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Animation, Games, and Sound for the IBM PC

Tony Fabbri

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Tony Fabbri

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ANIMATION, GAMES, AND SOUND FOR THE IBM PC

Prentice-Hall Personal Computing Series

Lance A. Leventhal, series editor

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To my bride of yesteryear,
To my friend for all the years,
To my wife forever,
Wanda

PREFACE

While many books deal with computers, hardly any are just plain fun to read and use. This book does not explain the insides of computers or describe all possible ways to assemble and use them. Rather, it lets the reader do exciting things with the computer and see things happen on the screen. It asumes no prior knowledge of computers or programming. The reader will learn computers and have fun doing so.

After introducing a few fundamentals (into each life, some rain must fall), the book slowly leads the beginner through drawing faces, rockets, tanks, ships, spacecraft, and monsters. Then sound is added, and the pictures come alive. Spaceships, airplanes, tanks, and strange creatures make noises as they move, turn, fire, blink, and attack. We then introduce the idea of controlling the action from the keyboard. The reader now is able to create his or her own arcade games.

All discussions and early programs are short. The reader will find it easy to use the examples to create new games and practical applications as well. The programming skills that the reader will learn gradually are the very ones he or she will need to solve business, educational, engineering, management, and scientific problems.

This particular version of the book employs the popular IBM Personal Computer (PC). It assumes that you have at least a 32K system with at least one disk drive. Although some programs use a printer, it is not essential. No special graphics equipment is necessary, since we draw all pictures with ordinary PRINT statements, a technique called text graphics. The reader can enter any program and watch the action unfold on the screen.

Please note that selected programs in Chapters 18 and 19 were designed for use on an IBM monochromatic screen and may not work exactly as written on non-IBM equipment.

I hope this book provides many hours of enjoyment for all its readers, both as a learning tool and as a reference book. I hope it also encourages them to use their imaginations, since that is the only way we can ever get the most out of today's amazing computers.

ACKNOWLEDGMENT

I wish to thank Mel Parker, Assistant Professor of Computer Science at Chattanooga State Technical Community College, who reviewed the book and provided many helpful suggestions. I also wish to thank Angela Slane for her review of the music chapter. I thank my wife, Wanda, for her invaluable assistance in proofreading and typing the manuscript.

Tony Fabbri

DIRECTIONS FOR USING THE ANIMATION DISKETTE THE FIRST TIME

1. Remove the ANIMATION diskette from the package, cutting where indicated.
2. Place the ANIMATION diskette in the right disk drive. Shut the disk drive door.
3. Place the DOS 1.0, DOS 1.1, or DOS 2.0 system's disk in the left disk drive. Shut the disk drive door and turn the computer on.
4. Enter COPY BASICA.COM B: . Wait until the red light goes off.
5. Remove both diskettes. Place the ANIMATION diskette in the left disk drive. Shut the disk drive door.
6. Turn the computer off. Wait ten seconds. Turn the computer on.
7. After the system is initialized, follow the directions on the screen.

DIRECTIONS FOR USING THE ANIMATION DISKETTE AFTER THE FIRST TIME

1. Place the ANIMATION diskette in the left disk drive. Shut the disk drive door.
2. Turn the computer on. Follow the directions on the screen. Enter a number between 1 and 56 when so instructed the first time.
3. To run any program on the ANIMATION diskette, enter RUN"Pcc-mm where Pcc-mm is a program on the ANIMATION diskette. For example, to run Program 19-6, enter RUN"P19-06 .
4. To list all programs that are on the diskette after running an ANIMATION program, enter FILES

DIRECTIONS FOR A ONE-DISK SYSTEM

1. Follow the directions in the DOS manual and copy the language BASICA.COM onto the ANIMATION diskette.
2. After BASICA.COM has been copied, turn the computer off. Wait ten seconds. Turn the computer on.
3. After the system is initialized, follow the directions on the screen.

Note that the programs from Chapters 18 and 19 were designed for use on an IBM monochromatic screen and may not work exactly as written on non-IBM equipment.

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1

INTRODUCTION

The IBM Personal Computer (PC) is one of the most popular of the new desk-top computers. Although it is only the size of a stereo receiver or small packing crate (with a television set mounted on top and a keyboard attached in front), it is as powerful as large computers of the 1960s that occupied entire rooms and cost hundreds of thousands of dollars. What is a PC good for? Listed below are some of the PC's many capabilities:

1. Word processing (electronic creation of letters, reports, and books without erasures, misspellings, and typing errors).
2. Business calculations, such as figuring interest rates, loan payments, rates of return, and cost of capital.
3. Mailing lists (maintaining them and printing sets of labels).
4. Producing club directories, team rosters, indexes, bibliographies, and other collections of information.
5. Handling the accounting, sales records, payroll, and inventory for a small business.
6. Producing tax returns and figuring alternative tax strategies.
7. Billing for doctors, dentists, attorneys, accountants, and other professionals.
8. Computer-aided instruction from grade school through college and in special education as well.
9. Creating charts, graphs, slides, and visual aids.
10. Scheduling parts of projects such as the construction of a building or the development of a new product.
11. Teaching games such as chess, bridge, and blackjack.
12. Keeping track of client records and accounts for insurance agents, realtors, brokers, and merchants.

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