Editorial

Preserving Excellence Through Change

The *Journal of the ACM* is charged with the mission of archiving the very best research in computer science. It has lived up to this charter of excellence by publishing research that is both lasting and pervasive in its influence. How must the ACM's flagship journal adapt to the constant change in the computing research environment? I will focus here on outlining what I believe are some of the biggest challenges currently facing the *JACM*'s editorial board. My intent here is to highlight the issues that I expect this board to address in the near future without necessarily prescribing the solutions by which to address them.

The *JACM*'s scope has sometimes been misconstrued as limited to the theory of algorithms and computational complexity. Such a limited focus is inconsistent with the mantle of the premier journal in computer science. I intend to continue the trend introduced by my predecessor, Joe Halpern: to gradually broaden the editorial board and content to other sub-areas of computer science. This does not imply abandoning the foundational nature of *JACM* papers, nor does it entail a lowering of the standards for which the *Journal* is renowned. Does this constitute "treading on the toes" of other journals? Theoretical computer science has seen many journals thrive despite many of the best papers in the field going to the *JACM*. Likewise, if (say) two of the best papers of the year in Databases (along with a couple each of the best in Graphics, the Web, and so on) were to appear in the *JACM*, it should not leave the other journals bereft of their pipelines. The challenge to success in this quest: articulating to a broad computer science audience this vision of a more inclusive *JACM* as the premier research publication.

Given the pervasiveness and the advantages of the Web as a medium for publication, what role does the *JACM* play? The role of *JACM* cannot be duplicated by the Web. To begin with, there is the obvious archival reference value of something published in the *Journal*—a publication known by its reputation throughout the community. This reputation reaches beyond the authors and readers to address such constituencies as tenure committees and grant agencies. The Web cannot fill this role simply because of its distributed, uncoordinated existence. The *Journal* derives its reputation from its editorial process and standards that cannot be replaced by any self-reliant analysis of Web publications and citations; a paper published on the Web may garner high linkage for a number of reasons, including reference to its flaws. Our view of the Web and the *Journal* is thus one of harmoniously complementary roles—the one providing editorial approval and archiving, with the other supporting easy search and retrieval.

Over the past two decades computing has emerged irrevocably from the glass house of technology into consumer ubiquity. While work continues on difficult problems motivated by "classical" application areas such as scientific and engineering computing, emerging application areas motivated by business, public policy and "mass-usage" computing are the drivers for much new computing research. These new areas entail understanding interactions between computing and disciplines as diverse as economics, human factors and the life sciences. As new areas evolve, inevitably new measures of research progress (beyond the classical

notions of computational resources) will proliferate—already we see papers invoking notions of economic utility as game-theoretic ideas are brought to bear on problems in multi-agent, distributed computing (such as in the Web). How should the *Journal* go about attracting and assessing the best work in these newer areas?

Changes in the Editorial Board

The *JACM* has served its authors, readers and the ACM by providing an archival forum for computing research with the highest editorial standards. Its current enviable position is due in significant measure to the vision and diligence of its editorial board and editors-in-chief leading up to Joe Halpern. I want to thank Joe for his untiring efforts and focus on the issues he highlighted six years ago. I additionally want to thank Hal Gabow, Johan Håstad and Andrew Odlyzko, three members of our board who are stepping down at this time, for their efforts.

I am pleased to welcome four new members to the editorial board. Éva Tardos of Cornell will succeed Hal Gabow to cover the “Algorithms” area. Madhu Sudan of MIT will succeed Johan Håstad in covering “Complexity.” Moni Naor of the Weizmann Institute of Science will succeed Andrew Odlyzko for “Cryptography.” Finally, Eli Upfal of Brown will replace me for the area of “Probability and Computing.”

In addition, we are instituting one further change: Nimrod Megiddo’s area will be expanded to read “Operations Research, Game Theory and Economics.” With this change I expect that we will address—in a measured way—the recent spurt of interest in game theory, mechanism design and the influence of ideas from economics on computing.

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