COSC130 Fundamentals of Cybersecurity and Privacy

Tutorial Week 3

1. The following is the 1997 version of the ACM Code of Ethics and Professional Conduct. Compare this version to the current (2018) version of the Code available from Code of Ethics (acm.org). Identify the principles that appear in both versions, as well as those that appear in only one version. Provide possible justification inclusion/exclusion of certain principles.

ACM Code of Ethics and Professional Conduct 1997

1. GENERAL MORAL IMPERATIVES.

1.1 Contribute to society and human well-being.
1.2 Avoid harm to others.
1.3 Be honest and trustworthy.
1.4 Be fair and take action not to discriminate.
1.5 Honor property rights including copyrights and patent.
1.6 Give proper credit for intellectual property.
1.7 Respect the privacy of others.
1.8 Honor confidentiality.

2. MORE SPECIFIC PROFESSIONAL RESPONSIBILITIES.

2.1 Strive to achieve the highest quality, effectiveness and dignity in both the process and products of professional work.
2.2 Acquire and maintain professional competence.
2.3 Know and respect existing laws pertaining to professional work.
2.4 Accept and provide appropriate professional review.
2.5 Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks.
2.6 Honor contracts, agreements, and assigned responsibilities.
2.7 Improve public understanding of computing and its consequences.
2.8 Access computing and communication resources only when authorized to do so.

3. ORGANIZATIONAL LEADERSHIP IMPERATIVES.

3.1 Articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities.
3.2 Manage personnel and resources to design and build information systems that enhance the quality of working life.
3.3 Acknowledge and support proper and authorized uses of an organization's comput-

ing and communication resources.
3.4 Ensure that users and those who will be affected by a system have their needs clearly articulated during the assessment and design of requirements; later the system must be validated to meet requirements.
3.5 Articulate and support policies that protect the dignity of users and others affected by a computing system.
3.6 Create opportunities for members of the organization to learn the principles and limitations of computer systems.
4. COMPLIANCE WITH THE CODE.
4.1 Uphold and promote the principles of this Code.
4.2 Treat violations of this code as inconsistent with membership in the ACM.

2. In his book "Cryptography and Network Security", Stallings argues that ACM Code of Ethics and Professional Conduct and IEEE Code of Ethics share some common themes, including the following:
    a. dignity and worth of other people
    b. personal integrity and honesty
    c. responsibility for work
    d. confidentiality of information
    e. public safety, health, and welfare
    f. participation in professional societies to improve standards of the profession
    g. the notion that public knowledge and access to technology is equivalent to social power

    For each of the 10 principles of the IEEE Code of Ethics, specify the themes to which it contributes.

3. In 1999, Gotterbarn argued that a software engineering code of conduct serves the following functions:
    a. Inspiration
    b. Guidance
    c. Education
    d. Support
    e. Deterrence/discipline
    f. Public image

    For each of the 25 principles of the ACM Code of Ethics and Professional Conduct, specify the functions to which it contributes.

4. You are an engineer designing software for self-driving cars. In the case of an imminent crash, where more than one action can be taken by the car, should the software choose an action that causes the least harm to the driver and passengers in the car, or the one that minimises the harm done to all the people involved in the crash? Justify your answer and make a reference to a professional code of conduct.

5. You discover that your company does not encrypt any of the personal details about the customers, including their credit card details, and even sends them over the internet in plaintext form. What should you do in this case? Refer to a professional code of conduct to support your decision.