

Legal, Moral, Ethical Aspects of ICT & Other Challenges

By

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Life in Different Contexts

Social/National Context



Professional Context



Personal Context



Attributes of a Professional

- **Attitude**
- **Competency**
 - **Hard (Technical or domain specific skills)**
 - Doctor → Doing a surgery
 - Software engineer → Programming
 - **Soft skills**
 - Communication
 - Leadership
 - Team work
- **Legal, Moral & Ethics**

Law Vs. Ethics Vs. Morals

Driven by
values

Moral

One's personal beliefs or principles
about what is right and wrong.

Driven by
soft fear

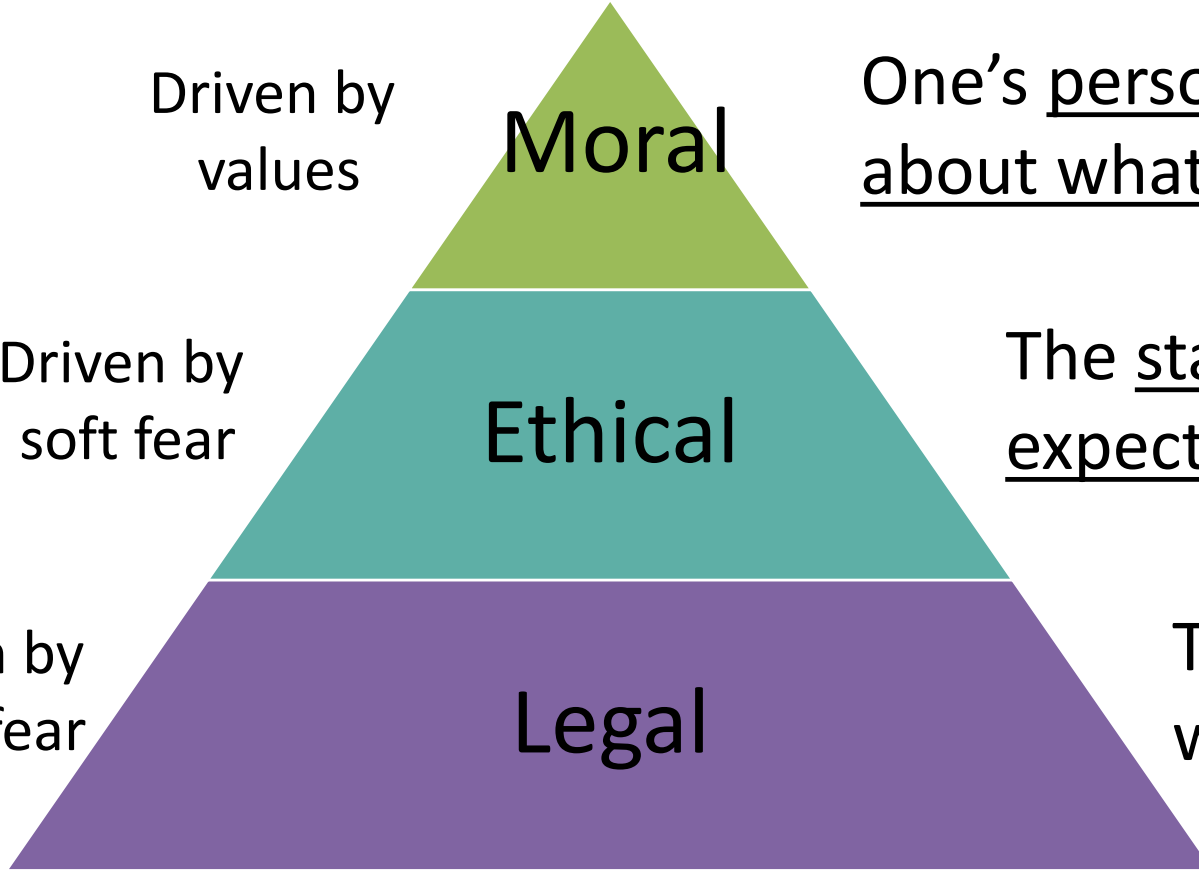
Ethical

The standards or behaviors (codes)
expected of an individual by a group.

Driven by
hard fear

Legal

The system of rules that tells us what
we can and cannot do in a country.



Legal Aspects



Law

- Law is the system of rules that tells us what we can and cannot do in a country.
- Driven by fear/punishment.
- Enforced by courts/judiciary.
- Supported by police and other government institutes.

Types of Judiciary Systems

- Criminal law
- Civil law

Criminal Law

- Related to criminal activities.
- Examples
 - Murder
 - Terrorism
 - Assaults
 - Illegal drugs related
 - Burglary
 - Some of the ICT related
 - Hacking computers
 - Spreading viruses
- Case is handled by the government (police & other government institutes).
- If found guilty, imprisonment or/and fines can be enforced.



Civil Law

- Related to civil disputes.
- Examples
 - Land disputes
 - Financial disputes
 - Labor disputes
 - Divorce cases
 - Intellectual property related
- A case is filed by one party and defended by the other.
- If one party is found wrong, ordered to rectify and/or to pay compensations.



Ethical Aspects



Ethics

- Ethics are standards or codes of behavior expected of an individual by a group.
- Driven by soft fear of rejection by the group.
- Types of ethics
 - Professional ethics
 - Business ethics
 - Social ethics

Professional Ethics

- The values and expected behaviors when practicing the profession.
- Expected to be voluntarily followed.
- Professional bodies may influence in some traditional professions like medicine & law.



Business Ethics

- Ethical behaviors and practices followed by a business organization.
- Examples
 - Not using any potentially harmful chemicals.
 - Not practicing unethical marketing techniques.
 - Not polluting the environment.



Advantages of Following Business Ethics

- The business genuinely serve the society.
- Help getting the trust of the consumers.

Social Ethics

- The expected values and behaviors by the society from individuals.
- Driven by social fear of rejection.
- Conditioned by;
 - IQ level of the society
 - Culture
 - Religious views
 - Politics (will of the majority)

Different societies may value different ethics.

Social Ethics - Examples

- Respect other's freedom & privacy
- Ethics in using public places
- Classroom ethics, etc..



Moral Aspects



Morals

- Moral is one's personal values or conscience about what is right and wrong.
- Driven by individual's values.
 - Accountable to own mind/heart.
- Moral values are influenced by;
 - Ability to think critically
 - Cultural background
 - Education background

Morals – Key Attributes



Integrity



Responsibility



Accountability



Respect



Empathy

Integrity – What?

- The moral uprightness.
- Doing right over comfort even under difficult conditions.
- Doing the right things even when no one is looking at you.



Responsibility

- Having a duty to deal with or control something or someone.
- Those who take responsibilities must be;
 - Serious
 - Trustworthy
 - Quality conscious
 - Competent



Accountability

- The obligation to explain, justify, and take responsibility for one's actions (often when things goes wrong).
- Accountability helps organization or society to moves forward.



Respect

- Feeling of admiring someone or something that is good, valuable, important.
- We need to accept others for who they are, even when they're different from you or you don't agree with them.
- Not based on hierarchy, rather acts in equality basis.

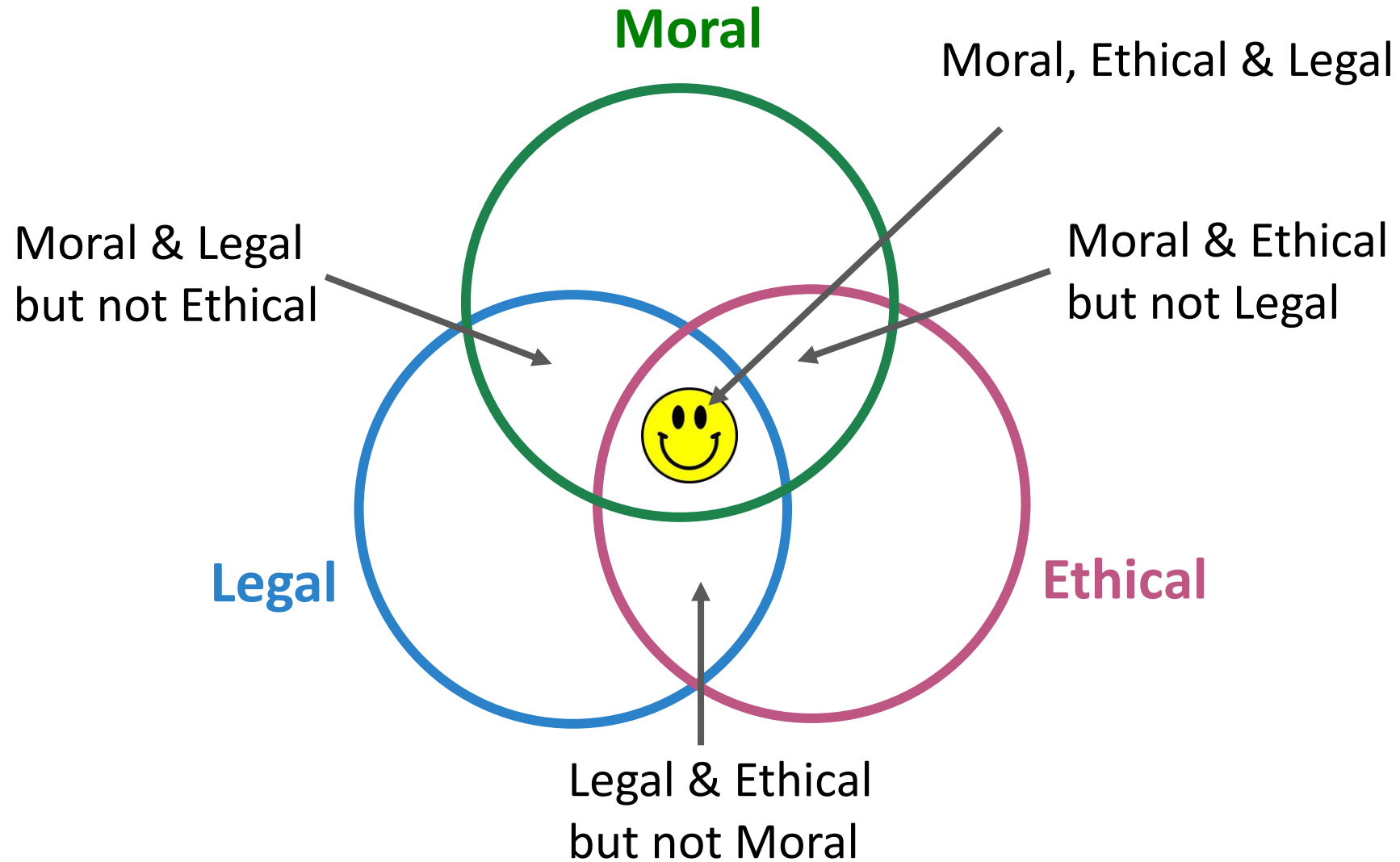


Empathy

- The ability to understand and share the feelings & emotions of another and help them to get out of the problems.



Legal Vs. Ethical Vs. Moral



Intellectual Property Laws



Two Types of Properties

- **Tangible** properties
 - Land
 - Vehicle
 - Computer
 - Machine
- **Intangible** (intellectual) properties
 - Idea
 - Design
 - Reputation/Image
 - Artistic work, etc..

Types of Intellectual Properties

- Industrial
 - Inventions
 - Industrial designs
 - Trademarks/names
 - programs/coding
- Literary/artistic works
 - Novels
 - Poems
 - Plays
 - Films
 - Music
 - Radio/TV programs
 - Drawings
 - Paintings
 - Photographs
 - Sculptures

Challenges in Protecting Intellectual Properties

- Intangible nature results in;
 - Easy to copy the content or idea.
 - Relatively difficult to prove specially when related to ideas
- Frequent cross border violations
 - Example
 - Pirated software use in another country

How to Protect Intellectual Properties?

- Intellectual property laws
- Educational awareness programs

Key Intellectual Property Rights

- Copyrights
- Patents
- Trademarks/names
- Trade secrets

Copyrights – What?

- Copyrights means the right to copy of certain artifacts/works guard by copyrights law is reserved to the original creator.
- Right to copy means;
 - Make duplicate copies
 - Issue (sell/rent) duplicate copies
 - Adapt from the original to create new things

Copyrights - Covers

- Software programs/code
- Novels
- Poems
- Plays
- Films
- Music
- Radio/TV programs
- Drawings
- Paintings
- Photographs
- Sculptures

Copyrights Related to ICT

- Software source code
- Databases
 - If there has been substantial investment in obtaining , verifying or presenting the contents of the data base.
 - Examples
 - Geographical data
 - Marketing related data

Copyrights – Time Period

- During the life time of the author and for a further period of 70 years from the date of his death.
 - If it is done by organisation, usually date of publication is considered.

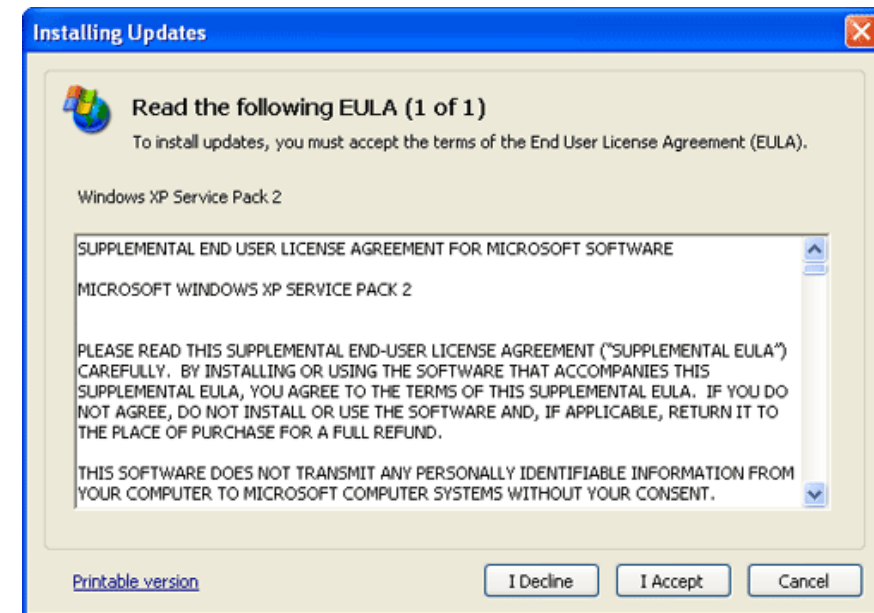
Note - Exact number of years depends on the country.

Copyrights – Types of Rights

- Economic rights
 - Public display
 - Broadcast/telecast rights
 - Make copies and sell/rent
 - Sell the copyrights
- Moral rights
 - To have creator's name indicated prominently on the copies.
 - To object to any distortion or modification that would harm the owner's honour or reputation.

How to Preserve Copyrights

- Copyrights are assumed in most cases.
- Have a copy right notice (Optional, but useful).
- Control the use of a product by licenses rather than selling.
 - In products like software.



Copyrights – “Fair Use”

- For following fair usages, limited amount (typically less than 10%) of copy righted materials can be used without prior permission of the original creator;
 - News reporting
 - Criticism
 - Comment
 - Teaching
 - Scholarship and research

Patents – What?

- An intellectual property that gives its owner the legal right to exclude others from making, using, or selling an **invention** for a limited period of years (typically 20 years) in exchange for publishing or public disclosure of the invention.

Patents – Why?

- Protect the intellectual property rights of inventors.
- Encourage inventors to disclose their inventions.

Prerequisites to Get Patents

- It is a new idea/design/solution.
- Is capable of industrial application (useful).
- Is not in an area specifically excluded.
 - Natural phenomena
 - Scientific theories
 - Abstract ideas
 - Includes mathematical laws
 - A literary, dramatic, musical or artistic work or any other aesthetic creation.
- Must not be obvious to a person having ordinary skill in the same field.

Possible Patentable Items

- New and innovative engineering designs
- New medicines
- New materials
- Etc..

How to Obtain Patents?

- Apply for the patent in the relevant authority
- Provide sufficient information
 - Design/drawings
 - Other clarifications
- Get the patent certificate

Trade Marks / Trade Names (1)

- Trade mark is any sign capable of being represented graphically which is capable of distinguishing goods or services of one undertaking from those of other undertakings.
- A trade mark may, in particular, consist of words, designs, letters, numerals or the shape of goods or their packaging.



Microsoft

Google



HUAWEI



Trade Marks / Trade Names (2)

- One must apply for the trademark and get it registered so that others can not use the same trademark.
- In Sri Lanka, registered trademark is valid for 10 years and can be renewed indefinitely.

Trade Secrets

- A trade secret is information that gives one company a competitive edge over others.
- Information is only considered a trade secret if the company takes steps to protect it.
 - Examples
 - The formula for a soft drink
 - Information about a new product

How to Protect Trade Secrets?

- Have non-disclose agreement signed with the relevant employees and other third parties.
- Keep those information as a secret.

Intellectual Property Laws in Sri Lanka

- Intellectual property act no 36 of 2003
- Covers all aspects including copyrights, patents, trademarks and trade secrets.

Plagiarism



Plagiarism – What?

- Plagiarism is the act of using someone else's work or ideas without giving them proper credit.
 - i.e. You imply that its your idea.
- Plagiarism is immoral, unethical and often penalized in academic level.

Plagiarism – How to Prevent?

- Whenever, you copy content or idea from a different source, always present those in quotes and provide references (or cite it).
 - You may refer;
 - Book or research paper
 - Web site
- Try to present your own ideas as much as possible.

How to Reference - Example

Text

Cottrell (2019, p.10) writes that by improving your academic skills you can “accelerate the learning process”. At whatever level you are studying, undergraduate or PhD, it is never too late to find a resource to help you. There are general resources which give a good overview of skills, some of which you may not have developed before, for example proof-reading (Fairbairn and Winch, 2011). Other resources focus on specific areas such as writing a thesis (Murray, 2011). Consider using subject specific resources to develop your vocabulary and understanding of your chosen area of study, for example learning how unemployment impacts socio-political behaviour (Azzollini, 2023).

Reference List

- Azzollini, L. (2023) Doubly disadvantaged: Unemployment, young age, and electoral participation in the United Kingdom. *The British Journal of Sociology*, 74 (3) June, pp.1-20.
- Cottrell, S. (2019) *The study skills handbook*. 5th ed. London: Red Globe Press.
- Fairbairn, G. and Winch, C. (2011) *Reading, writing and reasoning: a guide for students*. 3rd ed. Buckingham: Open University Press.
- Murray, R. (2011) *How to write a thesis*. 3rd ed. Maidenhead: Open University Press.

Computer Crimes



Hacking and Cracking

- Hackers
 - Hacking is The process of attempting to gain or successfully gaining, unauthorized access to computer resource.
 - Motivation
 - Test limitations of systems out of intellectual curiosity.
 - Some smart and talented
 - Others inept; termed “lamers” or “script kiddies”
- Crackers
 - Cracking is the act of breaking into a computer system, often on a network maliciously, for personal gain.
 - Motivation
 - Personal gain.
 - Clearly criminal activity.

Phishing (Social Engineering)

- Use of fraudulent emails or text messages to trick the victim into revealing personal information, such as passwords, credit card numbers, or other sensitive data.



Impersonation

- A person appears to be someone else in impersonation.



Cyber Extortion

- Cyber extortionists will hack into a person's network before that person pays a ransom.
 - They may use ransomware to get the valuable contents encrypted and demand money (often in the form of crypto currency to obtain decryption key.



Other Computer Crimes

- Identity theft
- Spreading viruses
- DOS/DDOS attack
- Organizing terrorist activities
- Child pornography

Note: Details will be covered under Computer security topic.

Laws Related to Computer Crimes

- Computer Crime Act, No.24 of 2007 of Sri Lanka

Computer Forensics

- Computer forensics is combines elements of law and computer science to identify, collect, examine, and preserve data so it is admissible as evidence in courts.





Privacy

Privacy – What?

- Privacy is the right of a person for not being observed or disturbed by others.
- Aspects
 - Physical privacy
 - Data privacy

Privacy – Features

- The border of privacy is fuzzy and situational.
- A person can willingly compromise privacy for better service.
- Limitations
 - Legal & ethical limits

Privacy – Aspects

- Observation/monitoring
- Tracking online activities
- Not securing sensitive data

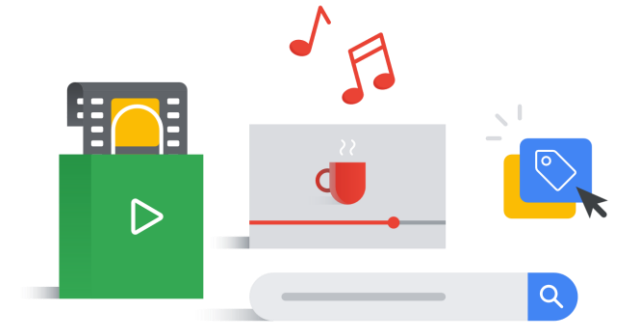
Privacy in Observation/Monitoring

- Use of CCTV recordings.
- Ethical/legal usages
 - Security reasons
 - To detect illegal activities
- Limitations
 - Invade personal privacy
 - Excessive monitoring of employees



Data Privacy

- Sensitive data
 - Health related
 - Personal
 - Contact details
 - Photos
 - Financial data
 - Bank account details
 - Behavior related
 - Browsing history
 - Travel history



Privacy – Best Practices

- Control privacy settings of computer applications.
- Mediate when someone violate your privacy.
 - Employer
 - Neighbors

Privacy Related Laws (USA)

- U.S. Electronic Communications Privacy Act & Computer Fraud and Abuse Act
 - Prohibit intercepting data communications messages, stealing or destroying data, or trespassing in federal-related computer systems.
- Children's Online Privacy Protection Act (COPPA)
 - Requires websites that collect information about children under the age of 13 to post a privacy policy & adhere to certain information-sharing restrictions.
- U.S. Health Insurance Portability and Accountability Act (HIPAA),
 - Intended to create safeguards against the unauthorized use, disclosure, or distribution of an individual's health-related information without their specific consent or authorization.

Thank You

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