

DATABASE BY DESIGN, INC.

Databases + Internet = Profitability Consider the Possibilities

Business Strategy Check - Exploitation of the Internet is critical to the success of your organization:

Is your competition always on your heels? Or worse, always one step ahead of you? You can maintain a distinct advantage over your competition by fully utilizing two things that are basic elements of most organizations: Your internal database and the Internet.

The explosive rise in people's dependence upon the Internet and its ability to provide information and communication, means that your organization should develop ways to meet those needs. Staying competitive is about staying connected and communicating at all times with the people that are important to your success. If you aren't using the 'Information Superhighway', then you're bound to be lost in the back roads.

The Proof is in the Pudding - Internet history shows dependence on this technology:

We are a people that increasingly rely upon the Internet, which means that it should be a strategic component of your business. The following information shows the increasing use of and dependence on the Internet:

- 1983** - The Internet becomes reality when the ARPANET is split into Military and Civilian sections. The number of **hosts** breaks 500.
- 1991** - The number of Internet hosts breaks 600,000. The NSFNET backbone is upgraded... as traffic passes 1 trillion **bytes** and 10 billion **packets** per month.
- 1993** - The number of Internet hosts breaks 2 million. There are about 50 **HTTP** (web) servers. WWW (Port 80 HTTP) traffic measures 0.1% of NSF backbone traffic.
- 1994** - The web grows at a 341,634% annual growth. The NSFNET backbone is upgraded [again] as traffic passes 10 trillion bytes per month. The number of Internet hosts breaks 3 million.
- 1995** - HTTP (web) packets pass **FTP** traffic to be the largest volume Internet protocol.
- 1997** - The number of Internet hosts breaks 16 million.
- 2000** - The ten millionth **domain name** is registered.¹

What does my database have to do with the Internet? - Everything:

Most people think that investing in an Internet presence means putting together a flashy web site and spending time and money on getting their site to rank high with several search engines. Few people realize that they can increase profitability by simply combining their existing web site and their organization's database. By linking your database to the Internet, you can leverage your investment in technology and add significant savings for your operations, or to lock in partnerships with customers, suppliers, or other organizations.

Here's how it works: You've got a database that does everything you need it to do. You can enter data quickly with intuitive entry screens. Your reports are generated at a moment's notice. Anyone in your office, department, or company can have access to the data at any time, simultaneously. Your database provides tremendous value by automating many of your daily tasks. Productivity is increasing. Good job!

But don't stop there! You are missing out on additional profitability by not integrating it with your web site. Fortunately, you can conquer this domain as well. Now, you can collect data from, or distribute data to, people that are outside your organization by connecting your database to the Internet. This does NOT mean that everyone now has access to all information that resides in your information management system. Confidential data can be easily protected by separating the web accessible system from the internal management system, while still providing access to the people who need it in a format that they can use.

Reason for putting data on the web - Accessibility:

Prior to the popularity of the Internet, in order for outside users to have access to your data, special software had to be installed on their computers. This became difficult when the number of users increased, especially when the software needed to be upgraded. Today, every computer sold comes with a web browser. By using this

common software, it is no longer necessary to install specialized software on numerous computers. Data can easily be transformed into a version that can be displayed in any web browser on any computer. Startup time for communicating in this manner is eliminated. In addition, the automated nature of the Internet means that it isn't necessary for people to be present to handle submissions of and requests for data. This means that your technology and your data are working for you 24 hours a day, seven days a week, including holidays. Additional benefit comes from the perception by your business partners (customers, suppliers, partnerships, etc.) that you are responsive to their needs. They know they can retrieve or submit the data that is important to them, on their time table. They get immediate results, and you get a long term business relationship. The following are some examples of how an Internet enabled database can provide benefits:

Now That's Customer Service! - Order Entry, Status Tracking, Shipment Notification:

You can set up a database that can allow customers to enter their own orders via a web browser. Orders are saved in the database and retrieved by you for use in production. Your customers would then receive a confirmation e-mail that summarizes their order and indicates an order number. When the customer re-visits the web site, they can check the status of the order by entering in their order number. There is no need to call customer service. Also, they can check the status even when your office isn't open. Once their order is shipped, you can update the database with the shipment tracking information. When the customer checks on the order status, it will provide them with the tracking number, and can even re-direct them to the delivery company's web site for in-transit information.

Let's Work Together - Collaboration Management:

Let's say that you have an on-going project where the participants are in different offices, different companies, or even in different states. Such a project requires constant communication between each of the members of the team. Phone tag is not the solution! Why not use a database to manage the progress and status of the project? By integrating it with the Internet, everyone in the team will have the most recent information. Project members can enter in their task updates using a web browser. The database can then match the information to project milestones and provide a comparison to planned completion dates. Other participants can be automatically notified via e-mail when tasks are updated, based on their relation to the task. You can even have participants send related documents with their updates to be distributed to other appropriate recipients. Since all this information is being recorded as the project continues, it becomes a valuable resource for use in planning the course for the next collaborative project.

Document! Document! Who's Got the Document? - Intelligent File Management:

Does your office generate a lot of documents? Are you using a simple file server to store them? How quickly can you find that one document that you created six, twelve, or even eighteen months ago? Do you remember its name? Try using a database to do more than just store the documents. Imagine a system that scans your file server for new and updated documents. At a scheduled time when no one is using the system, the database could load each of the documents and its information. It could then parse the contents of the documents and create a keyword search capability. Users could then use a web browser to access the database to perform a search for the document based on its content and other relevant information. The user could then do a query for all documents that he/she created no sooner than three months ago, with specific words in the content. A listing of the possible matches could be presented to the user, who could then link to a web page with the first paragraph of the document displayed. Once the desired document is found, a link would enable the user to download the file to their computer so they can review the entire document. Add intelligence to the system by having the database automatically relate documents to other data based on various keyword matches. Now your file server is adding value to your overall business efforts. Do you need to know how often a document is accessed or referenced? This can also be added into the database as part of the download process. All of this is transparent to the users. They just see a file server that gives them what they ask.

At Database by Design, Inc., we find ways to merge databases with the Internet all the time. Contact us so we can help you get a jump start on maximizing your use of this great communication tool!

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Next Month's Topic: Enhanced Marketing Part 1: Find prospective customers! Use a database to identify, reach, and qualify potential clients.

Glossary

Host - Any computer on the Internet that enables the transfer or dissemination of data between other computers.

Byte - The basic unit of data used in computers. A byte is made of eight (8) bits. A bit is the most elemental form of data, expressed in either one's and zero's, or "on and off". Letters in a word processor use two (2) bytes. Numbers can use either two (2) bytes (0 - 65,532) or more (6 bytes allows 0 - $3.5 \times e^{308}$ (15 digits)).

Packet - "When any file... is sent from one place to another on the Internet, the Transmission Control Protocol (TCP) layer of TCP/IP divides the file into "chunks" of an efficient size for routing. Each of these packets is separately numbered and includes the Internet address of the destination. The individual packets for a given file may travel different routes through the Internet. When they have all arrived, they are reassembled into the original file..."²

HTTP - Hyper Text Transfer Protocol. The rules of communication that are used when exploring the world wide web.

FTP - File Transfer Protocol. The rules of communication that are used when downloading files from the Internet.

Domain Name - A name that is associated with an IP address. An IP address is the ID number associated to a specific computer. No IP address can be used by more than one computer. However, each IP address can have several domain names associated with it. When someone is using a web browser to access a web site, that person types in the domain name (usually www.domain_name.com). The browser software converts the domain name to the IP address and sends all of the requests to the computer at that address.

References

¹ "History of the Internet and Web," <http://www.anderbergfamily.net/ant/history/>, March 24, 2001.

² http://what.is.techtarget.com/definition/0,289893,sid9_gci212736,00.html.