

# Where Is Software Headed?

**To find out where software is headed, *Computer* took to the Internet, asking experts in academia and industry to share their vision of software's future. Their responses suggest a strong polarization within the software community.**

The following roundtable of opinion is a sampling of the views of leaders in both academia and industry on the question of where software is headed. It is a snapshot in time of where we have been and possibly where we are headed.

This was supposed to be an introduction to the detailed comments on the following pages. After reading these selections, as well as others that were not chosen, I was struck by the chasm that exists between academia and industry. I had an epiphany, so to speak, and instead of my usual critical slam-dunking, came up with Table 1 which juxtaposes academic versus industrial world views. It appears that these two groups share radically different views on where software is headed. This difference may be more important than the individual items in the table.

The second impression, after realizing that the two groups are on different wavelengths, is the heavy emphasis on programming languages, operating systems, and algorithms by the academic group, in contrast to the clear emphasis on standards and market-leading trends by the industrial group. Academics worry about evolutionary or incremental changes to already poorly designed languages and systems, while industrialists race to keep up with revolutionary changes in everything. Academics are looking for better ideas, industrialists for better tools.

The final section in Table 1 may reveal the cause of this chasm. The academic group uses words like "efficiency, difficult problem, and evolution," while the industrial expert uses words like "time to market, opportunity, and revolution" to describe their world views. To an industrial person, things are moving fast—they are revolutionary. To an academic, things are moving too slowly, and in the wrong direction—they are only evolutionary changes which are slave to an installed base.

Whether you are in academia or in industry, I think you will find the following brief descriptions of where software is headed interesting and thought provoking. Let us know if you like this article or if you have other suggestions for how we can bring you up to date on the thinking of your peers.

—Ted Lewis, Naval Postgraduate School