



NRC Publications Archive Archives des publications du CNRC

Cooperative and Human Aspects of Software Engineering (CHASE 2008)

Cheng, L.; de Souza, C.; Dittrich, Y.; Hazzan, O.; John, M.; Maruer, F.; Sharp, H.; Sillito, J.; Sim, S.; Singer, Janice; Storey, M-A.; Tessem, B.; Venolia, G.

This publication could be one of several versions: author's original, accepted manuscript or the publisher's version. /
La version de cette publication peut être l'une des suivantes : la version prépublication de l'auteur, la version acceptée du manuscrit ou la version de l'éditeur.

NRC Publications Record / Notice d'Archives des publications de CNRC:

<https://nrc-publications.canada.ca/eng/view/object/?id=eab517a2-84e0-4db1-ad8f-823a1eb4c999>

<https://publications-cnrc.canada.ca/fra/voir/objet/?id=eab517a2-84e0-4db1-ad8f-823a1eb4c999>

Access and use of this website and the material on it are subject to the Terms and Conditions set forth at

<https://nrc-publications.canada.ca/eng/copyright>

READ THESE TERMS AND CONDITIONS CAREFULLY BEFORE USING THIS WEBSITE.

L'accès à ce site Web et l'utilisation de son contenu sont assujettis aux conditions présentées dans le site

<https://publications-cnrc.canada.ca/fra/droits>

LISEZ CES CONDITIONS ATTENTIVEMENT AVANT D'UTILISER CE SITE WEB.

Questions? Contact the NRC Publications Archive team at

PublicationsArchive-ArchivesPublications@nrc-cnrc.gc.ca. If you wish to email the authors directly, please see the first page of the publication for their contact information.

Vous avez des questions? Nous pouvons vous aider. Pour communiquer directement avec un auteur, consultez la première page de la revue dans laquelle son article a été publié afin de trouver ses coordonnées. Si vous n'arrivez pas à les repérer, communiquez avec nous à PublicationsArchive-ArchivesPublications@nrc-cnrc.gc.ca.





National Research
Council Canada

Conseil national
de recherches Canada

Institute for
Information Technology

Institut de technologie
de l'information

NRC - CNRC

Cooperative and Human Aspects of Software Engineering (CHASE 2008) *

Cheng, L., de Souza, C., Dittrich, Y., Hazzan, O., John, M.,
Maruer, F., Sharp, H., Sillito, J., Sim, S., Singer, J.,
Storey, M-A., Tessem, B., Venolia, G.
May 2008

* published at The 2008 International Conference on Software Engineering
(ICSE 2008). Leipzig, Germany. May 10-18, 2008. NRC 49912.

Copyright 2008 by
National Research Council of Canada

Permission is granted to quote short excerpts and to reproduce figures and tables
from this report, provided that the source of such material is fully acknowledged.

Cooperative and Human Aspects of Software Engineering (CHASE 2008)

Li-te Cheng
IBM, USA
li-te_cheng@us.ibm.com

Cleudson de Souza
UFPA, Brazil
cdesouza@ufpa.br

Yvonne Dittrich
IT University of Copenhagen,
Denmark
ydi@itu.dk

Orit Hazzan
Technion, Israel
oritha@technion.ac.il

Michael John
Fraunhofer, Germany
michael.john@first.fraunhofer.de

Frank Maurer
University of Calgary, Canada
frank.maurer@ucalgary.ca

Helen Sharp
Open University, UK
h.c.sharp@open.ac.uk

Jonathan Sillito
University of Calgary, Canada
sillito@ucalgary.ca

Susan Elliot Sim
University of CA, Irvine, USA,
ses@ics.uci.edu

Janice Singer
NRC, Canada
janice.singer@nrc-cnrc.gc.ca

Margaret-Anne Storey
University of Victoria, Canada
mastorey@uvic.ca

Bjørnar Tessem
University of Bergen, Norway
bjornar.tessem@infomedia.uib.no

Gina Venolia
Microsoft Research, USA
gina.venolia@microsoft.com

ABSTRACT

The *CHASE 2008* workshop is concerned with exploring the cooperative and human aspects of software engineering, and providing a forum for discussing high-quality research. Accepted papers reflect the diversity of the field of software engineering—ranging from requirements to testing, and from ethnographic research to experiments. Moreover, the background of attendees reflects the diversity of researchers in this domain, ranging from sociology to psychology, from informatics to software engineering. *CHASE 2008* met its goals in presenting high-quality research and building community through a mixture of presentations, discussions, posters, and social activities.

Categories and Subject Descriptors

D.2.0 [Software Engineering]: General

General Terms

Human Factors, Experimentation, Management.

Keywords

Collaboration, Process, Distributed Teams, Organizations, Design, Social Networks.

Copyright 2008 Association for Computing Machinery. ACM acknowledges that this contribution was co-authored by an affiliate of the National Research Council of Canada (NRC). As such, the Crown in Right of Canada retains an equal interest in the copyright. Reprint requests should be forwarded to ACM, and reprints must include clear attribution to ACM and NRC.

CHASE'08, May 13, 2008, Leipzig, Germany.
Copyright 2008 ACM 978-1-60558-039-5/08/05...\$5.00

1. INTRODUCTION

Software is created by people - software engineers working in varied environments, under diverse conditions. Thus understanding the cooperative and human aspect of software development is crucial to understanding how methods and tools are used. This knowledge is needed to improve methods and tools and thereby improve both the creation and maintenance of software.

Over the last several years, a renaissance of sorts is occurring in this research topic, with a growing body of research being published in software engineering venues as well as other research discourses. A critical mass of high quality work has been emerging, for example a dedicated workshop [4], a special issue of a journal [2], and a textbook [5]. Thus the time is right to bring together researchers to share knowledge, and further build the research area.

The goal of *CHASE 2008* is therefore to provide a forum for discussing high quality research on the cooperative and human aspects of software engineering, as well as a meeting place for the nascent community that is currently distributed over several different research domains, of which the primary ones are Software Engineering, Human Computer Interaction, Information Systems and Computer Supported Cooperative Work.

2. Workshop Topics

The main goal of the workshop is to provide a venue for presenting existing work and exploring new research directions on the human and cooperative aspects of software engineering. Accordingly, the workshop was open to a broad collection of topics, including:

- Software engineering as cooperative work,
- Social and cultural aspects of software engineering,
- Psychological and cognitive aspects of software engineering,
- Managerial and organizational aspects of software engineering
- Coordination of large scale software development,
- Cooperation between software developers and other professionals over the lifetime of a system.

Examples of types of contribution include:

- Empirical studies of software engineering teams and individual software engineers *in situ*, using approaches such as ethnographies, surveys, interviews, contextual inquiries, data mining, etc.
- Lab studies of individual and team software engineering behavior,
- Novel tools motivated by observed needs such as new ways of capturing and accessing software-related knowledge, navigational systems, communication, collaboration, and awareness tools, visualizations, etc.
- Novel processes motivated by observed needs, and
- Meta-research topics such as how to effectively validate interventions and research methods

3. Accepted Papers

The papers accepted by the workshop reflected the diversity of current research in the area of cooperative and human aspects of software engineering. Thirty-four short papers were submitted and 28 were accepted. Six were selected for presentation to the full workshop, while the others were shared as posters. For the most part, the papers reported the results of research in real-world settings. However, there were a few papers presenting a conceptual framework on a particular topic. Many papers proposed or evaluated tools to help manage cooperative or other human aspects of software engineering. The specific software engineering sub-domains that the papers represented ranged from requirements engineering to testing, and moreover, across the software engineering lifecycle from design to maintenance. Methodologies utilized included case studies, ethnography, self-reflection, social network analysis, and experiments. Some papers focused on individuals, while others focused on groups. Probably,

one of the more interesting aspects of the papers, is that many pushed forward the frontiers of CHASE by looking beyond traditional software engineering settings to the organizational level in order to better understand and facilitate communication and knowledge transfer— in particular with respect to human computer interaction and project management..

The diversity of the papers reflects how broadly the notion of the cooperative and human aspects of software engineering can be applied. As we stated in our introduction, software is created by humans. Because of this, understanding how humans come together to build software systems is fundamental to improving that process both in terms of individual and group functioning. While understanding the human and cooperative aspects of software engineering has a long history (e.g., [1][4][5]), it has not necessarily occupied a central position in software engineering. As this renaissance grows in strength, we hope that more such research will be produced and integrated successfully into the software engineering discipline. An understanding and accounting for of both the technical and human aspects will be necessary to enhance and progress software engineering research.

4. ACKNOWLEDGMENTS

Our thanks to external reviewers for providing reviews.

5. REFERENCES

- [1] Curtis, B., Krasner, H., Iscoe, N. 1988. A Field Study of the Software Design Process for Large Systems. *Commun. ACM* 31(11): 1268-1287.
- [2] Dittrich, Y, John, M., Singer, J., Tessem, B. 2007. Editorial for special issue on qualitative software engineering. *Information and software technology*, 49(6): 531-539.
- [3] Proceedings from Supporting the Social Side of Large Scale Software Development. Available at: http://lizzy.iit.nrc.ca/social_se2006/public/ywiki.cgi
- [4] Shneiderman, B. 1980. *Software Psychology: Human Factors in Computer and Information Systems*. Little-Brown.
- [5] Tomayko, J., Hazzan, O. 2004. *Human Aspects of Software Engineering*. Charles River Media.
- [6] Weinberg, G.M. 1971. *The Psychology of Computer Programming*. Van Nostrand Reinhold.