So Long, and Thanks for All the Fish*

*Douglas Adams' Hitch-Hiker's Guide to the Galaxy

Roy Want

It has been almost four years since Mahadev Satyanarayanan passed the torch to me to continue as the second editor in chief (EIC) of *IEEE Pervasive Computing*, and now it's time to pass on the responsibility once again. On 1 January 2010, my second two-year term will have been completed, in what seems to me like just the blink of an eye, and I'm pleased to announce that the IEEE Computer Society has confirmed Nigel Davies of Lancaster University as my successor.

I can't think of anybody better qualified for the new leadership. Nigel has supported the magazine as an associate EIC from its foundation in 2001, investing considerable personal time and energy to make the publication a great success. Moreover, he has the editorial board's organizational memory and has also been part of its planning processes and discussions since the magazine's inception. He'll continue to lead by promoting our mission and charter, and will no doubt add his own contributions to enrich it further.

A WORTHY BACKGROUND

One of the notable contributions in the early exploratory years of what we now call ubiquitous computing was the Lancaster Guide project that Nigel led, and, as a result, is probably his most widely known research activity. Guide aimed to create a context-aware tour guide, deploying a wireless network throughout the city of Lancaster and developing new data dissemination protocols for location-based information. The work also involved extensive content-capture and field trials that enlisted members of the general public. Because this project covered systems, human-computer interaction, and application-level contributions, it has become the canonical background research for any new work on mobile tourist applications that wishes to take such ideas further.

Other notable projects in Nigel's portfolio include the Mobile Multimedia Project (with partners Simoco), which investigated the use of emerging TETRA (TErrestrial TRunked Radio) wireless communications devices to provide multimedia applications to emergency service personnel, and Mobile Open Systems Technologies (MOST) for the Utilities Industry, an EPSRC (Engineering and Physical Science Research Council)-funded project developing applications and systems technologies to support field engineers in the power distribution industry. Most recently, Nigel has worked on embedded sensing systems to monitor health and safety issues for mobile workers and mobile interaction with public displays.

The origins of Nigel's interests began with his BSc and PhD in computer science from Lancaster University. Following his degrees, he was a visiting researcher at the Swedish Institute of Computer Science before returning to Lancaster in 1994 to help create the university's Mobile Computing Group, for which he was awarded a personal chair in the computing department in 2000. In 1999, he spent a year at Sony's Distributed Systems Lab in San Jose as a visiting researcher exploring how to integrate mobile devices with the "Digital Home." From 2001 to 2004, he held a position at the University of Arizona as an associate (and subsequently adjunct associate) professor; Nigel has also held visiting positions at ETH Zurich and the Bonn Institute of Technology. He's an active participant in the research community, and in addition to publishing extensively, has served as an associate editor for *IEEE Transactions on Mobile Computing*, while also contributing to our magazine. In recognition of his expertise, he has served on many of the tier-one conference program committees in the mobile and pervasive computing field, including ACM MobiSys, MobiCom, HotMobile, Ubicomp, and Pervasive. Today, Nigel is department head of Lancaster University's computing department.

EDITORIAL BOARD EVOLUTION

Looking back on the past four years, we've had several changes to our editorial board (EB). As a general rule, the IEEE Computer Society encourages a healthy turnover of EB members to ensure that the publication remains fresh and energized by new people and ideas. On the other hand, turnover shouldn't be a process without due consideration, and we should recognize individuals who are working hard to help us succeed in our mission

through high-quality contributions. In support of these goals, we try to keep a balance between the two. When I took on the role of EIC in 2006, we had four AEICs and 26 EB members. By chance, we have exactly the same number today, but just over half (16 members) are new. Also, two of the current AEICs—Chandra Narayanaswami and Joe Paradiso—joined during this time.

When adding new members, we've always based decisions on a consensus discussion among the AEICs. Our criteria for selection have been that EB members should have made significant contributions to the area of pervasive computing, and typically are well respected in the research community (this also ensures that they have a suitable network of reviewers for evaluating article submissions). We also try to ensure that the EB has a comprehensive set of skills across the field of pervasive computing; a topic that often enables new capabilities by finding synergies between disparate research areas. At this time, our editorial board balances user interface, systems, mobile and wireless technologies, location systems, embedded hardware, sensor networks, robotics, low-power design, image processing, electronic tagging, cellular telephony, security, systems, wearable computing, applications, and user studies.

In addition, the magazine departments define much of the content that supports our mission. Of the eight original departments, we've replaced News with Smart Phones because it represents an area with considerable innovation and buzz in the industry. Of the remaining seven departments, four of them have new editors or coeditors, balancing revitalization with contributors who have a longer perspective.

THIS ISSUE

In this special issue, we've split the focus into two very important topics in pervasive computing: the use of virtual machines (VMs) in mobile computing, and content sharing.

The use of VMs to support mobile applications is a topic in its infancy, primarily due to the limited capabilities of most low-power mobile processors that have been available up to this time. However, this is changing: high-performance, low-power processors with virtualization technology (VT) extensions are becoming available. The latest generation of the Intel Atom processor family is the first with VT support that operates at low-enough power to be suitable for smart phone platforms. The ability to halt a VM, encapsulate it in a VM image, and send it to another computer with even greater performance is where VMs come into their own; this may well be the missing link that enables applications to flow freely between handheld, notebook, and desktop systems, providing seamless access independent of platform.

Content sharing, the second special issue topic, has been a driver for many of the Web 2.0 applications that are now also accessible through mobile browsers. Social networking applications are a key enabler in this area, and ubiquitous content creation and wireless networks are the fuel that made it pervasive. We've assembled articles of interest for this area from our general queue, along with submissions with suitable content that weren't ready in time for our Smarter Phones special issue.

THE FUTURE

At the end of my first introduction as EIC, I left you with the quote from Robert Noyce, Intel's cofounder, that's displayed on the wall of the Intel headquarters building in Santa Clara, a lobby I walk through each morning: "Don't be encumbered by history … go off and do something wonderful," which is an inspiring quote for any technologist. However, there's also a second Robert Noyce quote on display, that I'll finish with in my last introduction as EIC, "Innovation is everything". Thank you for all the wonderfully innovative ideas you've sent to *IEEE Pervasive Computing* during this time—it's been a pleasure representing your work in this venue. ℗