

# Professional Bodies in Computing

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# The Development of Professional Bodies In Computing

- The Institute of Electrical and Electronic Engineers (IEEE) is a professional engineering society based in the USA but with members and activities spread worldwide.
- The 1<sup>st</sup> professional society in the field of computing was founded in 1946 under the aegis of the IEEE.

- This was the IEEE Computer Society (IEEE-CS) : today it has over 100,000 members.
- It Was closely followed by the Association for Computing Machinery, universally known as the ACM. This was founded in 1947 and now has over 75,000 members.
- The BCS was founded in 1957.
- For many Years , it restricted its activities in computing to hardware and to scientific and engineering software; Nowadays, however, it is active across the whole range of software and hardware.

- The 1960s saw a great expansion in national computer societies.
- Italian Association for Informatics and Automatic Computing was formed in 1961, societies in the individual states of Australia were formed in 1966 and joined together to form the Australian Computer Society.
- The Computer Society of India was founded in 1965, the Singapore Computer Society and the Irish Computer Society in 1967 and German Informatics Society in 1969. The Computer Society of Sri Lanka followed in 1976 and that of Mauritius in 1998.

# Professional Conduct

- All Professional Bodies lay down a code of conduct that their members are required to obey.
- Some times the code is called a code of ethics.
- A code of conduct sets out the standards of behaviour that members of the body are expected to follow in their professional life.

- A code of practice lays down the best way to practice your profession.
- The code of conduct is divided into the following section:
  1. The Public Interest
  2. Duty to the Relevant Authority
  3. Duty to the Profession
  4. Professional Competence and Integrity

# The Public Interest

- Members should carry out their professional duties with 'due care and diligence', that is, with the proper care and attention. This is what society has the right to demand of any professional.
- Members are required to be aware of, and to comply with, relevant aspects of the law and other forms of regulation.
- More generally, they are required to safeguard public health, protect the environment, avoid discrimination and have regard for human rights.

# Duty to relevant Authority

- The term relevant authority means the person or organization that has authority over what you are doing.
- Members of the BCS are expected to behave professionally towards the relevant authority and this means, in particular, the following:
  - Avoid conflicts of interest.
  - Avoid misrepresentation
  - Don't pass on confidential information without permission

# Duty to the Profession

- Like other professions, information systems professionals have not always had a good press.
- System development has been plagued by delays, budget overruns and complete failures, and these have been well publicized .

# Professional Competence and Integrity

- It requires members of the Society to keep their professional skills up to date and encourage those who work for them to do the same; to follow appropriate codes of practice and other standards; and not to claim to be competent in areas where they are not.

# Status of professional codes of conduct

- Most professional bodies have codes of conduct to which members are expected to adhere and most have procedures that allow them to take disciplinary action against members who break their code, with expulsion as the ultimate sanction

# Education

- The BCS promotes education in a number of ways:
  - It runs its own system of professional examinations and grants approval to suitable organizations that provide courses to prepare students for them.
  - It accredits degree programmes offered by institutions of higher education
  - It sets the syllabus for a range of vocational qualifications and accredits training organizations to provide the associated short courses.

# The professional examinations

- The society's professional examinations were introduced in 1973.
- At that time there were only a few degree programmes in computing
- The primary purpose of the BCS exams at that time was to provide a route by which those who had acquired professional skills in computing as a result of their experience could have these skill recognized and thus qualify for professional membership of the Society.

# Accreditation and exemption

- The term accreditation is used with a confusing variety of related meanings. In the context of engineering in the UK, it refers to a process carried out by professional engineering institutions on behalf of the Engineering council. Under this process , specific academic awards made by specific institutions of higher education are recognized as satisfying the academic requirements, or part of the academic requirements, for registration as Chartered Engineer, Incorporated Engineer or Engineering Technician.



- The requirements for accreditation are laid down in a document published by the Engineering Council entitled *The UK standard for Professional Engineering Competence*, usually known as UKSPEC.

## Short Courses

- Through its Information System Examination Board (ISEB), the Society offers a substantial range of qualifications achievable through short courses.



# Continuing Professional Development

- The increasing rate at which new knowledge was becoming available and existing knowledge was being used in new ways led, in the 1970's to increasing concern that professionals should keep their qualifications up to date and this process became known as continuing professional development.

- In October 1994, 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 individual's working life

# CPD services to individual members

- All members of the Society receive a copy of the Society's monthly publication, *The Computer Bulletin*.
- This is the basic mechanism the Society provides to keep its members aware of new developments and current topics of interest to the profession.

# Career development and CPD services to the industry

- For many years, managing IT staff presented many problems to their employers. The chronic shortage of qualified and experienced staff together with the rapid pace of change made the problems particularly acute for large user organization. Such organizations were faced with the problem of where to place IT specialists in their staffing structure. Because of their scarcity, such staff could command high salaries

- The BCS started to tackle this problem in the mid-1980s with the development of the Industry Structure Model (ISM) The model took the form of a matrix of roles, with one dimension indexed by specialty and the other indexed by level, from 1 to 8.
- The ISM has recently been replaced with SFIA plus, an enhanced model based on the skill Framework for the Information age (SFIA). The SFIA is a common reference model for the identification of IT skills, Which has been developed by the SFIA foundation

# The Advancement of knowledge

- The Royal Charter of the BCS states very specifically that one of its objectives is to advance knowledge of computing. Indeed, when the society was founded in 1957, this was its main concern. Many Professional Bodies had the same objective. In practice, however, much of the research that contributes to the advancement of knowledge takes place in universities and in research establishments both public and private. As a result, professional bodies tend to be more concerned with the dissemination of knowledge through their publications, conferences that they organized or sponsor , and various other activities.

# Membership Grades

The BCS has three major membership categories: Standards grades, professional grades and chartered professional status. Membership in the professional grades require degree level qualifications in ITT or substantial experience. For chartered professional status, both degree level qualifications and substantial experience are required

# The Standards Grades

- The Standard grades are Affiliate, Companion, Student and Associate
- Affiliate status is open to anyone with an interest in IT who is prepared to commit themselves to complying with the BCS Code of Conduct and Code of Practice
- Companion status is open to members of other professional bodies with at least five years' work experience related to information systems and who are not eligible for BCS professional membership.

- Those with companion status are entitled to use the letter CompBCS after their name and to describe themselves as a Companion of the BCS.
- Student membership is open to those following an approved course of study leading to a qualification recognized for admission to Associate or Professional membership of the society . Associate membership is open to anyone who has any of the following:
  - More than one but less than five years of IT work experience;
  - A Higher National Certificate in an IT-related field;
  - A non-accredited degree with a significant IT content

# The professional grades

- There are two professional grades: Member and fellow
- In order to qualify for membership in the professional grades, you must have one of the following.
  - The BCS Professional Graduate Diploma including projects;
  - An honours degree that gives you full exemption from the BCS examination;
  - Five years of relevant professional IT work experience;
  - Some combination of academic qualifications and professional IT work experience that is judged to be equivalent to one of the above.

- Members are entitled to use the letter MBCS after their name.
- Fellow is the most senior professional grade. It is open to applicants who can demonstrate a minimum of five years IT practitioner experience and hold a senior IT position or who have an established reputation of eminence or authority in the field of IT. Fellow may use the letters FBCS after their names



# The chartered professional grades

- In order to qualify for Chartered Professional status within the BCS, you must be a Member or fellow holding BCS Professional Graduate Diploma including the project or an honours degree, have five years of relevant professional IT work experience.
- Chartered Professionals are entitled to use the Letter CITP after their names, along with MBCS or FBCS, in the form MBCSCIPT or FBCSCIPT.

- In addition, the society is licensed to nominate Chartered Professionals who hold degrees accredited for CEng or IEng by one of the professional engineering institutions for registration as Chartered Engineer or Incorporated Engineer, as Appropriate.

## Professional Advice Register

- As a service to the public and to its members the BCS maintains a register of those of its members who have the necessary knowledge and expertise to provide advice as consultants or security specialists, or to act as experts witnesses in court

