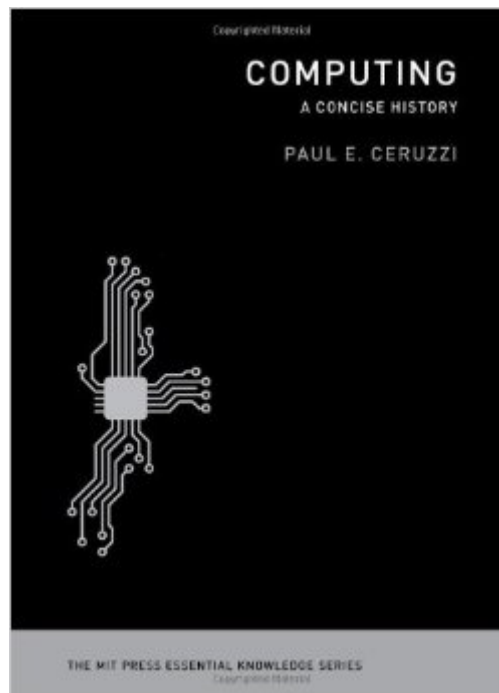


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# Computing: A Concise History (The MIT Press Essential Knowledge Series)



## Synopsis

The history of computing could be told as the story of hardware and software, or the story of the Internet, or the story of "smart" hand-held devices, with subplots involving IBM, Microsoft, Apple, Facebook, and Twitter. In this concise and accessible account of the invention and development of digital technology, computer historian Paul Ceruzzi offers a broader and more useful perspective. He identifies four major threads that run throughout all of computing's technological development: digitization--the coding of information, computation, and control in binary form, ones and zeros; the convergence of multiple streams of techniques, devices, and machines, yielding more than the sum of their parts; the steady advance of electronic technology, as characterized famously by "Moore's Law"; and the human-machine interface. Ceruzzi guides us through computing history, telling how a Bell Labs mathematician coined the word "digital" in 1942 (to describe a high-speed method of calculating used in anti-aircraft devices), and recounting the development of the punch card (for use in the 1890 U.S. Census). He describes the ENIAC, built for scientific and military applications; the UNIVAC, the first general purpose computer; and ARPANET, the Internet's precursor. Ceruzzi's account traces the world-changing evolution of the computer from a room-size ensemble of machinery to a "minicomputer" to a desktop computer to a pocket-sized smart phone. He describes the development of the silicon chip, which could store ever-increasing amounts of data and enabled ever-decreasing device size. He visits that hotbed of innovation, Silicon Valley, and brings the story up to the present with the Internet, the World Wide Web, and social networking.

## Book Information

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## Customer Reviews

Most of us take the history of computing completely for granted. Similar to other everyday objects that have always just "been there," such as toilets, toothbrushes and cars, we just continue to use them with very little regard of how much had to happen for us to have our now seemingly indispensable cell phones, wireless laptops and interactive web pages. In regards to computing, so much has happened in so little time that some may have difficulty recognizing our current technological state in its predecessors. How did the now quaint looking Altair 8800 become our modern day laptop? How did the pipe organ sized ENIAC evolve into the microprocessor? The answers remain murky and nebulous without researching the relatively recent past. Still, the history of computing swells so much with information, inventions, directions, dead ends and successes that making anything but a strictly chronological history seem nothing less than Quixotic. That's where the remarkably compact - in the spirit of the microprocessor - "Computing A Concise History" enters. In under 200 pages (including appendices and index) this very readable book will arm even the most technologically disinterested with a decent overall picture of how computing evolved from Babbage to Twitter. Not to mention that it remains cognizant that the history of computing has evolved as much as computing itself has evolved. It speaks volumes that the printed book cannot keep up with the electronic digital world. Technology books become obsolete almost while they're being written and even this one has aged since it appeared in 2012. Though it's definitely more current than other histories available, expect no discussion about "The Cloud" or other of the most bleeding edge technologies of the present moment.

This short book provides one perspective on the history of digital computer. In the Introduction, the author states his premise that there are four major threads or themes that "run through" the history of the digital computer: (1) the digital paradigm, by which binary code is used for "coding information, computations, and control"; (2) digital computers reflect the convergence of a variety of different technologies, devices, and machines; (3) the history of digital computers has been "driven by a steady advance of underlying electronics technology"; and (4) the issue of the human-machine interface has raised philosophical issues about the nature and role of digital computing in society. In the first chapter, the author briefly discusses the origins of digital computers in mechanical computing devices in the 1600s-1800s, punch cards that were first used in the 1800s to control weaving looms and later adapted to code information, and more modern technology such as the

telegraph, telephone, and early electrical devices. The rest of the book covers the development and evolution of digital computers during the period 1935-present. The author uses his four major threads or themes to organize his discussion about the development and evolution of digital computers. The book provides an adequate introduction to the history of digital computers. The book is written for the general public, so a reader does not need any technical training or expertise in digital computers to read and understand this book. Given the basic, introductory level of this book, it would be appropriate for high school or college students, or anyone with a casual interest in the history of digital computers.

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