

# Worldwide Computing Jobs Picture “Brilliant”

Job prospects for newly-minted computing and software engineering folk are looking up. In fact, according to a diversity of recent news sources, prospects are nothing short of brilliant:

- the average CS graduate at the University of Illinois received 2.4 job offers this year, with the mean offered salary at \$68,650
- the picture was similar at Carnegie-Mellon, with 95% of graduates having offers, and the mean at \$66,875
- the US Bureau of Labor Statistics sees computing as the fastest-growing job market through 2018, with 27% of those new jobs in software engineering, 21% in

computer networking, and 10% in systems analysis

- the National Association of Colleges and Employers shows a similar if slightly lower prospective salary, \$61,112, for CS grads

Meanwhile, college enrollments in these fields are on the rise, but more slowly. The Taulbee survey sees only a “cautious uptrend” in enrollments. The two sets of data combined mean, of course, that jobs prospects for CS and SE students can do nothing but rise, perhaps rapidly, over the next several years.

The story is different in such countries as China and India. In China, the number of com-

puting students is rising faster than the number of jobs, according to information sources there, which means that CS students may need to go on to secure graduate degrees in order to distinguish themselves in a more competitive job market. In India, on the other hand, there is a drastic shortage of SE teachers – perhaps 70,000 fewer than enrolment demand – so that even though computing graduates tend to receive multiple job offers at present, academe may be unable to keep up with industry demand there.

## Information source –

“Career Opportunities,” Communications of the ACM, Nov., 2010; Leah Hoffmann



# THE SOFTWARE PRACTITIONER

JANUARY – FEBRUARY 2011

The newsletter by and for software professionals.

VOLUME 21, NO. 1

## Mars and Venus Vs. IT

Do men and women see the computing field differently? [Whitney 2010] is the result of a survey to find answers to that question:

To some questions, they see the field very differently –

- Regarding compensation, 78% of women find it unequal, but only roughly 48% of men do
- Regarding career challenges, 74% of women see their challenges as different from those of men, but only 48% of men agree
- Regarding a career path, 42% of women feel it’s mainly for men, while only 30% of men agree
- Regarding role models, 73% of women say there aren’t enough for them, and 52% of men agree

But to some questions, men and women are quite alike –

- Regarding studying math and science, 24% of women and 28% of men feel young women are not encouraged to study them
- Regarding the need for more female IT

workers, 66% of women and 78% of men see a great need

- Regarding satisfaction with an IT career, 66% of women and 65% of men plan to spend the rest of their careers in the field
- But career satisfaction criteria show some interesting men/women differences:

- Top goal for men is compensation, at 33%, whereas it is being challenged for women, also at 33%
- In second place is being challenged for men, at 30%, whereas it is compensation for women, way down at 21% (perhaps women see that as a hopeless goal!)
- Thereafter, the goals are similar for men and women but well down from the top two – flexibility (12%M, 16%W), relationship with manager (5%M, 8%W), relationship with peers (6%M, 7%W).

## Information Source:

“Survey of Women, Men in IT Shows Differing Views,” CNET News (online), Nov. 16, 2010; Lance Whitney

were of no value since they were based on an incorrect assumption.

I puzzled over what to do about that, finally deciding to put some weasel words into my research results saying that they were based on journal publications, which might not be correct for the field of CS. (That research was about all of the computing fields, and I was confident that journals trumped conferences in the IS (Information Systems) field and to a lesser extent, perhaps, in the SE (Software Engineering) field).

And meanwhile I kept my eyes open for anything that would shed more light on this strange and unique CS phenomenon.

Finally, there is a study [Freyn, Coyle, Smyth and Cunningham 2010] that looks deeply into this very matter. Interestingly, the study itself is not published in a journal (!). But it is published (continued on page 5)

## Even in CS

### Top Journals Trump Top Conferences

Robert L. Glass

In most academic fields, publication of a paper in a journal is far more important than presentation of that same article at a conference. That is, where publication counts most, as ammo in the battle for academic tenure and advancement, journals outweigh conferences mightily.

For years, I assumed that was also a valid belief for the computing field. I even did some research of my own regarding research trends in the computing fields in which I made that

assumption. That is, to measure the research interests of the computing field, I looked only at the journals of the field, not its conferences.

I still remember when I was given reason to doubt that assumption. I was having lunch with a colleague from the local University’s Computer Science department, and I mentioned that assumption and the research I was then doing based on it. “Wrong,” he said, with great confidence. “Conference publication is more important than journal publication in the CS field.” I was shattered. If my assumption was wrong, then my research findings, though valid,

## Also in This Issue

### LETTERS:

Pragmaticus on the Queensland Payroll System; Frank Land; Larry Bernstein .....3  
Edison and the Phonograph, Linda Rising ....4

### REVIEWS:

The Developer’s Guide to Social Programming, *Hawker*; Management 3.0 by *Appelo*; Book Writes Email; The Power of Positive Deviance by *Pacale, Sternin and Sternin*; Patterns-Based Engineering by *Ackerman and Gonzalez*; 97 Things Every Programmer Should Know by *Henney*;  
IN MEMORIAM, Watts Humphrey ..... 6-7  
Municipal IT, 8000 Miles Without Drivers, Payroll Fiasco .....8  
Skydiving at 82, Frank Land .....9

### HUMOR:

The last of Dutch Treat; Web Humor; Variable Combinatorics; The Most Vacuous News Story of 2010 .....10



"Please enter a new password. The new password may not be any recognizable dictionary word and must contain at least three digits, two capital letters, five distinct special characters, no sequence common to any of your last twelve passwords, and... ah, heck with it. Just use 'PASSWORD' like everybody else."



"Doesn't USB mean UNIVERSAL serial bus?"

**THE SOFTWARE PRACTITIONER**

ISSN = 1083 - 6861  
Distribution by Ebsco Publishing has been authorized

**PUBLISHER:**  
Computing Trends,  
18 View Street,  
Paddington QLD 4064, Australia  
61-7-33-11-12-13  
email: rlglass@acm.org

**EDITOR:**  
Robert L. Glass

**ASSOCIATE EDITOR:**  
David N. Glass  
Bill Medland

**ART EDITOR:**  
P. Edward Presson

**EDITORIAL ADVISORY BOARD:**

**David D. Lang**  
Consultant (simulation)

**Larry Welke**  
President,  
Children Without Limits  
(data processing)

**Steven C. McConnell**  
Construx Software Builders  
(micros)

**Donald J. Reifer**  
President, Reifer Consultants, Inc.  
(management/large projects)

*Unless otherwise stated, articles in The Software Practitioner are written by Robert L. Glass, cartoons are created by John Leatherman.*

**CALL BOARD**

The Software Practitioner, a newsletter by and for software professionals, needs your help. This call board is our way of telling you what help we need:

**Call for Papers:** We especially like lessons learned, approaches tried, experiments conducted, surveys analyzed, unusual applications, controversy, humor. If it's something you'd like to read, we'd probably like to publish it. We pay for accepted articles in either subscription time (two years per published article) or advertising space (1/2 page per article), your choice.

**Call for Subscribers:** We need you. We hope you need us! Subscribe now, and make sure you get every issue of the Software Practitioner. The cost is REALLY low - \$39/year, \$29 for renewals, and \$99 for institutions.

**Call for Advertisers:** Our readers are the people who make recommendations to the decision makers. People who want reality, not hype. If you'd like to reach that audience, we'd love to talk to you. Our rates? \$99/page, \$54/half-page, \$29 quarter-page.

**Call for Reviewers:** This is a reviewed publication. If you'd like to review for us, tell us the topic area for which you're qualified.

**RESPONSE FORM**

**Please...**

- Enter my subscription
  - Individual, \$39/yr.
  - Institutional, \$99/yr.
- Send me information for advertisers
- Consider the enclosed article for publication in SP
- Consider me as a reviewer on (topics)

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

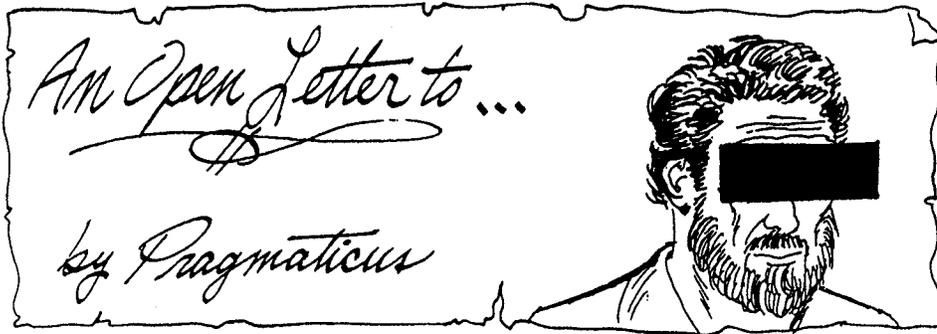
\_\_\_\_\_

E-mail \_\_\_\_\_

**Shareware Subscriptions!!!**

If you are an SP subscriber, get a friend to subscribe and receive a \$5 rebate. Just have them put your name below, and send in their check with this form.

\_\_\_\_\_



## To Anyone Who Cares About the Queensland Health Payroll System

You've been reading in the pages of the Software Practitioner now for an unconscionable amount of time about the payroll fiasco in the health system for the state of Queensland in Australia. The one where a new information system replaced the old, and failed to do what the old one did, as a result issuing erroneous paychecks and failing to issue correct ones?

If you were to judge that event by what the newspapers here say, this would be a failure at the highest levels of the Queensland health system. There are calls for the sacking of the leader of that system. Those calls are made by the political opposition (it is expected here that the opposition will oppose anything that the party in power does, and it is expected that journalists will get their story by seeing what the opposition has to say).

Well, I want to say in this open letter to anyone who cares, that is completely the wrong approach. It is quite clear that the problem here is that someone, at some level, decided to do away with the parallel testing of the new and old systems, a practice that the IS world has successfully employed for over 50 years now. The reason, those who have investigated the situation have found, is that the person who made that decision did not want to incur the cost of those parallel runs. Talk about false economies!

But what I want to deal with here is not the politics, nor the economics. I want to deal with the issue of what went wrong, and what should be done about it. Let's assume for a moment that I'm right, and the whole debacle boils down to making the wrong decision about parallel testing runs. Who is typically in a position to make that decision?

Not the head of the health system. Not the programmers/contractors doing the work (this implementation involved several contractors, including IBM). Usually this kind of decision is made at the second, or perhaps third, level above the technical specialists. It is at that level that the heat should be directed. It is at that level, I suspect, where someone should be fired.

Now the problem with this view is that it is not very satisfactory politically. No one who matters politically will have their head roll over this. The failure is not one attributable to a particular political party or one of its leaders, it is attributable instead to someone who simply made a very bad technical-level decision. And that's not the kind of solution that will appeal to the politically-oriented or journalistically-oriented folks in Australia. But it is, I would assert, the RIGHT decision. I wonder if Australia will ever wake up to the fact that not everything can be solved at the political level?

## To the Editor:

According to some experts, we have moved from the Information Age to the Knowledge Age – the age where, with the benefit of the ubiquitous spread of Information and Communication Technology (ICT) and the practice of Knowledge Management, everybody has access to our growing pool of knowledge.

You may remember the Productivity Paradox. Despite huge investments in ICT designed to make organizations more efficient, competitive, and profitable, attempts to measure increases in productivity by-and-large failed to detect the improvements sought, and even appeared to have produced negative outcomes. Happily, improved measurement techniques and taking account of the time

lag between an investment and returns from that investment, appear to have resolved that paradox.

Do we now have a new paradox: the knowledge paradox? Despite the investment in knowledge management and the technologies available to search, investigate (for example with data mining), and disseminate knowledge, if we look around us we find ignorance and false knowledge (unknowledge?) is pervasive in almost all fields of human endeavour. Indeed the technologies we have that make a Knowledge Society possible are used each day to spread unknowledge. In business, the use of customer relations management systems (CRM) are used, at least in part, to mislead its

target consumers by a variety of means.

Examples can be found everywhere. Take the recent Wikileaks publication of hundreds of thousands of Pentagon Documents – on the ground, unvarnished, reports from military units of activities in the war zones. For the Pentagon, the publication of these reports represents knowledge manipulation as the reports published had not been checked and verified and were published out of context. The leaks did not represent knowledge, but in a sense, unknowledge. For the civil libertarians and believers in a completely open society, the leaked reports represented knowledge the civil society had the right to have and the Pentagon had every chance to edit, verify and publish them. A feature of the knowledge paradox is that it will always have ambiguities and arguments about the 'truth' status of what is flagged as knowledge. The controversies about climate change are another example.

Are we going to find a resolution of the knowledge paradox or is the use of unknowledge a part of the human condition? I suspect the latter is more likely.

– Frank Land, Devon, United Kingdom

## From the Editor:

I couldn't agree more. What ticks me off most these days is the trend toward traditional news sources carrying biased articles and calling them "news;" the front page of the Australian, our leading inter-city newspaper here, is riddled with them, to the extent that you can no longer trust it to carry real news. My car now has a window sticker that says "Is it true, or did you read it in the Australian?"

## To the Editor:

Chief Programmer teams were all the rage in the 1970s. Everybody wanted to be the Chief Programmer and solve a focused problem. The problem with that is that the approach does not fit the needs of our industry, since all members of the team believe that they are educated and trained to be the chief. Furthermore, a chief surgeon (the analogy used to justify the Chief Programmer Team concept) is focused on the result no matter how long it takes, and not on productivity. The patient has a high willingness to pay, even if it is taxpayer money.

Yes, chief programmer gurus are great to have, but they need special attention and often are prima donnas.

I once met an IT executive from the NY Times at a professional meeting and asked him about the product he got from IBM with Harlan Mills (Mills was the primary proponent of Structured Programming, which included the notion of Chief Programmer Teams) as the chief programmer. He said that the NY Times never used the delivered software because Mills would not adjust or modify his product as requirements emerged and business needs changed. It became shelf-ware.

– Larry Bernstein,  
Software Engineering Professor

# Edison and the Phonograph

“From his neck down a man is worth a couple of dollars a day. From his neck up he is worth anything that his brain can produce.”  
Thomas Edison

Linda Rising  
[risingl@acm.org](mailto:risingl@acm.org) [www.lindarising.org](http://www.lindarising.org)

I'm writing this as the great American holiday—the fourth of July—is fast approaching. It's a time to reflect on all the American heroes (and heroines!) who helped make this country what it is today. For those of us in technical fields, certainly one of the heroes that comes to mind is Thomas Alva Edison, inventor of, well, you name it. He was a real pioneer. With 1093 patents bearing his name, Edison is still the world's most prolific inventor.

Edison created an invention factory, churning out a minor invention every two weeks, and a great invention about every six months. This collection of about 40 employees applied for 400 patents each year. His work in the areas of electric lighting, batteries, telegraph, and the phonograph were remarkable accomplishments for a man who admitted that he lacked mathematical and theoretical expertise. As he observed, “I do not depend on figures at all. I try an experiment and reason out the result, somehow, by methods which I could not explain.”

In addition to his technical accomplishment, there are also interesting tales of his business acumen. Edison not only wrote his own press releases, but frequently held press conferences. He would announce a dramatic and innovative breakthrough long before the invention was ready for prime time. Sounds a little like some modern software development companies!

According to one account, in the early days, two competing forms of electricity were available, Direct Current (DC) and Alternating Current (AC). The AC version was far more efficient and is used in all households today, but Edison had several key patents on DC electricity and also manufactured most of the DC equipment. So, he invited the press and staged experiments where he electrocuted small animals with AC electricity. Don't try that to impress your customers!

Another classic Edison marketing story concerns his sale of electric caps, a predecessor for the childproof outlet covers we now use. When electricity was first introduced, many people were afraid that electricity would escape from the outlets and cause fires. Readers of humorist James Thurber will remember his description in *My Life and Hard Times*: “Her own mother lived the latter years of her life with the horrible suspicion that electricity was dripping invisibly

“Her own mother lived the latter years of her life with the horrible suspicion that electricity was dripping invisibly all over the house.”

all over the house.” Rather than try to convince the public that electricity couldn't leak out, Edison saw a business opportunity and began to sell covers for the outlets.

In still another business venture, after years of experimenting with different materials, Edison made the first practical lighting system with carbonized bamboo fiber as the filament. He then purchased vast fields of this specific bamboo, essentially locking out the competition. So, the Wizard of Menlo Park wasn't a total klutz at the business side.

I first read about Edison and the phonograph in a wonderful book by Donald Norman [Norman99]. I recommend this book for anyone involved with development of a technical product. There are some great lessons for all of us.

So, we agree, Edison was a great technologist—one of the best—maybe the best—and we also understand that his marketing and sales skills were not too shabby. However, he was a little weak in customer understanding and customer interaction. Since I've written some articles and patterns for customer interaction [Rising00], I think we can say that Edison would have been helped had he been familiar with some of this wisdom.

The phonograph was developed as a result of Edison's work on two other inventions, the telegraph and the telephone. In 1877, Edison was working on a machine that would transcribe telegraphic messages that could be sent over the telegraph. This led Edison to speculate that a telephone message could be recorded in a similar fashion. He experimented with a diaphragm that held a needle against rapidly moving paraffin paper. The speech vibrations created indentations in the paper. Edison later replaced the paper with a metal cylinder wrapped in tin foil. The machine had two diaphragm-needle units, one for recording and one for playback. When the user would speak into a mouthpiece, the sound vibrations created indentations in the cylinder via the recording needle in a vertical or hill and dale groove pattern. When Edison gave a sketch of the machine to his mechanic, John Kreusi, to build, Kreusi reportedly did so in about 30 hours. Edison tested the machine by speaking into the mouthpiece, “Mary had a little lamb.” To his amazement, the machine played his words back to him.

By 1878 Edison was marketing his machine. He even made a profit for the first few years. At first the technology was crude; the recordings were made on tinfoil and the machine was delicate. As a novelty, the machine was an instant success, but was difficult to operate except by experts, and the tin foil would last for only a few playings.

Edison described the following possible uses for the phonograph in *North American Review* in June 1878:

1. Letter writing and all kinds of dictation without the aid of a stenographer.
2. Phonographic books, which will speak to blind people without effort on their part.
3. The teaching of elocution.
4. Reproduction of music.
5. The “Family Record”—a registry of sayings, reminiscences, etc., by members of a family in their own voices, and of the

“The phonograph was developed as a result of Edison's work on two other inventions, the telegraph and the telephone.”

last words of dying persons.

6. Music boxes and toys.
7. Clocks that should announce in articulate speech the time for going home, going to meals, etc.
8. The preservation of languages by exact reproduction of the manner of pronouncing.
9. Educational purposes, such as preserving the explanations made by a teacher, so that the pupil can refer to them at any moment, and spelling or other lessons placed upon the phonograph for convenience in committing to memory.
10. Connection with the telephone, so as to make that instrument an auxiliary in the transmission of permanent and invaluable records, instead of being the recipient of momentary and fleeting communication.

Even with all these possibilities, the novelty of the invention soon wore off for the general public. People just weren't sure what to do with the new machine. At first, it was used primarily for public demonstrations (with paid admission). Edison thought it could lead to a paperless office in which dictated letters could be recorded and the cylinders mailed to the recipients. He also tried putting a small phonograph into a doll and selling it as a talking toy—an early Teddy Rukspin! Owners of the early machines held parties where guests could record songs and listen to them being played back, a precursor to the karaoke machine!

The practical phonograph did not arrive until the late 1880s, by which time Edison had serious competitors. Edison's phonograph had several features that were superior to his competitors. But, as we all know, having the best technology does not ensure success. Sony's Beta technology for videocassette recording is widely considered to have been superior to the VHS format for videocassette recorders and tape, but Beta lost. The Macintosh operating system had advantages over DOS, but it lost, first to DOS, and then to Microsoft Windows, a system that took ten years to catch up to the Macintosh, but that now dominates the market.

When Edison invented the phonograph he studied the cylinder and the disc as potential recording technologies and recognized the superiority of the cylinder as a recording medium. The cylinder's semi-permanent jeweled stylus was more convenient than the disc's steel needles, which had to be changed after playing every side.

But discs offered many advantages over cylinders. They were less fragile. Their hard shellac surface enabled a greater playback volume—even though the sound was scratchy and somewhat unpleasant. Cylinders had short playing time, only 2 minutes, while discs could offer up to four. Discs took up far less space and

were easier to store, package, and ship. Discs could increase playing time simply by increasing their diameters, and they had a second side that could provide more music without increasing storage space, for less money. Most important, discs were far easier to mass-produce. No mass method of duplicating cylinders existed. Performers had to repeat their performances when recording to create large quantities of cylinders. This was not only time-consuming, but costly.

A year later, the Edison Standard Phonograph was manufactured, and then exhibited in the press in 1898. By this time, prices had significantly diminished from the early days of 1891 (\$150) down to \$20 for the Standard model and \$7.50 for a model known as the Gem, introduced in 1899.

Standard-sized cylinders (4.25" long and 2.1875" in diameter) were \$0.50 each and typically played at 120 r.p.m. The Edison Concert Phonograph, which had a louder sound and a larger cylinder (4.25" long and 5" in diameter) was introduced in 1899, retailing for \$125 with cylinders for \$4. The Concert Phonograph did not sell well, and prices for it and its cylinders were dramatically reduced. Their production ceased in 1912.

A process for mass-producing cylinders was put into effect in 1901. The cylinders were molded, rather than engraved by a stylus, and a harder wax was used. By mid-1904, the savings in mass duplication was reflected in the price for cylinders, which had been lowered to \$0.35 each. Beveled ends were made on the cylinders to accommodate titles.

Eventually Edison did realize the importance of compatibility and convenience. The problem was that by the time he switched over to discs in 1913 he was no longer the market leader and even after he began manufacturing discs, Edison continued to use a vertical recording method, whereas his competitors used lateral recording. Early phonographs could only play back one system, either vertical or lateral, so whichever system customers bought, they couldn't play back the recordings of the other.

The lesson is clear: when the infrastructure of one company differs from that of another and you have the dominant infrastructure, you win. If you choose the wrong one, you lose, and you lose big. The Victor Talking Machine Company had the dominant infrastructure, and Edison lost.

The real use of the phonograph record, discovered after much trial and error, was to provide prerecorded music. Emile Berliner moved quickly to exploit this and his company rapidly picked up the dominant market share. His gramophone became the Victrola, manufactured by the Victor Talking Machine Company, later RCA Victor. Berliner and his successors rapidly established recording studios across the world and engaged the world's most famous musicians.

Edison decided that big-name, expensive artists were not different from lesser-known professionals. In this, he is probably **technically** correct. Edison thought he could save money with no sacrifice to quality by recording lesser-known artists. He was right—he saved a lot of money. The problem was, the public wanted to hear the big names, not the unknowns. As a Victor advertisement put it:

If you had your choice of attending two

concerts—the greatest artists in all the world appearing at one, some little-known artists at the other—which would you choose? You would quickly decide to hear the renowned artists who are famous for their superb interpretations. And this is exactly the reason why the Victrola is the instrument for your home. The world's greatest artists make records for the Victor exclusively.

Ah, if Edison had known some influence strategies, he would have realized that we are impressed by big names and famous people. A costly error!

Edison based his taste and his technology-centered logical analysis on the belief that the differences among musicians were not important. He thought customers only cared about the music. For several years, he didn't even list the performer's names on his records. He failed to understand that people wanted to hear the big names. It doesn't matter if others are just as good. It doesn't even matter if they are better—it's the name that matters.

Edison didn't understand that buyers are influenced by emotion. As those of you who have read the influence principles understand, most of our decisions are based on feeling and then justified by rationalization.

All of this would not have been as important

**“The lesson is clear - when the infrastructure of your company differs from that of another, and you have the dominant infrastructure, you win. If you choose the wrong one, you lose - and you lose big.”**

if it had not been for Edison's choice of vertical recording that was incompatible with the lateral recording machines most people owned. If Edison had used the same method of recording as his competitor, it wouldn't have mattered that the big names were on Victor records. People would have been able to buy Edison phonographs and play Victor records. But with a specialized, incompatible infrastructure, if customers wanted the famous musicians, they had to buy both the records and the phonographs from Victor. Eventually some companies did make instruments that could play both kinds of records, but by then, it was too late.

The Victor Talking Machine Company established its lead over Edison when it introduced the Victrola in 1907. This machine, with its amplifying horn concealed inside the cabinet, became so popular that “Victrola” became the generic term for any record player for the next 50 years, like the words Kleenex, Jell-o and Coke, which many people use for any facial tissue, gelatin, or soft drink. Again, understanding the desires of the customer, who was growing tired of the intrusive, ever-larger horn, allowed the Victor Talking Machine Company to maintain its dominance in the market.

Note the moral of this story, for it will apply over and over again in the high-tech marketplace. Know your customer. Being first,

being best, even being right do not matter; what matters is what the customers think. When a brilliant man like Thomas Edison, who was not totally without sales and marketing skills as we saw in the early parts of this article, fails and fails big-time, we should all learn from his experience.

What I see, across companies, especially in consulting with teams learning agile development methods, is that technical gurus are reluctant to go to the customer or the Product Champion [Rising03] for advice. Deciding on what features are to be included in the next release and what form those features should take—those are business decisions—not technical ones. Business decisions must be made with a clear understanding of the customer. It seems not even Edison understood that.

## References

[Norman99] Norman, D.A., *The Invisible Computer*, The MIT Press, 1999.

[Rising03] Rising, L., “The Product Champion,” *STQE*, May/June 2003, 44-48.

[www.lindarising.org](http://www.lindarising.org) - Click on Articles.

[Rising00] Rising, L., “Customer Interaction Patterns,” *Pattern Languages of Program Design 4*, Harrison, N.B., B. Foote, H. Rohnert, eds., Addison-Wesley, 2000, 585-609.

---

## Even in CS

*continued from page 1*

in the online extension of a leading journal (Communications of the ACM now offers a Virtual Extension consisting of on-line material). And it is quite clear in its findings:

**Papers presented at leading conferences match the impact of those published in mid-ranking journals, and further they exceed the impact of those published in lower-ranking journals.**

What is not stated in that summary of the paper, but is obviously true, is that publications in top-ranked journals are still considered to have more impact than those presented at top-ranked conferences.

And what that means to me, at least, is that the earlier research in which I put the weasel words is still for the most part valid. I based my study on top journals in the various computing fields, including CS, and since top journals – even in CS – have more impact than top conferences – my original assumption – and the related research findings - are not that far off.

Whew!

Note that this article contradicts the findings of another article we published in the July, 2010, issue of the Software Practitioner, where we reported on a study that found “Computer Science Conference Papers Have Higher Impact Than Top Journal Publications.” With successive findings contradicting each other, it's getting harder and harder to know what to believe!

## Information source:

“Relative Status of Journal and Conference Publications in Computer Science,” in the Virtual Extension section of Communications of the ACM, Nov., 2010; Jill Freyne, Lorcan Coyle, Barry Smyth, and Padraig Cunningham

## The Developer's Guide to Social Programming

by Mark D. Hawker  
Published by Addison-Wesley, 2011

Review (?) by Robert L. Glass

I wouldn't dream of trying to review a book with a title like "Brain Surgery Self-Taught." Or even one called "Rocket Science for the Student Rocket Scientist."

But a book with a title like this one? Yep, right up my alley, I thought.

Wrong! After scanning a few dozen pages of this book, I realized it was hopeless for me to even understand it, let alone review it. And that was a depressing thing to find out about myself.

After all, I've been a software developer for something onto 60 years, through applications as diverse as planetary aerospace travel and shop scheduling for manufacturing companies. How could diddling around with things like Facebook and Twitter be hard for me to understand?

Well, face the facts, Glass. This book was simply beyond your ken.

What I was looking for, in a book on a subject

area new to me, was the answer to these kinds of questions:

- What kinds of things does this book help me accomplish?
- Why do I want to accomplish those things?
- How can I go about accomplishing them?

The book's problem, from my point of view, was that it leaped into answering the third of my questions without ever taking a stab at the first two. I suppose that's simply a reflection of my massive ignorance in this subject area. The expected reader of this book, I now see, is someone who knows what's possible in linking application software to social website programs, and wants deeper insight into how to do those things. And I'm simply not ready for that.

I did understand the motivating stuff at the beginning of the book - "Facebook and Twitter have over 400 million active users" and "the Facebook Platform is integrated with over 250,000 websites and applications." I also understood the book's suggested audience - "beginner or intermediate developers who are

comfortable with..." followed by a list of about a dozen support tools. But I suppose it should have been a severe warning shot across my bow when I saw that I had no idea what any of those dozen tools was good for!

I finally gave up reading the book when I came across this sentence - "Twitter uses the UTF-8 character set." Now in my 60something years in the computing field, I've run across a lot of character sets, but this is one I've never - ever - heard of. "I give up," I thought to myself. "This book is not for me." \*

So if you're ever hankered to be a Social Programming developer, lots of luck. I have no idea whether this book will help you be one of those or not!

\* - Actually, UTF-8 is a multi-byte character encoding of the Unicode character set, upwardly compatible with the normal ASCII encoding. It is particularly used in most Linux environments. The Wikipedia information is accurate enough for an overview. (The other normal encoding of the Unicode character set is UTF-16, available in two flavours).

— Bill Medland, Associate Editor

## Management 3.0

By Jurgen Appelo  
Published by Addison-Wesley, 2011

Review/Preface by Robert C. Martin  
(Uncle Bob)

I hate management books. I do. People give them to me all the time saying: "You should read this one, it changed my life!" These books are all about 150 pages. They have 14 point type, double-spaced. They have lots of pictures. They have titles like: Open Locker Management, Management by not Managing, First Clean All The Glasses, Now Discover Your Knees, The Power of Positive Penalties, and Tnemeganam! They sit on my shelves. I sometimes read them in the John.

They all tell the same story. The author is always some guy who was running a company and failing horribly. When he reaches "bottom" (remember, I read them in the John) he has a critical insight that no human has ever had before. When he describes this idea to others, they think he's crazy; but he tries it anyway, and makes a \$1,000,000,000,000 (one trillion dollars—billions are so passé nowadays). And now, out of the goodness of his heart, he wants to share that idea with you (for a small fee) so that you can make your trillion.

These books are usually repetitive, simple-minded, and inane. They are written at a third-grade level for poor saps who think that one simple insight is all they need to fix their problems. These unfortunate dweebs hope, against all hope, that if they just read the latest blockbuster: Blue Pants Management, and then have everyone in the office wear blue pants on Thursdays, that their management problems will go away.

Like I said, I hate management books. So why am I writing the foreword to a management book? I am writing the foreword to this management book because this book has the word Eukaryotic in it! What does "Eukaryotic" mean? That's not important. The point is that this book has words in it

that have more than three syllables! This book talks about the Red Queen Race hypothesis. This book has depictions of tesseracts. This book talks about Drunkard's Walks. In short, this book is smart!

Just take a look at the table of contents. You'll see topics like Complex Systems Theory, Game Theory, Cybernetics, Self-Organization, and The Darkness Principle. You'll see that the author covers issues from team-size and motivation to scaling organizations up vs. scaling them out.

When you read this book you can tell that the author has done his homework. This is not just a simple-minded anecdote about how some old football player turned a department around. Rather, this book is a serious compilation of man-

agement ideas, techniques, and disciplines that have been accumulating for over a century. The author has taken these ideas and synthesized them with the Agile Software Development movement to form a memplex, an interconnected system of ideas that every student of management will want to absorb. This book is not written for those who want a quick fix. This book is written for serious students who have a passion and love for management. This book is written for management craftsmen.

Hyperlink for the book site is <http://www.management30.com/>; the book is part of the Mike Cohn signature series from A-W.

— Robert C. Martin

## Book Writes Email!

— Robert L. Glass

I recently bought some books from a book distribution company, sort of like Amazon, called Better World Books. (Their shipment costs to Australia are lower than Amazon's). Here's the email I received from them in response. It's ostensibly from my books, as they were prepared for shipment, to me. I love tongue-in-cheek humor!

Hello, Robert -

Holy canasta! It's me... it's me! I can't believe it is actually me! You could have picked any of over 2 million books but you picked me! I've got to get packed! How is the weather where you live? Will I need a dust jacket? I can't believe I'm leaving Mishawaka, Indiana already - the friendly people, the Hummer plant, the Linebacker Lounge - so many memories. I don't have much time to say goodbye to everyone, but it's time to see the world!

I can't wait to meet you! You sound like

such a well read person. Although, I have to say, it sure has taken you a while! I don't mean to sound ungrateful, but how would you like to spend five months sandwiched between Jane Eyre (drama queen) and Fundamentals of Thermodynamics (pyromaniac)? At least Jane was an upgrade from that stupid book on brewing beer. How many times did the ol' brewmaster have one too many and topple off our shelf at 2am?

I know the trip to meet you will be long and fraught with peril, but after the close calls I've had, I'm ready for anything (besides, some of my best friends are suspense novels). Just five months ago, I thought I was a goner. My owner was moving and couldn't take me with her. I was sure I was landfill bait until I ended up in a Better World Books book drive bin. Thanks to your socially conscious book shopping, I've found a new home. Even better, your book buying dollars are helping kids read from Brazil to Botswana.

## The Power of Positive Deviance

by Richard Pascale, Jerry Stermin,  
Monique Stermin  
Published by Harvard Business Press, 2010  
Review by Robert L. Glass

This is a very unusual book. It proposes a method of problem-solving that you may not like. And it has almost no direct relationship to software.

There – those are the negatives! From here on, this will largely be a positive review!

First of all, the subject of the book – Positive Deviance – is an approach to solving problems that seem intractable. The solution approach involves looking for outliers who have developed successful approaches, seemingly against all odds. It is decidedly a bottom-up approach, and involves a lot of process, involving identifying the problem and the environment in which it seems to thrive, figuring out how to identify those outliers, seeking what they do that is different, and moving those differences to the broader population as a solution approach.

The authors admit that Positive Deviance is “an awkward, oxymoronic term.” They freely discuss its inadequacies:

- “discoveries from one community cannot be repackaged and provided to another as a silver bullet”
- the approach is “slow and cumbersome”
- it is difficult to use such a bottom-up approach in traditionally top-down settings
- it is difficult to use when the community population is widely seen as ignorant
- “field workers must serve as catalysts, not as problem-solvers”
- “relevance is restricted and applications are

localized”

- “listening is more powerful than speaking” in seeking solutions

And yet the overall impact of the book is to provoke a strong feeling of success from the approach. This is accomplished primarily by case studies. Personalized and lengthy and fascinating case studies constitute the major content of the book. Each is written in the first person by one of the three authors (this is somewhat jarring, since one of the authors died while the book was being finalized) telling a story in which they were intimately involved. Nicely, each case study culminates in a “reflections” section in which the author reviews and summarizes what ground it has covered. And, in the end, the book is summarized in an Appendix that serves as a “Basic Field Guide to the Positive Deviance Approach.”

The method has been used worldwide, in 50 countries (in one place, the book curiously claims only “40 countries,” apparently implying that the book was put together over a lengthy period of time while the method was being applied). The case studies cover such disparate topics as nutrition problems, female circumcision, hospital infections, infant mortality, school dropout rates, pharmaceutical product sales, and even (to refute one of the reviewer’s opening statements about irrelevance to software!) Linux.

The authors note that the approach works best for problems that are “enmeshed in a complex social system,” “require social and behavioral change,” and “entail solutions that are rife with unintended and unforeseen circumstances.” To make matters more difficult,

those eagerly sought key people engaging in that Positive Deviation may not, in fact, be aware that they are doing so!

The bottom line? “The result of this process will be a community whose people will remark ‘we have done this ourselves.’” Ownership, in other words, is a built-in part of the process. And that’s a pretty potent bottom line.

## Patterns-Based Engineering

By Lee Ackerman and Celso Gonzalez  
Published by Addison-Wesley, 2011

Review by Robert L. Glass

I have to confess to some feelings of inadequacy in reviewing this book. I am a patterns enthusiast, but I am also not an experienced patterns user. And this is a book that delves deeply into the use of patterns on software projects.

It has, for example, an elaborate case study, and spends five chapters on how to use patterns on this case study project. And then it gets a bit esoteric on patterns, and discusses patterns for pattern-based projects (it calls these, perhaps not surprisingly, “meta-patterns”). In fact, much of the book is about these meta-patterns.

The book’s audience is software developers (including architects and designers), managers of projects and process, and analysts. Interestingly, it suggests different approaches to reading the book for each target audience.

The book is written by been-there, done-that authors, and has a ring of practicality to it.

## 97 Things Every Programmer Should Know

Edited by Kevin Henney  
Published by O’Reilly, 2010

Review by Robert L. Glass

This is a strange book. I really wanted to like it, because I like the title and the concept. But in the end, its strangeness overcame my desire, and I have to give it a big “ho, hum.”

The intent of the book is to deliver a set of maxims for programmers. Good concept, A+, in fact. All you need to do is organize it well, and you’ll get a good, useful, result, right?

But lots of things went wrong along the way. The maxims are organized by their title, for openers, and the titles have nothing to do with their content. Far better would have been to organize by subject! Then “Act with prudence” could perhaps have been under “Technical debt, paying it off,” and therefore under “T,” not “A.”

Then there’s the list of authors, at the end. It’s organized alphabetically by the author’s FIRST name!

It’s difficult to imagine a more useless pair of organizing schemas!

The authors themselves are something of another problem. I’ve never heard of most of them, even though the book’s subtitle calls

them “experts.” Perhaps that’s more about me than it is them, in that they all work in the PC world, not the more traditional worlds that I come from. But I do like the way some of those authors identify themselves, with a touch of humor, using such phrases as meme wrangler (what on earth is that?!), software simplist, dedicated computer geek, better software development evangelist, happy programmer, bibliophile and technophile, and panda wrangler. I may not know who most of these people are, but I do feel a sort of kinship with them!

And then there are the 97 things themselves. I can’t disagree with any of them, even the ones that contradict each other, but I can’t get excited about any of them, either. But my reaction is actually the same as that of the editor, who calls the collection “not so much a coordinated big picture, but a crowdsourced mosaic.”

There are some cute pithy quotes. Things like “a lie can travel halfway around the world while the truth is putting on its shoes,” and “the difference between theory and practice is greater in practice than it is in theory.”

On balance, I think you’ll have to judge this one by yourself. But it could have done with a whole lot better organizational scheme.

### IN MEMORIAM

Watts Humphrey, prominent in software engineering circles primarily for his work on the Software Engineering Institute’s Capability Maturity Model (CMM), died Oct. 28, 2010, at the age of 83.

He was an early employee of IBM, heading its OS360 operating system software project. He joined the SEI in the 1980s, becoming director of the CMM program in 1986. He was a fellow of both the SEI and the professional society ACM (2008). And he was the author of several books, on three primary topics... the CMM; software project management; and the TSP (Team Software Process) and PSP (Personal Software Process) topics (he was the original and primary contributor on the CMM, TSP, and PSP).

In 2003, he received the National Medal of Technology. A software quality institute in Chennai, India, is named after him. He received an honorary Doctor of Software Engineering from Embry Riddle University.

## Municipal IT the Focus of Code for America Program

There's a new US federal government program to help improve the Information Technology of municipalities across the country. "Code for America" is a new nonprofit organization that pairs IT professionals with municipalities. Funding of the program is from the cities themselves – Boston, Seattle, Philadelphia, and Washington DC each paid \$250,000 to apply and participate. (Boulder CO originally intended to participate, but local funding problems caused them to cancel).

There will be 20 fellows, chosen from 360 applicants, who will participate in the program. They will work from the program's San Francisco headquarters, spending February at the city for which they will be working.

In Boston, it will be a web platform for educational purposes. In DC, it will be to develop a manual telling others how to use the city's open data programs. In Philadelphia, it will be about neighborhood services. And in Seattle, it will be about neighborhood safety.

Many of the participants are leaving career jobs in the IT field to participate in the one-year program. They will receive a stipend of \$35,000 plus health-care and travel benefits.

### Information Source –

"Code for America Programmers to Work In City Governments," Government Technology, Nov. 3, 2010; Anidy Opsahl

## 8000 Miles Across Two Continents Without Drivers

Those driverless vans that headed off from Italy to China back in July have finally made it.

The four driverless vans made it for the full 8000 miles with virtually no human intervention, arriving to show off at the Shanghai World Expo in its closing days. To navigate, the vans used four solar-powered laser scanners and seven video cameras. The AP news story describing the trip said "the project used no maps," but it was not clear how the route was selected originally or how any route adjustments were made.

There were a few incidents along the way, like one van colliding with another when the first van stopped and the passengers failed to shut the automated system off. And for paying tolls and negotiating the Moscow, Russia, traffic jams, humans had to take over. But otherwise the crew on each of the vans consisted of a small number of passengers, but no drivers.

The average speed of the vans was 38 mph. Batteries required eight hours of recharging for every 2-3 hours of driving, hardly a testimonial for electric vehicles.

## Payroll Fiasco The End Is Finally In Sight

Remember that story about the troubled Health payroll system in Australia, the one whose story we told in the July-August (2010) issue of the Software Practitioner, the one where payroll checks were either wrong or not issued at all? Last we spoke about it, the problem had been going on for several months?

Well, it's far from over. In the latest chapter, a long-awaited analysis by Ernst and Young has finally been produced, and the solution is now in sight. Although "in sight" is something of an exaggeration.

According to the E&Y report, it will cost \$210 million and 18 more months to fix the problem. And that is, of course, on top of the original cost of the system, \$65 million. Note that the cost of the fix is three times the original cost of the system!

Let that be a lesson to all of us software practitioners. The problem came about, as we reported

here before, because the implementers of the new system decided it would cost too much to run the new system in parallel to the old one. The cost of that incredibly stupid decision in both dollars and political fallout has been HUGE!

The E&Y report made these recommendations:

1. Retain and repair the new system, don't discard it and try again.
2. Run parallel tests when the new system is ready for delivery (!)
3. Regionalize the system so that work can be done on localized versions (this will take an additional 12 months beyond the 18 months mentioned above)

Meanwhile, the regular payroll still is not happening correctly! The only good news in the report is that E&Y expects "most of the system's software defects to be rectified by June of 2011."



That's why Springboard is now featured on

# PARKards.com

Personalized  
And  
Realistic  
"Kards"  
for the REAL issues in life!

At PARKards.com, you can design and personalize a serious card that makes a real statement. Choose from a variety of artwork, including Springboard and the works of other talented artists. We'll mail them, with an optional monetary gift. Plus, a portion of the profits go to charity!

And no, they're not written by Springboard!



# Skydiving at 82

## Reliving the Journey: Reflections on our Skydive

To celebrate their 82nd birthday on October 24, 2010, LEO computer pioneer twins Frank and Ralph Land decided to try skydiving from 12000ft. and raise funds for Cancer Research. Frank's account of the event is found below

The morning of October 24th turned out to be a crisp autumn day, blue skies, a few puffs of cloud, and very little wind. Clearly the weather was not going to prevent us skydiving. We arrived at the skydive centre, a large flat field near Lewknor in Oxfordshire, England, at the appointed time of 10.30. We were signed in by the organisers, the London Parachute School, and briefed on what was going to happen. We were assigned to the 7th flight of the day (out of 14 that Sunday) which was expected to take place about 2 hours later. In the meantime we had the opportunity to watch other skydivers perform and to talk to them. Many were experienced, but there were also first timers like us. All those we talked to had enjoyed the experience and some were enthusiastic enough to want to have another go immediately - immensely confidence building. In addition there were no ambulances or pos-

“ There were no ambulances or posses of compensation lawyers visible ... the build up inspired absolute confidence”

ses of compensation lawyers visible.

We were to be given instructions and training just before our own flight by our dive partners. My own partner, Max, a professional skydiver, had performed nearly 2000 skydives, many of them tandem dives. The instructions were well thought out and thorough, so that we knew the equipment, its safety features, how it was deployed, and the positions we had to take up prior to the jump in the plane and then as we descended. We would be tightly strapped to our partners, facing front and with our backs almost in their lap. At the jump from a sitting position, we had to take up what they called a banana configuration - that is we had to arch our backs, heads up and feet tucked behind. Once again the build up inspired absolute confidence.

We would jump from 12000 feet, free fall for 5000 to 6000 feet at about 120 miles per hour, then our partner would open the parachute and we would float down controlling direction and speed of descent by pulling the parachute control cords. Although our partners had ultimate control we would be able to manoeuvre the parachute ourselves.

We had also requested a DVD of our descent. A photographer with camera would jump with us, just ahead of us and film our free fall.

Then suddenly it was our turn. The small plane took up a complement of eight people - the pair of us with our tandem partners, one photographer for each of us, and an instructor and his student doing her final solo jump before graduating as a certified skydiver. We sat on the floor at the back of the cabin tight against our partners. At 6000 feet the plane door was opened and the student jumped into the void.

The plane climbed up to 12000 feet and it was our turn. But before we jumped, all sang happy birthday for us. The drill was for the jumper to shuffle up to the open door, then

sit on the edge, with legs dangling out of the plane, and then to fall out. It was Ralph who went first. One moment he and his partner sat on the edge, the next he was pushed out and disappeared. He was preceded by his photographer who had hung on the edge of the plane. Then it was my turn. I had been slightly apprehensive, but not really nervous or frightened. There was a moment sitting with the ground 12000 feet below when I wondered what I was doing up there.. But in no time a push sent me and my partner into free fall. The first sensation is one of complete disorientation, but in a moment as I took up the classic dive position with arms outstretched that sensation passed. And the photographer is just below you gesturing and talking to you. 120 mph sounds frightening, but there is no sensation of speed or indeed of falling. The air rushes past you, but it is the air that is moving, not you. Free fall takes about 40 seconds, but before you know it the parachute opens and the rush of air stops. You float down gently, twisting and turning to manoeuvre to the landing site. Landing in tandem is often done sitting down on the ground. Our instructions were to lift our feet as we land, and this worked perfectly for me. But unfortunately, Ralph who had landed just ahead of me failed to lift his feet properly, and twisted an ankle. This turned out to be a break of his ankle when he went to his local A&E the following day. So he will be in plaster for the next 6 weeks.

Summing up: The experience was exciting, amazing and I would not hesitate doing it again, though it passed so quickly, that there was no time to feel the exhilaration that some find in the experience. I would not seek it out as something to be done again.

What of the age factor? Three observations:

1. It is difficult, if not impossible, to get special insurance for the jump past the age of 80.
2. At 82, and especially as 82 year old twins you attract a great deal of attention from the media and others.
3. There is nothing which makes a reasonably fit 82 year old unsuitable for the sport, except perhaps in a stiffening of joints which makes taking up the banana position and landing position slightly more difficult.

I would also like to pay tribute to the London Parachute School for the professional, caring and kindly way they dealt with a pair of 82 year old novices.

For us, despite the broken ankle it was a success, especially as we have now raised over £11,000 for Cancer Research UK.

— Frank Land, 27th October 2010

“ There was a moment sitting with the ground 12,000 feet below when I wondered what I was doing up there.”



## Dutch Treat Going Away!

Jurgen Appelo, whose column "Dutch Treat" has graced these humor pages for many moons now, is taking a break. In response to our request for a new column for this issue, he says:

"I'm afraid I have to take a time out for a while. Things are rapidly changing for me now that my book (Editor's Note - see the review of his book elsewhere in this issue) is nearly released. My mailbox is flooding with requests for contributions to conferences, websites and magazines. Out of necessity I must be much more selective now. My main focus is on developing courseware for next year. Writing articles has a lower priority.

I hope you understand. And I appreciate the chance you gave me to publish my writings in your newsletter. I might write some more later, but now I need to take care of my stress levels. :)

Cheers, Jurgen Appelo

## Web Humor

'A man walks into a bar with a roll of tarmac under his arm and says: "Pint please, and one for the road."'

**I'm on a whiskey diet. I've lost three days already.**

Doc, I can't stop singing the 'Green Green Grass of Home'. He said: 'That sounds like Tom Jones syndrome'. 'Is it common?' I asked. 'It's not unusual' he replied.

**Two aerials meet on a roof - fall in love - get married. The ceremony was rubbish - but the reception was brilliant.**

Police arrested two kids yesterday, one was drinking battery acid, the other was eating

fireworks. They charged one - and let the other one off.

**'I said to the Gym instructor "Can you teach me to do the splits?" He said, "How flexible are you?" I said, "I can't make Tuesdays"'**

'A young blonde woman is distraught because she fears her husband is having an affair, so she goes to a gun shop and buys a handgun. The next day she comes home to find her husband in bed with a beautiful redhead. She grabs the gun and holds it to her own head. The husband jumps out of bed, begging and pleading with her not to shoot herself. Hysterically the blonde responds to the husband, "Shut up...you're next!"'

**'Dyslexic man walks into a bra...'**

A woman gets on a bus with her baby. The bus driver says: 'Ugh, that's the ugliest baby I've ever seen!' The woman walks to the rear of the bus and sits down, fuming. She says to a man next to her: 'The driver just insulted me!' The man says: 'You go up there and tell him off. Go on, I'll hold your monkey for you.'

## Variable Combinatorics Seen as a Source of Software Bugs (?)

Robert L. Glass

There's a new approach to software bug detection, recently released by the National Institute of Standards and Technology (NIST), a highly reputable organization. But there's something about it that (er) bugs me!

The thrust of the approach is to help the programmer/tester find bugs that are about the interaction between several variables. That is, certain values of variables A, B, and C, for example, cause bugs that otherwise would not occur.

What bugs me about that is that I can't recall ever knowingly having such a problem. I am well aware that bugs may lurk in the combinatorics of several logic paths, of course and in fact I did some original research a few decades ago that showed that was a common problem in software development. But combinations of values of variables?

The NIST research has shown that 89-100% of such problems are caused by the interactions of no more than four variables, with as many as six causing such problems being very rare.

**"Certain values of A, B, and C, for example, cause bugs that would otherwise not occur"**

Is this a case of my being blinded to a problem I should have known about? Believing as I do in the work of NIST, that is quite possibly the case. But still ... Does any of this ring a bell with you, dear reader?

**Information Source -**

"New help on testing for common cause of software bugs," Government Computer News, Nov. 1, 2010; William Jackson

## Most Vacuous News Story of 2010

### All Headline and No News (Just Like the Texas Expression "All Hat and No Cattle")

This is the first annual Software Practitioner award for the most vacuous computing-based news story of the year. It results from the following story headline, from the online version of ComputerWorld, dated Dec. 17, 2010.

The headline reads "Biggest ERP Failures of 2010"

Now, you would imagine that the accompanying story would contain a number of sub-stories, each describing an ERP project

failure, right? No such luck! Instead, the accompanying (very short!) story is a philosophical examination of ERP failure and its causes, resulting primarily from an interview with the head of a consulting firm that works in the ERP installation field.

Not only were there no failure stories being told, but there was hardly anything new in the story itself. Which makes this whole thing an interesting exercise in a headline looking for a story to go with it!