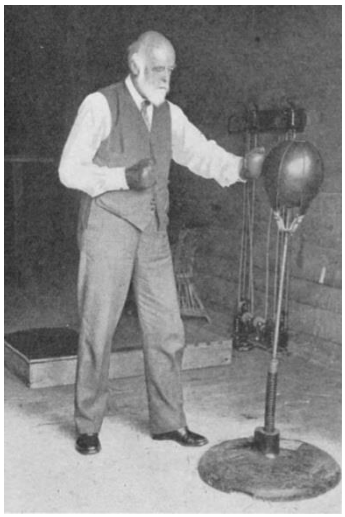
August 14th

First Wireless Transmission

Aug. 14, 1894

Oliver Lodge demonstrated the first public wireless message transmission at a meeting of the British Association for the Advancement of Science in Oxford. The message travelled a grand total of 55 meters from the Clarendon lab to the lecture theater of the University museum. Lodge had performed an early demonstration on June 1, but not to the general public, and over a shorter distance.



Oliver Lodge. Photo by the Illustrated Sporting and Dramatic News, 1930.

Lodge would later express frustration that he didn't think to develop his work into long-distance telegraphy: "Stupidly enough, no attempt was made to apply any but the feeblest power, so as to test how far the disturbance could really be detected."

Guglielmo Marconi's demo of his system for radio wireless telegraphy occurred on [Dec 11] 1896, and (inevitably) Lodge's lecture became the focus of priority disputes with Marconi.

Edward (Ed) Oakley Thorp

Born Aug. 14, 1932;

Chicago, Illinois

Thorp's interest in mathematics and roulette led to him be known as the father of the wearable computer. Steve Mann [June 8] bears a very similar title, but for different reasons.

It began in 1956 when Thorp used card-counting techniques to develop a probabilistic model for winning at blackjack, which he wrote up as a FORTRAN [Dec 00] program running on an IBM 704 [May 7]. The model allowed him to win $11,000 at blackjack in a single weekend.

Thorp liked to take Claude Shannon [April 30], and his wife Betty, on weekend trips to Las Vegas to play roulette and blackjack. At some point during 1960, they had the idea of building a wearable computer to help them win at roulette.

A version was up and running in Shannon's basement lab by June 1961. It was roughly the size of a pack of cigarettes, and employed 12 transistors to determine where the ball on the roulette wheel would stop based on timing inputs. Wires connected the computer to switches in the toes of each shoe, which let the wearer secretly start timing the ball as it passed some reference point. Another set of wires went to an earpiece to supply output in the form of eight tones representing the octants of the wheel.

After extensive "in the field" tests, Thorp and Shannon found that it gave the wearer a 44% edge.

In the 1970s, Keith Taft [Dec 10] was inspired by Thorp's book, "Beat the Dealer" (1962), to build his own wearable computers to help him win at blackjack.

The Las Vegas casinos eventually caught on, and using a wearable computer for gambling became illegal on May 30, 1985, when the Nevada Devices Law came into effect.

Atanasoff's Paper

Aug. 14, 1940

John Atanasoff [Oct 4] finished a 35-page paper, "Computing Machine for the Solution of Large Systems of Linear Algebraic Equations." It described what would become the Atanasoff-Berry computer (ABC) [Jan 15],which he built with Clifford Berry [April 19].

This paper is the earliest document describing the principles of an electronic digital computer, but remained unpublished until 1973. The first publication about the ABC was actually a newspaper article that appeared on [Jan 15] 1941.

Despite the name, the ABC wasn't a general purpose computing machine like the ENIAC [Feb 15], but was the first to implement three critical ideas:

- The use of binary to represent numbers and data;
- The use of electronics rather than wheels, ratchets, or mechanical switches, for performing calculations;
- A system design where computation and memory were separated.

Atanasoff used his paper to support a request for funding (around $5000) from Iowa State, which was approved in March 1941. Also, when John Mauchly [Aug 30] visited Atanasoff on [June 13] 1941, he was given a copy of the paper, and so it became very important later during the claims and counter-claims about who invented the computer [Oct 19].

IMS Operational

Aug. 14, 1968

The IBM Information Management System (IMS) was a hierarchical database and management system with

extensive transaction processing capabilities.

The system was jointly developed with Rockwell Int. and Caterpillar for the Apollo space program [Aug 25]; the first "IMS READY" message appeared on an IBM 2740 terminal on this day. IMS was used to inventory materials for the Saturn V and Apollo vehicles.

Vern Watts (1932 – 2009) was the chief architect, a mainstay of the company, who worked for them for nearly 50 years.

IMS used a tree-like approach to representing databases that was quite different from Ted Codd's [Aug 19] relational database model, as typified by IBM's DB2 [June 7]. Eventually the relational approach won out, but IMS is still valued for its transactions capabilities, and is often utilized in collaboration with DB2.

PC AT Released

Aug. 14, 1984

The PC AT ("Advanced Technology") was promoted as IBM's second generation PC, following on from the XT [March 8], which despite its inspiring acronym ("eXtended Technology"), was quite a minor improvement on the original PC [Aug 12].

IBM PC AT. Photo by MBlairMartin. CC BY-SA 4.0.

The AT offered an Intel 80286 processor [Feb 1], a high-density (1.2 MB) 5.25" floppy drive and a better keyboard. The 80286 meant the machine could use 16-bit expansion slots, which meant faster cards, but was able to retain backward compatibility with 8-bit cards.

The typical AT included a massive 20 MB hard drive and a generous 512 KB of RAM. The first release used a slowish 6 MHz 80286, but that was soon upgraded to 8 MHz.

Some ATs came with both a high-density (HD) floppy drive and a double-density (DD; 360 KB) one, which proved problematic. If the user accidentally put a HD disk into a DD drive, it might work for a while, but would ultimately fail.

arXiv

Aug. 14, 1991

arXiv (pronounced "archive -- the X represents the Greek letter chi [χ]) is an open-access repository of preprints approved for posting after moderation, but not peer reviewed. It consists of papers in the fields of mathematics, physics, astronomy, electrical engineering, computer science, and more.

In 1990, Joanne Cohn began emailing physics preprints to colleagues, but the number of papers soon filled mailboxes to capacity. Paul Ginsparg saw the need for a central store, and on this day created a mailbox at the Los Alamos National Laboratory (LANL). His plan was to store articles for three months only, and to limit the content to high-energy physics. But a colleague convinced him to keep the articles indefinitely. "That was the moment it transitioned from bulletin board to archive," he said later.

FTP submissions was added later that year, Gopher [Feb 7] in 1992, and the Web in 1993.

Due to LANL's lack of interest, Ginsparg moved to Cornell in 2001, and the name of the repository became arXiv.org.

arXiv.org passed the half-million-article milestone on Oct. 3, 2008, and hit a million by the end of 2014. By the end of 2020, arXiv housed some 1.8 million preprints, and attracted more than 15,000 submissions and some 30 million downloads per month.

Ginsparg was awarded a MacArthur Fellowship in 2002 for his establishment of arXiv.

Blackout Race

Aug. 14, 2003

4:10 pm, EDT

55 million residents across eight US states and parts of Canada suffered a electrical outage. Some power was restored by 11 pm (7 hours later). Others didn't get their lights back for two days; in more remote areas it took nearly a week.

At the time, it was the second largest blackout in history, after one in Brazil back in 1999, and much bigger than the famous Northeastern US outage of 1965.

It occurred during the height of the Blaster worm's [Aug 11] infamy, so there was some speculation that it may have played a role. However, the subsequent 228-page report traced the main cause to a failure to trim back trees in Ohio. However, a contributing factor was a race condition in the General Electric energy management system, XA/21. The bug caused unprocessed events to queue up, which eventually took down a primary server after thirty minutes of delays. The secondary server eventually failed for the same reason, and the resulting crash forced the shutdown of more than 256 power plants.

It took weeks to find the problem inside XA/21, since there were around four million lines of C code to examine.

Wirtland Founded

Aug. 14, 2008

Wirtland was the world's first virtual sovereign micronation , consisting of an Internet site (`http://www.wirtland.com/`) but no territory. Another first

came in 2009 when Wirtland released the "Wirtland Crane", a 1/10 ounce coin minted in 24 carat gold, the first real money produced by a virtual country.

Micronations with an Internet connection *and* a physical location include the Kingdom of Talossa and Sealand [Jan 12]. Talossa was founded by 15-year-old Robert Ben Madison of Milwaukee, and was based in his bedroom.

Worms in Space

Aug. 14, 2008

The W32.Gammima.AG worm was discovered on a laptop on the International Space Station (ISS), becoming the first space-based virus. The worm's main goal was to steal online gaming passwords, and Symantec [Nov 14] accordingly assigned the virus a "risk level" of 1, or "very low."

NASA reported that the virus had no effect on the running of the station, but the most surprising revelation in the announcement was that most of the laptops on board weren't running virus protection software.

For more ISS stories, see [Jan 22], [Feb 24], [March 11], [March 26].

Sina Weibo

Aug. 14, 2009

Sina Weibo (Chinese for "microblog) was launched on this day by the Sina Corporation.

Riots in northeast China in July had caused the government to block many popular non-China-based social media services such as Twitter [March 21] and Facebook [Feb 4]. This was seem as an opportunity by Sina's CEO Charles Chao to launch a Chinese-specific competitor.

Since then Weibo has become one of the most popular social media sites in the country, in use by around 550 million active users per month by the end of 2019. Its main competitors are Tencent [Nov 11] and Baidu [Jan 18], other Chinese mega-companies.