August

John Gilmore

Born: Aug. ??, 1955;

York, Pennsylvania

Gilmore was one of the founders of the Electronic Frontier Foundation (EFF) [July 10]. He also set up the Cypherpunks mailing list, and the USENET [Jan 29] alt.* hierarchy, which became the home for topics that mainstream USENET refused to handle, such as sex, drugs, and gourmet cooking.

Gilmore co-authored the Bootstrap Protocol (RFC 951) with Bill Croft in 1985, which evolved into DHCP, the method by which Ethernet [May 22] and wireless networks assign an IP address to a device.

He worked on several GNU projects, including the GNU Debugger in the early 1990s, GNU Radio in 1998, and the Gnash Flash movie player in 2005.

Outside of GNU, he supported EFF's Deep Crack [Feb 23], and the Micropolis city building game, which is essentially the original version of SimCity [Feb 2] but with a GNU General Public License.

A quote: "The Net interprets censorship as damage and routes around it"

Darwin Invented

August 1961

The Darwin game was designed by Victor A. Vyssotsky, Robert Morris Sr., and M. Douglas McIlroy [April 3], and implemented by McIlroy on an IBM 7090 [Nov 30] at Bell Labs. The game pitted users' programs against each other in a survival-of-the-fittest mêlée. A program ained to eliminate all the other programmed opponents, while also being the most prolific replicator.

Morris wrote the program which won the game – it utilized a clever adaptive strategy coded in just 44 instructions. Incidentally, Morris was also the father of the author of the 1988 Morris Worm [Nov 2].

Darwin has sometimes been called the first software virus, but it only let its programs 'infect' each other inside the game. Probably, the first true virus was the Creeper [March 15] from 1971.

Darwin later inspired the development of Core War [Aug 5].

The RAND Tablet Reported

August 1964

The RAND Tablet was a graphical input device developed by the RAND Corporation [Oct 1], inspired by J. C. R. Licklider's [March 11] "Man-Machine Symbiosis" paper, and coincidentally financially supported by Licklider as director of ARPA'S IPTO [Oct 1].

ARPA ended up funding the construction of about a dozen devices which were subsequently utilized in various ARPA projects. Each one cost around $18,000 to build, which was considered a bargain-basement price at the time.

The funding also supported early research on Sketchpad [Jan 7], under the auspices of RAND's GRAIL Project. GRAIL stood for "Graphical Input Language", and employed the tablet to edit and run programs drawn as flowcharts.

The RAND tablet wasn't the first device of this type – that was probably the Stylator [Dec 9] from 1957.

Friden EC-130 Released

August 1964

The Friden Calculating Machine Company was probably the first to release a fully transistorized desktop calculator, the EC-130. It sold for $2,200, about three times the price of comparable electromechanical calculators of the time.

A Friden EC-130 at The National Museum of Computing at Bletchley Park. Photo by Nigel Tout.

It was designed by Robert "Bob" Appleby Ragen to use germanium diodes and transistors, but employed magnetostrictive delay line memory rather than transistors to save money. It also abjured binary logic, instead plumping for a decimal system based on consecutive electrical pulses, where the count equalled the digit being represented. However, it was the first device to use Reverse Polish Notation (RPN), preceding the better known HP 9100 [Oct 4] by some five years.

The EC-130 wasn't the first electronic calculator – that was the ANITA MARK VII [Oct 2] from 1961 – but the ANITA still used vacuum tubes and Nixie tubes, so wasn't "solid-state".

Even after discounting the ANITA, there's still some debate over whether the EC-130 was the first fully transistorized desktop calculator; two other contenders are the CS-10A [March 00] from Japan and the IME 84rc [May 00] from Italy.

The Sumerian Game

August 1964

"The Sumerian Game" is a text-based strategy game of land and resource management. It's set in around 3500 BC, and the player acts as the ruler of the city of Lagash in Sumer over three time periods with increasingly complex economic problems.

It was developed as part of a project between the Board of Cooperative Educational Services (BOCES) of Westchester County, New York and IBM in 1964–1966 on the use of computer-based simulations in schools.

It was designed by Mabel Addis, then a fourth-grade teacher, and programmed in FORTRAN [Feb 26] by William McKay for the IBM 7090 [Nov 30]. Commands were entered and results printed on an IBM 1050 teleprinter.

The first version of the game was played by a group of 30 sixth-grade students in Aug. 1964, and a revised version featuring added audiovisual elements was tried out on a second group in 1966.

As a result, Addis has been called the first female video game designer.

Doug Dyment recreated a version of the first part of the game in 1968 coded in FOCAL. This game was expanded by David H. Ahl [May 17] as Hamurabi (a misspelling of Hammurabi, the Babylonian king), and appeared in his "101 Basic Computer Games" book in 1973.

Jerry Pournelle [Aug 7] recalled in 1989 that "half the people I know wrote a Hammurabi program back in the 1970s; for many, it was the first program they'd ever written in their lives".

The "Hello World!" of Algorithms

August 1976

The paper, "The Early Development of Programming Languages," by Donald E. Knuth [Jan 10] and Luis Trabb Pardo, examined several of the earliest programming languages, including a comparison of how well they could implement the same algorithm. This Trabb Pardo–Knuth algorithm is sometimes termed the "Hello World!" of algorithms, despite the fact that it doesn't print that message; for that see [July 21]. Instead it reads in 11 numbers, storing them in a sequence-like data structure. The numbers are reversed and a function applied to each one. If the function call triggers an overflow then the user is alerted, otherwise the final result is printed.

The intention is not to do anything particularly useful, but rather to test a range of programming features, including arrays, indexing, functions, subroutines, I/O, conditionals and iteration.

A large number of implementations can be found at the "Rosetta Code" website, with the shortest being just five lines long, and coded in Julia (a functional language).

RSA Trapdoor

August 1977

Martin Gardner's [Oct 21] "Mathematical Games" column in *Scientific American* published one of its most famous articles: "A new kind of cipher that would take millions of years to break".

It introduced RSA cryptography [Feb 00], by Ron Rivest [May 6], Adi Shamir [July 6], and Leonard Adleman) [Dec 31]. The RSA name was constructed from the last names of the three authors.

They had sent their MIT memo to Gardner, who was so impressed that he broke his usual rule of planning his column several months in advance, and wrote it up for publication immediately.

The basic idea is to take two very large prime numbers, p and q, and form their product n == p*q. It will be almost impossible to factor n, certainly in any reasonable amount of time. p and q must be kept secret, and will become the "private" key for decrypting a message. However, it's safe to reveal n, which becomes part of the "public" key.

Anyone wishing to send a secret message encrypts it with the public key, but only the person with the private key can decrypt it.

The column offered a prize of $100 to anyone who could unscramble a message encrypted with a public key of 129 digits (p and q were 64-digit and 65-digit primes respectively).

Given the title of the column, it was assumed that no one would crack it anytime soon, but in 1994, a team led by Derek Atkins, Michael Graff, Arjen Lenstra, and Paul Leyland, in collaboration with hundreds of volunteers online, used a "brute force" approach to break it. The message is: THE MAGIC WORKS ARE SQUEAMISH OSSIFRAGE.

Subsequently, it was revealed that Clifford Cocks, James Ellis, and Malcolm Williamson, working for the UK intelligence agency GCHQ, had developed an equivalent system in 1973 but it was not declassified until 1997. Ellis proposed the possibility of public key cryptography as early as 1970, and in 1973, he devised a public key system based on the difficulty of factoring integers. In 1974, Williamson made some revisions to the system, and Cocks designed protocols for its use.

However, the NSA [Oct 24] has asserted that it first developed the RSA idea in the 1960s and was using it by the mid-1970s. However, details of the NSA's role have not been made public.

The COSMAC Elf
Aug 1976

Popular Electronics began publishing a four-part series of articles by Joseph Weisbecker describing how to construct the COSMAC Elf, one of the very first single-board PCs. It was based around the RCA 1802 8-bit microprocessor [Sept 4]. Indeed, the Elf was essentially a home-built version of RCA's demonstration board for the 1802.

The basic Elf lacked ROMs, so programs had to be entered via toggle switches and a push button. With only 256 bytes of memory Weisbecker's Elf Toggle OPerating System (ETOPS) had to be small — just 32 bytes.

For those that didn't want to build their own, there was the Netronics ELF II. This was an enhanced version of the homebrew machine into which you could plug cards for color graphics, EPROM burners, and more RAM. With extra memory you could run full BASIC using an additional ROM card, which also acted as a maths co-processor.

In August 2006, "Nuts and Volts" magazine published a project to build the "Cosmac Elf 2000," based on the original Elf, with some newer and easier to find components

VT100 Released
August 1978

The VT100 was a very popular RS-232 [May 00] based dumb terminal, built by DEC [Aug 23].

One of its novelties was the ability to draw text anywhere on the screen, and the keyboard included cursor keys to easily move around the screen.

Its 'graphic rendering' abilities included blinking, bold text, reverse video, and underlining. It also supported a box-drawing character set containing various pseudo-graphics that made it fairly easy to render dialog boxes and forms.

A DEC VT100 terminal. Photo by Jason Scott. CC BY-SA 4.0.

It was also one of the first terminals to support ANSI escape codes, which helped them become the de facto standard for terminal emulators.

To the delight of sysadmins, the VT100's level of maintainability was excellent, and they could be mostly disassembled without the use of special tools.

Other influential terminals from the minicomputer days were the Teletype Model 33 ASR [April 00], and the ADM-3A [May 19].

Ashton-Tate Formed
August 1980

The Ashton-Tate company was best known for its dBASE database application, which was first released in 1978 with the name Vulcan before the company even existed. Vulcan's development began when Wayne Ratliff needed a database application to help him make picks for the football pools. It was written in Intel 8080 [April 18] assembly, and ran on CP/M.

George Tate and Hal Lashlee licensed Vulcan from Ratliff in 1981, and needed to change the name, because there was already an OS called Vulcan. Hal Pawluk, who worked for their advertising agency, suggested "dBASE", and also that the first release be numbered "II" so it would be perceived as being more reliable.

Pawluk also came up with the company's name, by combining Tate's last name with the fictitious Ashton surname, purportedly because "Ashton-Tate" was easier to pronounce than "Lashlee-Tate". Contrary to a popular story, "Ashton" was not selected because George Tate had a pet parrot named Ashton (although he later did purchase a parrot).

By the late 1980s, dBASE had cornered nearly 70% of the PC database market. But dBASE IV proved to be slow, filled with bugs, and within a year, it's market share had plummeted to the low 40%'s.

In July 1991, Ashton-Tate merged with Borland [two entries hence], which eventually discontinued dBASE in favor of its own database products.

Hobbyscoop Broadcasts
August 1981

The idea of broadcasting software over the airwaves was pioneered in the Netherlands in 1978 by the Hobbyscoop radio show. A program's binary was transmitted as 1,200 and 2,400 Hz audio signals in a format based on the Kansas City Standard [Nov 7]. No special equipment was needed to receive the code – just a radio cassette recorder.

Hobbyscoop's software broadcasting gained momentum (or perhaps increased in frequency ?) in 1979 when the Dutch TV Academy started televising a programming course called "Microprocessors 2". and Hobbyscoop helped out by broadcasting the show's software.

One drawback was that Hobbyscoop had to transmit four slightly different binaries for each program so that it could run on the popular computer systems of the day: the Tandy TRS-80 [Aug 3], Apple II [June 5], Commodore PET [April 16], and Exidy Sorcerer [April 20].

The Hobbyscoop's producers, Hans Janssen and Klaas Robers, solved that problem in 1980 by creating BASICODE, a unified standard for BASIC. BASICODE was introduced in August 1981 on the Dutch TV show Horizon, and regular BASICODE transmissions began in 1982 on Dutch radio. Other broadcasters followed suit, including the BBC, the West German WDR, and the East German Radio DDR.

An alternative approach for broadcasting code was used by the UK TV programme '4 Computer Buffs', which drew a pulsating patch on the TV screen [Feb 11].

Borland
August 1981

Borland Software began as the Danish company, Midas ApS, founded by Niels Jensen, Ole Henriksen, and Mogens Glad in 1979. The company changed its name to Borland when it started operating out of Ireland, as a UK company.

The positive response to the company's products at the CP/M-82 show in San Francisco showed them that it needed a US presence to reach the American market. This led to Philippe Kahn [March 16] joining the company, as the chairman, president, and CEO of Borland Inc. However, the three Danish founders retained the majority of the shares in the company. Also, Borland's first office in the US was situated over an automobile repair shop, and the main development office remained in Denmark for most of the 1980's.

Borland hit the jackpot with its first US product, Turbo Pascal released on [Nov 20] 1983. Then in [June 00] 1984, it launched Sidekick, a very popular time organizer, notebook, and calculator utility. Borland's implementations of C [May 18] and C++ were the top selling compilers for those languages in the late 1980s.

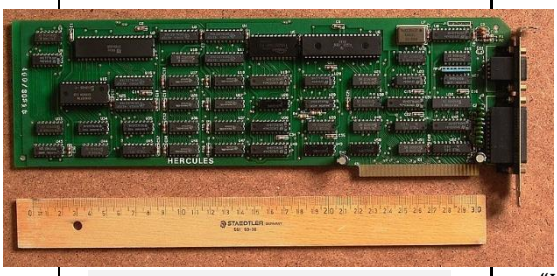
By the mid 1980s the company was so successful that it had the third largest exhibit stand at the 1985 West Coast Computer Faire after IBM and AT&T.

In September 1991, Borland acquired Ashton-Tate [two entries hitherto] for $440 million, which proved disastrous. Both companies' product lines stalled and Ashton-Tate's dBASE never successfully made the transition to MS Windows.

Kahn was ousted by Borland's board of directors in 1995 when the company was worth just one-fifteenth of its pre-merger valuation of $7 billion.

Hercules Graphics Card Released
August 1982

The Hercules Graphics Card (HGC) was released in 1982 by Hercules Computer Technology, and quickly became synonymous with microcomputer graphics in the 1980s.



An Original Hercules Graphics Card. © Rainer Knäpper. CC BY-SA 2.0 de.

The system had been developed by Van Suwannukul, the company's founder , so he could write his thesis in Thai (his native language) on an IBM PC [Aug 12].

The HGC combined IBM's text-only display standard with a bitmapped graphics mode, which meant that both high quality text and graphics could be displayed at the same time. For example, it was possible to draw a Lotus 1-2-3 [Jan 26] spreadsheet at 'high' resolution, together with graphs generated from that spreadsheet.

Such was the popularity of the HGC that most mainstream IBM PC programs of the time, such as Lotus 1-2-3, AutoCAD [Nov 29], and PageMaker [July 15], came with their own drivers to support the Hercules graphics mode.

Rogue in 4.2BSD
August 1983

Rogue was a dungeon crawling game coded by Michael Toy and Glenn Wichman in 1980 with later contributions by Ken Arnold. It was developed on UNIX as a freely-distributed executable, but wasn't open-source originally [Feb 3]. It became extremely popular among college students in the 1980s after it was included with 4.2BSD [March 9].

An overhead 'graphical' view (drawn using ASCII) distinguished it from earlier text descriptions in games such as Colossal Cave Adventure [March 11] and the original Zork [May 27]. Also, the dungeon levels, monsters, and treasures were procedurally generated on each play through, so that no two games were quite the same.

Rogue inspired a number of similar games such as NetHack [July 28] and the "Island of Kesmai" [Dec 15].

VHDL Made Public
August 1985

VHDL is used to model and verify digital systems (typically on field-programmable gate arrays) before a gallant engineer starts the expensive and time-consuming process of burning his designs permanently onto hardware. The language is based on Ada [Dec 10], with added support for concurrent dataflow and the propagation of time and signal strengths.

VHDL stands for “VHSIC Hardware Description Language”, and VHSIC is short for “Very High Speed Integrated Circuit”.

VHDL began in July 1983, when three companies (Intermetics, IBM, and Texas Instruments) won the US DoD tender to develop a new hardware description language.

In the early 1990s, a “languages war” raged between VHDL and Verilog [Dec 19], with the battlegrounds being strong vs. weak typing, Ada-like vs. C-like notation, and determinism vs. non-determinism. The languages eventually called a truce, and now peacefully coexist, often happily working together in the same design process.

Quickcam Released

August 1994

The Quickcam was developed by Jon Garber at Connectix Corp. [June 27] for the Mac. It produced images with 16 shades of gray at a resolution of 320×240 pixels, and could record video at about 15 frames per second.

A Connectix QuickCam. Photo by macbroadcast. CC BY-SA 2.0

Garber wanted to call it the ‘Mac-camera’, but was vetoed by the marketing department, who wisely saw the possibility of it one day becoming a cross-platform product.

It quickly became the first widely marketed webcam, although its original advertising didn't use that term, or even refer to the Web, which was still in its infancy back then. There were also earlier "web cameras", such as the Trojan Room Coffee Pot which began broadcasting on [Nov 22] 1993, and the FishCam [next entry].

The Quickcam line was sold to Logitech in 1998, and went on to become one of the world’s most recognizable webcam brands. In October 2010, it was included in Time Magazine’s Top 100 Gadgets of all Time.

The Fishcam

August 1994

While working on the Netscape browser [March 25] in 1994, Lou Montulli II [Sept 8] setup the Fishcam, a webcam pointing at a fish tank. It became the second live webcam feed on the Internet, after the Trojan Room Coffee Pot [Nov 22]. Pressing Ctrl+Alt+F in the early versions of the Netscape browser would open the Fishcam page.

The original camera was an SGI indycam attached to a SGI Indy workstation. It produced a 640 by 480 pixel image, which took nearly 20 seconds to capture, overlay with text, and post to the Web.

Over time, the fish tank grew from 40 gallons to 600, the camera was upgraded, and the Fishcam ended up outlasting the Netscape browser. After a short break, Montulli revived the site in 2009 with a new tank (at `http://www.fishcam.com`). The Fishcam has remained operational since then, becoming the longest, nearly continuously running, live website.

For more Internet connectivity firsts, see [Sept 1], [Nov 22], [Dec 3], [?? 1982]

The Hampster Dance

August 1998

The "Hampster Dance" website was created by Deidre LaCarte, a Canadian art student, during a competition between her best friend and sister to see who could generate the most Web traffic.

The site consisted of a single page with animated GIFs of four hamsters, repeated in rows, and a tune that looped endlessly. It was intended as an homage to her pet hamster, Hampton Hamster.

The 9-second audio clip was a sped-up sample of Roger Miller’s “Whistle Stop”, a song from the opening credits of the 1973 Disney cartoon, “Robin Hood”.

Until March 1999, the site only garnered some 800 visits but, without warning, it shot up to approximately 60,000 views in four days. Three months later, it broke 17 million views. It had become one of the early Internet memes.

For more memes [Nov 15], see [April 21], [Jan 5], [July 27].