



From the Editor in Chief...

Water Music

Robert E. Filman • RIACS/NASA Ames Research Center • filman@computer.org

In “The Green Isle in the Sea,”¹ James Thurber relates a Lemony Snicket-style series of unfortunate events that happened to an old gentleman one day, concluding with a moral amplifying a theme from Robert Louis Stevenson: “The world is so full of a number of things. I am sure we should all be as happy as kings, and you know how happy kings are.”²

How Happy Are Kings?

On Wednesday evening, 17 July 1717, King George I took his nobles out for an evening dinner cruise on open barges, proceeding up the Thames to supper at Chelsea. One barge held fifty musicians playing George Frideric Handel’s *Water Music*, composed especially for the occasion. The royal bash must have been a blast; the king liked the music so well he had it played three times, and the party didn’t make it back to St. James until after four in the morning.

Sometimes it’s good to be king. You can get Handel to compose symphonies for you and have command performances while you dine. On the other hand, I have it much better than George in many ways. Although I can’t summon fifty musicians to play Handel, I can choose to listen to works by Handel and a large variety of his successors nearly instantaneously, played by the best musicians in the world, who don’t complain even when I demand five or six consecutive performances. Chelsea was a big trip for George; but I’ve flown thousands of miles in the time it took him to go there and back. My palace, while not as large as St. James, is centrally heated and air conditioned. My doctors also know more tricks than just how to apply leeches. About the only thing George had better than the average *IC* reader was in the arena of personal service – George had a retinue to do his bidding, whereas all we have is Google.

What, Me Worry?

George worried about the Jacobite rebellion (and

the attempts to restore Catholicism to England), how best to extract money from his position, and his inability to get along with his son, the future George II. I worry about many things – among them, the Internet.

What makes the kingdom of the Internet special is its universal, bidirectional availability. That is, anyone can be a publisher, posting whatever they like without someone else’s approval; being a consumer is even easier because search mechanisms such as Google and its friends simplify matching up interested information producers, consumers, and exchangers; and the entire mechanism is priced (at least for us twenty-first century royals) quite modestly.

What forces threaten our kingdom? Vandals, governments, and economics.

Vandals, Governments, and Economics

The Internet grew out of a scientific experiment among cooperating laboratories. As often remarked, this arrangement deemphasized security issues – the club’s members could be expected to be well-behaved. Mechanisms such as really keeping track of who was sending which packets and changing which routing tables weren’t critical. Unfortunately, the low level of security appropriate for an academic research platform seems inadequate for a world-wide system for business, commerce, and entertainment.

The imagination (and sometimes, lack of imagination) of those who abuse the system has been impressive. We’ve lost news to the hucksters and might be headed the same way with email and spammers. The typical computer user’s naïvete has made the Internet prime ground for phishing and identity theft. The increasing availability of wireless solutions for various devices will likely soon lead to laptop infections, caught solely through the devices’ proximity to other machines, and perhaps even cell phone viruses. The number of ways that remote

mechanisms can cause programs to execute (and be embedded) on local machines, and the uses that attackers can put such drones to, are astounding. I try to avoid these problems by using older technology (I don't think my cell phone is smart enough to support a virus) and less-popular operating systems. But as Thurber also observed of the fly who avoided the empty spider's web but rushed to the crowded flypaper, "There is no safety in numbers, or in anything else."³

If the vandals don't do in the Internet, various governments just might. The purpose of government seems to be to pass laws, and those who pass laws are sure of the rightness of their opinions. We have European governments trying to outlaw the sale of Nazi paraphernalia, commonwealth governments asserting the primacy of English-style libel laws, American states asserting demands for commercial disclaimers and puritanical Web site content, and totalitarian govern-

ments subverting search engines to control what their populations can find out about. All are certain that their rules apply not only to people publishing things within their jurisdictions but also to people publishing things that might be viewed within their realms — that is, everybody.

If governments' moral principles don't do in the Internet, their economic meddling, or lack thereof, just might. Every business would like to extract monopoly profits; for many activities, such as Internet connectivity and telecommunications, monopolies are natural equilibrium points. Monopolies increase one player's profits at a cost to society as a whole — hence, we have various rules and regulations governing corporate behavior. It's easy for governments to get this kind of thing wrong, particularly because they're more susceptible to ideology and external influence than principled engineering.

Economics holds other threats to the Internet. Just as it's not good for

one player to garner monopoly profits, it's also not good for there to be no profits. Our Internet must thus evolve to a point where service providers (whether telecommunication companies, engineers, or creative artists) get the right amount of encouragement for their efforts. Globalization, winner-take-all conflicts, regulation, and deregulation all have the potential to so dirty the playing field that playing is no longer worthwhile.

So that's how happy this king is. There is much to be optimistic about, but I hardly lack for worries. I suspect you're like that too. ☐

References

1. J. Thurber, "The Green Isle in the Sea," *The New Yorker*, 17 Feb. 1940.
2. R.L. Stevenson, *A Child's Garden of Verses*, Chronicle Books, 1989.
3. J. Thurber, "The Fairly Intelligent Fly," *The New Yorker*, 4 Feb. 1939.

IEEE INTERNET COMPUTING

IEEE Computer Society Publications Office
10662 Los Vaqueros Circle
Los Alamitos, CA 90720

EDITOR IN CHIEF

Robert E. Filman • filman@computer.org

ASSOCIATE EDITOR IN CHIEF

Li Gong • li.gong@sun.com

EDITORIAL BOARD

Helen Ashman • hla@cs.nott.ac.uk

Jean Bacon • jean.bacon@cl.cam.ac.uk

Elisa Bertino • bertino@cerias.purdue.edu

Scott Bradner • sob@harvard.edu

kc claffy • kc@caida.org

Siobhán Clarke • siobhan.clarke@cs.tcd.ie

Fred Douglass • f.douglass@computer.org

Ian Foster • foster@cs.uchicago.edu

Monika Henzinger • monika@google.com

Michael N. Huhns • huhns@sc.edu

Leonard Kleinrock • lk@cs.ucla.edu

Doug Lea • dl@cs.oswego.edu

Samuel Madden • madden@csail.mit.edu

Daniel A. Menascé • menasce@verizon.net

Chris Metz • chmetz@cisco.com

Charles J. Petrie • petrie@nrc.stanford.edu
(EIC emeritus)

Krithi Ramamritham • krithi@cse.iitb.ac.in

Michael I. Schwartzbach • mis@brics.dk

Munindar P. Singh • singh@ncsu.edu

(EIC emeritus)

Craig Thompson • cwt@uark.edu

Steve Vinoski • vinoski@ieee.org

Dan S. Wallach • dwallach@cs.rice.edu

Jim Whitehead • ejw@soe.uscs.edu

IEEE Communications Society Liaison

G.S. Kuo • gskuo@ieee.nccu.edu.tw

STAFF

Lead Editor: Steve Woods,
swoods@computer.org

Group Managing Editor: Gene Smarte

Staff Editors: Kathy Clark-Fisher,
Rebecca Deuel, and Jenny Ferrero

Production Editor: Monette Velasco

Magazine Assistant: Hazel Kosky
internet@computer.org

Graphic Artist: Alex Torres

Contributing Editors: Greg Goth,
Keri Schreiner, Alison Skratt, and Joan Taylor

Publisher: Angela Burgess
aburgess@computer.org

Assistant Publisher: Dick Price

Membership/Circulation Marketing

Manager: Georgann Carter

Business Development Manager:

Sandy Brown

Advertising Supervisor: Marian Anderson

CS Magazine Operations Committee

Bill Schilit (chair), Jean Bacon, Pradip Bose,

Doris L. Carver, Norman Chonacky,

George Cybenko, John C. Dill,

Frank E. Ferrante, Robert E. Filman,

Forouzan Golshani, David Alan Grier,

Rajesh Gupta, Warren Harrison,

James Hendler, M. Satyanarayanan

CS Publications Board

Michael R. Williams (chair),

Michael R. Blaha, Mark Christensen,

Roger U. Fujii, Sorel Reisman, Jon Rokne,

Bill Schilit, Linda Shafer, Steven L. Tanimoto,

Anand Tripathi

