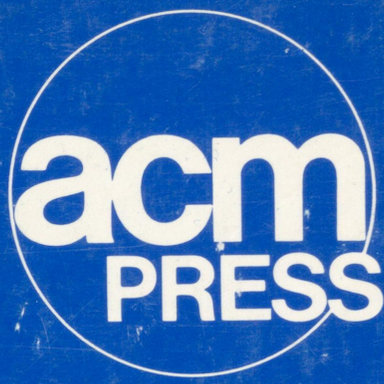
ACM SIGSOFT
SOFTWARE ENGINEERING NOTES
Volume 14, Number 7
November 1989



Proceedings of the 2nd International Workshop on Software Configuration Management

Princeton, New Jersey
October 24, 1989

Sponsored by
ACM SIGSOFT
IEEE CS
Gesellschaft fur Informatik

ACM Order No. 594891
IEEE Order No. 2014

****
*** SPECIAL INTEREST GROUP ON SOFTWARE ENGINEERING ***
****

SOFTWARE ENGINEERING NOTES (SEN) is an informal publication of the ACM Special Interest Group on Software Engineering (SIGSOFT), concerned with the design and development of high-quality software. Relevant topics include methodologies for design and implementation, programming techniques, tools, practical experience, software economics, portability of programs, program validation, quality assurance, etc. SIGSOFT seeks to address research and development issues in these areas and to provide a common ground for both, through sponsorship of conferences, symposia and workshops, organization of sessions at major conferences, and the publication of SEN.

Material should be submitted to the editor camera-ready (*originals, single-spaced*) -- or (if brief or newsy) on-line (Neumann@CSL.SRI.COM). Avoid low-resolution dot-matrix printers, and unnecessary white space. Lengthy material should be double-columned on oversized mats, two columns of about 4.5" by 12.5", to be reduced by ACM to 75%. Letters, short papers, abstracts of work in progress and available reports, book reviews, specialized bibliographies, notices, news reports, etc., are all welcome. All contributions are normally taken as personal rather than organizational statements. Technical contributions are considered as unrefereed working papers. Controversy is encouraged, but not personal attacks.

Members interested in participating in SIGSOFT activities may contact the Chairman or the Vice Chairman. Persons wishing to join SIGSOFT should contact ACM headquarters, 11 West 42nd St., New York, NY 10036, 212-869-7440. Annual dues are $16 for ACM members and associates, $10 for student members, $38 for others whose major professional allegiance is outside of information processing or computing. Institutional or library subscriptions to SEN are $30 per year. Nonspecial back issues are $4 for members and $9.50 for nonmembers, as available, plus handling; please order *only* from ACM Order Dept., POBox 64145, Baltimore MD 21264.

SIGSOFT EXECUTIVE COMMITTEE

CHAIRMAN:
Richard N. Taylor
ICS Dept, University of Calif.,
Irvine CA 92717
714-856-6429 (messages -7403)
(taylor@ics.uci.edu)

VICE CHAIRMAN:
Lori Clarke
University of Mass., COINS
Amherst MA 01003
413-545-1328
(clarke@cs.umass.edu)

SECRETARY/TREASURER:
Elaine J. Weyuker
NYU Courant Institute
251 Mercer Street
New York NY 10012
212-460-7489
(weyuker@nyu.edu)

NEWSLETTER EDITOR:
Peter G. Neumann
SRI International, BN168
333 Ravenswood Ave.
Menlo Park CA 94025
415-859-2375
(neumann@csl.sri.com)

THREE AT-LARGE MEMBERS:
Nancy Leveson, ICS Dept, U. California, Irvine CA 92717, 714-856-5517 (nancy@ics.uci.edu)
Dewayne E. Perry, AT&T Bell Laboratories, Room 3D-454, 600 Mountain Avenue, Murray Hill NJ 07974, 201-582-2529 (dep@research.att.com)
Anthony I. Wasserman, Interactive Development Environments, 595 Market St., 12th Floor, SF 94105 (tonyw@ide.com or ide!tony [UUCP])

MOST RECENT PAST CHAIRMAN:
W. Richards Adrion, University of Mass., COINS, Amherst MA 01003, 413-545-2742, (adrion@sh.cs.net)

Fakultätsbibliothek Mathematik · Informatik
Technische Universität München
2. 90 3 185
ZS

Proceedings of the 2nd International Workshop on Software Configuration Management

Princeton, New Jersey
October 24, 1989

Sponsored by
ACM SIGSOFT
IEEE CS
Gesellschaft fur Informatik

ACM Order No. 594891
IEEE Order No. 2014

The Association for Computing Machinery
11 West 42nd Street
New York, New York 10036

Copyright © 1989 by the Association for Computing Machinery, Inc. Copying without fee is permitted provided that the copies are not made or distributed for direct commercial advantage, and credit to the source is given. Abstracting with credit is permitted. For other copying of articles that carry a code at the bottom of the first page, copying is permitted provided that the per-copy fee indicated in the code is paid through the Copyright Clearance Center, 27 Congress Street, Salem, MA 01970. For permission to republish write to: Director of Publications, Association for Computing Machinery. To copy otherwise, or republish, requires a fee and/or specific permission.

ISBN 0-89791-334-5

Additional copies may be ordered prepaid from:

ACM Order Department
P.O. Box 64145
Baltimore, MD 21264

IEEE Computer Society
Order Department
10662 Los Vaqueros Circle
Los Alamitos, CA 90740

ACM Order Number: 594891
IEEE Order Number: 2014

Proceedings of the 2nd International Workshop on Software Configuration Management (SCM2)

Workshop Chair

Juergen Winkler, Siemens, FRG

Organizing Committee Chair

Tom Murphy, Siemens, USA

Program Committee

Chair: Walter Tichy, University of Karlsruhe, FRG

Reidar Conradi, University of Trondheim, Norway
Jacky Estublier, L.G.I., France
Peter Feiler, CMU-SEI, USA
Stuart Feldman, Bellcore, USA
Reinhold Franck, University of Bremen, FRG
Manfred Nagl, University of Aachen, FRG
Dewayne Perry, AT&T Bell Laboratories, USA
Nobuo Saito, Keio University, Japan
Walt Scacchi, USC, USA
Ian Sommerville, University of Lancaster, UK
Juergen Winkler, Siemens, FRG

Additional Referees

N. Belkhatir
Susan Dart
E A Karlsson
Anund Lie
Thomas Mehner
Frances J Newberry
Robert Schwanke
Bernhard Westfechtel

Foreword

The "2nd International Workshop on Software Configuration Management (SCM2)" is the second in a series of workshops on supporting and controlling the evolution of large software systems. The idea to organize this series was spawned after the workshop on "Advanced Programming Environments", which took place in June 1986 in Trondheim, Norway. After that workshop, a number of people pointed out that there was a growing body of work in the area of software configuration management. Because of the great practical importance of this field, an international workshop on the subject seemed appropriate. The first such workshop was called "International Workshop on Software Version and Configuration Control (SVCC)" and took place in January 1988 in Grassau, FRG. The Grassau workshop was highly successful in bringing together leading researchers in the area from both academia and industry. The workshop provided an excellent overview of the state of the art, but also identified a number of open questions and problems. The papers for the present workshop indicate that some progress has been made, while at the same time the base of concerns and approaches has broadened significantly. There are already some proposals for SCM3, which could take place in 1991.

To encourage strong technical content and personal involvement, participation in the workshop is based on submissions reviewed by the program committee. We received a total of 37 full papers and 26 position papers. Of those, 22 full papers and 8 short papers appear in these proceedings. Because of page limitations, we had to ask the authors of several full-length papers to shorten their articles drastically. An additional set of 10 full papers and 11 position papers appear in the workshop notes, which are distributed to workshop participants only.

We thank ACM SIGSOFT, GI FG 2.1.1 "Software Engineering", and IEEE CS for their support of this workshop. Many thanks go to the program committee members and the additional referees for soliciting, reviewing and selecting the program. Peter Feiler, Stuart Feldman, and Manfred Nagl deserve special mention, since they volunteered to work with some authors to improve their papers after acceptance. Further thanks go to Tom Murphy, Chris Rumpf, and the organizing committee for their dedicated and highly professional service. Ruth Ghafari at the University of Karlsruhe and Cathy Salazar at RIACS/NASA Ames did an outstanding job of keeping track of the papers, handling correspondence, and assembling the final proceedings. Last but not least, we want to thank AT&T, Bellcore, and Siemens for the support they provided.

Juergen F. H. Winkler
General Chair

Walter F. Tichy
Program Chair