

# Behind the Curtain: The Real Power of a Database

Tables store the data, Queries and Scripts make it work for you.

### THE DATA YOU SEE

Tables hold your information in rows and columns.

| ID   | Name           | City             | State | Balance  |
|------|----------------|------------------|-------|----------|
| 1001 | Anderson, Mary | Denver           | CO    | \$125.00 |
| 1002 | Brown, David   | Aurora           | CO    | \$ 85.50 |
| 1003 | Clark, Susan   | Colorado Springs | CO    | \$210.75 |
| 1004 | Davis, James   | Boulder          | CO    | \$ 60.00 |
| 1005 | Evans, Linda   | Greeley          | CO    | \$150.25 |

**What You Do**

- ✓ Enter data
- ✓ Update records
- ✓ Delete old data

### BEHIND THE CURTAIN

Queries and Scripts do the heavy lifting to find, sort, filter, calculate, and automate.

#### ACCESS QUERIES

The Expert Librarian

- Find specific records
- Sort and filter results
- Perform calculations
- Summarize data
- Update groups of records
- Provide data for reports

#### FILEMAKER SCRIPTS

The Office Assistant

- Perform searches
- Execute step-by-step tasks
- Update records
- Print reports and labels
- Import or export data
- Automate repetitive work

**POWERFUL. FAST. RELIABLE. WORKING FOR YOU.**

### THE RESULTS YOU GET

Information turned into answers, reports, and action.

- Reports**  
Clear, accurate, and ready to share.
- Filtered Views**  
See only what you need to see.
- Calculations**  
Totals, averages, counts, and more.
- Automation**  
Tasks completed with one click.

**Why It Matters**

- ✓ Saves time
- ✓ Reduces errors
- ✓ Improves decisions
- ✓ Drives success

YOU CLICK. → THEY WORK. → YOU SUCCEED.

Queries in Access. Scripts in FileMaker Pro. Same goal. Different tools. Real results.

## Behind the Curtain: Queries and Scripts

### The Real Power of a Database

*By Curtis Jerry Smothers*

When most people think about a database, they picture a table full of names, addresses, telephone numbers, inventory items, or sales records. That's understandable because the tables are the most visible part of a database. They contain the information that businesses, schools, hospitals, and government agencies depend upon every day. But the tables themselves are only the beginning of the story. The real power of a database lies not in storing information, but in quickly finding it, organizing it, analyzing it, and putting it to work.

Have you ever wondered what happens after you click the **Search** button on a website? Within a second or two, the computer finds exactly what you're looking for, sorts the results, and displays them on your screen.

It almost seems magical. In reality, that "magic" is performed by a set of instructions working quietly behind the scenes. In Microsoft Access, much of that work is performed through **queries**. In FileMaker Pro, much of it is handled through **scripts**. Although the terminology differs, both are designed to help users retrieve information and automate routine tasks.

## Meet the Query

Imagine walking into a library containing two million books. Suppose you wanted every mystery novel written after 2010 by a female author from Colorado. Searching the shelves one book at a time would be hopeless. Instead, you would ask the librarian to locate exactly what you wanted.

A database query performs much the same function. It searches through thousands—or even millions—of records in seconds and returns only those that meet the conditions you specify. Rather than displaying every customer in a database, a query can show only customers in Denver, only orders placed this month, or only products that need to be reordered. It can also sort the results alphabetically, by date, by sales amount, or by virtually any other field in the database.

Queries do much more than simply locate records. They can total sales, count customers, calculate averages, summarize inventory, combine information from several related tables, update groups of records, and prepare data for reports. What might take a person hours to accomplish with pencil and paper can often be completed by a query in just a few seconds.

## Meet the Script

FileMaker Pro approaches many of these same tasks differently. Rather than relying primarily on queries, it uses **scripts** to automate sequences of operations. Think of a script as an efficient office assistant who follows a checklist. Instead of asking the user to perform the same routine over and over again, the script carries out each step automatically.

Suppose a business needs to prepare monthly invoices. A FileMaker script might locate customers with unpaid balances, calculate finance charges, generate invoices, print mailing labels, display a summary report, and return the user to the main menu—all after a single click of a button. Without the script, someone would have to perform each of those steps manually.

One of the reasons FileMaker has long been popular with small businesses, schools, and nonprofit organizations is that its scripting language is relatively approachable. Many useful scripts can be created without the kind of traditional computer programming that intimidates so many beginning users.

## Two Different Approaches

Although Microsoft Access and FileMaker Pro accomplish many of the same tasks, they go about them in different ways.

Microsoft Access relies heavily on **queries**. Nearly every significant database operation—finding records, sorting information, filtering data, calculating totals, updating groups of records, or supplying information for reports—begins with a query. As databases become more sophisticated, users often create dozens of specialized queries, each designed to answer a particular question or perform a specific task.

FileMaker Pro emphasizes **scripts** instead. A script can perform searches, manipulate records, navigate between layouts, print reports, import or export data, and automate repetitive procedures. To the user, all of this may appear to happen with the click of a single button. Behind the scenes, however, the script is quietly carrying out one instruction after another.

Neither approach is inherently better. Microsoft Access emphasizes the versatility of queries, while FileMaker Pro emphasizes the convenience of scripts. Both are designed with the same goal in mind: helping users retrieve information quickly, automate repetitive work, and make better use of the data stored in their databases.

## **You Already Use Them Every Day**

Even if you've never opened Microsoft Access or FileMaker Pro, you've almost certainly benefited from these behind-the-scenes tools many times today. Every time you search Amazon for a product, reserve an airline seat, check your bank balance, browse a library catalog, schedule a doctor's appointment, or stream a movie recommendation, a database is responding to your request. Some hidden process is locating the information you requested and carrying out the steps needed to complete the task.

These operations happen so quickly that most of us never think about them. We simply expect the information to appear almost instantly. Behind every successful search, however, is a carefully designed database doing exactly what it was built to do.

## **The Unsung Heroes**

Like stagehands working behind the curtain in a theater, queries and scripts rarely receive any attention. The audience applauds the actors on stage, not the people operating the lights, scenery, and sound effects. Yet without those unseen workers, the performance could not take place.

The same is true of databases. Users see attractive forms, polished reports, and colorful dashboards, but hidden beneath the surface are the queries and scripts that make everything work. They search, sort, calculate, update, summarize, and automate countless tasks every day without asking for recognition.

## **A Powerful Partnership**

As you've seen throughout this series, a database is much more than a collection of tables filled with information. Good design organizes the data. Careful maintenance keeps it accurate. Relationships connect related information. Queries in Microsoft Access and scripts in FileMaker Pro transform that information into something useful by helping users find answers, automate routine work, and make informed decisions.

You don't need to become a database programmer to appreciate how these tools work. Simply understanding the role of queries and scripts will give you a new appreciation for the remarkable technology operating behind the scenes every time you search for information, make an online purchase, or complete an everyday business transaction.

The next time you click a **Search**, **Find**, or **Print Report** button, remember that there is much more happening than meets the eye. Behind that single click is an invisible set of instructions working tirelessly to transform raw data into useful information—the true magic that makes modern databases so indispensable.