

# Technology

## trifecta

In 1982 a cascade of computers beeped and blipped their way into the American office, the American school, the American home. The “information revolution” that futurists have long predicted has arrived, bringing with it the promise of dramatic changes in the way people live and work, perhaps even in the way they think.

Excerpt from

“Machine of the Year: The Computer Moves In”

TIME magazine, January 3, 1983

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The computer was TIME magazine’s first non-human choice for “Man of the Year” — and with good reason. The electronic digital computer had evolved from a 1940s-era behemoth — 30 tons and 18,000 vacuum tubes — into a compact, affordable desktop unit that could fit unobtrusively into the corner of a workplace cubicle, a home office, a college dorm room, or a studio apartment.

Computers underwent an extraordinary transformation during the early 1980s — not just in size, but also in terms of image. When the decade began, many Americans still regarded computers with a mixture of apprehension and skepticism. Yes, they knew microprocessors could help cars run more efficiently. They also understood that the government might need powerful mainframe computers to process a growing volume of information and enhance national defense. But at the same time they were unsettled by the specter of Big Brother and puzzled as to why anyone would ever need a computer at home.

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Then came a flurry of innovations that helped to put the “personal” in personal computer:

**1980:** Seagate Technology introduces the hard drive.

**1981:** IBM markets the first PC (which is also the first high-profile computer to use Microsoft’s MS-DOS operating system). And the first portable computer is unveiled. Osborne 1 weighs 24 pounds. It features a 64kb memory, a 5-inch display screen, and a \$1,795 price tag.

**1982:** Lotus introduces spreadsheet software that’s user-friendly.

**1983:** Compaq introduces the first PC clone.

**1984:** Apple introduces the Mac. And CD-ROM technology (jointly developed by Philips and Sony) makes its debut.

By the end of the 20th century, instead of asking why they would ever need a computer at home or on the job, people were more likely to wonder how they ever got along without one.

## The Internet

Remember the first time you heard someone talk about “surfing the Net”? Unless you were born after 1980, you probably had no idea what the phrase meant.

Times certainly have changed. These days even technophobes and Luddites are familiar with the Internet.

“Few technologies have spread as quickly, or become so widely used, as computers and the Internet,” noted a U.S. Department of Commerce report issued in February 2002. The report, *A Nation Online*, found that as of September 2001:

- Fifty-four percent of the U.S. population — 143 million Americans — used the Internet.
- Internet use was growing at the rate of two million new users per month.
- The number of U.S. households with an Internet connection went from

# cell phones

18.6 million in 1997 to 50.5 million in 2001.

- Between December 1998 and September 2001, Internet use by individuals in the lowest-income households (those earning less than \$15,000 per year) increased at a 25 percent annual rate.

- As of September 2001, the percentage of Internet users in rural areas (53 percent) was almost even with the national average.

- Between August 2000 and September 2001, the number of e-mail users jumped from 35.4 percent to 45.2 percent.

In addition to e-mail, we’re also using the Net to:

- search for product and service information (36.2 percent);
- search for news, weather, and sports information (33.3 percent);
- make online purchases (21.0 percent);
- conduct our banking (8.1 percent); and
- look for a job (7.5 percent).

In a very short span of time, the Internet transformed computers into appliances for everyday living.

## Cell Phones

That old comic strip crime-fighter, Dick Tracy, first used his wrist radio to battle the bad guys in 1946. One year later, the National Bureau of Standards unveiled a working model of the real thing, but with its cluster of tiny radio tubes and its very limited range, the device never caught on.

But 30 years later, in 1977, AT&T Bell Labs launched a prototype cellular telephone system in Chicago, and by 1983 cell phones were ready for their American commercial debut. (Cordless phones, which allow people to walk around the house and talk unencumbered by wires, had begun to hit the market in 1980. But users couldn’t stray too far from a base unit that was plugged into a wall socket.)

During the 1990s, cellular phones surged in popularity — in part, because the quality of service improved, but also because competition helped to make the service more affordable.

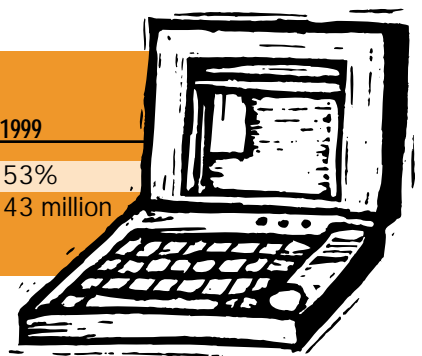
And cell phones are only the beginning. Wireless, handheld computer technology made tremendous advances during the second half of the 1990s.

A 1999 Associated Press article in *USA Today* observed that “Today’s cell phone is the communications equivalent of the turn-of-the-century timepiece, the pocket watch. Both contain about 100 parts. And like the pocket watch, the cell phone is poised to become an anachronism as key components shrink.” The article chronicled efforts to develop a real-world equivalent

## The PC Became a Household Appliance

	1980	1990	1999
U.S. households with computers	<1%	22%	53%
U.S. shipments of personal computers	490,000	9 million	43 million

Source: “The New Paradigm,” *1999 Annual Report*, Federal Reserve Bank of Dallas.



## More Cell Phones Cost Users Less

	1990	2000
Number of cell phone subscribers	5,283,000	109,478,000
Cell phone systems	751	2,440
Average monthly bill	\$80.90	\$45.27

Source: U.S. Census Bureau, *Statistical Abstract of the United States: 2001*.



of Dick Tracy's wrist communicator — complete with video, text messaging, and satellite navigation. Only time will tell if the device turns out to be a case of life imitating art or just more pie in the sky.

## Want to Know More?

Here's an article that can serve as the basis for an engaging classroom exercise. Read it, and then note which of the observations stood the test of time and which didn't:

"Machine of the Year: The Computer Moves In," *TIME*, January 3, 1983.  
<http://www.time.com/time/special/moy/1982.html>

Three more useful sites:

- The Computer Museum History Center, "Timeline of Computer History, 1945 - 1990" <http://www.computerhistory.org/timeline/>

- A Nation Online: How Americans Are Expanding Their Use of the Internet <http://www.ntia.doc.gov/ntiahome/dn/index.html>

- IBM Archives <http://www-1.ibm.com/ibm/history/>

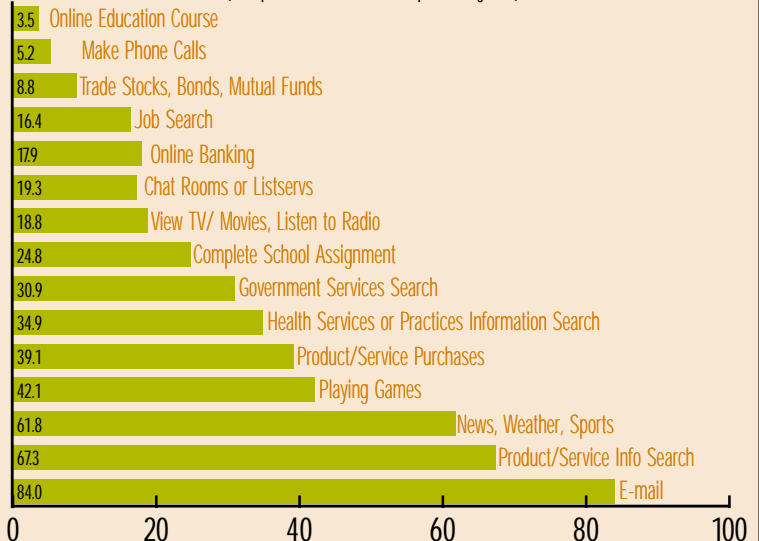
Want to know how a cell phone works? This site has the answers. <http://www.howstuffworks.com/cell-phone.htm>

There's a connection between the joke you just e-mailed to a friend and the Cold War concern over a Soviet nuclear strike. Visit one of these sites to learn more about how the Internet evolved:

<http://www.isoc.org/internet/history/>  
<http://www.loc.gov/global/internet/history.html>  
<http://www.archive.org/>

## Activities of Individuals Online, 2001

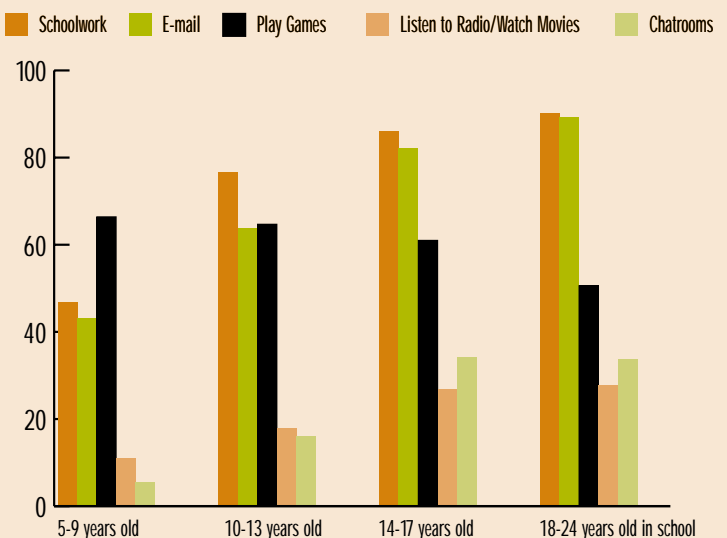
(as a percent of Internet users, persons age 3+)



Source: U.S. Department of Commerce and U.S. Census Bureau *Current Population Survey Supplements*.

## Major Activities Among Children and Young Adults, 2001

(as a percent of U.S. population under 25 years old)



Source: U.S. Department of Commerce and U.S. Census Bureau *Current Population Survey Supplements*.