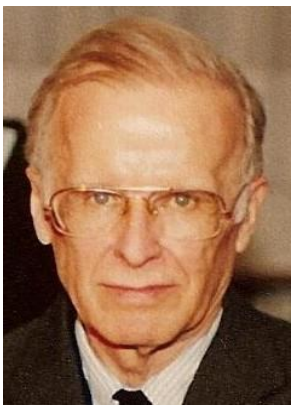
Dec. 3rd

John Warner Backus

Born: Dec. 3, 1924;

Philadelphia, Pennsylvania
Died: March 17, 2007

Backus directed the team that developed FORTRAN [Dec 00] in the 1950s, and invented the Backus-Naur [Oct 25] form (BNF) for describing programming languages while serving on the international committees that developed ALGOL 58 [May 27] and ALGOL 60 [Jan 11]. His interests shifted later to functional programming, as presented in his influential 1977 Turing Award lecture "Can Programming Be Liberated from the von Neumann Style?".



John Backus (1989). Photo by PIerre.Lescanne. CC BY-SA 4.0

He had 'accidentally' joined IBM in 1950 during a visit to its headquarters in NYC to look at the SSEC [Jan 27]. Robert (Rex) Seeber, co-inventor of the SSEC, asked him a series of brain teasers, and the answers persuaded Seeber to hire him on the spot as a programmer. Sadly, the actual questions are long lost, but were something like: "How would you handle the alignments and additions when using a 10-digit calculator to multiply a 20-digit number?"

Backus' first major project was to write a program for the SSEC to calculate orbital positions of the Moon, but his interest in language design soon manifest itself. In 1953 he developed Speedcoding [Sept 9], the first high-level language for an IBM machine, specifically the 701 [April 7].

Backus has been credited with being the first to describe the features of a (hypothetical) time-sharing system, during a talk at the 1952 "Digital Computers" summer school at MIT. However, it wasn't until after John McCarthy's memo [Jan 1] on the topic in 1959, that time-sharing systems started being built (e.g. CTSS [May 3]).

"Much of my work has come from being lazy," Backus said during a 1979 interview. "I didn't like writing programs, and so, when I was working on the IBM 701, writing programs for computing missile trajectories, I started work on a programming system to make it easier to write programs."

Another quote: "For twenty years programming languages have been steadily progressing toward their present condition of obesity."

CDC 7600

Dec. 3, 1968

Control Data Corporation's (CDC) [July 8] 7600 was arguably the first supercomputer. It was designed by Seymour Cray [Oct 5] as a successor to his CDC 6600 [Sept 00] (which some consider to be the first supercomputer).

The 7600 was capable of performing calculations at 10-36 MFLOPS (5-10 times faster than the 6600), and it was probably the fastest computer in the world until the mid-1970's. Its speed came from its unique reduced-instruction-set computer (RISC) design which only supported 64 opcodes, lacking, among other things, fixed-point multiply and divide.

On the negative side, its 120 miles of hand wired connections was a major source of heat, and its Freon cooling system was prone to failure.

Legend has it that Cray loaded the OS into the machine by toggling switches on the front panel, working from memory alone, and that it executed flawlessly when the machine was switched on.

The Oregon Trail

Dec. 3, 1971

The Oregon Trail was an educational game developed by student teachers Don Rawitsch, Bill Heinemann, and Paul Dillenberger, which grew out of Rawitsch's desire to make his 8th grade history class more interesting. At the time he was a senior at Carleton College in Northfield, Minnesota.

The player assumes the role of a wagon leader in 1848 guiding a party of settlers from Independence, Missouri, to Oregon's Willamette Valley in covered wagons.

The 600-line BASIC program debuted in Rawitsch's class on this day (just two weeks after the trio had started coding). He wheeled a bulky teletypewriter into the room, plugged in phone cables, and dialed a number to connect to the $100,000 HP 2100 minicomputer fifty miles away.

An example of the gameplay:

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MONDAY MARCH 29 1847
TOTAL MILEAGE IS 0

FOOD  BULLETS  CLOTHING
SUPPLIES  CASH
100    2500      50
50        200

DO YOU WANT TO (1) HUNT or
(2) CONTINUE?2

DO YOU WANT TO EAT
(1) POORLY (2) MODERATELY
OR (3) WELL?2

RIDERS AHEAD. THEY LOOK
HOSTILE.
```

The game was immediately popular, and he soon made it available to everyone on the time-sharing system in Minneapolis public schools.

A few years later, Rawitsch improved the historical content for The Minnesota Educational Computing Consortium (MECC),

a state-funded organization that developed educational software for classrooms. He also published the source in *Creative Computing*'s May-June 1978 issue [May 17], and ported it over to the Apple II [June 5] (MECC's chosen microcomputer for their schools). A 1985 Apple II version (completely rewritten by R. Philip Bouchard with more events and simple graphics) became extreemly popular. By 1995, "The Oregon Trail" accounted for about one-third of MECC's $30 million annual revenue.

Various phrases from the game became quite famous among school kids, including "You have died of dysentery", which appeared on T-shirts and other merchandise.

Although "The Oregon Trail" is probably the best known early educational game, it wasn't the first. That was the 1964 experimental "The Sumerian Game" [Aug 00] by New York schoolteacher Mabel Addis.

The Source

Dec. 3-5, 1979

"The Source" was announced at COMDEX [next entry] by Bill von Meister, making it one of the first dial-up online services for the general public. At a launch in NYC the following month, guest speaker, Isaac Asimov [Jan 2], declared it to be "the start of the information age."

The one-time $100 subscription fee deterred all but the determined, and even off-peak, it was $2.75 an hour billed to the minute; during business hours, it was $15 an hour.

The Source's parent company, the Telecomputing Corporation of America (TCA), forged a deal with time-sharing provider Dialcom to use its "excess" Prime minicomputer time overnight and on weekends. Dialcom's servers were located in Washington, DC, where many of its customers were also located (including a large number of US Representatives); The Source was in nearby McLean, Virginia.

If you didn't live in the DC region, or didn't want to run up hellish long-distance bills, Dialcom systems could be accessed remotely through the Telenet packet-switched network [Aug 16].

The Source's services included news, weather reports, stock quotations, a shopping service, electronic mail, and e-books [Nov 17]. Its newsgroup-like facility, known as PARTICIPATE (or PARTI) also hosted "Electures", such as Paul Levinson's "Space: Humanizing the Universe". The email facility was powered by Dialcom's pioneering email service, the world's first commercial offering, which had premiered in 1978.

CompuServe [Sept 24] also began offering dialup services at around the same time, and began to outpace "The Source" during the 1980's so that even at its peak (80,000 subscribers), "The Source" was only one-tenth the size. CompuServe bought the service on June 23 1989, promptly closing it down in August.

COMDEX

Dec. 3-5, 1979

The first COMDEX (Computer Dealers' Exhibition) was held in Las Vegas at the MGM Grand, and attracted 170 exhibitors and 3900 attendees. It soon grew to be one of the largest computer trade shows in the world, second only to the Germany's CeBIT [March 12]. Colloquially known as "Geek Week", COMDEX was where the industry made their big product announcements and releases.

In the late 1980's, the event was opened to the general public, causing an explosion in attendance. At its height in the mid 1990's, it attracted almost 250,000 visitors. But COMDEX was also facing increased competition, especially from the Consumer Electronics Show (CES [June 24]) held every January, also in Las Vegas, with its emphasis on gadgets.

One well-known annual COMDEX event was the Chili Cook-Off, sponsored by Micrografx, with proceeds donated to the National Center for Missing and Exploited Children. Paul and George Grayson, the founders of Micrografx, came up with the idea in 1991, and Kate Potts organized the event for several years.

Adobe Founded

Dec. 3, 1982

Adobe Systems was founded by John Warnock [Oct 6] and Charles Geschke [Sept 11] after leaving Xerox PARC [July 1].

At first, they thought they might operate a chain of print shops, or manufacture high-end workstations and printers. Eventually, they decided to focus on software, specifically PostScript, a page description language. The business model crystallized when they signed a deal with Steve Jobs [Feb 24] to build PostScript into Apple's LaserWriter [March 1]. In addition to the two cofounders, the development team included Doug Brotz, Bill Paxton, and Ed Taft, and Postscript was released at the end of 1984.

The company started in Warnock's garage, and the Adobe name came from the Adobe Creek that ran behind his house. Warnock's wife Marva, a designer, created the original Adobe logo, whose blocky "A" lives on today as the company's logomark.

Steve Jobs wanted to buy the company for five million dollars in 1983, but Warnock and Geschke refused. Instead Jobs bought shares worth 19% of the company, plus a five-year license fee for PostScript, making Adobe the first company in the history of Silicon Valley [Jan 11] to become profitable in its first year.

Adobe's first products after PostScript were digital fonts, a fresh approach to describing typefaces geometrically. PostScript and the Adobe Type Library kickstarted the explosive growth of desktop publishing in the 1980's.

In 1989, Adobe introduced a graphics editor for the Macintosh called Photoshop [Feb 19], which soon dominated the market.

In 1993, Adobe released PDF, the Portable Document Format, and its Adobe Acrobat software. PDF is now an International Standard: ISO 32000-1:2008.

In [March 15] 1994, Adobe acquired Aldus and added PageMaker and After Effects to its product line. On Dec 12, 2005, Adobe snapped up its main rival, Macromedia.

Texting Begins

Dec. 3, 1992

Neil Papworth, a 22-year-old test engineer at Sema Group, sent the first text message, "Merry Christmas", from a PC to a mobile phone. It travelled over the Vodafone UK GSM [Feb 16] network to the phone of Richard Jarvis (a Vodafone director) who was attending a party at the time.

Sema was developing the Short Message Service Centre (SMSC) for Vodafone, and Jarvis received the message on an Orbitel 901 handset, the first GSM mobile to receive government approval, just beating phones from Nokia, Motorola, and Ericsson.

The Orbitel was both bulky and heavy (2 kg) due to its large built-in receiver. Also, it could only receive SMS messages, not send them.

The Nokia 1011 was the first mass-produced GSM phone, and had been released on Nov. 10. It was a more recognizable mobile phone size, weighing 500g, and was able to send and receive SMS messages.

On Dec. 21, 2021, (a replica of) the "Merry Christmas" message was sold by Vodafone for 107,000 euros ($121,000) as a Non-Fungible Token (NFT [May 3]) at a Paris auction house. However, the selling of intangible goods is illegal in France, so the house packaged the message in a digital frame. The proceeds were donated to the United Nations Refugee Agency UNHCR.

PlayStation Released

Dec. 3, 1994

The PlayStation was Sony's first game console. It was designed by Ken Kutaragi [Aug 2] specifically to render fast, detailed 3D graphics at a high resolution of 640×480 pixels in 24-bit color. It was also marketed at an older demographic – well-off student types – with games that matched their interests such as Tekken and Driver (street fighting and car racing).

The original PlayStation. Photo by Evan-Amos.

The PlayStation loaded games from CDs, the first commercially successful system to do so, heralding the end of cartridge game era. In fact, this element of the PlayStation was partly a result of the breakdown of a partnership between Sony and Nintendo [Sept 23] to create a CD peripheral for the SNES [Nov 21].

Sony spent $500 million developing the system, a substantial amount, and its release was scheduled at a far from ideal moment, just one week after the launch of the Sega Saturn [Nov 22]. Nevertheless, within thirty days, Sony had sold more than 300,000 units, and over 1 million units after six months.

The PlayStation 2 was released on [March 4] 2000.

Hot Tub Internet

Dec. 3, 1995

In *The New York Times Magazine*, Chaotic-author James Gleick reported the hot news about how Paul Haas of Ypsilanti, Michigan had linked his hot tub (an octagonal Whirlpool spa) and refrigerator to the Web. In fact, the tub had been accessible via email and UNIX finger since 1993.

Haas' setup used a NCSA [Jan 15] httpd Web server running a Perl program [Dec 18] that sent a "read analog" request through a 50 foot long cable to a Miniboard attached to the tub. The board sent back eight values from sensors attached to its plumbing.

The refrigerator came online a few months later. It used another Miniboard connected to a thermistor in the freezer compartment and two in the refrigerator compartment. Haas also included a door switch, a pop-can sensor switch, and a photocell, for even more detailed, relevant information

The Miniboard at the heart of Haas' data nexus had been designed at MIT by Fred Martin [Oct 13] and Randy Sargent. It was a direct descendent of the 6.270 board used in the famous MIT 6.270 mechatronics class as a controller for simple robots.

The Miniboard used a Motorola MC68HC11E2 processor with 2K bytes of EEPROM and 256 bytes of RAM. The board offered a variety of I/O ports including eight A/D converters, eight digital I/O pins, and eight general purpose I/O pins.

For more Internet connectivity firsts, see [?? 1982], [Aug 00], [Sept 1], [Nov 22].

Quiet: We Live in Public

Dec. 3, 1999

Josh Harris founded the technology consulting firm Jupiter Communications in 1986, and "Pseudo Programs" in 1993, a live streaming TV network. However, his informal appelation, “the Warhol of the Web” is due to his art project “Quiet: We Live in Public”, which began on this day, and ended on Jan. 1, 2000, not because of the Y2K bug [Dec 31] but because the police raided the building.

“Quiet” involved more than 100 people living in a “human terrarium” in a six-floor NYC warehouse, with 110 webcams capturing their every move. It included a Japanese-style capsule hotel fitted with cameras in every pod, and screens that allowed each occupant to monitor the other pods. Each pod was also streamed live to the Web via a TV portal at "Pseudo Programs". Harris proclaimed, “Everything is free, except your image. That we own.”

The warehouse included a shooting range which you could hear from the street (and was the cause of the police raid), a banqueting hall, theatre, temple, club, a giant game of Risk, and a public shower, all covered by cameras. Harris reportedly spent $2 million on the project.

After “Quiet”, Harris carried on funding art projects until the dot-com crash [March 10]. On Nov. 21 2000, he announced “We Live in Public”, where he rigged up his Broadway loft with 30 motion-controlled cameras and 66 microphones, including a shower cam, a toilet cam, a bed cam, a refrigerator cam, and a cat litter cam.

He committed himself and his girlfriend to “live in public” for 100 days, but she left after 81 days, citing mental and emotional stress, and Harris only lasted a few more weeks. I couldn’t find out what happened to their cat.

Harris’ experiments are a form of lifecasting, which was probably invented by Steve Mann [June 8], although JenniCam ([April 14] 1996-2004) was the first really successful ‘lifecasting’ attempt. Arguably, lifecasting has evolved into social networking, and apps like Instagram [Oct 6] and Snapchat [July 8].