

IEEE Annals

of the History of Computing

Volume 38 Number 1 January–March 2016 www.computer.org



American Minitel: Learning from Failure

IEEE
computer
society

IEEE

Contents

www.computer.org/annals

Vol. 38, No. 1

January–March 2016

- 2** From the Editor's Desk
Nathan Ensmenger, Editor in Chief

FEATURE ARTICLES

- 6** 101 Online: American Minitel Network and Lessons from Its Failure
Julien Mailland
- 23** Contested Ontologies of Software: The Story of *Gottschalk v. Benson*, 1963–1972
Gerardo Con Diaz
- 34** Peering through the Curtain: Soviet Computing through the Eyes of Western Experts
Nicholas Lewis
- 48** Studying History As It Unfolds, Part 2: Tooling Up the Historians
James W. Cortada
- 60** The IBM ACS Project
Mark K. Smotherman, Edward H. Sussenguth, and Russell J. Robelen



For more information on computing topics, visit the Computer Society Digital Library at www.computer.org/csdl.

About the Cover

One of the Telic Alcatel 1B terminals France Telecom used to launch 101 Online in the San Francisco Bay Area in 1991. The videotex terminal provided two-way interactive services such as email, chat, e-commerce, news services, online banking, and searchable information databases. Image courtesy of Kevin Driscoll.

Departments

3 Think Piece

Joseph November

Ask Your Doctor ... About Computers

75 Interviews

Dag Spicer

Fernando Corbató: Time-Sharing Pioneer, Part 2

80 Anecdotes

Denis Roegel

A Mechanical Calculator for Arithmetic Sequences (1844–1852):
Part 2, Working Details

89 Events and Sightings

Gerardo Con Diaz

SIGCIS at the SHOT Conference

Sebastian Grevsmühl

The Cultural Dimensions of Computer Simulation

94 Reviews

*The Innovators: How a Group of Hackers, Geniuses, and Geeks Created
the Digital Revolution*
(reviewed by G. Pascal Zachary)

Computer Society Information, p. 74
Ad Index, p. 88

Editor in Chief

Nathan Ensmenger

Associate Editor in Chief

David Hemmendinger

Associate Editors

Marie Hicks and Jeffrey R. Yost

Department Editors

Bradley Fidler, Chigusa Kita,
Irina Nikivincze, Andrew Russell,
Dag Spicer, David Walden

Editorial Board

Atsushi Akera, Gerard Alberts, William Aspray,
Martin Campbell-Kelly, Paul Ceruzzi,
James W. Cortada, Peter Denning,
David Alan Grier, Thomas Haigh,
Ulf Hashagen, Peggy Aldrich Kidwell,
Jennifer Light, Brian Randell,
Corinna Schlombs, Keith Smillie

Editorial Management: Cheryl Baltes

Director of Products and Services: Evan Butterfield
Sr. Mgr., Editorial Services: Robin Baldwin
Editorial Product Lead: Bonnie Wylie
Sr. Business Development Mgr.: Sandra Brown
Sr. Advertising Coordinator: Marian Anderson

Magazine Operations Committee

Forrest Shull (chair), Brian Blake, Maria Ebling, Lieven
Eckhout, L. Miguel Encarnaçao, Nathan Ensmenger, Sumi Helal,
San Murugesan, Yong Rui, Diomidis Spinellis, George K.
Thiruvathukal, Mazin Yousif, Daniel Zeng

Publications Board

David S. Ebert (VP for Publications), Alfredo Benso, Irena
Bojanova, Greg Byrd, Min Chen, Robert Dupuis, Niklas Elmqvist,
Davide Falessi, William Ribarsky, Forrest Shull, Melanie Tory

Submissions

See Author Resources at
www.computer.org/annals/author.htm



IEEE Annals of the History of Computing (ISSN 1058-6180) is published quarterly by the IEEE Computer Society, 10662 Los Vaqueros Circle, P.O. Box 3014, Los Alamitos, CA 90720-1314, USA; phone +1 714 821 8380. IEEE Computer Society Headquarters, 1730 Massachusetts Ave. NW, Washington, D.C. 20036-4928, USA; IEEE Headquarters, 345 East 47th St., New York, NY 10017, USA. Subscribe to *IEEE Annals* by visiting www.computer.org/annals.

Postmaster. Send undelivered copies to IEEE Annals of the History of Computing, IEEE, Membership Processing Dept., 445 Hoes Lane, Piscataway, NJ 08855, USA. Periodicals postage paid at New York, NY, and at additional mailing offices. Canadian GST Registration No. 125634188. Canada Post Publications Mail Agreement Number 0487880. Return undeliverable Canadian addresses to P.O. Box 122, Niagara Falls, ON L2E 658. Printed in the United States.

Reuse Rights and Reprint Permissions: Educational or personal use of this material is permitted without fee, provided such use 1) is not made for profit, 2) includes this notice and a full citation to the original work on the first page of the copy, and 3) does not imply IEEE endorsement of any third-party products or services. Authors and their companies are permitted to post the accepted version of IEEE-copyrighted material on their own Web servers without permission, provided that the IEEE copyright notice and a full citation to the original work appear on the first screen of

the posted copy. An accepted manuscript is a version that has been revised by the author to incorporate review suggestions, but not the published version with copyediting, proofreading, and formatting added by IEEE. For more information, please go to www.ieee.org/publications_standards/publications/rights/paperversionpolicy.html. Permission to reprint/republish this material for commercial, advertising, or promotional purposes or for creating new collective works for resale or redistribution must be obtained from IEEE by writing to the IEEE Intellectual Property Rights Office, 445 Hoes Lane, Piscataway, NJ 08854-4141 or pubs-permissions@ieee.org. Copyright © 2016 IEEE. All rights reserved.

Abstracting and Library Use: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy for private use of patrons, provided the per-copy fee indicated in the code at the bottom of the first page is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

Editorial: Unless otherwise stated, bylined articles, as well as product and service descriptions, reflect the author's or firm's opinion. Inclusion in *IEEE Annals of the History of Computing* does not necessarily constitute endorsement by the IEEE or the IEEE Computer Society. All submissions are subject to editing for style, clarity, and length. IEEE prohibits discrimination, harassment, and bullying. For more information, visit www.ieee.org/web/aboutus/whatis/policies/p9-26.html.