



FEATURE



Always Design for the Future

[By Art Pennington]

The future holds wonderful things. Sometimes, without realizing it, we limit our thinking to the past. Technology advances so rapidly that, at times, it is possible to intuit capabilities before they actually materialize. When designing corporate software solutions, if you take advantage of your intuition and build functionality that anticipates the future, you reap valuable benefits for your company.

For example, in 1988, corporate software developers were accustomed to thinking of computing power and disk space as expensive and limited resources. Consequently, it was normal, and even expected, to create systems that were designed to conserve both.

We were able to surmise that this situation was changing rapidly. Microcomputers were doubling in computing power every year, and the cost of disk space was tumbling on a monthly basis. So we made two assumptions, designed into our systems, which eventually provided wonderful benefits: We assumed that computing power was unlimited and that disk space was free, both radical ideas for 1988.

We architected corporate software solutions that used networked microcomputers to do all of the computing and saved all data forever. Those assumptions were revolutionary at the time, but all of our customers benefited from those assumptions many years before their competitors.

Corporate software normally has a use life of five to ten years before some type of obsolescence sets in. Whether it is technical advances or business needs changing, something will undoubtedly happen to cause the software to be less useful. However,

for those few years, you could have a clear edge on your company's competition if you consider imminent technical advances in your design.

There are many changes taking place today. If I were designing a corporate software solution, I would keep in mind some dimensions of computing that are rapidly evolving and, if not now, soon will be considered mandatory in any system. For now, though, you may have an edge if you give them some thought. But because these things are possible, someone will take advantage of them, and it could be your company's competition. There are undoubtedly many more than the following few.

- Unlimited Bandwidth
- Biometrics
- Universal Communications
- Your Business is the Computer
- Intelligent Documents
- Persistent Message Network

Unlimited Bandwidth

Historically, we are used to thinking of electronic communications as being limited, expensive, and slow. In the near future, if not already, communication bandwidth will be unlimited and very inexpensive. Any system designed today should consider electronic

communications to be free and unlimited. That will take you to a different level in your thinking about what is possible.

Biometrics

Security has been an issue since the beginning of IT. Many complex and intricate schemes have been devised to guard against unauthorized access. Biometrics is evolving as the ultimate solution to this problem. Its use could greatly simplify security enforcement in your corporate software.

Universal Communications

Remote locations have historically been mostly out of reach as far as corporate software system interaction is concerned. That is definitely no longer the case. Any corporate software system should be designed to operate on handheld wireless devices, as well as on corporate home-office computers. This fact, together with the use of both private intranets and the public Internet by your corporate software, can put every employee, partner, supplier, and customer in immediate contact with your company whenever needed.

Your Business is the Computer

Historically, we are used to thinking of the corporate database as containing the



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data used for tracking and supporting your business transactions and processes. It is possible today, however, to have *all* corporate information contained in your corporate software solution. This includes not only data, but also all documents sent or received by any company associated person; all voice communications of a business nature; all pictures, images, and video associated with your company; and anything else you can imagine that is part of your business.

You should design your corporate software solution so that when your computer is down, you are out of business. (Then, of course, make sure your system is redundant enough that it never goes down.)

Intelligent Documents

We are used to thinking of documents as inert objects that are for reading only. However, it is very possible to make them intelligent. For example, business forms that contain data normally have rules associated with the way that the data is handled and interpreted. These rules, and any required processing logic, can be embedded in the documents themselves to dramatically increase their utility and usefulness.

I have done years of R&D in this area. There is a great deal of potential for the simplification and streamlining of corporate software using this technique.

Persistent Message Network

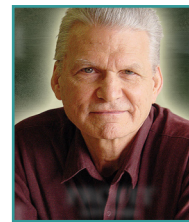
The most complex and efficient system in existence is the network of amazingly differentiated cells, which comprise the bodies of animals and humans. A strange topic for this article, to be sure, but nature frequently provides the perfect designs, which we should emulate.

Even the smallest mammal is composed of billions of independent cells that are in constant contact with each other. This constant exchange of chemical and electronic signals cause the entire organism to work in unison to achieve its goals. This structure is not dissimilar to what we seek for in a corporate software solution. The technology certainly is available to embed logic and data in messages as they traverse our networks. Imagine the possibilities if the data and logic only existed in messages and nowhere else.

I have created working models of systems architected to follow the cellular model.

It is an amazingly powerful paradigm for information processing and exchange.

This last example is admittedly a little “out there,” but I wanted to include it as an example of not limiting your thinking to what is usual and normal. Software designers should always strive for visionary ideas to satisfy corporate information needs. Sometimes, doing “what is possible” means doing what *can* be done but *never has*.



About the Author

With over four decades of experience, Art Pennington is president of the Profit Research Institute (profitmethod.com), founder of four successful software companies, author, keynote speaker, holder of multiple patents, and creator of the “Profit Method” of business success.

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