



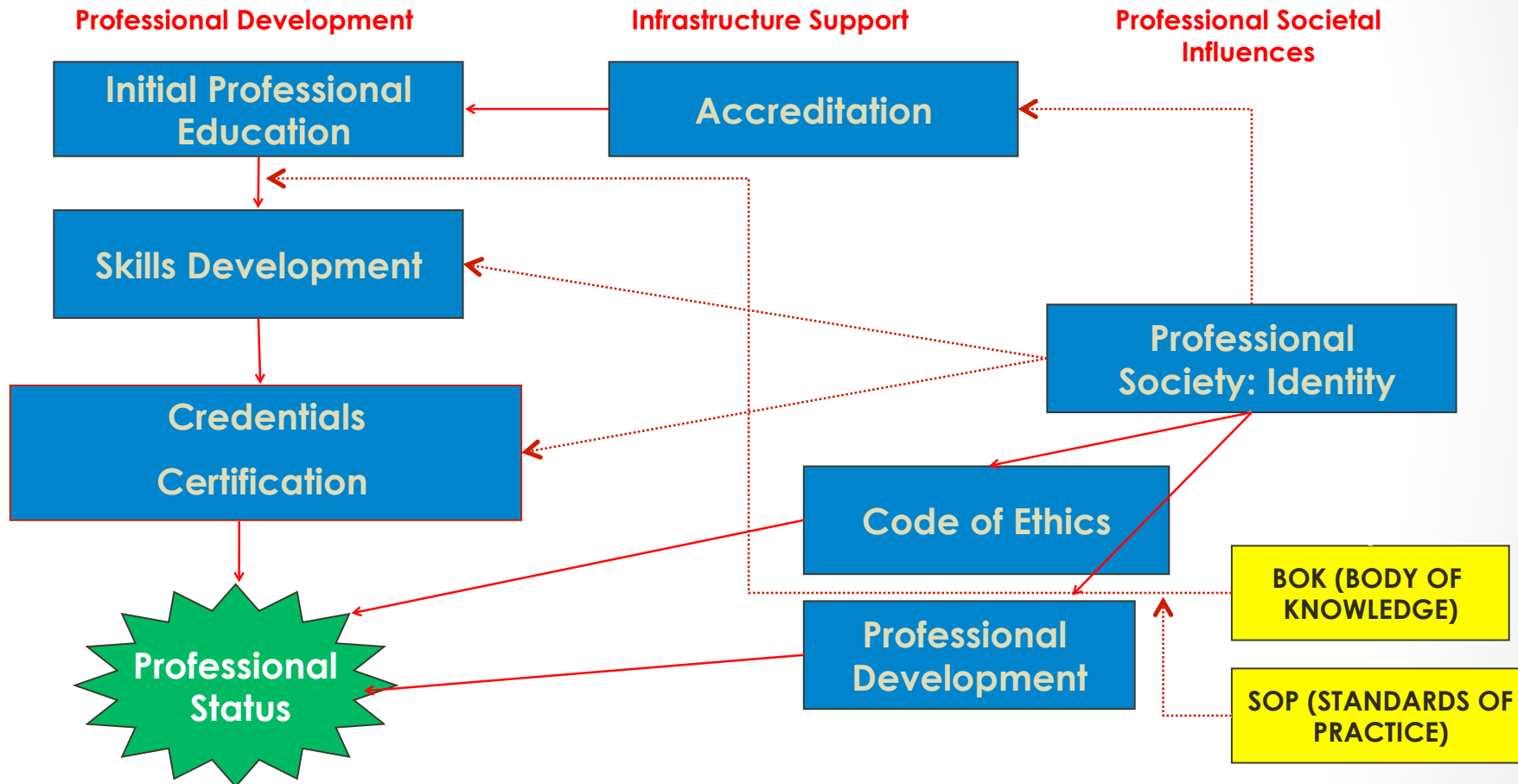
ICT Professionals Shaping Our Future

International Standards

ADICT September 2010

Bob Hart

Australian Computer Society



Seoul Accord



...”an Accord on the accreditation of educational programs in computing and IT-related disciplines”

Why?



- assure the quality of entry-level professionals can contribute towards the general advancement of the computing and IT-related disciplines and cultivate improved professional practice
- potential benefits for all countries or economies in promoting mutual recognition of academic programs that satisfy entry level educational requirements for IT professionals
- Establish a system of substantial equivalency of educational programs in computing and IT-related disciplines

Signatories...



- ABET – USA
- Australian Computer Society
- British Computer Society
- Canadian Information Processing Society
- Japan Accreditation Board for Engineering Education
- Accreditation Board for Engineering Education for Korea
- Hong Kong IE & Taiwan IE (joined in 2009)

Range of Problem Solving



1	Range of conflicting requirements	Involves wide-ranging or conflicting technical, computing, and other issues
2	Depth of analysis required	Has no obvious solution, and requires conceptual thinking and innovative analysis to formulate suitable abstract models
3	Depth of knowledge required	A solution requires the use of in-depth computing or domain knowledge and an analytical approach that is based on well-founded principles
4	Familiarity of issues	Involves infrequently-encountered issues
5	Level of problem	Is outside problems encompassed by standards and standard practice for professional computing
6	Extent of stakeholder involvement and level of conflicting requirements	Involves diverse groups of stakeholders with widely varying needs
7	Consequences	Has significant consequences in a range of contexts
8	Interdependence	Is a high-level problem possibly including many component parts or sub-problems
9	Requirement identification	Identification of a requirement or the cause of a problem is ill defined or unknown

Range of Computing Activities



1	Range of resources (people, money, equipment, materials, information, and technologies)	Involves the use of diverse resources
2	Level of interactions	Requires resolution of significant problems arising from interactions among wide-ranging or conflicting technical, computing, contextual, or other issues
3	Innovation	Involves creative use of knowledge of computing or domain principles in novel ways
4	Consequences to society and the environment	Has significant consequences in a range of contexts
5	Familiarity	Can extend beyond previous experiences by applying principles-based approaches

Graduate Attributes - 1



1.	Academic Education	Completion of an accredited program of study designed to prepare graduates as computing professionals
2.	Knowledge for Solving Computing Problems	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements
3.	Problem Analysis	Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines
4..	Design/ Development of Solutions	Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations
5.	Modern Tool Usage	Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations

Graduate Attributes - 2



6.	Individual and Team Work	Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings
7.	Communication	Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions
8.	Computing Professionalism and Society	Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice
9.	Ethics	Understand and commit to professional ethics, responsibilities, and norms of professional computing practice
10.	Life-long Learning	Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional

Implementation



- CBOOK mapped to Seoul Accord requirements
- New Accreditation Guidelines 2010, trialed at USQ
- ACS to be audited in 2012
- ACS and NZCS have combined to form ANZAB



IP3 Objectives

- Promoting IT professionalism worldwide to:
- Improve the capability to exploit IT
- Build IT professionalism to world standards
- Develop a global profession which is respected and valued
- Represent IT practitioners worldwide and to make their voice heard



Initiative of International Federation for Information Processing (IFIP)

- IFIP founded as UNESCO initiative in 1960 comprising computer societies in over 90 countries including CEPIS and all major European informatics societies
- Aggregate membership of nearly a million

Partnership of National Computer Societies reflecting

- “Licencing” processes are subject to national legal jurisdictions
- Global profession built as a network of “national professions”



The Drivers

- Critical importance of IT
- Forces of globalisation
- Governance and security requirements
- Maturation of IT industry
- Pride and prestige of IT professionals
- Attracting talented people



Accreditation Requirements

- Accountability, autonomy and complexity of role – Professional level is SFIA level 5
- Technical, business and management competences – CBOK and Specialism
- Code of conduct and ethics
- Disciplinary and complaints processes
- Maintenance of certified status - CPD



Audit Requirements

- Based on ISO 17024:2003 (Certification of individuals)
- Compliance with requirements
- Membership standards and policies
- Appropriate governance and structure
- Resources to administer and improve the scheme
- Suitable records management and information systems