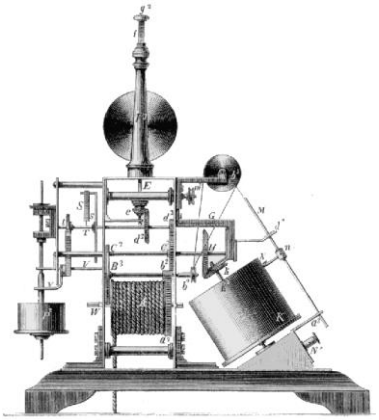
Oct. 12th

Alexander Bain

Born: Oct. 12, 1811;

Watten, Caithness, Scotland
Died: Jan. 2, 1877

In the mid-1840's, Bain's experimental fax machine, the "Bains Telegraph", consisted of two pens attached to pendulums connected by a telegraph wire. A clock synchronized the swinging of the pendulums which passed over chemically treated paper which was stained when an electrical charge was sent down the wire.



Bain's improved fax machine (1850). European Patent Office.

In 1850 Bain filed a patent for an improved version but was too late – Frederick Bakewell [May 1] had been granted a patent for his competing "image telegraph" two years earlier.

Unfortunately, neither Bain's nor Bakewell's inventions were viable systems because of the poor synchronization between the transmitter and receiver. The first practical electro-mechanical fax machine, the Pantelegraph, was invented by the Italian physicist Giovanni Caselli [April 25] in 1861.

Ole-Johan Dahl

Born: Oct. 12, 1931;

Mandal, Norway
Died: June 29, 2002

Dahl and Kristen Nygaard [Aug 27] were the fathers of object-oriented programming through their development of Simula (for solving simulation problems) at the Norwegian Computing Center (NCC) in the early 1960's. It went on to influence an enormous number of other languages, including Smalltalk [May 17], C++ [Oct 14], and Java [May 23].

Dahl and Nygaard were the first to develop the concepts of class, subclass, inheritance, and dynamic object creation, which appeared in SIMULA 67 [Feb 10]. The language also supported processes which enabled programmers to express concurrent OOP activities.

In 1972 Dahl co-authored 'Structured Programming' with Tony Hoare [Jan 11] and Edsger Dijkstra [May 11], perhaps the best academic book on programming of that decade.

In the 1990's he returned to OOP with the ABEL language and carried out research on formal reasoning about object-oriented systems.

Dahl and Nygaard are both Commanders of the Order of Saint Olav, awarded to them by the King of Norway.

Daniel Henry Holmes Ingalls Jr.

Born: Oct. 12, 1944;

Washington, D.C.

Ingalls was the principal architect of the early versions of Smalltalk, together with Alan Kay [May 17] and Adele Goldberg [July 7. For instance, he implemented the very first version in BASIC, based on one page of notes supplied by Kay, and was responsible for Smalltalk's bytecode virtual machine, which made the system faster and more portable.

Since 1996 he has been involved in developing Squeak [April 14, an open source dialect of Smalltalk.

Ingall's also invented the highly influential BitBlt (bit-boundary block transfer) operation which underlies most bitmap graphics systems [March 1]. A classic use is to render transparent sprites onto a background in games.

Responding to a request from his father, Daniel H. H. Ingalls, Sr., a professor of Sanskrit, Ingalls junior created an OCR system for Devanagari, a complex Indian script. The word Devanagari can be understood as meaning the "abode of deities"

IC Demo for IBM

Oct. 12, 1958

Texas Instruments (TI) engineers gave a special integrated circuit (IC) demo for Thomas J. Watson, Jr. [Jan 14], president of IBM, just a month [Sept 12] after Jack Kilby [Nov 8] had given the very first presentation to TI researchers and executives.

The previous December, IBM had signed an agreement with TI for the "exchange of patent licenses, purchasing arrangements, interchange of technical information, and joint development" of transistors and diodes. TI was IBM's primary supplier of semiconductor devices at the time.

The technical consensus coming out of the talk was that ICs were years away from a cost-effective implementation. In the mean time, IBM would stick with tried-and-true transistor technology, as typified by the IBM 608 [Oct 7].

NeXT Computer

Oct. 12, 1988

After resigning from Apple [Sept 16], Steve Jobs [Feb 24] founded

NeXT Computer in 1985. On this day, the company's first product, the NeXT Computer, was unveiled at a lavish, invitation only, gala in San Francisco.

Due to its cube-shaped, die-cast, magnesium black case, the computer was often referred to as "The Cube", which naturally meant that the next model was named "NeXTcube" [Sept 18].

The machine ran the Mach- and BSD-derived [March 9], NeXTStep OS, with a GUI built around Display PostScript [Oct 6]. It also sported a novel object-oriented development environment utilizing Objective-C. Later the OS was ported to other architectures, and released as OPENSTEP.

Bill Gates [Oct 28] was grumpily unimpressed, "He put a microprocessor in a box. So what?" The all-black design didn't impress him either: "If you want black, I'll get you a can of paint."

While not a commercial success due to its relatively high price, a NeXT Computer was famously used by Tim Berners-Lee [June 8] at CERN to develop the first web server and browser [Dec 20], and he later praised the NeXT's development tools. Other noted products of NeXT machines were the games Doom [Dec 10], Doom II, and Quake [June 22] developed by id Software.

However, on Feb. 10, 1993, Jobs laid off 280 of the 530 NeXT employees and sold the company's hardware line to Canon; the company now concentrated on NeXTStep.

Blaine Garst recalled, "Working at NeXT was like riding in employee 1x's (Job's) 3rd Ferrari at Laguna Seca - every year we would have a gut wrenching all hands meeting where some new drastic turn of the corporate funding death spiral would play out. Then a mad sprint in a new direction!"

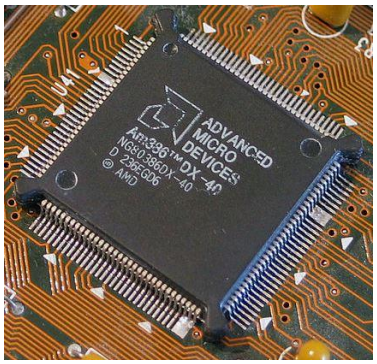
NeXT was bought by Apple on [Dec 20] 1996 for $427 million, NeXTStep became the foundation for Mac OS X [March 24], and Jobs returned as Apple's CEO [Sept 16] in 1997.

AMD 386DX Decision

Oct. 12, 1990

At the end of the 1980's, Intel had cornered the market with its 80386 chip [Oct 17], but after today's court ruling, AMD [May 1] was finally free to release its 386DX/40, a 100%-compatible clone.

The judge called Intel's conduct ''a classic example of the breach of the covenant of good faith and fair dealing: preaching good faith but practicing duplicity.'' To be fair, he also characterized AMD's behavior as ''unremitting vindictiveness accompanied by a large dollop of opportunism.''



An AMD Am386DX-40 Chip. Photo by MaXim. GPL.

AMD had been a second-source manufacturer of Intel's 8086 [June 8], 80186 and 80286 [Feb 1], and had used their access to Intel's microcode to reverse-engineer the 80386 and the 80287 co-processor. Then AMD had designed a more efficient microprocessor that used Intel's microcode.

Within a year of today's decision the price of 386 chips had plunged by around 50%. Street prices of PCs also fell by as much as $1000. The market for MS-Windows-capable PCs expanded by 33%.

AMD continued its battle with Intel, releasing a 40MHz 486 chip in 1993, which offered 20% better performance than Intel's 486 [April 10] for around the same price.

SoftRAM95 Exposed

Oct. 12, 1995

SoftRAM and SoftRAM95 by Syncronys Softcorp claimed to double the available memory in MS Windows without the need for a hardware upgrade. During early 1995, SoftRAM became the top-selling software in the US, and the president of Syncronys was named "Entrepreneur of the Year' by the Software Council of Southern California.

But on this day, the German programmer, Ingo T. Storm, published an article about SoftRAM in the magazine *c't*. It appeared that data passed through SoftRAM unaltered, with no compression taking place at all. Indeed, the decompiled source of its drivers was only slightly modified versions of examples taken from Microsoft's Device Driver Kit.

All that SoftRAM really did was expand the size of Windows' hard disk cache – something a moderately knowledgeable user could do in a minute without extra software. Even then, the performance boost was negligible.

The US Federal Trade Commission eventually dubbed Syncronys's claims for SoftRAM "false and misleading," and the company was forced to pull the product and issue refunds. The company filed for Chapter 7 bankruptcy in 1998.