

Kallman and Grillo present a method for ethical decision making and part of their method involves the use of five tests: the mom test, would you tell your mother what you did; the TV test, would you tell a national TV audience what you did; the smell test, does what you did have a bad smell to it; the other person's shoes test, would you like what you did to be done to you, and the market test, would your action be a good sales pitch?

What Yardley did fails all of these tests - I think nearly everyone would agree. For example, can you imagine Silicon Techtronics using an ad campaign that runs something like this:

"At Silicon Techtronics, the software you get from us is bug free, because even if there is a bug, we will distort the test results to hide it, and you will never know about it. Ignorance is bliss!"

This shows that apparent altruism is not a sufficient indicator of ethical behavior. One might wonder what other unstated motives Ms. Yardley had. Could it be that personal ambition led her to accept Ray Johnson's explanation and his assurance that the robot was safe?

Sentinel-Observer: Are there any sources of ethical guidance for people who are confronted with an ethical dilemma?

Yoder: Some companies provide ethical guidelines, in the form of corporate policies, and there is such a document at Silicon Techtronics, or so I am told. I haven't seen it. An employee could also refer to ethical guidelines provided by professional societies, such as the ACM. Beyond that, he or she could read up on the subject to get a better feel for ethical decision making. Of course, one must always consult with one's conscience and innermost convictions.

Sentinel-Observer: Did Randy Samuels act ethically?

Yoder: Stealing software the way that he did was both unethical and illegal.

I think the most important issue with Randy Samuels has never been discussed in the press. I truly doubt that Samuels had the requisite knowledge that his job required. This kind of knowledge is called domain knowledge. Samuels had a knowledge of computers and programming, but not a very strong background in physics, especially classical mechanics. His lack of knowledge in the application domain was a direct cause of the horrible accident. If someone knowledgeable in mathematics, statistics and physics had been programming the robot instead of Samuels, Bart Matthews would probably be alive today. I have no doubt about that. Samuels misinterpreted the physics formula because he didn't understand its meaning and import in the robot application. It may be that management is partly responsible for the situation. Samuels might have told them his limitations and management might have said, "What the hell!"

Samuels had difficulty with group work, peer reviews and egoless programming. It is possible that he was trying to hide his lack of expertise in the application domain?

Sentinel-Observer: What about John Cramer's role in all of this?

Yoder: He's a central character because he put the project way behind schedule due to his attempt to tie in the CX30 robot project with this own business interests. He violated Silicon Techtronics' code of ethics by hiding his degree of involvement in that Lucrative company. If it weren't for this blatant conflict of interest, his leaping into object technology, also raises ethical difficulties in terms of the application of the Golden Rule. He is doing something to his group, he is forcing them into a new technology which he, himself, may not fully appreciate. It seems that he did not level with his colleagues concerning his own lack of expertise with the new technology.

Obviously, management should have been more alert to his psychological problems following his divorce, especially his drinking.

Sentinel-Observer: Did Ray Johnson act ethically?

Yoder: This 'Ivory Snow' business! The trouble with the Ivory Snow theory is that it was just a theory. If it were more than a theory and an actual methodology for keeping the likelihood of failure within statistically determined limits, like what is called "clean room software engineering", then there would be less culpability here.

Based upon the information that I have, the Ivory Snow theory was just a rationalization for getting flawed software out the door to customers on time. The Ivory Snow theory is only valid, ethically and professionally, if the customer is told of known bugs, or impurities, if we can use the soap jargon. In the case of Silicon Techtronics the Ivory Snow theory worked like this: we know it's not pure, but the customer thinks it is!

Of course, coercing Cindy Yardley the way Ray Johnson did was also not ethical. Did he believe what he told Ms. Yardley, namely that the robot was safe, or was that an out and out lie? If he believed that the robot was safe, why cover up with the false tests? If the user interface were so important as a last line of defense, why avoid more rigorous tests of the user interface?

Sentinel-Observer: What is your view of Mike Waterson in all this?

Yoder: If Johnson is the father of the Ivory Snow theory, Waterson is the grandfather. His demand that the robot be completed by a certain date or "heads would roll" might have caused Johnson to formulate the Ivory Snow theory. You see, it is apparent that Johnson thought that the delivery of Robbie to Cybernetics by the specified date was impossible unless the robot software had bugs.

In many regards I feel that Waterson acted unethically and irresponsibly. He placed Sam Reynolds in charge of the robot project, yet he, Reynolds, lacked experience with robots and modern user interfaces, Reynolds rejected the idea of developing a prototype, which might have allowed for the development of a better user interface.

Waterson created an oppressive atmosphere for his employees, which is unethical in itself. Not only did he threaten to fire everyone in the Robotics Division if the robot was not completed on time, he "eavesdropped" on private electronic mail communications throughout the corporation, a controversial right that some companies do claim. My personal belief is that this kind of eavesdropping is unethical. The nature of e-mail is somewhat of a hybrid of normal mail and a telephone conversation. Monitoring or spying on someone else's mail is considered unethical, as is tapping a telephone. Indeed, these activities are also illegal under almost most circumstances. So, I believe it is an abuse of power to monitor employees the way that Waterson did.