Key Events in the History of Computing III
1970s

In 1971, the Computer Group became the Computer Society. (The Computer Group promoted this name change to better represent the stature it and other IEEE groups had attained.) For the Computer Society, the seventies was a decade of significant growth in both the depth and breadth of services. Membership grew by a factor of over two-and-a-half.

The society's publication program grew rapidly. The Computer Group News, renamed Computer in 1972, became a monthly publication in 1973, and significantly increased its tutorial-oriented content. At the same time, IEEE Transactions on Computers was unbundled from it, making Computer the only publication received automatically with society membership. The subscriber base to the now optional transactions held up well, and the society learned it could expand its publications program outside the membership dues structure.

The society introduced the IEEE Transactions on Software Engineering in 1975, and the IEEE Transactions on Pattern Analysis and Machine Intelligence in January 1979. The decade saw the publication of more than 25,000 periodical pages: about 13,500 pages for the IEEE Transactions on Computers, about 4,100 pages for the IEEE Transactions on Software Engineering, over 400 pages for the IEEE Transactions on Pattern Analysis & Machine Intelligence, and over 8,000 editorial pages for Computer.

Late in the decade, the society formalized its non-periodical publications into the Computer Society Press. The operation mainly produced conference proceedings, tutorial texts, and reprints in the seventies.

Fourteen new technical committees were formed, making a total of 20 by the end of the period. The committees contributed significantly to growth in the number of specialty conferences and meetings. In the late seventies, the Computer Society was sponsoring or cosponsoring about 50 technical conferences, meetings, and symposia, many with ACM. The society initiated the Education Committee in 1970, and produced the first model curriculum in 1976. The Distinguished Visitor Program began providing speakers to chapters in 1971.

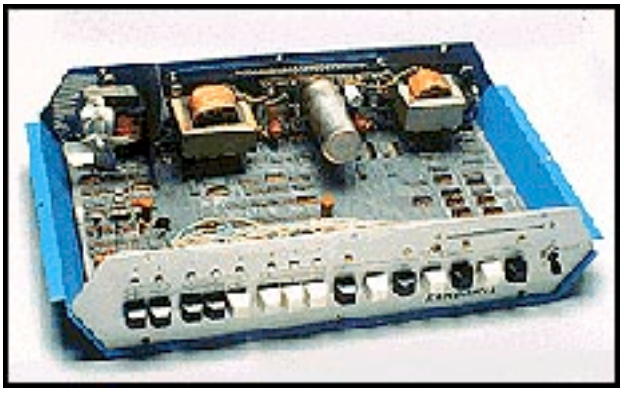
The Computer Society was also the first society within IEEE to establish student branch chapters. This activity began in 1974 as an experiment and was subsequently adopted by the IEEE. Additionally, the society formalized and expanded its awards program in this decade.

The staff supporting the society's operations also grew. The position of executive secretary was created in 1971. By the end of the decade the Computer Society staff numbered 16 permanent employees: two in the executive secretary's home office in Silver Spring, Maryland, and 14 in the publishing group's rented space in Long Beach, California, plus several temporary part-time people in both locations. The needs and viability of the publishing organization grew to the extent that, late in the decade, the society started the process of acquiring its own building in Los Alamitos, California.

By the end of the seventies, Computer Society membership had grown to 43,930, including 7,833 students and 3,943 affiliates. There were now more than 100 chapters, including about 30 student branch chapters.

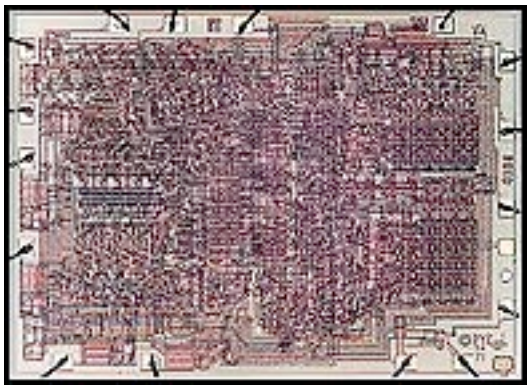
1970 With the change of name of the Society magazine to Computer, the Society inaugurated a contest to find a logo.

1970 SRI International's Shakey became the first mobile robot controlled by artificial intelligence. Equipped with sensing devices and driven by a problem-solving program called STRIPS, the robot found its way around the halls of SRI by applying information about its environment to a route. Shakey used a TV camera, laser range finder, and bump sensors to collect data, which it transmitted to a DEC PDP-10 and PDP-15. The computer radioed back commands to Shakey -- who then moved at a speed of 2 meters per hour.



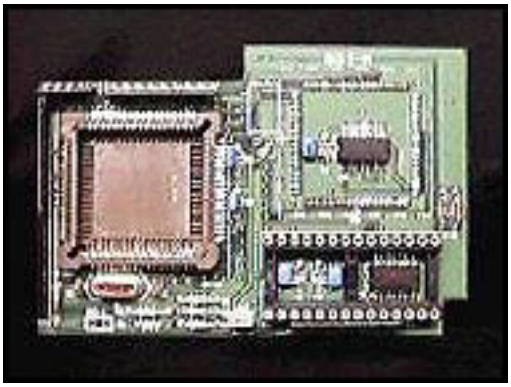
1971 The Kenbak-1, the first personal computer, advertised for $750 in Scientific American. Designed by John V. Blankenbaker using standard medium-scale and small-scale integrated circuits, the Kenbak-1 relied on switches for input and lights for output from its 256-byte memory. In 1973, after selling only 40 machines, Kenbak Corp. closed its doors.

1971 The world of personal computing has its roots in 1971, with two important products - First commercially available microprocessor and the first floppy disk. The recently founded Intel Corporation produced the Intel 4004 for Busicom company, giving birth to a family of "processors on a chip". Ted Hoff produced the Intel 4004 in response to the request from a Japanese company (Busicom) to create a chip for a calculator. Hoff decided that it would be easier to use a "computer on a chip" for this purpose than to custom develop a calculator chip. Marcian E. (Ted) Hoff received the IEEE Computer Society Pioneer Award in 1988.



Intel 4004 microprocessor, first commercially available microprocessor

1971 Alan Shugart at IBM produced the first regular use of an 8 inch floppy (magnetic storage) diskette, primarily for the Memory Writer.
1971 Ken Simon of Litton Industries submitted the winning entry in the Computer Society logo competition and it was adopted by the Board of Governors at their mid-summer meeting. The winning design was a clever adaptation of the IEEE logo, replacing the two element current and magnetic effect design with a interlaced pair of binary digits.



1972 The first digital microcomputer available for personal use was the MITS (Micro Instrumentation and Telemetry Systems) 816. Though not equipped with a display or keyboard, the 816 was of considerable interest to the amateur enthusiast who was seeking the personal computer.

MITS ROM Board

1972 ARPAnet demonstrated at CS-ACM ICCC in Washington
1972 Digital Computer Controlled flight - NASA F-8
1972 Steve Wozniak built his "blue box," a tone generator to make free phone calls. Wozniak sold the boxes in dormitories at the University of California-Berkeley where he studied as an undergraduate. "The early boxes had a safety feature -- a reed switch inside the housing operated by a magnet taped onto the outside of the box," Wozniak remembered. "If apprehended, you removed the magnet, whereupon it would generate off-frequency tones and be inoperable ... and you tell the police: It's just a music box."
1973 Don Knuth promises to deliver a dozen volumes on the "Art of Programming"; the first three turn out to be the "bibles" of software development for many years, containing many of the basic algorithms of the field that became known as "data structures" and many of the techniques of programming that would become the basis of "software engineering". In 1982 Knuth was identified with the Computer Society Pioneer Award.
1973 While the concept of a wide area network had been effectively developed as a part of the ARPANet project, the basis for a "local area net" was Ethernet, created at Xerox PARC by Robert Metcalfe. In some ways Metcalfe invented Ethernet three times, the first time as part of his dissertation at MIT (as part of Project MAC), at Xerox PARC, and then again later at 3COM, a company he founded to exploit his invention.
1973 Twenty-seven years after the unveiling of the ENIAC, and many years after the US Patent Office had issued the patent for the computer to Eckert and Mauchly, the Judge Earl Larson of the US District Court in Minneapolis invalidated it. In a suit between Honeywell Information Systems and Sperry-Rand Corp. regarding the payment of royalties for the use of the concept of the computer, Larson found that Mauchly had derived his ideas for the computer from "one, John Vincent Atanasoff" Neither Eckert nor Mauchly ever gave up their opposition to this finding, believing that their invention was true. For many this was the first time they had heard of the work of Atanasoff, or of the ABC.
1974 The March 1974, "QST" magazine, contained the first formally advertised personal computer -- the Scelbi ("SCientific, ELectronic, and BIological") developed by the Scelbi Computer Consulting, Milford, Connecticut. At almost the same time, Jonathan Titus produced a widely marketed personal computer kit, named the Mark-8. The world of personal

computing was growing. Intel introduced the 8080 for the purposes of controlling traffic lights, but it was to find fame later as the processor for the Altair.
1974 Gary Kildall introduces CP/M as the first operating system to run (almost) independent of the platform.
1974 John Cocke designs first RISC machine for IBM Research.
1974 First ATM machines appear.
1974 Zilog, Inc. is founded to compete with Intel in the production of micro-processors on a chip. (Z80)

1975 By 1975 the market for the personal computer was demanding a product that did not require an electrical engineering background and thus the first mass produced and marketed personal computer (available both as a kit or assembled) was welcomed with open arms. Developers Edward Roberts, William Yates and Jim Bybee spent 1973-1974 to develop the MITS Altair 8800. The price was $375, contained 256 bytes of memory (not 256k), but had no keyboard, no display, and no auxiliary storage device. Later, Bill Gates and Paul Allen wrote their first product for the Altair -- a BASIC compiler.

MITS Altair 8800 is seen on the left

1975 was also the year in which IBM produced their first "personal computer", the 5100. Under development for two years, the price of the 5100 and the software supported did not fascinate it to the same community that had welcomed the Altair. While some units were used for the support of education, it never took off as the answer to "Computer Aided Instruction"

IBM model 5100, one of first “personal computer”s

1975 Cray I beginning the modern supercomputer trend: Seymour Cray, the principal architect for CDC, started the trend toward modern supercomputers and computational architectures. A Cray machine was, and still is, the standard by which to judge super performance. There is a public domain version of the Cray operating system.

Cray I

1976 The Cray I made its name as the first commercially successful vector processor. The fastest machine of its day, its speed came partly from its shape, a C, which reduced the length of wires and thus the time signals needed to travel across them.

1976 A year after the Altair was produced, Steve Jobs and Steve Wozniak produced the Apple II that was assembled and complete with its own keyboard and monitor. It was an immediate success, priced within the reach of the enthusiast and supporting some basic software applications that showed its true usefulness. The Apple II was quickly assimilated into schools and colleges and was the basis of many early "microprocessor" courses. That same year the Microsoft and Apple Corporations founded.

Commodore PET

Radio Shack TRS-80

1977 First West Coast Computer Fair in San Francisco. First looks at the Apple II (costing $1298) and the Commodore Pet ($795). Radio Shack introduced the TRS-80 microcomputer, given the derogatory handle of "Trash-80".

1977 First Computerland store opened in Morristown NJ, under the name Computershack.
1977 Computers in Telephone switching.

5 1/4-inch floppy disk

1978 The 5 1/4-inch floppy disk became the standard medium for personal computer software after Apple Computer and Tandy Radio Shack introduced disk drives for this format.

1978 While most microprocessors had been quickly supported by a BASIC compiler, and some primitive games, Visicalc introduced by Daniel Bricklin and Bob Frankston was a major breakthrough in application software for this level of machinery.

The first spreadsheet program set the standards for both the "look and feel" of later spreadsheet systems and the tremendous ease of use. To many users this was the opening of the age of the fourth generation of software support.

1979 The Motorola 68000 microprocessor exhibited a processing speed far greater than its contemporaries. This high performance processor found its place in powerful work stations intended for graphics-intensive programs common in engineering.

Motorola 68000 microprocessor on the left

1979 Following the 1978 release of Visicalc and its unprecedented success, Micropro International released Wordstar in 1979, which like Visicalc would set the standards for word processing systems. Microprocessors were beginning to be capable of doing useful work beyond the aspirations of the hobbyist.

1980s

Within the Computer Society, the growth of the seventies continued in every function, but with new dimensions and changing emphasis. This was the decade of new magazines, major standards activities, new education initiatives, international services, and a significant growth and refinement of staff services and facilities.

Within the society, the breadth of the profession and member interest in the more tutorial-oriented materials published in Computer prompted the creation of similar magazines in specialty areas. The society introduced IEEE Computer Graphics & Applications in January 1981, IEEE Micro in February 1981, both IEEE Design & Test and IEEE Software in February 1984, and IEEE Expert in the spring of 1986.

IEEE Transactions on Knowledge & Database Engineering was introduced in September 1989. IEEE Transactions on Software Engineering and IEEE Transactions on Pattern Analysis & Machine Intelligence moved from bimonthly to monthly publication in 1985 and 1989, respectively.

The society published more than 65,200 periodical editorial pages during the decade -- with over 33,400 pages in transactions and 31,800 pages in magazines, including 12,700 in Computer.

The number of technical committees continued to grow, mirroring the diversity in the computer industry. Fifteen new technical committees brought the total to 33 by the end of the decade. These committees were the primary sources of conferences and meetings. The society sponsored and cosponsored more than 50 conferences annually and cooperated, without financial involvement, with other organizations in dozens more. Interest in the more vertical or specialty conferences increased, relative to the broad conferences such as Compcon and Compsac. Several of the specialty conferences drew many more attendees than the broad-based conferences. The number of meetings held outside the US grew significantly, many of them sponsored by technical committees. In the eighties the society sponsored and cosponsored more than 90 conferences outside the US. CompEuro was

initiated in 1987, cosponsored with IEEE's Region 8.The technical committees began to support standards activities in a major way. The results were remarkable. At the end of the decade, 56 standards had been approved and 125 working groups were under way. These projects involved well over 5,000 people. The growth in society services was clearly fueled by the industry's growth and by the many volunteer professionals who were motivated to provide the technical base for these services. But this growth simply would not have been possible without the staff support that developed during this period. The society brought in its first executive director in 1982, and the staff developed from 16 people at the beginning of the eighties into a highly professional operation of 94 people by the end of the decade.

The Computer Group staff operations had begun in the garages and basements of its first publisher and executive secretary. In early 1980 the West Coast publishing operation moved into its newly purchased building, and in 1985 the space was doubled with the purchase of the adjoining building. Also in 1985, the society purchased its current headquarters building in Washington, D.C., and extended its staff support overseas by opening an office in Brussels. The Brussels office was expanded in 1987. In 1988, an office was opened in Tokyo. These offices represent a major step in serving the society internationally.
1980 Alan Shugart, having left IBM and founded his own company, Shugart Associates, continued his leadership in the development of storage devices by introducing the Winchester hard drive, thereby revolutionizing the storage capabilities of personal computers. No longer would personal computers be limited to tiny internal memories and slow external storage cassette tapes or diskettes. The personal computer moved from being a microcomputer limited by its storage capabilities to compete effectively with the power of many mainframe systems, and certainly with the majority of minicomputers.
1980 Seagate Technology created the first hard disk drive for microcomputers. The disk held 5 megabytes of data, five times as much as a standard floppy disk, and fit in the space of a floppy disk drive.
1980 Sinclair ZX-80 released. The machine that started the micro boom in Europe. Clive `Uncle' Sinclair's first computer wasn't black and came in kit form.
1981 Sinclair ZX-81 released. This is definitely a historic piece of hardware. It's worthwhile noticing that it offered a BASIC interpreter running in 1 kbyte of RAM. There was even a chess program for it (not very good, we would imagine). Actually, the 16 kbyte RAM expansion was among the most popular add-ons for the ZX-81. Or would be, if it didn't have the nasty habit of falling off (!) the edge connector and crashing the machine.

Sinclair ZX-80


Sinclair ZX-81

1981 After waiting for the opposition to soften up the market, IBM entered the field in 1981 with the IBM "PC" and supported by the DOS operating system developed under an agreement that gave Microsoft all the profits in exchange for the development costs having been borne by Microsoft. Disregarding CP/M that had been the choice for earlier machines, IBM chose to go in a radically different direction on the marketing assumption (that turned out to be correct) that the purchasers of the PC were a different breed than those who were prepared to build their own system from a kit. Using a caricature of Charlie Chaplin as the user who was able to take the PC out of the box and immediately begin using it, IBM attracted a community of users who wanted the machine for its usefulness rather than its intrinsic engineering appeal.

1981 Planning to get ahead of the competition Osborne Computer Corporation began marketing the first self-contained, portable microcomputer in 1981, complete with a with monitor, disk drives and carrying case -- the Osborne 1. Though initially successful, Osborne eventually declared bankruptcy two years later.

1981 That same year Commodore introduced the VIC-20, and quickly sold 1 million units!

1982 Less than four months after IBM introduced the PC, Time Magazine named the computer as the man of the year! Never before (or since) had an inanimate object been chosen as the "man of the year". Alan Turing would have been proud of the object of his research!

By 1982 the computer had become a prime tool in the movie industry and Disney Studios completed a movie where the characters existed inside a computer -- Tron -- and where the special effects were computer generated.

1982 Sinclair ZX-Spectrum released. One of the most popular home micros ever, the Spectrum sold millions of machines in its five incarnations, and made Sinclair Research one of the best home computer manufacturers of all time. The machine had very limited I/O capabilities, which were complemented by a large collection of additional hardware, mostly from third-party manufacturers.

Sinclair ZX-Spectrum

1982 The official release of the Commodore 64 which is regarded by most as the most popular home micro of the eighties, at least for the States. The photo shows the three most widely known case designs of the machine. The original 64 (top left), the classic version (top right) and the one made according to Commodore's `new' design, as applied to the Commodore 128 and the Commodore Amiga.

1982 A DEC Rainbow 100 sans keyboard with the standard monochrome monitor. Doesn't look like much, but it's a brilliant machine in terms of hardware.

1982 The Apple IIe with a colour monitor, two floppy drives (a 3.5-inch and a 5.25-inch unit) and mouse.
1983 Apple Lisa 2, later renamed to `Macintosh XL'.

Apple IIe

Apple Lisa 2

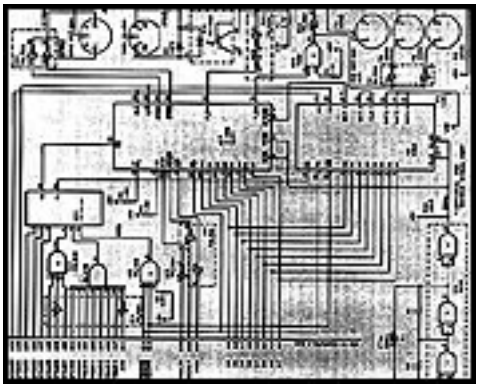
1983 One of the first notebooks, the EPSON PX-8 sports the essential multi-coloured keyboard, a folding LCD screen and a micro-cassette drive (the dark thing under the screen in the picture) under complete computer control. Too complete: the built-in CP/M thinks it's a disk drive.

1983 Software development exploded with the introduction of the PC, standard applications including not only spreadsheets and word processors, but also graphics packages and communications systems. Games were also prolific. In 1983 Mitch Kapor introduced Lotus 1-2-3, and took over the spreadsheet supremacy from Visicalc. Later Mitch was to found the Electronic Freedom Foundation, originally intended to provide legal support for some hackers who had intruded into certain computer systems. EFF is the ACLU of the computer industry.

1983 Compaq Computer Corp. introduced first PC clone that used the same software as the IBM PC. With the success of the clone, Compaq recorded first-year sales of $111 million, the most ever by an American business in a single year. With the introduction of its PC clone, Compaq launched a market for IBM-compatible computers that by 1996 had achieved a 83-percent share of the personal computer market. Designers reverse-engineered the Compaq clone, giving it nearly 100-percent compatibility with the IBM.

1983 Starting in 1978, the US Department of Defense had begun development of a "modern" high order programming language; having recruited a committee of volunteer experts into the HOLWG ("holwig", High Order Language Working Group) a series of documents of increasing detail and precision were distributed to the programming language community for criticism. The process of development also involved a continually decreasing number of proposals, each taking advantage of the best features of the prior proposals, until finally the "Green" language (named for the color of the cover of the report, so that the name actual proposer was unknown to the evaluators) was chosen as the winner, and renamed "Ada" in honor of Ada Augusta King, Lady Lovelace, the mathematical companion of Charles Babbage. Among other innovations, the language introduced the rendezvous mechanism for interprocess communication and synchronization, but is widely criticized for its complexity.

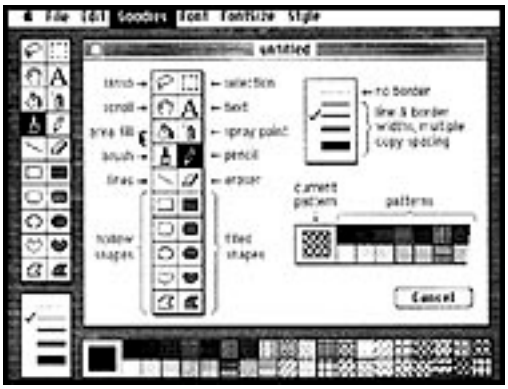
1983 Geometric Modeling (Computer Graphics 10/83): Computer-aided geometric modeling, once an arcane subject, has become a key to effective use of computers in science and engineering. Robotics and other complex design problems can be approached more easily using the techniques described in this issue of Computer Graphics.



1983 MIDI. The Musical Instrument Digital Interface was introduced at the first North American Music Manufacturers show in Los Angeles. MIDI is an industry-standard electronic interface that links electronic music synthesizers. The MIDI information tells a synthesizer when to start and stop playing a specific note, what sound that note should have, how loud it should be, and other information. Raymond Kurzweil, a pioneer in developing the electronic keyboard, predicts MIDI and other advances will make traditional musical instruments obsolete in the future. In the 21st century, he wrote in his book, "The Age of Intelligent Machines," "There will still be acoustic instruments around, but they will be primarily of historical interest, much like harpsichords are today.... While the historically desirable sounds of pianos and violins will continue to be used, most music will use sounds with no direct acoustic counterpart.... There will not be a sharp division between the musician and nonmusician."

1984 Amstrad's first attempt at a home micro. This critter was immensely successful, with its built-in cassette recorder (right end of each unit), color-coded keyboard and bundled green or color monitor.

Amstrad CPC-464. Amstrad's first attempt at a home micro



1984 Apple Computer launched the Macintosh, the first successful mouse-driven computer with a graphic user interface, with a single $1.5 million commercial during the 1984 Super Bowl. Based on the Motorola 68000 microprocessor, the Macintosh included many of the Lisa's features at a much more affordable price: $2,500. Apple's commercial played on the theme of George Orwell's "1984" and featured the destruction of Big Brother with the power of personal computing found in a Macintosh. Applications that came as part of the package included MacPaint, which made use of the mouse, and MacWrite, which demonstrated WYSIWYG (what you see is what you get) word processing.

1984 The first portable computer 65 B.C. (Micro 2/84) Antikythera is the island near which the device, 16 x 32 x 9 cm., was found. It is probably the first known portable computing mechanism. Derek de Sola Price's article on A History of Calculating Machines is this issue of Computer.

1985 Computers in various locations were being attacked by what the press came to label as "hackers", much to the dismay of legitimate hackers at institutions of higher learning. Using personal computers, young people whose parents thought they were safely ensconsed in their bedrooms, were traveling cyberspace, and unfortunately tapping into the resources of corporate systems. A break-in to a computer at the Los Alamos National Laboratory was quickly tracked back to a group of teenagers in Milwaukee, Wisconsin, who were to be come known as the "414" hackers -- a reference to their telephone area code.

1985 Commodore Amiga 1000. A revolutionary computer. The Amiga 1000 is the first Amiga. This is probably why it looks so serious: these are the happy days before its sad descent into the world of overgrown game consoles. Here's a (soon-to-be) home computer with a built-in floppy drive, a mouse and excellent sound and graphics capabilities.

Commodore Amiga 1000

1985 The C++ programming language emerged as the dominant object-oriented language in the computer industry when Bjarne Stroustrup published "The C++ Programming Language."

1986 Daniel Hillis of Thinking Machines Corp. moved artificial intelligence a step forward when he developed the controversial concept of massive parallelism in the Connection Machine.

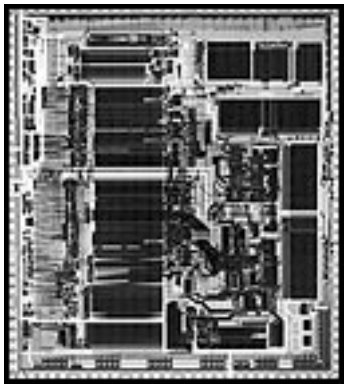
1986 Starting from the 8086 chip used in the IBM PC, Intel Corporation continually developed new chips to support the ever increasing demand for processing power; in 1986 Intel released the 386 chip -- the intermediate stage between the 1980 8086 and the 1994 Pentium.

1986 At the other end of the computer family scale the CRAY X-MP with 4 processors achieved a processing speed of 713 MFLOPS (against a peak of 840) on 1000x1000 LINPACK. In thirty years the supercomputer had achieved an improvement of five orders of magnitude (from 5KFLOPS for the 1955 IBM STRETCH). If the motor car had had the same degree of improvement in the past 100 years then it would have a gas consumption of one

thimble full per hundred miles, travel at 3,000,000 miles per hour, and be cheaper to replace than pay the parking fee downtown! The change in scale is most apparent in this picture of a ring counter, or shift register from the ENIAC that can easily be compared mentally with the register in today's machines. Conceived as a Ph.D. thesis by Danny Hillis, this hypercube computer is a massive parallel array of 65,536 1-bit processors each with an ALU and an external 4kbyte memory. It is one the largest commercial examples of parallelism in computing.

1987 Motorola unveiled the 68030 microprocessor. A step up from the 68020, it is built on a 32-bit enhanced microprocessor with a central processing unit core, a data cache, an instruction cache, an enhanced bus controller, and a memory management unit in a single VLSI device -- all operating at speeds of at least 20 MHz.

1987 IBM introduced its PS/2 machines, which made the 3 1/2-inch floppy disk drive and video graphics array standard for IBM computers. The first IBMs to include Intel's 80386 chip, the company had shipped more than 1 million units by the end of the year. IBM released a new operating system, OS/2, at the same time, allowing the use of a mouse with IBMs for the first time.



Motorola 68030

IBM PS/2

1987 Computer Society opens European office in Brussels as befitting the largest transnational Computer society in the world, The Computer Society openned an office in Brussells, Belgium in order to serve the growing number of European members more effectively.

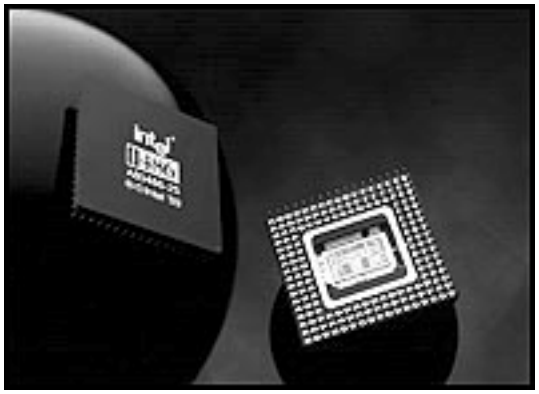
1988 Computer Society opens Asian office in Tokyo.

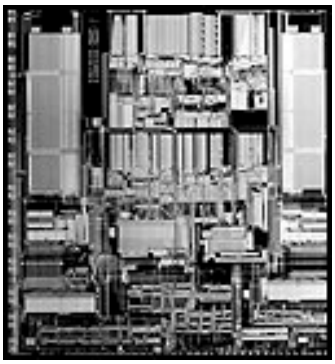
1988 NeXT Cube released. This beautiful machine was so advanced for its time that it paid for it by extinction. A stylish, powerful computer that shaped the way modern workstations are designed.

1988 Robert Morris' worm flooded the ARPANET. Then-23-year-old Morris, the son of a computer security expert for the National Security Agency, sent a nondestructive worm through the Internet, causing problems for about 6,000 of the 60,000 hosts linked to the network. A researcher at

Lawrence Livermore National Laboratory in California discovered the worm. "It was like the Sorcerer's Apprentice," Dennis Maxwell, then a vice president of SRI, told the Sydney (Australia) Sunday Telegraph at the time. Morris was sentenced to three years of probation, 400 hours of community service, and a fine of $10,050. Morris, who said he was motivated by boredom, programmed the worm to reproduce itself and computer files and to filter through all the networked computers. The size of the reproduced files eventually became large enough to fill the computers' memories, disabling them.

1989 Intel released the 80486 microprocessor and the i860 RISC/coprocessor chip, each of which contained more than 1 million transistors. The RISC microprocessor had a 32-bit integer arithmetic and logic unit (the part of the CPU that performs operations such as addition and subtraction), a 64-bit floating-point unit, and a clock rate of 33 MHz. Combined with an enhanced bus interface unit, the microprocessor doubled the performance of the 386 without increasing the clock rate.





1989 Motorola announced the 68040 microprocessor, with about 1.2 million transistors. Due to technical difficulties, it didn't ship until 1991, although promised in January 1990. A 32-bit, 25-MHz microprocessor, the 68040 integrated a floating-point unit and included instruction and data caches. Apple used the third generation of 68000 chips in Macintosh Quadra computers.

1989 Rapid Prototyping.

1986 Scientific Visualization.

1990s

1990 Software for Workstations.

1992 EEG Monitoring for Epilepsy.

1994 Exploiting Parallelism in Loops.

CONCLUSION / CLOSING

1996 marks the 50th anniversary of the public revelation of the ENIAC, the 50th anniversary of the establishment of the Large Scale Computing Committee of the AIEE under the chairmanship of Charles Concordia that led to the founding of the IEEE Computer Society, and the beginning of the 50th anniversary celebrations of ACM. Within those years the computer field has not only developed but has had added to it new concepts and ideas that have transmogrified it into an almost unrecognizable entity. We are reaching the stage of development where each new generation of participants is unaware of both their overall technological ancestry and the history of the development of their specialty, and have no past to build upon. We need to know enough about our history not only to both protect ourselves from it and not be condemned to repeat it, but also to use it to our advantage.

The impact of the information revolution on our society and our industry is immense. In our increasing desire to control our own destinies, we seek to understand not only our contemporary technology, but also to look to the past to recognize trends that will allow us to predict some elements of the future. Looking backward to discover parallels and analogies to modern technology can provide the basis for developing the standards by which we judge the viability and potential for a current or proposed activity. But we also have a feeling of responsibility for preserving the achievements of our forebears through the establishment of archives and museums, with the expectation that the pleasure of discovery will easily outweigh the profitability of mere historical rumination.

Bibliography

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The Computer Museum on the Web