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Growing the ACM Family

I have been thinking about the demographics of the computing profession and wondering what steps ACM and its members might take to increase interest in this career across a full

spectrum of potential candidates. I spent a good part of a day browsing around in the ACM website discovering that this topic is and has been on the table in many different venues. One obvious place to look was in ACM publications^a and I found many that had stories on this topic: *Communications*, *ACM Inroads*, *ACM Queue*, *eLearn*, *XRDS* (formerly *Crossroads*, the student magazine), *Ubiquity*, *interactions*, among others. I also checked for blogs and found a bunch^b including *Communications*, *ACM Inroads*, *ACM Queue*, *eLearn*, *USACM*, *ACM-W* and *CS-TA-advocate*. Then I looked at the Special Interest Groups^c and found many that seemed likely to be addressing this topic: Computer Science Education (SIGCSE), Computers and Society (SIGCAS), Access (SIGACCESS), Information Technology Education (SIGITE), University and College Computing Services (SIGUCCS). It would not surprise me to find I have missed some key publications or that other SIGs that tend to be more technically focused have also, at least on occasion, addressed this same question.

Then I found the Educational Activities page^d that had even more information and links to publications, organizations, and activities. And there is, of course, a wide range of activities focused on engaging women in computing led by ACM-W, the ACM Women's Council.^e

If you accept that we do not have nearly as wide a range of participants as desired in the computing profession, the question is whether we can take additional steps to foster interest in this field. There are all kinds of extramural activities that draw young people into computing. For example, the FIRST robotics competitions^f and CAMPUS PARTY^g and the ACM International Collegiate Programming Contest (ACM-ICPC^h). There are many more such activities, several of them focused on computer and network security.

On top of all that, we have the emerging Massive Open Online Courses (MOOCs) phenomenon that may involve hundreds of thousands of participants in all age groups. I am not even going to try to give you a list of those—just employ your favorite search engine and you should reap a long list of Web pages, reports, news articles, and other references to this new use of the Internet.

Indeed, there is no dearth of effort on the educational and activities side to stimulate interest in all aspects of computing but there persists a sense that the demographics of computing are still skewed in many ways. One possibility is that the statistics are wrong and we are not measuring the full range of participation. What about people who develop applications for mobile devices? What about Web page designers? Perhaps we might not be

comfortable including many of these participants in the definition of computing professional—is that an issue? On the other hand, the statistics may be telling us that despite our varied efforts, we are not awakening interest in the field broadly enough. Considering that this field involves primarily thinking logically, designing, implementing, testing of software and hardware, it is difficult to imagine that in and of itself, the profession has any built-in biases against anyone. Of course, not everyone is interested in this kind of activity but anyone who is interested should not be excluded by virtue of any inherent constraints.

As the twenty-first century continues to unfold, we are surrounded by a growing number of devices with programmable features. Software (and hardware) is everywhere. Even casual users need to know something about the nature of this topic. Of course, many people use the products of computing without much musing about its origins: computer games, laptops, desktops, tablets and mobiles to say nothing of cloud computing are all part of daily life, even when their complexity is largely hidden. (A good thing for the most part.)

I am sure I must be missing something. So let me pose the question: What, if anything, might ACM do more than it is already doing, to grow interest in and familiarity with computing and the computing profession?

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a <http://www.acm.org/publications>

b <https://myacm.acm.org/dashboard.cfm?svc=acmblogs>

c <http://www.acm.org/sigs>

d <http://www.acm.org/education>

e <http://women.acm.org>

f <http://www.usfirst.org/>

g <http://www.campus-party.org/home-en.html>

h <http://icpc.baylor.edu/>