



# Windows DEVELOPER'S JOURNAL

The Magazine for Windows Programmers



## Features A Palette Spy Utility .....

Using an identity palette is essential for fast graphics, but how can you be sure you got it right? This tool uses some undocumented techniques to give you the information you

#### Chris Branch

## A More Accurate Timing Tool ......14

The only way to squeeze those extra cycles out of the CPU is to make changes and measure the results. Abrash's "Zen timer" has often been used for that purpose, but how accurate is it? Here's a look at some problems this kind of timer has and how to Mike Dawdy

# Compiler Benchmark: C++ Inlining .....

How much overhead do you pay for using C++ instead of just C? We start looking for some answers to that question by benchmarking how efficiently five 32-bit Windows compilers can handle a simple inline function. Ron Burk

# 

Richter's Advanced Windows shows you how to build general-purpose Win32 DLLs, right? Wrong — you end up with DLLs that can only be conveniently called by appli-cations compiled with Visual C++. Here's the right way to write code and build your DLL so it can be compiled with Microsoft or Period DLL so it can be compiled with Microsoft or Borland, and easily called by any Win32 Ron Burk

#### Columns

## Tech Tips .....

Gorkhmaz E. Mikailov shows how to create a combobox or other control in an MFC toolbar. Trevor Harmon provides an MFC class for DIB sections. Simon Fan revisits the spawn and wait problem. Leor Zolman

# 

Services don't have to be started by the Service Control Manager, so how can your debugger get control? How can you protect yourself against a service that locks up your system at boot time? What debuggers are available for debugging services? The answers are all here, along with the undocumented method for attaching a process with the Visual C++ debugger. Paula Tomlinson

Cover image by Twyla Watson Bogaard.

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Page 2 — Windows Developer's Journal

August 1996

#### August 1996 Volume 7, Number 8

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Paula Tomlinson reviews the System Architecture series of books by MindShare. Also, The Revolutionary Guide to MFC 4 Programming with Visual C++, by Mike Blaszczak; Teach Yourself Delphi 2 in 21 Days, by Dan Osier, Steve Grobman, and Steve Batson (reviewed by George Tylutki).

#### Ron Burk

6

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If you use the delete operator, the compiler has to generate code to call the destructor for that object. But what if the compiler doesn't yet know whether or not you defined a destructor? Isn't it a bug if it doesn't warn you that it may be generating incorrect code? Yes and no, as this month's non-bug shows.

Mark Nelson

#### SDK Annotations Annotation #128 — GetDialogBaseUnits .... Annotation #129 — GetShortPathName ......60 Annotation #131 — TBBUTTON ......68

Departments	CTARS.
From the Editor	4
Advertiser Index	48
Call for Papers	51
New Products	70
Readers' Forum	74
Developer's Marketplace	75

# Next Month ..... Thread Scheduling in Win95 and NT

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Windows Developer's Journal - Page 3



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# Books in Brief

#### First Impressions of Recent Titles

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System Architecture

ISA System Architecture, 3rd Ed.
Tom Shanley and Don Anderson CA
517 pages Sys
MindShare, Inc. and Addison-Wesley, 1995
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Tom Shanley
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Tom Shanley and Don Anderson

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## Ron Burk

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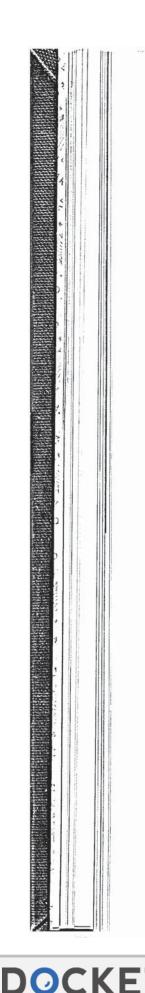
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August 1996

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Windows Developer's Journal - Page 61

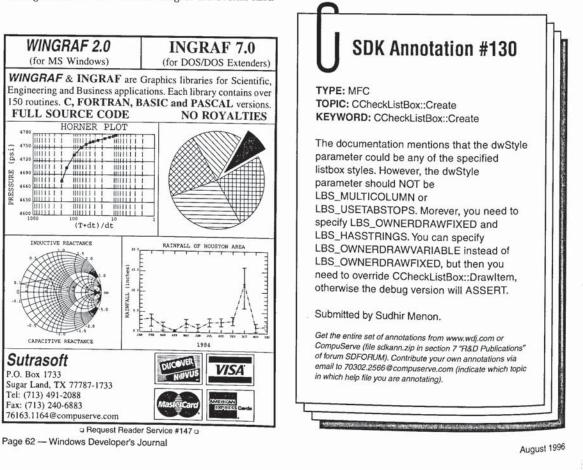


PRESSURE

[Editor's note: this review was provided by Paula Tomlinson.] I first discovered the System Architecture series a couple years ago at the bookstand that Computer Literacy always runs during the Software Development conferences. At that time, these books were published directly by MindShare and had very generic and nondescript black-and-white covers, so I almost overlooked them. I spotted the ISA and EISA books first. After leafing through them that night, I ran back to the bookstand the following day to buy any other books in the series, not dissuaded in the least by the prospect of hauling them back home with me. CardBus System Architecture is just the latest in this PC Architecture Series that currently totals 10 books. Addison-Wesley is now publishing these books with MindShare, so the more colorful cover art and wider distribution should ensure that you will be able to find them at any bookstore with a reasonable stock of computer titles.

I admit that there are so few good hardware books available that I tend to get enthusiastic about even mediocre attempts. But this series of books is truly an important part of my library. The series is generally based around processor architectures and bus architectures (with a few miscellaneous topics such as Plug-and-Play). I find that most books that call themselves processor architecture books are really references for the assembly language instruction set of that particular processor. While those books fill a need, they don't give readers an understanding of the overall hardware design and are not adequate references for device driver writers. This is especially true of bus architectures; for example, it is extremely difficult to find good technical information about the PCI or PCMCIA buses. When I do manage to find an occasional hardware reference on the bookshelf, I almost hesitate to pick it up for fear of seeing the inevitable \$89+ price tag. As a welcome relief, the MindShare series titles range from \$19.95 to \$34.95. At this price, I don't feel bad spending the money on a book I might use only as an occasional reference. Ironically, though, my office copy of EISA System Architecture currently holds the title of "most likely to be borrowed by a coworker."

The format of these books is quite different than that of the average computer book. Each book is based on a seminar taught by the author and that heritage is evident in the book's structure — it flows more like modules than chapters. Like most hardware books, they get right to the point; there are none of the self-indulgent authorial digressions that you see in some software development books. But, unlike most hardware books, these are actually readable. Most hardware references read like encyclopedias - even the publishers don't expect anyone to actually read the



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