

STRATEGIC TECHNOLOGY SERIES

UNDERSTANDING

ActiveX[™] AND OLE

A GUIDE FOR
DEVELOPERS &
MANAGERS

DAVID CHAPPELL

Microsoft[®] Press

Understanding ActiveX and OLE

Published by **Microsoft Press**
A Division of Microsoft Corporation
One Microsoft Way
Redmond, Washington 98052-6399

Copyright © 1996 by David Chappell

All rights reserved. No part of the contents of this book may be reproduced or transmitted in any form or by any means without the written permission of the publisher.

Library of Congress Cataloging-in-Publication Data pending.

Printed and bound in the United States of America.

2 3 4 5 6 7 8 9 QMQM 1 0 9 8 7 6

Distributed to the book trade in Canada by Macmillan of Canada, a division of Canada Publishing Corporation.

A CIP catalogue record for this book is available from the British Library.

Microsoft Press books are available through booksellers and distributors worldwide. For further information about international editions, contact your local Microsoft Corporation office. Or contact Microsoft Press International directly at fax (206) 936-7329.

Macintosh is a registered trademark of Apple Computer, Inc. **IBM** is a registered trademark of International Business Machines Corporation. **1-2-3** and **Lotus** are registered trademarks of Lotus Development Corporation. **Microsoft**, **Microsoft Press**, **PowerPoint**, **Visual Basic**, **Visual C++**, **Windows**, and **Windows NT** are registered trademarks and **ActiveX** and **Visual J++** are trademarks of Microsoft Corporation. **Netscape** is a trademark of Netscape Communications Corporation. **NetWare** and **Novell** are registered trademarks of Novell, Inc. **PowerBuilder** is a trademark of Powersoft Corporation. **Sun** and **Sun Microsystems** are registered trademarks and **Java** is a trademark of Sun Microsystems, Inc.

Companies, names, and/or data used in screens and sample output are fictitious unless otherwise noted.

Acquisitions Editor: **David Clark**
Project Editors: **Stuart J. Stupple** and **Mary Renaud**
Technical Editor: **Stuart J. Stupple**
Manuscript Editor: **Mary Renaud**

want to use ActiveX and OLE technologies in the software they develop, but it encompasses a broader audience as well. As you can quickly determine by flipping through the pages, this is not a programming book—it contains almost no code. Although I do assume that the reader is a software professional of some kind, I do not assume knowledge of C++ or Windows-based programming. ActiveX, OLE, and COM are important, and knowing what they are and how they work matters to a broader group than those who program for Microsoft Windows. Some familiarity with using Windows is taken for granted, however; this seemed safe to me, as it's hard to find anyone in this field who hasn't used Windows at least a little.

A Timestamp

The ActiveX and OLE technologies are a moving target. This book describes the fundamental COM-based technologies as of mid-1996. In particular, Chapter 10 on Distributed COM and Chapter 11 on the ActiveX Internet-related technologies were completed before those technologies actually shipped. Accordingly, some details described in these chapters might not exactly match what is finally delivered.

Where to Find More Detail

For some people, the depth of coverage offered in this book will be enough. (For others, it will surely be too much.) Developers who need a more intimate understanding of the topic will want to get a copy of the OLE "bible" for programmers, Kraig Brockschmidt's *Inside OLE*, 2d ed. (Microsoft Press, 1995). Another useful book, one that covers an important topic that's not fully addressed in *Inside OLE*, is *OLE Controls Inside Out*, by Adam Denning (Microsoft Press, 1995). (Watch for a new edition of this book, too, one that describes the recent changes in what are now known as ActiveX controls.) For the truly hard-core

to make my writing readable, correct, and clear. Thanks also to David Clark, Microsoft Press acquisitions editor, for accepting my rather informal proposal for this book.

Finally, my wife, Karen, has been eternally patient and endlessly supportive through this and many other projects, something I too often forget to mention. Without her, it would be hard to do any of the things I do.

David Chappell
www.chappellassoc.com
July 1996

Introducing ActiveX and OLE

Writing good software is hard. Writing software that's large and complex, as most code is today, is even harder. As computers continue to infiltrate our lives, as we depend on them for everything from running our cars to writing letters to making toast, the effectiveness and reliability of software become more and more important. Good code is becoming the bedrock of our civilization.

In some ways, the history of software is the history of efforts to write better code. Applications and system software both have suffered from endless delays, mind-boggling complexity, and more bugs than anyone cares to admit. But creating software is tough—there's no way around it. Doing it well requires the ability to take a big-picture view coupled with a willingness (an eagerness, even) to deal with a myriad of small details. The intellectual effort required is substantial, and the tools are never perfect.

Microsoft's ActiveX and OLE are a step toward the creation of better software. "Better" here means software that's more reliable, certainly, and more effective as well. But it also means software that can do things that were impossible before, software that enables solutions to new problems. Although ActiveX and OLE are built on a quite simple idea, this idea turns out to have profound implications for improving how we create software.

Writing good software is just plain hard

ActiveX and OLE are about writing better software

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.