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### Law Office Technology

\*26 Y2K: BEEN THERE, DONE THAT, BUT THE T-SHIRT DIDN'T PRINT OUT [\[FN1\]](#)

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Next year's bar examination has been leaked. Here is one of the questions:

O. Julius Bananaberry was president, general manager, and sole stockholder of the Groovy Mood Ring Company, Inc. By 1998, the Groovy Mood Ring Company (like mood rings in general) had seen better days. The aging workforce was quickly approaching retirement age. As experienced workers left, Mr. Bananaberry found them difficult to replace.

One day at Saxon Heights Country Club, Mr. Bananaberry met Will Robinson. Mr. Robinson was an up-and-coming robotics engineer and computer programmer. Mr. Robinson convinced Mr. Bananaberry that the Groovy Mood Ring operation could be automated. After considerable study and discussion, Mr. Bananaberry and Mr. Robinson reached an agreement. Mr. Robinson would provide new computers and machines. He would do all necessary programming. The upgrade was completed on June 2, 1998. By the end of the year, all of the employees had retired and Mr. Bananaberry was running the operation alone.

On Monday, January 3, 2000, Mr. Bananaberry came into his office. There-- manufactured, packaged, and ready for shipment--were fifty-two million mood rings. Mr. Bananaberry looked into the factory. He saw that something had gone terribly wrong. Many machines were broken. The remaining machines were running wildly out of control. He looked into the storage room which had once contained an ample supply of phlogiston, the active component of mood rings. Not only was the storage room empty, but where there had once been a floor, there was now a ten-foot-deep hole in which a robot was still desperately seeking phlogiston.

Mr. Bananaberry fainted. While he was unconscious, a UPS deliveryman arrived and dutifully loaded the packages into his truck and left.

When he awoke, Mr. Bananaberry called Mr. Robinson to tell him what was happening. Mr. Robinson hurried to the factory. He shut down the operation. After several hours of working on the main computer system, he identified the problem.

The computer that ran the automated manufacturing operation used data and computer instructions from the old system program. Thus, there was continuity between the old system and the new one. The old program, written in COBOL by Zachary Smith over thirty years earlier, used a two digit code for the year. When 1999 became 2000, the computer thought it was 1900. The computer then instructed the robots to make all the mood rings for which orders had been placed. It had essentially filled every order that the Groovy Mood Ring Company had taken since July 13, 1966.

In no instance were serviceable mood rings shipped in response to an outstanding order. The orders were executed in chronological order. The first rings manufactured were shipped to fill orders from the sixties and seventies. Most recipients were no longer in business, and those few that remained had no need for mood rings. As the robots ran out of phlogiston, they used cement from the floor and, after that was exhausted, the dirt beneath the floor. Dirt and

cement do not make functional mood rings. Shipments to businesses no longer in existence were returned. Mr. Bananaberry had to field calls from current customers who received shipment of the substandard mood rings.

You represent Mr. Bananaberry. Identify and discuss all causes of action which Mr. Bananaberry may have.

At Gary Eubanks and Associates we have relied heavily on our computer network for about a decade. We now have about fifty computers and other devices in three cities linked to a common network. It is difficult for me to remember how we ever practiced law without a computer network.

Last year we did an inventory of our computer system with an eye toward the "Y2K" problem. Certainly by now everyone has a basic understanding of the Y2K or "Millennium Bug" problem. The Y2K bug is the most notorious, and probably the most serious, of the "calendar" bugs expected to crop up in computer systems over the next several years. Calendar bugs occur when programmers ignore the effect that changes in the calendar will have on the way programs, operating systems, and even some hardware will function. Because of the way computer programs and operating systems work, calendar related malfunctions can be expected to surface at the beginning of every month from now to the Y2K date, January 1, 2000. We can also expect minor eruptions on April 4, 1999, August 22, 1999, September 9, 1999, February 29, 2000, January 19, 2038, and the one that really keeps me up at night, January 1, 10000. [\[FN2\]](#)

The Y2K is the granddaddy of all calendar bugs. Although there are predictions of major disruptions, with reasonable preparation, society can avoid apocalyptic consequences. To be sure, there will be isolated, serious consequences. There will be a lot of money lost. There will be a lot of overtime earned. But in my humble opinion, most disruptions will be invisible to the consumer and the general public after about a week. It is unlikely that civilization as we know it will collapse. In fact, I predict that the biggest risk of disruption comes from the panic that these apocalyptic predictions may bring about. People will withdraw a lot of extra cash from the bank in December 1999. Some non-perishable foodstuffs will be in high demand.

The problem with calendar bugs is that the problems are unpredictable. You never know what will happen until you actually experience the change. Some Y2K problems are merely inconvenient, while others will cause serious malfunctions or even prevent \*27 computers from functioning.

When we did our computer system inventory, we recognized a number of risks of Y2K problems. Most of the risks were remote. Nevertheless, we resolved to take a series of steps which would diminish the risk of Y2K related problems.

One of the changes was installation of a new operating system for our network server. The instructions which make the hub of our information system store and share information would be changed. Unpredictable disruptions of our network were inevitable. We chose to make the change between Christmas and New Year, when nobody does much useful work anyway.

We were prepared for the glitches we suffered during the last week of the year, but when the problems continued on January 4, 1999, people began to get antsy. Some computers were still malfunctioning. Some people couldn't receive their e-mail. Others couldn't send it. Some could not print, some could not save, and a few could not get their computers to come up at all. We had to prepare a pleading on a laptop and print it out on a very cheap ink jet printer, just to get it filed on time. By January 5, we were desperate. We decided that the solution was to have a frantic, semi-computer-literate lawyer (guess who) take charge of the recovery operation. I began day-to-day monitoring of the recovery efforts. I ran from computer to computer looking at problems. In spite of my meddling, the computer professionals slowly made progress. Now our system is better than before. We learned a few lessons, though, and I'd like to pass them on.

## **PLAN AHEAD FOR FAILURE**

If major revisions, modifications, or upgrades are necessary to make your system Y2K compliant, you may have unexpected problems. Software settings will have to be reset. Shortcuts and macros may have to be revised. This will take time. Come up with a short term solution to keep operating while all this is going on. Arrange to attach

some computers to printers to operate stand- alone.

## **UPGRADE ALL DOS OR WINDOWS 3.1 COMPUTERS TO WINDOWS '95 OR '98**

This is a recommendation a lot of the experts make, and I agree with it. You're going to have to do it anyway. We were able to avoid this problem in part because we had to replace a lot of old computers with new ones. New computers now usually come with Windows '98. Actually replacing hardware can be a major expense. If you have any old software, i.e. something you got before say 1995, consider upgrading it. The closer you get to the millennium, the closer you get to Y2K awareness on the part of programmers.

## **REALLY DO YOUR BACKUPS**

You've been warned to back up all hard drives for so long that the warning almost seems trite, but how many of you have actually backed up this week, this month, this year, ever? Before you try to upgrade, definitely do your backups.

## **REMEMBER THAT TAPE BACKUPS CAN FAIL**

We keep two or three tapes in circulation. If last night's back up was bad, we have the back up from the last time we did it.

## **BE CAREFUL ABOUT SIMULATING Y2K**

Many articles I've read suggest that you should do a Y2K simulation. Some Friday night, back up everything. Reset the time on the network and all computers to December 31, 1999, at 11:30 p.m. Wait thirty minutes and see if your computers explode. Then come in Saturday morning and simulate all the work you can. See how your database works. Run billing and accounting software. Check carefully for errors. Make sure due dates aren't February 1900. Make sure your computer doesn't calculate 100 years of interest. Do some research. Print some form letters. Surf the net. Then wipe out everything you've done and restore from the backup. We didn't do this, but it is recommended by a lot of experts.

But there is at least one special concern for law offices. Some CD-Rom based legal research software is date sensitive. It is programmed to become inoperative when stale. Lexis-Nexis software, for example, gives a warning and doesn't work if you try to put in a disk that is too old. Furthermore, the Lexis-Nexis software detects when you've reset the system clock. Therefore you will not be able to test some of this software, and you will probably have to reinstall it from scratch after the test.

Involve non-computer literate personnel. Involve people with limited computer knowledge in the upgrade. It is one thing to know what the computer geek will do when a problem arises. It is another to know how the non-geek will react to unexpected glitches. Use some of your less technologically inclined people as guinea pigs.

We had our Y2K experience a year early. We hope that our efforts will make for a smooth year 2000. We'll just have to wait and see what happens to us, and to the rest of the world.

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[\[FN1\]](#). This article is protected by the "Year 2000 Information and Readiness Disclosure Act," [P.L. 105-271 \(1998\)](#).

[FN2]. "The Bugs in Your Future," Wired, January, 1999, p. 76; "Rolling Thunder: When the Bug will Strike," <http://www.msnbc.com/news/227483.asp>; Capers Jones, "Dangerous Dates for Software Applications," <http://www.comlinks.com/mag/ddates.htm>.

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