COMPUTER SUPPORTED COOPERATIVE WORK

Dan Diaper and Colston Sanger (Eds.)

CSCW in Practice:
An Introduction and Case Studies

CSCW实践

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Dan Diaper, PhD
Department of Computer Science
University of Liverpool
PO Box 147
Liverpool L69 3BX, UK

Colston Sanger
GID Ltd
69 King's Road
Haslemere
Surrey GU27 2QG, UK

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Preface

> Dan, is this book going to provide a substantial, coherent and timely contribution to CSCW or is it just going to be a ragbag of papers from several meetings stuck together?
>
> The latter, of course, Colston. However, ...

... and the "However" was rather long and technical, but not substantially different in overall content from that of this preface. Most of the papers contained in this book were initially presented at meetings organized by the UK's Computer Supported Cooperative Work (CSCW) Special Interest Group in 1991, but the book is not a proceedings, whatever the above quotation suggests. Readers will immediately notice that, unlike typical proceedings, all the references are placed together at the end of the book and that there is a substantial index: the hallmark of all proper, technical books of quality. If you choose to delve further than this preface, you will find that each chapter is cross-referenced, thus you also gain a coherent structure across chapters – an advantage traditionally associated with high quality single-author books. Furthermore, turning apparent disadvantage to advantage, while single-author books must inevitably present the idiosyncratic perspective of their author, in this book, and appropriately for a young area such as CSCW, you will be presented with the views of a dozen CSCW experts who all have considerable, hard-won experience, gained over many years. Indeed, the main title of the book emphasizes that this book is primarily about real CSCW, not arcane academic theories of CSCW. Nor, in general, does it present a merely technocentric rehearsal of CSCW systems that have been developed

or claimed to have been developed. Moreover, the book's subtitle allows us to provide an introduction both to the technical and human aspects of CSCW, but still emphasizes that most of the chapters contain reports, admittedly in greater or lesser detail, of the various authors' CSCW experiences.

While we suggest that CSCW is a "young" field, it has been around for a decade or so as something recognizably different from its progenitor fields of research. The authors have at least been CSCW's childminders, if not its midwife. We believe that this book will be of value to those who are relatively new to the field, both students and the more qualified, and to the old salts, because it collects and reports practical experience, something at present in short supply in an accessible form.

We had planned to eschew the conservative strategy of prefaces: that of providing a synopsis of each chapter (presumably so that editors can prove to potential readers that they have looked at their book's content). However, some account of the rationale for the structure of the book (i.e. the chapter order) seemed appropriate, and in preparing this we found it natural to provide such synopses. Also appropriate is a brief description, somewhere, of how the book was produced, since it is itself an example of CSCW.

Ordering the chapters took several meetings between us, since we assumed that a random chapter ordering was not desirable. We had two constraints to balance: first, the material we had or were promised; and secondly, who else did we know who could readily supply us with additional material that would be of sufficient quality? That the chapter authors are all UK-based will be a disappointment, our publisher assures us, to an international technical market. Nevertheless, our final structure is as follows:

1. An introduction to CSCW is provided in three chapters which cover, in turn, three perspectives:

1 Rodden: A technocentric report of CSCW in general, its base technologies and its applications.

2 Brooke: A user-driven view of CSCW requirements, which proposes the style of technology we need for CSCW.

3 Hewitt and Gilbert: An interactional perspective derived from consideration of the user interface to CSCW systems.

2. Next, the most researched and used area of CSCW – collaborative authoring – is described in three chapters that all

contain case studies. Its choice to follow the introduction is obvious: not only is there just more material, but nearly everyone in industry and academia has some experience of writing in collaboration with others. Thus the application area is familiar to all and the problems with using electronic mail (email) to support such writing will be readily comprehensible, although some of the proposed "solutions" to the reader new to CSCW will, we hope, be both novel and informative.

4 Gilbert: Case studies from the early days of CSCW where the people got on and did it (collaborative authoring).

5 Sharples: An introduction to collaborative authoring to allow readers to comprehend the theoretical problems following an understanding of the problems with crude CSCW technology described in the previous chapter. Another case study illustrates some of the issues.

6 Diaper: A practical look at the problems of collaborative authoring using just email and a detailed case study of writing a short journal paper collaboratively.

3. The range of CSCW applications now broadens and the remaining five chapters form a second part to the book and repeat the first six chapters' general structure:

7 Newman: Back to a technological perspective and a description of the CSCW facilities provided in the UK by one freely accessible system.

8 Wastell and White: A theoretical introduction from one perspective to the issues of cooperative working and several case studies for illustration.

9 Benest and Dukić: A particular CSCW system is described. On the one hand (see the next chapter) this system is modest; on the other, it is implemented and usable on widely available, modest microcomputers and is valuable as a description of what is available now.

10 Seward et al.: While narrowing the application to the multi-media support for face-to-face meetings, the high-tech Pod is a system that can be hired, although not cheaply, today.

11 Kirkwood et al.: Finally, one of those rare papers which we need more of (see Hewett 1991 for an argument why), a description of a CSCW system that was trialled and that failed in a real, commercial application. While many of the problems will appear obvious and trivial in retrospect, we

> hope those in industry will nod in agreement to an accurate portrayal of the real world and the academics will appropriately shudder and be more practical in their proposals to their industrial collaborators.

Finally, this book is itself a case study in collaborative authoring. Certainly the collaboration is at and above the level of the chapter, but its production has made extensive use of computers. We should remember that CSCW does not automatically imply that computers need to be networked. Posting a floppy disc is an equally valid means of computer data transfer and it has its own advantages and disadvantages. Much of the communication between editors and authors has been by email. The editors collaborated in making extensive comments on all the chapters: firstly we acted as referees, advising how each chapter could be improved; secondly, we produced the high level cross-referencing between chapters. The book may be a multi-author one, but it is possible to treat it as a "proper" book that can be read from beginning to end, being led by the structure described above. Each chapter has the additional advantage that it can be read alone (after all, who has time to read a whole technical book these days?).

For the cross-referencing, we went through all the chapters again and identified all the bits we thought might potentially be cross-referenced. These were at quite a high level, with the exception of references to particular application software ("technology systems"), since the purpose of the exercise was to get chapter authors to make our suggested cross-references explicit in their chapters. We listed the cross-references as mnemonics with a chapter and location ID. We added to the list as we went through each chapter and then finally structured the list into a version similar to the "Hypertext Semantic Net" given at the end of this preface. We present it to provide an alternative access structure to the index prepared by the publisher. While in tabular, rather than graphic form, this is a hypertext net in that it identifies nodes ("Node types") and the links between nodes ("Chapter node referents"). It is semantic, in the jargon of hypertext, in that the nodes are labelled as meaningful entries (e.g. "X.400", "COSMOS", etc.).

Most of the cross-references were suggested to the chapter authors, although not all are actually used in the book. We have therefore presented to readers our original proposals for cross-references, since these are more extensive, rather than the final set, which should be extractable from the index (i.e. where an index item has more than one chapter referent). Our

classification still provides a general overview of the book as it can be thought of as having had a voting procedure applied to it (i.e. it lists those issues that are of sufficient significance that they are mentioned in more than one chapter), although such an operational definition of "significance" must, of course, be treated with caution.

The other reason for presenting the hypertext semantic net is that it allows us to comment on the computer tool we really needed for this part of the editors' task. Had we had all the chapters on-line, and a simple hypertext shell such as GUIDE then we could have been even more thorough and complete in our cross-referencing. Furthermore, what we needed most was a string searching capability, since though we had marked page numbers as well as chapters on our original list of possible cross-references, we spent many hours searching for the "right" cross reference.

Finally, on behalf of the editors, we would like to thank the authors for their time and effort, and Linda Schofield of Springer-Verlag, who has helped considerably, both with this book and with establishing the CSCW book series.

Hypertext Semantic Net

Technology Systems											
Node types	**Chapter node referents**										
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
X.400	X			X	X						
COSMOS	X				X						X
Information Lens	X	X									
Hypertext	X						X		X		
Post-it notes	X					X					
Quilt	X			X							
meeting room	X									X	
Coordinator		X		X				X			
Microsoft Mail			X	X							
fax				X		X					X
BLEND & electronic journals					X		X				
LaTeX					X	X					
JANET						X	X				

Group Issues											
Node types	**Chapter node referents**										
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
chair type role	X		X	X	X	X	X		X		
floor control	X		X								
conflict resolution	X				X				X		
voting	X					X			X		
improve cooperation	X	X									
organizational change		X			X						
increased complexity from single user		X	X								X
tacit, evolved procedures				X		X			X		
face-to-face meetings				X	X	X				X	
other (non-chair) roles				X	X			X			X
group size				X	X	X					
private v. group goals				X	X	X					
social aspects		X	X		X			X			X

Technology Issues											
Node types	**Chapter node referents**										
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
speech acts	X							X			
non-action types	X			X							
synchrony/asynchrony	X		X	X	X			X			
pruning	X						X				
private/public views	X								X		
window layout	X		X								
WYSIWIS	X		X								
feedback			X		X						X
shared workspace			X	X					X		
technical standpoint	X		X		X				X		
coordination of work on same parts				X	X	X					
difference single & groupwork		X		X							
locating comments				X		X					
versions				X	X	X					
more email fields				X		X	X				
distributed system environment	X						X				
topic reply structure	X	X		X							
technology push		X		X		X			X		
scheduling	X						X				

User Issues											
Node types	**Chapter node referents**										
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
user change		X			X						
different user needs		X						X			
user role change during task		X		X		X					
user responsibility to themselves		X							X		
motivation				X		X					X
affect				X		X					

Application Domain Issues											
Node types	Chapter node referents										
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
office procedures	X	X						X	X		
planning v. editing stages				X		X					
geographical disparity					X	X			X		
line management model										X	X

CSCW Applications											
Node types	Chapter node referents										
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
conferencing	X				X		X				
decision conferences	X			X			X			X	
collaborative writing				X	X	X		X			X

June 1992

Dan Diaper
Colston Sanger

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