M COMPUTING

MTA Web site: http://www.mtechnology.org
Email: MTA@mtechnology.org

Executive Editor
Valerie J. Harvey, Ph.D.

Managing Editor
Pamela G. McIntyre

Editorial Board
Richard G. Davis, Ph.D.
Michael A. Ginsburg

Review Board
Mark V. Berryman
A. Clayton Curtis, M.D.
Richard G. Davis, Ph.D.
Ruth E. Dayhoff, M.D.
Michael A. Ginsburg
Valerie J. Harvey, Ph.D.
Frederick L. Hiltz, Ph.D.
Lee Hirz
Arthur Lee
Jeff Loeb
William J. Majurski
David Marcus
Frederick D.S. Marshall
Thomas Munnecke
Helmuth F. Orthner, Ph.D.
Roger Partridge
Gail Penrod
Kate M. Schell
Arthur B. Smith
Hans T. von Blanckensee, Ph.D.
Richard F. Walters, Ph.D.
Joel Yungton

M Computing is published by MUMPS Users' Group trading as M Technology Association, Suite 205, 1738 Elton Road, Silver Spring, Maryland 20903. Phone: 301-431-4070, Fax: 301-431-0017.

M Computing (ISSN-1060-7684) is copyrighted by the M Technology Association. Material in this magazine may be excerpted by reviewers providing that credit for the original publication is made to *M Computing* (specify volume and issue numbers and date), a publication of the M Technology Association, Silver Spring, MD 20903 (Phone: 301-431-4070). Permission for reprinting articles from *M Computing* must be granted by the editor.

The information in this publication is believed to be accurate as of its publication date. MTA is not responsible for inadvertent errors. All trade and product names referenced are the service marks or trademarks of their respective companies. Opinions expressed are those of the individual authors.

FROM THE EDITOR

In this Issue . . .

by Valerie J. Harvey

Valerie J. Harvey

Thanks to many of you who have helped during this year in various ways: ideas and assistance with the *Threads* feature and other topics, writing articles (not as many yet as I would like to see!), and reviewing articles and books. Most of all I want to express appreciation to those who contributed this year's column features: Ed de Moel, Don Gall, Rick Marshall, Art Smith, George Timson, and Pam McIntyre. Also, Dick Walters was kind enough to continue the annual indexing of *M Computing* articles by processing the 1997 index for this issue.

In This Issue

Object technology is becoming a major issue for M, and ESI Technology Corporation is migrating large M-based health databases to object technology. Be sure to read the article on page 8 which discusses ESI's contract with the Military Health Services System to migrate the Composite Health Care System database to object technology.

George Timson's Focus on FileMan column approaches input transforms and uniqueness. George describes the formatting and validation capabilities of FileMan input transforms, which allow use of the powerful standard M pattern match. His treatment of uniqueness is valuable since uniqueness is not declared directly in specifying a field, as in some other database technologies. George describes FileMan's utility option for requiring unique values for a field.

Joel Yungton suggested (and designed) the "first ever" MTA salary survey to gather information needed for an article. This survey will help us understand the M employment market. Among the demographic categories included in the survey are: hours of work per week, industry, where M was learned, and rating of benefits package. Please see the survey on page 24 of this issue and on the MTA web site. Your participation will help gain perspective on this topic.

The MTA Outstanding Member feature in this issue recognizes a corporation, Henry Elliott & Company, Inc., that specializes in the placement of M programmers and analysts. In this article Ken Wagner provides a lot of information on the impact of M Technology in the job market.

Thanks to Don Piccone's efforts, we have in this issue a technical treatment of proposals active in the MDC. I hope this feature will help encourage participation in the MDC deliberations. In this briefing Don summarizes one of the recent proposals that has advanced to MDC Type A: Pattern Ranges.

The Future of M Technology

As the MDC ponders the future of M Technology I would like to draw attention to object models and the concept of order.

As the use of the object paradigm has progressed in information technology, there is now more experience with object models. Haim Kilov (who is internationally known for his work on standards relating to the object paradigm) draws a distinction between generalized object models and classical (or messaging) object models [Haim Kilov and James Ross, Information Modeling: An Object-Oriented Approach (Prentice Hall, 1994)]. Here are simplified examples for an imagined AddToInventory request which has three arguments (part, lot, and bin):

AddToInventory(part,lot,bin) Generalized object model example
part.AddToInventory(lot,bin) Classical or messaging object model example

The generalized model treats all the arguments on the same basis, while the messaging model assigns a special role to one argument: the argument designated as recipient of the request. I hope that the MDC work will take advantage of the insights that have been gained.

We might recall the importance of order in the M paradigm. We are aware that M data management exploits the ordering implicit in the structure of M arrays (global and local), and the ordering supported by M Technology has been of great use in medical and commercial applications. "A Call to Order" by David Maier and Bennet Vance [Proceedings of the Twelfth ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems, May 25-28, 1993, Washington, DC (ACM, 1993)] is a valuable source of information on what is needed in data management technology and this paper is sensitive to the role of ordering in data management. From the abstract: "Scientific applications are infrequent users of commercial database management systems. We feel that a key reason is they do not offer good support for ordered data structures, such as multidimensional arrays, that are needed for natural representation of many scientific data types." The need for attention to certain structures mentioned by Maier and Vance has been articulated within the MDC prior to this time, as, for example, by Chris Richardson. **M**

Valerie J. Harvey, Ph.D., is a professor at Robert Morris College in Pennsylvania and the executive editor of M Computing. *During this sabbatical semester, Dr. Harvey is a visiting scientist in Dynamic Systems at the Software Engineering Institute of Carnegie Mellon University. Write to her in care of MTA's managing editor or email to: harvey@robert-morris.edu*
