Jan. 29th

Allen Balcom DuMont

Born: Jan. 29, 1901;

Brooklyn, New York
Died: Nov. 14, 1965

DuMont developed a cathode ray tube (CRT) that was both cheaper to make and longer-lasting than existing tubes (which often lasted only 25 to 30 hours).

DuMont's improvements were an important part of making TV commercially viable. His company also manufactured the first all-electronic TV sets in the US, and that he founded the first licensed TV network in 1946.

Less well known is DuMont's use of a CRT screen to display radar images in 1932. The military asked him not to patent the device so they could keep the work a secret.

In 1915, DuMont became the youngest American to obtain a first class commercial radio operator's license.

Joseph Bernard Kruskal, Jr.

Born: Jan. 29, 1928;

NYC
Died: Sept. 19, 2010

Kruskal formulated the mathematics behind multidimensional scaling, which is used to visualize patterns in complex data. However, for most computer science students he's probably best known for Kruskal's algorithm, which generates a minimal spanning tree (MST) for a weighted graph. MSTs play a key role in building efficient communication networks.

His mother, Lillian Rose Vorhaus Kruskal Oppenheimer, was a leading popularizer of origami in the US.

Eckert's Storage

Jan. 29, 1944

Next: [June 30]

During ENIAC'S [Feb 15] construction, J. Presper Eckert [April 9] wrote a memorandum entitled "Disclosure of a Magnetic Calculating Machine," in which he described the use of "discs or drums which have at least their outer edge made of a magnetic alloy" upon which data could be stored.

Some historians take this paper as a strong indication that Eckert and John Mauchly [Aug 30] were already thinking about the stored-program concept long before John von Neumann [Dec 28] joined the ENIAC project in August.

However, it's fair to point out that von Neumann's [June 30] 1945 "First Draft of a Report on the EDVAC" went further – it described an entire machine in terms of its logical structure rather than through its hardware.

Eckert' memo was unearthed during the court case over the ENIAC patent [June 26], and used to argue that Eckert had conceived elements of the stored-program concept before von Neumann. Another element of this squabble was Eckert and Mauchly's work on delay line memory [Oct 31] before von Neumann wrote the First Draft.

The Sir George Williams Computer Riot

Jan. 29, 1969

Over 400 students took over the computer center located on the ninth floor of the Henry F. Hall Building at Sir George Williams University in Montreal (now a part of Concordia University), making it the largest student occupation in Canadian history.

It was sparked by the university's perceived mishandling of racism allegations after six West Indian students had accused their biology professor of discrimination through unfair grading.

The occupation continued until Feb. 11 when riot police stormed the center. Fighting broke out, and a CDC 3300 [July 8], IBM 1620 [Oct 21], and other equipment were destroyed in a fire. Several million punched cards were flung from windows. The damages was estimated at about $2 million.

The Henry F. Hall building at Sir George William University. Photo by Fonds Conrad Poirier from Bibliothèque et Archives nationales du Québec.

Ninety-seven students were subsequently arrested. One of the protestors, Roosevelt Douglas, was deported back to the Caribbean, where he later became Prime Minister of Dominica. Also arrested was Anne Cools, who went on to become the longest-serving member of the Canadian Senator.

A month before the occupation, the Canadian version of TIME Magazine had called Sir George a 'dynamic' university.

Sinclair ZX80 Launched

Jan. 29, 1980

The Sinclair ZX80 (pronounced "zed-ex") was launched by Sinclair [July 30] Research, making it the first computer available in the UK for (just) less than a £100. It was sold in kit

form for £79.95, and ready-built at £99.95. It weighed just 12oz, and was the size of an outstretched hand.

As the name suggests, it employed a Z80 chip (the 'X' part stood for "a mystery ingredient" according to Sinclair), 4 KB of ROM including BASIC and an editor. There was only 1 KB of RAM, but it could be expanded up to 16 KB.

The ZX80's internals were cleverly designed by Jim Westwood to utilize only off-the-shelf components (around 20 chips) to save on costs. Incidentally, this makes the ZX80 a good design for modern-day hardware hackers to recreate.

Output (22 x 32 black-and-white characters) was possible by plugging the device into a TV set through an adapter. The screen flickered during input or output, which was annoying, but also useful as an indicator that the computer was working.

The Sinclair ZX80. Photo by Daniel Ryde, Skövde. CC BY-SA 3.0.

The system used ordinary music cassettes to store data. Typed input was through a membrane keyboard that pressed metal foil onto the PCB, which meant that no mechanical parts were needed.

The ZX80 had some problems with overheating. Although there were several black stripes along the top back of the case that looked somewhat like vents, they were only drawn on.

About 50,000 ZX80's were sold in Britain, with a long waiting list. The cheaper ZX81 [March 5] was launched a year later, and became even more popular.

USENET Design

Jan. 29, 1980

USENET (short for "users network") is a distributed worldwide system for reading and posting messages to newsgroups. Tom Truscott and Jim Ellis described the idea at today's USENIX [May 15] conference, and it sprung into operation later that year, initially at the University of North Carolina at Chapel Hill and Duke University.

USENET originally rested atop the UUCP (Unix to Unix Copy Protocol) dial-up network, and coded as a series of Bourne shell scripts [Jan 7] by Steve Bellovin. But in short order, USENET was connected to the ARPANET [Oct 29], and improved newsreading software was released frequently during the 1980's.

USENET's notable difference from a BBS or modern Web forum is the absence of a central administrator for the posts. USENET newsgroups are distributed among multiple servers, that store and forward messages to one another.

By 1984, there were over 900 USENET servers, supporting more than 100 newsgroups. Lo, it was the time of "The Great Renaming" [June 9].

Another big change came with the release of RFC 977 in 1986 which defined the Network News Transfer Protocol (NNTP) for distributing USENET posts over TCP/IP [Sept 9] rather than via the aging UUCP.

USENET popularized many terms still in use today, such as "emoticon" [Sept 19], "FAQ" [?? 1982], "flame", "ROFL" ('Rolling On the Floor Laughing'), and "spam" [March 31].

Most important events were recorded somewhere in USENET. For example, Tim Berners-Lee [June 8] posted the first public summary of his World Wide Web project to the alt.hypertext USENET newsgroup on [Aug 6], 1991.

Also, Linus Torvalds [Dec 28] sent a message to the comp.os.minix newsgroup on [Aug 25] 1991 asking "What would you like to see most in MINIX?"

In modern times, USENET usage had declined drastically. Many commercial ISPs have even stopped distributing newsgroups. Another issue is the archiving of old news, which is now in the safe hands of Google, at https://groups.google.com. The earliest archived post is by Mark Horton [Nov 21], dated May 11, 1981.

LINUX is Obsolete

Jan. 29, 1992

Andrew Tanenbaum [March 16], the MINIX developer, criticized the monolithic nature of the Linux [March 14] kernel in a post to the USENET newsgroup comp.os. minix.

He claimed that microkernels were clearly superior, and so Linux's approach was now obsolete. Writing a monolithic kernel in 1991 was "a giant step back into the 1970s." Also, the Linux kernel was too closely tied to the x86 line of processors [June 8], and that architecture would soon be superseded.

Linus Torvalds [Dec 28] responded the next day, arguing that MINIX had a few design flaws of its own (e.g. the lack of multithreading), but acknowledged that a microkernel kernel design was superior "from a theoretical and aesthetical" point of view. Linux kernel developers Peter MacDonald, David S. Miller and Theodore Tso also joined in with the debate.

The discussion progressively became more detailed and also more wide-ranging. After 73 posts, the thread was closed on Feb. 10. However, much of it was later published in "Open Sources: Voices from the Open Source Revolution" (1999).