April 27th

Lee Felsenstein

Born: April 27, 1945;

Philadelphia, Pennsylvania

Felsenstein helped design two important early PCs – the Sol-20 [Aug 28] and the Osborne 1 [April 3].

In 1972, he was the hardware engineer for the Community Memory [Aug 8] project, one of the earliest attempts to place networked computer terminals in public places. The need for cheap remote access for the project, led Felsenstein to design the "Pennywhistle 103" modem in 1973, which soon became popular with hobbyist computer users.

Another requirement for Community Memory was a cheap video display, which led to his design of "The Tom Swift Terminal" (named after the "Tom Swift books), based in part on the "TV Typewriter" [Sept 00].

It was later commercialized by Bob Marsh and Gary Ingram as the VDM-1 (Video Display Module), the first video card for S-100 bus computers (e.g. the Altair 8800 [Dec 19] and Sol-20). It provided memory-mapped I/O for high performance, and hardware support for scrolling.

Lee Felsenstein (2010). Photo by cellanr. CC BY-SA 2.0.

As a student, Felsenstein was active in Berkeley's Free Speech Movement, and was arrested during the "Sproul Hall Sit-In" of Dec. 1964. He also wrote for the *Berkeley Barb*, one of the leading underground newspapers.

A quote: "To change the rules, change the tools."

Eric Emerson Schmidt

Born: April 27, 1955;

Falls Church, Virginia

Schmidt was the Executive Chairman of Google [Aug 19] from 2001 to 2015 and of Alphabet from 2015 to 2017. Prior to that he'd been CEO of Novell [June 30] and chief technology officer at Sun Microsystems [Feb 24].

While a student at Princeton, he worked over the summers at Bell Labs, where he and Mike Lesk wrote Lex, a compiler construction tool that generates lexical analyzers from regular expression descriptions.

During his time at Sun, he was the target of two notable April Fool's Day pranks [April 1]. In the first, his office was taken apart and rebuilt on a platform in the middle of a nearby pond, complete with a working phone. The next year, a working Volkswagen Beetle was taken apart and re-assembled in his office.

In 2014, he had a cameo in the film "Dumb and Dumber To", starring Jim Carrey and Jeff Daniels (it was deleted from the released movie, but available as an extra on the DVD). He's also appeared in "Silicon Valley" [April 6].

Atkinson at Apple

April 27, 1978

Atkinson was working on his PhD in neuroscience when Jef Raskin [March 9], a friend from his undergraduate days, invited him to visit Apple. Steve Jobs [Feb 24] wanted to recruit him, and Atkinson was persuaded after Jobs said: "Think how fun it is to surf on the front edge of a wave, and how not-fun it is to dog paddle on the tail edge of the same wave."

Atkinson was responsible for the QuickDraw graphics primitives that all Apple Lisa [Jan 19] applications used. It was QuickDraw's high performance that made the machine's bitmap display and its innovative GUI practical. He also wrote the code to support overlapping windows, graphics clipping, and the event and menu managers, which required him to invent pull-down menus.

He was one of the first thirty members of the Apple Mac development team [Jan 24], and his Lisa work probably accounted for almost two thirds of the original Macintosh ROM. It was at this stage (around spring 1982) that the library's name (LisaGraf) was changed to QuickDraw, to reflect its use in both machines.

Atkinson also created MacPaint which shipped with every Mac. It consisted of 5,804 lines of Pascal, 2,738 lines of assembly, and compiled into less than 50K of executable code.

Inspired by a mind-expanding LSD trip, he designed HyperCard [Aug 11] in 1985, the first popular hypermedia system.

When Jobs resigned from Apple [Sept 16], he wanted Atkinson to join him at NeXT [Oct 12]. Instead, he kept working at Apple for 12 year more years, before finally leaving with Marc Porat and Andy Hertzfeld [April 6] to co-found General Magic [May 00].

Smartmodem 300 Released

April 27, 1981

The Hayes [Jan 30] Smartmodem 300 was incredibly popular in the early 1980's, connecting thousands of enthusiasts to BBSs and services

such as CompuServe [Sept 24]. It was the brainchild of Dennis Hayes and Dale Heatherington.

Back in the late 1970's, modems employed bulky, slow acoustic couplers which required the user to dial a number and place the phone handset into a pair of cushioned ports on top of the modem.

At the start of the 1980's, a few internal modems began to appear, but they only worked with specific machines (e.g. the Apple II [June 5]), and were tricky to install.

The Smartmodem 300. Photo by Michael Pereckas. CC BY-SA 2.0.

The Smartmodem changed all that – a sleek aluminum box that plugged into a telephone line and linked to a PC through its RS-232 serial port. The modem could be programmed to answer calls and dial numbers via simple strings of control characters sent from the computer. Data was sent and received at the blazing speed of 300 bits/sec.

By 1982, Hayes were selling 140,000 units annually.

Xerox Star Released
April 27, 1981

The Xerox 8010 Star Information System was sold with the grandiose sales pitch: "the Office of the Future", which actually turned out to be fairly accurate.

It featured a 17-inch bitmapped display, Ethernet networking [May 22], a windows-based GUI, a mouse, a WYSIWYG word processor [Oct 00], it could work with a laser printer [Jan 21], and understand Smalltalk [May 17], LISP [April 15], and other languages.

It was developed at Xerox's Systems Development Department (SDD) in El Segundo, California, headed by David Liddle, and utilizing ideas from the Xerox Dorado [May 6] and Alto [March 1].

The "Star" name actually only referred to the machine's desktop software, which was later renamed "ViewPoint", then "GlobalView". The 8010's hardware was called the Dandelion (Dlion for short). The base system had 384K of memory (expandable to 1.5 MB), a 10 MB hard drive, and an 8" floppy drive.

The Star's first public appearance was at the National Computer Conference (NCC) in Chicago on May 4-7, 1981. About 73,000 people attended the event, and the Xerox stand was one of the most popular. Right across the aisle was the IBM booth which was mostly deserted.

This machine was an enormous leap forward technically, but poor marketing and a high price ($17,000 and up) worked against it. Also, the Star was designed to use network services, which meant that a fully functioning "Office of the Future" would need to buy a file server and print server in addition to its two or three Stars.

Another problem was the system's glacial speed, due partly to the limited hardware of the time. For example, saving a large file could take minutes. System crashes could be followed by an hours-long process called file scavenging.

Within Xerox, there was little understanding of the system. Few executives ever saw or used one, and the sales teams, if they requested a computer to assist with their planning, would receive the mediocre CP/M-based Xerox 820 [June 9].

Another mistake Xerox made was that it wouldn't license the development environment to anyone outside of the company. This meant that no third-party software could be developed.

Koko and AOL
April 27, 1998

Hanabiko "Koko" (born July 4, 1971) was a female western lowland gorilla who was able to understand more than 1,000 hand signs from a modified version of American Sign Language, appropriately called Gorilla Sign Language.

Starting at 6:00pm EST, roughly 8,000 AOL [Oct 2] subscribers joined the first live inter-species Internet chat with Koko.

Her caregiver, Francine "Penny" Patterson, used sign language to relay questions to Koko from the on-line audience, and also interpreted her signed answers. An AOL chat facilitator, Jana Moncrief, typed those answers into a computer.

The 41-minute event was held as part of a month long celebration of Earth Day, organized by H.E.A.V.E.N. (Helping Educate, Activate, Volunteer and Empower via the Net), the Envirolink Network, the Gorilla Foundation, and AOL Live.

One question was about Koko's intended mate: 'What do you think of Ndume?' Koko replied: "Bad. Toilet." When asked what she wanted for her birthday, Koko signed, "food and smoke."

While not a regular Internet user, Koko had owned a computer since the late 1980's, when Apple gave her a Mac II [March 19] with a special touch interface.

City of Heroes Released
April 27, 2004

"City of Heroes" was a multiplayer online role-playing game developed by Cryptic Studios. Players created super-powered characters that teamed

up to complete missions and fight crime in Paragon City, a veritable den of iniquity located on Rhode Island.

Computer Gaming World magazine praised the game, saying, “City of Heroes blows a superpowered gust of fresh air into an increasingly stale sword-and-sorcery MMO world.”

A companion piece, “City of Villains,” was released in 2005, where players assumed the role of escaped super-powered convicts. The two games were eventually combined.

In Nov. 2004, Marvel Comics filed a lawsuit against Cryptic Studios alleging that the game promoted the creation of characters who infringed their copyrights and trademarks. Despite the litigation, Marvel selected Cryptic to develop its own superhero MMORPG [June 23], “Marvel Universe Online”.

There were over 20 updates to the game before it was closed down at the end of 2012 due to a “realignment of company focus and publishing support”.

Arduino Lives

April, 27, 2005

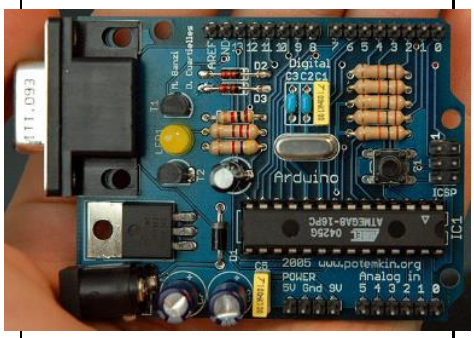
Arduino is an open-source company that designs and manufactures a variety of microcontroller kits. The Arduino website went live on this day.

Early Arduino boards used an Atmel 8-bit AVR microcontroller with varying amounts of flash memory, numbers of I/O pins, and expansion boards called shields. Each Arduino includes a boot loader that simplifies the installation of programs on its flash memory via a serial connection to a PC.

The idea for the Arduino dates from the start of the 2000’s, when IDII (Interaction Design Institute Ivrea) in Italy ran a microcontroller course based around the expensive (for students) BASIC Stamp microcontroller.

In 2003, for his Masters thesis, Hernando Barragán created the Wiring platform, a low cost tool for running digital projects, under the supervision of Massimo Banzi and Casey Reas. It used an ATmega168 microcontroller and an IDE based on Processing (an open-source graphics library).

In 2003, Banzi, with David Mellis and David Cuartielles, added support for the cheaper ATmega8 microcontroller to Wiring, and forked the project, renaming it Arduino.



An early Arduino board using an an Atmel ATmega8 chip. Photo by Nicholas Zambetti. CC BY-SA 3.0.

The name comes from the “Bar di Re Arduino”, a pub in the Piazza Gioberti in Ivrea, where some of the Arduino founders used to meet. The bar is named after Arduin of Ivrea, who was the King of Italy from 1002 to 1014.

The Arduino is sometimes confused with the Raspberry Pi [Feb 29], but they’re quite different – the Arduino is a microcontroller while the Pi is a general-purpose computer, usually running Linux [March 14].

Estonia’s Cyberattack

April 27, 2007

A series of cyber attacks were aimed at Estonia, including its parliament, banks, newspapers, and broadcasters.

The attacks ranged from ping floods to botnets for spam distribution. The attacks’ complexity led some people to think that they were orchestrated by a state organization. Russia was singled out because the bombardment began after the Estonian government decided to move “The Bronze Warrior", a Soviet WWII memorial statue, from Tallinn, the country’s capital, to a military graveyard.

Although newspaper headlines proclaimed it to be the first (or second [March 0])“cyber war”, the danger level was later downgraded to more prosaic hacktivism, and a single ethnic-Russian Estonian national was convicted in Jan. 2008. However, the incidents persuaded NATO’s Cyber Security organization to relocate to Tallinn.

The attacks came months after Estonian held the first election to rely (partially) on the Internet [March 4]