

Book Review

Computer-Supported Collaboration with Applications to Software Development, Fadi P. Deek and James A. M. McHugh, The Kluwer International Series in Engineering and Computer Science, 2003, 264 pp. ISBN 1-4020-7385-2

In the preface, the authors state that the book is written for “both academic and professionals in software development, practitioners and researchers in the areas of software engineering, collaborative development, management information systems, problem solving, cognitive and social psychology”. They seek to address such a disparate audience by presenting a wide range of theories, models, findings, studies and descriptions of phenomena that have been written about in organisational, social and cognitive psychology, CSCW, HCI, software engineering, and information systems. One has to admire the authors for going to such length to bring together so many strands of research. The trouble with casting their net so wide, however, is that the authors try to do too much and end up not doing enough. The end result is a volume that feels a bit like an exhaustive enumeration of information; bursting with an impressively large number of topics, but with very little analysis, synthesis or ultimately, depth.

The book comprises an assortment of seven chapters: cognitive and social psychology, media factors, group problem-solving, computer-supported processes and productivity, communication, groupware, experimental findings, and a collaborative cognitive model for introductory software development. While all of these topics are of relevance to the software development process, the chapters have no coherent structure. One would have thought that an introductory chapter was needed to cover the components and needs of software development in order to motivate and ground the importance of understanding collaborative aspects. However, strangely, we have to wait until the last chapter to find out more about software development.

The coverage of material within the chapters is also often poorly integrated. One moment we are reading about different types of procedural and declarative knowledge and the next we are addressing cognitive bias, followed by groupthink, norms, roles, social identity theory and socially aware computer systems. At times I felt like I had been on a roller coaster

ride through the literature, whizzing through and catching occasional glimpses of a multi-faceted landscape but never being allowed to stop off and take it in.

Such an encyclopaedic approach to covering a diverse range of topics may be appealing to developers or researchers who want to look up something quickly, for example, to find out what is meant by a “socially translucent system” or the difference between “social”, “group” and “technological” protocols. Indeed, the authors make it easy for this kind of topical access, by bolding all such terms when first introduced. For example, there are 60 bold entries in the first chapter alone, covering inter alia “cognitive models”, “opportunistic design”, “the C3P model”, “CSCW”, “chunks”, “decision ladders”, “flaming” and “The Elaboration Likelihood Model”.

The best parts of the book are when the authors provide more depth on a topic. In particular, the extensive coverage of Steiner’s (1972) book on problem-solving, that focuses on the relationship between group productivity and assumed process losses and gains, was informative and interesting. This is by far the most useful contribution of the book taking up most of two of the chapters. It covers both the original research on the factors that influence group productivity and related research and developments in CSCW.

The authors are not well known in the CSCW community. One might, therefore, be forgiving of their oversights and biases in the selection of the topics to include from this field. I was rather taken aback, though, by just how much they have used secondary source material for their descriptions, often resorting to using other’s review chapters and bypassing the original authors of the work. In particular, they borrow heavily from Olson and Olson’s (1999) chapter on CSCW that was published in the *Handbook of Applied Cognition* (edited by Durso). While review chapters *per se* are excellent resources for students and practitioners, alike, it is sloppy practice to use them as primary sources when writing a book. A side effect of this laziness is that the research is not properly referenced and inaccuracies appear. For example, several classic pieces of research that are well known in the HCI and CSCW literature are reported second hand with no mention of the originators of the work. These include the Model Human Processor for which Pirolli (1999) is cited – he critiqued it about 16 years after it was first developed – where it should have been properly cited as Card, Moran and Newell (1983); distributed cognition referenced as Olsen and Olsen (1999) when it should be Hutchins (1995) and the Coordinator System as Galegher and Kraut (1999) when it should mention Flores et al. (1988).

At a more general level, I was left wondering what software developers would make of the book. That the disciplines of cognitive, social and organizational psychology have been highly productive at uncovering and labelling all manner of social and psychological phenomena to do with collaboration? That CSCW is replete with all manner of studies on com-

puter-mediated communication? That such a fragmented body of work may be of value to software development? But how and in what ways can it be used?

How to actually apply the exhaustive supply of bite-size topics to improve the process of software development, however, is only scantily touched upon. This is a great pity. Still, the book may find its place as an extensive glossary, that readers can dip into to discover aspects of some of the research and ideas relevant to computer-supported collaboration.

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