Networking History Resources
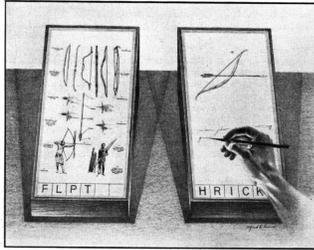
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Memex concept drawing

SRI packet radio van, model

Smartphone

Contents

Resources at the Computer History Museum

Exhibits

- "**Revolution: The First 2000 Years of Computing"** is the museum's permanent exhibition telling the story of computing from the abacus to the iPhone in 20 galleries. The physical exhibition covers 25,000 square feet; the online version includes all of the content in the physical one plus an ever-growing body of related materials.

Within this whole, the sister "Networking" and "Web" galleries, along with portions of the "Mobile Computing" gallery and several others, form one of the first major exhibits in the world on computer networking and its impact.

They tell the story of transporting information from the semaphore to the Internet, and ways of navigating that information from the "world brains" conceived by visionaries in the early 20th century to online systems like the Web – increasingly on devices that travel in pocket or purse:

- o "Networking: Connecting Computers" Gallery
- o "The Web: Connecting People" Gallery
- o "Connected!" sections, "Mobile Computing" Gallery
- o "Timesharing" sections, "Mainframe Computers" gallery
- o "SAGE" section, "Real Time Computing"

- The temporary exhibit "Going Places: The History of Google Maps with Street View" [mw find link to physical?] traces the history of "surrogate travel" back to 1970s computer systems and before

Online Exhibits

- Online version of "Revolution: The First 2000 Years of Computing", see above
- Online version of "Going Places: The History of Google Maps with Street View", see above
- Internet History Timeline, 1962 – 1992
- Computing timeline: Networking Section
- Various individual artifacts in Visible Storage

Collection Highlights

Use Catalog Search from the CHM home page to get information on over 75,000 items, including:

- *SRI ARC/NIC Collection:* These approximately 300 boxes form one of the most important collections on the history of the online world. It has two main parts: 1) records from the SRI Network Information Center (NIC), which was the central library for the ARPAnet and early Internet, on the origins and operation of those networks, and 2) records of Doug Engelbart's Augmentation Research Center (ARC) including his NLS (oNLine System), which played a major role in Web as well as general computing history. Materials include paper, data, and multimedia, and range from the late 1960s to around 1990. Click here for the Guide (Finding Aid) to the collection.

- *BBN document archives*: BBN (formerly Bolt, Beranek, and Newman) is the company that built hardware for the ARPANET, including the famous IMPs, and served as its Network Operations Center (NOC). Includes materials on BBN's later role as an internetworking pioneer and one of first companies to make routers.

- *CompuServe*: A collection of both external and internal materials from the enormously successful CompuServe online service

- *Artifacts*: Well over a thousand physical artifacts specifically related to the history of networking, from an original IMP (Interface Message Processor) and Google server rack to Cisco routers, Minitel terminals, Teletex set top boxes, early modems, original Alto Ethernet boards, telegraph equipment, routers, mobile data devices, as well as the original SRI packet radio van where Internet protocols were first field-tested.
- *Marketing ephemera and promotional materials* related to networking, from brochures, to "I Survived the '83 TCP/IP Transition" buttons, to a life-sized Jeeves costume from search pioneer "Ask Jeeves".
- *Software* ranging from shrinkwrapped products like Spry's "Internet in a Box", to programs from the NIC and ARC labs, to historic hypertext programs like the source code of Berners-Lee's Enquire Within and of Andy van Dam's pioneering Fress.

Unlike single-subject archives, CHM often has examples of the whole "ecosystem" of equipment and software that supported events in networking. For instance, besides the IMP we have examples of the host computers and teletypes used for the first host-to-host ARPANET transmission. This rich context gives a unique perspective whose value will only increase over time.

Associated Collections
- *Web History Project*: A collection of documents, software, data, mailing lists, and ephemera from the early Web.

Selected Oral Histories and Interviews

- Abramson, Norm; wireless networking 2013
- Altman, Jeffrey; Kermit 2012
- Alves, Don; Internetworking 2007
- Andrews, Don; ARC 2008
- Baillie, Les; mobile payments 2012
- Banks, Ken; SMS 2012
- Baran, Paul; packet switching 2005
- Bell, Gordon, DEC 2005
- Binder, Richard; Internetworking 2007
- Brink, Adriaan; online lottery 2009
- Brandenburg, Karlheinz; MP3 and iTunes 2012
- Burchfiel, Jerry; BBN 2009
- Catchings, Bill; Kermit 2012
- Cerf, Vint; Internetworking 2007, general oral history 2007
- Cisco, Mike; Internetworking 2007
- Cohen, Danny; VOIP, networking 2011
- Cone, Don; Internetworking 2007
- Cunningham, Ward; Wikis 2012
- Da Cruz, Frank; Kermit 2012
- Davies, Charles; Psion/Symbian, 2009
- Denny, Barbara; Internetworking 2007
- Diffie, Whitfield; encryption, e-commerce 2011
- Duvall, Bill; ARC and PARC 2009
- Ennis, Greg; Wi-Fi 2012
- Engelbart, Douglas; ARC and mouse 2005
- English, William; Mouse, NLS, and PARC
- Feinler, Jake; NIC 2009
- Garrett, Jim; Internetworking 2007
- Groff, Jean-François; Web at CERN 2009
- Hayes, Vic; Wi-Fi 2012
- Hawkins, Jeff; networked PDAs 2010, general oral history 2007
- Heart, Frank; ARPAnet and BBN 2009
- Hellman, Martin; encryption, e-commerce 2011

- Highfield, Ashley; BBC online 2011
- Hillebrand, Friedhelm; GSM and SMS 2012
- Hughes, Kevin; Web 2010
- Hughes, Nick; mobile payment 2012
- Jain, Anant; Internetworking 2007
- Kamada, Tomihisa; mobile browsing 2008
- Kirstein, Peter; ARPAnet, NPL, internetworking 2011
- Kleinrock, Len; ARPAnet 2011
- Kline, Charley; ARPAnet partial interview 2009
- Kahn, Bob; Internetworking 2007, general oral history 2006
- Ladoux, Gerard; Minitel 2009
- Links, Cees; Wi-Fi 2012
- McClurg, Jim; Internetworking 2007
- Merkle, Ralph; encryption, e-commerce 2011
- Mobile payment users, Kenya, various; 2012
- Michel, Tony; BBN 2009
- Metcalfe, Bob; Ethernet 2006/7
- Mazzola, Mario; Ethernet switching 2011
- McKenzie, Alex; ARPANET, internetworking
- Meyrowitz, Norm; hypertext, Macromedia 2008
- Mokady, Ran; mobile data 2010
- Mwaura Nduati, Stephen; mobile payments 2012
- Mwangi Thuo, Betty; mobile payments 2012
- Nielson, Don; SRI 2007
- Paxton, Bill; ARC 2008
- Potter, David; Psion/Symbian
- Pouzin, Louis; Internetworking and CYCLADES 2009
- Riddiford, Martin; Psion/Symbian 2009
- Rulifson, Jeff; ARC 2008
- Rydbeck, Nils; mobile data 2010
- Schmidt, Eric; Google (short video) 2010
- Shustek, Len; LANs 2002
- Spilling, Paal; Internetworking 2007
- Strazisar-Travers, Ginny; Internetworking 2007
- Sutherland, Ivan; ARPA 2005
- Tagg, Caroline; SMS 2012
- Taylor, Bob; ARPA and PARC 2008. Interviewer: McJones
- Tesler, Larry; mobile, networking 2013
- Trosby, Finn; SMS 2012
- Tobagi, Fouad; Internetworking 2007
- Tomlinson, Ray; BBN 2009
- Uddenfeldt, Jan; GSM 2010
- Wafula, Alexander; Offline Wikipedia 2012
- Walden, Dave; BBN 2009
- Wales, Jimmy; Wikipedia (interview not full oral history)
- Wessler, Barry; ARPAnet 2011
- Wikipedians, various countries; 2012
- Vaughan, Pauline; mobile payments 2012
- van Dam, Andries (Andy); hypertext 2008

- James Pelkey Collection, http://historyofcomputercommunications.info, over 80 interviews with networking pioneers including Donald Davies and J.C.R. Licklider, late 1980s and early 1990s

Associated Collections with Oral Histories
- Web History Project, around 100 interviews with early Web and hypertext pioneers by Marc Weber and colleagues, 1995-2009

- Web History Center, around a half dozen oral histories with Web pioneers by Marc Weber and colleagues, 2005-2007

Events

Selected CHM Events

- [Major Internet Milestones: A 30th Anniversary Celebration of the First Three-network Transmission](#)
- Documents, Data and People: World Wide Webs, Sir Tim Berners-Lee
- [Books, Google, and the Future of Digital Print](#)
- [An Evening with Wiki Inventor Ward Cunningham in Conversation with John Gage](#)
- [Remix: Lawrence Lessig on IP in the Digital Economy](#)
- [Timesharing: A Solution to Computer Bottlenecks (1963)](#)
- [Judy Estrin: Closing the Innovation Gap](#)
- [Bob Metcalfe: Internet Pioneer](#)
- [Information Security—Before and After Public Key Cryptography](#)
- [Technology and the Future of the Book](#)
- [Social Computing: From Message Boards to Blogs & Beyond](#)
- An Evening with Paul Baran, in conversation with Henry Lowood
- [My Life on the Wireless Frontier, Irwin Jacobs](#)
- [From Gutenberg to Galaxy: Accessing Cultural Assets Online](#)
- Computer History Museum Presents Steve Case in Conversation with Walt Mossberg
- Nature or Nurture: My Life in Technology, So Far: Judy Estrin and Yogen Dalal
- [Inktomi's Wild Ride: A Personal View of the Internet Bubble](#)
- We the Media, Dan Gillmor
- [Mom Loved Him Best: Bert & Ivan Sutherland with Bob Sproull](#)
- Distributed Computing Economics
- [Google's Eric Schmidt: Perspectives on Tech Leadership](#)
- Computer Pioneer Robert Kahn with Ed Feigenbaum
- [Net@40: Hackers and Phishers and Carders- Oh My! A Panel on Cybercrime](#)
- [Net@40: Visionary Robert W. Taylor in Conversation with NPR's Guy Raz](#)
- [PLATO@50: Seeing the Future Through the Past](#)
  - [Session 1: A Culture of Innovation](#)
  - [Session 2: Innovations in Hardware](#)
  - [Session 3: Learning System Software](#)
  - [Session 4: Online Education and Courseware](#)
  - [Session 5: Online, Multiplayer Games](#)
  - [Session 6: An Early Online Community](#)

- Net@40: The Facebook Effect, Author David Kirkpatrick, and Facebook CEO Mark Zuckerberg, in Conversation with NPR's Guy Raz
- Net@40: Not Your Father's Internet: Dr. Genevieve Bell, Intel Fellow, Digital Home Group, Director, User Experience Group, Intel Corporation in Conversation with NPR's Laura Sydell
- William H. Draper III, Author of The Startup Game: Inside the Partnership Between Venture Capitalists and Entrepreneurs, in Conversation with KQED's Dave Iverson
- Author Jane McGonigal in Conversation with NPR's Laura Sydell. Reality is Broken: Why Games Make Us Better and How They Can Change the World
- In The Plex: How Google Thinks, Works, and Shapes Our Lives. Author Steven Levy in Conversation with NPR's Laura Sydell

Net@40 Series

Supported by Intel and partly in cooperation with National Public Radio and KTEH, the series celebrated the 40th anniversary of the rise of general-purpose computer networking at the end of the 1960s with events (see above) and commemorative activities.

Online

- **ARPANET Anniversary Interview and Background:** Featuring an interview with the two men who symbolically turned the key on the ARPAnet, Bill Duvall and Charley Kline.
- **National Public Radio (NPR) "Net At Forty" Segments**: Special stories for the 40th anniversary by National Public Radio's "All Things Considered".
- **KTEH Celebration and Scavenger Hunt**: Public TV station KTEH's online celebration and scavenger hunt in honor of the 40th anniversary.
- Net@40 Booklet

Net@40 Events– see Events list above

Resources Beyond CHM

Sites and Institutions with Net History Resources

Please suggest others.

- Charles Babbage Institute
- Digibarn computer museum*
- History of Computer Communications*
- Heinz-Nixdorf Museum Forum
- Internet Archive*
  - o Wayback machine, archive of Web sites since 1996
- Internet Legacy Institute*
- IT History Society
  - o Search across multiple institutions

- [Kleinrock Internet History Center at UCLA](#)*
    - Collects materials on UCLA and Southern California's role in early networking
- [London Science Museum](#)*
- [The National Museum of Computing, UK](#)
    - NPL network exhibition, not currently online
- [Oxford Internet Program](#)
- [Postel Center](#), ISI
    - [Internet History Mailing List](#)
- [SRI International](#)*
- [Stanford Libraries](#)*
- [Textfiles.com](#)
- Web History Project*
    - [Historic mailing lists](#); www-talk, www-html, etcetera
    - [Timeline experiments](#)
- [World Wide Web Consortium](#)*

*Cooperated with the CHM Internet History Program on specific projects