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Promoting IT Professionalism in Europe: CEPIS Vision and Action Plan

CEPIS Professionalism Taskforce

Based on the work of the CEPIS Taskforce on Professionalism this paper examines many difficult questions that are fundamental to establishing and promoting IT Professionalism in Europe including: What is IT? What is Professionalism and what are its characteristics? Where is the benefit from a defined IT Profession? What is the value of IT Professionalism? The paper presents the CEPIS vision of IT professionalism in Europe over the coming. Experts from many CEPIS societies contributed their expertise to this work, much needed because Europe's society and economy are both heavily and increasingly dependent on reliable ICT services and products, and IT professionals play a key role in these fields.

Keywords: Benefits of Professionalism, CEPIS Professionalism Taskforce, CEPIS Professionalism Vision, Characteristics of Professionalism, IT Professionalism, Value of IT Professionalism.

Authors

The CEPIS Professionalism Taskforce was established to explore and develop a Professionalism in IT practice agenda for Europe that respects existing cultural and national diversity. The taskforce produced several reports, which have been presented internally and externally to key stakeholders in this domain. The taskforce members include: ***Declan Brady*** (Chair; ICS, Ireland), ***Prof. Dr. Klaus Brunnstein*** (GI, Germany), ***Prof. Dr. Dirk Deschoolmeester*** (FBVI-FAIB, Belgium), ***Fernando Piera-Gómez*** (ATI, Spain), ***Dr. Eng. Malgorzata Kalinowska-Iszkowska*** (PTI-PIPS, Poland), ***Paolo Schgör*** (AICA, Italy), ***Adam Thilthorpe*** (BCS, United Kingdom), ***Prof. Julius Stuller*** (CSKI, Czech Republic), and ***Dr. Hans Jurgen Pollirer***, (OCG, Austria). For more information about the activities of this group see <http://www.cepis.org/index.jsp?p=827&n=940> or write to <info@cepis.org>

1 Introduction

The concept of Professionalism has been widely accepted as a key issue for all informatics societies that form the members of Council of European Professional Informatics Societies (CEPIS). Since 2007, the CEPIS Professionalism Taskforce has been engaged in a range of deliberations, consultations, and meetings to build the foundations for a coherent strategic approach to the topic.

This paper aims to outline the foundations of such an approach. The Taskforce on Professionalism has proposed a common definition of Professionalism as it relates to IT, and elaborated the benefits of Professionalism. This paper sets out the CEPIS vision regarding Professionalism and details the steps that will be taken in the short to medium term to promote Professionalism and its benefits to individuals, organisations, and policymakers in Europe in the coming years.

What is IT?

An area that is so broad, is interconnected with so many different spheres, is almost ubiquitous (is certainly endemic) and at the same time is so rapidly evolving, defies neat definition. Attempts at definition generate much – sometimes heated – debate, and fall foul of boundary issues. Both the Profession itself, and the Quality it espouses, are subject to continuous evolution, and corresponding definitions must be adaptable. The definition cannot be too broad, lest it become misleading (is the use of a spreadsheet IT?), nor can it be too narrow, lest it result in loss of relevance.

All definitions create boundaries, and it is clear that the boundaries of IT pose difficult challenges. The Taskforce took a view that it is desirable, at this stage in the development of the IT Profession, to eschew the boundaries, and to consider in reality what IT is at its core; the Taskforce therefore offers the following definition of the essential substance of IT, as the foundation for further debate:

"IT, or Information Technology, is the study, design, development, implementation, support or management of digital information systems (particularly software applications and computer hardware), and by them solving stakeholders' problems through the management, manipulation, storage and processing of data and information by

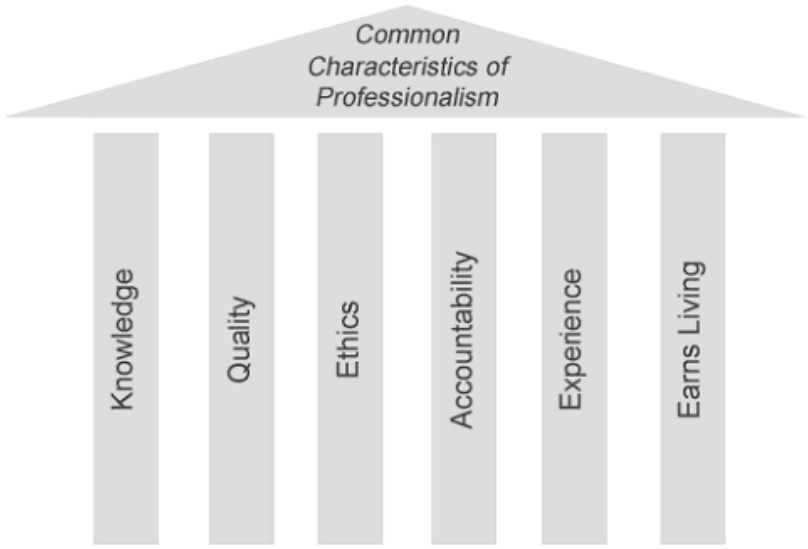

Figure 1: Common Characteristics of Professionalism.

technological and methodological means."

An IT Professional, then, is a person whose work is defined as in the domain of IT, and in whose work is exhibited the characteristics of Professionalism as described in this paper.

It is important that definitions perhaps need to be cautious, so as to not hinder progress (e.g. consider Tim Berners-Lee – inventor of the Web – who by most extant definitions could not qualify as an IT Professional).

There is always the challenge of "domain crossover", exemplified by the interconnected and multidisciplinarian nature of IT, as it interacts with other spheres. A typical example is the IT Project Manager, who faces a split between being a professional Project Manager who specialises in the field of IT, or an IT Professional whose main practice is in Project Management.

2 What is IT Professionalism?

The Taskforce has developed a description of Professionalism, as being the exhibition of six *common characteristics that are required to be demonstrated by an individual if they are to be described as a "Professional"*: This definition is specific enough to allow consensual progress toward common goals while broad enough to encompass different emphases that existing across the member societies of Europe.

It is important to highlight the clear distinction between the *IT Professional* and others who work in IT, referred to as the *IT Practitioner*. A practitioner need only derive his or her living from the sector and may or may not possess other attributes, whereas a professional must draw together all of the common characteristics. It is important that the IT Profession can clearly articulate the benefits of being an IT Professional, and offer suitable opportunities to IT practitioners to gain sufficient appreciation of the common characteristics to allow them, where appropriate, to progress to being someone who meets all the requirements of being IT Professional.

A professional is said to be professionally competent if he/she exhibits these six characteristics. These characteristics have been defined in the following way.

Common Characteristic of Professionalism

Knowledge

For the IT Profession, there is a common body of knowledge that should be known, which is supplemented by more specific knowledge and skills associated with the Professional's area(s) of specialism. As it is necessary for knowledge to be continuously maintained and developed, several tools and framework have already been defined to assist in this task, including the European e-Competence Framework, CEPIS's EUCIP programme, and other national level frameworks such as SFIA (UK), AITTS/APO (Germany) and CIGREF (France).

The IT Professional demonstrates and develops their knowledge through university education, third party certifications, and continuous professional development and on the job training.

Quality

Quality in IT can often be measured against pre-defined standards, such as assurances contained within a service level agreement, adherence to a customer service charter, or quality in terms of meeting the requirements of an externally set standard such as ISO, for example in a software development environment. Quality can also contribute to innovation, through continuous improvement of processes and development methods. Quality cannot be considered by the fixed concept, but is relative depending on a range of factors, including budgetary constraints, mission criticality, and customer expectations.

The IT Professionals' commitment to quality can be measured by their adherence to quality standards in place in their organisation, through their commitment to offering customer service against agree metrics, or through their adherence to service management criteria, such as those specified in ITIL[1].

Ethics

Ethics in the IT Profession frames the boundaries of relationships with customers, colleagues and society. The ethical characteristic can take many forms, including Codes of Conduct to cover integrity, confidentiality and competence; initiatives around the accessibility of IT or promoting Green IT; or aspects such as safeguarding against the spread of software piracy.

The IT Professionals' commitment to ethics can be displayed by demonstration of ethical professional practice against an agreed code of conduct or by contributing to initiatives to manage the safe use of IT, to minimise energy wastage or maximise accessibility of IT services.

Accountability

The Professional takes personal responsibility for the quality and effectiveness of his or her work, taking care to produce quality output, and taking action to redress deficit and defect. As with the concept of quality, the concept of accountability is relative, and depends on the context. Accountability is both to others (society, customers) and to oneself.

The IT Professional's degree of accountability can be identified and measured through their level of responsibility the professional has for a project or development process. Accountability is seen as being proportional to the level of experience and/or the level of seniority of the Professional.

Experience

A Professional is expected to have practical experience of the competence being exercised. Such practical experience is clearly smaller in the recently qualified Professional, and proportionately greater in the senior Professional. The Professional is expected to leverage this experience to the benefit of the customer, employer and society alike. Since experience is accumulated over time, there must be a proportional relationship between the level of experience of any Professional and the associated level of accountability expected.

The IT Professional's curriculum vitae should clearly outline experience gained over years of practice, which is often linked to increasing levels of accountability. Experience can also be stored as tacit knowledge which may only become known to others when it is applied in a similar work situation as when it was attained.

Earns Living

The condition that a significant proportion[2] of one's work should be based on practice can be used to define the "true" Professional. This differentiates a Professional from someone whose vocational engagement with IT is partial or peripheral. This characteristic should be sufficiently flexible to accommodate instances when a professional is, for example, engaged in activities such as education for a period.

The IT Professional's income should be primarily derived from activities relating to IT.

Cui Bono?

Who benefits? Why do we want IT Professionalism? If quality is the central defining characteristic of the IT Professional, then – leaving aside for a moment the choice of definition of quality – everyone benefits. At a more immediate level, the Professional benefits from enhanced reputation. By extension, the customer benefits from the higher quality of the product of the Professional, and so too does the employer, the industry and so on[3]. Less obviously, there are wide benefits of varying degrees to all stakeholders from greater mobility of workers, transparency of qualifications and standards, ethical awareness, wider discussion of issues, promotion of professional standards, and so on. This is certainly the case with established Professions, and it seems natural that similar benefit should accrue to the IT Profession.

It is important to look at the cost/benefit of Profession-

[1] <http://www.itil-officialsite.com/home/home.asp>.

[2] In the case of the BCS, this proportion is 50%.

[3] For an interesting catalogue of risks posed by IT, see Illustrative Risks to the Public in the Use of Computer Systems and Related Technology at <http://www.csl.sri.com/users/neumann/illustrative.html>.

alism. Bearing in mind that competition comes from all across the world, Europe needs to look at maintaining its competitive advantage through producing higher quality professionals, as it cannot hope always to compete on pure labour cost.

A cautionary note, and one worthy of further research: While it can be considered self-evident that a professional approach and a professionally produced product is to be preferred, it remains something of an open question whether or not the market – in the form of employers and consumers – universally expresses a preference for this in its formal sense[4]. The business case for IT Professionalism needs to be made to both the consumer of IT products and services (society), and the consumer of IT labour (industry); demand for IT Professionalism is likely to be balanced between public demand and demand from practitioners.

3 The Value of IT Professionalism

Promoting this multifaceted definition of Professionalism – and more importantly establishing a recognised body of individuals who possess these characteristics – will have a number of tangible benefits that will accrue to the individual, to organisations, and to society more broadly.

Benefits of Professionalism

Quality of Service:

Quality is a central defining characteristic of the IT Professional, and everyone benefits from this – the Professional, their customers, and society at large. The cost of IT failure has been enormous, and well publicised. Avoiding failure – and more specifically delivering a service that meets and exceeds the expectations of customers – is not just important for organisations but can be important at a national and international level. The increased quality of service received by customers will also potentially lead to increased customer satisfaction and contribute to higher customer retention for companies.

Mobility of Labour and Services:

The ability of individuals to describe themselves against a common standard and for organisations, large and small, to have clarity about the attributes of potential employees or service providers is essential. A shared and well articulated definition of Professionalism delivers on this. It will assist Professionals to move within organisations, sectors, countries, and internationally to seek employment and to offer services.

Mobility of labour will contribute to reducing potential shortages of IT Professionals across Europe, which was identified as a potential issue for the industry in research conducted by CEPIS, with possible shortages of up to 70,000 IT practitioners per year in Europe, as supply falls short of demand[5].

Recognition of Value:

Individuals who can credibly describe themselves as being a Professional will be able to clearly differentiate themselves from others who may, to a greater or lesser degree, be able to describe themselves as practitioners. This differentiation will have benefits in terms of monetary and non-monetary recognition that the services that Professionals provide are valuable and, indeed, essential to organisations and to society.

European IT Professionals will be able to harness this recognition of value to continue to win business when competing in the international marketplace. Within Europe, consumers will have greater confidence in the IT Professional and the products and services they provide.

Promotion of Innovation:

Professionals are in a particularly strong position to drive innovation. They combine experience, up-to-date knowledge and appreciation of the potential of technology, and accountability and authority in a way that allows them to be both creative and proactive in problem solving and implementing change. They understand the challenges and potential of their organisations and customers, and therefore will be a key source of both innovative thinking and practical change.

Fostering an IT Professionalism culture across Europe will contribute to innovation that drives increased value and efficiency for organisations and economies.

A Competitive Advantage for Europe:

Professionalism, mainly as a result of the impact of the other benefits, can give Europe a clear advantage in the global market for IT services. This global market is highly competitive and highly dispersed. It is clear that Europe is best placed to compete for high-value, high-value services. A European IT sector that is built on a foundation of Professionals with a shared understanding of Professionalism will

[4] A study [13] by the Consultative Committee for Professional Management Organisations (CCPMO) in the UK indicates that, for the management professions at least, there is economic benefit associated with membership of professional institutions, and that employers associated a premium with this. It seems reasonable to assume that there would be a comparable effect for the IT Profession. An economic impact assessment of the CCPMO, Jonathan Chapman, Dr. Gavan Conlon, Patrice Muller, London Economics, December 2008.

[5] Thinking Ahead on e-skills for the ICT Industry in Europe - <http://www.ecdl.org/files/cepis/20090901023457_Thinking%20Ahead%20on%20e-Skills%20in..doc>.

have a definite advantage in positioning itself as the leading provider of these services.

4 The CEPIS Vision for IT Professionalism

It is the goal of CEPIS Taskforce on Professionalism to foster a pan-European understanding of the concept of IT Professionalism, and from this to develop and promote a pan-European Professionalism in IT, where achievement of Quality is the core factor, which spurs innovation, and which drives benefit to the practitioner, to the enterprise, and to society. Such Professionals will be ambassadors of the profession to other communities, evangelists of the Professionalism ideal to other practitioners and aspirants, and will drive value and innovation.

This will be implemented by means of engagement with national informatics associations through which an IT practitioner can embark upon a process of professionalisation that will activate a value chain throughout society.

In order to attain this top-level vision, a series of closely linked goals needs to be elaborated that can inform specific CEPIS Professionalism actions over the coming five years.

Validate and promote a pan-European understanding of IT Professionalism:

The definition of professionalism proposed here will be articulated and validated both within member informatics societies and to relevant stakeholders, including national and European policy makers, industry, and education. The definition that will be the outcome of this consultation and validation should position IT Professionalism as a set of common characteristics held by an individual or group of individuals that point to how these individuals should be expected to behave and perform.

Articulate and convey the benefits of IT Professionalism to stakeholder groups:

The establishment of an agreed definition is an essential precursor for the central goal: communication of the benefits of Professionalism. Its importance may be accepted within the profession, but it should also be appreciated within the broader environment in which the Professional operates, amongst large and small employers, IT customers, governments, and individuals, including Professionals and practitioners. The identification and analysis of the benefits – for example, improved quality, innovation, competitive advantage - and subsequent dissemination will ensure that there is a common understanding of what is expected of an IT Professional, within the industry and beyond.

Investigate and utilise formal and informal structures to promote Professionalism:

Several approaches have been devised over recent years to assist in structuring the IT Profession and to give consistency to how it is conveyed in Europe. This has included the development of national and European profiles for the Profession, frameworks to define competences of IT Professionals (e.g. e-Competence Framework), competence development schemes such as EUCIP, as well as national level initiatives within member societies to promote some of the characteristics of an IT Professional. CEPIS will look to collate, catalogue and critique the existing structures that are used in the IT Profession. This will provide examples of current practice that may be able to be adapted for wider use across Europe. In addition, CEPIS will seek to build on existing work to create practical tools for developing and promoting professionalism.

