April 4th

Saint Isidore of Seville

Born: c. 560

Died: April 4, 636;

Saint Isidore's feast day

In March 2001, the Vatican briefly discussed making Saint Isidore the Patron Saint of the Internet, while it was preparing a document on "Ethics and the Internet," although no final decision was made.

The Vatican's Pontifical Council for Social Communications had earlier asked for suggestions for a saint who could serve as a guide and protector to computer users. Saint Isidore was proposed due to his scholarship, often being called "the last scholar of the ancient world."

Isidore wrote the 20-book opus " Etymologiae", also known as the "Origins", in which he tried to record everything that was known at the time. It compiled extracts from many books of classical antiquity that were otherwise lost. Almost 1000 manuscript copies have survived, which gives an indication of its importance to medieval Europe.

A stained-glass window depicting St. Isidore can be found at Boston College's computing center, which dates from when the building was St. Clement's Hall, a dormitory for St. John's Seminary, and part of the Roman Catholic Archdiocese of Boston. The college wisely preserved the hall's 16 stained-glass windows when it renovated the building in 2004.

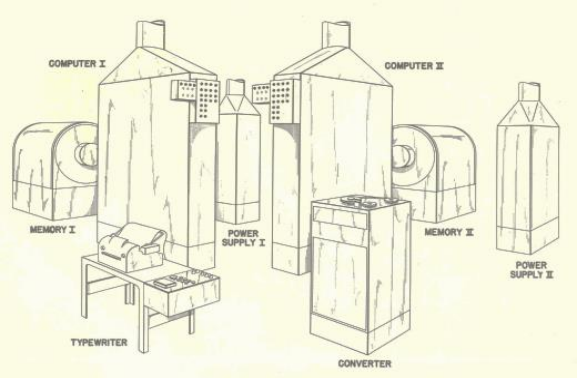
For more religious-themed computing, see [May 3].

BINAC Operational

April 4, 1949

The BINAC ("BINary Automatic Computer") was probably the world's first commercial digital computer and the first with stored-program capability to be completed in the US. It was built at EMCC [Dec 8] by J. Presper Eckert [April 9] and John Mauchly [Aug 30] for Northrop Aircraft in California.

Dates are important when assigning the honors of the first machines to implement von Neumann's [Dec 28] stored program concept: Manchester Baby ([June 21], 1948), BINAC, EDSAC ([May 6], 1949), CSIR Mark 1 (Nov 24, 1949) [March 5] EDVAC (August 1949, or 1951) [April 12].



Drawing of the BINAC. EMCC 1949.

The BINAC was actually two computers operating in parallel. Each instruction was carried out by both units, and the results compared. If they matched, the next instruction was executed, but a discrepancy caused the machine to issue an error and stop.

On this day, BINAC passed its first full test, running a fifty-line program for 2.5 hours before encountering an error. Shortly afterwards, it ran for 31.5 hours without an error.

It was a vacuum tube device, like Eckert and Mauchly's ENIAC [Feb 15], but using only 700 tubes compared to ENIAC's 18,000, but faster nevertheless. It employed mercury delay-lines for memory, and magnetic tape for secondary storage and input.

It was the first computer to use semiconductors: germanium diodes, and the first to use mnemonics for its instructions (e.g. "a" for add and "b" for bring). This C-10 instruction set was developed by Betty Holberton [March 7] and John Mauchly.

The final cost of the system was $278,000, a sizeable $178,000 over budget. The cost estimates in the contract had been extremely unrealistic, and EMCC had almost run out of money during the summer of 1948

Despite being built for use at Northrop, the machine remained in Philadelphia for several months after it was finished, for use in sales demonstrations.

Finally, on Aug. 22, 1949 EMCC issued a press release describing its sale, and the machine was delivered to California in Sept.

At around this time, Eckert and Mauchly threw a party for to celebrate the machine's completion, and BINAC became the first computer to play music, courtesy of a program written by Betty Holberton [March 7]. She later recalled that, "All I could get out of that machine was an octave, so I played For He's a Jolly Good Fellow." The next machine to play tunes, was the Australian CSIRAC [Aug 7].

Northrop was soon complaining that the BINAC didn't work reliably. Part of the problem may have been that Northrop, citing security concerns, had refused to allow any EMCC employees on site during its reassembly. Also, it was generally believed at EMCC that Northrop had left BINAC in pieces in their parking lot for some time before any effort was made to rebuild it.

Historically, the poor reliability of the BINAC opens the door to the ERA 1101 [Dec 10] being the first "reliable" stored program computer in the US. After the ERA was installed at the the NSA in Dec. 1950, its ran for 500 continuous hours, with only 16

hours of unscheduled maintenance

Also, a close competitor for the title of "first commercial sale of a computer" is Konrad Zuse's Z4 [July 11], which was delivered to ETH-Zurich in 1950.

Daniel Kottke

Born: April 4, 1954;

Bronxville, New York

Kottke was asked by his old pal Steve Jobs [Feb 24] to help out with the assembly and testing of a few computer boards during the summer of 1976; they were the fabled Apple I boards designed by Steve Wozniak [Aug 11]. This made him, and Jobs' sister Patty, the first part-time employees of Apple. He was paid $3.25 an hour.

In 1977, after graduating, Kottke joined Apple as full-time employee #12. In 1979, just before Apple went public [Dec 12], Jobs declined to give Kottke any shares. Job's argument was that Kottke was a technician, and technicians were ineligible for stock options. Ultimately, Wozniak, gifted him some of his stock instead.

In 1983 Kottke was almost fired by Jobs when he inadvertently revealed to the Time magazine reporter Michael Moritz [Jan 3] that Jobs had a daughter called Lisa. Kottke left Apple a year later, in 1984.

Kottke had first met Jobs when they were undergraduates at Reed College in 1972. In 1974, they travelled to India to seek spiritual enlightenment from the respected Hindu guru and mystic, Neem Karoli Baba. This proved somewhat problematic since, when they arrived, they discovered that Baba had died in Sept 1973.

Micro-soft is Informal

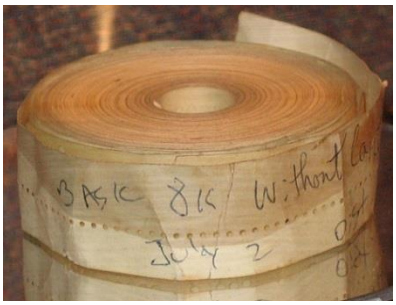
April 4, 1975

Prev: [Jan 2] Next: [Nov 26]

Micro-soft was founded as an informal partnership between Bill Gates ([Oct 28]; age 19), and Paul Allen ([Jan 21]; age 22) in Albuquerque, New Mexico. A company name was needed for the contract they were about to sign with MITS for their 4K BASIC for the Altair 8800 [Dec 19]. Allen came up with the moniker, complete with a hyphen. Their company was officially registered as Micro-Soft in [Nov 26] 1976.

Allen was already (or very soon) on the payroll at MITS as "director of Software Development" (in fact he was the entire software department). After the end of the school year, Gates briefly joined him in June, but went back to Harvard in November 1975. During those months, he took part in some of the MITS-Mobile shows [June 5].

Gates didn't official leave Harvard until January 1977 (when Micro-soft was expanding rapidly), but nevertheless seems to have been in Albuquerque a lot during 1976. He contributed regularly to the MITS newsletter, "Computer Notes" [April 7], gave an opening address at the first PC conference [March 27], and even had time to write some forceful letters to hobbyists [Jan 31]. More importantly, Gates and Allen produced several versions of their BASIC: 8K BASIC, Extended BASIC, Extended ROM BASIC, and Disk BASIC.



A 8K BASIC paper tape, dated July 2, 1975. Photo by Michael Holley.

In Oct. 1975, MITS began selling 8K BASIC for $200, on paper tape or cassette tape. It had a string library, a larger set of math functions including RND for random numbers (written by Monte Davidoff'), boolean operators, and PEEK and POKE. It became the basis for most later versions of BASIC during the early home computer era.

Gates and Allen's Micro-soft headquarters during this time was the Sundowner Motel (at 6141 Central Ave NE, Albuquerque, on Route 66). The Sundowner closed in 2009, and the building was turned into apartments (with lots of windows). Another, slightly better, hotel they used later in 1976 was the Sand and Sage Motel at 6522 Central (which is also now gone).

The Graphical Marionette

April 4-6, 1983

Carol M. Ginsberg and Delle Maxwell from MIT's Architecture Machine Group presented their "Graphical Marionette" at the ACM SIGGRAPH/SIGART Workshop on Motion.

The system used an early optical motion capture systems called Op-Eye that relied on LEDs attached to a body suit.

Two cameras with special photo detectors returned the 2D position of each LED in their fields of view. A computer then used the position information from the two cameras to calculate a 3D world coordinate for each LED. The system used this information to move a stick figure on-screen, and also stored the sequence of points for later rendering of a more detailed character.

Back in the 1980s, the processing power needed for this form of motion capture made it less popular than the traditional animator's standby, rotoscoping, which involves trace over motion picture

footage, frame by frame, to produce realistic action.

The earliest form of computer-aided rotoscoping is probably Rebecca Allen's work on "The Catherine Wheel" [March 1], also from 1983. However, rotoscoping dates from 1915 when Max Fleischer (1883-1972) created the first rotoscope animation. Walt Disney's "Snow White" (1937) was also produced with rotoscoping techniques.

MILNET Moves

April 4, 1983

The Defense Data Network (DDN) had been set up in 1982 in anticipation of the gradual phasing out of the ARPANET [July 29], to be replaced by the Internet. This began when the ARPANET standardized on TCP/IP on [Jan 1] 1983.

On this day, the MILNET (Military Network) part of the ARPANET was moved over to the DDN, resulting in the creation of four new military networks running at different security levels:

- Military Network (MILNET) for unclassified traffic;
- Defense Secure Network One (DSNET 1) for secret traffic;
- Defense Secure Network Two (DSNET 2) for Top Secret traffic;
- Defense Secure Network Three (DSNET 3) for Top Secret/Sensitive Compartmented Information.

One result of this was that "hacking into MILNET" was no longer a particularly amazing feat since it only held unimportant data. Nevertheless, in the 1990s, MILNET gave birth to NIPRNet [Aug 22], which was used to transmit sensitive, but unclassified data. Also SIPRNet and JWICS superseded DSNET1, DSNET2, and DSNET3

Google Not Excited

April 4, 1996

The Excite Web directory and search engine was founded in 1994 by Graham Spencer and several other students from Stanford, but under the name, Architext. It was renamed in Dec. 1995, George Bell was named CEO in Jan. 1996, and the company went public on this day.

Excite grew rapidly, with revenues exceeding $150 million in 1998. It also moved away from being purely a search engine, towards offering a range of portal services, and in fact search was increasingly seen as a loss leader, primarily a way to get people to the site.

Meanwhile, Google [Sept 15] was making a name for itself, but Sergey Brin [Aug 21] and Larry Page [March 26] were unsure whether to continue with the business or stay in academia. In 1999, Vinod Khosla [Jan 28], who was an investor in both Google and Excite, convinced the pair to sell Google to Excite for $1 million.

George Bell refused the offer, so the duo dropped their price to $750,000, but Bell still wasn't interested. The sticking point seemed to be Page's insistence that Excite's web search technology being completely replaced by Google's PageRank. This seemed too dramatic a change, especially when comparisons of the two engines showed little difference in the quality of their results.

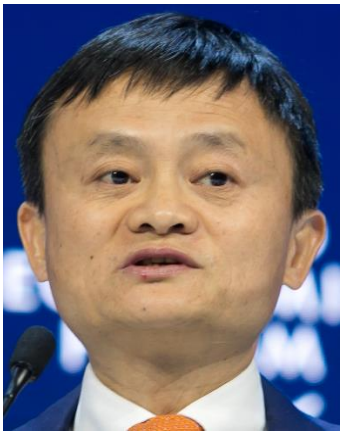
Another version of the comparison story had PageRank producing results which were deemed too good since they'd cause people to leave the Excite portal too quickly. Bell described this version as "baloney".

Not unsurprisingly, Excite's rejection of Google has been called one of the worst tech industry decisions of all time. This is probably too harsh, since it relies on a knowledge of what would happen in later years. For example, the enormous economic benefit of linking ads to search was unknown at the time. Google AdWords [Oct 23] debuted in 2000, and AdSense [June 18] in 2003.

Alibaba Group Founded

April 4, 1999

Alibaba Group is a powerhouse Chinese e-commerce company which began in 1999 when Jack Ma Yun (1964 -) and 17 partners founded the Alibaba.com website. The initial aim was to act as a business-to-business portal to connect Chinese manufacturers with overseas buyers. Among the 18 founders were six women, including Lucy Peng who is currently CEO of Lazada, a rapidly growing South-east Asian e-commerce site.



Jack Ma (2018). Photo by Foundations World Economic Forum. CC BY 2.0.

On Sept. 19, 2014, Alibaba held a wildly successful IPO in the US, and in 2015, its online sales and profits passed every US retailer, including Walmart, Amazon and eBay.

Ma chose the company's name because of the popularity of the character Ali Baba from the "One Thousand and One Nights", and its association with the phrase "open sesame". However, that phrase only dates back to a French translation from the

early 1700s: Antoine Galland's "Les Mille et une nuits".

In 2017, Ma was ranked second in the annual "World's 50 Greatest Leaders" list by Fortune. However, he also likes to point out that during his early business career, he applied to work for KFC. He remembers, "Twenty-four people went for the job. Twenty-three were accepted. I was the only guy [rejected]…"

Alibaba is often grouped with two other Chinese Internet giants, Baidu [Jan 18] and Tencent [Nov 11], and collectively known as BAT.