August 25th

Bertie the Brain

Aug. 25 – Sept. 9, 1950

"Bertie the Brain" was a four-meter tall computer built for the 1950 Canadian National Exhibition (CNE) held in Toronto. It let attendees play a game of tic-tac-toe at various difficulty levels. At the highest setting, Bertie could not be beaten.

The player entered a move on a lit three-by-three keypad grid, and the game play was displayed on a similar grid of lights on another panel. A pair of signs alternately lit up with "Electronic Brain" assigned to X, and "Human Brain" to O, to indicate whose turn it was.

Bertie was built by Josef Kates (1921 – 2018) to showcase his additron tube, which performed binary addition, and did the same job as about ten ordinary vacuum tubes. At the time, Kates was working on the memory and control systems for Canada's first computer, the UTEC (University of Toronto Electronic Computer). In 1954, Kates went on to design Toronto's automated traffic signaling system – the first in the world.

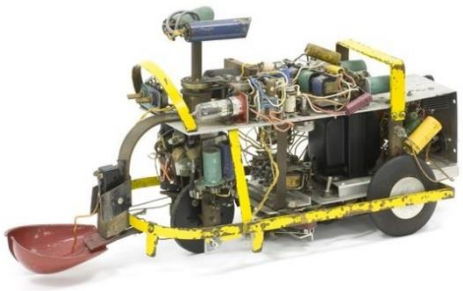
A well-known picture shows comedian and actor Danny Kaye winning against the machine. What wasn't shown was that Bertie had beaten Kaye several times earlier until Kates had lowered the difficulty level (to which setting is unknown). Kates remarked later that Kaye did a "dance of joy because he beat the first arcade game in the world."

Kaye may be overstating matters a little – the first computer game was probably the Nimatron [Sept 24], put on display at the New York's World's Fair in April 1940. Another contender for first graphical computer game is Sandy Douglas' OXO [May 21], also a tic-tac-toe player, but running on a general-purpose computer, the EDSAC [May 6].

Squee the Squirrel

Aug. 25 – Sept. 3. 1951

Squee, the Robot Squirrel, was designed by Edmund Berkeley [Feb 22], and featured on the cover of the Dec. 1951 issue of *Radio Electronics*. However, it was built by one of Berkeley's assistants, Jack Koff.



Squee: The Robot Squirrel. Photo by Mark Richards. Courtesy of Gordon and Gwen Bell.

Squee's mission was to hunt for a "nut", which had to be illuminated with a steady light. After scooping up the "nut" it dropped it off back at its "nest", which was illuminated with a flashing light, and then started over. Its hardware consisted of four sensors (two phototubes, two contact switches), three actuators (a drive motor, a steering motor, and a motor for a scoop), and processing implemented using half a dozen relays. The implementation was explained in the Feb. 1952 issue of *Radio Electronics*.

Squee had made his first public appearance at the Minnesota State Fair back in 1951. Koff was given the job of exhibiting Squee and Berkeley's Simon [May 18], which were a great success, although Squee would only work for 15-20 minutes on a given set of batteries. Over the ten days of the fair, 50,000 people probably saw the devices.

Squee owed an intellectual debt to a series of robots developed by British neuroscientist William Grey Walter [Feb 19] in 1948-49. He called his two robots 'turtles', or sometimes "Machina speculatrix", but mostly used their nicknamed, Elmer and Elsie.

A noted descendent of Squee was Timothy Turtle [April 00].

Elvis Costello

(stage name of Declan Patrick MacManus, OBE)

Born: Aug. 25, 1954;

Paddington, London

Elvis Costello is an English singer-songwriter who has won multiple awards, including Grammy Awards in 1999 and 2020, and was inducted into the Rock and Roll Hall of Fame in 2003.

He first came to prominence in 1977 for his debut album "My Aim Is True", as part of the British punk and new wave movements.

He's included here for his early life, in particular for his job as a data entry clerk at "Elizabeth Arden" in Liverpool, which inspired the lyrics for "I'm Not Angry" on his first album, and also as a computer operator at the Midland Bank computer center in Bootle.

British banking was in a state of flux at the time, due to decimalization (which occurred on Feb. 15 1971), and the introduction of bank encoding on cheques with magnetic ink, which required new hardware. The Midland Bank, like many others, was using Burroughs B5500s [Feb 18] and the totally revised B6500, which was still quite buggy. Cheque encoding was handled by the Burroughs P6000, which had a reputation for breakdowns.

The Apollo Guidance Computer

Aug. 25, 1966

The Apollo Guidance Computer (AGC) was installed in every Apollo Command Module (CM) and Lunar Module (LM). Around 75 AGCs were built, of which 25 flew in space.

Astronauts communicated with an AGC using a numeric display and keyboard called the DSKY (DiSplay&KeYboard, pronounced 'DISS-key'). During a trip to the Moon, the astronauts might have to enter more than 10,000 commands.

In Aug. 1961, NASA asked Charles Stark Draper (an expert in ballistic weapon guidance systems) to lead the AGC team; he chose to build using integrated circuits, barely three years after their invention. Margaret Hamilton [Aug 17] led the team that developed the AGC's software.

In contrast to the Air Force's Minuteman II computer [Aug 5], which used over twenty types of ICs, the AGC used one type, the NOR3, made up of just three transistors and four resistors. The IC was designed by Fairchild Semiconductor [Oct 1], and Philco-Ford manufactured them, selling them for about $25.00 each. Each AGC used around 4000 chips, and NASA's large purchases eventually made the cost of the chips drop, making similar technology affordable to the commercial and consumer markets.

The first mission to use the ACG, Apollo-Saturn 202 (or Flight AS-202), was launched on this day. This ACG version (called Block I) was also employed during the unmanned Apollo 4 and 6 flights.

The Block II ACG retained the basic architecture, but increased the amount of memory, used I/O channels, and had a larger instruction set. The Block II was the one that flew to the moon [July 20].

Microsoft's UNIX

Aug. 25, 1980

Microsoft [Aug 12] announced that it would be making its version of UNIX [Oct 15], known as Xenix, available for the 16-bit microcomputer market. Microsoft had purchased a license for UNIX version 7 from AT&T in 1978, but couldn't use the UNIX name for legal reasons. For a long period during the 1980's, the highest-volume purchaser of AT&T UNIX licenses was Microsoft.

IBM/Microsoft Xenix 1.00 on 5.25-inch floppy disk. Photo by Ringbang. CC BY-SA 3.0.

Microsoft didn't sell Xenix directly to end users, but licensed it to OEMs such as IBM, Santa Cruz Operation (SCO) [Jan 00], and Tandy who ported it to their own architectures; there was even a version for the Apple Lisa [Jan 19]. In 1987, SCO ported Xenix to the Intel 386 [Oct 17], making it the first 32-bit OS for the x86.

In the mid 1980's, Microsoft signed an agreement with IBM to develop OS/2 [Oct 11]. When it was released in 1987, Microsoft transferred ownership of Xenix to SCO, but kept a 25% ownership in the company. That marked the end of any further Xenix investment at Microsoft, and the group was left to slowly atrophy, and was closed down in 1989.

Torvalds Posts

Aug. 25, 1991

Linus Torvalds [Dec 28], then a second year computer science student at the University of Helsinki, posted a message to the comp.os.minix newsgroup with the subject line "What would you like to see most in minix?"

The first paragraph read: "I'm doing a (free) operating system (just a hobby, won't be big and professional like gnu) for 386(486) AT clones. This has been brewing since April, and is starting to get ready. I'd like any feedback on things people like/dislike in minix, as my OS resembles it somewhat (same physical layout of the file-system (due to practical reasons) among other things)."

This was the first public announcement that Torvalds was working on an OS that would shortly become Linux [Sept 17].

Online Newspaper

Aug. 25, 1994

"Aftonbladet" became the first Swedish newspaper to be published on the Web, and perhaps the first ever Web-based newspaper. There's some uncertainty since the earliest page from aftonbladet.se preserved by the Internet Archive is dated Oct. 23, 1996.

"Aftonbladet" wasn't the first newspaper online; that honor belongs to *The Columbus Dispatch* which debuted on CompuServe [Sept 24], then still a dial-up service, on July 1, 1980. At the time, CompuServe had about 3,600 subscribers.

The Columbus Dispatch was joined in early 1982 by several Associated Press (AP) newspapers, including *The Washington Post*, *The New York Times*, and *The Los Angeles Times*. However, the CompuServe/AP collaboration was short-lived, over by the end of 1982. According to an editor

involved in the project, the readership during that time was a low 5% of total CompuServe system usage. Newspaper executives were also quoted as saying that the distribution method was too expensive — CompuServe charged $5 per hour of access after 6 pm, and delivered about 30 characters per second. At that rate, it would take 6 hours to download an average daily newspaper.

Perhaps the first "online only" newspaper was "News Report", created by Bruce Parrello in 1974 for the PLATO system [July 00].

GoldenEye 007

Aug. 25, 1997

GoldenEye 007 is a first-person shooter developed by Rare for the Nintendo 64 [June 23]. As the name suggests, it was based on the 1995 James Bond [May 22] film GoldenEye.

The project began in Jan. 1995 with a group of just nine people, eight of whom had never developed a video game before. The team was led by Martin Hollis, who had previously worked as a programmer on the coin-op version of "Killer Instinct". After the first year of development, Rare added more staff to the project.

GoldenEye 007 was released shortly before the release of the Bond sequel "Tomorrow Never Dies". It sold more than eight million copies, making it the third-best-selling Nintendo 64 game ever. It also received critical acclaim, with praise given to its visuals, gameplay, and multiplayer mode.

Pandora Radio Launched

Aug. 25, 2005

Pandora Internet Radio was a music streaming and recommendation service founded by Tim Westergren, Will Glaser, and Jon Kraft. It was built on top of their "Music Genome Project" which organized music according to over 450 attributes, or "genes". Given the vector (a sequence of genes) for a song, a list of similar songs could be constructed. The system also utilized the users' feedback for chosen songs.

The personalized radio market became quite crowded later : Grooveshark launched in 2007, iHeartRadio (2008), and Europe's Spotify [Feb 21] (2006). As of 2016, Spotify had a catalogue of over 30 million songs compared to Pandora's two million.

NetRadio was the first Internet-only radio service, which was licensed on [Nov 20] 1995.

The Million Dollar Homepage

Aug. 25, 2005 – Jan. 11, 2006

Alex Tew launched "The Million Dollar Homepage" to pay for his enrollment in a Business Management course at the University of Nottingham.

The page consisted of a million pixels arranged in a 1000 × 1000 grid, which were sold for $1 per pixel in 10 × 10 blocks. The purchaser of a block (or blocks) provided a tiny image to be displayed inside the region, a URL link to embed with the image, and some text that was displayed when a cursor moved over the link.

On Jan. 1, 2006, the final 1,000 pixels were put up for auction on eBay [Sept 3]. The auction closed on Jan. 11 with a winning bid of $38,100 that brought Tew's final tally to $1,037,100.

After one term of his business course, Tew dropped out. As of 2016, he was an entrepreneur based in San Francisco.

An analysis carried out in July 2016 found that of the 2,816 links embedded on the page (accounting for a total of 999,400 pixels), 547 were unreachable. A further 489 redirected to a different domain or to a resale portal. This left 1,780 reachable links, but most of the sites were for sale, or devoid of content.

Amazon Clouds

Aug. 25, 2006

The term 'cloud computing' started to become popular after Amazon [July 16] announced the beta version of its Elastic Compute Cloud (EC2) service on this day, as a central part of its cloud-computing platform, Amazon Web Services (AWS) [March 19].

The idea is that users rent computer time to run their applications, paying only for the services and servers they need – hence the term "elastic". EC2 was developed mostly by a team in Cape Town led by Chris Pinkham.

Amazon EC2 dropped the beta label on Oct. 23, 2008, and Amazon switched its own retail website over to EC2 and AWS in Nov. 2010.

Not surprisingly, the word 'cloud' has a longer pedigree in computing than EC2. For example, it turns up in diagrams of the ARPANET [Oct 29] from 1977, and CSNET [May 00] in 1981.

Google's Cattle

Aug. 25, 2008

Researchers at the University of Duisburg-Essen in Germany announced that an analysis of 8,510 Google Earth [June 11] images has revealed that herds of cattle and deer align themselves along the North-South axis of the Earth's magnetic field while grazing and sleeping, indicating an innate ability to detect magnetic fields.