Nov. 27th

Yaakov (Jacob) Ziv

Born: Nov. 27, 1931;

Tiberias, British Mandate of Palestine

Ziv and Abraham Lempel [Feb 10] developed the Lempel-Ziv (LZ) family of lossless data compression algorithms – LZ77 in 1977 and the improved LZ78 in 1978. They form the basis of many compression methods, including Lempel-Ziv-Welch (LZW).

Jacob Ziv (2009). Photo by חישוביות.

Larry Welch filed a patent application for LZW in June 1983, which was later acquired by Unisys. In the meantime, LZW became popular, and was used for image compression in CompuServe's GIF file format [June 15].

Unisys and CompuServe caused a large fuss when they tried to introduce licensing [Dec 24] for the GIF format based on its use of LZW. Protests led to the development of the PNG image format [Oct 1] and Gzip compression [Oct 31].

The LZW patent finally expired, on the so-called GIF liberation day [June 20].

Andrew Cardozo Fluegelman

Born: Nov. 27, 1943;

USA
Died: July 6, 1985

Fluegelman was a shareware pioneer, and founding editor of *PC World* and *Macworld*.

In 1982 Fluegelman released the PC-Talk terminal communications software, which he marketed under a system he called "freeware", which he characterized as "an experiment in economics more than altruism". He later recalled that the freeware idea came to him while driving across the Golden Gate Bridge. He didn't mention whether he was wearing flowers in his hair at the time.

He implemented PC-Talk in a month: "I began with 40 lines of code in the back of IBM's BASIC manual and then began adding different features as I went along," he said.

Later he collaborated with PC-File (database software) developer Jim Knopf [Oct 20], adopting similar names and prices for their software (PC-File was originally called "Easy-File"); they also agreed to mention each other's products in their program's documentation.

The term 'shareware' was first used with the program PC-Write (for word processing), created by Bob Wallace [May 29] in early 1983.

The End of the Mechanical Age

Nov. 27, 1968

"The Machine as Seen at the End of the Mechanical Age" exhibition at The Museum of Modern Art (MOMA) in NYC featured traditional media such as paintings and sculpture, but there were also a few electro-mechanical objects, and computer graphics artwork. The show started today and ran until Feb. 9, under the curation of K. G. Pontius Hultén.

The art included the digitized and pixilated image of a reclining nude, entitled "Studies in Perception I" (1966), created by Leon D. Harman and Kenneth C. Knowlton [Feb 28] at Bell Labs. Knowlton later said that the two had tossed a coin to determine who would be listed in the catalogue as the 'artist' (Harmon) and who would be the 'engineer' (Knowlton).

Edward Kienholz's "Friendly Grey Computer" (also known as "Star Gauge Model #54" (1965)) was made up of a rocking chair, dolls legs, a metal cabinet, lights, switches, and a telephone receiver. A visitor could read out a question from a stack of index cards into the telephone handset, and the "computer" would randomly respond by flashing a red light (for 'yes') or a blue light (for 'no').

"Mechanical Age" wasn't the first computer art exhibition; that was probably "Cybernetic Serendipity" [Aug 1], held in London a few months before.

Datapoint 2200

Nov. 27, 1970

The Datapoint 2200 was a programmable terminal, designed by Computer Terminal Corporation (CTC) founders Phil Ray and Austin O. "Gus" Roche. Some historians have called it the first PC.

It was announced by CTC in May/June 1970, and units began shipping in 1971. A patent for the machine was filed on this day and granted on July 25, 1972 (US 224515).

The Datapoint was originally meant to use a microprocessor, but manufacturing problems at Intel and Texas Instruments (TI) meant that CTC had to make do with a more conventional board using around 100 TTL circuits. It also included a built-in keyboard, a built-in monitor, two cassette tape drives, and was about the size of an IBM Selectric typewriter.

It was advertised as a terminal suitable for a wide variety of mainframes, but was actually powerful enough to work standalone. Its industrial designer, John "Jack" Frassanito, claimed that Ray and Roche always intended the Datapoint to be a PC, but kept quiet so as not to worry their investors.

Datapoint 2200. Photo by Ecksemmess. CC BY-SA 3.0.

Intel finally delivered CTC's design as a single 8-bit chip, the Intel 1201, in late 1971, while TI had the TMX 1795 ready by mid-1971. Outvoting Roche, who became very upset, the CTC board decided to abandon rights to both chip's intellectual property to Intel and TI.

The 1201, renamed the 8008, was release by Intel in [April 00] 1972 to great success. However, the TI chip, renamed the TMC 1795 [Aug 31], failed to become popular.

Infrared Touchscreen

Nov. 27, 1973

Frederick A. Ebeling, Roger L. Johnson, and Richard S. Goldhor from the University of Illinois were granted a patent for an optical touchscreen (US 3775560), which they'd filed back in Feb. 1972. However, their work had first been employed in 1971 as a part of the PLATO IV [July 00] terminal.

The screen used an array of 16 by 16 infrared position sensors, mounted in front of a monochrome plasma display. Each sensor consisted of an LED on one side of the screen and a matching phototransistor on the opposite side. This arrangement could pick up fingertip-sized opaque objects that came in close proximity to the screen.

This was the first patent for an infrared touchscreen, but the earliest patent for a touchscreen device was by Eric A. Johnson [Aug 2] in 1966, based on using changes in a screen's electrostatic field measurable as a change in capacitance.

The first commercial infrared touchscreen was the HP-150 [Nov 00] in 1983.

TCP and the Three Networks

Nov. 27, 1977

Prev: [May 5] Next: [Sept 1]

One of the main design goals of TCP/IP was to support connectivity among different packet-switching networks. An ambitious mobile test of this capability was conducted on this day involving three networks and two continents.

An SRI van was driven along a California freeway, while the onboard radio equipment broadcast data packets via PRNET (packet radio network) to a machine back at Stanford that connected to the ARPANET [Oct 29].

Incidentally, it was the same van that made history on [Aug 27] 1976, and the same research team, led by Don Nielson, SRI's assistant director of telecommunications.

The packets travelled across the ARPANET by cable until they reached a gateway machine at BBN in Boston that connected to SATNET. It relayed them via satellite to Goonhilly Downs in Cornwall, UK. Resting briefly, the packets were then relayed back to USC in California via SATNET and the ARPANET.

Part of the experiment involved observing if any data was lost when the van's radio signal was blocked by bridges and other objects. The good news was that TCP/IP responded as hoped, only pausing the communication. Vint Cerf [June 23] later recalled, "the packets were travelling 94,000 miles round trip . . . We didn't lose a bit!"

The SRI van was lost to history for a while, until Nielson and Don Alves found it in an SRI backlot, and it was put on display at the Computer History Museum [Sept 24].

Sega Dreamcast

Nov. 27, 1998

The Sega Dreamcast inaugurated a few firsts: a 128-bit FPU, a built-in 56K modem for online gaming, and support for a second screen. Its games library also introduced a couple of new games that quickly became favorites, including "Crazy Taxi" and "Jet Set Radio".

Around 9 million units were sold worldwide, which was considered disappointing. One reason put forward for the 'low' numbers was that its CD-ROM drive and Windows CE [Nov 16] OS made its games too easy to pirate. Another was that when the PlayStation 2 [March 4] launched a year later, most third party developers refocused their efforts on that console.

One rumored outcome of the Dreamcast was that Microsoft's involvement inspired the company to enter the console market for itself with the Xbox [Nov 15].

NASDAQ for Internet

Nov. 27, 2007

The NASDAQ [Feb 8] announced that it was launching the QNET index to track the performance of companies that offered Internet-related services, including e-commerce sites, search engines, and website design.

Senior Vice President Steven Bloom explained, "It is logical for NASDAQ to extend investment

opportunities through a new benchmark for this dynamic, evolving sector."

It began at 150, and in Dec. 2020 was well over 1300.