

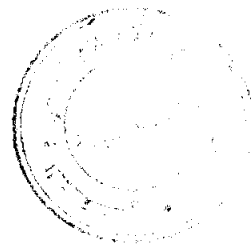
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# **ADVANCED WINDOWS™ PROGRAMMING**

**Martin Heller**



# **Advanced Windows<sup>TM</sup> Programming**



**Martin Heller**



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#### **Library of Congress Cataloging-in-Publication Data**

Heller, Martin, 1951 -

Advanced Windows Programming / Martin Heller.  
p. cm.

Includes bibliographical references and index.

ISBN 0-471-54711-5

ISBN 0-471-55172-4 (book/disk set)

1. Windows (Computer programs) 2. Microsoft Windows (Computer program) I. Title

QA76.76.W56H45 1992

005 F3dc20

91-35881

CIP

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

Printed and bound by Malloy Lithographing, Inc..

*For my family:  
Claudia, who thought it was a stupid idea;  
Aaron and Rita, who only wanted to look on me;  
and Tirzah and Moriah,  
who may eventually stop arguing  
long enough to notice*





## About the Author

Martin Heller develops software, writes, and consults in Andover, MA. You can contact him on BIX and MCI Mail as **mheller**, on CompuServe as **74000,2447**, and by mail care of John Wiley & Sons.

Martin is a contributing editor and regular columnist for *Byte Magazine* and the author of half a dozen PC software packages. He has been programming for Windows since early in the Windows 1.0 alpha test period. He has baccalaureate degrees in physics and music from Haverford College as well as Sc.M. and Ph.D. degrees in experimental high-energy physics from Brown University.

Dr. Heller has worked as an accelerator physicist, an energy systems analyst, a computer systems architect, a company division manager, and a consultant. Throughout his career he has used computers as a means to an end, much as a cabinet maker uses hand and power tools.

Martin wrote his first program for a drum-based computer in machine language in the early 1960s. No, not assembly language, machine language. The following year he taught himself Fortran II, and wrote mathematical programs in that language throughout high school.

In graduate school Martin wrote hundreds of programs in MACRO-9 assembler for a DEC PDP-9 computer, and hundreds more Fortran IV, APL, and PL/1 programs for an IBM 360/67. For his Ph.D. thesis he analyzed 500,000 frames of bubble chamber film taken at Argonne National Laboratory and helped take other data at Fermi National Accelerator Laboratory.

At New England Nuclear Corporation (currently a DuPont subsidiary) Dr. Heller developed an automatic computer data-acquisition and control system for an isotope-production cyclotron using Fortran IV+ and MACRO-11 on a PDP-11, with additional embedded 6802-based controllers. When the company acquired a VAX, Martin wrote one of the earliest smart terminal programs, in assembly language for the PDP-11 running RSX-11M.

At Physical Sciences Inc. (PSI) Martin developed a steady-state model of an experimental fuel cell power plant (under contract to the U.S. Department of Energy) in BASIC on a TRS-80 Model 3, and designed more advanced plants in BASIC on an early IBM PC. He developed a DOT-compliant crash sled data analysis program and a brake-testing data-acquisition, control, and analysis system in compiled BASIC for General Motors; he also developed the suite of programs that allowed General Motors to successfully defend itself against a government action over X-car braking systems.

Martin designed and developed MetalSelector, a materials selection and mate-

rials properties database program, under contract to the American Society for Metals (currently called ASM International), still in compiled BASIC. He designed EnPlot for the Society's graphing needs, intending the program for Windows 1.0, and put together a team of programmers to write it in C. When Windows 1.0 started slipping its schedule, Dr. Heller and his team implemented EnPlot for DOS instead of Windows.

Martin responded to the ongoing needs of the materials properties community by designing and implementing MetSel2 (at PSI) and later MatDB, in C for DOS, and EnPlot 2.0 for Windows (in both cases as an independent consultant). EnPlot is currently at revision 3.0 (and counting), and runs under Windows 3.0 and above.

While still at PSI, Martin designed two statistical subroutine libraries in Fortran for John Wiley & Sons. **Statlib.tsf** was a time-series and forecasting library, and **Statlib.gl** was a device-independent graphing library built on the GKS graphics standard. Both packages are now out of print.

As a consultant, Martin has worked with several companies to develop, design, and/or debug Windows applications. His latest solely developed program is **Room Planner**, a meeting and conference layout system for the hospitality industry.



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