IT as a Profession: Is Competent Creation the Primary Goal?

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In a recent article, James Steib made the following assertion: “the primary goal of professionalism is competent creation.” This idea offers something intuitively satisfying if you’re a computing professional—if you create things competently, you’re acting professionally, right? But according to some scholars of professional ethics, the unsettling answer is often “no.”

In This Issue
Before we discuss the professional ethics angle, let’s first consider the four articles in this issue that explore aspects of professionalism in more detail, some even from international perspectives. In particular, these articles explore what IT professionals know (as reflected in the body of knowledge), what they do (such as implementing business intelligence and protecting information integrity), and how they’re perceived (as reflected in the media).

A cornerstone of a well-defined profession is its body of knowledge, which—along with the skills associated with that knowledge—is in large part how a profession stakes its claim for special status. In the article, “An IT Body of Knowledge: The Key to an Emerging Profession,” William Agresti describes the ongoing joint effort by the IEEE Computer Society and the ACM to define what lies at the core of information technology. In particular, Agresti points out the importance of an IT body of knowledge in making a clear distinction between computer-enabled jobs and the work that IT professionals do.

If IT professionals are destined to become a highly differentiated group (analogous to physicians and lawyers, for example), the public at large will have to form a generally favorable view of who we are and what we do. Ángel García-Crespo, Ricardo Colomo-Palacios, Juan Miguel-Gómez, and Edmundo Tovar-Caro explore the public’s current perception in their article, “The IT Crowd: Are We Stereotypes?” As professionals, we want to think we aren’t, but you’ll learn from this article that at least one TV show isn’t helping.
Stijn Viaene looks at professionalism from a different, tightly focused perspective in his article, “Linking Business Intelligence (BI) into Your Business,” which examines the impact an IT professional can have over an entire enterprise by applying advanced techniques for extracting useful information from potentially massive amounts of data. When BI becomes a foundation for an enterprise, IT professionals cease to be merely peripheral and instead become central players.

A fourth view of IT professionalism is in our own article, “Information Integrity and IT Professionals’ Integrity, Intertwined.” We originally developed the ideas presented in it for a report on computer security issues, but we expanded the text to explore the relationship between the Software Engineering Code of Ethics and Professional Practice (approved by the IEEE in 1999) and three threats to information integrity: incompetence, conflicts of interest, and lack of transparency.

**Ethically Speaking**

All of these articles discuss competence, which is consistent with the assertions that competent creation is central to—if not the single primary goal of—computing professionalism. However, we offer a counterclaim: competent creation of IT artifacts (software or hardware) is only part of the work IT professionals do. For example, support, maintenance, administration, and dozens of other job descriptions aren’t specifically about creating things, so are those who “create” the only true IT pros? This seems to be an arbitrarily narrow view because it ignores two essential components of professionalism, which are serving customers and paying attention to the public. The attractive simplicity of “primary goal = competent creation” is, at best, an oversimplification.

Fundamentally, Steib and many other IT professionals want to limit ethical consideration to the individual professional and his or her work tasks. This single-minded focus is elegantly simple, but it contradicts both ancient and recent thinking about what a professional is and should be. Rather, many ethics scholars insist that true professionals must take more than their job functions into account when determining their actions’ ethics. Specifically, a true professional must always consider the public good.

This isn’t a new argument. Two millennia ago, Cicero issued an ethical imperative, calling engineers to take nonengineers into account. “Cicero’s Creed” requires engineers to take responsibility for public safety, and the same theme appears in modern ethics codes that are relevant to IT professionals:

- The first clause of the IEEE Code of Ethics (www.ieee.org/portal/pages/iportal/aboutus/ethics/code.html) focuses on responsibilities to the public (specifically, “to accept responsibility in making decisions consistent with the safety, health, and welfare of the public, and to disclose promptly factors that might endanger the public or the environment”).
- The first “moral imperative” of the ACM Code of Ethics (www.acm.org/about/code-of-ethics/#CONTENTS) states the obligation to “contribute to society and human well-being,” and the second imperative is to “avoid harm to others.”
- The Software Engineering Code of Ethics and Professional Practice (http://seeri.etsu.edu/Codes/TheSECode.htm), approved by both the IEEE and the ACM, has as its first principle, “software engineers shall act consistently with the public interest.”
- The Association of Information Technology Professionals has a less broadly stated clause about members’ obligations to society in its Code of Ethics (www.aitp.org/organization/about/ethics/ethics.jsp), with the oath, “I have an obligation to society and will participate to the best of my ability in the dissemination of knowledge pertaining to the general development and understanding of information processing. Further, I shall not use knowledge of a confidential nature to further my personal interest, nor shall I violate the privacy and confidentiality of information entrusted to me or to which I may gain access.”
- ABET, the organization that accredits academic engineering programs, also promotes a Code of Ethics for all engineers (http://wadsworth.com/philosophy_d/templates/student_resources/0534605796_harriscases/Codes/abet.htm) in which the first “fundamental canon” states that “engineers shall hold paramount the safety, health, and welfare of the public in the performance of their professional duties.”
All five of these codes include references to competence in their other clauses. Although we could argue that some codes emphasize the primacy of responsibility for public safety more than others, each of these reflects the importance of responsibilities to the public that go far beyond competent creation.

An engineer trying to interpret these codes might reasonably ask, “Who is the public? Is it everyone in the world or anyone directly affected by the engineer’s work?” Both of these are possible answers, but “everyone” seems so broad that it’s practically meaningless, and “anyone directly affected” might be too narrow. Michael Davis considers this issue carefully in a recent article published by the Center for the Study of Ethics in the Professions. He suggests that the “public” with which engineers should be most concerned are those people who will be affected (both directly and indirectly) by the engineer’s work without having a chance to understand the consequences of that work and without having the option of removing themselves from those consequences. This is the public that Davis says engineers have dedicated themselves to protecting in their ethics codes.

Naturally, there are limits to what an IT professional can predict about how his or her work will affect other people. When a programmer helps develop a programming language compiler, for example, he or she can’t reasonably know who will eventually use that compiler and for what specific purpose. In this particular case, competent creation might indeed be an appropriate strategy to fulfill ethical responsibilities. However, this same programmer might also be working on a Web crawler whose specific purpose is to harvest email addresses to sell to spammers. It seems disingenuous for this person to claim that the only legitimate ethical concern here is competent creation.

Clearly, adopting an ethical stance that emphasizes the public good is potentially expensive for IT professionals and their employers. It costs time and money to even consider whom our IT artifacts will potentially affect. And once considered, the public good might require an IT professional and his or her employer to forego profitable but ultimately unethical projects. The broad considerations a genuine concern for the public mandates can go far beyond buyers and users. Indeed, the skills necessary to envision the eventual effects of technical IT decisions are part of what separates a professional from someone who isn’t.

So, unless we’re willing to abandon the traditional responsibilities of a true professional (including those made explicit in ethics codes), each IT professional and anyone who employs one should be expected to invest the time, effort, and money to make a good-faith effort at protecting the public good in their work. We’re called to create competently, but our responsibilities go beyond that.

As you read the rest of this issue, we invite you to keep an open mind about what it means to be an IT professional. Our role is evolving, and as we negotiate our collective relationship with the public, we need to step back and consider who we are and who we want to become.

References

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