

# Professional Ethics and Computer Law



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# Disclaimer

*Please note that these slides are written with no accredited legal expertise and that the authors cannot be held liable for any consequences of the action or inaction of any person or persons based on their content*

# Introduction

## Ethical Issues

### *Sui Generis*<sup>†</sup> Computer Law (U.K.)

- Data Protection
- Computer Misuse
- Regulation of Investigatory Powers
- Freedom of Information

### Other applicable Law

- Intellectual Property Rights
- Health and Safety at Work
- Company, Trading and Contract Law
- Law relating to third parties

### Professionals

- Chartered Professions
- Codes of Conduct and Practice, Professional Duty
- Licensed/Statutory Professions

<sup>†</sup>of its own kind; unique.

The logo of the University of Greenwich is a circular emblem on the left side of the slide. It features a compass rose with multiple points, and the words "UNIVERSITY OF GREENWICH" and "the" are inscribed around the perimeter of the circle.

# 1. Ethical Issues

# Why are we doing this?

- Compliance with the accreditation of our programmes with the British Computer Society, IET, IMIS and other professional bodies
- In some cases it may form part of assessment
- Professional Practice in computing is a ‘hot’ topic at the moment (and it is important!)
- It will make you more employable?

# Trust

- Trust in computing professional's competence to deliver reliable systems
  - Public expectation
  - Professionals have a higher order of care
- n.b.* Users do not have the knowledge to criticise.  
∴ They must trust the professional.  
*cf.* plumbers *vs* 'cowboys'

# Opportunities to be Unethical in Computing

## General practice

- During development of systems / maintaining systems / consultancy

## Controller power

- As IT professionals we have opportunity to abuse power given to us in trust

## User responsibility

- Lack of awareness or ignoring user needs

## Company responsibility

- Abusing the trust given to us by the company

# Responsibility Beyond the Contract

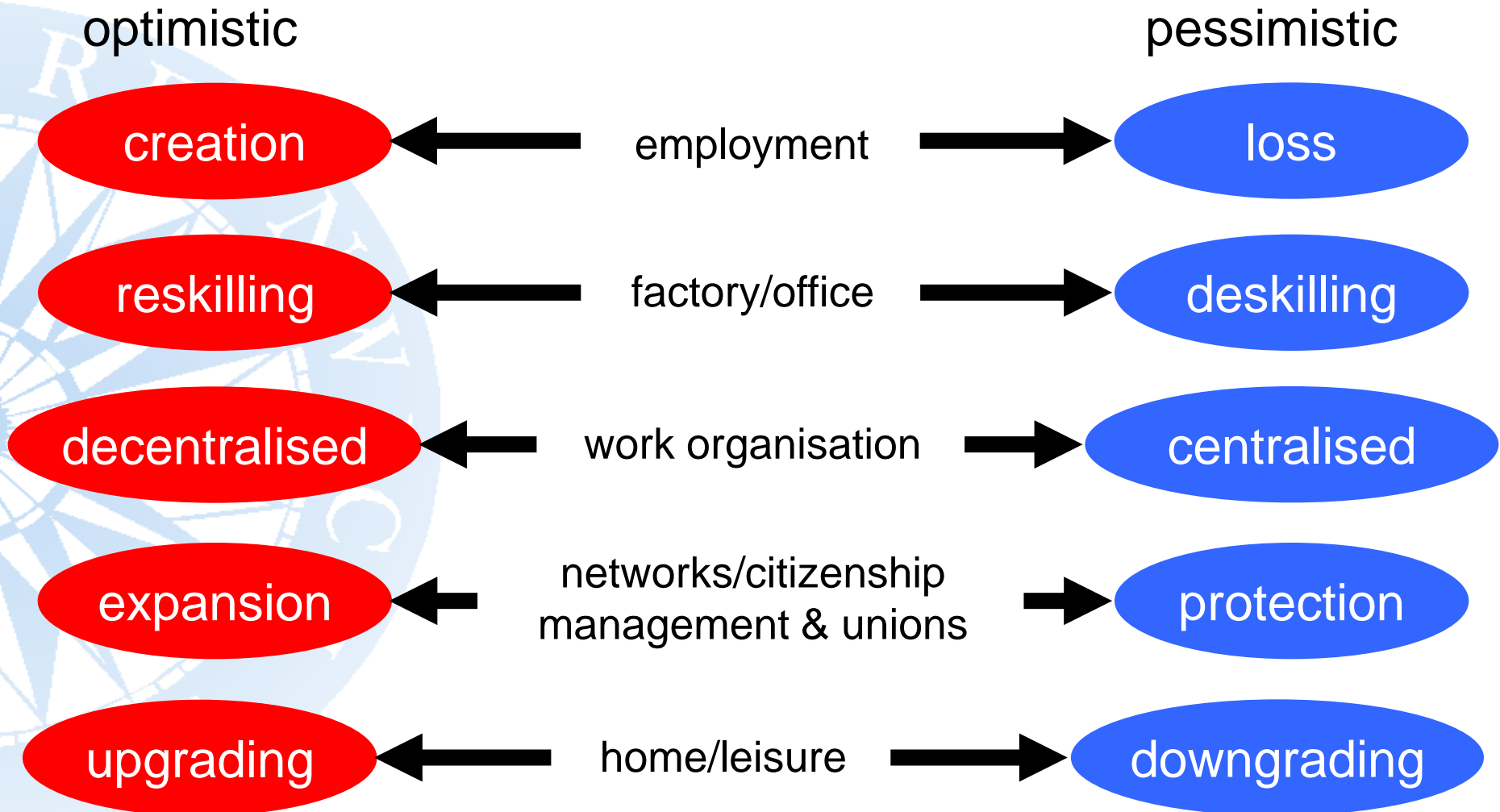
*“Future practitioners must be able to anticipate the impact of introducing a given product into a given environment. Will that product enhance or degrade the quality of life? What will the impact be upon individuals, groups and institutions?”*

Don Gotterbarn



# Do we need to Consider Ethics in Computing?

## Effects of use of technology



# “Ethical Approach” in IT practice?

*“When we build systems we should act just the same as if we were building a bomb”*

Don Gotterbarn

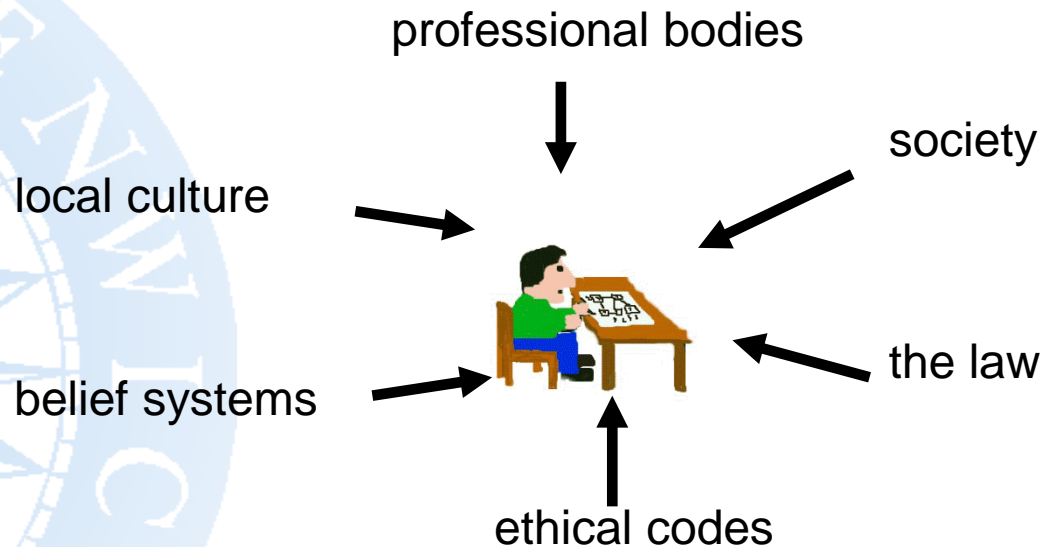
Keynote address to Ethicomp 99, Rome

*Ethics is about “...making a principle-based choice between competing alternatives.”*

Kallman and Grillo

# Whose Principles?

When you act 'ethically' whose principles are you following?



- Choosing right from wrong
- Choosing right from right

# What about Ethics and the Law?

- Ethical and legal
- Ethical and illegal
  - Badly formed law?
- Unethical and legal
  - Using the law to justify our unethical acts?
- Unethical and illegal

*N.b.* Law always lags behind cultural & social thinking  
(computer law is covered in a later lecture)

# Do Personal Ethics Change?

- What if there is a conflict between personal ethics and those of the organisation?
- How does an organisation guarantee their employees remain “ethical”?
- Ethical shift:
  - Is it wrong to steal? *Yes? No?*
  - Is it wrong to steal software? *Yes? No?*
  - If you needed to copy software to complete a coursework would you do it? *Yes? No?*

# Moral Judgements

In Europe, a lady was dying because she was very sick. There was one drug that the doctors said might save her. This medicine was discovered by a man living in the same town. It cost him \$200 to make it, but he charged \$2,000 for just a little of it. The sick lady's husband, Heinz, tried to borrow enough money to buy the drug. He went to everyone he knew to borrow the money. But he could borrow only half of what he needed. He told the man who made the drug that his wife was dying, and asked him to sell the medicine cheaper or let him pay later. But the man said, "No. I made the drug and I'm going to make money from it." So Heinz broke into the store and stole the drug.

*Should Heinz have done that? Was it actually wrong or right? Why?*

# A Simple Computer Applications Checklist

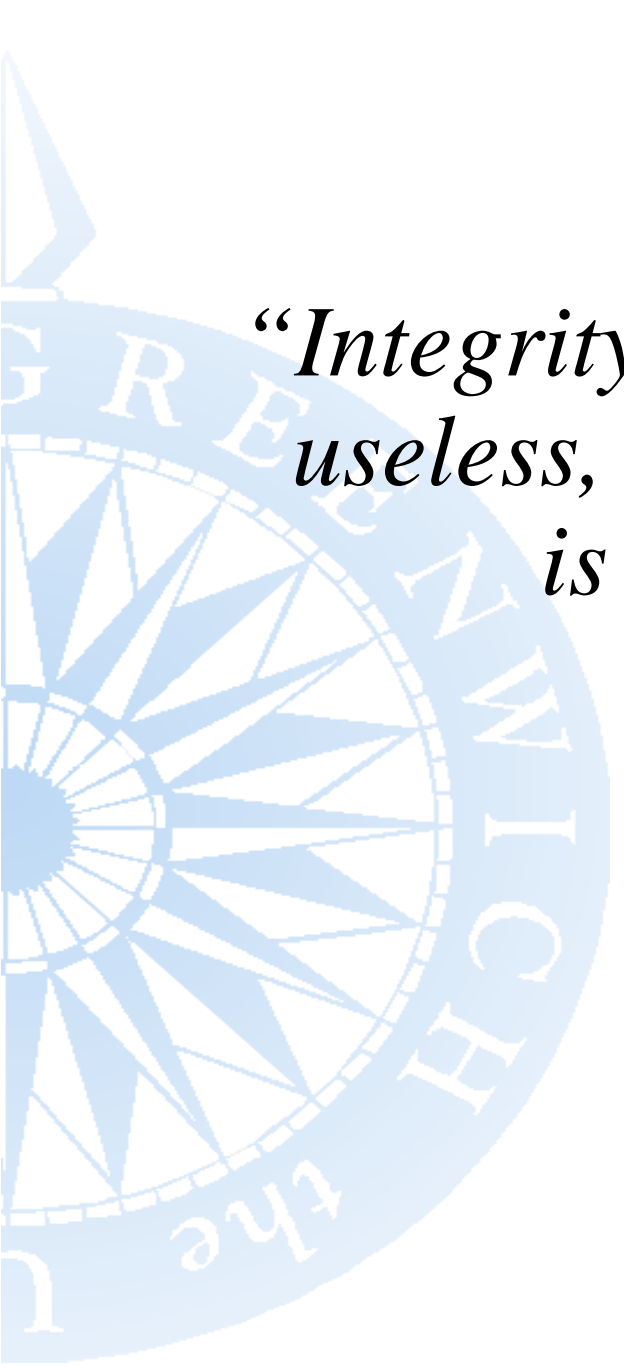
Does the project:

- Promote social and economic justice?
- Benefit the many?
- Put people first?
- Limit economic gain because of potential social and environmental cost?
- Favour the reversible over the irreversible?

## Ask Yourself...

- Who is affected by your work?
- Are others being treated with respect?
- How would the public view your decisions?
- How will the least empowered be affected?
- Are your acts worthy of the model computing professional?





*“Integrity without knowledge is weak and useless, and knowledge without integrity is dangerous and dreadful.”*

*Samuel Johnson (1759)*

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## 2. Computer Law

# Ethical Issues of the Information Age

Mason, MIS Quarterly, V10(1) 1986

## PAPA

- Privacy
- Accuracy
- Property
- Accessibility



# PAPA

## Privacy

- What information about one's self or one's associations must a person reveal to others, under what conditions and with what safeguards? What things can people keep to themselves and not be forced to reveal to others?

## Accuracy

- Who is responsible for the authenticity, fidelity and accuracy of information? Similarly, who is to be held accountable for errors in information and how is the injured party to be made whole?

## Property

- Who owns information? What are the just and fair prices for its exchange? Who owns the channels, especially the airways, through which information is transmitted? How should access to this scarce resource be allocated?

## Accessibility

- What information does a person or an organization have a right or a privilege to obtain, under what conditions and with what safeguards?

# Computers and the Law

The law affects a number of areas where the computer professional will work

These include:

- Issues of developing systems
- Storing and using information
- Using and misusing computer technology

# Computer Law

**The Data Protection Act (1998)** replaced the previous 1984 Act of the same name.

**The Computer Misuse Act (1990)** deals with unauthorised access to computers

**The Regulation of Investigatory Powers Act (2000)** regulates interception of traffic on all networks in England

**The Electronic Communications Act (2000)** sets out a framework for the use of digital signatures in the UK.

**The Freedom of Information Act (2000)** gives a general right of access to all types of recorded information held by public authorities

# The Eight DPA Principles

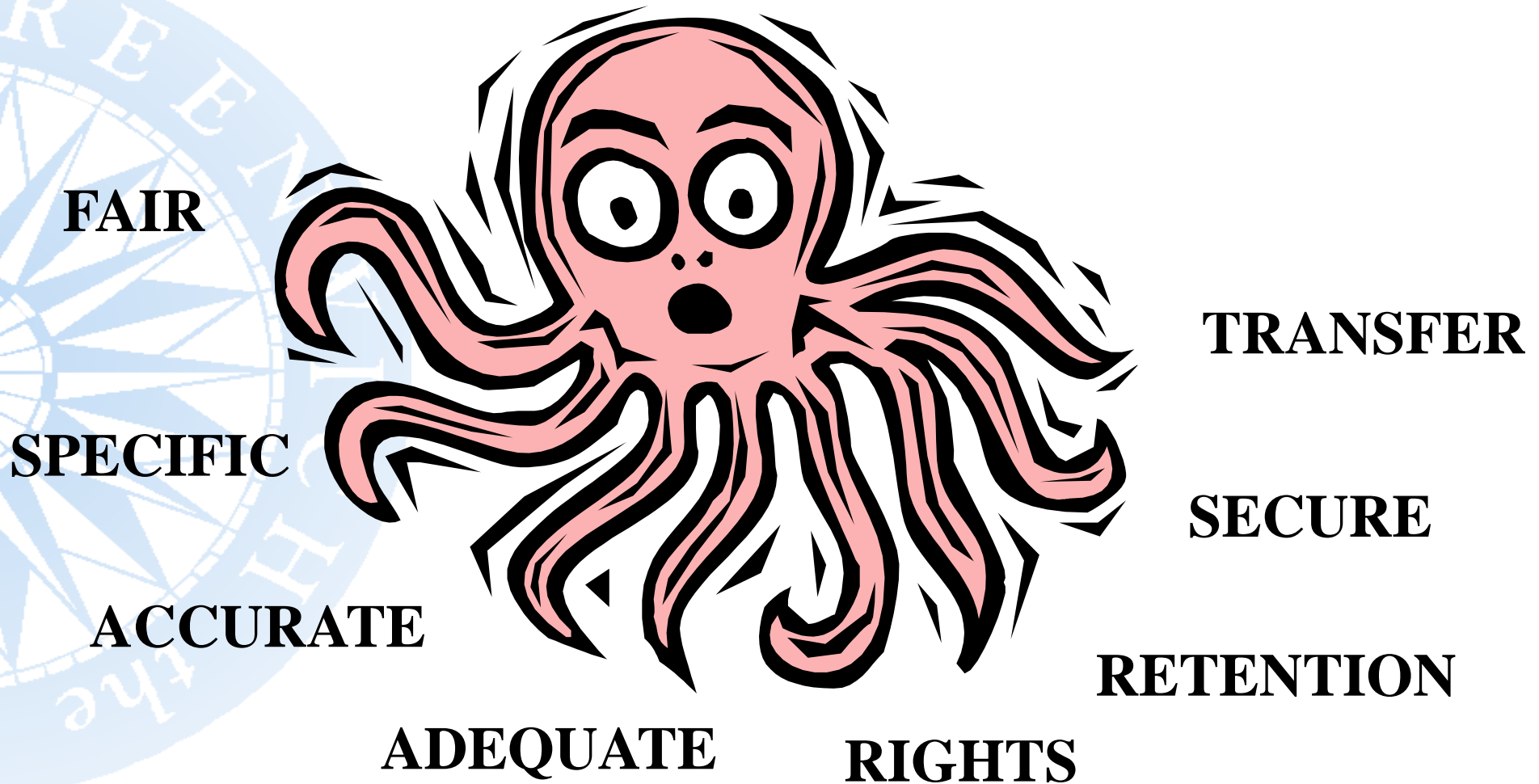
## Obligations of the Data Controller

Data shall:

<b>Fair</b>	be obtained and processed fairly and lawfully
<b>Specific</b>	be held and processed only for specific lawful purposes
<b>Adequate</b>	be adequate, relevant not excessive for the purpose
<b>Accurate</b>	be accurate and up to date
<b>Retention</b>	be kept no longer than necessary for stated purposes
<b>Rights</b>	be processed with respect to the rights of the data subjects
<b>Security</b>	appropriate technical and organisational measures taken against loss, damage, disclosure, unlawful use etc.
<b>Transfer</b>	not be transferred outside EU unless adequate level of protection of rights of the subject guaranteed

*Fish Swim All Around **R**eefs w**R**ecks & Sunken **T**reasures*

# Fish Swim All Around Reefs, wRecks and Sunken Treasures





# Computer Misuse Act 1990

This Act deals with unauthorised access to, or modification of, computer material, (i.e. hacking whether malicious or for amusement). Its scope is remarkably wide, including almost any attempt to modify or impair the function or reliability of any computer, program or data without authority to do so.

n.b. The offender must be aware at the time that their action is unauthorised; for this reason it is recommended that login and other banners be displayed wherever possible.

# Computer Misuse Act 1990

## §1. Unauthorized Access

A person is guilty of an offense if he causes a computer to perform any function with intent to secure unauthorized access to any program or data held on in any computer

## §2. Ulterior Intent

A person is guilty of an offence if he commits unauthorized access with intent to commit an offence or facilitate the commission of an offence (whether by himself or some other)

## §3. Unauthorized Modification

A person is guilty if he does any act or has the requisite intent and knowledge that causes an unauthorized modification of the contents of any computer.

*n.b.* The intent need not be directed at any particular program or data in any particular computer or be any particular modification.

# Freedom of Information Act 2000

The Information Commissioner web site states:

*“The Freedom of Information Act 2000 gives people a general right of access to information held by or on behalf of public authorities, promoting a culture of openness and accountability across the public sector.”*

This should lead to a better understanding about:

- how public authorities carry out their duties
- why they make the decisions they do
- how they spend public money

<http://www.informationcommissioner.gov.uk/>

A fee is applicable and the request should usually be answered within 20 days

# Regulation of Investigatory Powers Act 2000

- This Act defines rules for interception of traffic on all postal and telecommunications networks.
- It applies to all users and operators of networks, whether local or wide area, and to any action which may cause the content of a message to become known to people other than the sender and recipient. The Act and its supporting regulations only authorise certain groups to examine traffic on networks and restrict the purposes for which monitoring and recording can be used.
- Monitoring for business purposes, such as ensuring compliance with acceptable use policies, is covered by a separate statutory instrument.

# Telecommunications Act 1984

Section 43 of this Act concerns “improper use of public telecommunication systems”. It makes it an offence to send untrue messages intended to cause annoyance, inconvenience or needless anxiety; also messages that are obscene or grossly offensive. Not only do such messages contravene the acceptable use policy of most computer networks (including JANET), they may also be criminal.

## CyberStalking: Protection from Harassment Act 1997

a course of conduct (at least two occasions)

- which amounts to harassment of another;
- which the defendant knows, or ought to know amounts to harassment of another.

The defendant ought to know if his course of conduct amounts to harassment if a reasonable person in possession of the same information would think the course of conduct amounted to harassment of the other.

Harassment is not defined, but includes causing alarm or distress, and conduct is defined as including speech.

### Cyber stalking - Alternative Offences

There are a number of alternative offences that can be used to prosecute Cyber stalking if there is insufficient evidence of an offence contrary to the Harassment Act 1997. e.g. Malicious Communication Act 1998 creates an offence of sending letters, which convey indecent or grossly offensive letter or electronic communication or article. Section 43 Telecommunications Act 1984 makes it an offence to send by means of a public telecommunication system a message or other matter that is grossly offensive or of an indecent, obscene or menacing character. This potentially covers the sending of email.

# Computer and Internet-related Crime

- Illegal or offensive material on websites, newsgroups, chatrooms etc
  - Child Pornography located anywhere in the world
  - Adult material that would breach the Obscene Publications Act, but only if the offending site or service is hosted or registered in the UK.
  - Criminally racist material - but only if it is physically hosted in the UK
- Hacking and other computer crimes
- Offensive e-mails (Spam)
  - If someone is exploiting personal information about you in order to send you unwanted e-mail they may be breaching data protection laws.
- Viruses

# Other General Law

## Intellectual Property Rights

- Patents
- Copyright

## Responsibilities to your employees etc.:

- Health and Safety at Work Act
- Companies Act
- Trading Law
- Law relating to third parties

## Other

- e.g. Protection from Harassment





# Copyright

Copyright law and copyright originated in the UK from a concept of common law, the Statute of Anne 1709. It became statutory with the passing of the Copyright Act 1911. The current act is the Copyright, Designs and Patents Act 1988.

**Computer programs regulations in 1992 extended the copyright of literary works to include computer programs.**

Copyright law gives the creators of literary, dramatic, musical, artistic works, sound recordings, broadcasts, films and typographical arrangement of published editions rights to control the ways in which their material may be used.

International conventions give UK copyright protection in most countries, subject to national laws.

# Software Copyright and Patents

- Software may, under various circumstances and in various countries, be restricted by patent or copyright or both. Most commercial software is sold under some kind of software license.
- A patent normally covers the design of something with a function such as a machine or process. Copyright restricts the right to make and distribute copies of something written or recorded, such as a song or a book of recipes. Software has both these aspects - it embodies functional design in the algorithms and data structures it uses and it could also be considered as a recording which can be copied and "performed" (run).
- "Look and feel" lawsuits attempt to monopolize well-known command languages; some have succeeded. Copyrights on command languages enforce gratuitous incompatibility, close opportunities for competition, and stifle incremental improvements.
- Software patents are even more dangerous; they make every design decision in the development of a program carry a risk of a lawsuit, with draconian pretrial seizure. It is difficult and expensive to find out whether the techniques you consider using are patented; it is impossible to find out whether they will be patented in the future.
- The proper use of copyright is to prevent software piracy - unauthorised duplication of software. This is completely different from copying the idea behind the program in the same way that photocopying a book differs from writing another book on the same subject.

	<b>Patent</b>	<b>Copyright</b>	<b>Topography Right</b>	<b>Trade Secret</b>
<b>Subject Matter</b>	Inventions, which may include software. No protection for programs as such	Original works inc. computer programs and (if created pre 7 Nov. 1987) chip designs	Topographies of semiconductor products created since 7th Nov 1987	Any information of a confidential nature
<b>Scope of protection</b>	Monopoly: includes protection against independent creation	Protection against reproduction etc., but not against independent creation	Protection against reproduction etc. but not against independent creation	Total protection possible
<b>Formalities</b>	Substantial: specialist drafting necessary	None (however, use of UCC copyright notice recommended)	None (however, use of EEC topography notice recommended)	No formalities, but confidentiality must be preserved
<b>Cost of protection</b>	Expensive both to obtain and to sue for infringement	No cost to obtain rights May be costly to enforce	No cost to obtain rights. May be costly to enforce	No cost to obtain rights. Maintaining secrecy and enforcement may be costly
<b>Duration of rights</b>	20 years from grant	Life of author + 70 years	10 years from 1st exploitation 15 yrs from creation	Indefinite (i.e. for as long as the information remains confidential)
<b>Enforceability</b>	Effective against all (subject to validity of patent)	Effective against all	Effective against all	Enforcement against third parties may be difficult

# Other Law You Should be Aware Of

- Health and Safety at Work Act
- Companies Act
- Trading Law
- Law relating to third parties



## Health & Safety At Work Act 1974

The law imposes a responsibility on the employer to ensure the health, safety and welfare at work for all their employees (“Duty of Care”).

- As well as this legal responsibility, the employer also has an implied responsibility to take reasonable steps as far as they are able to ensure the health and safety of their employees is not put at risk. So an employer might be found liable for his actions or failure to act even if these are not written in law.
- An employer should assess the level of risk as against the cost of eliminating that risk in deciding whether they have taken reasonable steps as far as they are able.
- The employer's responsibility to the employee might include a duty to provide safe plant and machinery and safe premises, a safe system of work and competent trained and supervised staff. Certain groups of employees may require more care and supervision than others, for example disabled workers, pregnant workers, illiterate workers etc.
- The employer must consult either directly with their employees or through an elected representative on health and safety matters. If there is a recognised union with an appointed safety representative they must consult with them and allow them time off for training in health and safety issues.

## Health and Safety at Work – Further Law

**Any prospective employer setting up a new business should be aware of other important regulations which came about as a result of membership to the European Union and now incorporated into UK law.**

- **Management of Health and Safety at Work Regulations 1999**  
places an obligation on the employer to carry out a risk assessment of the work place and act accordingly.
- **Work place (Health, Safety and Welfare) Regulations 1992**  
deals with any modification, extension or conversion of an existing workplace. The requirements include control of temperature, lighting, ventilation, cleanliness, room dimensions etc. The regulations also provide that non-smokers should be allocated separate rest areas from smokers.
- **The Provision And Use Of Work Equipment Regulations 1998**
- **The Manual Handling Operations Regulations 1992**
- **Personal Protective Equipment Work Regulations 1992**
- **The Health & Safety (Display Screen Equipment) Regulations 1992**

Other relevant Regulations include:

- **Working Time Directive and Working Time Regulations 1998**
- **The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995**
- **The Construction (Design and Management) Regulations 1994**
- **Electricity at Work Regulations 1989**
- **Fire Precautions (Workplace) (Amendment) Regulations 1999**
- **Health and Safety (First Aid) Regulations 1981**
- **Employers Liability (Compulsory Insurance) Regulations 1998**
- **Noise at Work Regulations 1989**

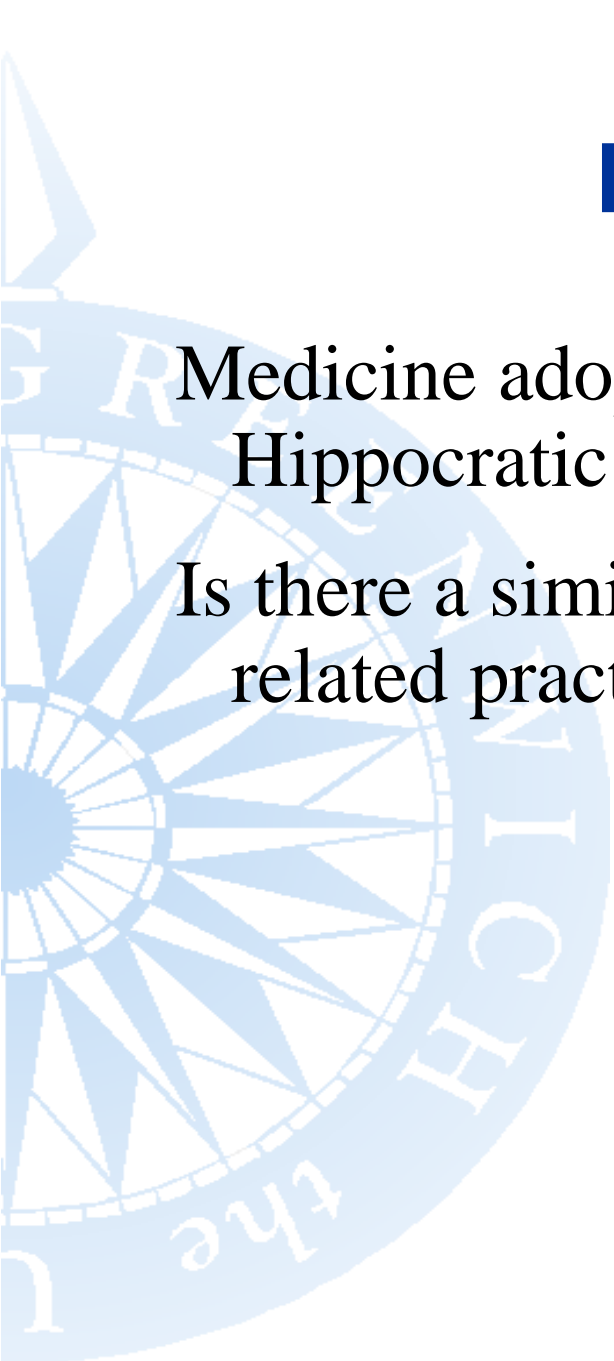
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## 3. Professionalism

# Professional Ethics

Medicine adopted the now largely historic  
Hippocratic oath

Is there a similar code of practice for computer  
related practices?





# Professional Approach

Professions such as medicine and Law are distinguished from other occupations by the period of training and experience required in order to qualify as a practitioner

They are also regulated by professional societies

- Separate legal identity
- Control entry into the profession
- Run by a college of peers
- Sets and enforces standards of professional behaviour and competence

Law is REACTIVE  
Professions have a PROACTIVE role

# A Profession

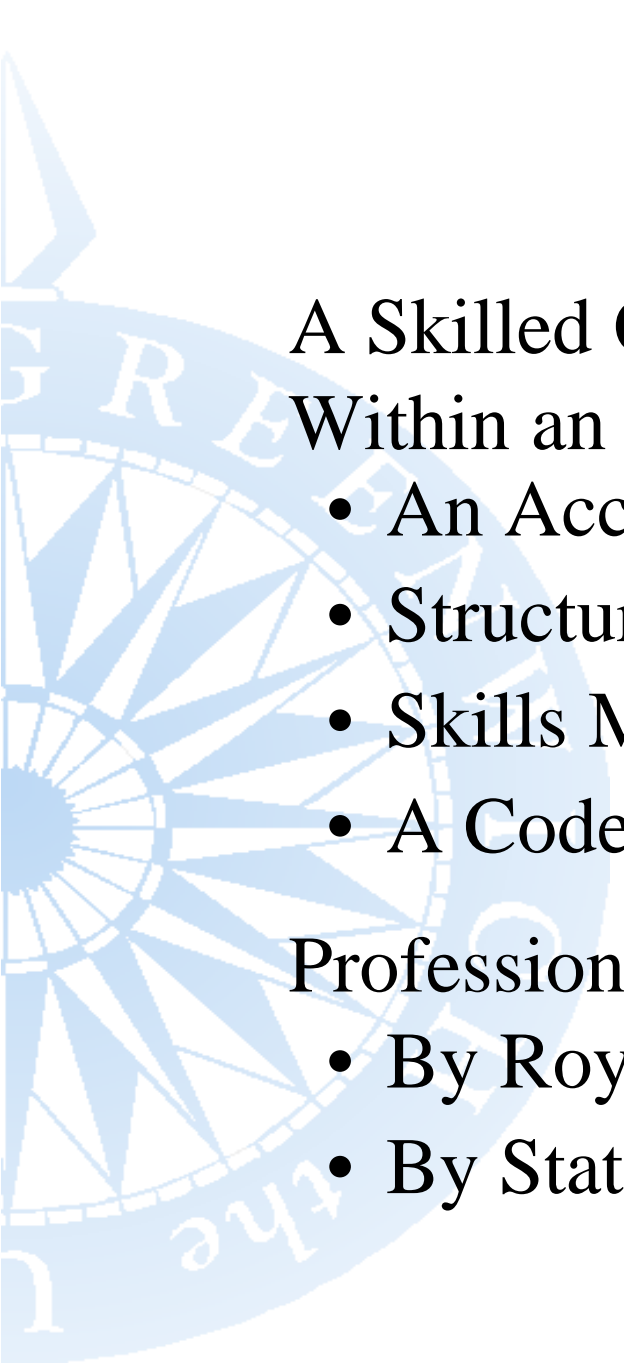
A Skilled Occupation

Within an Organised Framework:

- An Accepted Body of Knowledge
- Structured Training
- Skills Maintenance and Development
- A Code of Conduct and Practice

Professional Bodies Created:

- By Royal Charter
- By Statute



# Chartered Professions

**1518** Royal College of Physicians  
*“To protect the public from the quack & the charlatan”*

**1828** Institute of Civil Engineers

**1831** The Law Society

**1837** Royal Institute of British Architects

**1984** British Computer Society

# The BCS Royal Charter

*“The objects for which the society is hereby constituted shall be to promote all aspects of computing and the use of computers and to advance knowledge and education therein, and to provide for the good of the public at large and the protection of individuals.”*

**Elizabeth the Second** by the Grace of God of the United Kingdom of Great Britain and Northern Ireland and of Our other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith.

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING!

**Whereas** an humble Petition has been presented unto Us by the Company incorporated in the year of our Lord One thousand nine hundred and fifty seven under the Companies Act 1948 as a company limited by guarantee and not having a share capital and known as “The British Computer Society” (hereafter called “the Company”) praying that We should constitute a Corporation incorporated by Our Royal Charter to acquire and take over the assets and carry on the activities of the Company in succession thereto and with such provisions as should seem to Us right and suitable:

**And Whereas** We have taken the said Petition into our Royal Consideration and are minded to accede thereto:

**Now Therefore Know Ye** that we by virtue of Our Prerogative Royal and of Our special grace, certain knowledge and mere motion have granted and declared and do hereby for Us, Our Heirs and Successors grant and declare as follows:

1. The members of the Company and all such persons as may hereafter become members of the Body Corporate hereby constituted shall forever hereafter be one Body Corporate and Politic by the name of “The British Computer Society” (hereinafter referred to as “the Society”) and by the same name shall have perpetual succession and a Common Seal, with power to break, alter and make anew the said Seal from time to time at their will and pleasure and by the same name shall and may sue and be sued in all Courts and in all manner of actions and suits, and shall have power to do all other matters and things incidental or appertaining to a Body Corporate.
2. The objects for which the Society is hereby constituted shall be to promote all aspects of Computing and the use of computers and to advance knowledge and education therein, and to provide for the good of the public at large and the protection of individuals. In this our Charter and the Bye-laws the expressions “Computing” shall include matters concerned with the furtherance of computer science and technology and the design and development of computing systems and applications, and “computer” shall include any form of computing system. Provided that, in pursuing these objects, insofar as they may be similar to those of existing organisations, the Society shall use its best endeavours to co-operate with them and to ensure that its activities are complementary to those of such organisations.
3. In furtherance of its objects (but not further or otherwise and only to the extent to which the same may lawfully be exercised by a body having exclusively charitable objects) the Society shall, subject to this Our Charter and the Bye-laws, have the following powers:-
  - (a) to establish and maintain appropriate standards of education and experience for persons engaged in the profession of Computing or entering upon courses of study in Computing and allied subjects; and to undertake, supervise or encourage the education and training in all matters relevant to the advancement of Computing of persons who are engaged in or likely to be engaged in the practice of Computing paying due regard to the provisions of courses of instruction by other organisations;
  - (b) to establish and maintain a sound ethical foundation for the use of computers, data handling and information technology systems; and to adopt any lawful means conducive to the maintenance of a high standard of professional skill and conduct amongst members of the Society;
  - (c) to maintain a register of persons qualified in Computing by admission to one of the classes of corporate membership of the Society and to enrol persons not so qualified as non-corporate members;

# Professional Codes of Conduct and Practice

Members of a profession Society agree to meet certain duties and responsibilities towards the public, the profession, employers and customers. *e.g.* The Hippocratic Oath “***Primum non nocere***”

For computing and I.T. In the U.K. these are embodied in the **BCS Codes of Conduct and Practice.**

- Covers duties of care, conflicts of interest, competence, confidentiality and legal compliance.
- Encourages awareness and understanding of issues relating to the field of information systems.
- Required condition of membership
- Applies to members of all grades, including students
- Maintained by the BCS Ethics Panel.
- Enforced by the Society's disciplinary procedures.

# BCS Code of Conduct - Four Sections

**Public Interest** – account of the public interest and rights and interests of third parties, e.g. aware of relevant legislation

**Duty to Relevant Authority, i.e. Employers and Clients** – Work carried out to proper standard and practitioners must not exploit position to gain personal advantage

**Duty to the Profession** – Uphold the profession as a whole and support other members, e.g. help junior members develop

**Professional Competence and Integrity** – Keep knowledge and expertise up to date



# Summary

- Ethics are fundamental to professionalism
- In addition to your ethical codes of conduct and practice, as an I.T. professional you have legal duties and obligations
- Law specific to I.T. includes Data Protection, Computer Misuse, Regulation of Investigatory Powers and Freedom of Information Acts
- Other Law you must be aware of includes Health and Safety, Trading and Company Acts and Intellectual Property Right
- Get the contract right and read the small print
- Be professional - Get professional advice



STANLEY WAS DEEPLY DISAPPOINTED WHEN, HIGH IN THE TIBETAN MOUNTAINS, HE FINALLY FOUND HIS TRUE SELF.