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What are Ethics?

- Derived from the Greek word "ethos", which means "custom", "habit", and "way of living"
- Ethics is concerned with human conduct, i.e., behavior of individuals in society
- Ethics is a system of morals of a particular person, religion or a group
- Moral: means dealing with, or capable of, distinguishing between right and wrong, and between just and unjust
- Ethical Theory: a system of ethics guides towards actions good for all
- Applied Ethics:
 - The practice of ethics
 - Rules for ethical behavior for everyday life
 - Impossible for all people to share same applied ethics in all details
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What are Ethics? Professional Ethics: concerns one's conduct of behavior and practice when carrying out professional work, e.g., consulting, researching, teaching and writing Professional Ethics must take into accounts: Relations between professionals and clients Relation between profession and society Relations among professionals Relations between employee and employer Specialized technical details of the profession A computing professional must understand Cultural, social, legal, and ethical issues in computing

• Responsibility and possible consequences of failure

Professional Ethics

- Professional organizations dealing with computing have code of ethics (e.g. IEEE, ACM, and NSPE)
- Professional code of ethics:
 - Symbolize professionalism
 - Protect group interests
 - Specify membership etiquette
 - Inspire good conduct
 - Educate and discipline members
 - Foster external relations
 - Enumerate principles, express ideals
 - Put forth rules, offer guidelines
 - Codify rights

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- **Engineering Ethics**
- Engineering is an important and learned profession
- Engineers are expected to exhibit the highest standards of honesty and integrity
- Engineering has a direct and vital impact on the quality of life for all people
- Services provided by engineers require:
 - Honesty
 - Impartiality
 - Fairness
 - Equity

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• Must be dedicated to the protection of the public health, safety, and welfare

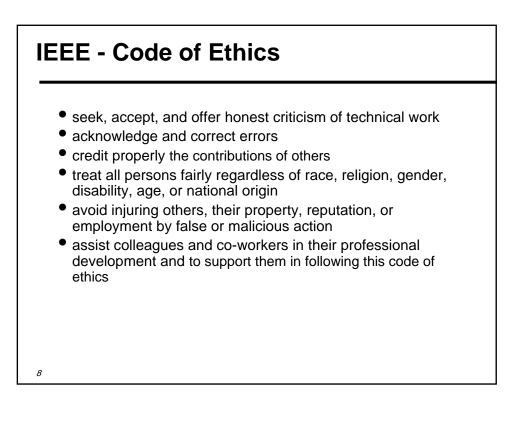


IEEE - Code of Ethics

In recognition of importance of our technology in affecting the quality of life we commit ourselves to conduct of the highest ethical and professional manner and agree to:

- accept responsibility in making decisions consistent with safety, health, and welfare of the public
- avoid real or perceived conflicts of interest
- be honest and realistic in stating claims or estimates
- reject bribery in all forms
- improve understanding of technology, its application, and potential consequences
- maintain and improve our technical competence and undertake technological tasks for others only if qualified

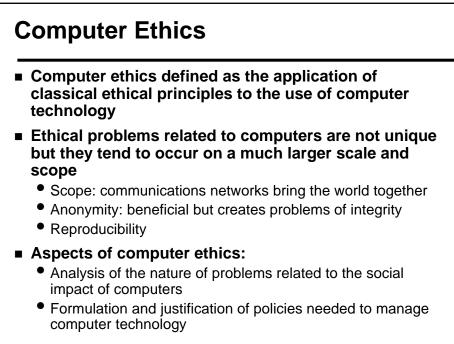




NSPE - Code of Ethics for Engineers

Engineers, in the fulfillment of their professional duties, shall:

- Hold paramount the safety, health, and welfare of the public
- Perform services only in areas of their competence
- Issue public statements only in an objective and truthful manner
- Act for each employer or client as faithful agents or trustees
- Avoid deceptive acts
- Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession



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Categories of Computer Ethics Issues

Privacy

- Computers create a false sense of security
- People do not realize how vulnerable information stored on computers are
- Property
 - Physical property
 - Intellectual property (in both copyright and patent)
 - Data as property

Access

- Access to computing technology
- Access to data
- Accuracy
 - Accuracy of information stored

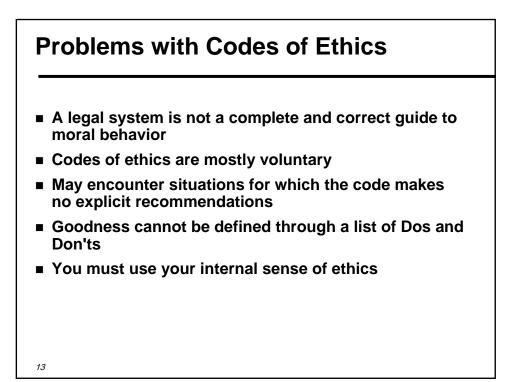
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Moral and Ethical Problems

- Hacking, cracking and virus creation
 - Serious crimes that cannot be justified
 - Attempts at justifying such actions
 - · Electrons are free- they do not belong to anybody
 - · Companies have weak protection
 - Point out flaws and vulnerabilities in information systems
 - Hacking or virus creation is right in a particular country or culture

Software piracy

- Unauthorized copying of software is stealing
- It is morally wrong as it constitutes a violation of someone else's rights



Computer Ethics Awareness and Educational Issues

- How to raise the moral consciousness and ethical level
- Possibilities of developing global computer ethics codes
- Computer ethics education should include:
 - Explanation of disruptive potential of even a single user
 - Understanding of importance of ethics and lack of laws in computer/information technology
 - Explanation of information security & related problems
 - Making people aware of ethical impact of their actions
 - Training and education by professionals
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Computing Ethics and Guidelines -Example

- Respect privacy of other users and do not share your account with others
- Respect appropriate laws and copyrights
- Obey established guidelines for any network or system used
- Do not use computer resources for unauthorized purposes
- Do not use computer resources for commercial endeavors
- Do not use computer resources in ways detrimental to normal operation

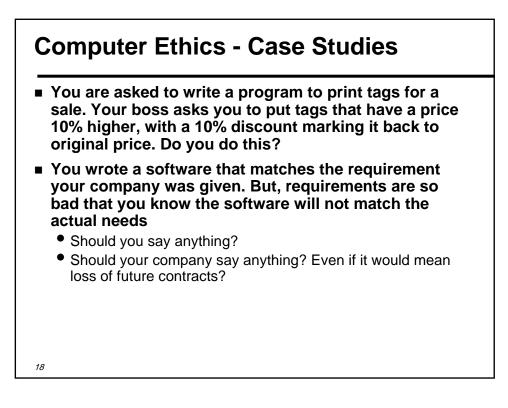
Computer Ethics - Case Studies Administrator Dilemma

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- The problem here is that every file on the system is accessible by the administrator and they have no tracks when they change a file
- If administrator is always believed, he is given the ability to take advantage of anybody at any time
- If user is always believed, he is given the ability to get away with anything he does
- Anything on the system can be faked without evidence

Computer Ethics - Case Studies Software Licensing: Stuck in the Middle

- You are contracted to install Netscape Navigator software on all the PCs of company X
- After doing half the work, you found that company X is not paying Netscape for the copies you are installing
- You notified company X's contact that they are out of compliance with Netscape licensing requirement, but got no response
- What do you do?



Conclusions

- Must understand cultural, social, legal and ethical issues related to computing
- Expect to face variety of ethically difficult situations
- Hold to highest possible ethical standards
- Use your internal sense of ethics
- Making the wrong ethical choice begins with focusing on short-term self-interest
- Ethical behavior is a way of life, best learned through experience
- Living ethically requires strong and sincere motivation
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