



Win32 编程宝典丛书 (影印版)

Microsoft®

深入 Win32 技术内幕, 高级程序员必备

The essential reference to Win32®
technologies and APIs

David Iseminger
Series Editor
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UI

Common
Controls

Win32

Shell

GDI

Base
Services

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基本服务

(影印版)

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Win32 编程宝典丛书(影印版)

Microsoft Windows

基本服务

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内 容 简 介

本书是《Win32 编程宝典丛书(影印版)》中的一本,介绍有关编程的参考知识,并概述了新的 Windows 2000 技术,例如作业对象、磁盘限额、文件加密等等。本书还介绍了进行 Windows 程序设计所必需的各种基本服务,例如进程和线程、动态链接库(DLL)、内存管理、进程间通信、文件操作和文件系统、异常处理等。

本书由微软公司的专家编写,技术深入,参考价值高,适合中、高级编程人员阅读。

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丛书序

世纪交替，IT 产业更加步履匆匆。

Microsoft 公司早已以其在编程方面的非凡成就闻名于世，并树立了自己在计算机软件领域和发展史上不可动摇的地位。毋庸置疑，该公司技术上的优势是其获得成功的重要因素之一。今天，它的技术不但已经变得非常强大，而且具有惊人的发展速度。

工欲善其事，必先利其器。作为 Windows 应用程序设计人员，必须紧密跟踪 Microsoft 公司的最新技术，深入 Microsoft Windows 编程的内幕，掌握关键的编程技术。这套《Win32 编程宝典丛书（影印版）》的推出，就是为了向有关的专业人员全面推介微软 Win32 编程的核心技术，以便于他们设计高质量的 Windows 应用程序。

Microsoft 技术博大而精深，绝非某个人在短时间内所能掌握。为此，特将 Win32 编程的有关内容按照技术上的逻辑关系组织成 5 个相对独立的部分，分别是基本服务、用户接口、图形设备接口、通用控件和 Shell。每一部分的内容独立成册，集中讲述一组相关的编程技术。这套《Win32 编程宝典丛书（影印版）》共 5 本，特定编程领域的专业人员可以从中选取自己需要的一本或几本，使学习过程更加快速、省时、有效而直观。

为进一步方便读者查找自己所需的信息，每本书的内容在结构上又分成了以下 3 个部分：

第 1 部分是概述。从总体上介绍了 Win32 编程技术架构以及本丛书的构成。

第 2 部分是参考资料。这部分内容不是函数和结构定义的简单堆砌，而是特定编程领域的综合性参考资料，收集了完整的编程元素定义和解释资料，并详细说明了特定的技术和编程元素的使用方法。

第 3 部分是 Windows 编程目录。所有 IT 专业人员都有一项繁重的事务，就是从浩如烟海的信息中查找自己所需的资源。编程人员也不例外。组织第 3 部分内容，旨在帮助读者概览 Win32 编程参考资料和 Microsoft 技术，快速查找自己所需的信息。

本套丛书由 Microsoft 公司的专家编写。他们在 Microsoft 工作多年，具有丰富的程序开发经验，所以，这套丛书是他们智慧的结晶，是该领域极具权威性的著作，堪称独领风骚。

鉴于此，特向中、高级 Windows 应用程序设计人员郑重推荐这套佳作！

出版者

2000 年 9 月

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CHAPTER 1

Introduction

Welcome to the *Microsoft Win32 Developer's Reference Library*, your comprehensive reference guide to the Win32 development environment. This pack, and the entire Windows Programming Reference Series, is designed to deliver the most complete, authoritative, and accessible reference information available for Windows programming—without sacrificing focus. You'll notice that each book is dedicated to a logical group of technologies or development concerns; this approach has been taken specifically to enable you—the time-pressed and information-overloaded applications developer—to find the information you need quickly, efficiently, and intuitively.

In addition to its focus on Win32 reference material, the Win32 Library contains hard-won insider tips and tricks designed to make your programming life easier. For example, a thorough explanation and detailed tour of the new version of MSDN Online is included, as is a section that helps you get the most out of your MSDN subscription. Don't have an MSDN subscription, or don't know why you should? I've included information about that too, including the differences between the three levels of MSDN subscription, what each level offers, and why you'd want a subscription when MSDN Online is available over the Internet.

Microsoft is fairly well known for its programming, so doesn't it make sense to share some of that knowledge? I thought it made sense, so that's why this—the Windows Programming Reference Series—is the source where you'll find such shared knowledge. Part 1 of each volume contains advice on how to avoid common programming problems. There is a reason for including so much reference, overview, shared-knowledge, and programming information about Win32 in a single publication: the Win32 Library is geared toward being your one-stop printed reference resource for the Win32 programming environment.

To ensure that you don't get lost in all the information provided in the Win32 Library, each volume's appendixes provide an all-encompassing programming directory to help you easily find the particular programming element you're looking for. This directory suite, which covers all the functions, structures, enumerations, and other programming elements found in Win32, gets you quickly to the volume and page you need, and also provides an overview of Microsoft technologies that would otherwise take you hours of time, reams of paper, and potfuls of coffee to compile yourself.

How the Win32 Library Is Structured

The Win32 Library consists of five volumes, each of which focuses on a particular area of the Win32 programming environment. The programming areas into which the five Win32 Library volumes have been divided are the following:

Volume 1: Base Services

Volume 2: User Interface

Volume 3: GDI (Graphical Device Interface)

Volume 4: Common Controls

Volume 5: The Windows Shell

Dividing the Win32 Library—and, therefore, dividing Win32—into these functional categories enables a software developer who's focusing on a particular programming area (such as the user interface) to maintain that focus under the confines of one volume. This approach enables you to keep one reference book open and handy, or tucked under your arm while researching that aspect of Windows programming on sandy beaches, without risking back problems (from toting around a 2,000-page Win32 tome), and without having to shuffle among multiple less-focused books.

Within each Win32 Library volume there is also a deliberate structure. This per-volume structure has been created to further focus the reference material in a developer-friendly manner, and to enable developers to easily gather the information they need. To that end, each volume in the Win32 Library has the following parts:

Part 1: Introduction and Overview

Part 2: Reference

Part 3: Windows Programming Directory

Part 1 provides an introduction to the Win32 Library and to the Windows Programming Reference Series (what you're reading now), and a handful of chapters designed to help you get the most out of Win32, MSDN, and MSDN Online, including a collection of insider tips and tricks. Just as each volume's Reference section (Part 2) contains different reference material, each volume's Part 1 contains different tips and tricks. To ensure that you don't miss out on some of them, make sure you take a look at Part 1 in each Win32 Library volume.

Part 2 contains the Win32 reference material particular to its volume, but it is *much* more than a simple collection of function and structure definitions. Because a comprehensive reference resource should include information about *how to use* a particular technology, as well as its definitions of programming elements, the information in Part 2 combines complete programming element definitions as well as instructional and explanation material for each programming area.

Part 3 is the directory of Windows programming information. One of the biggest challenges of the IT professional is finding information in the sea of available resources, and Windows programming is no exception. In order to help you get a handle on Win32 programming references and Microsoft technologies in general, Part 3 puts all such information into an understandable, manageable directory that enables you to quickly find the information you need.

How the Win32 Library Is Designed

The Win32 Library, and all packs in the Windows Programming Reference Series, are designed to deliver the most pertinent information in the most accessible way possible. The Win32 Library is also designed to integrate seamlessly with MSDN and MSDN Online by providing a look and feel that is consistent with their electronic means of disseminating Microsoft reference information. In other words, the way that a given function reference appears on the pages of this book has been designed specifically to emulate the way that MSDN and MSDN Online present their function reference pages.

The reason for maintaining such integration is simple: to make it easy for you—the developer of Windows applications—to use the tools and get the ongoing information you need to create quality programs. By providing a “common interface” among reference resources, your familiarity with the Win32 Library reference material can be immediately applied to MSDN or MSDN Online, and vice-versa. In a word, it means *consistency*.

You'll find this philosophy of consistency and simplicity applied throughout Windows Programming Reference Series publications. I've designed the series to go hand-in-hand with MSDN and MSDN Online resources. Such consistency lets you leverage your familiarity with electronic reference material, and apply that familiarity to let you get away from your computer if you'd like, take a book with you, and—in the absence of keyboards, e-mail, and upright chairs—get your programming reading and research done. Of course, each of the Win32 Library books fits nicely right next to your mouse pad as well, even when opened to a particular reference page.

With any job, the simpler and more consistent your tools are, the more time you can spend doing work rather than figuring out how to use your tools. The structure and design of the Win32 Library provides you with a comprehensive, pre-sharpened toolset to build compelling Windows applications.

CHAPTER 2

What's in This Volume?

Each volume in the *Microsoft Win32 Developer's Reference Library* contains reference material that pertains to a certain area of the Win32 programming environment. This volume, *Volume 1: Base Services*, contains the bulk of reference and overview material (not to mention the insider tips and tricks) that developers need to establish the programmatic foundation for their applications. But, what does that mean, really?

It means that this volume provides developers with access to the operating system, and to computer resources, that are the building blocks on which the rest of the application can run. Operations such as memory access and management, processes and thread manipulation, synchronization, file operations, Unicode issues, and interprocess communications all fall under the base services umbrella. To put these concepts into a format that's a little easier to pick through, here are the sections covered in this volume:

Processes and Threads

Memory

Interprocess Communications

File Operations

Debugging

Unicode

Registry

Putting this information into nice, neat categories such as these doesn't make it well explained. In an effort to get you up to speed with the overall meaning behind such logical grouping, let's look at each of these categories in a little more depth, so you can get familiar with them quickly, in case you don't have decades of Windows programming experience.

Processes and Threads

Regardless of the type of application you're developing, you'll be dealing with processes and threads. Every Windows program consists of at least one process (and every process has at least one thread, the first of which is generally called the primary thread). A process is essentially an executing program, while a thread is a unit of execution within a process; each thread is allocated processing time individually of other threads in a given process. Another concept introduced with Windows 2000 is the job object, which allows multiple processes to be managed as a unit.