DATABASE BY DESIGN, INC.

What Kind of Database Do You Really Need?

Are your needs beyond a spreadsheet?

How do you track information that is important to you? Are you using paper and pen, or software on your computer? If you are using your computer, are you using a spreadsheet or a database program?

What information system works best for your?

Many people are using spreadsheets and other simple software programs to manage their information. For some of them, this works just fine. Others need something more. Evaluate your needs carefully. Use the following list to help you determine if you need a database program to manage your information. If any of the items apply to you, a database would be helpful. Otherwise, your current system is probably working just fine:

- ✔ Finding specific information in a listing has become cumbersome or tedious.
- ✔ More than one person needs simultaneous access to information in the system.
- ✔ Information is used in a series of steps to accomplish a task. These steps could be automated.
- ✔ Using information to perform tasks requires re-typing data, or many copy and paste actions.
- ✔ Much of the information that you track is related to other information. For instance, a customer has many invoices, and an invoice has many items.

Database System Types

Flat File:

If you have determined that you need a database system to manage your information, you then need to determine which one to buy. Many of the software programs that are available, such as contact management and calendar software, are simple database systems sometimes called 'Flat File' databases. One way to think of a flat file database program is to picture a spreadsheet. Each row is a block of information, like a customer contact or an inventory item. Each column is a piece of that block, like name, address, item number, or price. A flat file database is very simple. It is also very limited, which is why you need several programs to track all of your information, and they don't all talk to each other.

Relational:

A more comprehensive database system will enable you to track all of your information without having to use many programs. Programs that are designed to handle several tasks will utilize databases that are called 'Relational'. These types of database systems allow you to link one type of data, like customers, to other types of data, like invoices and appointments. Relational database systems are much more capable than flat file systems, but they are also more complex.

Typical Pros and Cons of each database system:

	Flat File	Relational
Setup and Configuration	Simple.	Usually requires more time and planning.
Responsiveness (How quickly does the system give you data)	These systems are usually quite snappy because their structure is simple and they tend to have small amounts of data.	The added complexity of a relational structure can cause these systems to be a bit slower, but it's not usually noticeable.
Flexibility	Very limited. This is a 'one trick pony'. Storing different blocks of information is either extremely difficult or impossible.	Can store several kinds of data that is linked together in many different ways.

	Flat File	Relational
Scalability (Ability to hold growing amounts of data)	Usually limited to under 5,000 blocks of information. After its limit, the system tends to slow down extremely.	Very capable of growing with your needs. Even the smallest of these programs can hold millions of blocks of information.
Appropriate for Web Sites	Sometimes. In times where the information is limited to one type of information, this can work well. However, most flat file databases are difficult to integrate with the Web.	Great for managing the information that you present to and collect from the Web. Most web sites that require a database have complex needs that can only be handled by a relational database.
Ease-of-Use	Simple. These systems are usually designed so that the end user can make changes to the system quickly and easily.	Depends. Some systems are designed to let the end user make changes easily. However, most will probably require the services of a programmer to design and modify.

If you are going to use a relational database system, there are different levels of programs from which to choose. Each level of database program is designed for a different type of user. The following list describes each level and their intended audience:

Simple

Pros - These database programs are designed for the end user. They are very capable systems that will allow you to store your information in just about any way that you want. There are several 'assistants' in the program that help you design entry screens and reports. It is usually quite easy to make adjustments to the program.

Cons - Limitations can sometimes appear quickly. Some systems can allow only a handful of users to access the database at one time. Most of these systems can't be compiled, which means the program can't be optimized for speed. You can sometimes quickly outgrow these systems because they lack certain features or they don't expand well to meet your needs (such as number of users or speed).

Full Featured/Mid-Ranged

Pros - These database programs are designed to provide every feature and functionality that you could need. They can be used by up to 200 people at a time. A well designed program using this type of database will maintain its responsiveness regardless of the amount of data stored.

Cons - This will usually require programming to accomplish the advanced tasks that you want in your system. Even though there are assistants to help you get started, you will probably need to add programming code yourself, or hire a programmer.

Enterprise

Pros - These database programs are designed to handle extremely large amounts of data. They are especially good at allowing hundreds of users at one time to access the database. These systems are best suited for large institutions.

Cons - The price tag for these databases is enormous. Even their small business versions can be quite costly. There is also a large amount of maintenance that must be performed on a constant basis. Depending on the size of the database, you would need to hire at least one person whose full time job is to administer and maintain the database.

Do your research carefully. Some database systems have big limitations. Some are expensive or costly to administer. Keep in mind that the most widely used database systems aren't necessarily the right ones for you. If you would like someone to help you assess your database program options, we would be happy to be a resource for you. At Database by Design, Inc., we can help you pick the best solution!

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Next Month's Topic: Should you power your web site with a database?