

Exhibit 18

#1
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'Dummies' is a sign of the times."
— The New York Times

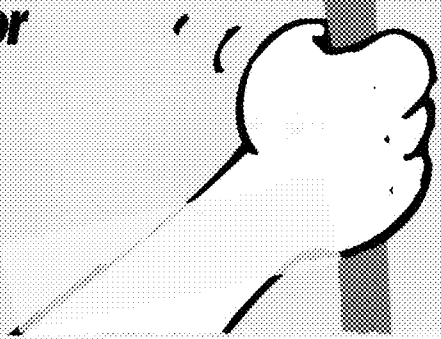
19
MILLION
DUMMIES BOOKS
IN PRINT



**A Reference for
the Rest of Us!**

by Allen G. Taylor

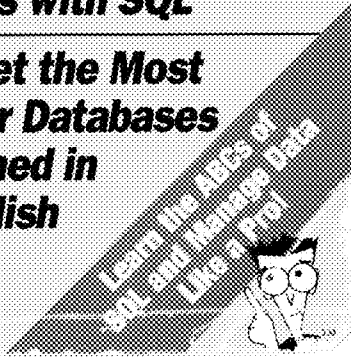
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**The Fun and Easy Way
to Learn SQL
Fundamentals**

**Your First Aid Kit
For Building and Managing
Databases with SQL**

**How to Get the Most
From Your Databases
— Explained in
Plain English**



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The value is not in the data; it's in the structure

Years ago some overly clever person calculated that if you reduced a human being to his component carbon, hydrogen, oxygen, and nitrogen atoms (plus traces of others), the person would be worth 97 cents. This clearly misleading assessment did grave damage to people's self images around the world. People aren't composed of collections of atoms. Our atoms are combined into enzymes, proteins, hormones, and many other substances that

cost millions of dollars per ounce on the pharmaceutical market. It is the *structure* of the combinations of atoms that give them value.

Database structure makes it possible to interpret seemingly meaningless data. The structure brings to the surface patterns, trends, and tendencies in the data. Unstructured data, like uncombined atoms, has little or no value.

base, and it is necessarily more complex, since it must handle multiple users trying to access the same data at the same time. An *organizational database* can be huge. It may model the critical information flow of an entire large organization. ❊

What Is a Database Management System?



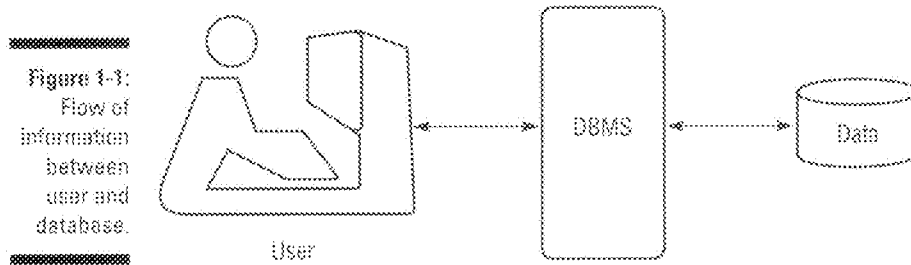
A *database management system (DBMS)* is a set of programs used to define, administer, and process databases and their associated applications. A database is a structure you build to hold data that is valuable to you or your organization. A DBMS is the tool you use to build that structure and operate on the data contained within it. ❊

There are many DBMSs on the market today. Some run only on mainframe computers, some only on minicomputers, and some only on personal computers. There is a strong trend, however, for such products to work on multiple platforms or on networks that contain all three classes of machines.



A DBMS that runs on platforms of multiple classes is said to be *scalable*. ❊

Regardless of the size of the computer that hosts the database, and regardless of whether it is connected to a network, the flow of information between the database and the user is the same. Figure 1-1 shows that the user communicates with the database through the DBMS. The DBMS masks the physical details of the database storage, so that the application only has to know about the logical characteristics of the data, not how it is stored.



Flat Files

Flat files got their name from the fact that they are nothing more than a collection of data records. They have minimal structure. These files contain one data record after another in a format specified when the file is designed. Flat files contain the data, the whole data, and nothing but the data. Since structural information (meta-data) is not stored in the file, overhead is minimal.

Say you wanted to keep track of the names and addresses of your company's customers in a flat file system. It might be structured something like this:

```

Harold Percivx126262 S. Howards Mill RdWestminster CA92680
Jerry Appel 30300 S. River Lane Rd Santa Ana CA92706
Adrian Hansen 232 Glenwood Court Anaheim CA92640
John Barer 2022 Lafayette St Garden GroveCA92643
Michael Pens 77750 S. New Era Rd Irvine CA92715
Bob Michimoto 25252 S. Kelmley Dr Stanton CA92610
Linda Smith 444 S.E. Seventh St Costa Mesa CA92625
Robert Funnell 2424 Sheri Court Anaheim CA92640
Bill Checkal 9898 Curry Dr Stanton CA92610
Jed Style 3535 Randall St Santa Ana CA92706
  
```

As you can see, the file contains nothing but data. Each field is of a fixed length (the name field, for example, is always exactly 15 characters long), and there is no structure to separate one field from another. Any program using this data must “know” which character positions have been assigned to each field.

On the plus side, operating on flat files can be very fast, since they contain nothing but data. On the minus side, application programs must include logic that manipulates the data in the file at a very low level. The application must know exactly where and how the data is stored. For small systems, flat files work fine. The larger a system is, however, the more cumbersome a flat file system becomes. Using a database rather than a flat file system eliminates duplication of effort and makes applications more portable across various