the publishers I deal with.

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