COMPUTER SUPPORTED COOPERATIVE WORK

Peter Thomas (Ed.)

CSCW Requirements and Evaluation

CSCW 的需求与评估

Springer-Verlag
世界图书出版公司

书　　名：CSCW Reguirements and Evaluation
作　　者：P.Thomas (ed.)
中 译 名：CSCW 的需求与评估
出 版 者：世界图书出版公司北京公司
印 刷 者：北京中西印刷厂
发　　行：世界图书出版公司北京公司 (北京朝阳门内大街 137 号　100010)
开　　本：大 32 开 850 × 1168　印　张：6.5
版　　次：1998 年 8 月第 1 版　1998 年 8 月第 1 次印刷
书　　号：7-5062-3820-9/TP• 35
版权登记：图字 01-98-0434
定　　价：32.00 元

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Springer
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ISBN 3-540-19963-2 Springer-Verlag Berlin Heidelberg New York

British Library Cataloguing in Publication Data
CSCW Requirements and Evaluation. -
(Computer Supported Cooperative Work Series)
I. Thomas, Peter II. Series
650.028546
ISBN 3-540-19963-2

Library of Congress Cataloging-in-Publication Data
CSCW requirements and evaluation / Peter Thomas, ed.
p. cm. -- (Computer supported cooperative work)
ISBN 3-540-19963-2 (pbk. : acid-free paper)
1. Work groups -- Data processing -- Evaluation. 2. Information storage and retrieval systems -- Business -- Evaluation. I. Thomas, Peter J. II. Series
HD66.C78 1995
658.4'036'0285425 -- dc20 95-36462

Contents Summary

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Chapter 1

Introduction: CSCW Requirements and Analysis

Peter J. Thomas

The nature of the design process has been an abiding interest for theorists and practitioners of all design and engineering disciplines. In the case of information systems design, this interest has been developing against the background of a growing body of "technical" and "non-technical" knowledge about the design of such systems and a corpus of examples of large-scale information systems engineering projects. It is now recognised that successful information systems development needs to be underpinned by a clear focus on the situations of use and the needs of users.

Although undoubtedly true of information systems design, this approach is also valuable in the development of groupware systems and the discipline of computer supported cooperative work. In particular, two activities – *requirements analysis* and *evaluation* – traditionally seen as discrete activities in design, are now understood to be interleaved processes in the development of systems to support cooperative work: systems which themselves rest on (i) an understanding of the requirements that "social and organisational factors" impose, and (ii) the development of more encompassing measures of "evaluation". For requirements analysis – seen as a prerequisite activity in software development – the notion of "requirements gathering" as a procedural and mechanistic process has moved towards a view of "requirements engineering" as the process of gathering "non-functional requirements" that can affect systems development and performance. One effect of this has been to the increase the importance of "organisational and social factors" in design. For CSCW this means that requirements analysis is focused on precisely those factors that are central to the support of cooperative work through technology, with the additional possibility that cooperation itself can be made a part of the requirements analysis process. In the case of evaluation, the recognition of the interleaved nature of the design process means that evaluation can usefully take place at several points.

This volume in the Springer-Verlag series contains chapters which

develop these themes further, all of which draw on accounts of the design of systems to support cooperative work and which serve to inform CSCW as a intellectual discipline. The collection is based partly on a UK CSCW SIG/NPL meeting in 1993 which examined the evaluation process in relation to CSCW. The addition of commissioned chapters focused on the requirements engineering process provides a broader view of the interrelated nature of requirements engineering and evaluation. The chapters range in focus (requirements for collaborative systems to the nature of collaborative tasks), methodology (ethnographic studies and case studies) and perspective (cognitive-psychological to ethnographic). All agree, however, that the traditional view of both the requirements engineering process and the evaluation process need to be reinterpreted for the development of groupware. This traditional view of the iterative design life cycle, with the stages of requirements capture, design decisions and specification, implementation, testing and finally evaluation, is critically examined in the chapters in this volume. For requirements analysis, the aim is to "get at" the users' needs; for evaluation the aim is to "tune" the system to make sure that it really does meet those needs.

Although this approach can be argued to only weakly meet the needs of current designs for IS/IT, it is stressed in the chapters in this collection that such a view is inappropriate for CSCW systems, which are intended to support complex group activities, and which inevitably involve complex social and organisational issues. Even if the traditional view of the system design life cycle were to meet the challenge of CSCW systems, then the specific data collection and analysis methods which have been used may be inadequate to meet the needs of such systems. In the case of both requirements engineering and evaluation, the chapters in this collection propose new approaches to the system design life cycle, new data collection methods and new ways of analysing the rich and complex data which those methods generate.

In Chapter 2, "CSCW and Requirements Analysis: Requirements as Cooperation/Requirements for Cooperation", Laurence Brooks and Matthew Jones examine the nature of requirements analysis. They suggest that, in contrast to the traditional understanding, requirements analysis is rarely perceived as a cooperative activity, rather being seen as an "extraction" process where requirements are "mined" from passive users (which may involve conflict, coercion, competition and even combat). This lack of cooperation may be the root cause of problems with the development of large-scale information systems, and – due to the ever increasing dominance of IS in organisations – a root cause of failure. In contrast, they describe an approach which is based around negotiation and cooperation, drawing on the work of Habermas, Vickers and Hunter and on their analyses of interviews with IS developers about the RA process, from an ethnographic, social-organisational perspective. Their