

# Bachelor of Engineering in Information Technology

## ITM301 Professional Practices in IT

### Unit VIII: Professional Ethics (IT Professionals and Users)

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## Overview

- Profession & IT Professionals
- Code of Ethics & its Benefits
- Code of Conducts
- Certifications and Licensing
- IT Users & Common Ethical Issues

## Professionals

- Profession is a disciplined group of individuals who possess specialized knowledge and skills, and often requires a long intensive academic preparation.
- US Code of Federal Regulations defines a professional as someone who meets these criteria:
  1. Duties require advanced studies in a recognized field.
  2. One's instruction, study, or work is original and creative.
  3. Job requires consistent exercise of discretion and judgment.
  4. Job is predominately intellectual and varied in character.

## IT Professional

- Many workers in the IT industry are considered to be professionals.

A partial list includes:

- Programmers/Analysts
- Software engineers
- Database administrators
- Network administrators
- Chief information Officers
- ICT officers

## Stewards of IT Resources

- IT professionals must set the example and enforce the policies that **promote ethical use of IT resources**.
- **Software piracy** is the act of illegally making copies of software.
- **Trade secret** is a piece of information that is generally not known to the public that is held confidential.

## Whistle – Blowing

- **Whistle-blowing** is an effort by an employee of a company to attract the attention of others to a
  - negligent,
  - illegal,
  - unethical,
  - abusive, **or**
  - dangerous actby the company that threatens the public interest.

## Whistle – Blowing (Cont..)

- First used in the early 1970's by Ralph Nader

*“An act of a man or a woman who believing in the public interest overrides the interest of the organization he serves, and publicly blows the whistle if the organization is involved in corrupt, illegal, fraudulent or harmful activity”.*

## McDonnell Douglas's DC-10 Cases

### **McDonnell Douglas's is American trijet wide-body aircraft manufacturing company**

- In 1972: American Airlines Flight 96 [malfunction]
  - nine passenger and two flight attendants were injured.
- In 1974: Turkish Airline Flight 981 [crashed]
  - all 335 passengers and 11 crew members were killed
- In 1979: American Airlines Flight 191 [crashed]
  - 275 people were killed
- In 1989: United Airlines Flight 232 [crashed]
  - 112 of its 296 passengers and crew members were killed.



## McDonnell Douglas's DC-10 Cases (cont..)

- There was mechanical and designing problem in DC-10's cargo doors and **employees knew about the problem.**
- No one Blew the Whistle!

## Ethical Dissent and Whistle-Blowing

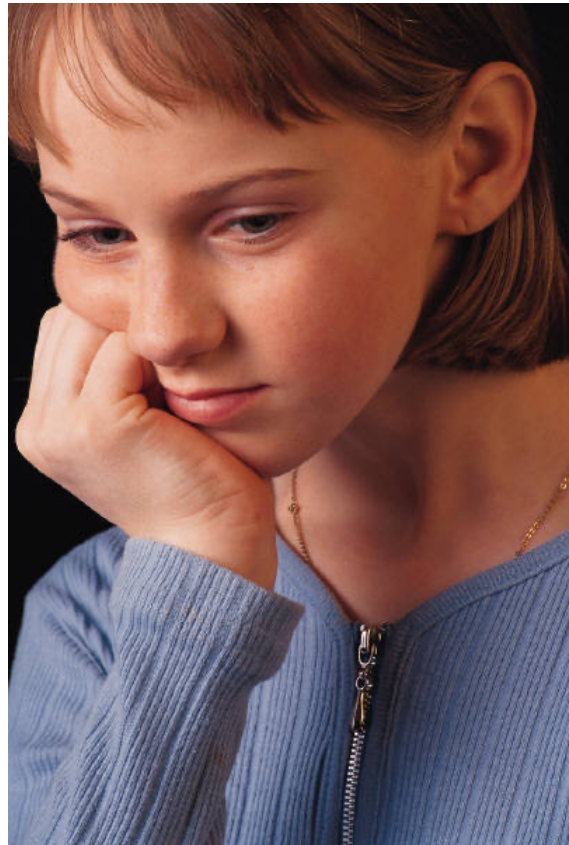
- **Ethical Dissent**

- Noticing the wrongdoings in the organization and attempting to get them changed within the organization.

- **Whistle-Blowing**

- Making your dissent public by going outside the organization.  
**examples:** involvement of an unfolding number of agencies, lawyers, legal systems, and public proceedings.

## What would you do?



## Major Codes of Ethics

- In fact, the codes of ethics of our professional societies **require** the professional to **blow the whistle** in certain circumstances.
- Examples:
  - IEEE Code
  - ACM Code
  - IEEE-CS/ACM Software Engineering Code
  - AITP Standards of Conduct

## ACM Code of Ethics

- In the work environment, the **computing professional** has the additional **obligation to report any signs of system dangers** that might result in **serious** personal or social **damage**.
- If one's **superiors do not act** to curtail or **mitigate such dangers**, it may be **necessary to "blow the whistle"** to
  - help to correct the problem **or**
  - reduce the risk. (item 1.2 of the ACM code)

## Professional Relationships

- IT professionals become involved in many **different types of relationships**.
  1. Professional-employer
  2. Professional-client
  3. Professional-supplier
  4. Professional-professional
  5. Professional-IT user
  6. Professional-society

## IT Professional – Employer

- The relationship between a professional and an employer requires ongoing efforts by both parties to keep it strong.
- Professionals and employers discuss many job aspects before employment begins.

## IT Professional – Client

- In this relationship, the professional and client **-each agree to provide something of value to each other.**
- The IT professional usually provides a hardware or software product or services and the client provides compensation.



## IT Professional – Supplier

- IT professionals may have many different relationships with many software, hardware, and service providers.
- The IT professional must be **on guard to keep the relationships honest and business related.**

## IT Professional – Professional

- Professionals feel a degree of loyalty to other members in the profession.
- Professionals help support each other publicly.
- Professionals owe one another an adherence to the profession's code of conduct.

## IT Professional – IT User

- An IT user is a person for whom the hardware or software is designed.
- Professionals have a duty/responsibility to
  - understand the needs and capabilities of users.
  - deliver their product or service on time and within budget.
  - Promote an ethical environment

## IT Professional – Society

- IT professionals develop and support systems that interact with the world around them.
- The **public expects** that the members of the **IT profession will practice the profession** in a way that **will not bring harm to society**.

## Codes of Ethics

- A **professional code of ethics** states the principles and core values essential to the work of a particular occupational group.
- Code of ethics governs the activities of each Profession
- Most codes of ethics have two main parts:
  1. Aspirations of the organization
  2. Rules and/or principles

## Codes of Ethics (cont..)

1. Academic Honesty
2. Adherence to Confidentiality Agreement
3. Data Privacy
4. Handling of Human Subjects
5. Impartiality in Data Analysis
6. Professional Accountability
7. Resolution of Conflicts of Interests
8. Software Piracy

## Benefits of Code of Ethics

1. Improves ethical decision-making.
2. Promotes high standards of practice and ethical behavior.
3. Enhances trust and respect from the general public.
4. Provides an evaluation benchmark.

## Certification & Licensing

- **Certification** is a process administered by a profession or organization that **one undertakes voluntarily to prove competency in a set of skills.**
- **Licensing** is a process generally administered by the state/province that **professionals must undertake to prove that they can practice their profession in a way that is ethical and safe to the public.**



## Issues Associated with Licensing IT Professionals

- No universally accepted core body of knowledge.
- It is unclear who should manage the content and administration of licensing exams.
- No body to do accreditation of professional education programs.
- No body to assess and assure competence of individual professionals.

## Current IT Certifications

1. Institute for Certification of Computing Professionals (ICCP)
2. Associate Computing Professional (ACP)
3. Certified Computing Professional (CCP)
4. American Society for Quality Control (ASQC)

## IT Users

### Common IT users' ethical issues:

1. Software piracy.
2. Inappropriate use of computing resources.
3. Inappropriate sharing of information.

## Supporting Ethical Practices of IT Users

1. Define and limit the appropriate use of IT resources.
2. Establish guidelines for the use of company software.
3. Structure information systems to protect data and information.
4. Install and maintain a corporate firewall.

## Summary

- A professional is someone:
  - who requires advanced training and experience.
  - who exercises discretion and judgment during work.
  - whose work cannot be standardized.
- IT professionals have many different relationships that have different ethical issues.

## Summary (Cont...)

- A professional code of ethics states the principles and core values essential to the work of a particular occupational group.
- Licensing and certification of IT professionals would increase the reliability and effectiveness of information systems.

## Summary (Cont...)

- IT users encounter many ethical issues, including:
  - Software piracy.
  - Inappropriate use of IT resources.
  - Inappropriate sharing of private and secret data.
- An IT usage policy helps users understand how to appropriately use IT resources.

# Thank you