CORE
Metadata, citation and similar papers at core.ac.uk
Provided by AIS Electronic Library (AISeL)

Jour[illegible]ociation
[illegible]ystems
AIS

Special Issue

[illegible]cial Issue on
[illegible]neering

Robert O. Briggs
Center for Collaboration Science
University of Nebraska at Omaha
rbriggs@mail.unomaha.edu

Gert-Jan de Vreede
Center for Collaboration Science
University of Nebraska at Omaha
and
Delft University of Technology
gdevreede@mail.unomaha.edu

Anne P. Massey
Indiana University
amassey@indiana.edu

Volume 10, Special Issue, pp. 118-120, March 2009

Introduction to JAIS Special Issue on Collaboration Engineering

People making joint effort can sometimes achieve the seemingly impossible. Collaboration, however, can be a mixed blessing. Hundreds of things can block a group from achieving its goals – domination, fear of speaking, hidden agendas, misunderstandings – the list is daunting. In many cases, the solutions to the challenges of collaboration are counter-intuitive. As a result, many groups remain less productive and less satisfied than they might otherwise be.

Research shows that collaboration technologies can be used in ways that improve group outcomes, but good tools are not enough. Any tool that can be used in ways that improve group outcomes can also be used in other ways that produce worse results. Professional facilitators can often significantly improve a group's performance by judicious and expert use of well-tested collaboration techniques supported by appropriate technologies. Professional facilitators, however, tend to be expensive, and so their services are not available to many groups who could benefit from their interventions.

Over the past decade, however, researchers have begun to focus on ways that groups can avail themselves of the benefits of facilitation without engaging a facilitator. This stream of research came to be called Collaboration Engineering. *Collaboration Engineering* is defined as an approach to designing collaborative work practices for high-value recurring tasks, and transferring those designs to practitioners to execute for themselves without ongoing intervention from professional facilitators.
In 2004, 18 Collaboration Engineering researchers[1] from around the world came together for a four day workshop at the Joslyn Castle in Omaha, Nebraska to give structure and shape to Collaboration Engineering as an academic research domain. That group defined key terms, organized that which was already known about the topic, and defined an initial research agenda. The group identified 22 research projects that had to be completed and published in order to lay the foundations for Collaboration Engineering as dynamic area of research. Each workshop participant signed up as a contributor for at least two of those efforts. In the intervening years, most of those papers were published, which stimulated still more research on the field. At this writing, more than 100 peer reviewed articles on aspects of Collaboration Engineering have appeared in academic journals and conferences.

This is the first special issue of an academic journal to focus on Collaboration Engineering. As such, it is a milestone in the maturing of this field. Twenty authors submitted papers for the initial round of reviews. After several rounds of development and review, six of the papers were accepted for publication here. Each addresses an important topic in the growing research stream.

The special issue opens with an editorial by Gert-Jan de Vreede, Robert O. Briggs, and Anne Massey entitled, "*Collaboration Engineering: Foundations and Opportunities*." This article explains the key concepts of collaboration engineering, some of which were defined at Joslyn Castle, others of which emerged before and after that meeting. Among these are foundation concepts such as the six patterns of collaboration that characterize much about how groups move through activities to create the deliverables that allow them to achieve their goals. The editorial also touches on the nature and role of the thinkLets design pattern language, which codifies a collection of named, scripted techniques for invoking useful variations of the six patterns of collaboration. The paper touches on a structured methodology for engineering collaborative work practices, and identifies many research questions that have yet to be addressed in the Collaboration Engineering literature.

The paper, "*A Deontological Approach to Collaboration Ethics: The Design of Building Blocks for Creating Ethical Collaboration Processes*," by Sutirtha Chatterjee, Suprateek Sarker, and Mark A. Fuller, lays an important foundation for discourse about ethics in the Collaboration Engineering domain. The authors propose a conceptual schema for a fundamental artifact having ethical features derived from the deontological view of ethics. Drawing on the concepts of design theory, value-sensitive design, and deontological ethics, this paper develops an object-oriented representation of

[1] Participants in the First Workshop on Collaboration Engineering, dubbed by its participants "Collaboration Engineering Summer Camp," were: Robert O. Briggs, Gert-Jan de Vreede, Douglas Dean, Robert Harder, Daniel D. Mittleman, Conan Albrecht, Gwendolyn Kolfschoten, Paul Grünbacher, Johanna Bragge, Peter Jacobs, Triparna Gangopadhyay, Ruth Ter Bush, Mariëlle den Hengst, Amit Deokar, Eric Santanen, Anita Chakrapani, Pushpa Koneri, and Kasturi Golla.

an Ethical Collaboration class that could be instantiated into objects that, in turn, could provide fundamental building blocks for ethical collaboration. This paper seems sure to spark deeper enquiries into ethical considerations for designers and practitioners of collaborative work practices.
In their paper, "*Toward Building Self-Sustaining Groups in PCR-based Tasks through Implicit Coordination: The Case of Heuristic Evaluation*," Paul Benjamin Lowry, Tom L. Roberts, Douglas L. Dean, and George Marakas report a study to test an engineered collaborative work practice for detecting usability flaws in user interface designs for new information systems. The authors trained 439 novice practitioners to execute the collaborative work practice, and measured the results of their efforts. The study demonstrated that an engineered work practice can be readily transferred to practitioners who have not received previous training as collaboration professionals. It also demonstrated that groups using the engineered work practice were able to outperform groups using more conventional approaches along several dimensions.

Johanna Bragge and Hilkka Merisalo-Rantanen designed two engineered e-collaboration processes for obtaining innovative end-user feedback on an advanced Web-based information system that was undergoing continuous evolution in their paper titled, "*Engineering E-Collaboration Processes to Obtain Innovative End-User Feedback on Advanced Web-Based Information Systems*." The authors reflect on their experiences during two action research cycles through a Collaboration Engineering (CE) lens, and compare the usefulness and suitability of the two designed processes. They also discuss the implications of their findings for other contexts.

The paper, "*An Agent-Based Collaborative Approach To Graphing Causal Maps For Situation Formulation*," by Douglas A. Druckenmiller and William Acar, is positioned in the Design Science paradigm and reports on the design, development, and testing of an agent-based prototype system that enables the integration of both qualitative and quantitative analytical capabilities into Group Support Systems platforms. The study compares and contrasts user experiences and attitudes with a variety of modeling conventions, and provides proof-of-concept for the proposed approach.

Examining a different use for agent-based systems, the paper, "*Using Multi-Agent Simulation to Understand Contributions of Facilitation to Consensus in GSS Transition,*" by Erik W. Johnston and Ning Nan, addresses a topic of concern to collaboration engineers who seek to transfer a technology-supported work practice to practitioners. The study bridges between the Collaboration Engineering literature and the game theory in economics by framing GSS transition as a coordination problem. The authors map common facilitation practices to two general interventions for reducing the risk of coordination failures, and create a minimum-effort coordination game implemented as a multi-agent simulator. The findings offer a fine-grained view of multiple pathways underlying the contributions of facilitation interventions to a consensus in GSS transition.

Finally, Daniel D. Mittleman, in his paper, "*Planning and Design Considerations for Computer Supported Collaboration Spaces*," argues persuasively that the field of Collaboration Engineering must address not only the design of collaborative work practices and the technologies that support them, but also the physical environments in which people carry out their collaborative efforts. The paper then presents a highly-detailed structured design methodology supported by a 97-item checklist for designing and building collaborative workplaces. The methodology is derived from 20 design-build-evaluate cycles for collaborative workspaces in the field, by qualitative observations of more than 100 additional spaces designed by others, and by interviews with designers who used the methodology reported here and with the users of the spaces they designed.

Each of these papers brings attention to a unique and valuable perspective for collaboration engineering researchers. Each advances knowledge and understanding of the field. Each provides a foundation for many follow-on research efforts. We commend them to your reading.

Journal of the Association for Information Systems

ISSN: 1536-9323

Editor
Kalle Lyytinen
Case Western Reserve University, USA

Senior Editors			
Robert Fichman	Boston College, USA	**Dennis Galletta**	University of Pittsburgh, USA
Varun Grover	Clemson University, USA	**Rudy Hirschheim**	Louisiana State University, USA
Robert Kauffman	University of Minnesota, USA	**Frank Land**	London School of Economics, UK
Jeffrey Parsons	Memorial University of Newfoundland, Canada	**Suzanne Rivard**	Ecole des Hautes Etudes Commerciales, Canada
Ananth Srinivasan	University of Auckland, New Zealand	**Bernard C.Y. Tan**	National University of Singapore, Singapore
Michael Wade	York University, Canada	**Ping Zhang**	Syracuse University, USA
Editorial Board			
Steve Alter	University of San Francisco, USA	**Kemal Altinkemer**	Purdue University, USA
Michael Barrett	University of Cambridge, UK	**Cynthia Beath**	University of Texas at Austin, USA
Michel Benaroch	University of Syracuse, USA	**Francois Bodart**	University of Namur, Belgium
Marie-Claude Boudreau	University of Georgia, USA	**Susan A. Brown**	University of Arizona, USA
Tung Bui	University of Hawaii, USA	**Andrew Burton-Jones**	University of British Columbia, Canada
Dave Chatterjee	University of Georgia, USA	**Patrick Y.K. Chau**	University of Hong Kong, China
Mike Chiasson	Lancaster University, UK	**Mary J. Culnan**	Bentley College, USA
Jan Damsgaard	Copenhagen Business School, Denmark	**Samer Faraj**	McGill university, Canada
Chris Forman	Carnegie Mellon University, USA	**Ola Henfridsson**	Viktoria Institute & Halmstad University , Sweden
Hitotora Higashikuni	Tokyo University of Science, Japan	**Kai Lung Hui**	National University of Singapore, Singapore
Hemant Jain	University of Wisconsin-Milwaukee, USA	**Bill Kettinger**	University of South Carolina, USA
Rajiv Kohli	College of William and Mary, USA	**Mary Lacity**	University of Missouri-St. Louis, USA
Ho Geun Lee	Yonsei University, Korea	**Jae-Nam Lee**	Korea University
Kai H. Lim	City University of Hong Kong, Hong Kong	**Ji-Ye Mao**	Renmin University, China
Anne Massey	Indiana University, USA	**Emmanuel Monod**	Dauphine University, France
Michael Myers	University of Auckland, New Zealand	**Fiona Fui-Hoon Nah**	University of Nebraska-Lincoln, USA
Mike Newman	University of Manchester, UK	**Jonathan Palmer**	College of William and Mary, USA
Paul Palou	University of California, Riverside, USA	**Brian Pentland**	Michigan State University, USA
Yves Pigneur	HEC, Lausanne, Switzerland	**Jaana Porra**	University of Houston, USA
Sandeep Purao	Penn State University, USA	**T. S. Raghu**	Arizona State University, USA
Dewan Rajiv	University of Rochester, USA	**Balasubramaniam Ramesh**	Georgia State University, USA
Timo Saarinen	Helsinki School of Economics, Finland	**Susan Scott**	The London School of Economics and Political Science, UK
Ben Shao	Arizona State University,USA	**Olivia Sheng**	University of Utah, USA
Carsten Sorensen	The London School of Economics and Political Science, UK	**Katherine Stewart**	University of Maryland, USA
Mani Subramani	University of Minnesota, USA	**Burt Swanson**	University of California at Los Angeles, USA
Dov Te'eni	Tel Aviv University, Israel	**Jason Thatcher**	Clemson University, USA
Ron Thompson	Wake Forest University, USA	**Christian Wagner**	City University of Hong Kong, Hong Kong
Eric Walden	Texas Tech University, USA	**Eric Wang**	National Central University, Taiwan
Jonathan Wareham	ESADE, Spain	**Stephanie Watts**	Boston University, USA
Bruce Weber	London Business School, UK	**Tim Weitzel**	Bamberg University, Germany
Richard Welke	Georgia State University, USA	**George Westerman**	Massachusetts Institute of Technology, USA
Kevin Zhu	University of California at Irvine, USA	**Ilze Zigurs**	University of Nebraska at Omaha, USA
Administrator			
Eph McLean	AIS, Executive Director	Georgia State University, USA	
J. Peter Tinsley	Deputy Executive Director	Association for Information Systems, USA	
Reagan Ramsower	Publisher	Baylor University	