Oct. 19th

Electric Telegraph

Oct. 19, 1832

Samuel Finley Breese Morse claimed that he first had the idea for an electric telegraph system on this day.

Morse, a professional artist with a sideline interest in electricity, was returning to the US on the ship "Sully" after a visit to Europe to study art. He overheard a Dr. C. T. Jackson of Boston waxing lyrically about the newly discovered electromagnet, and remarked: "If the presence of electricity can be made visible in any part of the circuit, I can see no reason why intelligence may not be transmitted instantaneously by electricity."

Samuel Morse (1840). Smithsonian Photography.

Morse created his first prototype telegraph in 1835 and spent the next several years perfecting it [Jan 11; May 24] with the help of Alfred Vail and Leonard Gale. Vail supplied the necessary mechanical skills, and access to his family's New Jersey iron works, while Gale was a professor of science at New York University.

Morse code was first transmitted by Vail from Morristown, New Jersey on Jan. 3, 1838, and Morse received a patent (US No. 1,647) for it on June 20, 1840, as "Improvement in the mode of communicating information by signals by the application of electro-magnetism."

Morse's telegraph system ultimately proved to be more successful than the British version [June 10] due to its simple operation and relatively low cost.

There's still debate over whether the Morse code is a binary notation [July 19]. Its standard uses three levels of encoding: the 58 characters in messages, an intermediate-level ternary code ("dot", "dash" and "seperator"), and at the lowest level the use of a prefix binary code to represent those three symbols (dot == 10, dash = 1110, separator = 00).

Even this characterization is sometimes disputed since the separator could be divided into three: a signal separator, a letter separator, and a word separator, which would make the intermediate level quinary.

James Martin

Born: Oct. 19, 1933;

Ashby-de-la-Zouch, Leicestershire
Died: June 24, 2013

Martin was a prolific computing and IT author, starting in 1961 two years after he had joined IBM, and from then on producing more than one book per year. His "The Wired Society" (1977), which predicted that the world of 2000 would utilize global information networks, was nominated for a Pulitzer prize.

At IBM, Martin worked on the SABRE airline reservations project [Nov 5], and helped apply its real-time technology to systems for several European airlines and banks.

In his later years, Martin retired to Bermuda, buying Agar's Island, where he spent his time sailing, gardening, and conducting executive seminars.

He donated over $150 million to the University of Oxford in the early 2000s, making him the most generous private donor in Oxford's 900-year history, that is until US billionaire Stephen Schwarzman donated $190 million in 2019.

Intergalactic Spacewars!

Oct. 19, 1972

The "Intergalactic Spacewar! Olympics", the first video game tournament, was held at the Stanford AI Lab. The winner received a free subscription to *Rolling Stone* magazine, and featured in Stewart Brand's [Dec 14] Spacewar! article for the same magazine [Dec 7].

The lab had recently upgraded to a PDP-10, replacing the PDP-1 [Nov 00] that Spacewar! had originally run on [May 17]. To celebrate, Ralph Gorin, the lab's head system programmer, wrote a new version of the game that added space mines, partial damage rather than one-hit kills, and support for five simultaneous players.

Gorin wasn't just a games programmer. At around the same time, he also wrote the first spelling checking and correction system, SPELL (1971) for the TOPS-10 [Jan 4], and published a well-regarded book on DEC-20 [May 3] assembly language programming (1981).

Bruce Baumgart won the free-for-all part of the tournament, with what Brand called "a powerhouse performance." Slim Tovar and Robert E. Maas won the team competition.

Baumgart became so good at Spacewar! that he began handicapping himself to make the matches more of a challenge. For example, he'd play with the controller in his non-dominant hand, but this also meant that he could now control two ships in a five-person game, by using both hands.

Aside from this activity, Baumgart went on to work at

the IBM Almaden Research Center, Xerox PARC [July 1], and helped build and maintain the Petabox large-scale data repository for the Internet Archive [Oct 12].

ENIAC Patent Invalidated

Oct. 19, 1973

Prev: [June 26]

On Feb. 4 1964, J. Presper Eckert [April 9] and John Mauchly [Aug 30] finally received US patent 3120606 for the ENIAC, roughly 18 years after its filing [June 26].

Soon after, Sperry Rand [Jan 25], official owner of the patent, began charging a 1.5% royalty on all computers sold by all companies, excepting its pal IBM.

Honeywell [Dec 22] preferred not to pay royalties to a competitor, so decided to challenge the patent. Litigation began on May 26, 1967, and took four years to get to court. Then there were 135 days of courtroom testimony by 77 witnesses, and the depositions of an additional 80 souls. Honeywell v. Sperry Rand was (at that time) the longest trial in the history of the federal court system.

On this day, the ENIAC patent was ruled invalid, largely because of John von Neumann's theoretical description of the EDVAC [June 30], and evidence that Mauchly had obtained some of his ideas for the ENIAC from a 1940 paper by John Atanasoff [Aug 14], and from a brief examination of Atanasoff's ABC machine on [June 13] 1941.

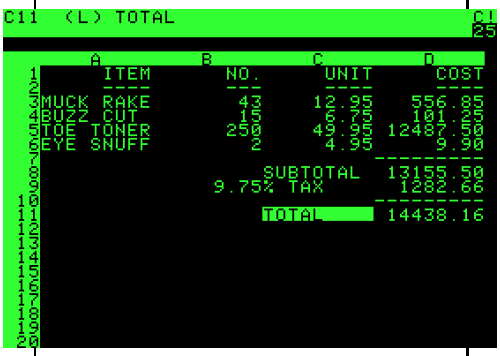
Was the decision correct? There were many differences between the ABC and the ENIAC: the ABC was binary, the ENIAC decimal; the ABC used drum memory, the ENIAC used counters. The ABC lived a short, obscure life, while the ENIAC affected the development of many other machines.

Most importantly perhaps was that the ruling placed the concept of the electronic digital computer in the public domain. Now any company could pursue computer design and manufacture without having to pay royalties".

VisiCalc Released

Oct. 19 ??, 1979

VisiCalc (short for "visible calculator" [May 11]) was the first spreadsheet for PCs. It was developed by Dan Bricklin [July 16] and Bob Frankston [June 14] of Software Arts [Jan 2] and released by VisiCorp for the Apple II [June 5].



A VisiCalc spreadsheet on an Apple II. Photo by Gortu.

One reviewer called VisiCalc the "software tail that wags the hardware dog." Another review praised VisiCalc for its support of transcendental functions (e.g. sin() and log()), which it didn't support; Bricklin and Frankston added them in the next version.

VisiCalc became the Apple II's killer app [Sept 8]: it sold over 700,000 copies in six years, and as many as a million copies over its history. VisiCalc was arguably the application that turned the microcomputer from a hobby into a business tool, and was probably a major reason why IBM got into the PC business two years later [Aug 12].

VisiCalc's importance to business software was greatly helped by the fact that Bricklin and Franston didn't apply for a patent. This wasn't purely altruistic, but also due to the high cost of patent filing, and the pair's uncertainty about how well VisiCalc would sell.

It meant that a crop of increasingly sophisticated competitors ate into VisiCalc's market share. The second generation of spreadsheets included SuperCalc (1980), Microsoft's MultiPlan ([Aug 1] 1982), and Lotus 1-2-3 ([Jan 26] 1983). Three years after VisiCalc's release, there were over 20 products of a similar ilk on the market.

Black Monday

Oct. 19, 1987

On "Black Monday" the Dow Jones Industrial Average plummeted 508 points, losing 22.6% of its total value, while the Standard & Poor's 500 dropped 20.4%. This was the greatest percentage loss Wall Street had ever suffered in a single day, and much bigger than the 1929 stock market crash. Perhaps $500 billion disappeared.

Many people thought it was triggered by buggy software, but the code actually performed as intended. A long-lasting bull market (rising share prices) had just come to an end, triggered by several investigations of insider trading, the fear of higher interest rates, and other market forces. As investors sold their stocks, computer trading programs correctly responded by also selling. This caused further down-ticks in the market, which made the software sell even harder.

The New York Stock Exchange subsequently installed 'circuit breakers' into the code, designed to stop trading when stocks dropped too far too fast. Today, if stocks drop by over 7%, trading will be suspended for 15 minutes. A decline of 20% will shut down trading for the rest of the day.

Mac IIvx

Oct. 19, 1992

Apple released the Mac IIvx (codenamed Brazil), featuring a 32 MHz Motorola 68030 chip with a 68882 FPU. However, the 16 MHz bus slowed things down, making the machine roughly equivalent to a 25 MHz device. Another bottleneck was its serial port, which was limited to 57.6 kbps, and proved problematic for some kinds of serial connections and MIDI hardware. Indeed, the IIvx was quickly made obsolete by the release of the more powerful Centris 610 four months later, selling for the same price.

However, the IIvx was the first PC to include an internal CD-ROM drive, which may explain some of the device's shortcomings. The IIvx was intially meant to be only a proof-of-concept to see how an internal CD-ROM drive could be added to a Mac. But, without warning, John Sculley [April 6] gave a speech promising a new Mac with a CD-ROM drive, and the IIvx was consequently rushed into production.