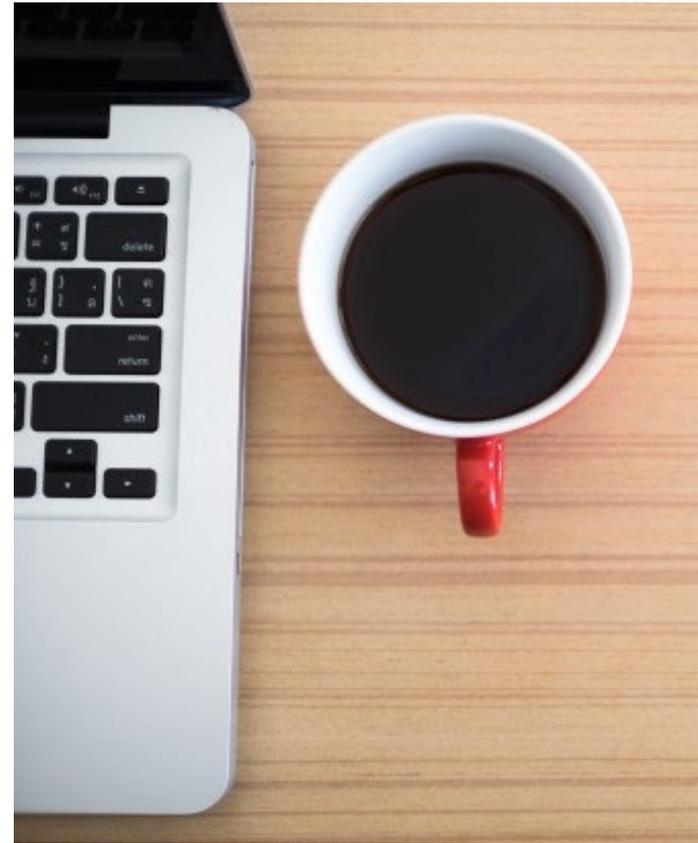


Course Topics

- Introduction
- Software Process Models
- Requirements Engineering
- Modeling
- Software Construction Techniques
- Testing
- Project Management
- Refactoring
- Ethical Issues

Lecture Objectives

- ✓ To learn about ethical issues of software engineering



Lecture Outline



- What key characteristics distinguish a professional from other kinds of workers, and what is the role of a Software professional?
 - What relationships must a Software professional manage, and what key ethical issues can arise in each?
 - How do codes of ethics, professional organizations, certification, and licensing affect the ethical behaviour of software engineers?
- 

Are IT Workers Professionals?



- Partial list of IT specialists
 - Programmers
 - Systems analysts
 - Software engineers
 - Database administrators
 - Local area network (LAN) administrators
 - Chief information officers (CIOs)

The Business Software Alliance (BSA)



- The Business Software Alliance (BSA) is a trade group that represents the world's largest software and hardware manufacturers
 - Its mission is to stop the unauthorized copying of software produced by its members

www.bsa.org



Members of Business Software Alliance

McAfee®

QUEST SOFTWARE®

RosettaStone®

KASPERSKY
lab
www.kaspersky.com

Acronis®
COMPUTE WITH CONFIDENCE
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THE TECHNOLOGY
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CONTINUAL PROGRESSION

PROGRESS
SOFTWARE

TEKLA
Structures

Minitab



SIEMENS

NedGraphics
Software for Textile & Fashion

Bentley®

Mastercam

ASECO
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SYBASE®

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DBA LAB

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SOLIDWORKS

Professional Relationships That Must Be Managed



- Software Engineers have many different relationships with:
 - Employers
 - Clients
 - Suppliers
 - Other professionals
 - IT users
 - Society at large

Relationships (software Professionals – Employers)

- Software professionals must set an example and enforce policies regarding the ethical use of software.
- Software piracy is the act of illegally making copies of software or enabling others to access software to which they are not entitled
- Software piracy is an area in which software professionals can be tempted to violate laws and policies



Relationships

(software Professionals – Employers)



- Conceal trade secrets
 - Information used in business
 - Generally unknown to the public
 - Company has taken strong measures to keep confidential

- Whistle-blowing improper conduct
 - Attract attention to a negligent, illegal, unethical, abusive, or dangerous act that threatens the public interest

The Ethical Behaviour of software Professionals



Corporations are taking actions to ensure good business ethics
among employees



Relationships

(software Professionals - Clients)



- Software professional provides
 - Hardware, software, or services at a certain cost and within a given time frame
- Client provides
 - Compensation
 - Access to key contacts
 - Work space
- Relationship is usually documented in contractual terms

Relationships

(software Professionals - Clients)



- Ethical problems arise if a company recommends its own products and services to remedy problems they have caused
- A company is unable to provide full and accurate reporting of a project's status

Fraud, Misrepresentation, and Breach of Contract



- Fraud and Misrepresentation
 - Crime of obtaining goods, services, or property through deception or trickery
 - Fraud is proven in court

- Breach of contract
 - One party fails to meet the terms of a contract
 - Software projects are joint efforts in which vendors and customers work together
 - Difficult to assign blame

Relationships (software Professionals - Suppliers)

- Develop good relationships with suppliers
 - Deal fairly with them
 - Do not make unreasonable demands
- Bribery
 - Providing money, property, or favours to someone in business or government to obtain a business advantage
 - U.S. Foreign Corrupt Practices Act (FCPA) makes it a crime to bribe a foreign official, a foreign political party official, or a candidate for foreign political office



Relationships (software Professionals – Suppliers)



- Bribery
 - At what point does a gift become a bribe?
 - No gift should be hidden
 - Perceptions of donor and recipient can differ

Bribe Vs. Gift

TABLE 2-3 Distinguishing between a bribe and a gift

Bribes	Gifts
Are made in secret, as they are neither legally nor morally acceptable	Are made openly and publicly as a gesture of friendship or goodwill
Are often made indirectly through a third party	Are made directly from donor to recipient
Encourage an obligation for the recipient to act favorably toward the donor	Come with no expectation of a future favor for the donor

Relationships

(software Professionals - Other Professionals)



- Professionals owe each other adherence to a profession's code of conduct
- Ethical problems between members of the software profession
 - Résumé inflation
 - Inappropriate sharing of corporate information

Relationships

(software Professionals - IT Users)



- IT user is a person for whom a hardware or software product is designed
- Software professionals' duty
 - Understand users' needs and capabilities
 - Deliver products and services that best meet those needs
 - Establish an environment that supports ethical behavior by users

Relationships (software Professionals - Society)



Actions of an IT professional can affect society



Certification



- Indicates a professional possesses a particular set of skills, knowledge, or abilities in the opinion of a certifying organization
- Can also apply to products
- Can also apply to companies and institutes
- Generally voluntary
- Carries no requirement to adhere to a code of ethics

Key Points



- A professional from a legal standpoint
 - Has passed the state licensing requirements
 - Has earned the right to practice there
- Software professionals have many different relationships
 - Each with its own set of ethical issues and potential problems
- Professional code of ethics
 - States the principles and core values essential to the work of an occupational group

References



- Ian Sommerville, “Software Engineering”, 10th Edition, Addison-Wesley, 2015.
- Timothy C. Lethbridge and Robert Laganière, “Object-Oriented Software Engineering: Practical Software Development using UML and Java”, 2nd Edition, McGraw Hill, 2001.
- R. S. Pressman, Software Engineering: A Practitioner’s Approach, 10th Edition, McGraw-Hill, 2005.

Course Topics

- Introduction
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End of SWE205

I hope you enjoyed the course

Good luck in your **Final Exam**
and **Future Courses**

