



Professional Issues

Professions and Professionals

 **informatics**

High Level Overview

- Weeks 1-5, Stuart Anderson covers the basics of professional issues.
- Remaining part of the course is taught by Phil Wadler and covers communication and topics expanding on the basics:
 - Mon 21 Oct: Writing 1
 - Mon 28 Oct: Writing 2
 - Thu 31 Oct: Speaking and graphical presentation
 - Mon 4 Nov: Intellectual property
 - Thu 7 Nov Security

Basics: Professionals

- What is a profession
- Professional Conduct
- Professional bodies in Computing
- Computer Misuse

Basics: Organisations

- Legal framework
- Forms of Organisation
- Management of Organisations

Basics: Money

- Financial Accounting
- Management Accounting
- Investment Appraisal
- Financing a startup company

Basics: People

- Human resources
- Discrimination
- Teams, Project Planning and Management

Basics: Property

- Contracts and Liability
 - Intellectual Property
 - Data Protection
- 
- A large, light purple, curved shape that starts from the bottom left and curves upwards and to the right, partially overlapping the list items.

An Exam Question

- Your company is due to deliver a new water processing facility that includes real time pollutant detection. This is an important contract for the company. The project is late and will incur heavy penalties if it is delivered late. You have been assigned to work on the real time monitoring subsystem. What are your professional obligations? How should your professional association help? What are the most relevant sections of your Professional Associations publications on this matter?
- What do we need to know to answer this question?
- What should an answer look like?
- Is there a right answer?
- Are there contradictory answers to the question?

Pause – while we think about the exam question



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Professional Issues: Meeting 1
Professionalism

Law and Government

(Bott, Chapter 1)



- Read Chapter 1 and understand what is meant by:
 - Jurisdiction
 - Civil Law
 - Criminal Law
 - Burden of Proof
 - Standard of Proof
 - Statute Law
 - Common Law
 - Statute Lawmaking in the UK
 - Green Paper
 - White Paper
 - Bill
 - Act
- www.parliament.uk
- www.firstgov.gov

The Computing Profession

(Bott Chapter 2 – read this)



- The nature of a profession [p. 11]
- Professional Bodies [p. 12]
- Reservation of title and function [p. 12]
- Software Development as engineering [p. 13]
- The Status of Engineers [p. 14]
- International Recognition of Engineering Qualifications [p. 17]
- Compulsory Registration of Software Engineers [p.18]

Breakout Session

1. On your own: write a definition of the meaning of “profession” (2 or three lines max).
2. In a pair:
 - compare and discuss your definitions - do they capture what you want to capture?
 - If they differ significantly keep both and refine them, otherwise produce a single refined definition
3. In fours: combine your definitions into at most two definitions: main and alternate
4. In eights: combine your definitions into at most two definitions.

Pause – While we do the task in hand



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Professional Issues: Meeting 1
Professionalism

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Profession

- Wikipedia: "A **profession** is a vocation founded upon specialised educational training, the purpose of which is to supply disinterested counsel and service to others, for a direct and definite compensation, wholly apart from expectation of other business gain" (New Statesman, 21 April 1917)
- Have a look at the Wikipedia page because it is contested precisely on the distinction between the vernacular and technical meanings.

What Makes a Profession?

“To me, the essence of professionalism is a commitment to develop one's skills to the fullest and to apply [them] responsibly to the problems at hand. Professionalism requires adherence to the highest ethical standards of conduct and a willingness to subordinate narrow self-interest in pursuit of the more fundamental goal of public service”

Justice Sandra Day O'Connor - US Supreme Court

Some other definitions...

- “Doing things right and doing the right thing” (*Chambers 20th Century Dictionary*)
- “an employment not mechanical and requiring some degree of learning; habitual employment; the collective body of persons engaged in any profession ...”
- (lawyers, doctors, architects, surveyors, accountants, engineers, etc)

Professional Bodies in Computing

(Bott, Chapter 3)

- The development of Professional Bodies [p. 25]
- Professional Conduct [p. 26]
- Education [p. 29]
- Continuing Professional Development [p. 31]
- The advancement of Knowledge [p. 33]
- Membership Grades [p. 34]
- Official Advice [p. 36]

The Collective Body

- the collective body controls entry to the profession;
- the collective body is self governing and self regulatory, in the sense that it establishes and enforces a code of conduct on its members;
- the collective body is established either by a Royal Charter or an Act of Parliament which defines the extent of its authority and requires it to undertake certain duties and responsibilities.

Professional Bodies

- Promote and set standards in education
 - Accredit courses
- Promote continuing personal development
- Promote advancement of the subject
- Promote exchange of knowledge
- Give official advice

USA

- Term “engineer” much more strictly applied than here
- State licensing boards
- Applying strict regulation to software engineers would cripple the sector

BCS Codes

- of Conduct
 - Sets out the professional standards required by the Society as a condition of membership
 - Covers public interest, duty to relevant authority, duty to the profession, professional competence and integrity
- of Good Practice
 - “describes standards of practice relating to contemporary demands found in IT”
 - Covers practices common to all disciplines plus some specific to IT, business, education .. Such as:

Breakout Session

1. In fours:

- Take one of the sections of the BCS code of conduct each read the preamble to the code and your chosen section.
- Read the “comedy of errors” paper
- Construct a list of clarifying questions you might want to ask me on the London Ambulance Service paper.
- Work out how you think professionals involved in the London Ambulance Project might have violated your part of the code of conduct.
- In your fours, work out your top three violations
- In eights, work out the top three of your top six.

Pause while we do the exercise



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Professional Issues: Meeting 1
Professionalism

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International Federation for Information Processing

- “the leading multinational, apolitical organization in Information & Communications Technologies and Sciences
- recognized by United Nations and other world bodies
- represents IT Societies from 56 countries or regions, covering all 5 continents with a total membership of over half a million
- links more than 3500 scientists from Academia and Industry, organized in more than 101 Working Groups reporting to 13 Technical Committees
- sponsors 100 conferences yearly providing unparalleled coverage from theoretical informatics to the relationship between informatics and society including hardware and software technologies, and networked information systems”

IFIP: no Code of Conduct

- Why might that be?

IFIP: no Code of Conduct

- Attempts were criticised as being from the perspective of white well-off males.
- Instead it issued guidelines but left this to member organisations
- E.g. on viruses: IFIP urges:
 - Computer professionals to recognise the disastrous potential of viruses and not to distribute viruses knowingly
 - Educators to impress upon students the dangers of viruses
 - Publishers to refrain from publishing details of virus programs
 - Developers of virus detectors not to distribute viruses as tests
 - Resources to be devoted to R & D of protection mechanisms
 - Governments to make distribution an offence

ACM: General Moral Imperatives

- As an ACM member I will:
 - Contribute to society and human wellbeing
 - Avoid harm to others
 - Be honest and trustworthy
 - ...

EU – FEANI



■ Mobility directives

- Allow movement and professional recognition between countries
- Fédération Européene d'Associations Nationales d'Ingénieurs
- Members can use prefix Eur.Ing.

Practices Common to all Engineering Disciplines

- Maintain your technical competence
- Adhere to regulations
- Act professionally as a specialist
- Use appropriate methods and tools
- Manage your workload efficiently
- Participate maturely
- Respect the interests of your customers
- Promote good practices within the organisation
- Represent the profession to the public

Practices covered by the BCS

- Information Technology
- Programme/Project Management
- Relationship Management
- Security and Safety
- Change Management
- Quality
- Business Processes
- Research & Development

We'll Look at these in more detail later

Summary



- Members of the Computing Profession are expected:
 - to work within the relevant legal framework
 - to act within a framework of rules of conduct
 - to be familiar with best practice and to exercise judgement in applying it
- Important documents to read are
 - Bott et al. Chapter 1-3
 - BCS Code of Conduct
 - BCS Code of Good Practice
- Homework for next time:
 - Write a paragraph contrasting the Code of Conduct with the Code of Practice. In particular invent two example contexts - one where the CoC is more useful than the CoP and vice versa.