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You are a database/system administrator for a large medical database company. Some DNA is found at the scene where a child was kidnapped. There is good evidence that time is limited.
You know that you could run the sample against the database which may provide valuable leads - but it violates the reasonable search and seizure clause established by the courts; will open up private medical data for others to see during the search, violate company policy and possibly destroy customer faith in the company. What do you do?

We would not do it. There is no guarantee that accessing the data would help the investigation, so we could be accessing people's personal information for no reason. Also, there are law enforcement professionals who are looking for the kidnapper. Regular people should not do it for them, except for Batman. Society would not work if everybody tried to enforce the law themselves. The ACM code of ethics says that we should work for the good of society and that we should protect people's privacy. Accessing the database might not help society, but it would violate people's privacy, so we should not access it.

You suspect that a particular line of questions on the tech support blog is being used by developers at another company to reverse engineer your product. Your boss asks you to post misleading information to slow them down. What do you do?

The first four parts of the ACM code of ethics say not do this. 1.1 says that we should contribute to society and human well being. Part of this is making good products. A good product needs to be well documented and supported. Lying about the product on a forum is the opposite of this. 1.2 says to avoid harm to others. This includes hurting them financially. Lying about the product could cause people to do something that would break their own version, which could cause them to lose money or, depending on what the product is, even physically hurt somebody. 1.3 says to be honest and trustworthy. Obviously, lying about a product is not honest or trustworthy. 1.4 says to be fair and not discriminate. Lying about the product is discriminating against people trying to use the product based on information form our boss that people on the forum are trying to reverse engineer our product. If we supply information, we should do it assuming all users on the forum are equal. From a business standpoint, there are liability issues. If you are caught misrepresenting your company's product, you and your company can get into trouble for lying to people.

If you strongly suspect that a particular device or software from company Y violates the patent rights of Company X, what should your recommendation to

your manager be about purchasing it for your own company even if there is significant cost savings?

There should probably be a distinction between the different types of intellectual property involved in the infringement, since not all IP are created equal. There are three basic kinds of IP used today for software, and one for hardware: Copyright, which could be violated by either reverse-engineering the source of the original system or by corporate subterfuge, Patent, which would apply to the algorithm(s) which are specifically registered in the U.S. Patent office, and Standards Essential Patents, which are patented and published with an agreement that the patented routines will be used to ensure interoperability between systems.

Copyright violations in software can be tricky; Because everything is just steps in a puzzle, there are different ways that things can be expressed at a high level that can still have very similar compiled results. Unless there is good evidence that Company Y deliberately stole the software from Company X and is trying to undercut their competition, it is probably reasonable to give Company X the benefit of the doubt and not use the situation as a factor in your purchasing decision, since there will always be rumors when any new product enters the marketplace.

If there is good evidence that copyright violation was deliberate, it would be unethical to purchase the devices in accordance with Article 5, since there is no benefit to the public according to articles (1-4) which would supersede the necessity of upholding intellectual property rights, and choosing products from Company Y in deliberate copyright infringement brings potential for the system to be unsupported if litigation goes sour enough for Company Y, thus leaving the company out the money for the unsupported devices as well as needing to go with a more expensive solution.

If the reason for the IP infringement is abuse of a Standards Essentials patent (for example, Company X deliberately charges Company Y an excessive price for implementing the 802.11 protocol on its new wifi-enabled device because of other legal disputes), the public good may be best served by supporting the device which infringes. The Standards Essentials patents should never be abused, and as an industry we should do our best to make certain they are offered for a fair price regardless of outside factors, since these are designed to allow consumer devices to operate with each other regardless of platform. When patents already threaten to drive the market in divergent directions for no good reason, this has been a uniquely good idea for handling a uniquely bad situation.

If it is, specifically, a patent violation, and the patent is not Standards Essential, the public good would be best served by purchasing the device and standing behind Company Y when litigation is forthcoming. Software patents in the general sense are nothing more than legal smoke and mirrors. Bill Gates recognized this back in the 1990s, although his solution to the problem was to make sure his own company accrued as many patents as it could to take on any company which brought patent suits against him (http://world.std.com/obi/Bill.Gates/Challenges.and.Strategy, section 3.1).

Software patents should be challenged and removed whenever possible, especially with the advent of patent warfare. Apple should not be allowed to patent a rounded rectangle, but has the resources to hire enough lawyers to overwhelm the patent office with the same illegitimate patent until the overworked patent examiners cave under the sheer excess. These tactics are clearly not in the interest of advancing technology or of creating protection for innovators, but are rather the playthings of overzealous business people and lawyers, and their abolition would best serve the public interest.

In summary, it depends on which type of IP violation is going on, whether or not the violation was deliberate, and how confident you are that the violation was justified.

An embedded system you are working on has a mean time to failure of 20 years. Marketing advertises this unit as having a 20 year lifespan. Should you care about how precise the language is in the media? Does it matter what the item is designed for?

It does matter what the device is designed for. Knowing the exact mean time to failure of 20 years is much more important for a device like a pacemaker than it is for something like a cheap electronic game. It also depends on the level of technical understanding of the consumer. A doctor should understand the difference between lifespan and mean time to failure before he installs a pacemaker in a person who will depend on it to live. However, a plumber does not need to know the difference between lifespan of a kitchen faucet he is installing and its mean time to failure. Somebody's life doesn't depend on a kitchen faucet, so the distinction between how long it will last and when it will fail is not as important. The ACM code of ethics says that we should contribute to other people's well being and avoid harming others, so for situations where somebody's health or life is at stake it is important to be clear about when the device being sold might fail.