

Fast-Tracking Content: The Dramatic Evolution of Intellectual Property

Sorel Reisman

Intellectual property (IP) is undergoing a dramatic evolution, from traditional media formats available through conventional distribution channels, to all-digital formats available almost exclusively over the Internet. To survive, for-profit and nonprofit entities dependent on traditional forms of IP must evolve their business strategies to address this evolution; they must also give consideration to the changing behaviors and tastes of both the suppliers and consumers of IP.

SUPPLIERS

In the case of the IEEE Computer Society (CS), aside from membership revenues, the preponderance of our revenue has come from magazine and transactions subscriptions, conference fees, and proceedings. In the last few years, the CS Digital Library has generated an increasingly large majority of revenue, still through the sale of IP in the form of PDFs generated from traditional, printed magazine articles and conference proceedings. Mostly what has changed is the distribution medium. The source, and even in some ways the format, of the IP remains the same—peer-reviewed articles submitted, reviewed, and published as PDFs via magazine/transac-



A wave of change is coming: the new Computer.org will offer content that's compelling, relevant, interactive, and user-friendly to a new demographic of IT professionals. But we need to ensure that it's still peer reviewed to maintain quality.

tions/conference review editorial boards and publications services.

However, major changes are taking place in the centers that generate this kind of IP—typically higher education institutions. In the three-tiered hierarchy of higher education, there are

- R1 (upper tier, research-oriented) doctorate-granting universities,

- state systems (some offering doctorates), and
- community colleges.

Traditionally, faculty in all of these tiers, to one degree or another, have been encouraged to do research and publish in peer-reviewed publications to attain tenured faculty positions. This has been the major source of IP for CS publications. Over the last decade there has been a radical change in higher educa-

tion. Well over 50 percent of instructors across the nation are now part-time or adjunct faculty, and the concept of tenure does not apply to them. Evaluations of their performance are based almost entirely on their classroom instruction, and because of this, there's hardly any motivation for them to generate traditional IP for peer-reviewed publications and conferences.

This is the beginning of a trend that will eventually result in the elimination of academic tenure, a status that in many ways is already an anachronism, resented by the general population, for reasons of economics and envy. This should really not be a surprise since the kind of job security offered by tenure no longer exists in any other facet of our employment sectors. The consequence of this trend will be a shrinking source of the traditional, high-quality, peer-reviewable IP that has, to date, been the basis of most of the CS's revenue.

CONSUMERS

The traditional CS member today is largely a middle-aged or older academic or practitioner who was raised and educated before the Internet. Many current members can play the game of "Do you remember when you had to boot the computer with a plug board, paper tape, or console switches?" In fact, there are too many of us in that demographic today. But there is a whole new demographic out there that can play a different game of "Do you remember when Windows 98 crashed every time you attached a printer?" This is the demographic that can also reprogram an iPod or Xbox, or spam every YouTube user in North America, and doesn't care how any of this stuff really works, as long as they can make it do what they want it to do.

This is a new and different generation of computer user, educated on the Internet, world-wise in the way computers are, rather than how they were, and a generation in which attention deficit is not a disorder but a way of life. This generation of computer

About this Article

The IEEE Computer Society is currently in the process of making major interface, function, and infrastructure changes to its online presence, Computer.org. This work is being carried out by the Computer Society's Information Technology and Services staff in collaboration with volunteer members of the Board of Governors led by the Electronic Products and Services (EPS) Board. This article—written by Sorel Reisman, second vice president of the Computer Society and chair of the EPS Board—attempts to provide a framework for this work. Readers' comments are invited.

users (even including IT professionals) doesn't care about peer-reviewed articles in magazines or in PDF formats. This is a generation of "professionals" who want bite-sized chunks of information that will enable them to get on with whatever it is they have to do. This generation isn't interested in lengthy tomes of peer-reviewed materials. This is a generation that wants to Google and find what they want in the first three of 7 million search hits. For this generation, IP only has value if it's brief, to the point, is mostly correct, and has utility.

Another aspect of the members of this new generation is the value they place on the importance of their own opinions, right or wrong in the face of volumes of empirical evidence. This is a generation that demands to be heard on just about any topic—a generation for whom blogs and wikis and YouTube are all legitimate sources of information. Like it or not, that's the way it is, and that's the way it's going to be—and for the CS to continue to be viable, we need to attract the IT professionals who play in this new arena.

FOR SURVIVAL

To remain viable, the CS must offer young IT professionals the products they want in the ways they want to receive and use them. The popularity of Google and YouTube provides clear markers on ways to do this. The Web site for Computer.org requires a radical redesign that incorporates interactive tools that enable commu-

nity building among IT professionals who visit the Web site.

As we begin to redesign the site, we already understand that blogs, wikis, and threaded discussions are essential elements. As subsequent versions of the site become available, it will incorporate customization and personalization features to allow visitors to build their own "My_Computer.org." And as these personalized sites proliferate, we can expect them to begin to self-generate personal communities among visitors with common professional needs—specialized communities of research and practice that IT professionals will generate to seek solutions to IT problems. And these solutions must—as previously described—be brief, to the point, mostly correct, and have utility.

Initially, the nucleus of expertise available to the communities that will self-create from the new interactive tools will be the traditional forms of IP that we currently produce—articles and conference presentations. However, with the systemic strategies that we must develop to encourage their growth, we should begin to see the formation of new kinds of IP-generating microcommunities of expertise. In the simplest sense, these might consist of threaded discussions related to, for example, a specific conference presentation, where conference participants or others wish to discuss with one another and/or with the presenter matters related to the presentation. While such threaded

discussions might have a brief “half life,” perhaps only for the duration of the conference, we hope that the members of that microcommunity will continue to interact with one another via the interactive community tools provided on the new Computer.org.

An interesting offshoot of this kind of community building can provide the CS with new revenue-producing opportunities based on generating a new kind of IP—that produced by the expert participants of our new communities, and archived within our own new community-enabling tools.

The harvesting of IP generated by these microcommunities should present new product marketing opportunities that will help us capitalize on the expertise of many, many community participants, rather than the few thousand who currently write magazine and transactions articles, or who present at conferences. In addition, the nature of the new, community-created IP should be presented in a desirable form with desirable content for the new demographic of IT professionals. It will be brief, it will address specific, timely issues, and best of all for them, they will generate it themselves!

For the ongoing good health of the CS, these new forms of IP should provide opportunities for new revenue generation by, for example, targeted community-focused advertising, variable charges for participating and/or accessing communities, or for attending virtual conferences, some even in virtual worlds such as *Second Life* (see <http://www.secondlife.com>).

WE MUST BE PREPARED

Currently, the CS's operations are guided by the Policies and Procedures Manual (PP&M). Much of the content in the PP&M, related to publications and Web operations, is based on models that are rapidly becoming obsolete. For example, it will be essential for the CS to begin to seriously consider the implications of Open Access content in a “free-for-all” community-proliferating environment. We'll have to address issues of ownership of community-generated online materials in ways that have not been relevant to traditional publishing operations up to this point. Serious examination of the Creative Commons' licensing practices will have to be done and incorporated into revisions of the PP&M.

Finally, it's essential that we develop new policies that guarantee that all our IP, in whatever form it takes, continues to meet the high standards of accuracy and expertise ensured by our peer-review processes. To maintain our worldwide reputation as leaders in computing, we must develop equivalent vetting processes for these new forms of IP, so that members and non-members alike will have confidence in the quality of their online participation in the professional network sponsored by the IEEE Computer Society. ■

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