COMMUNICATIONS OF THE ACM

Departments

- 5 Editor's Letter Hypercriticality By Moshe Y. Vardi
- 5 Letters To The Editor Don't Ignore Security Offshore, or in the Cloud
- 9 In the Virtual Extension
- 10 BLOG@CACM

Software Development and Crunch Time; and More Ruben Ortega discusses developers and crunch time; Mark Guzdial on the impact of open source practices on computing education; and Daniel Reed on the shift from computational paucity to computational plethora.

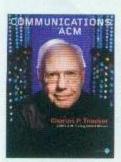
- 12 CACM Online In Case You Missed It By David Roman
- 39 Calendar

107 Careers

Last Byte

112 Q&A

From Single Core to Multicore
Charles P. Thacker discusses the
legendary Alto personal computer,
the invention of the Ethernet,
and his current research on
multicore architectures.
By Leah Hoffmann



About the Cover: Charles P. Thacker, ACM's 2008 A.M. Turing Award winner, as photographed by Richard Morgenstein in the data center of Microsoft's offices in Mountain View, CA. For more on Morgenstein's work, see http://www. morgenstein.com.

News

- 13 Sharing Computational Perspectives Computer scientists are now making intellectual contributions to a wide range of other disciplines, including evolutionary theory, physics, and economics. By David Lindley
- 16 Censored!

Countries use Internet censorship to dominate the political dialogue, but also to create favorable conditions for government-controlled businesses. By Samuel Greengard

- 19 Mainstreaming Augmented Reality
 Advancements in computer
 vision, object recognition, and
 related technologies are leading
 to new levels of sophistication in
 augmented-reality applications,
 and presenting new ways for humans
 to relate to the natural world.

 By Kirk L. Kroeker
- 22 Committed to Success Charles P. Thacker discusses the importance of simplicity, reusable tools, thinking broadly, and his practice of Tom Sawyering. By Gary Anthes
- 24 Eric Brewer: Change Agent Eric Brewer's latest project involves designing and deploying low-cost wireless infrastructure in developing regions.
 By Gregory Goth
- 25 Visions of the Future ACM joined forces with the British Computer Society to deliver its first academic research conference in Europe.
 By Sarah Underwood

Viewpoints

- 27 Technology Strategy and Management
 Outsourcing Versus Shared Services
 Choosing between outsourcing
 and shared services has significant
 implications for long-term
 corporate strategy.
 By Mari Sako
- 30 Computing Ethics
 Work Life in the Robotic Age
 Technological change results in
 changes in expectations, in this case
 affecting the workplace.
 By Jason Borenstein
- Should the Google Book
 Settlement Be Approved?
 Considering the precedent
 that could be established by
 approval of the controversial
 Google book settlement.
 By Pamela Samuelson
- Cultivating Cultural Diversity
 in Information Technology
 Introducing CMD-IT, a new center
 focused on synergistic activities
 related to ethnic minorities and
 people with disabilities,
 By Valerie E. Taylor
- 37 Viewpoint

 Is Computer Science Truly Scientific?
 Reflections on the (experimental)
 scientific method in computer
 science.
 By Gonzalo Génova
- O Distinguished Members
 Advice to Members
 Seeking ACM Distinction
 By Marc Snir and Telle Whitney

Practice



- 42 The Ideal HPC
 Programming Language
 Maybe it's Fortran. Or maybe
 it just doesn't matter.
 By Eugene Loh
- 48 Visualizing System Latency
 Heat maps are a unique and powerful
 way to visualize latency data.
 Explaining the results, however,
 is an ongoing challenge.
 By Brendan Gregg
- 55 You're Doing It Wrong
 Think you've mastered the art of
 server performance? Think again.
 By Poul-Henning Kamp
- Articles' development led by @CMQUEUB queue.acm.org

Review Articles

78 Algorithmic Game Theory
A new era of theoretical computer
science addresses fundamental
problems about auctions, networks,
and human behavior.
By Tim Roughgarden

Contributed Articles

- of Concurrency: Computing Students
 and Concert Tickets
 Innate understanding of concurrency
 helps beginners solve CS problems
 with multiple processes executing at
 the same time.
 By Gary Lewandowski,
 Dennis J. Bouvier, Tzu-Yi Chen,
 Robert McCartney, Kate Sanders,
 Beth Simon, and Tammy VanDeGrift
- 71 Computer Graphics for All
 Interactive computer graphics
 would rival word-processing and
 presentation programs for everyday
 communications.
 By Takeo Igarashi

Research Highlights

- 88 Technical Perspective A Solid Foundation for x86 Shared Memory By Hans-J. Boehm
- 89 x86-TSO: A Rigorous and
 Usable Programmer's Model
 for x86 Multiprocessors
 By Peter Sewell, Susmit Sarkar,
 Scott Owens, Francesco Zappa Nardelli,
 and Magnus O. Myreen
- 98 Technical Perspective
 Technology Scaling
 Redirects Main Memories
 By Mary Jane Irwin
- 99 Phase Change Memory Architecture and the Quest for Scalability By Benjamin C. Lee, Engin Ipek, Onur Mutlu, and Doug Burger

Virtual Extension

As with all magazines, page limitations often prevent the publication of articles that might otherwise be included in the print edition. To ensure timely publication, ACM created Communications' Virtual Extension (VE).

VE articles undergo the same rigorous review process as those in the print edition and are accepted for publication on their merit. These articles are now available to ACM members in the Digital Library.

IT Programs in High Schools: Lessons from the Cisco Networking Academy Program Alan R. Dennis, Thomas M. Duffy, and Hasan Cakir

Creating the Experience Economy in E-Commerce Wei-Lun Chang, Soe-Tsyr Yuan, and Carol W. Hsu

How Distributed Data Mining Tasks Can Thrive as Knowledge Services Domenico Talia and Paolo Trunifo

ERP: Drilling for Profit in the Oil and Gas Industry Jorge A. Romero, Nirup Menon, Rajiv D. Banker, and Mark Anderson

Why Do People Tag? Motivations for Photo Tagging Oded Nov and Chen Ye

Using ESI Discovery Teams to Manage Electronic Data Discovery John C. Ruhnka and John W. Bagby

Application Service Providers: Market and Adoption Decisions Yurong Yao, Edward Watson, and Beverly K. Kahn

