

Government and Law

1.1 WHAT IS THE LAW?

We shall define law as 'a set of rules that can be enforced in a court'.

The word jurisdiction is used to mean the area covered by a single legal system and set of laws.

Even within a single country, the law and the legal system may be different in different areas.

1.2 CRIMINAL LAW AND CIVIL LAW

The popular image of the law sees it as the set of mechanisms that tries to punish wrongdoers, by fines or imprisonment. This aspect of the law is known as the *criminal law*.

The purpose of the civil law is to provide rules for settling disputes between people.

A legal person is an organization that has gone through a process, called *incorporation* that gives it the same legal status, so far as the civil law is concerned, as a *natural person* that is a human being.

The person who initiates the court action is known as the *plaintiff*.

For a person to be found guilty of a criminal offence, the prosecution must demonstrate that they are guilty beyond all reasonable doubt. For a plaintiff to win their case under civil law, they only have to show that their claim is correct on the balance of probabilities.

1.3 WHERE DOES THE LAW COME FROM?

The two main sources of law in England and Wales are the *common law* and *statute law*.

The common law is essentially traditional law that is not written down. The common law tradition is shared by many other countries, but is not found in the countries of continental Europe, such as France and Germany.

Statute law is law laid down by Acts of Parliament. It is often referred to as legislation. Technical developments and social changes make new laws urgently necessary. Parliament has passed legislation to bring together the common law in these areas into a single statute.

1.4 THE LEGISLATIVE PROCESS IN THE UK

UK has what is known as a *two chamber* or *bicameral legislature*. This means that the law-making body (the legislature) is made up of two chambers or groups of people. One of the chambers is called the House of Commons; its members are elected and everyone over the age of 18 has a vote.

The other chamber in the UK Parliament is known as the House of Lords; most of its members are appointed, but a significant number are chosen from among the hereditary peers. (About to be obsolete)

Acts of Parliament constitute what is known as *primary legislation*. The complexity of modern society makes it impossible for all laws to be examined in detail by parliament.

The bill is usually introduced first in the House of Commons. If it is approved by the House of Commons, it is passed to the House of Lords. If the House of Lords approves the bill, it becomes an Act of Parliament. And Vice versa.

1.5 THE LEGISLATIVE PROCESS IN OTHER COUNTRIES

In the USA, the legislature is known as Congress. It consists of two houses, the Senate and the House of Representatives. Two senators per state, 7 year 1 elect, Congressman represent a district of roughly same people. Legislation must be approved by both the Senate and the House of Representatives before it can become law; each state has its own legislature,

1.6 SUMMARY

The law is generally divided into criminal law, which tries to ensure that individuals do not act in ways that are unacceptable to society as a whole, and civil law, which provides rules for settling disputes between people.

Computing Profession

2.1 THE CONCEPT OF A PROFESSION

To describe someone as a 'real professional' implies that they can be relied on to carry out their work competently and conscientiously regardless of the circumstances.

A professional body usually starts by a group of people coming together because of a shared interest in a particular type of activity. This establish a code to regulate behavior on professionalism.

The Institute of Electrical and Electronic Engineers (IEEE) is a professional engineering society based in the USA but with members and activities spread worldwide.

2.2 ROYAL CHARTERS

A royal charter is a formal document, written in rather quaint language and signed by the Queen, which establishes the organization and lays down its purpose and rules of operation.

The BCS was awarded its Royal Charter in 1984.

2.3 PROFESSIONAL CONDUCT

All professional bodies lay down a code of conduct that their members are required to obey. Sometimes the code is called a code of ethics. A code of *conduct* sets out the standards of behavior that members of the body are expected to follow in their professional life. The result is a code that is easy for the ordinary member to understand.

1. The Public Interest: This is what society has the right to demand of any professional.
2. Duty to the Relevant Authority: relevant authority means the person or organization that has authority over what you are doing.
3. Duty to the Profession: duh
4. Professional Competence and Integrity: It requires members of the Society to keep their professional skills up to date and to encourage those who work for them to do the same

2.4 EDUCATION

The Society's professional examinations were introduced in 1973. This provide a route by which those who had acquired professional skills in computing as a result of their experience could have these skills recognized and thus qualify for professional membership of the Society.

2.5 THE ADVANCEMENT OF KNOWLEDGE(你们啊，还是要提高自己的姿势水平)

The Royal Charter of the BCS states very specifically that one of its objectives is to advance knowledge of computing. One of the first actions of the BCS when it was formed was to establish *The Computer Journal*, which concentrates on new developments in information systems engineering.

2.6 CONTINUING PROFESSIONAL DEVELOPMENT

For many years, little attention was given to how professionals kept their knowledge up to date after qualifying, to increasing concern that professionals should keep their qualifications up to date and this process became known as *continuing professional development*. The Engineering Council defined continuing professional development (CPD) as: **The systematic maintenance, improvement and broadening of knowledge and skill and the development of personal qualities necessary for the execution of professional and technical duties throughout the individual's working life.**

2.7 RESERVATION OF TITLE AND FUNCTION

Parliament may agree to grant the members of a professional body some sort of legal monopoly. A restriction of this sort is called *reservation of title*. Secondly, the law may state that certain activities are restricted to people with appropriate qualifications. This is called *reservation of function*. Architects Act 1997, bans practice or business under any name, style containing the word architect

Companies and Organizations

An organization is a group of people working together in a formal way.

3.1 THE ROLE OF ORGANISATIONS

A very broad distinction can be made between commercial organizations, which are in business to make money, and public organizations or other non-profit-making bodies.

3.2 COMMERCIAL ORGANISATIONS

The law offers several different ways of setting up and operating a commercial organization. Depending on the circumstances, the business may be operated as a *sole trader*, a *partnership*, a *cooperative*, or a *limited company*.

A sole trader is an individual who runs their own business, and is personally liable for all the debts of the business so that all the trader's assets, are at risk if the business fails.

If a group of people carry on a business to making profits, and is not a limited company, then the law will treat them as being in a *partnership*. Like sole trader, have shared risks. Partnership Act 1890

Cooperatives are another way in which an organization can acquire a legal existence.

By far the commonest form of commercial organization is the limited company. It is also the most suitable form of organization for most businesses.

3.3 LIMITED COMPANIES

The company has corporate legal identity, that is, it is a legal person, completely separate from the people who work in it or the people who own it. Ownership are separated into shares, this distinguish private and public LCs.

3.4 SETTING UP A COMPANY

The commonest way of setting up a company is to buy an 'off-the-shelf' company. The alternative is to create a company specifically to meet the requirements of the business. There are only a few countries in which companies can be set up as cheaply and as conveniently as in the UK.

3.5 THE CONSTITUTION OF A LIMITED COMPANY

In order for a company to be registered, it must have a constitution, stating: The name of the company, The country in which its registered office will be located, The objects of the company, A liability clause, The company's authorized share capital and the number and nominal value of its shares. In addition, the memorandum will conclude with a *declaration of association*:

We, the several persons whose names, addresses and descriptions are written below, are desirous of being formed into a company in pursuance of this Memorandum of Association, and we respectively agree to take the number of shares in the capital of the company set out opposite our respective names.

3.6 DIRECTORS

In small companies, it may well be that the shareholders run the company directly but this is not feasible if there are more than a handful of shareholders; the law requires that the shareholders appoint directors to take responsibility for running the company on their behalf.

3.7 TAKEOVERS, MERGERS AND OUTSOURCING

It frequently happens in modern commerce and industry that one company takes over another; this is particularly frequent in the IT industry. It also happens when an organization outsources its IT activities. Takeover is usually sold and will have resistance from managers, merger is voluntary.

3.8 NON-COMMERCIAL BODIES

Many of the organizations with which we are most familiar come into existence by statute, that is, by Act of Parliament. Such organizations are often known as statutory bodies.

4.1 ORGANISATIONAL MODELS

The ideal bureaucratic organization was thought to have the following characteristics:

1. All tasks are split up into specialized jobs.
2. The performance of each task is governed by precise rules.
3. Each individual is accountable to one and only one manager.
4. Employees are required to relate to other employees and to clients in an impersonal manner.
5. Recruitment is based on qualification and employees are protected against arbitrary dismissal.

The organic model:

An organization will be effective to the extent that its structure is such as to ensure a maximum probability that in all interactions and in relationships within the organization, each member, in the light of his background, values, desires, and expectations, will view the experience as supportive and one which builds a sense of personal worth and importance.

Matrix management:

Like bureaucratic, but only responsible to one manager, not very realistic.

4.2 STRUCTURING PRINCIPLES

Structure by function:

A structure based on functions, with an administrative division, an operations division, a sales and marketing division, and possibly a research and development division, is the commonest type of structure to be found in medium-sized companies.

Structure by geography

In many cases it makes sense to group activities together on a geographical basis. Multinational companies, that is, companies that operate in a number of different countries, are usually forced to have some geographical elements in their structure.

Product Line Structure

A product line structure is a structure that is based around the different types of product that an organization produces. This type of structure is very common in the engineering industry.

Structure by market sector

Structure by market sector means structure based on the different market sectors to which its customers or prospective customers belong. Like software industry.

By technology, separated by software structure for example.

By operation, used by project based organization.

4.3 DEPTH OF STRUCTURE: easy, talk about hierarchy and levels. Command Trees

4.4 CENTRALISATION

Organizations may be centralized or decentralized. In a centralized company, as much power as possible is kept at the top of the company, with delegation only when essential.

4.5 SETTING UP A STRUCTURE IN PRACTICE

In most cases, an organization of any size will have a structure that includes elements of several of the different types of structure described above.

4.6 JOB DESIGN

Setting up an organizational structure implies designing jobs. As soon as a one-person organization becomes a two-person organization, it has to decide who does what; in other words it has to design jobs.

Few jobs in the software industry suffer from the extremes of job specialization that are found in production line jobs. To prevent boredom, job need to be rotated around. But need training.

Finance Accounting and Investment

5.1 WHY CAPITAL IS NEEDED

It is very difficult to start any commercial venture without having some money in hand, because your customers will not be willing to pay you until you have provided them with the service or the product they are buying. If you are setting up a company to build websites, you are likely to need much more money. If you intend to develop a package, the sum of money needed is likely to be even larger. 周转资金, 大公司不付账, flexibility 乱扯.

5.2 THE BUSINESS PLAN

The first step in raising the money is to produce a *business plan*. This explains your plans to potential funders and tries to convince investor that these plans are well thought out and realistic and that the venture is likely to be successful:

1. A description of what the company will be doing, show that it is technically feasible and that the founders of the company have the necessary expertise;
2. Market description, estimate of size, assessment of competition.
3. Prediction of financial performance. Budgets, cash flow prediction, balance sheet.

It's not a prediction, but rather an explanation of your possible success in the future, so people will invest on you.

5.3 SOURCES OF FINANCE

Grants: A *grant* is a sum of money given to the company; which is not meant to be paid back, it's usually provided by government or charity, and usually have conditions. This often depends on the areas. Software engineering can only expect limited assistance by this mean.

Loans: A loan is a sum of money lent to the company; interest is payable on it. It often happens that small companies do not have sufficient assets to cover the loan they are looking for.

Equity Capital: *Equity capital* is money paid to the company in exchange for a share in the ownership of the company, as described in the previous chapter. Business angels are wealthy individuals who provide equity capital for start-up companies and small firms that are seeking to grow rapidly. Venture capitalists are companies whose business is investing in small companies with high growth potential.

5.4 GEARING

The relationship between loan capital and equity capital in a company is important. It is known as *gearing* or *leverage*. Equity provider doesn't gain much until debt is paid, but gains more than loan.

6.1 DISCLOSURE REQUIREMENTS

In return for limited liability, the law requires that, every year, the company produces an annual report, which must be filed at Companies House. So investors can judge the performance. Public LCs will have additional disclosure requirements.

6.2 THE BALANCE SHEET

The purpose of the balance sheet is to show what the company owns – its *assets* – and what it owes – its *liabilities*. It is a snapshot of the state of the company at a particular point in time

6.3 THE PROFIT AND LOSS ACCOUNT

The *profit and loss account* shows how much money has been received and how much has been spent in a given period. In the case of non-profit-making organizations it is usually called an *income and expenditure* account.

6.4 THE CASH FLOW STATEMENT

As we have already pointed out, the income and expenditure account does not show expenditure on capital items, only their depreciation; Cash is defined as 'cash at bank and in hand and cash equivalents less bank overdrafts and other borrowings repayable within one year of the accounting date'.

6.5 THE OVERALL PICTURE

The balance sheet, the profit and loss account, and the cash flow statement can none of them be understood or interpreted in isolation. Their relationship to each other needs to be understood and they need to be looked at together when assessing the financial state of a company.

7.1 PLANNING AND MANAGEMENT INFORMATION: see below

7.2 BUDGETS AND OVERHEADS

A budget is a financial plan showing the expected income and expenditure for an organization over a specific period, typically one year. Costs that cannot be directly associated with a particular product are known as overheads. Because they are costs that ultimately the business has to pay, they have to be added to the direct costs of the products in one way or another

7.3 COST OF LABOUR

The cost of employing someone is more than just the cost of their salary. In most countries, employers are required to pay a tax for every employee.

There may be other costs associated with an employee, depending on the law and the practices of the individual country. Like pension, holiday, annual leave, sick leave.

7.4 ALLOCATION OF OVERHEADS

Once a budget has been agreed, it should be used to monitor the company's financial progress. The first step is to break it down to show monthly income and expenditure – a budget broken down in this way is sometimes called a *profiled budget*.

7.5 CASH FLOW FORECAST

A company may be very profitable but unable to pay its bills. For that reason, it may be forced into receivership. The amount of cash required to allow the company to continue to operate over a period is known as its cash requirement. An initial cash flow forecast is an essential part of a business plan but a well-run company will maintain a rolling 12-month cash flow forecast.

8.1 INVESTMENT PROPOSALS

The company will only have a limited amount of money of its own available and lenders and investors will only be prepared to offer limited amounts. So they need:

The extent to which the proposals are consistent with the company's long-term plans.

The risk attached to the proposals;

The availability of the necessary resources even if the money is available.

8.2 THE TIME VALUE OF MONEY

In general, if the interest rate is r , then the present value of a sum of money X due in t years time is:

$$X/(1+r)^t$$

8.3 APPLYING DCF TO A SIMPLE INVESTMENT PROJECT

The essence of investment is that money is spent now so as to produce benefits in the future.

We need to consider the timing of the cash flows. Cost of Capital, Inflation.

8.4 ASSESSMENT OF A SOFTWARE PRODUCT PROPOSAL

Product may have different cost at different time period.

8.5 PITFALLS OF DCF

Most software took a lot more work than expected, or doesn't meet requirement in first release.

Human Resources and Discrimination

9.1 WHAT ARE HUMAN RESOURCES?

The term 'human resources' emphasizes the fact that the people who work for an organization are an indispensable part of the organization's resources and, very often, the most important part. For this reason, the organization will try to ensure that it always has available the appropriately skilled, qualified and experienced staff that it needs in order to exploit its other assets.

9.2 THE LEGAL CONTEXT

Human resources management is practiced in an environment beset by legislation. Sometimes it involves court and political stuff, worse situations, strikes.

The greater attention paid to the rights of individual employees and the need to comply with anti-discrimination legislation have very considerably increased the workload of human resources departments in the UK.

9.3 RECRUITMENT AND SELECTION

Human resources managers often make a distinction between the two terms recruitment and selection, using recruitment to mean soliciting applications and selection to mean selecting the applicants to whom offers will be made. Increasingly, the two are seen as separate activities and recruitment, particularly at professional level, is being outsourced to specialized agencies.

Using interview, assessment, psychometric tests are also important.

9.4 STAFF TRAINING AND DEVELOPMENT

UK management is frequently criticized for its lack of interest in staff training. Good training keep their skills up to date throughout their working lives

Staff training and development are of particular importance in high technology companies

9.5 REMUNERATION POLICIES AND JOB EVALUATION

One of the major sources of discord and staff dissatisfaction in organizations both large and small is perceived disparities in remuneration. In the public services, this is achieved by using fixed scales that employees move up by annual increments.

Job evaluation is a technique that is often used for comparing the relative worth of jobs and allocating jobs to specific grades. Anti-discrimination legislation has led to the need for organizations to be able to demonstrate that they comply with the doctrine of 'equal pay for work of equal value'.

Job evaluation schemes may be *analytical* or *non-analytical*. Non-analytical schemes involve comparing whole jobs without considering then individual elements and skills that go to make up the job. *Analytical* job evaluation schemes assess each job on the basis of the different elements that are involved.

9.6 APPRAISAL SCHEMES

Programmers need feedback and appraisal to work better. It falls to human resources management to design procedures to avoid this undesirable situation. Appraisal schemes usually involve an appraiser and an appraisee meeting regularly to discuss employee's performance. But it will look artificial.

9.7 REDUNDANCY, DISMISSAL AND GRIEVANCE PROCEDURES

It normally falls to the human resources department to ensure that, when staff are made redundant or are dismissed, the proper procedures are followed.

Unfair dismissal may cause a lot of trouble, it need good reason to dismiss staff, like: lack of capability; misconduct; employer breach of the law; redundancy.

If employer dismissed 20 staff in 90 days as redundancy, this can be consulted.

If employer make employee having no option but resign, this is a constructive dismissal.

Wrongful dismissal: employer break contract and employee sue to be dismissed.

9.8 CONTRACTS OF EMPLOYMENT

Every employee has a contract of employment, whether or not it is written down. If the contract is not written down, the employer must provide the employee with a statement of the major conditions of the employment, including grievance procedures.

9.9 HUMAN RESOURCE PLANNING

If the human resources department is to ensure that the organization always has available the staff it needs, it must be able to forecast the needs some time ahead.

Human resource plans from existing projects, Sale Forecasts, Forecast of likely staff lost.

10.1 THE DEVELOPMENT OF ANTI-DISCRIMINATION LEGISLATION

Three hundred years ago, the laws of England contained many specific statutes embodying discrimination on grounds of sex, religion and wealth. From 1700 to the 1950s, almost all these explicit examples of discrimination enshrined in the law were slowly but surely abolished, but still have sex, religion, and assets ones. The past 50 years have seen a steady stream of legislation aimed at making such discrimination unlawful.

10.2 WHAT IS DISCRIMINATION?

Discrimination means treating one person or one group of people less favorably than another on the grounds of personal characteristics: Sex, race, nationality, disability, sexual orientation, religion, age. These can be indirect, like height limit may have on sex. Under the Harassment Act 1996.

10.3 DISCRIMINATION ON GROUNDS OF SEX

In the UK, this situation was dramatically changed by two Acts of Parliament: the Equal Pay Act of 1970 and the Sex Discrimination Act of 1975.

10.4 DISCRIMINATION ON RACIAL GROUNDS

The first race relations legislation in the UK was the Race Relations Act 1965, in 1968, a further act was passed making it unlawful to refuse housing, employment or public services to people because of their ethnic background. The present law is based on the Race Relations Act 1976 and subsequent amendments to it.

10.5 DISCRIMINATION ON GROUNDS OF DISABILITY

Until almost 20 years after the 1976 Race Relations Act that anti-discrimination legislation was extended to cover discrimination on grounds of disability, in the Disability Discrimination Act 1995. This was followed in 2001 by the Special Educational Needs and Disability Act.

10.6 DISCRIMINATION ON GROUNDS OF SEXUAL PREFERENCE AND RELIGION

In 2000, the EU's Equal Treatment Framework Directive (No.2000/78) was issued. As regards discrimination on grounds of sexual orientation and religious belief, the EU directive is implemented in the UK by the Employment Equality (Sexual Orientation) Regulations 2003 and the Employment Equality (Religion or Belief) Regulations 2003, both of which came into effect in December 2003.

10.6 DISCRIMINATION ON GROUNDS OF AGE

Regulations making it unlawful to discriminate on grounds of age, the Equal Treatment Directive, will not become law in the UK until 2006.

10.7 AVOIDING DISCRIMINATION

The three bodies charged with responsibility for tackling discrimination (the Commission for Racial Equality, the Equal Opportunities Commission, and the Disability Rights Commission) all provide extensive guidance to employers.

IPR, Software Contracts, Data Protection, Privacy

11.1 INTELLECTUAL PROPERTY

The legal definition of theft involves taking away a piece of someone's property with the intention permanently to deprive them of it.

Software can be very valuable, as the balance sheets of companies such as Oracle, IBM or Microsoft show. But software is intangible property. The industry can only therefore protect its assets by using intellectual property rights.

Copyright is, as the name suggests, concerned with the right to copy something.

Patents are primarily intended to protect inventions, by giving inventors a monopoly on exploiting their inventions for a certain period.

Confidential information is information that a person receives in circumstances that make it clear they must not pass it on.

Trade marks identify the product of a particular manufacturer or supplier.

11.2 COPYRIGHT

Copyright law gives the owner of the copyright certain exclusive rights. The rights that are relevant to software and, more generally, to written documents, are the following:

The right to make copies of the work.

The right to issue copies of the work to the public.

The right to adapt the work.

In other words, no one can do any of these things without the copyright owner's permission.

11.3 EXAMPLES OF COPYRIGHT CASES INVOLVING SOFTWARE

First, it is explicitly stated that it is not an infringement of copyright to make a backup of a program that you are authorized to use

Secondly, you can 'decompile' a program in order to correct errors in it.

Thirdly, you can sell your right to use a program, when you do this, you sell all your rights.

Primary infringement takes place whenever any of the exclusive rights of the copyright owner is breached. Secondary infringement involves business. The 1988 Act protects software.

When non-functional code, errors are also copied, it breaches law.

11.4 CONFIDENTIAL INFORMATION

To prevent someone from using or revealing information that they have received in confidence. It is information but not skills. In 1998, Parliament passed the Public Interest Disclosure Act, which provides some protection for employees in these circumstances.

11.5 PATENTS

A patent is a temporary right, granted by the state, enabling an inventor to prevent other people from exploiting his invention. But inventor must apply for patent. The 1977 Act states that an invention can only be patented if it: 1. is new 2. involves inventive step 3. is industrial 4. Not in excluded area.

When a patent application is filed, officials at the Patent Office will search existing patents as well as the literature in the area to see whether the invention has been described before. The requirement for an 'inventive step' means essentially that the invention should not be obvious. The Patents Act 1977 excludes the following: Scientific theories, Mathematical Methods, Literature, Presentation, Schemes.

Designs and Patents Act 1988 both state unequivocally that a patent cannot be granted for a computer program. But not after 1988.

11.6 TRADE MARKS

The law regarding trade marks in the UK is based on the Trade Marks Act 1994, which consolidated and updated existing legislation. The Act defines a trade mark as: . . . **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 (including personal names), designs, letters, numerals or the shape of goods or their packaging.**

11.7 DOMAIN NAMES

Internet domain names are ultimately managed by the Internet Corporation for Assigned Names and Numbers (ICANN). ICANN is an internationally organized, non-profit making corporation.

12.1 WHAT IS A CONTRACT?

A contract is simply an agreement between two or more persons (the *parties* to the contract) that can be enforced in a court of law.

It has : What is to be produced, What is to be delivered, Payment terms, Payment for delay and change, Penalty clauses, Obligations of the client, Standards and methods, Progress meetings, Project managers. Acceptance procedure, Warranty and maintenance, Inflation, Indemnity, Termination of contract, Arbitration, Applicable Laws.

12.2 LICENCE AGREEMENTS

When customers buy some software, they are buying a copy of the software together with the right to use it in certain ways.

12.3 OUTSOURCING

Outsourcing, sometimes known as facilities management, meant by hands over the planning, management and operation of certain functions to another organization. IT outsourcing contracts are inherently complex and depend very much on individual circumstances.

12.6 LIABILITY FOR DEFECTIVE SOFTWARE

The Unfair Contract Terms Act 1977 restricts the extent to which clauses in standard terms and conditions limiting liability can be effective. In a consumer sale, the requirements of the Sale of Goods Act 1979 and the Supply of Goods and Services Act 1982 cannot be excluded. The Unfair Contract Terms Act 1977 again comes to the rescue. Whether or not the sale is a consumer sale, it allows liability to be limited or excluded only to the extent that it is reasonable to do so.

12.7 HEALTH AND SAFETY

The Health and Safety at Work Act (1974) completely changed the approach to safety in Britain. The Act also requires employers to ensure that their activities do not expose the general public to risks to their health and safety.

13 DATA PROTECTION, PRIVACY AND FREEDOM OF INFORMATION

A lot of personal data is being collected, and not updated, lead to problems, Abrakadabra, Act appears. The first UK Data Protection Act, passed in 1984, was designed to implement the provisions of the Convention. Increasing in internet use led in 1995 to the European Directive on Data Protection which, in turn, led to the 1998 Data Protection Act. Also Regulation of Investigatory Powers Act (2000). For protecting data from government, The UK had to wait for the passing of the Freedom of Information Act 2000. Many countries still have no legislation in this area. China LOL.

13.2 DATA PROTECTION

As we have seen, the first UK legislation on data protection was the 1984 Data Protection Act. However, this was superseded by the 1998 Act and it is on this that we shall base our discussion. *Data* means information that is being processed automatically or collected in an intention. *Data controller* means a person who determines why or how personal data is processed.

Data processor anyone who processes personal data on behalf of the data controller

Personal data means data which relates to a living person who can be identified from data.

Data subject means the individual who is the subject of personal data.

Sensitive personal data means personal data relating to the racial or ethnic origin of data subjects

Processing means obtaining, recording or holding the information or data or operate on it.

DATA Protection principles.

1. **Personal data shall be processed fairly and lawfully and in particular shall not be processed unless (a) at least one of the conditions in Schedule 2 is met and (b) in the case of sensitive personal data, at least one of the conditions in Schedule 3 is also met.**
2. **Personal data shall be obtained only for one or more specified and lawful purposes, and shall not be further processed in any manner incompatible with that purpose or those purposes.**
3. **Personal data shall be adequate, relevant and not excessive in relation to the purpose or purposes for which they are processed.**
4. **Personal data shall be accurate and, where necessary, kept up to date.**
5. **Personal data processed for any purpose or purposes shall not be kept for longer than is necessary for that purpose or those purposes.**
6. **Personal data shall be processed in accordance with the rights of data subjects under this Act.**
7. **Appropriate technical and organizational measures shall be taken against unauthorized or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data.**
8. **Personal data shall not be transferred to a country or territory outside the European Economic Area unless that country or territory ensures an adequate level of protection for the rights and freedoms of data subjects in relation to the processing of personal data.**

13.3 PRIVACY

The starting point is the Regulation of Investigatory Powers Act 2000, which sets up a framework for controlling the lawful interception of computer, telephone and postal communications. Under the Act and the associated regulations, ISPs can monitor user only for lawful aspects.

13.4 FREEDOM OF INFORMATION

The primary purpose of the Freedom of Information Act is to provide clear rights of access to information held by bodies in the public sector. The Act does not apply to personal information. The USA also has a Freedom of Information Act. It was passed in 1967 and is thus much older than the UK Act. It is fundamentally different from the UK Act.

The Internet, Defamation, Pornography, Spam

14.1 THE EFFECTS OF THE INTERNET

It has made it much easier for people to communicate with each other, on both an individual and a group basis. It has simplified and speeded up many types of commercial transaction. Development of internet also brings problems – pornography, defamation and spam. Although every country has such laws, they are very different from each other.

14.2 INTERNET SERVICE PROVIDERS

In Europe, the position is governed by the European Directive 2000/31/EC. In the UK this directive is implemented through the Electronic Commerce (EC Directive) Regulations 2002. These regulations follow the EC Directive in distinguishing three roles that an ISP may play: *mere conduit*, *caching*, and *hosting*. ISP is not liable provided it: 1. does not modify 2. have access condition 3. have update rules, 4. do not interfere with law use 5. Remove data when asked to do.

14.3 THE LAW ACROSS NATIONAL BOUNDARIES

If one person do a thing legal in A but not in B, he cannot be arrested, but not if he goes to B.

In 2001, the Council of Europe approved a draft convention on ‘cybercrime’. It deals with child pornography on the internet, criminal copyright infringement, computer-related fraud and hacking.

14.4 DEFAMATION

The Defamation Act 1996 states that a person has a defense if they can prove that:

- (a) **He was not the author, editor or publisher of the statement complained of,**
- (b) **He took reasonable care in relation to its publication, and**
- (c) **He did not know, and had no reason to believe, that what he did caused or contributed to the publication of a defamatory statement.**

14.5 PORNOGRAPHY

Until the late 1980s, a country could expect to enforce its laws regarding pornography reasonably effectively.

In England and Wales, the law relating to pornography is based on the Obscene Publications Act 1959.

An article shall be deemed to be obscene if its effect or the effect of any one of its items is, if taken as a whole, such as to tend to deprave and corrupt persons who are likely, having regard to all relevant circumstances, to read, see or hear the matter contained or embodied in it.

The position regarding child pornography is very different. The Protection of Children Act 1978 and subsequent legislation make the simple possession of indecent, that is, sexually explicit, material involving children a serious criminal offence.

14.6 SPAM

Spam is best defined as ‘unsolicited email sent without the consent of the addressee and without any attempt at targeting recipients who are likely to be interested in its contents’.

The European Community Directive on Privacy and Electronic Communications (2002/58/EC) was issued in 2002 and required member nations to introduce regulations to implement it by December 2003. In the UK, the directive was implemented by the Privacy and Electronic Communications (EC Directive) Regulations 2003.

Computer Misuse and Fraud

15.1 THE PROBLEM

In recent years, the public (or, at least, the media) has been much more concerned about the misuse of the internet than about the more general misuse of computers.

Until 1990, when the UK's Computer Misuse Act was passed, hacking, that is, gaining unauthorized access or attempting to gain unauthorized access to a computer, was not in itself an offence.

As a result of the UK Court of Appeal decision in 1988 to uphold the appeal of two people who had hacked into private mailboxes, legislation to tackle computer crime was brought forward remarkably quickly, resulting in the Computer Misuse Act 1990.

15.2 THE COMPUTER MISUSE ACT 1990

The Computer Misuse Act creates three new offences that can briefly be described as:

1. Unauthorized access to a computer;
2. Unauthorized access to a computer with intention to commit a serious crime; and
3. Unauthorized modification of the contents of a computer.

Section 1, 3 of the Computer Misuse Act 1990 states that:

A person is guilty of an offence if

- 1. He causes a computer to perform any function with intent to secure access to any program or data held in any computer;**
- 2. The access he intends to secure is unauthorized; and**
- 3. He knows at the time when he causes the computer to perform the function that that is the case.**

A person is guilty of an offence if

- 1. He does any act which causes an unauthorized modification of the contents of any computer; and**
- 2. At the time when he does the act he has the requisite intent and the requisite knowledge.**

The requisite intent is an intent to cause a modification of the contents of any computer and by so doing

- 1. To impair the operation of any computer;**
- 2. To prevent or hinder access to any program or data held in any computer; or**
- 3. To impair the operation of any such program or the reliability of any such data.**

15.5 COMPUTER FRAUD

Computer fraud involves manipulating a computer dishonestly in order to obtain money, property, or services, or to cause loss. In 2002, the Law Commission published a report on the law relating to fraud.

This report recommended that a criminal offence of fraud should be introduced covering

False representation (i.e. lying);

Wrongfully failing to disclose information;

Abuse of office that is, using the authority of one's position dishonestly.

The Digital Divide

A digital divide is an economic and social inequality with regard to access to, use of, or impact of information and communication technologies (ICT). The divide within countries (such as the digital divide in the United States) may refer to inequalities between individuals, households, businesses, or geographic areas, usually at different socioeconomic levels or other demographic categories. The divide between differing countries or regions of the world is referred to as the global digital divide, examining this technological gap between developing and developed countries on an international scale.

PROFESSOR PHILIP WADLER's WONDER writing and AMAZING essay skill EXCLUSIVE EXHIBITION!

PHASE 1: the ASTONISHING WRITING!

1) Proofreading

The key to good writing is good reading. It is essential to read what you've written and improve it. Repeat this cycle at least twice: write, read, re-write, re-read, re-write.

2) Design

An overwhelming number of computer-produced documents simply do not look right. Make sure that this is not the case for you. Study well-designed books to develop an eye for good design. Check that the margins and spaces between lines in your document are reasonable. Check that the paragraphs have a good appearance and are easy to read.

3) Spacing and spelling

4) Capitalization

Begin a sentence with a word, not an identifier.

5) Punctuation

Punctuation has a pecking order: comma, semi-colon, colon, and period. A comma denotes a small pause, a semi-colon slightly larger, and colon larger still, and period is so long as to constitute a stop.

Use a comma for parenthetical phrases and conjunction, as described below.

Use a semi-colon to conjoin two distinct sentences; this rule requires little elaboration.

Use a colon to set off a list: think about the ordering of points in your list, separate the points with commas, and put the most important point last.

Use a period to end a sentence.

6) More on commas

Commas should set off parenthetical phrases:

The best way to see a country, unless you are pressed for time, is to travel on foot.

7) Grammar

Don't change tense. Stick either to past or present.

8) The royal we

It is fine to use 'we' in the sense of 'me and you, reader'.

9) Referents

The word “this” always refers to the last preceding noun phrase. If this is not what you wish to refer to, be more specific. Also check “it”, “that”, and other pronouns.

10) Restrictive clauses

A phrase is restrictive if it helps specify the subject of discussion; a phrase is non-restrictive if it adds information about a specified subject.

11) Keep Related words Together

12) Parallel construction

Express related ideas in related ways. Don't introduce variation for the sake of it; rather, use comparable phrases to draw out the comparison.

13) Emphasis

The word very is especially overused; never use it unless the word damn would work as well.

14) Images

Base your writing on powerful images. Visualize clearly. Anonymous advice to writers: Mixed metaphors are a pain in the neck, and ought to be thrown out the window. Avoid clichés like the plague."

SPEECH STUFFS

Have pictures that relevant to speech, Leave space to breath.

Use of “Hat Trick”: “Sanity, seriousness, and sense”

Begin with conclusion, put your nervous into energy.

POWERPOINT STUFFS

Bullet Outlines Dilute Thought

Impoverished resolution coerces slide-makers into using the compressed language of presentations—the *bullet list* of brief phrases. Bullets, little marks sometimes decorative or cute, signal the beginning of each phrase for those unable to recognize it. Sometimes the bullet hierarchies are so complex and intensely nested that they resemble computer code.

By insisting that points be placed in an orderly structure, the bullet list may help extremely disorganized speakers get themselves organized. The bullet list is surely the most widely used format in corporate and government presentations. Bullets show up in many paper reports, as presenters simply print out their PP slides.

By leaving out the narrative between the points, the bullet outline ignores and conceals the causal assumptions and analytic structure of the reasoning. In their *Harvard Business Review* paper on business planning, Shaw, Brown, and Bromiley show that even simple one-way causal models are vague and unspecified in bullet outlines. And more realistic multivariate models with feedback loops and simultaneity are way over the head of the simplistic bullets:

Level i Title of Slide

Level 2 • Very Big Bullet

Level 3 — dash

Level 4 * diamond

Level 5 • little bullet

Level 6 () parentheses ending level 5

GRAPHIC DESIGNS

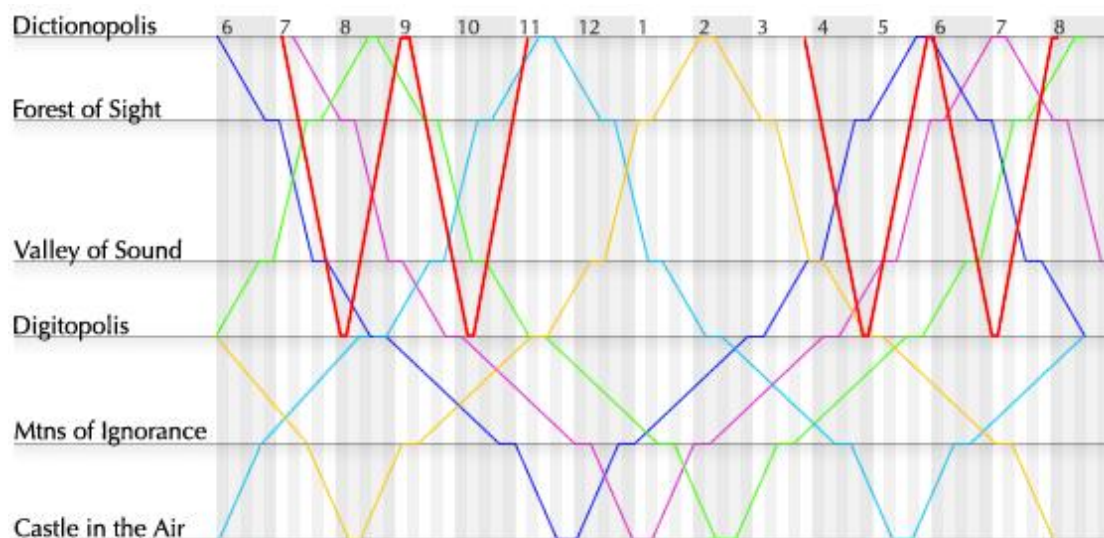
	Southbound											Northbound						
Dictionopolis	6:00	7:05	7:15	8:40	9:12	11:38	2:24	3:52	6:00*	6:02	7:15**							
Forest of Sight	7:02	8:20	9:45	12:42	3:24	7:00*	8:15**					7:45	10:36	1:15	4:55	6:12	7:36	
Valley of Sound	7:50	9:08	10:36	1:30	4:12	7:50*						6:55	9:48	12:30	4:10	5:25	6:48	
Digitopolis	8:50	10:12	11:30	2:30	5:12			6:00	8:12	8:50	10:20	11:35	3:12	4:25	4:55	5:50	7:10	
Mtns of Ignorance	11:00	12:15	1:40	4:36	7:24							9:24	1:00	2:15	3:40	6:38*		
Castle in the Air												6:00	8:24	12:00	1:15	2:45	5:40*	

Red indicates an express train, which stops only at Dictionopolis and Digitopolis.

* Line ends at Digitopolis.

** Line ends at Valley of Sound.

So many questions about this one.



Better one

I suggest that the design of information software should be approached initially and primarily as a graphic design project. The foremost concern should be appearance—what and how information is presented. The designer should ask: What *is* relevant information? What questions will the viewer ask? What situations will she want to compare? What decision is she trying to make? How can the data be presented most effectively? How can the visual vocabulary and techniques of graphic design be employed to direct the user's eyes to the solution? The designer must start by considering what the software *looks like*, because the user is using it to learn, and she learns by looking at it.

Showing results in: "bread"



Waiting For Good Dough by Samuel Biscuit (**Hardcover** - Jul 3, 1953)

Books: [See all 3764 items](#)

Buy new: **\$40.00** **Used & new** from **\$23.86** Usually ships in 24 hours

Excerpt from page 2: "... unless your **bread** machine uses pneumatic pistons or is ..."

[See more references](#) to **bread** in this book.

Surprise me! [See a random page](#) in this book.



The Bun Also Rises by Ernest Hemingwaffle (**Hardcover** - Jun 3, 1926)

Books: [See all 3764 items](#)

Buy new: **\$21.80** **Used & new** from **\$9.86** Usually ships in 24 hours



Yeast of Eden by John Sconebeck (**Paperback** - Sep 3, 1952)

Books: [See all 3764 items](#)

Buy new: **\$20.00** **\$16.50** **Used & new** from **\$6.00** Usually ships in 24 hours

Excerpt from page 1: "... wards off vampires. But **bread** should never be ..."

[See more references](#) to **bread** in this book.

Surprise me! [See a random page](#) in this book.

There are a number of graphic design criticisms one could make—the uniform text size and weight results in a solid, oppressive mass; the abundance of saturated primary colors gives a distracting, carnival-like appearance; the text is spread all over the page, giving the eye no well-defined path to follow. However, the most egregious problem is simply that there is *not enough information to make any sort of decision*. The problem is that this graphic was designed as an *index* into a set of webpages, but is used as a *catalog* for comparing a set of books. The purpose of this graphic should not be to return a list of query matches, but to help the user *learn* about books related to her topic of interest.



Waiting for Good Dough

by Samuel Biscuit. 180 pages, hardcover

Bread machine cookbook. An introductory guide to setting up and using a bread machine, with 80 recipes from basic to exotic. The author, a renowned breadmaster at New York's Biscuit Bakery, guides the novice baker step-by-step, pointing out pitfalls and opportunities for improvisation.

I Love My New Bread Machine, "just what I needed to get going"

Well-written but Simplistic, "doesn't cover many of the fancier breads"

Every Bread Machine Should Come With This, "the foccaccia is delicious"



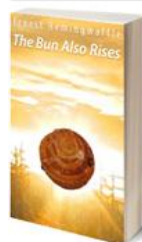
New: **\$40.00**, 7 used & new from **\$23.86**

CONTENTS:

Bread basics
Choosing a bread machine
Getting to know your machine
Your first loaf
Variations on a theme
Tips and tricks
White breads
Egg breads
Whole wheat breads
Rye breads
Multigrain breads
Country breads
Sourdough breads
And for dessert...
Appendix: Crumbs and croutons
Index

RELATED BOOKS:

★★★★★ The Bread Machine Book by Amanda Crumbles
★★★★★ The Bread Batch of Courage by Stephen Crepe
★★★★★ Knead for Speed by Pam Cake



The Bun Also Rises

by Ernest Hemingwaffle. 570 pages, hardcover

Pastry recipes. Over 650 recipes make up this classic reference, beloved by pastry chefs and home cooks throughout the world. The only cookbook endorsed by the National Pastry Alliance, this guide is filled with mouthwatering ideas for restaurant service or entertaining at home.

Inside Tips from a Pro, "an excellent reference for a serious home chef"

Belongs in Everyone's Collection, "I find myself referring to it again and again"

Superb and Authoritative, "an encyclopedia of pastry-making"



New: **\$21.80**, 14 used & new from **\$9.86**

CONTENTS:

Welcome to my kitchen!
Basic doughs
Yeast breads
Flatbreads
Breakfast breads
Croissants and turnovers
Buns and muffins
Cookies
Tarts
Pies and cobbles
Pound cakes
Sponge cakes
Custards and puddings
Sauces and syrups
Index

RELATED BOOKS:

★★★★★ Lord of the Pies by William Goldenbrown
★★★★★ Quit Playing Games With My Tart by Sally Lunn
★★★★★ Hedda Cobbler by Henrik Ibscone



Yeast of Eden

by John Sconebeck. 270 pages, paperback

History of bread. This well-researched and beautifully-illustrated book covers bread's 6000-year history and role in world cultures. The author, a professor at the American Culinary Academy, vividly describes bread's surprising and pivotal roles in politics, religion, and technology, from ancient Egypt to today.

Thorough but Dry, "I was struggling through the dry, academic writing style"


CONTENTS:

The Pharaohs
Ancient Israel
Ancient Greece
Ancient Rome
The Middle Ages
The early Americas
The French Revolution
The rise of science
McComick's revolution
America's wheat empire
World War I
The modern farmer
The bread of the future
Bibliography
Index

This is a significant redesign over the original; yet, I consider it a conservative one. A more ambitious design could surely show even *more* data, perhaps allowing the user to browse within the book or fully explore the space of related books. A world of possibilities opens up with a simple change of mindset. This is not a list of search results—it is an information graphic. It is for *learning*.

Old Joe's Showhouse [Add to My Favorite Theaters]	
17 Main St., Lilliput Theater Info Map It	
Grapes of Khan, The Rated PG-13, 1 hr 22 min Showtimes: 11:00, 4:15, 5:20, 7:45, 9:55, 10:10	Rainman Forever Rated R, 1 hr 33 min Showtimes: 11:55, 3:00, 7:15
Rent and Rentability Rated PG-13, 1 hr 43 min Showtimes: 1:15, 5:15, 9:30	

Although the above graphic clearly has an information deficiency (What are these movies about? Are they good?), the worst problem is that the data is not arranged in any useful manner. Understanding which movies are playing when involves scanning a pageful of theaters, extracting movies of interest and mentally merging their showtimes. A viewer's eye might leap erratically around the screen as she compares showtimes of a given movie at six theaters, trying to find the one that best fits her dinner plans.

 ★★★★★ Rainman Forever Action: An autistic man fights crime on the streets of Gotham. Uwe Boll, Dustin Hoffman, Jim Carrey, Jet Li "137 interminable minutes. I counted them." (Ebert) "He's an excellent driver in a terrible movie." (Boston Sun) "A flop. Definitely a flop." (SF Chronicle)	Old Joe's Showhouse 11:55 3:00 7:15 AMC Lilliput 1:25 2:45 4:20 6:15 7:30 9:25 10:35 UA Easy Street 12:45 3:00 5:00 7:20 9:00 11:00 Gulliver Theater 1:40 4:25 7:20 10:00 Little-End Cinemas 2:15 4:45 7:15 9:35									
	AMC Lilliput 11:45 12:40 2:00 3:30 5:00 6:30 7:30 8:30 9:50 11:30 UA Easy Street 12:00 1:20 2:30 4:30 7:00 8:05 9:15 10:10 12:00 Landmark Quinbus 1:00 2:30 4:30 7:00 8:50 10:00 Little-End Cinemas 11:55 1:15 2:30 3:50 5:05 6:25 7:40 9:05 10:15									

This demonstration and the previous one have attempted to illustrate the power of approaching information software as *graphic design*, instead of as styling the regurgitation of a database. To design excellent software, however, this mindset is necessary but insufficient. Something major is missing.



Many types of context can be naturally expressed in some informative graphical domain, relieving the user from manipulating information-free general-purpose controls. Several more examples will be given in the case study below

NEWS CONTENT

'Extreme surveillance' becomes UK law with barely a whimper

Investigatory Powers Act legalizes range of tools for snooping and hacking by the security services

US whistleblower Edward Snowden tweeted: "The UK has just legalized the most extreme surveillance in the history of western democracy. It goes further than many autocracies."

Because fear of Islamic attack?

Facebook, in Cross Hairs after Election, Is Said to Question Its Influence

During these critical months of the campaign, 20 top-performing false election stories from hoax sites and hyperpartisan blogs generated 8,711,000 shares, reactions, and comments on Facebook.

Facebook has been in the eye of a postelection storm for the last few days, embroiled in accusations that it helped spread misinformation and fake news stories that influenced how the American electorate voted. The online conversation among Facebook's executives on Tuesday, which was one of several private message threads that began among the company's top ranks, showed that the social network was internally questioning what its responsibilities might be.

Paul Horner, the 38-year-old impresario of a Facebook fake-news empire, has made his living off viral news hoaxes for several years. He has twice convinced the Internet that he's British graffiti artist Banksy; he also published the very viral, very fake news of a Yelp vs. "South Park" lawsuit last year.

Featured Person:

Mark Zuckerberg

Mark Elliot Zuckerberg (born May 14, 1984) is an American computer programmer, internet entrepreneur, and philanthropist. He is the chairman, chief executive officer, and co-founder of social networking website Facebook. His net worth is estimated to be US \$55.3 billion as of October 2016, ranking him as the 5th richest person in the world.

Claims Facebook doesn't affect poll that much.

Edward Snowden

Edward Joseph Snowden (born June 21, 1983) is an American computer professional, former Central Intelligence Agency (CIA) employee, and former contractor for the United States government, who copied and leaked classified information from the National Security Agency (NSA) in 2013 without prior authorization. His disclosures revealed numerous global surveillance programs, many run by the NSA and the Five Eyes Intelligence Alliance, with the cooperation of telecommunication companies and European governments.