

# DATABASE BY DESIGN, INC.

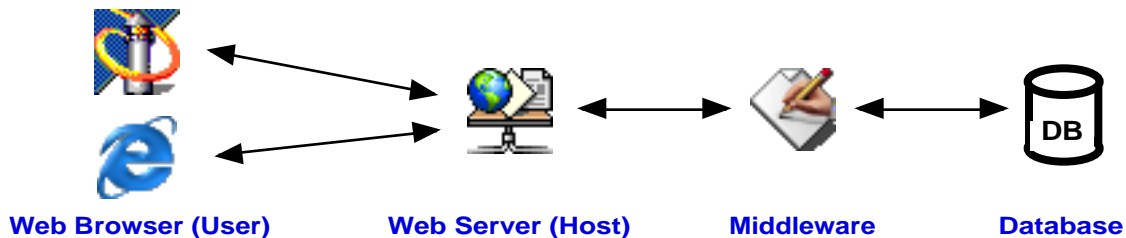
## Going Cyber

### What kind of database do you need for your web site?

So you've decided to enhance your web site by integrating it with a database. How do you determine which database to use? How do you connect it to your web site? How do you ensure that the addition of a database will build upon the success of your web site?

#### First, some background information:

Web servers don't know how to use information from a database. In order to exchange information with a database, a web site needs additional software. We will call this additional software 'middleware'. This middleware knows how to talk to database systems, and it knows how to integrate information from the database with web pages. The middleware transfers information between the database and the web server, as illustrated below:



So, picking a database to use in your web site is actually a two part decision. A database needs to be chosen, and the middleware needs to be chosen. For more information about how middleware works with databases and web servers, see our newsletter titled 'Hosting: Not Always a Party', located at:

[http://www.mycustomdatabase.com/newsletter\\_archives/newsletter\\_0204.pdf](http://www.mycustomdatabase.com/newsletter_archives/newsletter_0204.pdf)

#### Next, identify the core of what you want the database to do:

Just like in any home project that you start, you want the right tool for the right job. Database and middleware software should be viewed in the same way. The higher the complexity of your integration, the more robust the database and middleware need to be. Here are some examples:

Example	Description	Complexity
Order Requests	You want your customers to be able to enter their own orders on your web site. Once received, the orders would be e-mailed to you so that you can start processing them.	Low
Order Status	In order to reduce your customer service costs, you want to provide your customers the ability to look up the status of their orders on your web site.	Low - Medium
E-Commerce	You have products that are always being updated, but you want to let your customers place their orders through your web site. You also want the system to automatically handle the financial transaction.	Medium
Public Resource Service	You want to provide vast amounts of growing information to the public in a searchable form. The system must be very responsive and provide accurate results.	High

## Finally, match the software to your needs and complexity:

Not all database systems are created for the same tasks. Some are made for easy integration, but lack the power to handle lots of requests at any given time. Others are made to be rock-solid and blazingly fast, but they are difficult to set up, require a lot of maintenance, and cost a lot of money.

Since there are so many database systems available in the market, it would be impractical to try to analyze each of them here in terms of how they fit in with various requirements. Instead, we will group them into three main categories and outline the pros and cons of each. When you are analyzing the software choices that you have found, compare their capabilities with your needs and the general categories listed below:

Category	Description	Pros	Cons
Entry Level	Simple systems designed to handle low to moderate demands. Most are designed to interact with simple scripting languages used by the middleware, such as PHP or PERL.	Many of these systems are free or cost very little. They can be found at most Internet service providers (ISP), so you don't have to set up anything.	Don't scale well, which means that if your demands grow, you may need to upgrade soon. Speed is slower than other systems, which becomes evident as your system grows.
Middle Range	Systems with a wide range of capabilities, features, and scalability. They tend to have low to moderate cost. The method that the middleware uses to interact with the database is a higher level scripting language (like Java) or is tags based (similar to HTML).	These systems are very adept at handling specialty needs that require unique approaches to work with data. Many of these programs can be compiled into machine code which enables them to operate many times faster than the entry level systems.	Many of these systems aren't available at all ISPs. That means you will have to host the system yourself by co-locating a computer at an ISP for additional cost, or find a company that specializes in hosting that system. Also, the skills required to program the system are higher which result in greater development costs.
Enterprise	Large systems that can run on several computers simultaneously. They are usually installed for organizations that have enormous amounts of data to manage.	Created to handle heavy request loads without skipping a beat. They are blazingly fast and can be scaled to grow with your needs. They have several safeguards in place to prevent any interruption in service.	Very expensive with the smallest systems costing tens or hundreds of thousands of dollars. They require constant maintenance by specially trained personnel. Programming these systems can be costly as well.

If you need help in assessing your web site database options, we would be happy to be a resource for you. At Database by Design, Inc., we can help you find the right system for your needs. We can even design, create and install your system. Contact us so we can help you enhance the success of your web site!

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**Next Month's Topic:** To Build or Not to Build - When do you need a custom database versus using an Application Service Provider?