March 16th

Alexander Stepanovich Popov

Born: March 16, 1859; Krasnoturyinsk, Russia

Died: Jan. 13, 1906

In his homeland, Popov is acclaimed as the inventor of radio, rather than Guglielmo Marconi [Dec 11] or Nikola Tesla [July 10].

The primary tool for detecting radio waves in the 1890's was the coherer invented by Oliver Lodge [Aug 14]. Popov wondered whether he could use one to detect the electromagnetic signature of lightning. The answer was "yes", and in the process he created a primitive form of radio receiver. He first demonstrated his lightning detector at the Russian Physical and Chemical Society on May 7, 1895, a day that's now celebrated in the Russian Federation as Radio Day (or, more officially, "Communications Workers' Day").

His lightning detector became a radio on March 24, 1896 when Popov transmitted the words "Heinrich Hertz" between two buildings in St Petersburg. However, this occasion wasn't reported at the time because the work was classified as a military secret.

In 1898, Popov demonstrated ship-to-shore communication over a distance of six miles, and a year later extended the transmitter's range to over 30 miles.

Andrew Stuart Tanenbaum

Born: March 16, 1944; NYC

Tanenbaum is the author of MINIX (MINi-unIX), a free UNIX-like OS first intended for teaching OS design, and the subject of his textbook, "Operating Systems: Design and Implementation".

MINIX, and its excellent documentation, were Linus Torvalds' [Dec 28] inspiration for developing the Linux kernel [Sept 17]. In Torvalds' autobiography "Just for Fun" (2002), he described it as "the book that launched me to new heights".

Tanenbaum has continued to develop MINIX, but has repositioning it as a production OS, with a focus on modularity, reliability, and security. The system is based on a microkernel consisting of just 5,000 lines of code, and the rest of the OS runs as independent processes in user mode. This makes the kernel much more resilient to attack and/or failure.

During Linux's early days, Tanenbaum and Torvalds had an informative debate (via USENET newsgroup posts) on kernel design [Jan 29], with Tanenbaum unsurprisingly arguing for his microkernel approach.

Two quotes: "A refund for defective software might be nice, except it would bankrupt the entire software industry in the first year."

"Never underestimate the bandwidth of a station wagon full of tapes hurtling down the highway."

Richard Mathew Stallman

(aka RMS and "St. Ignucious")

Born: March 16, 1953; NYC

Stallman has long been an icon of the "free software" movement which proselytizes that the User has the Freedom to run, copy, distribute, study, change, and improve software.

This has a lot in common with the "open source" [Feb 3] movement, but they're not quite the same. Open source focuses more on the practical benefits of non-proprietary software, including its profitability and the community-driven development model. Free software cares more about the social and ethical problems caused by proprietary software, and the way it restricts users' rights. For example, Stallman has said: "The principal aim of open source is not freedom, but success. What a shallow, pointless goal."

Richard Stallman (2019). Photo by Ruben Rodriguez. CC BY 4.0.

Before Stallman became an icon, he was a hacker in MIT's AI lab, where he worked on projects such as TECO [Oct 29], and Emacs for the Lisp machine [Dec 25]. His views on software freedom began forming during this time (the early 1980's) while grappling with software problems in the lab's Xerox 9700 laser printer [April 15].

On [Sept 27] 1983, Stallman launched the GNU Project—an effort to create a complete OS to provide its users with the

freedom to view, change, and share its source. Stallman articulated his motivation in the "GNU Manifesto", which is well worth a read. His views meant that in 1984 he felt compelled to leave MIT over concerns about changes to the university's software copyright rules.

Stallman founded the Free Software Foundation (FSF) on [Oct 4] 1985, a nonprofit dedicated to promoting the concept of free software to the wider public. This led to his creation of the GNU General Public License (GPL) which can be used to protect and promote such software.

In Nov. 1989, he announced the formation of the "League for Programming Freedom" to fight against software patents and the extension of copyright scope. Its logo is the Statue of Liberty holding a floppy disk and tape spool.

There's been a certain amount of friction between Stallman and the Linux community over the name of their OS, which Stallman insists should be called GNU/Linux [March 14]. The GNU part represents the collection of GNU Project tools and libraries used by the OS, while Linux refers to the kernel. Linus Torvalds [Dec 28] has called Stallman "the Buddhist monk that sets himself on fire to get people to wake up."

Stallman refers to mobile phones as "portable surveillance and tracking devices", and refuses to own one due to the lack of a device running entirely free software.

At the end of his first year in the physics program at MIT (1975), Stallman suffered a knee injury that ended his participation in international folk dancing. He also lost his motivation to study physics, but continued to haunt the AI lab.

Philippe Kahn

Born: March 16, 1962; Paris, France

Kahn is a successful entrepreneur probably best known as the chairman, president, and CEO of Borland Software [Aug 00] from 1983 until 1995.

With only $2000, he arrived in the US without a green card or job. He found work with Adam Osborne [March 6] as a consultant, but the company folded two days before he was due to receive his first paycheck.

The imminent birth of his daughter, Sophie, on June 11, 1997 persuaded Kahn to patch together a camera phone to record the event; he jury-rigged a connection between a Motorola StarTAC [Jan 3] and a Casio QV-10 digital camera, and posted the photos to her grandmother and 2,000 other people just 15 minutes after the birth. The camera/phone connection was of course controlled by software he had coded in Borland C++ .

Philippe Kahn.

Kahn subsequently tried to convince Kodak and Polaroid to create an integrated phone and camera, but without success. So naturally he founded a company, LightSurf, to develop the idea himself.

In 2016, *Time* magazine included Kahn's camera phone photo (320 by 240 pixels) in their list of the 100 most influential photos of all time.

Kahn plays jazz saxophone in his spare time, and has fronted several bands at his companies. Kahn's first Borland ensemble was called "Pecan and the Nuts", a pun on his name. The group played at the first COMDEX [Dec 3] that Borland attended, providing the entertainment for its toga party. "Pecan and the Nuts" was later renamed "Turbo Jazz".

PIC16C84 Released

March 16, 1993

A team at Microchip Technology, led by Rod Drake, developed the PIC16C84 microcontroller. Whereas earlier PIC microcontrollers used EPROM which needed UV light to erase its data, the 16C84 employed EEPROM (electrically erasable programmable read-only memory). It also supported in-circuit serial programming which meant that it could be programmed without removing it from the circuit board. The icing on the cake was that it sold for a quarter the cost of the alternatives.

The 16C84 was the beginning of a line of microcontroller superstars. They have been used in smart cards, remote controls, and wireless car keys, and become a favorite of hobbyists.

In 1998, Microchip Technology introduced the PIC16F84A with faster clock speeds (up to 20 MHz), faster programming, and reduced power requirements; billions were sold.

The very first PIC microcontroller was the PIC1650 developed by General Instrument's Microelectronics division in 1976. PIC may stand for "Peripheral Interface Controller" or perhaps "Programmable Intelligent Computer.

EverQuest

March 16, 1999

EverQuest is a 3D fantasy-themed MMORPG set in the land

of Norrath, although various game expansions have added more continents. A player fights monsters and enemies for treasure and experience points, and may optionally master a trade skill in between the blood-letting. To stay alive for any significant length of time, it's a good idea to join a group.

EverQuest's development began in 1996 following the successful launch of “Meridian 59” [Dec 15], the first 3D MMORPG. The main designers were Brad McQuaid, Steve Clover, and Bill Trost, who were inspired by playing “Island of Kesmai” [Dec 15].

After EverQuest was released on this day, it went on to attract nearly half-a-million players even though it was beaten to market by "Ultima Online" [Sept 24].

EMIEW Rolls Outs

March 16, 2005

Hitachi unveiled the humanoid robot EMIEW (Excellent Mobility and Interactive Existence as Workmate) to compete with Honda’s ASIMO [Oct 21] and Sony’s QRIO [Nov 11]. EMIEW was intended for business settings, such as customer services.

EMIEW's main distinction was its use of wheels unlike it’s competitors, and Hitachi claimed it was “the world’s quickest-moving robot” with a top speed of 3.7 mph. It was self-balancing and capable of collision avoidance by using sensors on its head, waist, and near the wheels. It had two arms, each with six degrees of freedom, and could speak a vocabulary of about 100 words.

However, it soon garnered the nickname “trash-can on wheels” due to its shape.

The EMIEW2 was launched in 2007, with a redesigned exterior (goodbye trash-can). It weighed about 30 pounds (a lot less than the first version), had 25 axes of movement, and improved balance control.

For more humanoid robots, see [Sept 5], [Oct 21], [Dec 20].