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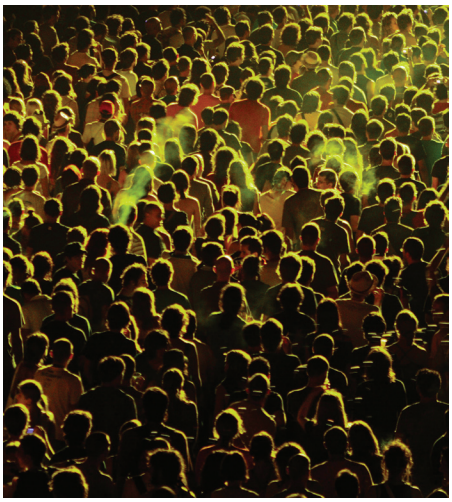
Crowdsourcing and the Question of Expertise



There is an in inherent weakness to crowdsourcing that should bother computer scientists and computer users alike. It's the fact there is no clear difference between "the wisdom of the crowd" and "the mob that rules." What's missing is a measure of discernment.

The Internet is awash in information that demands selectivity, leading *Newsweek* among others to predict the rise of online experts and reliable information (http://www.newsweek.com/id/119091). The assessment seems overly optimistic. There are some efforts to rate expertise on the Internet (http://cacm.acm.org/news/42206), but most of us are left with coping strategies that limit where you go, what you see, and who you trust. It is not the kind of open investigation that promotes learning or understanding.

Crowdsourcing doesn't really help sort through or synthesize information, in fact, it might do the opposite. Research shows that it favors popular opinion and therefore reinforces homogeneity (http://cacm.acm.org/news/42525). That's not hospitable to unconventional or idiosyncratic views.

There is an upside, for sure. Luis von Ahn's GWAP (http://www.gwap.com/gwap/about/) uses computer games "to solve problems for humans all over the world." And Galaxy Zoo tapped about 250,000 visitors to classify nearly one million galaxies (http://cacm.acm.org/magazines/2009/10/42492).

Now the downside: The limitations of crowdsourcing are becoming apparent, even to its defenders. Blogger Josh Berkus summarizes key weaknesses, saying the term is "evil" and carries too much baggage (http://it.toolbox.com/blogs/database-soup/never-say-crowdsourcing-34331). In the end he concludes that the problem is mainly about improper usage. But the issue is bigger than that. The problem with crowdsourcing is that there is no verity. In fact, "correctness [is]...anathema to crowdsourced systems" (http://cacm.acm.org/magazines/2009/7/32094). That's a small concern when rating movies, but researchers and scientists need something more.

Science needs higher standards. This was illustrated by *Newsweek* when it decried science education in the U.S. and showed how "wisdom of the masses" is an oxymoron. It described how John Holdren, director of the White House Office of Science and Technology Policy, trades candor for political timidity when discussing science policy (www.newsweek.com/id/216505). "He must sell his ideas to people who couldn't pass high-school algebra—and who believe they know more than he does."

Crowdsourcing empowers followers. It risks weakening leaders.

ACM Member News

HALL WINS DUNCAN DAVIES MEDAL

ACM President Dame Wendy Hall received the Duncan Davies Medal, which is awarded annually by the Research and Development Society to an individual who has made an outstanding contribution toward making the United Kingdom the world's best-performing research and development environment.

BERMAN HONORED WITH KEN KENNEDY AWARD

Francine Berman was awarded the inaugural Ken Kennedy Award from ACM and IEEE Computer Society for "her influential leadership in the design, development, and deployment of national-scale cyberinfrastructure." A vice president for research at Rensselaer Polytechnic Institute, Berman was recognized for her work as a pioneer in grid computing and a leading advocate for the development of a national-scale cyberinfrastructure for the access, use, stewardship, and preservation of the digital data.

In an email interview, Berman discussed the current challenges and opportunities in cyberinfrastructure. "There are immense opportunities that focus on the development of cyberinfrastructure to drive innovative solutions for some of the most complex and compelling societal challenges of our age: health care, energy, the environment, safety, and economic stability," said Berman. "Some of the greatest breakthroughs we are now seeing in these areas come from the innovative use of computers, information, sensors, networks, scientific instruments, and other 21st century tools. The challenge is to develop a system to support and deploy cyberinfrastructure as *infrastructure*: sustainable business models, appropriate standards, low-barrier-to-access user interfaces, and interoperability. The development of cyberinfrastructure as infrastructure truly constitutes a grand challenge for our age."

PHOTOGRAPH BY PABLO TWOSE VALL