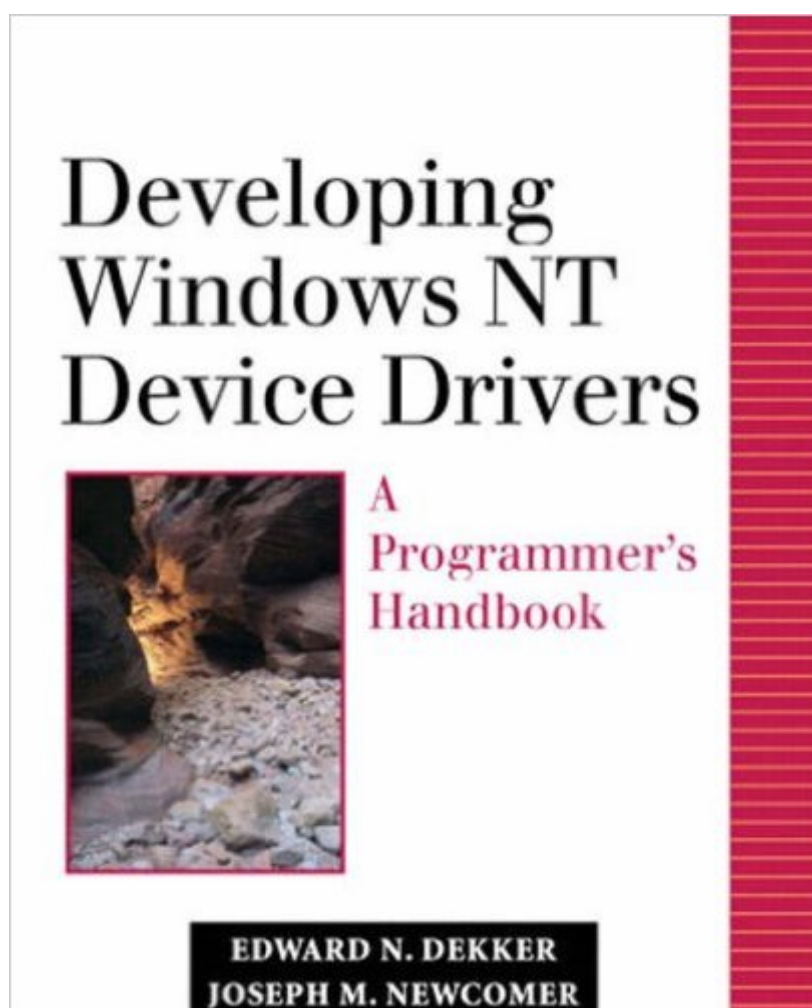


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Developing Windows NT Device Drivers: A Programmer's Handbook



Synopsis

Developing Windows NT Device Drivers: A Programmer's Handbook offers programmers a comprehensive and in-depth guide to building device drivers for Windows NT. Written by two experienced driver developers, Edward N. Dekker and Joseph M. Newcomer, this book provides detailed coverage of techniques, tools, methods, and pitfalls to help make the often complex and byzantine "black art" of driver development straightforward and accessible. This book is designed for anyone involved in the development of Windows NT Device Drivers, particularly those working on drivers for nonstandard devices that Microsoft has not specifically supported. Because Windows NT does not permit an application program to directly manipulate hardware, a customized kernel mode device driver must be created for these nonstandard devices. And since experience has clearly shown that superficial knowledge can be hazardous when developing device drivers, the authors have taken care to explore each relevant topic in depth. This book's coverage focuses on drivers for polled, programmed I/O, interrupt-driven, and DMA devices. The authors discuss the components of a kernel mode device driver for Windows NT, including background on the two primary bus interfaces used in today's computers: the ISA and PCI buses. Developers will learn the mechanics of compilation and linking, how the drivers register themselves with the system, experience-based techniques for debugging, and how to build robust, portable, multithread- and multiprocessor-safe device drivers that work as intended and won't crash the system. The authors also show how to call the Windows NT kernel for the many services required to support a device driver and demonstrate some specialized techniques, such as mapping device memory or kernel memory into user space. Thus developers will not only learn the specific mechanics of high-quality device driver development for Windows NT, but will gain a deeper understanding of the foundations of device driver design. 0201695901B04062001

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Customer Reviews

I have written some VxDs before I read this book. And the book introduced fairly well about the writing NT device drivers. And I had the confidence that I could write the driver right away once I read the book. But, it seems somewhat difficult for the beginners because it misses the detailed explanation for some issues. I guess the authors of the book should have spent some more pages for virtual memory and multi-processors when the book got already more than 1000 pages. Some more pages won't kill.

I'm a high school intern and I knew nothing about drivers (other than installing them) 3 months ago. Now I have completed 2, an ISA and Parallel port driver. This book is really great for people new to the DDK and need a good foundation. The examples are clear, and the pace of the book is pretty slow (but steady). Once you get past the first 9-10 chapters you can pretty much skim for parts you need. The tips are especially helpful, as to why C++ OOP isn't suitable, to why 2 computers are absolutely necessary. Even if you plan on making WDM drivers, this book will be helpful. Oney's WDM book is really useless for beginners, and the DDK almost has no redeeming value, other than being very very heavy (oh, wait that's not good either). The net is surprisingly lacking of driver programming pages. Get this book.

This is the BEST book on windows NT driver. I own 6 or 7 books on Windows NT driver, but this is the only one that I carry around with me at all time. This book really helped me with my project at work, especially, the chapter on PCI and memory mapping. I am in love with this book. Can't leave home without it.

This book is so thick and it spans virtually every aspect writing windows device driver in old NT fashion. This book is a good companion with Viscalora's book. However, Microsoft highly recommends that if you want to write device driver for Windows Vista, 7, 8, you must stick to WDF. I don't know WDF but knowledge about wdm and the information contained in this book is SURELY beneficial to all who writes windows device driver. But you must have a some knowledge in C

programming language and windows kernel to fully understand the contents in this book. Especially one thumb up in USB driver and PCI interface enumeration code. HIGHLY RECOMMEND!!

I just received the book and I immediately turned to the index to search for NETWORK DRIVERS. Nope. Well, the introduction chapter will tell you "what we don't cover" (this important omission should of been mentioned in the online book excerpts):The book does not cover: File Drivers, Network Drivers, Graphic Drivers and User Mode Drivers.One would think that in this day of age of Communications, High End Speed Games, etc, that a rather large book titled "Developing Windows NT Device Drivers" would cover these important device drivers. At a minimum, its should of covered NDIS Device Drivers. It does not.

Lets face it, Microsoft could not sell a dieing man a glass of water. Reading the wdk docs is the most jumbled pile of words aimed at nice short web pages than getting ideas across. This book was written in the NT 4 era and looks on Win2k as the future, but Windows driver writing is complex enough and has not changed in its base ideas so that with this book, along with the wdk you can write a driver! Others have noted that the book skips over exciting things like writing a file system, but nobody is going to ask you to write a file system but a nice filter driver is still a possibility. It gives the basic view of drivers and the relationship of the objects needed to build one. You will have to read the book, then use the knowledge to unravel the wdk to get the changes and extra commands since added to drivers for valid up to date work, but the data presented is well written and builds you knowledge in layers. Couple this book with "Advanced Windows Debugging" and you could build a career, if the clowns had not shipped the jobs overseas. The trick with drivers is learning the layout without falling asleep, this book does a much better job than most, but as usual, you will probably need all the books you can get to actually write a comercial quality driver, even on a simple level and driver writing still pays fantastic, so get on with it!

It's totally great to hear the inside scoop from the experts. I love the real experience grey comments. A very tough subject covered in great depth but still very readable. A device driver classic! Forget the other driver books and buy this one!

I love this book. Whatever grey areas were created by other books is cleared after reading this book. The verbosity kept me interested.

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