In the News

Microsoft created a $5 million reward program to help convict those who illegally release worms, viruses and other types of malicious programs on the Internet.

First two rewards were for information leading to the arrest and conviction of those responsible for the spread of the MSBlast.A worm and the SoBig virus

The company offered $250,000 rewards for each.

Microsoft executives made the announcement, flanked by representatives of the FBI, Secret Service and Interpol international police agency.

In the News

Penn State deal with Napster for music service

- Stream music at no cost
- Download a song and move it to a digital music player for a brief period of time for free
- to download the song permanently or burn it to a CD will require a “small fee”
- Penn State is first University with such an agreement
- Service paid for by Penn State
- Hopes to curb/end illegal file sharing

Professional Ethics

- What are ethics?
- What are professional ethics?
- Why should we care about them?
- What does it mean to be ethical? unethical?

Ethics vs Morals

What’s the difference between ethics and morals?

Ethics - the field of philosophy that deals with right and wrong human behavior, as well as the basis by which those decisions are made. Rational analysis of morality.

Morals - Generally accepted standards of right and wrong by society.[1ex]

Both terms refer to standards of right conduct and the judgments of particular actions as right or wrong according to those standards.
Etiquette

What is Etiquette?
– Rules of behavior established by some authoritative body

• Always put your student ID on your work
• Call to cancel an appointment if you can’t make it
• Don’t talk with your mouth full.

Rules of etiquette may be based on morals/ethics, but are more easily changed.

Legal

What is Legal?

• Something that a governing body has declared to be right.

A legal action may or may not be morally or ethically permissible:

• Company emits a harmful, but not illegal, substance (EPA)
• An illegal action may be moral (if a regulation is overly stringent).

Computer Ethics

Google recently listed

• 18 different organizations with their own computer ethics
• 10 different conferences on computer ethics
• 670 different items on Internet abuse:
  – Cyberstalking
  – Denial of Service
  – Fraud
  – Plagiarism in Education
  – Spam
  – Newsgroup and Bulletin Board Abuses

Ten Commandments Of Computer Ethics

1. Thou shalt not use a computer to harm other people.
2. Thou shalt not interfere with other people’s computer work.
3. Thou shalt not snoop around in other people’s computer files.
4. Thou shalt not use a computer to steal.
5. Thou shalt not use a computer to bear false witness.
6. Thou shalt not copy or use proprietary software for which thou hast not paid.
7. Thou shalt not use other people’s computer resources without authorization or proper compensation.
8. Thou shalt not use other people’s intellectual output.
9. Thou shalt think about the social consequences of the program thou art writing or the system thou art designing.
10. Thou shalt always use a computer in ways that demonstrate consideration and respect for thy fellow humans.
IEEE Code of Ethics

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

- to accept responsibility in making engineering decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
- to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
- to be honest and realistic in stating claims or estimates based on available data;
- to reject bribery in all its forms;

IEEE Code of Ethics

- to improve the understanding of technology, its appropriate application, and potential consequences;
- to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;
- to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;
- to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;
- to avoid injuring others, their property, reputation, or employment by false or malicious action;
- to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

Approved by the IEEE Board of Directors August 1990

Computer Ethics

- Computers in the Workplace
- Computer Crimes
- Privacy and Anonymity
- Intellectual Property
- Professional Responsibility
- Globalization

Intellectual Property

Aspects of Software Ownership (Copyrights, Patents, Trade Secrets)

- Source Code (Java, C++)
- Object Code
- Algorithm
- “Look and Feel”

Should Software or Algorithms be protected by patents?
Spam

- What is it?
- Are their legitimate uses of spam-like mail?
- Who should be held responsible?
- Should spam be illegal?

File Sharing

- Is it stealing?
- Who owns digital recordings?
- Is sharing legal?
- What rights do musicians have?
- What rights does the recording industry have?

Stealing?

Scenario 1

- Your car, its warranty newly expired, develops a problem with an on-board computer.
- Installing a new one, your only option, will cost you $1,000.
- When the car is finished the service person says, "Well, you’re lucky. The car is still under warranty, so this won’t cost you anything."

Do you admit that the warranty has expired?

Stealing?

Scenario 2

- Suppose you’re at the same dealership, and, while you’re there, an armored car comes to pick up a load of cash.
- When you leave the dealership, you notice a bundle of money lying on the ground where the armored car was parked.
- It’s a neatly packaged pile of bills, totaling $1,000, with a label that says "Property of General Motors."

Do you stuff the money in your pocket or turn it in to the dealership?

Music/Video/Software

- How do these scenarios relate to computer ethics?
- Music Downloads
- Decrypting and copying DVDs
- Copying software
How are companies combatting these problems?

- Microsoft, Adobe
- RIAA (Recording Industry Association of America)
- MPAA (Motion Picture Association of America)

**Software Piracy**

*Five Kinds of Software Piracy*

- **End User** -
  - Using one licensed copy to install a program on multiple computers;
  - Copying disks for installation and distribution;
  - Taking advantage of upgrade offers without having a legal copy of the version to be upgraded;
  - Acquiring academic or other restricted or non-retail software without a license for commercial use;
  - Swapping disks in or outside the workplace.

Software Piracy

- **Client-Server** - too many users on a local network sharing one copy
- **Internet Piracy** - downloading/exchanging copies
- **Hard-Disk Loading** - PC vendor adds unlicensed software
- **Software Counterfeiting** - illegal duplication and sale

**Professional Ethics**

What kinds of behavior does Professional Ethics cover?

- Work Ethic (be on time, work hard, etc)
- Courtesy (be nice to others)
- Honesty (don’t steal property or ideas)
- Respect (don’t discriminate)
- Bribery (don’t accept)

What is a bribe?

**Accepting Gifts And Amenities**

(from Department of Mechanical Engineering, Texas A&M University)

As engineers, you can expect to be given responsibilities that exceed those of non-professionals.

- This reflects the respect which your professional knowledge commands in the workplace.
- It also means that your favor will be courted by vendors and others who can benefit from your good will.

This good will is often sought by means of gifts and amenities of various sorts.
Accepting Gifts And Amenities

- Sometimes accepting these gifts and amenities may be a proper part of a business relationship.
- In some situations, however, accepting them may be a serious breach of business and professional ethics, and perhaps even a violation of the law.
- Drawing the line between proper and improper acceptance of gifts and amenities may be the first issue in professional ethics that you will face.

Drawing the Line

How can we tell if a gift is a bribe?

This is a partial list of gifts which a large electronics firm considers it improper for engineers to accept:

- door prizes at a conference;
- raffle prize by a supplier or distributor;
- any gift of excessive value (supervisor must be notified);
- fare lower than commercially available;
- cash rebates;
- tickets to sporting events or other entertainment given as an outright gift where the supplier does not intend to accompany the employee;
- sports team sponsorship by supplier;
- extravagant dinner or entertainment; and
- any gift, favor, hospitality or entertainment that could in any way create a feeling of obligation or could compromise professional judgement.

IBM Policy

- No IBM employee, or any member of his or her immediate family, can accept gratuities or gifts of money from a supplier, customer or anyone in a business relationship.
- Nor can they accept a gift or consideration that could be perceived as having been offered because of the business relationship.
- "Perceived" simply means this: If you read about it in your local newspaper, would you wonder whether the gift just might have something to do with a business relationship?
- No IBM employee can give money or a gift of significant value to a supplier if it could reasonably be viewed as being done to gain a business advantage.

Texas Instruments

- It is TI policy that TIers may not give or accept any gift that might appear to improperly influence a business relationship or decision.
- If we receive any substantial gift or favor, it must be returned and our supervisor notified.
- This policy does not apply to items of small value commonly exchanged in business relationships, but even here, discretion and common sense should be our guide.
- In commercial business, the exchange of social amenities between suppliers, customers and TIers is acceptable when reasonably based on a clear business purpose and within the bounds of good taste.
Lessons

- No clear distinction sometimes
- but still some favors are permissible, some are not
- Need to examine all similarities and differences between the case in question and the more clear-cut cases.

Casuistry

- Casuistry - traceable to the Romans.
- start with clearly acceptable case
- makes slight changes
- until we reach unacceptable case

Case X

- Tom had been named the department manager of a large new chemical process unit which was in the design stage.
- Tom’s responsibilities included forming the process unit staff, looking over the designers’ shoulders to assure the plant was designed to be safe, operable and maintainable, and then starting the plant after construction.
- During his previous experience Tom had noticed that a new type of valve and valve operator could often be used in place of more common gate valves and their operators.

Casuistry

- In every case the new valve was less expensive and often gave a tighter shutoff than the gate valve.
- Tom convinced the project designer to add even more of these valves and operators to the design.
- This improved safety, because more flows could be shut off more quickly in an emergency.

Scenario 1

After a large number of valves had been specified and purchased, the salesman came by and introduced himself, giving Tom a plastic pen worth about five dollars.

Should Tom accept the pen?

Scenario 2

After a large number of valves had been specified and purchased, Jim, the salesman, invited Tom to play golf with him at the local country club.

Tom was an avid golfer and had wanted to play golf at the country club for some time, because it was the best course in town.

Should Tom accept the invitation?
Scenario 3
After a large number of valves had been specified and purchased, Jim offered to sponsor Tom for membership in the local country club.

Tom was an avid golfer and had wanted to be a member of the club for some time, but he had not been able to find a sponsor.

Should Tom accept the sponsorship?

Scenario 4
- After a large number of valves had been specified and purchased, Jim invited Tom to a seminar on valves to be held in South America.
- There would also be opportunities for fishing and other types of recreation.
- Tom’s company would have to pay for transportation, but Jim’s company would cover all of the expenses in South America.
- Tom was sure his manager would authorize the trip if asked, but some of the other managers in the firm believed such trips violate proper ethical and professional standards.

Should Tom accept the invitation?

Scenario 5
- After a large number of valves had been specified and purchased, Jim invited Tom on a very nice fishing trip to South America.
- Jim’s company would cover all the expenses.
- Tom was sure that his manager would authorize the trip if asked, but some of the other managers in the firm believed such trips violate proper ethical and professional standards.

Should Tom accept the invitation?

Scenario 6
Before Tom’s decision to recommend any type of valve, Jim approached Tom and offered him a very nice fishing trip to South America in exchange for using his influence to get the valve sold by Jim’s company specified by the designers.

Jim’s valves are the safest and least expensive.

What should Tom do?

Scenario 7
- Before Tom’s decision to recommend any type of valve, Jim approached Tom and offered him a very nice fishing trip to South America in exchange for using his influence to get the valve sold by Jim’s company specified by the designers.
- Jim’s valves are more costly and not as safe.
- After the valves were purchased, the salesman invited Tom on the fishing trip to South America.

Should Tom accept the invitation?
Actual

- After a large number of valves had been specified and purchased, the salesman of the valves visited Tom and invited him on a very nice fishing trip to South America.
- Tom had not known the salesman, Jim, prior to the visit.
- He also had no direct purchasing responsibilities; he had just wanted the valves for increased safety in the new process unit.

Should Tom accept the invitation?

Actual

- Engineering codes clearly state that accepting bribes is unethical and unprofessional, but Tom’s action cannot be fairly characterized as accepting a bribe.
- We might give a working definition of bribery as remuneration for the performance of an act that is inconsistent with the nature of the work one has been hired to do.
- If Tom took the trip, it would not be in remuneration for something inconsistent with his obligations to his employer.
- Furthermore, the offer was made after Tom’s recommendations concerning the valves and (we shall assume) without any prior knowledge and expectation of the gift.

Ethics and Conflict of Interest

(Based on http://www.ethics.ubc.ca/mcdonald/conflict.html by Michael McDonald)

What is a Conflict of Interest? [2ex]
Why are such conflicts ethically significant?[2ex]
What can you do to avoid being in one?[2ex]

Conflict of Interest

Definition: a situation in which a person, such as a public official, an employee, or a professional, has a private or personal interest sufficient to appear to influence the objective exercise of his or her official duties.

Key elements:
- private or personal interest – by themselves, these are OK
- an "official duty" – these obligations are supposed to trump private or personal interests.
- objective professional judgment – expected by employers, clients, customers

Conflict of Interest

It is also important to avoid apparent and potential as well as actual conflicts of interests.
- An apparent conflict of interest is one which a reasonable person would think that the professional’s judgment is likely to be compromised.
- A potential conflict of interest involves a situation that may develop into an actual conflict of interest.
Leading Examples
(from The Responsible Public Servant by Ken Kernaghan and John Langford)

- **Self-dealing.**
  - you work for government and use your official position to secure a contract for a private consulting company you own.
  - you use your government position to get a summer job for your daughter.

- **Accepting benefits.**
  - Bribery is one example
  - Substantial gifts are another.

Leading Examples

- **Influence peddling.** The professional solicits benefits in exchange for using her influence to unfairly advance the interests of a particular party.

- **Using your employer’s property for private advantage.**
  - stealing office supplies for home use.
  - using software which is licensed to your employer for private consulting work of your own.
  - In the first case, the employer’s permission eliminates the conflict; while in the second, it doesn’t.

Leading Examples

- **Using confidential information.** While working for a private client, you learn that the client is planning to buy land in your region. You quickly rush out and buy the land in your wife’s name.

- **Outside employment or moonlighting.**
  - setting up a business on the side that is in direct competition with your employer.
  - taking on so many outside clients that you don’t have the time and energy to devote to your regular employer.
  - A professional employed in the public service sells private consulting services to an individual with the assurance that they will secure benefits from government: "If you use my company, I am sure that you will pass the environmental review."

- **Post-employment.** A person who resigns from public or private employment and goes into business in the same area.

Trust Test

How do you determine if you are in a conflict of interest, whether actual, apparent, or potential?

**Trust Test -** would relevant others trust my judgment if they knew I was in this situation?

- Trust is at the ethical heart of this issue
- Conflicts of interest involve the abuse, actual or potential, of the trust people have in professionals
- This is why conflicts of interest not only injure particular clients and employers, but they also damage the whole profession by reducing the trust people generally have in professionals.

Revealing your private interest in the matter to relevant parties lets others know what might be influencing your judgment. [2ex]

Removing yourself from decision making or advice giving if you have a private interest is another way to avoid conflicts.