July 4th

First round-the-world Telegram

July 4, 1903

President Theodore Roosevelt sent the first round-the-world telegram message to celebrate the completion of the Pacific Cable [Dec 14]. His message was delivered to Clarence H. Mackay, president of the Pacific Cable Co., who was standing next to him at the time.

The text was given to an operator at 11:23 pm, and received by Mackay at 11:35 pm, after circuling the globe in just twelve minutes, going westward. The message read: "Congratulations and success to the Pacific cable, which the genius of your lamented father and your own enterprise made possible. Theodore Roosevelt."

The reference to "your lamented father" refers to John William Mackay who had started the project bu had died the year before.

Mackay's reply, going around the world eastward, was dispatched at 11:55 pm, and was received by Roosevelt at 12:04:30 am, after 9½ minutes.

Mackay was a noted collector of medieval suits of armor, much of which he was forced to sell off after being financially wiped out by the Great Depression.

Helmut Theodor Schreyer

Born: July 4, 1912;

Delitzsch, Germany
Died: December 12, 1984

Schreyer is remembered for his work with Konrad Zuse [June 22] on the Z3 [May 12], and especially his insistence on using electrical circuit techology, which was the main thrust of his 1941 doctoral thesis from the Technische Universität Berlin. It demonstrated how vacuum tubes could be used to implement Boolean operations and flip-flops.

Although the Z3 was a relay-based machine, Zuse and Schreyer also designed a computer using 2,000 vacuum tubes. However, they were discouraged from constructing the machine by members of the Telecommunication Institute who were critical of the poor reliability of tubes.

In 1943, Schreyer planned to build his own 1000-word computer memory utilizing several thousand vacuum tubes, but the war intervened. However, in 1944, he did manage to complete an vacuum tube-based circuit to convert decimal numbers to binary.

Forrest Corry Parry

Born: July 4, 1921;

Cedar City, Utah
Died: December 31, 2005

Parry, an IBM engineer, invented the magnetic strip card now used worldwide in credit cards and identification badges.

His first idea was to glue strips of magnetic tape to each plastic card, but the glue warped the tape, making it unusable. The story goes, that when he got home that night, Parry's wife Dorothea was using a flat iron to iron clothes, and suggested that he use it to melt the strip onto the card. It worked: the heat of the iron was just high enough to bond the tape to the card.

Parry also helped develop optical character reader technology, Universal Product Code (UPC) [June 26], checkout systems, and an Optical Character Reader for sorting mail.

Charles Csuri

Born: July 4, 1922;

Grant Town, West Virginia
Died: Feb. 27, 2022

Csuri (pronounced "surrey") has been described by *Smithsonian* magazine as the "father of digital art and computer animation," and in a *New York Times* profile Csuri referred to himself as being "the first artist with any serious art credentials to work with the computer."

Csuri's 1967 short film *Hummingbird*, a collaboration with James Shaffer, is one of the earliest surviving examples of computer animation. Composed of more than 30,000 individual images, the film was made using an IBM 704 [May 7]. Each picture contained information for a drum plotter that translated each one into a pen drawing.

Other notable works include *Random War* (1967), *Sine Curve Man* (1967), and *Wondrous Spring* (1992).

In 1944, he was selected in the NFL draft to join the Chicago Cardinals, but gave up the opportunity in order to serve in the Army during WWII. He received the Bronze Star in 1945 for heroism during the Battle of the Bulge.

His early career focused on abstract paintings, but that changed in 1963, when he saw researchers in Ohio State University's electrical engineering department produce a photo-like image on a computer. He enrolled himself in a programming course and soon began to make his own computer art.

Two Csuri graduates, Michael Girard and Susan Amkraut, were responsible for the Dancing Baby [Jan 5].

For other pioneers of computer animation, see [Feb 28, April 8, Aug 3].

Watts S. Humphrey

Born: July 4, 1927;

Battle Creek, Michigan
Died: Oct. 28, 2010

Humphrey has been called the "father of software quality" due to his work at IBM supervising software development across multiple labs. At one time, there were 4,000 software engineers working under him.

His "Software Process Program" at Carnegie Mellon was responsible for developing the *Capability Maturity Model*, which Humphrey popularized via his 1989 text, "Managing the Software Process". He was also involved in defining the personal software process (PSP) and the team software process (TSP) concepts.

His daughter once remarked, "He was one of the most insanely disciplined people I've ever met. I used to set my watch according to what he would do in the morning, where his newspaper was, how it was folded next to the plate."

Whirlwind IO

July 4, 1956

In February 1956, Doug Ross [Dec 21] wrote a memo advocating direct keyboard input on MIT's Whirlwind [April 20]. Ross suggested using a Flexowriter – a low-cost electrically-controlled typewriter. Up until then the usual form of input had been punched cards. An experiment conducted five months later confirmed how useful and convenient keyboard input device could be.

Sometime earlier in 1955, Whirlwind also employed the first light pen, developed by Lincoln Lab engineer, Robert Rivers Everett. He had been asked to build a device that could read the position of a dot on the Whirlwind's screen for diagnostic purposes.

SILLIAC Runs

July 4 (or June 24), 1956

The SILLIAC (the Sydney ILLIAC) was built at the University of Sydney, Australia, based on the ILLIAC [Sept 1] and ORDVAC computers developed at the University of Illinois.

Harry Messel and John Blatt in the School of Physics had initiated the project in late 1953 after realizing how useful an electronic computer would be for their research. Of course, funding was a problem, but the solution came from a friend of Blatt's, a racehorse owner and jeweler, Adolph Basser.

Messel, who was head of the school, approached Basser: "He was racing at the Melbourne Cup in 1954 and he won £50,000 and he decided to donate it to my school for the construction of the computer. So that was how it started and the next year, when we were running a bit short, he won the Melbourne Cup again and he donated that same amount again!"

The SILLIAC remained in active use for 12 years and was only decommissioned in May 1968.

Brendan Eich

Born: July 4, 1961;

Pittsburgh, Pennsylvania

Eich was the creator of JavaScript, which alongside HTML and CSS, has become one of the three core technologies of Web content production.

Eich was employed by Netscape [March 25] Communications Corporation in April 1995 to add a version of Scheme [Dec 22] to the browser, but Netscape management changed its mind and decided that the new language should be more Java-like.

The sudden change in direction meant that Eich had to work to a very tight deadline to accommodate the Navigator 2.0 [Sept 18] Beta release schedule. Indeed, the first version of the language, Mocha, was completed in just ten days. It was later renamed LiveScript, and then JavaScript in September 1995. In 1997, its standardized version was called ECMAScript [Aug 13].

Brendan Eich (2006). Photo by AcidJazzed. CC SA 1.0.

After AOL [March 17] shut down the Netscape browser unit in July 2003, Eich helped spin out the Mozilla Foundation [Jan 23] and Corporation.

Fire Affects Chips

July 4, 1993

An explosion at a Sumitomo Chemical Co. factory in the town of Niihama, Japan wiped out 60% of the world's supply of an epoxy resin called cresol. When mixed with other pigments, cresol makes the small black boxes that encase computer chips.

Prices of computer memory chips doubled in the following two weeks reflecting fears that world supplies of cresol would dry up.

Wine Released

July 4, 1993

Wine (short for "Wine Is Not an Emulator") is an open-source API that allows programs developed for MS Windows [April 6] to run on Linux [June 1].

Bob Amstadt and Eric Youngdale were inspired to start the project by two Sun Microsystems' [Feb 24] products, Wabi for Solaris [Sept 4], and the Public Windows Initiative (PWI). Wabi aimed to implement the Windows Win16 API on Solaris, but was discontinued in December 1997. PWI was intended to become an ISO standard [Feb 23] that would help Sun and other companies clone the Windows API, but it was rejected by the ISO in 1996.

Implementing a full-featured Wine has proven time-consuming and difficult, mostly because of poor Windows API documentation, and the need for backwards compatibility (Wine can mimic different Windows versions as far back as 2.0 [Dec 9]). The current stable release is version 5.0.1, from June 2020.

HoTMaiL LaUNCHed

July 4, 1996

HoTMaiL probably became the first webmail service when it was launched on this day. It initially employed Solaris [Sept 4] for its mail services and Apache [Dec 1] on FreeBSD [Nov 1] for web services. By December 1997, it was had more than 8.5 million subscribers.

The company was started by Sabeer Bhatia and Jack Smith, who had been colleagues at Apple. The strange capitalization of the product's name is of course a reference to HTML.

The other contender for first webmail service is RocketMail, released by Four11. For a brief time, RocketMail battled with Hotmail for the number-one spot. For another kind of rocket mail, see [Feb 2].

Four11, including RocketMail, was acquired by Yahoo! in 1997 and became Yahoo! Mail. Then HoTMaiL was acquired by Microsoft in Jan. 1998.

In 1999, hackers revealed a security flaw in HoTMaiL that permitted anybody to log into any account using the password 'eh'. At the time it was called "the most widespread security incident in the history of the Web".

On [April 1] 2004, Google announced its own mail service, Gmail, which eventually became the new no. 1.

Mars Pathfinder

July 4, 1997

The Mars Pathfinder, made up of a lander and a lightweight (10.6 kg) wheeled rover named Sojourner, landed on Mars on this day. Its mission was to analyze the atmosphere, climate, and the composition of rocks and soil.

The computer of the lander was a Radiation Hardened IBM Risc 6000 with 128 MB of RAM and 6 MB of EEPROM, running the VxWorks OS. During its lifetime, it sent back more than 2.3 billion bits of information including 16,500 pictures and 8.5 million atmospheric measurements.

The computer on board the Sojourner was built around a Intel 80C85 with 512 K of RAM and 176 K of flash memory.

Although the mission was planned to last a month, the rover operated for almost three months, and in 2003 Sojourner was inducted into the Robot Hall of Fame