April 20th

Louis Pouzin

Born: April 20, 1931;

Chantenay-Saint-Imbert, Nièvre, France

Pouzin invented the network datagram in 1973 as part of his design for a packet communications network called CYCLADES. By 1976 the network contained 20 nodes, mostly in France, but also with connections to the UK and Italy.

The crucial feature of datagram packets is that the transport protocol doesn't guarantee their reliable delivery, but only a "best-effort" attempt. If the network needs reliability, it must build it on top with additional error-correction and packet resending.

This approach influenced Robert Kahn [Dec 23], Vinton Cerf [June 23], and others, in their development of the TCP/IP [Sept 9] protocols for the Internet. Ironically, this was at around the same time that the French government withdrew its funding for CYCLADES. Pouzin remarked, "They said, 'You've done a good job. Now go fly a kite'." Part of the reason was hostility from France's telecom's company, PTT, and other European state-run telecoms providers. Their engineers considered the Pouzin design untrustworthy and disliked the way CYCLADES removed intelligence from the network, moving processing to the computer hosts.

In the early 1960s, Pouzin participated in the design of the Compatible Time Sharing System (CTSS [May 3]) at MIT, and wrote RUNCOM. It permitted the execution of multiple commands stored in a folder, and can be seen as an ancestor of shell scripts used in UNIX. Indeed, Pouzin coined the term "shell" in 1964 or '65.

Robert Stein

Born: April 20, 1946;

NYC

Stein co-founded the Voyager Company in 1984, the first commercial multimedia CD-ROM publisher, with Jon Turell, Bill Becker, and Aleen Stein.

In 1989, the company released its "Companion to Beethoven's Ninth Symphony" CD-ROM, perhaps the first title to couple a computer disc with an audio CD. It combined a Vienna Philharmonic recording with UCLA music instructor Robert Winter's commentary, a biography of the composer, and a line-by-line reading of the score. Stein had met Winter through his music appreciation class at UCLA, and sold him on the idea of interactive CD-ROMs by saying "You know we can reproduce your class now as a book."

The system was developed using HyperCard [Aug 11], with additional custom audio commands developed at Voyager.

Next came the "Expanded Books" Project, which released Douglas Adams' [March 11] "The Complete Hitchhiker's Guide to the Galaxy", Martin Gardner's [Oct 21] "The Complete Annotated Alice", and Michael Crichton's "Jurassic Park" in January 1992. This led to "The Expanded Books Toolkit", and over sixty CD-ROMs using the software, such as "A Hard Day's Night" and "Who Built America?"

Whirlwind Operational

April 20, 1951

Whirlwind was a vacuum tube computer developed at MIT by Jay Forrester [July 14] for the US Navy. It used 5000 vacuum tubes and 22,000 diodes, and could add two 16-bit numbers in two microseconds and multiply them in twenty microseconds.

It was the first computer to be truly digital, the first to operate in real time, and the first to feature a video terminal (a large oscilloscope screen) for graphic and text output. It was the first to use magnetic core memory (from 1953), the first to use direct keyboard input and a light pen (from [July 4] 1956), and the first to use a (rudimentary) operating system (from [March 8] 1955]). It was one of the first computers to calculate in parallel, and arguably the first to run a high-level compiler [Jan 00]. It was probably the first computer to appear on TV [Dec 16].

Parts of the Whirlwind's core memory and controls. Photo by Daderot.

Whirlwind initially stored data in a bank of large Haeff-style memory tubes [Jan 12], which were very unreliable, with a mean time between failure (on a good day) of about 20 minutes. Forrester responded by developing core memory [May 11], which increased the Whirlwind's speed and reliability dramatically. Core memory became standard in computers from the mid-1950s until the 1970s.

The Whirlwind filled the three story Barta building on the MIT campus, consisting of a power substation in the basement; staff offices and the drum storage system on the ground floor; the mainframe, memory banks, and control room on the second; input/output consoles on the third, and the heating,

ventilation and air conditioning (HVAC) on the roof.

The Whirlwind staff were fond of hanging unusual objects on the front of the computer, including a shrunken head, and a hand grenade.

The nickname for the team was the "Bright Boys" (although several women were in the group).

Whirlwind's design heavily influenced business and minicomputers of the 1960s, starting with Ken Olsen's [Feb 20] TX-0 [Nov 20] and IBM's AN/FSQ-7 [Nov 14]. Many of the founders of the "Route 128" electronics firms in Boston's northwestern suburbs were alumni of the project. For example, Olsen left in mid-project to start DEC [Aug 23].

Whirlwind began in 1943 as an analog flight simulator for the Navy, but the project switched to digital electronics in Nov. 1945 By 1947, Forrester and collaborator Robert Everett had completed the design but the end of the war meant less funding. That was until the Soviets tested an atomic bomb on [Aug 29] 1949, which renewed interest in computers like the Whirlwind as early warning systems.

Whirlwind began solving test problems in 1951, and by 1953 was doing useful work. In a series of tests conducted by the Air Force over Cape Cod in 1952, Whirlwind demonstrated its ability to control an aircraft warning and control system [Aug 29]. Although Whirlwind eventually proved too slow, its design principles were employed to build the SAGE [June 26] air defense system.

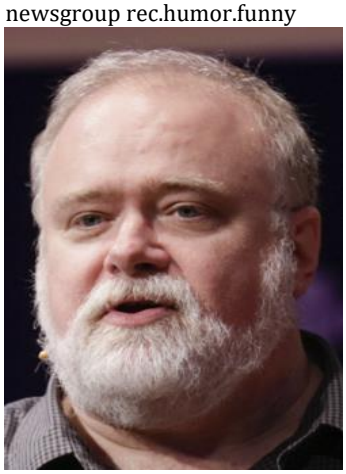
Brad Templeton

Born: April 20, 1960;

Toronto, Ontario

Templeton writes about political and social issues related to computing and networks, with one of his most popular essays being "10 Big Myths of Copyright Explained". He was also the chairman of the EFF [July 10] board for ten years.

He created the USENET [Jan 29] newsgroup rec.humor.funny



Brad Templeton (2014). Photo by Thomas Fedra. CC BY 2.0.

(RHF) on Aug. 7 1987, and moderated it until 1992. By Jan.1989 it had become the most popular group, greatly helped by an attempt to ban it in 1988, led by the "Kitchener-Waterloo Record" newspaper. RHF ended up having a readership which easily surpassed the daily circulation of that paper.

Templeton founded ClariNet Communications in 1989, a for-profit company which distributed news articles via the USENET, making it one of the first commercial Internet ventures. Items included material sourced from United Press International (UPI), and Newsbytes, a computer industry news service, along with Dilbert cartoons [April 16].

A quote: "When cryptography is outlawed, bayl bhgynjf jvyy unir cevinpl!"

BASIC Payments

April 20, 1977

Next: [Nov 18]

Bill Gates [Oct 28] and Paul Allen [Jan 21] wrote a letter to Ed Roberts [Sept 13] of Micro Instrumentation and Telemetry Systems (MITS) complaining about MITS's failure to provide accurate and timely royalty payments on Altair BASIC [Jan 2], failure to sub-license and promote the product to others, and failure to maintain non-disclosure terms with third party licensees.

Micro-soft threatened to terminate their exclusive licensing agreement for 8080 BASIC in ten days if the situation wasn't remedied. The company would ultimately carry out their threat in November; see [Nov 18].

National Robotics Challenge

April 20-24, 1986

The first SME-RTEC (Society of Manufacturing Engineers Robotic Technology and Engineering) competition (later renamed the "National Robotics Challenge") was held at the "Ribots 10" conference in Chicago. It was organized by Tom Meravi and James Hannemann.

It was the first open-platform robotics competition available to middle school, high school, and post-secondary students. It was made up of a number of smaller contests focusing on different types of robots, including:

- SUMO: where two robots try to push each other out of a playing circle;
- Top of the Hill: robots navigate a Moonscape to retrieve ping pong balls;
- Hockey: two teams, each with two robots, play hockey.

PowerPoint Released

April 20, 1987

PowerPoint, the presentation program beloved by business and academia, was created by Robert Gaskins and Dennis Austin at Forethought, Inc. Gaskins produced the initial design description on Aug. 14, 1984 in the form of a two-page document titled "Presentation

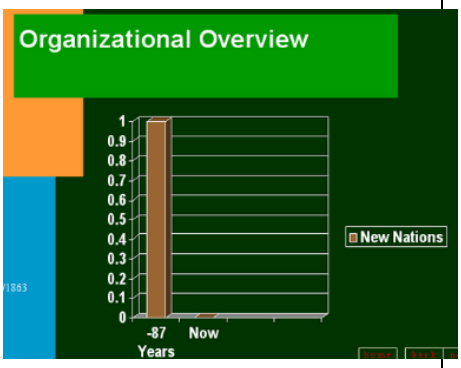
Graphics for Overhead Projection."

During its development the software was called "Presenter" but the name was already taken, so Gaskins came up with "PowerPoint", to reflect the product's noble goal of "empowering" presenters.

Gaskins later wrote that "Dennis came up with at least half of the major design ideas," and was "completely responsible for the fluid performance and the polished finish of the implementation." "It's a good bet," Gaskins added, "that if Dennis had not been the person designing PowerPoint, no one would ever have heard of it."

Although Microsoft bears most responsibility for PowerPoint's ubiquity, it's sometimes forgotten that the funding to complete its development in 1987 came from Apple's Strategic Investment Group.

Microsoft acquired Forethought for $14 million three months after PowerPoint was released. Jeff Raikes, head of marketing for the Applications Division of Microsoft, pushed through the purchase, despite Bill Gates' [Oct 28] reluctance. Raikes later recalled how he want to see Gates, and he said, "No, no, no, no, no, that's just a feature of Microsoft Word, just put it into Word" [Sept 29].



One Slide from Peter Norvig's "The Gettysburg PowerPoint Presentation" (11/19/1863).

Microsoft's version of PowerPoint was launched on [May 22], 1990, the same day as Windows 3.0.

Statistician and design guru Edward Tufte has criticized the way PowerPoint is poorly used, notably in his essay "The Cognitive Style of PowerPoint."

A humorous example of its problems can be seen in Peter Norvig's [Dec 14] Gettysburg PowerPoint presentation at http://norvig.com/Gettysburg

WebCrawler Debuts
April 20, 1994

WebCrawler, the first full text search engine, was launched by Brian Pinkerton with a then-massive database of pages from just over 4000 Web sites. It still proved very popular, and on Nov. 14, it served its one millionth query. One reason was that the other three 'big' search engines of the time (the World Wide Web Worm [Sept 00], JumpStation, and RBSE) only indexed pages based on their title and meta tags.

WebCrawler is also the oldest surviving search engine, still accessible at https://www.webcrawler.com/

It has been bought and sold many times over the years, and has morphed into a metasearch engine, providing composite results from other engines. More dramatically, in early 2008, it scrapped its much loved original 'spider' mascot.

Windows 98 BSOD
April 20, 1998

During COMDEX [Dec 3] in Chicago, a public demonstration of the soon-to-be released Windows 98 [June 25] went famously awry when Bill Gates' [Oct 28] assistant plugged a scanner into a PC running the OS. Instead of firing up its much vaulted plug-and-play capabilities, a "Blue Screen of Death" (BSOD; [July 27]) sprung forth, delighting the audience immensely.

After several seconds, Bill Gates responded, "That must be why we're not shipping Windows 98 yet."

The assistant, Chris Capossela, was not subsequently assigned to be Microsoft's Antartica sales manager. In fact, he later ascended to the rarified executive ranks of Microsoft, becoming a Senior Vice President.

PlayStation Network Attack
April 20, 2011

Following a security intrusion, the PlayStation [Nov 11] Network (PSN), was suspended, affecting 77 million registered accounts, and eventually remaining offline for 23 days.

In June, Sony launched a "Welcome Back" program, allowing all PSN subscribers who joined prior to April 20 to download free games and receive free play days.

Perhaps more significantly though, Sony also changed the PSN license agreement to bar users from filing lawsuits without first trying to resolve issues with an arbitrator.

For more network outages, see [Jan 15], [April 13], [May 8], [Oct 4].

MIT Tetris
April 20, 2012

MIT hackers successfully turned the 295-foot-tall MIT Green Building into a huge playable Tetris [June 6] game. The modification was perfectly reasonable since the windows of that building are arranged in an 18 x 9 grid; not quite the 20 cells high and 10 cells wide of the game but close enough.

Visitors to MIT's Campus Preview Weekend (a gathering for prospective freshmen) were invited to play the game.

Subsequently, an understanding was reached with the Earth and Planetary Science Department,

which is headquartered in the edifice, to leave the light display hardware installed for use at future open days and events.