

SIGPLAN Special Interest Publication on LISP

Volume IV, Number 2

April - June 1991

TABLE OF CONTENTS

Letter from the Editor, Van Deusen	1
Fechnical Articles, White	
Pragmatic Parsing in Common Lisp, Baker	3
Implementation of a "Lisp comprehension" macro, Lapalme	
DMG - Object-Oriented Iterative Knowledge Acquisition	
for the Generation of Diagnostic Hypertext Systems, Tyrvainen	4
An SQL Interface for Common Lisp, Gunderson	1
standard-output, Steele	5
(algorithms), Waters	
Supporting the Regression Testing of Lisp Programs, Waters	7
Readings in Scheme, Yigit	4

EDITORIAL BOARD

EDITOR
Mary S. Van Deusen
IBM Watson Research
P.O. Box 704
Yorktown Heights, NY 10598
(914) 784-7845
(914) 232-7490
(508) 384-2526
maida@ibm.com

ASSOCIATE EDITOR
Judith A. Chien

TECHNICAL ARTICLES

JonL White
Lucid, Inc.
707 Laurel Street
Menlo Park, CA 94025
(415) 329-8400 X5514
edsel!jonl@labrea.stanford.edu

(*STANDARD-OUTPUT*)
Guy Steele
Thinking Machines Corporation
245 First Street
Cambridge, MA 02142
(617) 876-1111
Internet gls @ think.com

PROGRAMMING ENVIRONMENTS
John Foderaro
Franz Inc.
1995 University Avenue #275
Berkeley, CA 94704
(415) 548-3600
jkf%franz.uucp@berkeley.edu

(*QUERY-IO*)
Patrick Dussud
Lucid, Inc.
707 Laurel Street
Menlo Park, CA 94025
(415) 329-8400 X5578
dussud@lucid.com

(ALGORITHMS)
Richard C. Waters
MIT AI Laboratory
545 Technology Sq.
Cambridge, MA 02139
(617) 253-6037
Internet Dick@ai.mit.edu

THE SCHEME OF THINGS
Pavel Curtis
Xerox PARC
3333 Coyote Hill Rd.
Palo Alto, CA 94304
(415) 494-4455
Pavel.pa@Xerox.Com

READINGS IN SCHEME
Ozan S. Yigit
York University
Dept. of Computing Services
4700 Keele Street, North York
Ontario, M3J 1P3
CANADA
(416) 736-5257 X3976
oz@nexus.yorku.ca

PREVIOUS SPONSORS OF LISP POINTERS

IBM Thomas J. Watson Research
Institut National De Recherche En Informatique Et En Automatique (I.N.R.I.A.)

Xerox PARC

Microelectronics and Computer Technology Corporation (MCC)

Texas Instruments

Digital Equipment Corporation

Mitre Corporation

ACM SIGPLAN

Sun Microsystems Lucid, Inc. Dear Colleague,

I've just come back from an Executive Meeting of SIGPLAN at the POPL conference. Several things of interest to our community. First is that JonL White has been named Chair of the next Lisp and Functional Programming Conference. JonL has named Will Clinger as his Program Chair. The conference will be held at the same time as the SIGPLAN summer conference in San Francisco in 1992. And of special interest to us, the Executive Committee has decided to send copies of the proceedings to the Lisp Pointers mailing list.

As usual, departments come and go. Leaving us is Christian Queinnec's department of International News. Christian has been with us from the start and we'll be sorry to see his department go. Our thanks to Christian for his help and support over the last years. The area covered is still an important one and we would love to hear from someone interested in taking it on.

Pavel has now settled permanently into The Scheme of Things and his previous department, (algorithms), has been taken over by Dick Waters. Make sure you read Dick's letter soliciting contributions. He's off to a great start and it's up to you to help him keep it up.

There will be some confusion for old subscribers becoming ACM subscribers. If you receive this, I assume you have figured out the transition smoothly. If you have any friends who wonder why they're no longer receiving Lisp Pointers, remind them to get a copy of the subscription form and send it in. The directions explain that ACM members pay for their subscription depending on their ACM membership date. This doesn't mean there's any variation in WHEN they start receiving issues. As soon as they send in the form, and ACM gets it onto their computer, they'll be part of the mailing list.

Thanks are due to Judy Chien for her help with our issues. She is planning to produce an index of all past issues for the last issue of this volume.

We're always looking for suggestions, thoughts, and volunteers. We're especially interested in contributions slightly off the beaten track. It's been a while since we've had a puzzle. Anyone out there a puzzler?

Sincerely,

Mary S. Van Deusen

May S. Van Deusen

Editor

SPECIAL ISSUE: Highlighting Applications

Dear Lisp Friends:

In this issue of LISP POINTERS we have four papers describing typical, very successful applications of Lisp technology. Perhaps the quintessence of Lisp use is in the writing of parsers for other languages and embedding other languages in Lisp—such as the META work by Henry Baker and the Miranda style functional "comprehensions" by Guy Lapalme. The DMG system from Nokia (the Finnish telephone company) is an example of a complex application, built upon some of the more recent Lispworld tools like CLOS and window systems, where the Lisp component really shines! And the SQL interface work from DEC shows yet again how easy it is to utilize an existing body of "conventional" software (the C-written interface to a database) from within Lisp, especially on the increasingly important task of intelligent database access.

As usual, let me encourage you again to send us articles of any interesting nature about the Lisp world. We still could use some tutorial-like articles and thought-provoking position statements.

Cheers, and we look forward to hearing from you!

Jon L White Technical Articles Editor Lucid, Inc. 707 Laurel Street Menlo Park CA 94043 Internet: jonl@lucid.com

JonL

standard-output

by Guy L. Steele Jr.

As I write, ANSI committee X3J13 (Common Lisp) has not met for a number of months now. Kent Pitman has been chosen as editor of the draft standard, replacing Kathy Chapman, who, with the support of Digital Equipment Corporation, put in a great of work since the committee first formed. Kent has been working full time on the draft since last summer, supported by a consortium of companies that wish to aid the X3J13 process. His tasks include the incorporation of the results of votes from the last few meetings, the production of a technical glossary of specialized Lisp terms, and ensuring accurate use of this terminology throughout the draft standard. He is making excellent progress and has just produced a new version for review by committee members. X3J13 plans to meet in March 1991 to review this progress and to direct the course of the remaining editorial effort.

The following information comes from Christopher Haynes, Chair of the IEEE Working Group on Scheme.

The fifth draft of the Standard for the Scheme Programming Language, P1178/D5, was approved by the IEEE Standards Board in December 1990.

The Scheme standard will be available in published form from the IEEE Standards Office (for about \$50) fairly soon, perhaps by the time you read this. Please write to

IEEE Standards Office 445 Hoes Lane P.O. Box 1331 Piscataway, NJ 08855

or call (201)562-3800 for ordering information. In accordance with IEEE policy, drafts of the standard will no longer be distributed by MIT and Indiana University.

The Working Group on Scheme, IEEE/MSC/P1178, now ceases to exist. It will be reconstituted to revise or reaffirm the standard when the need is felt (not more than five years from now).

Special acknowledgment is due the standard and ballotting response editors: Chris Hanson, James S. Miller, David H. Bartley, and John D. Ramsdell. The rapid progress of the Scheme standard working group and the quality of the final standard is due in large measure to the efforts of the RevisedN Report on Scheme authors and their editors, William Clinger and Jonathan Rees.

1