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THE GRAPHICS COACH

Kathy Murray

图形学教练

清华大学出版社 Prentice-Hall

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内 容 提 要

这本资料丰富的计算机图形学自我培训参考书，从更广泛的角度阐明图形学，如：如何建立图形，了解图形硬件，学会使用图形程序，管理图形文件等等，旨在帮助读者使计算机图象系统发挥最大功效。本书配有一张磁盘，内含三个最新的图形程序，用于 DOS、Windows 和 Macintosh。本书分三部分：第一部分为图形学基础，包括：图形学介绍，如何使用图形，图形程序，图形文件格式；第二部分为图形学难题，包括了解基本硬件、监视器和视频卡、绘画工具、打印机和其它输出选件；第三部分为图形制作，包括图形制作中该做的和不该做的，图形入门，建立和编辑图形，打印图形文件，变换和管理图形文件。

本书适用于计算机专业人员以及所有希望学会用计算机来制作图形者。

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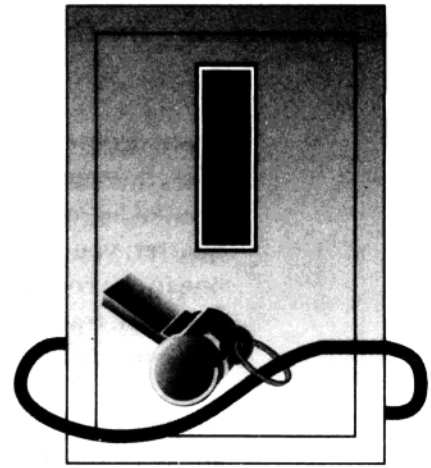

INTRODUCTION

You've probably noticed—everything is graphics these days. Road signs let us know where to walk (or where not to walk) by showing us, not telling us. We understand from roadside pictures where people cross, where deer cross, and where parking is not allowed. Almost without knowing it, we've learned another language—this one universal—that relies on common symbols to communicate thoughts and ideas beyond the limited vocabularies of our respective native tongues.

Why pictures? Surely with the information overload in our country and our world, the average person is beyond the level of picture-book communication. But here's the catch: You may be a first-class world genius in Brazil, but if you don't understand the language when you're visiting Italy, finding your way around is going to be difficult. That picture on the door of the public restroom is a great thing to see.

Graphics. The universal language.

Even within our own language boundaries, within our own industries, different words mean different things. When you're up in front of a group of people discussing sales projections for the next quarter, you run a chance of being misunderstood. Perhaps everyone in the room is not as financially savvy as you are. Or, perhaps you were trained in a different environment and are accustomed to using words that make everyone else go "huh?"

Graphics can break that language barrier for you. Show your audience the data trends, illustrate your argument, graph the sales results in different regions. Pictures can state your message clearly, when words just get in the way.

Computers have, in large part, been responsible for the wildfire-like spread of graphics. Mega-popular programs, like Microsoft Windows, provide us with a graphical way of interacting with our computers. Gone are the unfriendly command lines. We no longer have to spend days memorizing DOS commands. With a simple click of the mouse on a small on-screen picture, we can carry out complex and powerful operations.

Artists have been able to trade their airbrushes and sketchboards for graphics tablets and palettes with millions of colors—no mixing required. And no longer is the artwork vulnerable to studio elements, like dust, coffee, or stray toddlers; it's saved on disk, ready to be reopened, revised, and reused at a moment's notice.

Computers have also made it possible for those of us who are not artists to create artwork of our own. We can illustrate magazines and newsletters, create company logos, display graphs for board meetings, and even design elaborate on-screen animation.

But the advantage of having and using graphics in your work brings with it a downside: Where do you start? How do you learn to create the graphics? Of the different kinds of programs out there, how do you decide which one you need?

In *The Graphics Coach*, you'll learn all the basics about creating and working with graphics. What types of graphics is your system equipped to create? What kinds of graphics programs are out there? How can you make sure that the graphics you create in one program will be supported in another? *The Graphics Coach* provides you with basic hardware information about your monitor, video card, and input devices—such as the mouse, graphics tablet, scanner, or light pen—and explores the kinds of equipment on which you may be printing or plotting your work. In addition, *The Graphics Coach* is accompanied by a disk containing three sleek graphics programs—for DOS PCs, Windows PCs, and Macintoshes—that you can use throughout the book to view, edit, print, and convert graphics files.

WELCOME TO THE PERSONAL TRAINER SERIES

This book represents one subject in the new Personal Trainer Series, a common-sense, no-frills approach to shortening the learning curve involved in using today's technology. In *The Graphics Coach*, for example, you'll find a wide range of usable information relating specifically to graphics—how to create graphics, understanding graphics hardware, finding a graphics program, managing graphics files—the list goes on and on. We won't tell you who created the first graphic ever or make you wade through pages of unnecessary descriptions about examples you'll never use; we give you just what you need to know in order to begin using graphics productively in your work.

Think of *The Graphics Coach* as your personal trainer, ready to help you understand hardware and software considerations, answer your questions (see Chapter 1), and lead you through concise, to-the-point examples. You'll find simple, understandable phrasing and clear illustrations to accompany you along the way.

Additionally, each book in the Personal Trainer Series comes equipped with a special disk, provided to help you get a head start on learning the subject area you've chosen. For example, the disk in *The Graphics Coach* provides you with three different graphics programs, which enable you to work with the examples in this book and build your own graphics repertoire.

WHY DO YOU NEED A BOOK ON GRAPHICS?

Graphics is another computing area in which the technology changes faster than we can learn it. The minute we begin to feel comfortable with what we've learned, new features—and improved hardware—bring us additional avenues to explore and conquer.

For users new to the graphics area, mastering the learning curve may seem impossible. Buzzwords fly around the graphics field like lightning bugs in May: Paint, draw, rastor, vector, RIP, object-oriented, bit-mapped...the terms all seem vague and provide us with no real clue as to their use or meaning. Why call them draw and paint programs when you can paint in a draw program and draw in a paint program? And what's all the fuss about video cards and file conversions?

Most computer users today have an extremely limited amount of time in which to learn new programs. Why bother learning something new if using it will take more time than the something you're using now? *The Graphics Coach* makes deciphering and understanding graphics possible in a short amount of time by giving you simple explanations and examples that reinforce the concepts you're learning. You won't find a million and one tips for using your particular software program in *The Graphics Coach*—just simple, concise text that helps you learn and use graphics in as short an amount of time as possible.

Most books you'll find on graphics speak to one of two groups of users: people who've purchased a particular program and want to learn how to use it (like PC Paintbrush or SuperPaint), and people who write programs that make use of graphics files. Both of these audiences are important and need books to help them in the mastery of their computing goals.

But *The Graphics Coach* is different.

This book explains the hows and whys of graphics from a more general perspective—not related to a specific program or programming language. From a broadbrush perspective, how can you get started with graphics? What can you do with a stylus? Is it possible that you—the same person who used to cut art class—are now the electronic artist who illustrates articles for the company newsletter?

The Graphics Coach won't teach you everything there is to know about graphics. When you close the back cover of this book, however, you'll have a much better understanding of how you can use graphics in your own applications than you had when you opened the front cover.

WHO SHOULD USE THIS BOOK?

Put simply, *The Graphics Coach* is for anyone who has flirted with the idea of creating home-grown graphics but who has not known where to start. Perhaps, even, you've started creating a few art pieces of your own and want further direction on fine-tuning your computer system and display. Specifically, *The Graphics Coach* includes something for you if you are:

★ New to computer graphics but not necessarily new to computers (you may, like many of us, have mastered the basic tasks of several software programs but not previously learned graphics software)

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