

Legal and Ethical Issues in Computing



What is legal?



- Abiding the letter of the **law**
- Actions taken based on this is **definitive**
- But it is set by others
- Question: If it is legal, does it make it right?

What is ethical?



- Abiding to the sense of **morality** and doing the right thing
- Actions taken are **somewhat definitive**
- You set the sense of it.
- Question: If it is right (ethical), does it make it legal?

Ethics



- Ethics can be unchanging or contextual
- Do you stand by your principles of ethics or do you change according to need or situation?
- A good example; consider this
 - Lying is a sin (*berbohong itu berdosa*)
 - White lies (*bohong sunat*)

Ethics Divide



- There are two schools of thought
 - **Consequence-based** : a good **outcome** is the key to choice
 - **Rule-based**: follow **rules** without undue regards to outcome
- Ethical principle are not totally universal and are sometimes based on religion
- Not everyone will agree with everything → the uniqueness of individuals

Consequence-based



- The outcomes dictates and sometimes outweigh the method
 - **Egoism**: the 'right choice' **benefits self**
 - **Utilitarianism**: the 'right choice' **benefits others**

Rule-Based



- Rules govern the life and well-being
 - Individual – religion, experience, analysis
 - Universal rules – evident to everyone
- Stresses on the sense of the duty and principle (E.g. ‘never tell a lie’)
- Exists for the benefit of the society and should be followed

Making an ethical choice



- Understand the situation
- Know several theories of ethical reasoning
- List the ethical principles involved
- Determine which principles outweigh others

Discuss this



- Adam is a good student. He is attentive in class, does his work carefully and delivers on time. He is an exceptional programmer and is always helpful. He is always the person everybody looked for when they are in a jam.
 - **Scenario 1** : Bada asks Adam for his help with a part of her PSM. Later she asked some more, and more and more, but not all at once.
 - **Scenario 2**: Chum is a rich kid forced to study by his parents. He doesn't want to do his PSM and ask Adam to do it for him, for a substantial fee



- **Scenario 3:** Dona just broke up with her boyfriend and is a mess. She mopes about and neglects her PSM. She is Adam's old friend (from kampung, since they were kids). She only has her PSM to finish her degree. Not wanting her parents to be disappointed, Adam decides to help her and finished her PSM for her. He also coaxed her into understanding the concepts and workings behind her PSM.

Think about these scenarios



- The illegal immigrant workers (PATI)
- The do not resuscitate (DNR) order
- Legalisation of marijuana (in USA)
- Downloading s/w, songs, etc
- Tracking usage patterns of credit cards, network bandwidth

Are your thoughts in the matter the same with your friends?

Do you agree that sometimes the laws must be amended to fit the better purpose?

How are computer crimes different from other crimes?



- The justice system are still unfamiliar with computers and its terminology
- Its hard to deal with as it is intangible and easily copied (e.g. data, bits, etc)
 - Evidence: is it real or a copy?
 - Easily changed : to whose benefit?
 - Value of data

Types of Computer Crime



- The U.S.D.O.J categorizes computer crime based on the **role that the computer plays** in the criminal activity, as follows: :
 - **Computers as targets**
 - **Computers as storage devices**
 - **Computers as communications tools**

Ten Commandments of Computer Ethics



- Thou shall not use a computer to harm other people
- Thou shall not interfere with other people's computer work
- Thou shall not snoop around in other people's computer files
- Thou shall not use a computer to steal
- Thou shall not use a computer to bear false witness
- Thou shall not copy or use proprietary software for which you have not paid



- Thou shall not use other people's computer resources without authorization or proper compensation
- Thou shall not appropriate other people's intellectual output
- Thou shall think about the social consequences of the program you are writing or the system you are designing
- Thou shall always use a computer in ways that ensure consideration and respect for you fellow humans

Ethical Fallacies



- Hackers only want to learn and improve their skills
- Many hackers are not making a profit off their deeds, thus it should not be illegal or unethical
- Information should be shared freely and openly, thus sharing confidential information and trade secrets should be legal and ethical
- Hacking does not actually hurt anyone

(ISC)² Code of Ethics

International Information Systems Security Certification Consortium

- Act honestly, justly, responsibly, legally and protect society
- Work diligently and provide competent services and advance the security profession
- Encourage the growth of research-teach, mentor, and value the certification
- Discourage unnecessary fear or doubt, and do not consent to bad practices

(ISC)² Code of Ethics



- Discourage unsafe practices, and preserve and strengthen the integrity of public infrastructures
- Observe and abide by all contracts, expressed or implied, and give prudent advice
- Avoid any conflict of interest, respect the trust that others put in you, and take on only those jobs you are fully qualified to perform
- Stay current on skills, and do not become involved with activities that could injure the reputation of other security professionals

Liability and Its Ramifications



- Corporations need to take steps to avoid liability
 - **Due Care** – Company did all that it could have *reasonably* done
 - **Due Diligence** – Company properly investigated all possible weaknesses and vulnerabilities
 - **Prudent Person Rule** – Perform duties that prudent and responsible people would exercise in similar circumstances

Due Care Actions



- Adequate physical and logical access controls
- Adequate telecommunications security, which could require encryption
- Proper information, application, and hardware backups
- Disaster recovery and business continuity plans, incident handling
- Periodic review, drills, tests, and improvement in disaster recovery and business continuity plans
- Developing a security policy, standards, procedures, and guidelines

Due Care Actions



- Performing security awareness training
- Running updated antivirus software
- Periodically performing penetration tests from inside and outside the network
- Abiding by and updating external service level agreements (SLAs)
- Ensuring that downstream security responsibilities are being met
- Implementing measures that ensure that software piracy is not taking place
- Ensuring that proper auditing and reviewing of those audit logs are taking place
- Conducting background checks on potential employees

Types of Laws



- **Civil Law (Tort)** – Wrongs **against individuals**, result in financial restitution
- **Criminal Law** – Individual's conduct **violates government laws**
- **Administrative/regulatory laws** – regulatory standards regulate performance and conduct

Intellectual Property Laws



- **Trade Secret** – Proprietary information important to company survival and profitability
- **Copyright** – Protects right of author to control public distribution, reproduction, display and adaptation of original work
- **Trademark** – Used to protect word, name, symbol, sound, shape, color or combination
- **Patent** – Grant owner legal ownership and enable owner to exclude others from use or copying

Software Piracy



- Indicates that intellectual or creative work of an author has been used or duplicated without permission or compensation to the author

Computer Forensics : Proper Collection of Evidence



- Do not reboot
- Work on copy of drive
- Maintain chain of custody
 - Standards for copying must ensure quality and reliability
- Evidence should be tagged
- Crime scene should be photographed

What is Admissible in Court?



- Computer-related evidence is considered **hearsay** (second hand evidence)
- Value of evidence depends on **genuineness** and **competence of the source**

Life Cycle of Evidence



- Collection and identification
- Storage, preservation, and transportation
- Presentation in court
- Being returned to victim or owner

Other Types of Evidence



- Best Evidence
 - Primary evidence used in a trial
 - Example: Original signed contract
- Secondary Evidence
 - Not viewed as reliable and strong in proving innocence or guilt
 - Example: Oral evidence, Copies of original documents

Other Types of Evidence



- Direct Evidence
 - Prove a fact by itself
 - Witness
- Conclusive Evidence
 - Irrefutable, cannot contradicted
- Circumstantial Evidence
 - Used to deduce or assume existence of fact
- Hearsay Evidence
 - Secondhand, has no firsthand proof of accuracy or reliability

Evidence Criteria



- Sufficient
 - Persuasive enough to convince reasonable person
- Reliable
 - Consistent with fact
- Relevant
 - Reasonable and sensible relationship to the findings

Enticement and Entrapment



- **Enticement**
 - Legal and ethical (e.g. Honeytrap)
- **Entrapment**
 - Neither legal nor ethical (link to free copyrighted MP3 files)

Aside



- A person is governed both by law, society and his belief system → But sometimes not all conform to this.
- Challenges
 - **Society** : to ensure that the morality is not lost
 - **Government** : ensure that there are enough laws (which are strong and adequate) to protect the people, and actions regarding to that law.
 - **Law enforcement**: understanding the nature of cyber-crime and be ready for the changes
 - **Organizations**: to put up measures and control following the law and in educating employees to avoid loss and liability
 - *This list is not static*