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Scanners *Can* Be Trusted!

Results: Accuracy is better than hand scoring, especially in high-volume situations.

Larry Ganzell, Scantron Corporation

Editor's Note: The last issue of the DataBus featured an article by Skip Sharp regarding the reliability of optical scanning equipment. Mr. Ganzell presents a contrasting position regarding the reliability of optical scanning.

I read with interest Skip Sharp's article "**Can You Trust Your Scanner?**" that appeared in the July-August issue of "*The Databus*." While Scantron is not the vendor referenced in Mr. Sharp's article, I would like to respond on my company's behalf to several points he made.

We strongly disagree with Mr. Sharp's opinion that optical mark readers are "*a bit on the fragile, temperamental side and malfunction is not uncommon.*" Quite the contrary. If an OMR is regularly maintained by the operator and the vendor's field engineer, and if proper care is taken in marking, handling and processing the forms, an OMR most definitely can be trusted. This is not to say that OMRs are flawless, but they have proved time after time to be the best method for processing large numbers of scannable forms.

While the reflective read technology used by OMRs may not be perfect, it is far more accurate than hand scoring - especially in high-volume situations. In the instance cited by Mr. Sharp my guess is that his staff hand checked only a few of many thousands of forms. In order to have a valid comparison, however, they would have to hand score as many sheets as were fed through the OMR, and then compare accuracy. I'd be willing to bet the OMR would win.

At Scantron, we quote a "99.5% expected accuracy" to our customers. What this means is that 99.5% of all **marks** (*not documents*) will be read accurately by the Scantron OMR. The .5% error rate we anticipate is primarily influenced by factors totally out of our control such as incorrect use of the OMR, mark quality, pencil

(see "Scanners" on Page 12)

Publication Notice

The Conference Edition of *The DataBus* will be distributed at CEDPA's Fall Conference at the San Jose Red Lion Hotel. The next edition slated for mail distribution is the December-January, 1994, issue.

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CEDPA Information

CEDPA is an association of Educational Data Processing Professionals within the State of California. Founded in 1960, the major emphasis of the association's activities are directed towards improving Administrative Information Processing in public education within the State of California.

CEDPA is a California non-profit corporation, as recognized by the Internal Revenue Service.

As cited in CEDPA's bylaws, the purpose of this organization shall be:

(a) To provide information to the California public educational community concerning educational data processing via dissemination at an annual conference and through periodicals and special interest seminars.

(b) To foster the exchange of knowledge of educational data processing concepts, systems and experiences between educational data processing installations and other associations both at the state and national level.

(c) To inform the association membership of important information concerning educational data processing.

(d) To provide recommendations to the State Department of Education, State Legislature, school districts, County Offices of Education and other public educational organizations concerning educational data processing.

(e) To develop professional standards for the Educational Information Systems Community within the State of California.

Yearly membership in CEDPA is granted to attendees of the Association's annual conference. Individuals interested in the Association's mailings may request to be added to CEDPA's mailing list by writing to the address below.

The DataBus is published bimonthly by the California Educational Data Processing Association and is distributed without charge to all members of the association and to other selected individuals within the State of California that are interested in information systems processing in education. Correspondence and address changes should be sent to:

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The Many Faces of San Jose

City: CEDPA Conference site features items of interest for everyone.

Q: What do the Winchester Mystery House, the Rosicrucian Egyptian Museum and Planetarium, Great America and CEDPA have in common?

A: San Jose!

This northern California city, the 11th largest city in America, is home to the Winchester Mystery House, Sarah Winchester's 160-room whimsical mansion, built in its bizarre form to baffle the spirits of those gunned down by the Winchester rifle. This mansion contains a mere 160 rooms, 2,000 doors, 13 bathrooms, 10,000 windows, 47 fireplaces and 40 staircases, among other odd features.

San Jose is also known for its specialty museums. The Rosicrucian Museum contains the largest collection of Egyptian artifacts in the Western U.S. Its collection includes mummies, sculptures, jewelry, a replica of an Egyptian rock tomb, Babylonian and Assyrian artifacts. Another specialty museum is the new Children's Discovery Museum that provides a fascinating hands-on learning experience for kids of all ages.

For entertainment, there's the nearby Great America theme park, Raging Waters, and the roller coaster and boardwalk of Santa Cruz a beautiful 30-minute drive away. And for those who simply can't resist the urge to shop, the San Jose Flea Market features thousands of booths and 35 restaurants covering 120 acres.

San Jose is also the location of CEDPA's 33rd annual conference. Conference announcements were mailed out several weeks ago. If you haven't received yours or are in need of extra copies for your staff or professional acquaintances, please contact Jane Kauble at (310) 922-6141, or Addison Ching at (714) 556-3233. Registration forms for the conference and hotel reservations are included in this issue and may be duplicated.

This year's conference will be held on October 20-22 and promises to be one of the most important conferences in recent history of the organization. Downsizing, client-server computing, the Internet, CSIS, and CENet are issues that will be discussed at the conference and affect every county and local agency MIS department in the state. Don't miss the important messages the major speakers have to share. And be sure to catch the latest in product and service offerings at the Thursday vendor show.

Up to date speaker information can be found elsewhere in this issue in Phil Branstetter's column. Ken Jones, vendor exhibit chair, also gives a report on the progress of the vendor show.

Discounted airfares on various airlines serving San Jose are available from most major airports including Los Angeles, Orange County, Ontario, Burbank and San Diego. Check on availability and restrictions for the most favorable rates. Also, the Red Lion Hotel is providing CEDPA attendees with a preferred rate of \$90 per room night for up to four attendees per room.

Don't hesitate! Send in your conference and hotel registration forms today to ensure your participation in this important event, the 1993 CEDPA Conference.

Fall Speaker Update

Phil Branstetter
Riverside County Office of Education

The 1993 CEDPA conference speaker program features presentations targeted at key issues facing our membership today. Technology as an industry typically has product life-cycles measured in months with change ever present and rapid. The conference program was conceived with a focus toward arming CEDPA members with information about such key issues as the Internet, client-server computing, help desks and support strategies, imaging, and several technology-related projects the California Department of Education is involved with.

Our featured speakers Dr. Harry Weinberg ("Creative Leadership"), Louise Kirkbride ("The Changing Role of Support"), and Mike Bookey ("The Power of Technology to Transform Public Education") highlight a strong speaker program. This year's conference also includes a new twist to the program by holding "roundtable" breakout sessions where members can both listen and participate in discussions about relevant and specific topics affecting their operations. Last year's panel discussion on Friday morning was a large success so this year we have continued the concept with an expert panel discussion of client-server computing.

There are a number of presentations being provided by speakers who do not come from the field of education

(See "Speaker Update" on Page 6)

IS departments should give themselves an image makeover

I'm beginning to think the real meaning of IS is not information services but "intergalactic scapegoat." It has become quite fashionable to loathe the IS department and blame corporate ills on the computer department.

In fact, I saw the slogan on a refrigerator magnet: "It is company policy to blame the computer."

Great Scott! Now we can remind people that IS is a scapegoat as they go to their refrigerators for orange juice. There, stuck on the door, Joe Average User sees one of those magnets telling him computers cause his company problems. In public relations talk, we have an image problem.

Regular readers of this space know that Currid isn't reluctant to point out the problems of IS. Over the years, I've accused IS practitioners of everything from being asleep at the switch to zapping the creativity out of computer programmers with meaningless methodologies.

But enough is enough. The corporate perception is that IS stinks. It is time for a major overhaul in IS PR.

After all, correctly deployed information technology is critical. As we move toward a more knowledge-based business world, corporations that really use information as a competitive weapon will emerge. In fact, some already have.

But that won't happen if the corporate citizens and their IS support groups don't work together. Everybody fails if IS is considered "F Troop" and conceived as goofy techno-nerds incapable of getting anything right. IS must be perceived (and become) a strategic part of the company success plan.

So, what's the cure? Well, I've been making a list. Now, instead of condemning IS for what's wrong, I'll focus on the ways to things right—from A to Z. Here's a few samples from my A list.

- Abandon and annihilate anything that slows you down. Get rid of all practices that don't add value. Take a look at how much time status reports and time logs are taking, then take a second look to see if they are really adding value to the company. If they don't, stop them immediately.

- Abolish the word *no*. Never tell a user no. If somebody has a business need that information can solve, find a way to get it done. That doesn't mean working all day and night producing the company soccer team scoring report. But it does mean finding a way, through internal or external resources, to help people get their jobs done. It also means that somebody (probably the user) is going to have to find the budget funds to get it done.

- Accelerate application development. Find tools and technologies that let you get applications up and running fast. There's no excuse for multiyear backlogs.

- Accept the fact that users are grown-ups. Most corporations don't employ kids, so IS shouldn't treat users that way. Make sure you treat them with respect for what they know. True, users might not know what gets loaded with every line of their CONFIG.SYS files, but you probably don't know how their pumps work in the manufacturing plant, either.

- Advance the state of the art. All companies, even leading edge ones, have the skeletal remains of business

Users might not know what gets loaded with every line of their configurations files, but you probably don't know how their pumps work in the manufacturing plant, either.

practices born in another era, Information technology can renew the whole business process. Make sure IS knows what tools are available to help.

- Align with business goals. Remember, business first, technical convenience second. Make sure IS is focused on supporting the business of doing business. If that means sacrificing some technical convenience, then be prepared to do so. (Don't roll over completely on this. If a project with a \$50,000 business benefit will cost \$500,000 to implement, then alert management of the cost and consequences.)

- Admit when you are wrong. It is hard for someone (even end users) to scream at you if you admit when you

(see "Image Makeover" on Page 12)

New Internet Interface Eases Educator Access to Global Communications

Software: New Macintosh and PC GUI programs, to be demonstrated at the Fall CEDPA Conference, simplify access to curriculum materials on the Internet

Keith Vogt, Director, California Technology Project
Internet: kvogt@ctp.org



SEAL BEACH, California – **The GUIDE**[®], a new low-cost software application developed by the California Technology Project, provides educators with a user-friendly interface to the Internet, a worldwide information highway that offers access to thousands of resources.

The GUIDE (Graphical User Interface Designed for Education) is a point-and-click application that simplifies teacher access to a wide array of curriculum materials and encourages communication with other teachers through electronic mail and conferencing/bulletin boards. Students can use **The GUIDE** to engage in electronic conversations and to reach on-line databases and current news.

Available in both Windows and Macintosh versions, **The GUIDE** uses the same toolbar, menus and interface components for e-mail, bulletin board and conferencing functions. Because **The GUIDE** requires no memorization of complicated instructions or commands, it is easy to learn for students and teachers. All of the required drivers and software are included, along with a simple installation/configuration tool to minimize the problems often associated with establishing network connectivity.

“The California Technology Project was established to create a unifying force between K-12 educators and the university community in California,” explained Keith Vogt, executive director. “With the introduction of **The GUIDE**, we are providing a new level of service to educators in California that we are pleased to make available to educators nationwide.”

The GUIDE consists of a single application program that provides access to POP/SMTP electronic mail, NNTP-based NetNews services and a wide range of connections mediated by Gopher, such as Telnet, file transfer protocol, TN3270, CSO directories and WAIS-indexed searching.

Given the present scarcity of direct Internet connec-

tions in the K-12 arena, **The GUIDE** is optimized for dial-up usage through SLIP. The SLIP software is an integral component of the package rather than an add-on as with other Internet tools. The program also supports direct connections to the Internet using such common systems as Ethernet and LocalTalk where available.

Cost for **The GUIDE** is \$40 annually plus \$5 for tax, shipping and handling. It will be available for shipping in August, 1993.

Hardware requirements for the Macintosh version include a 68000 processor or better with a minimum of 4 Mb memory and System 7.0 or later. For the Windows version, **The GUIDE** requires a 386 processor or better with a minimum of 4 Mb memory and Windows 3.1 or later. Both versions require a hard disk with a minimum of 5 Mb free space, either a 9600 BPS V.32 or better modem for dial-up access or an Internet connection for direct network access.

The California Technology Project offers full network dial-up and central support services to all authorized users and support staff are available to assist schools and districts in establishing their own **GUIDE** servers. These servers are based on a Unix platform, running standard TCP/IP software. A software-only version of **The GUIDE** server is available for Sun computers, and a complete 486-based software/hardware package will be available for purchase separately.

Established in 1989, the California Technology Project is a cooperative venture of the California State University system and the California Department of Education. Assisting with the development of **The GUIDE** were Microsoft Consulting Services, the University of Minnesota and Adobe Systems Inc.

For more information, or to place an order for a copy of **The GUIDE**, write to the California Technology Project at P.O. Box 3842, Dept. PRG, Seal Beach, California, 90740-7842, or call (310) 985-9631. E-mail messages can be left at kvogt@ctp.org.

SISNET Update

The GUIDE[®], CSIS and MTV: San Diego meeting provides new job knowledge.

Greg Lindner, Yolo County Office of Education

The last **SISNET** meeting was held August 16, 1993, at the San Diego County Office of Education. Fourteen people attended and we all came away with new knowledge we can use in our jobs. Keith Vogt of the California Technology Project (*kvogt@ctp.org*) spoke first about the **GUIDE[®]**. Harry Bloom then gave an overview and update on the CSIS project (California Student Information System). After lunch, we took a tour of SDCOE's version of MTV (Mobile Technology Vehicle). All in all it was a very productive meeting.

Keith started the meeting with a demonstration of the **GUIDE[®]**. This is a software program that provides a graphical user interface to the Internet. For anyone that has used the Internet, you know it is not very easy to get around until you have used it for quite some time. For those of us that have trouble learning new languages (Internetease), the **GUIDE[®]** will be a great benefit. While the **GUIDE[®]** is still in development, it is already evident this will make the Internet accessible to thousands of people that would otherwise not use it or who have used it but not to its full capacity because of the interface. I can not say enough about this product - I think it will truly allow everyone (Educators, Administrators, Students, Businesses etc.) a much easier method to access the Internet and share information. Be sure to look for upcoming demonstrations of the **GUIDE[®]** - you won't want to miss it. For more information about the **GUIDE[®]**, you can write to: California Technology Project, P.O. Box 3842, Seal Beach, CA 90740-7842 or call (310) 985-9631.

Harry followed Keith and gave an update on the CSIS project. This project is gaining momentum and is making a lot of progress toward its goals. Another update on this project will be given at the CEDPA Conference in San Jose, October 20-22.

After lunch, we all went outside and toured SDCOE's Mobile Technology Vehicle. You may recall that this will be one of the sessions at the conference - "*How to Equip and Operate a Mobile Technology Vehicle for \$771.00*". I told Harry on Monday that when I first read the title I thought we were going to see a small van with maybe 1 or 2 computers in it. Well - I was wrong! You simply will not believe what SDCOE has done with such a small amount of money. Any District or County that covers a wide area would benefit from such a vehicle for training.

Speaker Update

(Continued from Page 3)

but rather were invited for their expertise and experience with specific areas of technology. For example, we were seeking a presentation (or several presentations) on imaging and discovered Diana Neff who works for the city of Palo Alto and has strong experience in optical imaging applications. We also have breakout presentations on client-server computing from a real world standpoint.

Another key area of focus is the Internet. The Internet is being considered as a vehicle for many state and national projects (including CSIS and state financial reporting) which will affect the educational information community. At the same time many of us do not have a good understanding of what the Internet is, how to become a user, or how to access applications available through the Internet. We have five presentations approaching various aspects of the Internet from simply "what is Internet" to advanced uses and capabilities—including how to create applications and give access using the Internet as a communications medium.

I'm trying to talk them into driving the vehicle up for the conference to show it off - maybe if they got a few phone calls they might just do it.....

The meeting concluded after some discussions on Help Desk Software, Electronic Mail and Imaging (archiving student records). There is quite a bit of interest in the area of Imaging Student Records but the consensus was that most people are looking at doing something but haven't really gotten into it too deeply yet. This will be a topic at our next meeting which will be at the CEDPA Conference in San Jose, October 20-22. Current agenda items for that meeting are:

- Mobile Technology Vehicle;
- SISNET Checklist/Guidelines on how to do _____ (i.e. - SISNET Checklist of things to think of when implementing *SASI*[®] the first time);
- Death of Minimum Day Attendance (or will it be Friday the Thirteenth part 9 - Min. Day Att. Returns!);
- Imaging Project - Partnerships with Business;
- CSIS Update (standard agenda item); and
- Upcoming/Current Legislation (standard agenda item).

I want to thank Harry Bloom for his assistance in setting up and hosting this meeting - the meeting would not have been successful without his help. See you all in October at the Conference!

How To Increase Your Work Force For Free

Staff: College students work in a variety of positions for job experience.

Skip Sharp, San Diego County Office of Education

We've been using college students to augment our staff for quite some time and we have been very pleased with the results. Our experience has been that they work hard, are willing to learn, and have a genuine enthusiasm for their work. They bring new ideas and an outside perspective to our office that really benefits our permanent employees.

The students that come to us work in a variety of positions ranging from computer operator to programmer, depending on both their individual interests and our needs at the time. While we have had students working in computer operations for quite some time, it has been only fairly recently that we have been using them in the more technically demanding positions like programming and networking. The interesting part is that in the latter positions, we offer no pay!

Why would a seemingly bright college student want to work for no pay? The answer to that question needs to be viewed from two perspectives. First from the students view point there is a lot to be gained. Remember when you first looked for a job and you were asked what experience you had? You probably said to yourself "how can I get experience when I can't get a job?". We've solved that problem in that we provide a job; it's just not with formal pay. When our students leave here however, we send them out with a very positive letter of recommendation, detailing what they have accomplished while working with us. We also take them beyond classroom theory and give them a touch of the 'real world' work place. They can also honestly say that they do have job experience. In the tough employment market of today, that job experience on the resume can be far more valuable than actual pay. As our students leave, we also give them practice in how to effectively interview for the position they are seeking. Most of the schools with whom we work also give course credit to their students who work with us.

Seem a bit one sided? Not so. From our perspective, in addition to getting some 'free labor', we get an opportunity to take a look at potential employees. Normally we don't offer a student a permanent full time position right after being an intern, and to do so would be misleading to the student. While they are with us, we want the students to learn a skill and be productive in the process, not

campaign for a job. We also want to make sure that the students are not perceived as a threat from our permanent staff. But people come and go, and as positions become available, to know the work habits and potential worth of a possible applicant is of great value to us.

If you are interested in trying student workers, here are some tips and things to watch out for based on what we've learned from the process.

First and most important is to make good contacts with the colleges or universities in your area. In our case, we work with several. Try to get in touch with a faculty member who is genuinely interested in a work-study program. Take the time to thoroughly explain what your program is about, and make sure that there is no confusion about either your requirements and expectations or those of the schools. If the student is to receive credit for his/her work experience, make sure your role in either providing the actual grade, or input to the grade, is clearly understood.

Interview the students before accepting them into your work place. We have asked the colleges to send us good, serious students who are willing to work hard, not necessarily the 'A' student who breezes through school with little effort. For the most part the colleges do a good job of screening, but we like the idea of having the final approval ourselves. We also want students who are doing well in a course of study relevant to our line of work, such as computer science, information systems and the like.

Set reasonable expectations and explain them to the students. Remember that for the most part you are dealing with neophytes. You can not expect them to perform miracles right from day one. Give them goals/tasks that they can accomplish, yet will challenge them. Spend appropriate time with them to review their work. Make sure that they are progressing and not spinning their wheels in futility on any one task. Treat them as you treat your own employees, and give them some tasks that involve teamwork. We like to explain to our students that being able to get along with fellow employees is vital to being successful in the work place. To that end, take the time to explain to your permanent employees what is going on and encourage them to be a part of the student's

(see "Work Force" on Page 11)

The White House Is Internetworked

Connectivity: White House E-mail boxes a first step towards an interconnected nation.

Carole Teach, California Department of Education

Internet: cteach@mail.barnet.net

The White House announced in June that it was moving into the age of electronic communication by connecting to the Internet and establishing E-mail addresses for President Clinton and Vice-President Gore.

This move illustrates the importance the Administration places on the use of technology as an information distribution medium. The development of CENet, California education's electronic highway for information exchange, is consistent with this vision and will achieve many of the same objectives set forth by President Clinton.

The following is the text of the White House press release.

THE WHITE HOUSE

Office of Presidential Correspondence

LETTER FROM THE PRESIDENT AND VICE
PRESIDENT

IN ANNOUNCEMENT OF WHITE HOUSE
ELECTRONIC MAIL ACCESS

June 1, 1993

Dear Friends:

Part of our commitment to change is to keep the White House in step with today's changing technology. As we move ahead into the twenty-first century, we must have a government that can show the way and lead by example. Today, we are pleased to announce that for the first time in history, the White House will be connected to you via electronic mail. Electronic mail will bring the Presidency and this Administration closer and make it more accessible to the people.

The White House will be connected to the Internet as well as several on-line commercial vendors, thus making us more accessible and more in touch with people across this country. We will not be alone in this venture. Congress is also getting involved, and an exciting announcement regarding electronic mail is expected to come from the House of Representatives tomorrow.

Various government agencies also will be taking part

in the near future. Americans Communicating Electronically is a project developed by several governmental agencies to coordinate and improve access to the nation's educational and information assets and resources. This will be done through interactive communications such as electronic mail, and brought to people who do not have ready access to a computer.

However, we must be realistic about the limitations and expectations of the White House electronic mail system. This experiment is the first-ever e-mail project done on such a large scale. As we work to reinvent government and streamline our processes, the e-mail project can help to put us on the leading edge of progress.

Initially, your e-mail message will be read and receipt immediately acknowledged. A careful count will be taken on the number received as well as the subject of each message. However, the White House is not yet capable of sending back a tailored response via electronic mail. We are hoping this will happen by the end of the year.

A number of response-based programs which allow technology to help us read your message more effectively, and eventually respond to you electronically in a timely fashion will be tried out as well. These programs will change periodically as we experiment with the best way to handle electronic mail from the public. Since this has never been tried before, it is important to allow for some flexibility in the system in these first stages. We welcome your suggestions.

This is an historic moment in the White House and we look forward to your participation and enthusiasm for this milestone event. We eagerly anticipate the day when electronic mail from the public is an integral and normal part of the White House communications system.

President Clinton
PRESIDENT@WHITEHOUSE.GOV

Vice President Gore
VICE.PRESIDENT@WHITEHOUSE.GOV

Carole Teach is Manager, Office of the CENet.

INCRIMINATING DATA

Lawyers are using evidence that's uncovered by computer detectives to incriminate companies in civil suits. What follows are some defensive measures that can minimize your company's litigation liabilities.

While you are reading this, your employees may be innocently entering data into computers that could be used against you in a court of law.

Whether they are sending electronic mail (E-Mail), commenting on another employee's performance, planning strategies against competitors, or even just sending love notes, these employees may be unwittingly damaging your company in future litigation.

Indeed, while attorneys have historically used paper evidence unearthed during discovery proceedings to skewer companies in civil cases, they are increasingly turning to electronic evidence found in computers to accomplish the same ends.

"Computer systems contain the new motherlode of evidence because companies do not understand how dangerous they can be and how to protect themselves from the data in them," says Seattle computer detective John Jessen.

Jessen ought to know. As managing director of Electronic Evidence Discovery, Jessen and his staff have helped trial lawyers in Chicago, Toronto, San Francisco, Salt Lake City, New York, Los Angeles, Houston, and Seattle discover evidence for their cases. He has been so successful, in fact, that the *American Bar Association Journal* calls him the "best of the breed" of computer sleuths.

Jessen says that the companies should be keenly concerned about electronic evidence because even deleted or erased data is retained within computer systems or their backup systems.

Not long ago, Jessen was hired by a Seattle attorney to investigate what seemed to be a long-shot discrimination case filed by a woman against a former employer. The company's termination letter was picture perfect by Human Resources standards; it said she was a wonderful employee who was being laid off for financial reasons only.

Enter Jessen. After two hours of examining the firm's computer system, Jessen had found a purportedly deleted

E-Mail message from the company's president to the head of the personnel department. "Get rid of that tight-assed bitch," it read. Presented with the E-Mail, the company's attorney, who viewed the case as a nuisance suit, agreed to a \$250,000 settlement within an hour.

In another case involving an accountant who erased a portion of a company's computerized bookkeeping records, Jessen chose not to resurrect the data. Instead, he took a photograph of the hard drive that clearly showed where large portions of data had been erased. When opposing counsel saw the photograph, which showed their client to be lying, they quickly agreed to settle the case.

Ironically, electronic evidence can be far more damaging than paper evidence. As every veteran trial attorney knows, opponents often can simply destroy incriminating evidence. But computers often retain not only erased documents but draft versions of what may eventually become a single discovered paper document.

"Official paper documents are becoming less and less valuable to trial attorneys. They know that with electronic evidence they can argue that the underlying first, second, or third versions, stored in the computer, reflect the authors' original thoughts because the truth hasn't been crafted out of them," Jessen says.

"And E-Mail is a dangerous time bomb in every corporation that uses it because trial lawyers can argue that more than any other kind of written communication, E-Mails reflect the real, unedited thoughts of the writers."

If there is any good news in all of this for litigation-battered American companies, it's that companies can do a lot to minimize the litigation liability of data in their computer systems.

Jessen's five-year-old company originally served only trial lawyers but today it is increasingly helping corporations of all sizes prepare their computer systems for investigations during litigation.

"We look at how data is being handled and develop
(see "Incriminating Data" on Page 10)

Incriminating Data

(Continued from Page 9)

systems and policies and procedures for reducing our clients' litigation liabilities," says Jessen.

"Passwords, making backups, locking doors—they are all fine security measures that are commonly used by most computer professionals," Jessen says. "But all they really do is allow potentially damaging data to accumulate."

Jessen says that companies must ask themselves, "Is the data information that should be lying around in the first place—does it really have business value or are you keeping it just for the sake of keeping it?"

It is also imperative that businesses establish firm policies on how employees use the computer system, Jessen says. So-called humorous E-Mails with sexual overtones can become critical evidence in sexual harassment cases. Jokes about competitors can become evidence of unfair competition. Indeed, the possibilities are endless.

During a presentation to a law firm not long ago, a partner challenged Jessen's claim that he could find potentially damaging information, even if already erased, in virtually any computer system. Put on the spot, Jessen sat down at a computer and within minutes had discovered an erased love letter to a former office manager from the attorney who had challenged him.

"The most important thing is to educate your people," Jessen says. "The easiest thing to do is to tell people using E-Mail or other electronic functions, such as word processing, that somebody is going to see their work, that they have no privacy rights on the company's system."

It is also critical that a company's written policies regarding E-Mail and electronic data files be developed as if they are litigation liability policies rather than physical security policies. "Protecting electronic data from prying eyes is one thing," Jessen says. "Minimizing the company's litigation liability through proactive measures is another."

Jessen says these policies and procedures need to be developed by in-house counsel in conjunction with firms like his own that understand litigation liability issues. To place this responsibility in the hands of computer people is to misinterpret the nature of the potential liability.

"These are not computer issues, they are legal issues. Computer people have no idea what constitutes legal liability," Jessen says.

While companies need to tailor policies and proce-

dures to their business information needs, they might consider developing policies about how long data will be retained, whether to retain drafts of documents and whether to back-up E-Mail systems. Jessen also cautioned against adopting policies and then failing to make sure they are followed.

It is important that the policies be developed before specific lawsuits are even anticipated. "Judges tend to frown upon policies instituted just before a case is filed, particularly if those policies miraculously direct employees to erase old backup systems that might contain damaging evidence," Jessen says.

The first step computer sleuths take in investigating a company's computer system is to determine what kind of information it should contain. If there is a policy against retaining files for more than six months, it is appropriate that such files have been erased. But sudden erasure without policy looks suspicious, and judges tend to frown upon policies that were in place but unenforced until a case is filed.

Ellen Wright is a Los Angeles-based free-lance writer who specializes in business and computers.

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COMING EVENTS

- Annual Conference
October 20-22, 1993
Red Lion Hotel, San Jose

FUTURE CONFERENCES

- 1994 (South)
October 19-21, 1994
Sheraton Hotel, Long Beach
- 1995 (North)
November 1-3, 1995
Fairmont Hotel, San Jose
- 1996 (South)
October 16-18, 1996
Burbank Airport Hilton and
Convention Center

Exhibits Update

Preview: Program continuing to come together nicely.

Ken Jones, Elk Grove Unified School District

Vendors continue to sign up for the vendor show this fall. In addition to the vendors discussed in the last *DataBus* article, we will be seeing first time vendor and mail order giant **Dell Computers** at this year's show. Dell brings it's full line of personal and lap top computers at excellent prices for us to review. Mail order computer sales have been booming and Dell is on the cutting edge. We look forward to viewing Dell's line of computers as well as talking to their representatives who can brief us on Dell's future products.

Datasys Corporation will be opening its first California office in the East Bay Area. They deal in the purchase and sale of used Hewlett Packard equipment. They will be demonstrating the benefits of purchasing "previously owned" and the benefits of trading in your old equipment with them.

Century Consultants will be showing their full line of School Administrative software written for the Oracle RDBMS using client/server technology. I know that I am looking forward to seeing how this state-of-the-art information system is put together.

Mini-Graphics Systems will be showing their complete line of imaging systems. They are an imaging reseller/systems integrator offering complete hardware and software solutions to reduce the ton of paper we all deal with but more importantly giving us the opportunity to index and retrieve the data much more quickly and efficiently. The prices of this type of solution have been plummeting - this is really something worth looking into.

National Computer Systems and **Scantron** will be demonstrating their hardware and software solutions to scanning and testing - but in addition will be sponsoring hospitality suites as well. This should be great fun following the vendor show.

There are still booths available for this year's show. If you have a favorite vendor who would benefit from the excellent exposure that the CEDPA conference offers, please don't hesitate to have them give me a call at (916) 686-7797 extension 609. See you in October!

Work Force

(continued from Page 7)

learning process. It's also a good idea to explain to bargaining unit representatives about any work study program, so that there is no perception that it is a job replacement program!

There are some things that you should watch out for. Make sure that you don't overwhelm the students. The work place may be a totally new environment for some of them and you want them to quickly gain a sense of confidence and worth. You must also remind yourself that no matter how productive a student might seem, he is still just that- a student. Remember that his responsibility is to graduate, so don't make your demands so time consuming that they are counterproductive to the educational process. Give them time to study. Take the time to ask your students, or the appropriate faculty advisor, how the student is doing in school.

A work study program is a two way street, and your expertise and guidance is one of the reasons that a student is there in the first place. Be prepared to spend suitable time in training the student. Share your expertise, but don't be too impatient if every student can't proceed at your rocket pace. Some take longer than others to catch on, but sooner or later most do. Occasionally though, you will run into a student who for whatever reason should not be in a work study program. Some find that they are not ready for the work place yet, while others don't realize that cutting class and cutting work bring significantly different consequences. If it appears that things are just not going to work out, don't waste your time or the student's. Let the college know as soon as possible that you wish to discontinue the student and your reasons. Such situations though are the exception rather than the rule.

Our experience with students at our facility has been excellent, and our recommendation to you would be - give it that old college try!

Plagued by
Carpal Tunnel Syndrome?

Give your wrist a rest!

Come to the

Fall CEDPA Conference

October 20-22, 1993

San Jose Red Lion Hotel

Image Makeover

(continued from Page 4)

or your department has goofed. Figure out your mistakes, apologize for them, fix them, and don't make the same one twice.

The point is, let's get both the perception and the practices of IS up to snuff. And let's get rid of the reason for refrigerator magnets that scoff at company computers and those who promote them.

Cheryl Currid, president of Houston-based Currid & Co., focuses on helping clients assess, apply, and organize for the new information technology. Her CompuServe address is: 75300,2660.

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Scanners

(continued from Page 1)

lead quality, document cutting and lack of maintenance.

The biggest problem associated with scanning errors was nicely identified in the article's subhead which read, **"Results: Accuracy is only as good as the quality of marked input documents."** Unfortunately, little can be done to control the care taken by respondents when they complete a test answer sheet, a grade form or a daily attendance document. This is no different than the "garbage in - garbage out" theory you hear in reference to computer databases.

Mr. Sharp's suggestion that OMR users validate their data by implementing extensive quality assurance and control measures is an excellent one. If you will follow his recommendation, I'm certain you will agree that your OMRs can, indeed, be trusted.

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