Editorial Pointers

WHEN EMBEDDED NETWORK SENSING SHIFTED from the laboratory to the natural environment, it was done under the meticulous design of scientists. Computer nodes embedded in the physical world would observe ecosystems, collecting field data intended to give researchers an unprecedented window into how nature works. But like most technologies with great repurposing potential, networked sensing is moving at a far faster and fortuitous pace into the urban landscape, driven more by opportunism than real science.

In this month's cover story "Urban Sensing: Out of the Woods," Dana Cuff, Mark Hansen, and Jerry Kang of UCLA trace how urban sensing will be "unleashed" in city settings through the proliferation of cell phones, GPS technologies, and RFID tags. Collecting data on citizens brings great opportunities as well as a host of ethical and privacy concerns. The authors call for a collaborative effort among scientists, artists, urbanists, and business people to establish a trustworthy infrastructure for city-based networked sensing.

IN OTHER TECHNOLOGIES AND SERVICES SPAWNED BY CELL PHONES and mobile devices, Junglas and Watson demonstrate the differences between location-tracking and location-aware services. And Soh and Tan examine how the mobile games market's enormous business opportunity also comes with a significant threat to the incumbent billion-dollar gaming industry.

Liping Zhao offers a word of advice for today's programmer: The next time you design a program, think carefully about which symmetries to keep and which ones to break, and why. In "Applications of Critical Thought for IT Professionals," Bernd Carsten Stahl and Carole Brooke offer some "critical" guidelines for IT professionals that require effort, resources, and the courage to question oneself.

Two articles this month focus on security weaknesses among business practices and the global user community. Wright et al. present a fictional scenario of daily life in a world networked through ambient intelligence. The year is 2018 and the story unravels a tale of corporate ethical choices. In the end, they wonder, is this world of 10 years hence really any different from today's? Meanwhile, Larose, Rifon and Enbody speculate how to encourage Internet users to assume more responsibility for protecting themselves online.

In this month's "Viewpoint," Chenglie Hu argues the study of data types is crucial for learning programming. Novices, he says, who do not learn data types the correct way will face great difficulty trying to learn object-oriented programming. Phillip Armour highlights the pitfalls of "accurately" estimating software projects in "The Business of Software." And, on page 22, ACM is pleased to announce its newly inducted ACM Fellows.

Diane Crawford

EDITOR

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ACM U.S. Public Policy Office:

Cameron Wilson, Director
1100 Seventeenth St., NW
Suite 507
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+1-202-659-9711—office
+1-202-667-1066—fax
wilson_c@acm.org

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