Maria Langer

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An **OFFICIAL** FileMaker Pro 4 Book

FileMaker PRO ® 4

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Companion

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Companion

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FileMaker Pro 4 Companion

For Tom Heffernan
and the rest of the Heffernan family:
Tammy, TJ, Tyler, and Timmy

Introduction
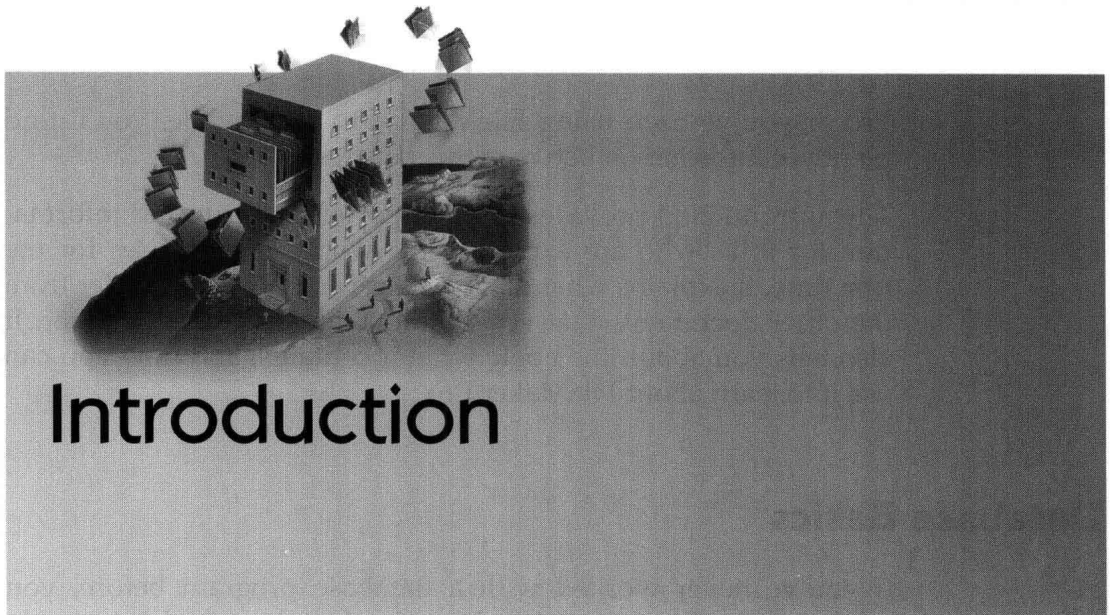
So you've purchased FileMaker Pro 4, the latest and greatest version of FileMaker, Inc.'s popular database application. Or maybe someone else—like your boss or the guy or gal responsible for your computer—has purchased it for you. Either way, it's a good decision, one you can be happy about.

Not only is FileMaker Pro the top-selling database program among Mac OS users, but it's quickly gaining favor with Windows users. And why shouldn't it? It has an easy-to-use interface to disguise its power, making it the perfect database management tool for beginners and power users alike. With the ability to create documents that can be accessed via network *simultaneously* by both Mac OS and Windows users, it's a dream come true in cross-platform, networked environments.

But good purchase decisions don't stop with FileMaker Pro. You also have this book, which will help you to learn all about File-Maker Pro without a lot of time-consuming experimentation and guessing. Whether you're brand new to databases or FileMaker

Pro or you've been using FileMaker Pro for a while, you'll find plenty of information between this book's covers.

This introduction provides some important background information for folks who are exploring the world of databases for the first time. It explains what databases are and how they differ from the other documents that you might create on your computer. It also tells you about this book, what it contains, and how you can use it to learn about FileMaker Pro.

Database Basics

If you've never worked with a database program before, you might be wondering exactly what a database is and what it can do for you. If so, read on. I'll explain it all in this section.

What Is a Database?

A *database* is a collection of related information that is organized into fields and records. A *field* is a category of information. A *record* is a collection of fields relating to one item.

Think about a phone book—that's a database. Each listing is a record. The listing's name, address, and phone number are fields.

JONES Arlen Ray 100 W Main St	685-0435
JONES Brian & Wendy 8457 W Jones Rd	685-9019
JONES Chester L 11254 W Rabbit Rd	685-2161
JONES FORD-MERCURY 4550 W Main St	685-1000
JONES Robert & Helen 15 Palo Verde Dr	685-4978
JONES T 630 S Mariposa Dr	685-8423
JOSEPH K B 181 S Front St	685-9432
JOSTEN Thomas 458 W Caballeros Dr	685-4158

FIGURE 1. Your local white pages are a good example of a database you might use every day.

Now think about a mail order catalog, like the one you threw away last week or the one that's still sitting on your desk. That's a database, too. Each item is record. The item name, description, number, available colors or sizes, price, and photograph are fields.

Think of some other examples. A teacher's grade book. A company's employee files. A doctor's billing records. A library's card catalog file. A dictionary. We're surrounded by databases!

So even if you think you're a raw beginner when it comes to using a database, you have more experience than you think.

How Does Database Software Work?

Database software like FileMaker Pro enables you to build database document files, which are often referred to as just plain *databases*. You build a database by creating individual fields for each category of information that you want to manage. Then you enter information into the fields for each item's record.

For example, if you were going to recreate the white pages of your local phone book on your computer, you'd create fields for each last name, first name or initial, address, and phone number. You'd create a record for Tom Jones at 1616 Elm Street by entering his last name, first name, address, and phone number in the appropriate fields. You'd create a new record for Betty Smith at 123 Main Street and another new record for Eric Johnson at 111 Pine Tree Way. You'd continue until all the information had been entered in appropriate records and fields.

What Can Database Software Do for You?

There are several benefits to using database software like FileMaker Pro to organize and maintain information:

- Databases can be searched quickly to find records that match the criteria you specify.

- Database records can be sorted quickly by any combination of fields to display information in the order you desire.

- Database fields can be displayed in any combination on screen or on paper.

- Databases are easy to update and, if properly designed, can be shared by many individuals who need access to the information they contain.

These are only a few of the benefits of using database software. As you work with FileMaker Pro and see some of the examples in this book, you'll think of many more.

It's Alive!

One thing most people don't realize is that databases differ from the other document files that they create on computers. Unlike those other documents, databases are *alive*.

Let me explain.

Think about the last note or letter that you wrote on your computer using your favorite word processing software. When you were finished perfecting your prose, you probably printed it and sent it to the addressee. Have you opened and used that document since? Probably not. How many other documents like that one reside in a folder on your hard disk, feeling neglected? I don't know about you, but I've got hundreds of them—they're in a folder on my hard disk called "File Cabinet" and some of them date back to 1991.

A database document file is different in that, once created, it is often reopened and used. You may open an existing database to

search for information. Or print a report. Or add, remove, or edit records.

Here's a real-life example. One of my clients uses a FileMaker Pro template I created for them to build a database of jobs processed within the department. The database file is opened and used by department personnel on a daily basis. Throughout the year it grows in size from the 1st record entered on January 2 to the 6487th or 7153rd record entered on December 31. Staff people use the database to see what jobs are open and log out completed jobs. Supervisors use the database to calculate how long it takes to complete each job and how many jobs are completed by each staff person. Management uses the database to obtain statistics that prove how valuable the department is to the company as a whole.

If you agree that databases are alive (and I hope you do), then you must also agree that they require a bit more attention than the one-shot deal documents saved for prosperity in your electronic file cabinet. In effect, they require what I call "care and feeding"—almost like a pet or the plants in your garden. Here are a few things you need to keep in mind.

Database Design & Construction

Before you begin creating a database, you should have a good idea of what you want the database to accomplish for you. Here are some questions to ask:

WHAT INFORMATION WILL BE RECORDED IN THE DATABASE? This will determine what fields you need to include. It may also determine the importance of the database file, which will, in turn, help you decide how often to back it up.

HOW WILL RECORDS BE ORGANIZED? This will determine whether certain types of information—like a name or address—need to be broken out into multiple fields. For example, it's a lot easier to sort by last name when last names and first names are in separate fields.

HOW WILL DATABASE INFORMATION BE USED? This will determine how information is presented on screen or on paper.

WILL OTHERS HAVE ACCESS TO THE DATABASE FILE? This will determine whether the file requires special instructions, special field options to validate input, buttons and scripts, and/or security. It may also determine whether the server version of FileMaker Pro should be used and how network-related options should be set within the FileMaker Pro application on each user's computer.

WILL THE DATABASE BE PUBLISHED ON THE WEB? This will impact the database's design—its fields and layouts—and determine its security features and network location.

Database Management

A database also needs to be managed. Here are some examples of the kinds of things you may need to do:

CHECK FOR CONSISTENT DATA ENTRY You enter information in a State field using standard post office abbreviations like FL, OK, and AZ. Mary Jane likes to spell things out, so she enters them as Florida, Oklahoma, and Arizona. The temp your boss hired while Joe was away abbreviates the old fashioned way, so she entered Fla., Okla., and Ariz. This might not seem like a big deal, but it will be a very big deal when you try to sort, summarize, or search for information based on the inconsistent field.

TIP *FileMaker Pro's validation features can help prevent inconsistent data entry. I tell you all about that in the section titled "Validation Options" on page 324.*

CHECK FOR (AND DELETE) DUPLICATES Every time someone orders a product from your catalog, his name and address are added to your Customers database. What about the folks who order every other week? Duplicates make your database larger than it needs to be and can be misleading on reports. It can also be costly if you

use a database with duplicates for a bulk mailing. I explain how to search for duplicates in the section titled "Creating a Find Request" on page 136.

CHECK FOR (AND REVISE OR DELETE) OUT-OF-DATE INFORMATION
Information, like bread, tends to get stale with age. (Unless you live in a damp climate; then it gets moldy.) Out-of-date information isn't much use to you or anyone else so revise, archive, or delete it.

Database Protection & Maintenance

It's November. My client's Job database—the one I told you about a few pages ago—has 4,956 records. But when Nauri tries to open it one Monday morning, the database refuses to open. Or it opens and half the records are gone. Either way, my client is not going to be happy. And neither am I when I have to fly to New Jersey (where it's cold in November) to explain what happened.

The importance of protecting and maintaining a database cannot be understated. Here are some of the things you should be thinking about:

BACK UP YOUR DATABASE FILES Heck, back up *all* your important files on a regular basis. You shouldn't have to hear this from me. You'll miss those files when they're gone if no up-to-date backup exists. Believe me—I've been there and it ain't fun. You can learn more about backup strategies in Chapter 17.

SECURE YOUR SENSITIVE FILES Got some secret information in a file? Keep it secret by password protecting the database and restricting access to the sensitive fields. I tell you how in Chapter 16.

PREVENT FILE CORRUPTION Yes, an ounce of prevention is worth at least a pound of cure. FileMaker Pro has its own built-in tricks for preventing files from being corrupted—and recovering them if you waited too long to use them. I tell you how to fight back against the corruption gremlin in Chapter 17.

About This Book

In this book, I tell you everything you need to know to build, use, and maintain database files with FileMaker Pro. I start with the basics (important concepts and definitions, an interface overview, and instructions for creating and entering data into simple database files) and finish with advanced techniques (importing and exporting data, scripting, and Web publishing) covering everything in between along the way. I provide important background information, step-by-step instructions, illustrations, and tutorials to:

- Build a foundation of vital information and ideas on which you can build effective database files.

- Explain why things work the way they do, so you understand the underlying logic of databases and FileMaker Pro.

- Teach you how to complete specific tasks, so you can use FileMaker Pro without a lot of time-consuming trial-and-error experimentation.

- Show you what your Mac or Windows screen looks like as you work, so you know you're on track.

- Give you a chance to review concepts and tasks and see how they can be applied to real-life situations.

I've written this book in a friendly, conversational tone, with plenty of humor, brief anecdotes, tips, and real-life examples. I'm a firm believer that learning should be fun. Who's going to read a book that puts you to sleep? (Other than insomniacs, of course.) Although you might not like all my jokes, I promise you won't be bored. And I think you'll learn a heck of a lot about databases and FileMaker Pro along the way.

Three Learning Tools in One

This book combines elements from all three major types of computer books:

HOW-TO BOOK/USER GUIDE This book provides instructions for completing specific tasks with FileMaker Pro. How-to information is provided in a narrative style that begins with an introduction and then presents illustrated instructions with examples for using commands, buttons, dialog boxes, or whatever.

REFERENCE BOOK This book covers all features and interface elements of FileMaker Pro and provides three appendices of useful reference material. Its thorough index and table of contents make it a complete reference guide.

TUTORIAL Each chapter of this book includes step-by-step instructions for creating and modifying database files that meet real-life needs: contact management, product inventory, and invoicing. Use these exercises to review and reinforce the chapter's concepts.

This Book Is for You If...

This book is for just about anyone who wants to use FileMaker Pro to store, manage, and use data.

DATABASE BEGINNERS If you've never used a database program—even if you're not quite sure what a database is—this book is for you. It provides all the information you need to understand how databases work and how you can use them to organize and store information.

FILEMAKER PRO BEGINNERS If you've worked with databases before, but have never used FileMaker Pro, this book is for you. It provides all the basic how-to information you need to get started quickly. You'll find the tutorials both educational and fun.

EXPERIENCED FILEMAKER PRO USERS If you've used FileMaker Pro before—either this version or a previous version—this book is for

you. It provides tips, tricks, and in-depth discussions of features, making it a valuable resource for taking FileMaker Pro to its limits.

SMALL AND HOME OFFICE BUSINESS OWNERS If you want to take control of the information that's a part of your business, but don't want to pay an expensive consultant to create a custom solution for you, this book is for you. It provides information that gives you the power to be your own database designer, builder, and manager. You'll find the real-life examples and tutorial exercises especially inspiring, since they'll give you plenty of creative ideas.

The Inside Scoop

This book is fat for a reason: it's jam-packed with information. Its logical organization makes it easy to find, understand, and use the information you need.

The book has five parts, each of which has three or more chapters. Here's a summary of the parts and their chapters.

Part I: FileMaker Pro Basics

This part of the book introduces you to FileMaker Pro and provides information and instructions for creating, entering data into, and working with simple database files. Its four chapters are:

Chapter 1: Getting to Know FileMaker Pro

Chapter 2: Creating a Database & Defining Fields

Chapter 3: Entering & Editing Data

Chapter 4: Finding & Sorting Records

Part II: Developing Layouts & Reports

This part of the book provides detailed information about using one of FileMaker Pro's most powerful features: layouts. Its three chapters are:

Chapter 5: Understanding Layouts

Chapter 6: Arranging Layout Objects

Chapter 7: Polishing Layout Appearance & Functionality

Part III: Exploring Advanced Features

This part of the book begins to go beyond the basics of FileMaker Pro by covering more advanced topics. Its four chapters are:

Chapter 8: Using Field Entry Options

Chapter 9: Tapping into the Power of Calculations

Chapter 10: Developing Relationships between Files

Chapter 11: Scripting

Part IV: Sharing Database Information

This part of the book offers information for sharing database contents with others via import/export, printing, networking, and Web publishing. Its four chapters are:

Chapter 12: Importing & Exporting Data

Chapter 13: Previewing & Printing Reports

Chapter 14: Sharing Information over a Local Area Network

Chapter 15: Publishing Data on the Web

Part V: Protecting & Maintaining Database Files

This part of the book provides information to help you protect your database files from unauthorized access and data loss. Its two chapters are:

Chapter 16: Securing Database Files

Chapter 17: Backing Up & Maintaining Database Files

Appendicitis

If you're a fan of reference stuff at the end of a book, I've got you covered. There are four appendices:

Appendix A: Menu & Keyboard Shortcut Reference

This appendix illustrates all of FileMaker Pro's menus and lists all of its keyboard shortcuts.

Appendix B: Function Reference

This appendix lists and describes all of FileMaker Pro's calculation functions, providing a great reference tool when specifying calculations for fields or scripts.

Appendix C: ScriptMaker Reference

This appendix lists and describes all of the ScriptMaker's commands, providing a useful reference tool when taking advantage of FileMaker Pro's scripting feature.

Appendix D: FileMaker Pro Version History

This appendix provides information about the history of FileMaker Pro, from its humble beginnings as a Mac OS-only, flat-file database to its cross-platform, powerful, relational database status today.

Batteries Not Included

I'll admit it: This book doesn't tell you *everything* you need to know to use FileMaker Pro. It doesn't tell you how to turn on your computer, use a mouse, or launch a program. It doesn't tell you how to select a command from a menu or resize a window.