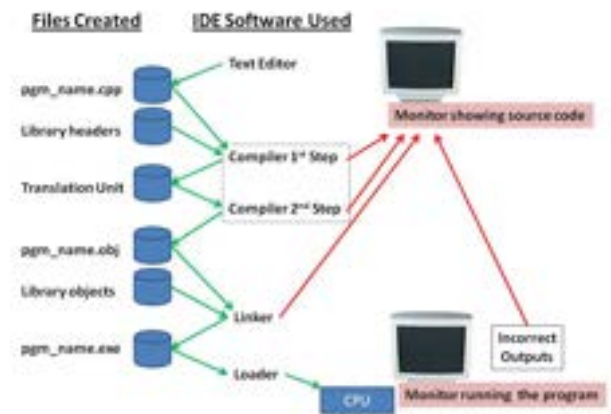


Integrated development environment

An integrated development environment (IDE) is a software application that provides comprehensive facilities to computer programmers for software development. An IDE normally consists of at least a source code editor, build automation tools, and a debugger. Some IDEs, such as NetBeans and Eclipse, contain the necessary compiler, interpreter, or both; others, such as SharpDevelop and Lazarus, do not.



Intel 80386

The Intel 386, originally released as 80386 and later renamed i386, is a 32-bit microprocessor introduced in 1985. The first versions had 275,000 transistors and were the CPU of many workstations and high-end personal computers of the time. As the original implementation of the 32-bit extension of the 80286 architecture, the i386 instruction set, programming model, and binary encodings are still the common denominator for all 32-bit x86 processors, which is termed the i386 architecture, x86, or IA-32, depending on context.



Intel Corporation

Intel Corporation (commonly known as Intel) is an American multinational corporation and technology company headquartered in Santa Clara, California. It is the world's largest semiconductor chip manufacturer by revenue, and is one of the developers of the x86 series of instruction sets, the instruction sets found in most personal computers (PCs). Incorporated in Delaware, Intel ranked No. 45 in the 2020 Fortune 500 list of the largest United States corporations by total revenue for nearly a decade, from 2007 to 2016 fiscal years. Intel supplies microprocessors for computer system manufacturers such as Acer, Lenovo, HP, and Dell. Intel also manufactures motherboard chipsets, network interface controllers and integrated circuits, flash memory, graphics chips, embedded processors and other devices related to communications and computing.



Inter-process communication

In computer science, inter-process communication or interprocess communication (IPC) refers specifically to the mechanisms an operating system provides to allow the processes to manage shared data. Typically, applications can use IPC, categorized as clients and servers, where the client requests data and the server responds to client requests. Many applications are both clients and servers, as commonly seen in distributed computing.

Inter-process communication ctd



Possibly several processes on each host (use ports).
Send and receive primitives.



Interaction design

Interaction design, often abbreviated as IxD, is "the practice of designing interactive digital products, environments, systems, and services." Beyond the digital aspect, interaction design is also useful when creating physical (non-digital) products, exploring how a user might interact with it. Common topics of interaction design include design, human-computer interaction, and software development. While interaction design has an interest in form (similar to other design fields), its main area of focus rests on behavior. Rather than analyzing how things are, interaction design synthesizes and imagines things as they could be. This element of interaction design is what characterizes IxD as a design field as opposed to a science or engineering field. While disciplines such as software engineering have a heavy focus on designing for technical stakeholders, interaction design is focused on meeting the needs and optimizing the experience of users, within relevant technical or business constraints.



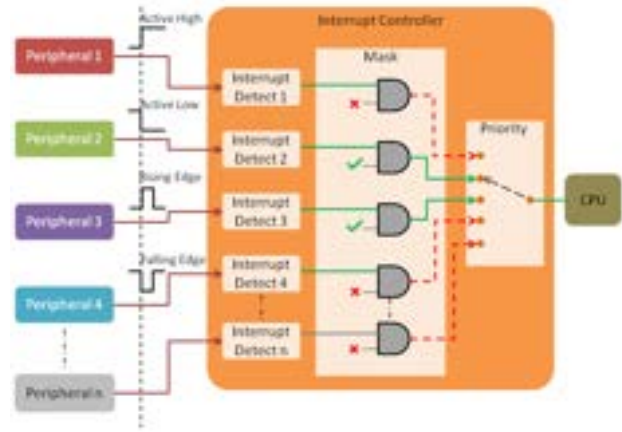
Interpreter (computing)

In computer science, an interpreter is a computer program that directly executes instructions written in a programming or scripting language, without requiring them previously to have been compiled into a machine language program. An interpreter generally uses one of the following strategies for program execution:



Interrupt

In digital computers, an interrupt (sometimes referred to as a trap) is a request for the processor to interrupt currently executing code (when permitted), so that the event can be processed in a timely manner. If the request is accepted, the processor will suspend its current activities, save its state, and execute a function called an interrupt handler (or an interrupt service routine, ISR) to deal with the event. This interruption is often temporary, allowing the software to resume normal activities after the interrupt handler finishes, although the interrupt could instead indicate a fatal error. Interrupts are commonly used by hardware devices to indicate electronic or physical state changes that require time-sensitive attention. Interrupts are also commonly used to implement computer multitasking, especially in real-time computing. Systems that use interrupts in these ways are said to be interrupt-driven.



Interrupt handler

In computer systems programming, an interrupt handler, also known as an interrupt service routine or ISR, is a special block of code associated with a specific interrupt condition. Interrupt handlers are initiated by hardware interrupts, software interrupt instructions, or software exceptions, and are used for implementing device drivers or transitions between protected modes of operation, such as system calls.

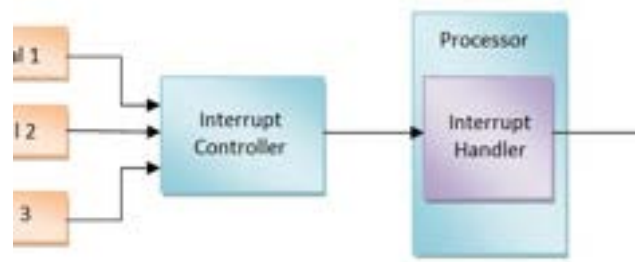
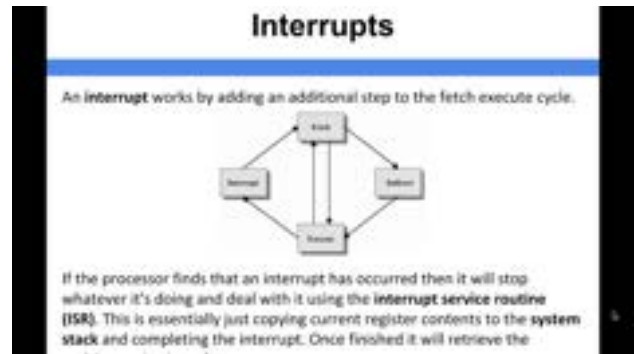


fig: Interrupt Handler

Interrupt request (PC architecture)

In a computer, an interrupt request (or IRQ) is a hardware signal sent to the processor that temporarily stops a running program and allows a special program, an interrupt handler, to run instead. Hardware interrupts are used to handle events such as receiving data from a modem or network card, key presses, or mouse movements.



Interrupt vector table

An interrupt vector table (IVT) is a data structure that associates a list of interrupt handlers with a list of interrupt requests in a table of interrupt vectors. Each entry of the interrupt vector table, called an interrupt vector, is the address of an interrupt handler. While the concept is common across processor architectures, IVTs may be implemented in architecture-specific fashions. For example, a dispatch table is one method of implementing an interrupt vector table.

Exception number	IRQ number	Offset	Vector
16+n	n	0x0040+4n	IRQn
18	2	0x004C	IRQ2
17	1	0x0048	IRQ1
16	0	0x0044	IRQ0
15	-1	0x0040	Systick
14	-2	0x003C	PendSV
13		0x0038	Reserved
12			Reserved for Debug
11	-5	0x002C	SVCall
10			Reserved
9			
8			
7			Usage fault
6	-10	0x0018	
5	-11	0x0014	
4	-12	0x0010	Memory management fault
3	-13	0x000C	Hard fault
2	-14	0x0008	NMI
1		0x0004	Reset
		0x0000	Initial SP value

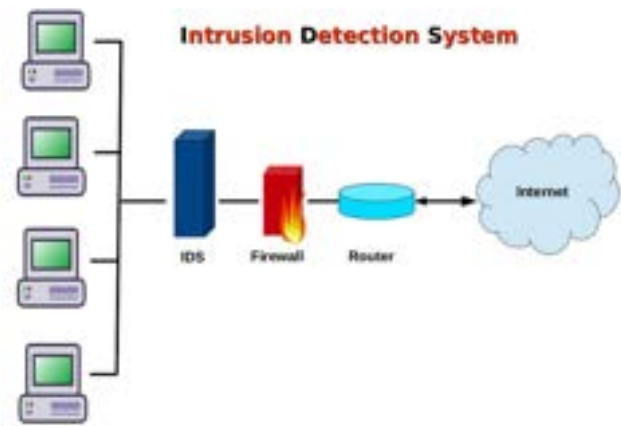
Interruptible operating system

An interruptible operating system is an operating system with ability to handle multiple interrupts concurrently, or in other words, which allow interrupts to be interrupted.



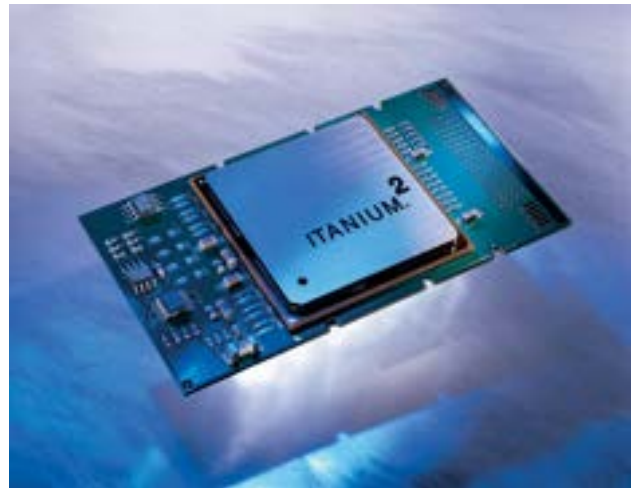
Intrusion detection system

An intrusion detection system (IDS; also intrusion prevention system or IPS) is a device or software application that monitors a network or systems for malicious activity or policy violations. Any intrusion activity or violation is typically reported either to an administrator or collected centrally using a security information and event management (SIEM) system. A SIEM system combines outputs from multiple sources and uses alarm filtering techniques to distinguish malicious activity from false alarms. IDS types range in scope from single computers to large networks. The most common classifications are network intrusion detection systems (NIDS) and host-based intrusion detection systems (HIDS). A system that monitors important operating system files is an example of an HIDS, while a system that analyzes incoming network traffic is an example of an NIDS. It is also possible to classify IDS by detection approach. The most well-known variants are signature-based detection (recognizing bad patterns, such as malware) and anomaly-based detection (detecting deviations from a model of "good" traffic, which often relies on machine learning). Another common variant is reputation-based detection (recognizing the potential threat according to the reputation scores). Some IDS products have the ability to respond to detected intrusions. Systems with response capabilities are typically referred to as an intrusion prevention system. Intrusion detection systems can also serve specific purposes by augmenting them with custom tools, such as using a honeypot to attract and characterize malicious traffic.



Itanium

Itanium (eye-TAY-nee-?m) is a discontinued family of 64-bit Intel microprocessors that implement the Intel Itanium architecture (formerly called IA-64). Launched in June 2001, Intel marketed the processors for enterprise servers and high-performance computing systems. The Itanium architecture originated at Hewlett-Packard (HP), and was later jointly developed by HP and Intel.



James Grier Miller

James Grier Miller (1916 ? 7 November 2002, California) was an American biologist, a pioneer of systems science and academic administrator, who originated the modern use of the term "behavioral science", founded and directed the multi-disciplinary Mental Health Research Institute at the University of Michigan, and originated the living systems theory.



James J. Kay

James J. Kay (June 18, 1954 ? May 30, 2004) was an ecological scientist and policy-maker. He was a respected physicist best known for his theoretical work on complexity and thermodynamics.



Java (software platform)

Java is a set of computer software and specifications developed by James Gosling at Sun Microsystems, which was later acquired by the Oracle Corporation, that provides a system for developing application software and deploying it in a cross-platform computing environment. Java is used in a wide variety of computing platforms from embedded devices and mobile phones to enterprise servers and supercomputers. Java applets, which are less common than standalone Java applications, were commonly run in secure, sandboxed environments to provide many features of native applications through being embedded in HTML pages.



Jay Wright Forrester

Jay Wright Forrester (July 14, 1918 ? November 16, 2016) was a pioneering American computer engineer and systems scientist. He is credited with being one of the inventors of magnetic core memory, the predominant form of random-access computer memory during the most explosive years of digital computer development (between 1955 and 1975). It was part of a family of related technologies which bridged the gap between vacuum tubes and semiconductors by exploiting the magnetic properties of materials to perform switching and amplification.



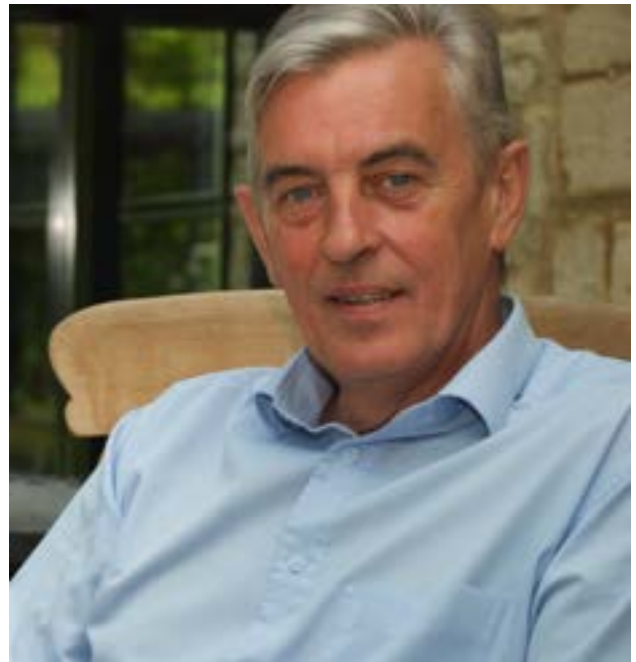
Jennifer Wilby

Jennifer M. Wilby (born 1953) is an American and UK management scientist, and past director of the Centre for Systems Studies, and a senior lecturer and researcher in management systems and sciences in The Business School, University of Hull. She served as president of the International Society for the Systems Sciences for the term 2010-2011.



John Seddon

John Seddon is a British occupational psychologist and author, specialising in change in the service industry. He is the managing director of Vanguard, a consultancy company he formed in 1985 and the inventor of 'The Vanguard Method'. Vanguard currently operates in eleven countries. Seddon is a visiting professor at Buckingham University Business School.



John Wiley & Sons

John Wiley & Sons, Inc., commonly known as Wiley (), is an American multinational publishing company founded in 1807 that focuses on academic publishing and instructional materials. The company produces books, journals, and encyclopedias, in print and electronically, as well as online products and services, training materials, and educational materials for undergraduate, graduate, and continuing education students.



Journaling file system

A journaling file system is a file system that keeps track of changes not yet committed to the file system's main part by recording the goal of such changes in a data structure known as a "journal", which is usually a circular log. In the event of a system crash or power failure, such file systems can be brought back online more quickly with a lower likelihood of becoming corrupted. Depending on the actual implementation, a journaling file system may only keep track of stored metadata, resulting in improved performance at the expense of increased possibility for data corruption. Alternatively, a journaling file system may track both stored data and related metadata, while some implementations allow selectable behavior in this regard.



Just enough operating system

Just enough operating system (JeOS, pronounced "juice" according to SUSE) is a paradigm for customizing operating systems to fit the needs of a particular application such as for a software appliance. The platform only includes the operating system components required to support a particular application and any other third-party components contained in the appliance (e.g., the kernel). This makes the appliance smaller, faster (to boot and to execute the particular application) and potentially more secure than an application running under a full general-purpose OS.

★ JeOS (Just Enough Operating System) 



- Just enough OS that's ready-to-run
 - Minimal components for a small size
 - Designed specifically for virtualization and cloud environments
 - Saves deployment and configuration
- Save time with no need to re-certify
 - JeOS is based on the same code base as SUSE Linux Enterprise Server
 - Enterprise grade for mission-critical applications
- SUSE Linux Enterprise Server JeOS is also delivered as KVM template for easy large scale configuration management

★ New

Jörg Gutknecht

Jörg Gutknecht (born 3 January 1949 in Bolach) is a Swiss computer scientist. He developed, with Niklaus Wirth, the programming language Oberon and the corresponding operating system Oberon.



KDE

KDE is an international free software community that develops free and open-source software. As a central development hub, it provides tools and resources that allow collaborative work on this kind of software. Well-known products include the Plasma Desktop (the default desktop environment on many Linux distributions), KDE Frameworks, and a range of cross-platform applications such as Amarok, digiKam, and Krita that are designed to run on Unix and Unix-like operating systems, Microsoft Windows, and Android.



KDE Plasma 5

KDE Plasma 5 is the fifth and current generation of the graphical workspaces environment created by KDE primarily for Linux systems. KDE Plasma 5 is the successor of KDE Plasma 4 and was first released on 15 July 2014. It includes a new default theme, known as "Breeze", as well as increased convergence across different devices. The graphical interface was fully migrated to QML, which uses OpenGL for hardware acceleration, which resulted in better performance and reduced power consumption. Plasma Mobile is a Plasma 5 variant for Linux-based smartphones.



Kathleen Carley

Kathleen M. Carley is an American computational social scientist specializing in dynamic network analysis. She is a professor in the School of Computer Science in the Carnegie Mellon Institute for Software Research at Carnegie Mellon University and also holds appointments in the Tepper School of Business, the Heinz College, the Department of Engineering and Public Policy, and the Department of Social and Decision Sciences.



Katia Sycara

Ekaterini Panagiotou Sycara (Greek: ?????? ??????) is a Greek computer scientist. She is an Edward Fredkin Research Professor of Robotics in the Robotics Institute, School of Computer Science at Carnegie Mellon University internationally known for her research in artificial intelligence, particularly in the fields of negotiation, autonomous agents and multi-agent systems. She directs the Advanced Agent-Robotics Technology Lab at Robotics Institute, Carnegie Mellon University. She also serves as academic advisor for PhD students at both Robotics Institute and Tepper School of Business.



Keith Bostic (software engineer)

Keith Bostic is an American software engineer and one of the key people in the history of Berkeley Software Distribution (BSD) Unix and open-source software.



Ken Thompson

Kenneth Lane Thompson (born February 4, 1943) is an American pioneer of computer science. Thompson worked at Bell Labs for most of his career where he designed and implemented the original Unix operating system. He also invented the B programming language, the direct predecessor to the C programming language, and was one of the creators and early developers of the Plan 9 operating system. Since 2006, Thompson has worked at Google, where he co-developed the Go programming language.



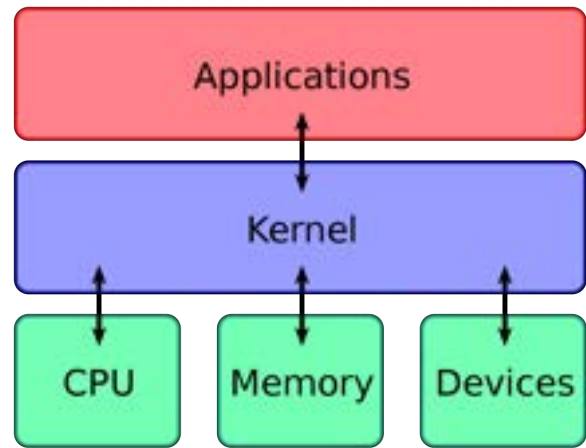
Kenneth E. Boulding

Kenneth Ewart Boulding (; January 18, 1910 ? March 18, 1993) was an English-born American economist, educator, peace activist, and interdisciplinary philosopher. Boulding was the author of two citation classics: *The Image: Knowledge in Life and Society* (1956) and *Conflict and Defense: A General Theory* (1962). He was co-founder of general systems theory and founder of numerous ongoing intellectual projects in economics and social science. He was married to sociologist Elise M. Boulding.



Kernel (operating system)

The kernel is a computer program at the core of a computer's operating system and generally has complete control over everything in the system. It is the portion of the operating system code that is always resident in memory and facilitates interactions between hardware and software components. A full kernel controls all hardware resources (e.g. I/O, memory, cryptography) via device drivers, arbitrates conflicts between processes concerning such resources, and optimizes the utilization of common resources e.g. CPU & cache usage, file systems, and network sockets. On most systems, the kernel is one of the first programs loaded on startup (after the bootloader). It handles the rest of startup as well as memory, peripherals, and input/output (I/O) requests from software, translating them into data-processing instructions for the central processing unit.



Kevin Warwick

Kevin Warwick (born 9 February 1954) is an English engineer and Deputy Vice-Chancellor (Research) at Coventry University. He is known for his studies on direct interfaces between computer systems and the human nervous system, and has also done research concerning robotics.



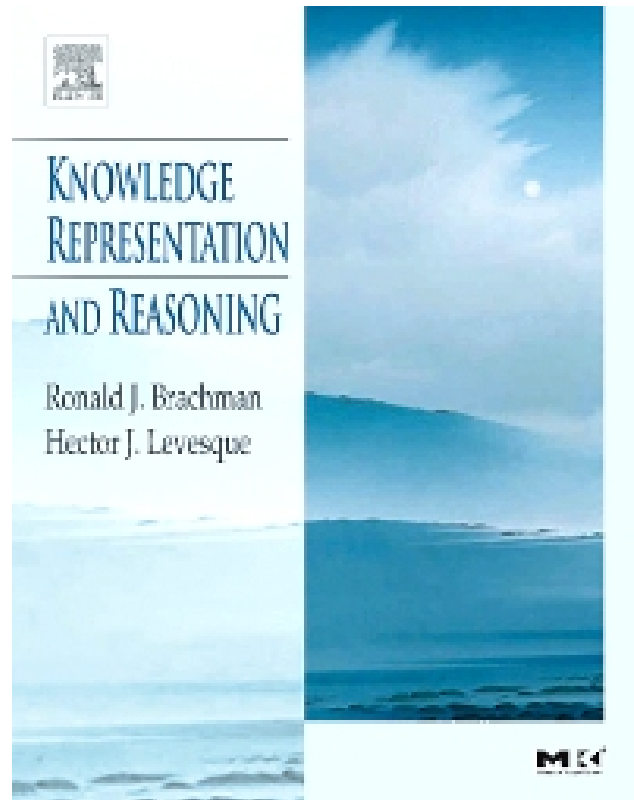
Keyboard (computing)

A computer keyboard is a peripheral input device modeled after the typewriter keyboard which uses an arrangement of buttons or keys to act as mechanical levers or electronic switches. Replacing early punched cards and paper tape technology, interaction via teleprinter-style keyboards have been the main input method for computers since the 1970s, supplemented by the computer mouse since the 1980s.



Knowledge representation and reasoning

Knowledge representation and reasoning (KRR, KR&R, KR \blacklozenge) is the field of artificial intelligence (AI) dedicated to representing information about the world in a form that a computer system can use to solve complex tasks such as diagnosing a medical condition or having a dialog in a natural language. Knowledge representation incorporates findings from psychology about how humans solve problems and represent knowledge in order to design formalisms that will make complex systems easier to design and build. Knowledge representation and reasoning also incorporates findings from logic to automate various kinds of reasoning, such as the application of rules or the relations of sets and subsets.



Library (computing)

In computer science, a library is a collection of non-volatile resources used by computer programs, often for software development. These may include configuration data, documentation, help data, message templates, pre-written code and subroutines, classes, values or type specifications. In IBM's OS/360 and its successors they are referred to as partitioned data sets. A library is also a collection of implementations of behavior, written in terms of a language, that has a well-defined interface by which the behavior is invoked. For instance, people who want to write a higher-level program can use a library to make system calls instead of implementing those system calls over and over again. In addition, the behavior is provided for reuse by multiple independent programs. A program invokes the library-provided behavior via a mechanism of the language. For example, in a simple imperative language such as C, the behavior in a library is invoked by using C's normal function-call. What distinguishes the call as being to a library function, versus being to another function in the same program, is the way that the code is organized in the system. Library code is organized in such a way that it can be used by multiple programs that have no connection to each other, while code that is part of a program is organized to be used only within that one program. This distinction can gain a hierarchical notion when a program grows large, such as a multi-million-line program. In that case, there may be internal libraries that are reused by independent sub-portions of the large program.



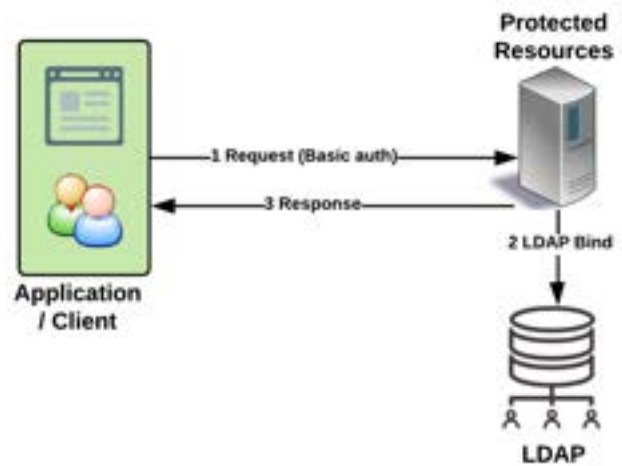
Light-weight Linux distribution

A light-weight Linux distribution is one that uses lower memory and/or has less processor-speed requirements than a more "feature-rich" Linux distribution. The lower demands on hardware ideally result in a more responsive machine, and/or allow devices with fewer system resources (e.g. older or embedded hardware) to be used productively. The lower memory and/or processor-speed requirements are achieved by avoiding software bloat, i.e. by leaving out features that are perceived to have little or no practical use or advantage, or for which there is no or low demand.



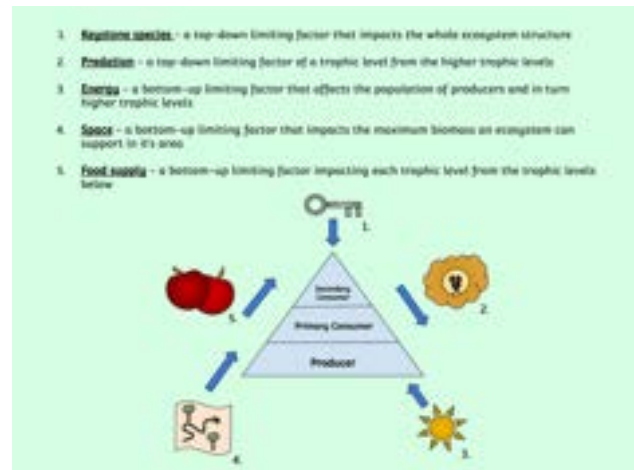
Lightweight Directory Access Protocol

The Lightweight Directory Access Protocol (LDAP) is an open, vendor-neutral, industry standard application protocol for accessing and maintaining distributed directory information services over an Internet Protocol (IP) network. Directory services play an important role in developing intranet and Internet applications by allowing the sharing of information about users, systems, networks, services, and applications throughout the network. As examples, directory services may provide any organized set of records, often with a hierarchical structure, such as a corporate email directory. Similarly, a telephone directory is a list of subscribers with an address and a phone number.



Limiting factor

A limiting factor is a variable of a system that causes a noticeable change in output or another measure of a type of system. The limiting factor is in a pyramid shape of organisms going up from the producers to consumers and so on. A factor not limiting over a certain domain of starting conditions may yet be limiting over another domain of starting conditions, including that of the factor.



Linker (computing)

In computing, a linker or link editor is a computer system program that takes one or more object files (generated by a compiler or an assembler) and combines them into a single executable file, library file, or another "object" file.



Linus Torvalds

Linus Benedict Torvalds (LEE-n?s TOR-vawldz, Finland Swedish: [?li?n?s ?tu?rv?lds] (listen); born 28 December 1969) is a Finnish software engineer who is the creator and, historically, the lead developer of the Linux kernel, used by Linux distributions and other operating systems such as Android. He also created the distributed version control system Git.



Linux

Linux ((listen) LEE-nuuks or LIN-uuks) is a family of open-source Unix-like operating systems based on the Linux kernel, an operating system kernel first released on September 17, 1991, by Linus Torvalds. Linux is typically packaged as a Linux distribution, which includes the kernel and supporting system software and libraries, many of which are provided by the GNU Project. Many Linux distributions use the word "Linux" in their name, but the Free Software Foundation uses the name "GNU/Linux" to emphasize the importance of GNU software, causing some controversy. Popular Linux distributions include Debian, Fedora Linux, and Ubuntu, the latter of which itself consists of many different distributions and modifications, including Lubuntu and Xubuntu. Commercial distributions include Red Hat Enterprise Linux and SUSE Linux Enterprise. Desktop Linux distributions include a windowing system such as X11 or Wayland, and a desktop environment such as GNOME or KDE Plasma. Distributions intended for servers may omit graphics altogether, or include a solution stack such as LAMP. Because Linux is freely redistributable, anyone may create a distribution for any purpose. Linux was originally developed for personal computers based on the Intel x86 architecture, but has since been ported to more platforms than any other operating system. Because of the dominance of the Linux-based Android on smartphones, Linux, including Android, has the largest installed base of all general-purpose operating systems, as of May 2022. Although Linux is, as of November 2022, used by only around 2.6 percent of desktop computers, the Chromebook, which runs the Linux kernel-based ChromeOS, dominates the US K-12 education market and represents nearly 20 percent of sub-\$300 notebook sales in the US.



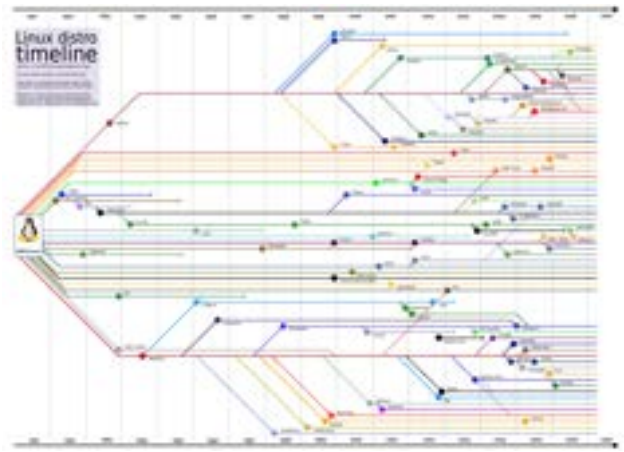
Linux Mint

Linux Mint is a community-driven Linux distribution based on Ubuntu (which is in turn based on Debian), bundled with a variety of free and open-source applications. It can provide full out-of-the-box multimedia support for those who choose to include proprietary software such as multimedia codecs. The Linux Mint project was created by Clement Lefebvre and is actively maintained by the Linux Mint Team and community.



Linux distribution

A Linux distribution (often abbreviated as distro) is an operating system made from a software collection that includes the Linux kernel, and often a package management system. Linux users usually obtain their operating system by downloading one of the Linux distributions, which are available for a wide variety of systems ranging from embedded devices (for example, OpenWrt) and personal computers (for example, Linux Mint) to powerful supercomputers (for example, Rocks Cluster Distribution).



Linux kernel

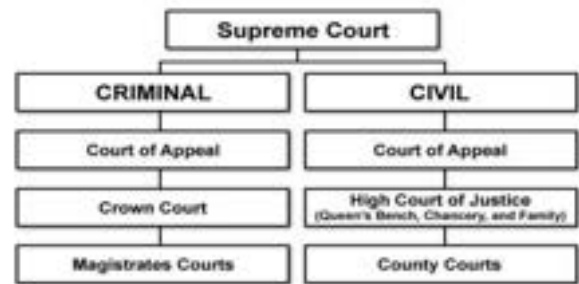
The Linux kernel is a free and open-source, monolithic, modular, multitasking, Unix-like operating system kernel. It was originally authored in 1991 by Linus Torvalds for his i386-based PC, and it was soon adopted as the kernel for the GNU operating system, which was written to be a free (libre) replacement for Unix.



List of national legal systems

The contemporary national legal systems are generally based on one of four basic systems: civil law, common law, statutory law, religious law or combinations of these. However, the legal system of each country is shaped by its unique history and so incorporates individual variations. The science that studies law at the level of legal systems is called comparative law.

ENGLISH LEGAL SYSTEMS & STRUCTURE OF COURTS



List of operating systems

This is a list of operating systems.

Computer operating systems can be categorized by technology, ownership, licensing, working state, usage, and by many other characteristics. In practice, many of these groupings may overlap. Criteria for inclusion is notability, as shown either through an existing Wikipedia article or citation to a reliable source.

Current release: Kodi v15.2 "Isengard"



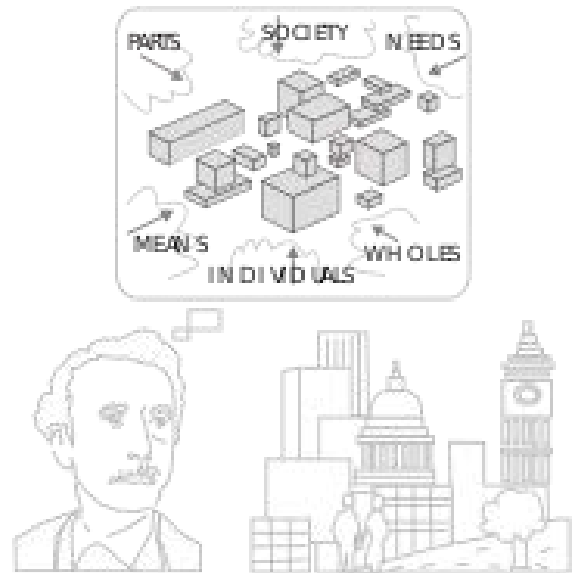
List of pioneers in computer science

This is a list of people who made transformative breakthroughs in the creation, development and imagining of what computers could do.



List of systems sciences organizations

Systems science is the interdisciplinary field of science surrounding systems theory, cybernetics, the science of complex systems. It aims to develop interdisciplinary foundations, which are applicable in a variety of areas, such as engineering, biology, medicine and social sciences. Systems science and systemics are names for all research related to systems theory. It is defined as an emerging branch of science that studies holistic systems and tries to develop logical, mathematical, engineering and philosophical paradigms and frameworks in which physical, technological, biological, social, cognitive and metaphysical systems can be studied and developed.



List of systems scientists

This is a list of systems scientists, people who made notable contributions in the field of the systems sciences:



PK Gupta



Hari B Hablani



Dinesh Varshney



KK Pandey



MS Sodha



Pradeep Mathur



Ram Bilas Pachori



SC Koria



Sindhunil Barman Roy

Live CD

A live CD (also live DVD, live disc, or live operating system) is a complete bootable computer installation including operating system which runs directly from a CD-ROM or similar storage device into a computer's memory, rather than loading from a hard disk drive. A live CD allows users to run an operating system for any purpose without installing it or making any changes to the computer's configuration. Live CDs can run on a computer without secondary storage, such as a hard disk drive, or with a corrupted hard disk drive or file system, allowing data recovery.



Live USB

A live USB is a portable USB-attached external data storage device containing a full operating system that can be booted from. The term is reminiscent of USB flash drives but may encompass an external hard disk drive or solid-state drive, though they may be referred to as "live HDD" and "live SSD" respectively. They are the evolutionary next step after live CDs, but with the added benefit of writable storage, allowing customizations to the booted operating system. Live USBs can be used in embedded systems for system administration, data recovery, or test driving, and can persistently save settings and install software packages on the USB device.



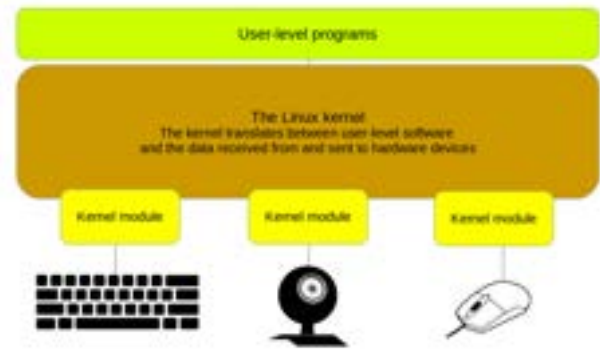
Living systems

Living systems are open self-organizing life forms that interact with their environment. These systems are maintained by flows of information, energy and matter.



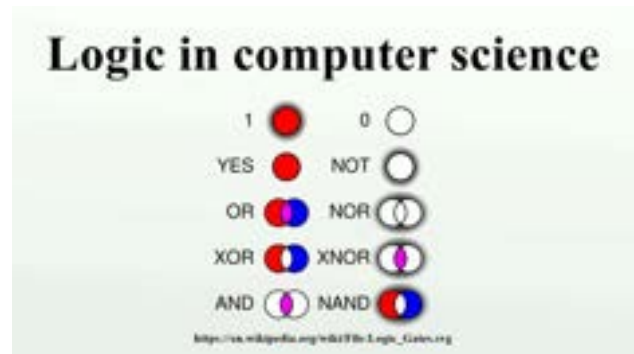
Loadable kernel module

In computing, a loadable kernel module (LKM) is an object file that contains code to extend the running kernel, or so-called base kernel, of an operating system. LKMs are typically used to add support for new hardware (as device drivers) and/or filesystems, or for adding system calls. When the functionality provided by an LKM is no longer required, it can be unloaded in order to free memory and other resources.



Logic in computer science

Logic in computer science covers the overlap between the field of logic and that of computer science. The topic can essentially be divided into three main areas:



Ludwig von Bertalanffy

Karl Ludwig von Bertalanffy (19 September 1901 ? 12 June 1972) was an Austrian biologist known as one of the founders of general systems theory (GST). This is an interdisciplinary practice that describes systems with interacting components, applicable to biology, cybernetics and other fields. Bertalanffy proposed that the classical laws of thermodynamics might be applied to closed systems, but not necessarily to "open systems" such as living things. His mathematical model of an organism's growth over time, published in 1934, is still in use today.



Lydia Kavradi

Lydia E. Kavradi (Greek: ?????? ????????) is a Greek-American computer scientist, the Noah Harding Professor of Computer Science, a professor of bioengineering, electrical and computer engineering, and mechanical engineering at Rice University. She is also the director of the Ken Kennedy Institute at Rice University. She is known for her work on robotics/AI and bioinformatics/computational biology and in particular for the probabilistic roadmap method for robot motion planning and biomolecular configuration analysis.



MCP (Burroughs Large Systems)

The MCP (Master Control Program) is the operating system of the Burroughs small, medium and large systems, including the Unisys Clearpath/MCP systems.



MCP/ClearPath

The MCP (Master Control Program) is the operating system of the Burroughs small, medium and large systems, including the Unisys Clearpath/MCP systems.



MINIX

MINIX (from mini-Unix) is a Unix-like operating system based on a microkernel architecture. Since version 2.0, it has been Portable Operating System Interface (POSIX) compliant. Early versions of MINIX were created by Andrew S. Tanenbaum for educational purposes. Starting with MINIX 3, the primary aim of development shifted from education to the creation of a highly reliable and self-healing microkernel OS. MINIX 3 was developed as open-source software.



MIT

The Massachusetts Institute of Technology (MIT) is a private land-grant research university in Cambridge, Massachusetts. Established in 1861, MIT has played a key role in the development of modern technology and science, and is one of the most prestigious and highly ranked academic institutions in the world. Founded in response to the increasing industrialization of the United States, MIT adopted a European polytechnic university model and stressed laboratory instruction in applied science and engineering. MIT is one of three private land grant universities in the United States, the others being Cornell University and Tuskegee University. The institute has an urban campus that extends more than a mile (1.6 km) alongside the Charles River, and encompasses a number of major off-campus facilities such as the MIT Lincoln Laboratory, the Bates Center, and the Haystack Observatory, as well as affiliated laboratories such as the Broad and Whitehead Institutes.



MKS Inc.

MKS, Inc (formerly called Mortice Kern Systems) is a subsidiary of PTC, Inc. It was previously a multinational independent software vendor that was acquired by Parametric Technology Corporation (now PTC) on May 31, 2011. MKS operated in the Application Lifecycle Management (ALM) and Systems Administration market segments. Integrity, a PTC Product manages systems and software development processes and connects engineering artifacts, including requirements, models, code and test, ensuring comprehensive lifecycle traceability.

MOS Technology 6502

The MOS Technology 6502 (typically pronounced "sixty-five-oh-two" or "six-five-oh-two") is an 8-bit microprocessor that was designed by a small team led by Chuck Peddle for MOS Technology. The design team had formerly worked at Motorola on the Motorola 6800 project; the 6502 is essentially a simplified, less expensive and faster version of that design.



MS-DOS

MS-DOS (em-es-DOSS; acronym for Microsoft Disk Operating System, also known as Microsoft DOS) is an operating system for x86-based personal computers mostly developed by Microsoft. Collectively, MS-DOS, its rebranding as IBM PC DOS, and a few operating systems attempting to be compatible with MS-DOS, are sometimes referred to as "DOS" (which is also the generic acronym for disk operating system). MS-DOS was the main operating system for IBM PC compatibles during the 1980s, from which point it was gradually superseded by operating systems offering a graphical user interface (GUI), in various generations of the graphical Microsoft Windows operating system.

```
Current date is Tue 1-01-1980
Enter new date:
Current time is 21:35:24.18
Enter new time:

The IBM Personal Computer DOS
Version 2.00 (C)Copyright IBM Corp 1981, 1982, 1983

A>dir

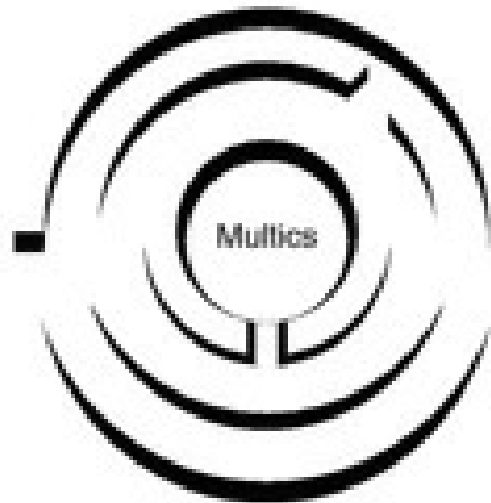
Volume in drive A has no label
Directory of A:\

COMMAND  COM      17664   3-08-83  12:00p
FORMAT   COM       6016   3-08-83  12:00p
CHKDSK   COM       6400   3-08-83  12:00p
SYS       COM       1400   3-08-83  12:00p
DEBUG    COM      11904   3-08-83  12:00p
SLOOF     32         1-01-80   7:44p
        6 File(s)  292064 bytes free

A>_
```


MULTICS

Multics ("Multiplexed Information and Computing Service") is an influential early time-sharing operating system based on the concept of a single-level memory. Nathan Gregory writes that Multics "has influenced all modern operating systems since, from microcomputers to mainframes." Initial planning and development for Multics started in 1964, in Cambridge, Massachusetts. Originally it was a cooperative project led by MIT (Project MAC with Fernando Corbat) along with General Electric and Bell Labs. It was developed on the GE 645 computer, which was specially designed for it; the first one was delivered to MIT in January 1967. GE offered their earlier 635 systems with an early timesharing system known as "Mark I" and intended to offer the 645 with Multics as a larger successor. Bell withdrew from the project in 1969 as it became clear it would not deliver a working system in the short term. Shortly thereafter, GE decided to exit the computer industry entirely and sold the division to Honeywell in 1970. Honeywell offered Multics commercially, but with limited success.



MUSIC/SP

MUSIC/SP (Multi-User System for Interactive Computing/System Product; originally "McGill University System for Interactive Computing") was developed at McGill University in the 1970s from an early IBM time-sharing system called RAX (Remote Access Computing System). The system ran on IBM S/360, S/370, and 4300-series mainframe hardware, and offered then-novel features such as file access control and data compression. It was designed to allow academics and students to create and run their programs interactively on terminals, in an era when most mainframe computing was still being done from punched cards. Over the years, development continued and the system evolved to embrace email, the Internet and eventually the World Wide Web. At its peak in the late 1980s, there were over 250 universities, colleges and high school districts that used the system in North and South America, Europe and Asia.



MVS

Multiple Virtual Storage, more commonly called MVS, is the most commonly used operating system on the System/370, System/390 and IBM Z IBM mainframe computers. IBM developed MVS, along with OS/VS1 and SVS, as a successor to OS/360. It is unrelated to IBM's other mainframe operating system lines, e.g., VSE, VM, TPF.



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Mac OS X Lion

OS X Lion, also known as Mac OS X Lion, (version 10.7) is the eighth major release of macOS, Apple's desktop and server operating system for Mac computers.



Mac OS X Server 1.0

Mac OS X Server 1.0 is an operating system developed by Apple Computer, Inc. Released on March 16, 1999, it was the first version of Mac OS X Server.



Mac OS X v10.0

Mac OS X 10.0 (code named Cheetah) is the first major release of Mac OS X, Apple's desktop and server operating system. It was released on March 24, 2001, for a price of \$129 after a public beta.



MacOS

macOS (; previously OS X and originally Mac OS X) is a Unix operating system developed and marketed by Apple Inc. since 2001. It is the primary operating system for Apple's Mac computers. Within the market of desktop and laptop computers it is the second most widely used desktop OS, after Microsoft Windows and ahead of ChromeOS.



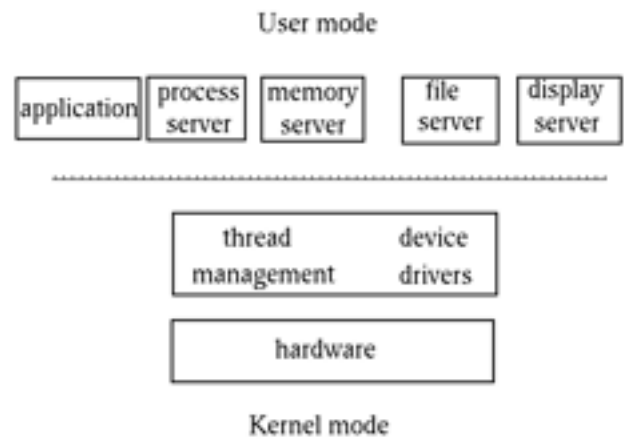
MacOS Server

Mac OS X Server (later called OS X Server and macOS Server), is a discontinued series of Unix-like server operating systems developed by Apple Inc. based on macOS. It provided server functionality and system administration tools, and provided tools to manage both macOS-based computers and iOS-based devices.



Mach (kernel)

Mach () is a kernel developed at Carnegie Mellon University by Richard Rashid and Avie Tevanian to support operating system research, primarily distributed and parallel computing. Mach is often considered one of the earliest examples of a microkernel. However, not all versions of Mach are microkernels. Mach's derivatives are the basis of the operating system kernel in GNU Hurd and of Apple's XNU kernel used in macOS, iOS, iPadOS, tvOS, and watchOS.



Machine code

In computer programming, machine code is any low-level programming language, consisting of machine language instructions, which are used to control a computer's central processing unit (CPU). Each instruction causes the CPU to perform a very specific task, such as a load, a store, a jump, or an arithmetic logic unit (ALU) operation on one or more units of data in the CPU's registers or memory.



Machine learning

Machine learning (ML) is a field of inquiry devoted to understanding and building methods that "learn" ? that is, methods that leverage data to improve performance on some set of tasks. It is seen as a part of artificial intelligence.



Macintosh

The Mac (known as Macintosh until 1999) is a family of personal computers designed and marketed by Apple Inc. Macs are particularly known for their ease of use and minimalist designs, and are popular among students, creative professionals, and software engineers. The product lineup includes the MacBook Air and MacBook Pro laptops, as well as the iMac, Mac Mini, Mac Studio and Mac Pro desktops. Macs run the macOS operating system.



Magnetic tape

Magnetic tape is a medium for magnetic storage made of a thin, magnetizable coating on a long, narrow strip of plastic film. It was developed in Germany in 1928, based on the earlier magnetic wire recording from Denmark. Devices that use magnetic tape could with relative ease record and playback audio, visual, and binary computer data.



Mainframe computer

A mainframe computer, informally called a mainframe or big iron, is a computer used primarily by large organizations for critical applications like bulk data processing for tasks such as censuses, industry and consumer statistics, enterprise resource planning, and large-scale transaction processing. A mainframe computer is large but not as large as a supercomputer and has more processing power than some other classes of computers, such as minicomputers, servers, workstations, and personal computers. Most large-scale computer-system architectures were established in the 1960s, but they continue to evolve. Mainframe computers are often used as servers.



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Manchester Mark 1

The Manchester Mark 1 was one of the earliest stored-program computers, developed at the Victoria University of Manchester, England from the Manchester Baby (operational in June 1948). Work began in August 1948, and the first version was operational by April 1949; a program written to search for Mersenne primes ran error-free for nine hours on the night of 16/17 June 1949.



Manfred Clynes

Manfred Edward Clynes (August 14, 1925 ? January 19, 2020) was an Austrian-born scientist, inventor, and musician. He is best known for his innovations and discoveries in the interpretation of music, and for his contributions to the study of biological systems and neurophysiology.



Manuela M. Veloso

Manuela Maria Veloso (born August 12, 1957) is the Head of J.P. Morgan AI Research & Herbert A. Simon University Professor in the School of Computer Science at Carnegie Mellon University, where she was previously Head of the Machine Learning Department.



Margaret Boden

Margaret Ann Boden (born 26 November 1936) is a Research Professor of Cognitive Science in the Department of Informatics at the University of Sussex, where her work embraces the fields of artificial intelligence, psychology, philosophy, and cognitive and computer science.



Margaret Mead

Margaret Mead (December 16, 1901 – November 15, 1978) was an American cultural anthropologist who featured frequently as an author and speaker in the mass media during the 1960s and the 1970s. She earned her bachelor's degree at Barnard College of Columbia University and her M.A. and Ph.D. degrees from Columbia. Mead served as president of the American Association for the Advancement of Science in 1975. Mead was a communicator of anthropology in modern American and Western culture and was often controversial as an academic. Her reports detailing the attitudes towards sex in South Pacific and Southeast Asian traditional cultures influenced the 1960s sexual revolution. She was a proponent of broadening sexual conventions within the context of Western cultural traditions.



Mary Cartwright

Dame Mary Lucy Cartwright, (17 December 1900 ? 3 April 1998) was a British mathematician. She was one of the pioneers of what would later become known as chaos theory. Along with J. E. Littlewood, Cartwright saw many solutions to a problem which would later be seen as an example of the butterfly effect.



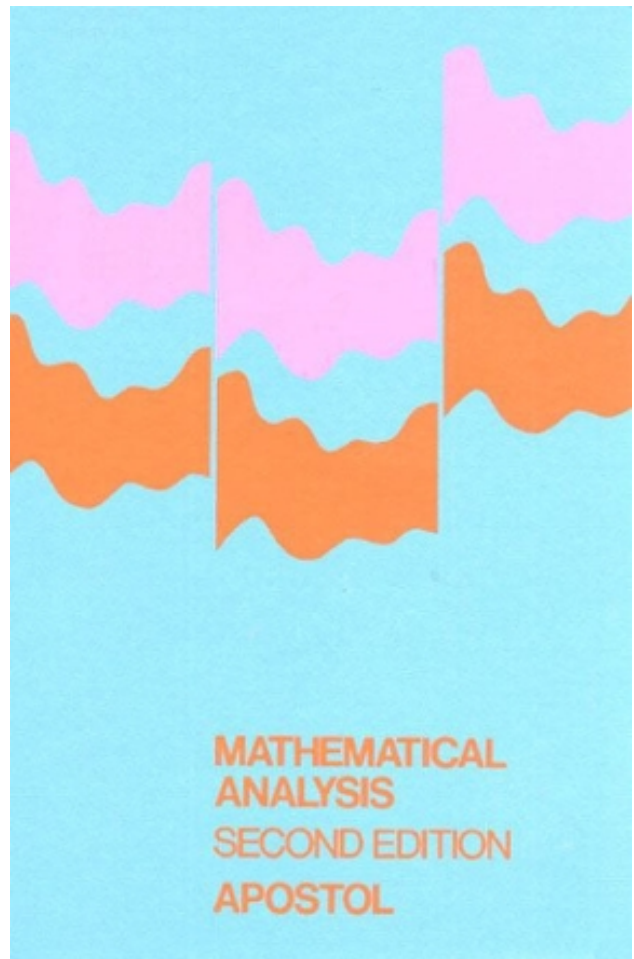
Mass storage

In computing, mass storage refers to the storage of large amounts of data in a persisting and machine-readable fashion. In general, the term is used as large in relation to contemporaneous hard disk drives, but it has been used large in relation to primary memory as for example with floppy disks on personal computers.



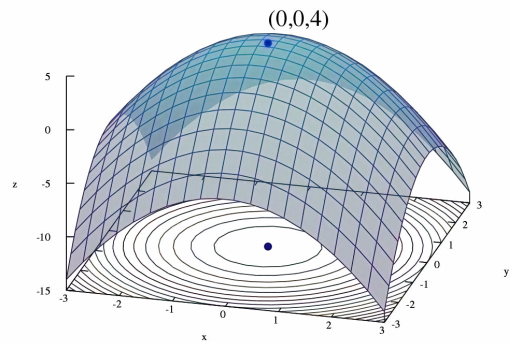
Mathematical analysis

Analysis is the branch of mathematics dealing with continuous functions, limits, and related theories, such as differentiation, integration, measure, infinite sequences, series, and analytic functions. These theories are usually studied in the context of real and complex numbers and functions. Analysis evolved from calculus, which involves the elementary concepts and techniques of analysis.



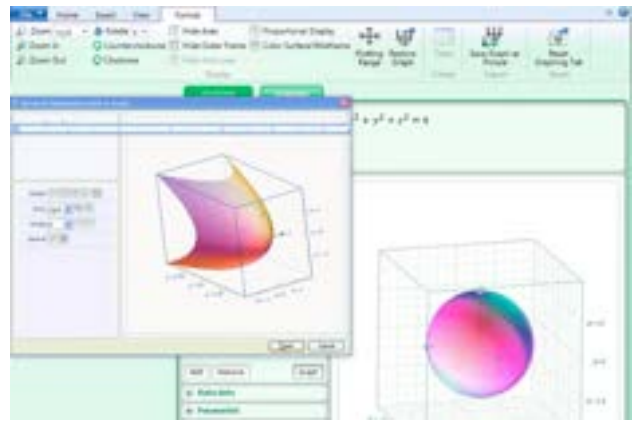
Mathematical optimization

Mathematical optimization (alternatively spelled optimisation) or mathematical programming is the selection of a best element, with regard to some criterion, from some set of available alternatives. It is generally divided into two subfields: discrete optimization and continuous optimization. Optimization problems of sorts arise in all quantitative disciplines from computer science and engineering to operations research and economics, and the development of solution methods has been of interest in mathematics for centuries. In the more general approach, an optimization problem consists of maximizing or minimizing a real function by systematically choosing input values from within an allowed set and computing the value of the function. The generalization of optimization theory and techniques to other formulations constitutes a large area of applied mathematics. More generally, optimization includes finding "best available" values of some objective function given a defined domain (or input), including a variety of different types of objective functions and different types of domains.



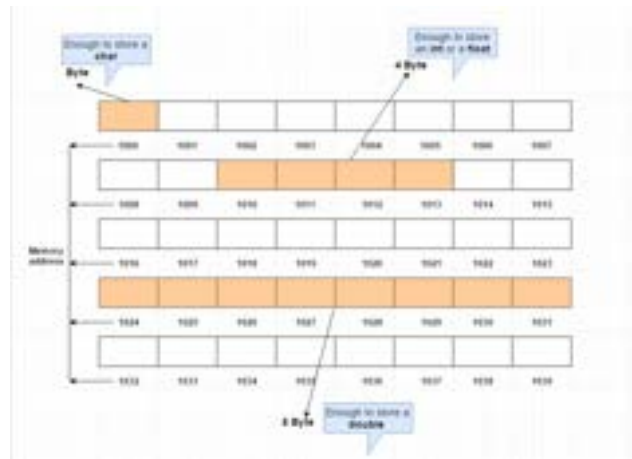
Mathematical software

Mathematical software is software used to model, analyze or calculate numeric, symbolic or geometric data.



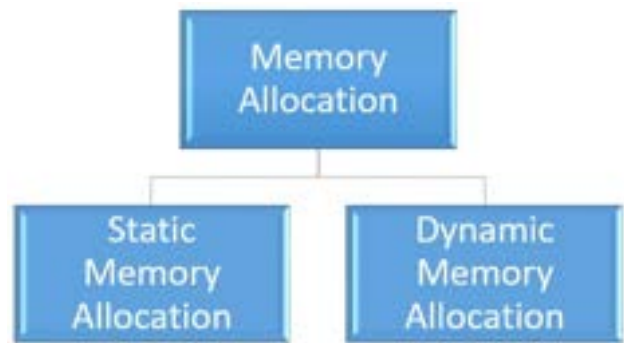
Memory address

In computing, a memory address is a reference to a specific memory location used at various levels by software and hardware. Memory addresses are fixed-length sequences of digits conventionally displayed and manipulated as unsigned integers. Such numerical semantic bases itself upon features of CPU (such as the instruction pointer and incremental address registers), as well upon use of the memory like an array endorsed by various programming languages.



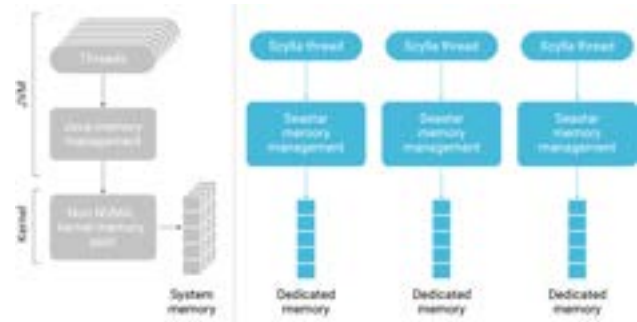
Memory allocation

Memory management is a form of resource management applied to computer memory. The essential requirement of memory management is to provide ways to dynamically allocate portions of memory to programs at their request, and free it for reuse when no longer needed. This is critical to any advanced computer system where more than a single process might be underway at any time. Several methods have been devised that increase the effectiveness of memory management. Virtual memory systems separate the memory addresses used by a process from actual physical addresses, allowing separation of processes and increasing the size of the virtual address space beyond the available amount of RAM using paging or swapping to secondary storage. The quality of the virtual memory manager can have an extensive effect on overall system performance.



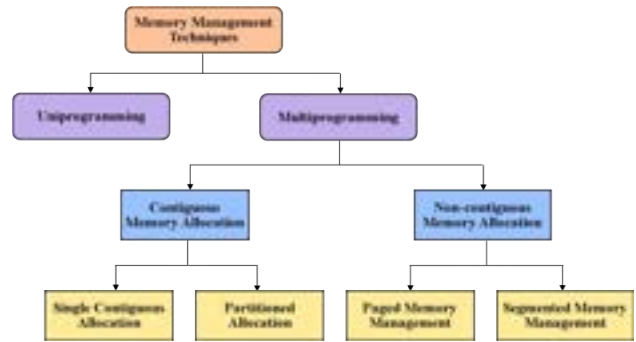
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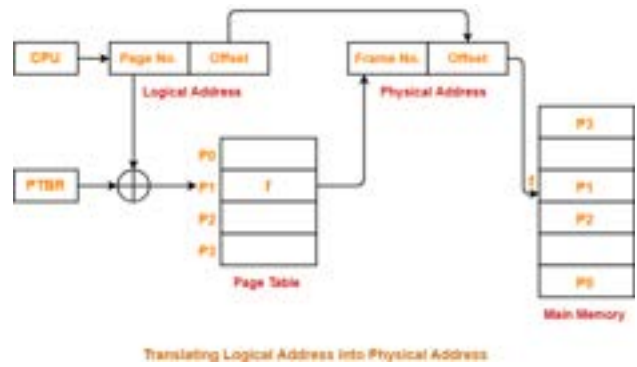
Memory management (operating systems)

In operating systems, memory management is the function responsible for managing the computer's primary memory. The memory management function keeps track of the status of each memory location, either allocated or free. It determines how memory is allocated among competing processes, deciding which gets memory, when they receive it, and how much they are allowed. When memory is allocated it determines which memory locations will be assigned. It tracks when memory is freed or unallocated and updates the status.



Memory paging

In computer operating systems, memory paging (or swapping on some Unix-like systems) is a memory management scheme by which a computer stores and retrieves data from secondary storage for use in main memory. In this scheme, the operating system retrieves data from secondary storage in same-size blocks called pages. Paging is an important part of virtual memory implementations in modern operating systems, using secondary storage to let programs exceed the size of available physical memory.



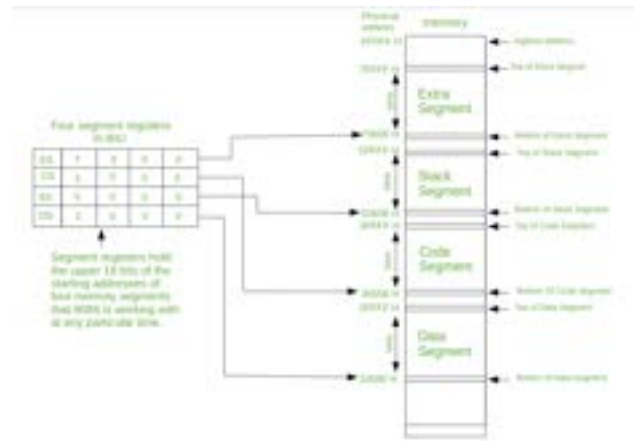
Memory protection

Memory protection is a way to control memory access rights on a computer, and is a part of most modern instruction set architectures and operating systems. The main purpose of memory protection is to prevent a process from accessing memory that has not been allocated to it. This prevents a bug or malware within a process from affecting other processes, or the operating system itself. Protection may encompass all accesses to a specified area of memory, write accesses, or attempts to execute the contents of the area. An attempt to access unauthorized memory results in a hardware fault, e.g., a segmentation fault, storage violation exception, generally causing abnormal termination of the offending process. Memory protection for computer security includes additional techniques such as address space layout randomization and executable space protection.



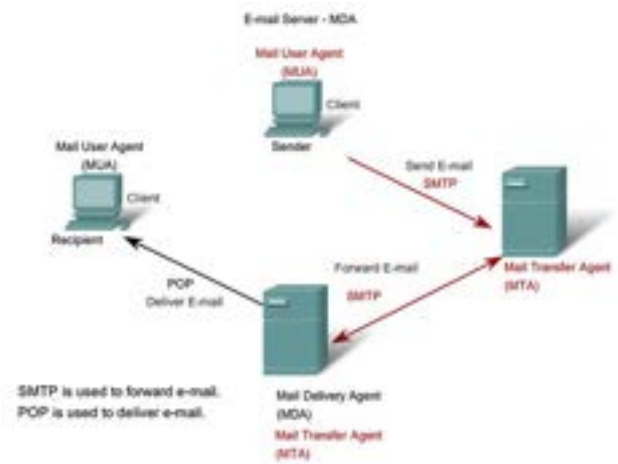
Memory segmentation

Memory segmentation is an operating system memory management technique of division of a computer's primary memory into segments or sections. In a computer system using segmentation, a reference to a memory location includes a value that identifies a segment and an offset (memory location) within that segment. Segments or sections are also used in object files of compiled programs when they are linked together into a program image and when the image is loaded into memory.



Message transfer agent

Within the Internet email system, a message transfer agent (MTA), or mail transfer agent, or mail relay is software that transfers electronic mail messages from one computer to another using SMTP. The terms mail server, mail exchanger, and MX host are also used in some contexts.



Metric system


The metric system is a system of measurement that succeeded the decimalised system based on the metre that had been introduced in France in the 1790s. The historical development of these systems culminated in the definition of the International System of Units (SI) in the mid-20th century, under the oversight of an international standards body. Adopting the metric system is known as metrication.

Metric Units						
Kilo	Hecto	Deka/Deca	Unit	Deci	Centi	Milli
Kilometer	Hectometer	Dekameter	Meter	Decimeter	Centimeter	Millimeter
Kilogram	Hectogram	Dekagram	Gram	Decigram	Centigram	Milligram
Kiloliter	Hectoliter	Dekaliter	Liter	Deciliter	Centiliter	Milliliter



x 10

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x 10

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x 10

÷ 10



x 10

÷ 10



x 10

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x 10

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Michigan Terminal System

The Michigan Terminal System (MTS) is one of the first time-sharing computer operating systems. Developed in 1967 at the University of Michigan for use on IBM S/360-67, S/370 and compatible mainframe computers, it was developed and used by a consortium of eight universities in the United States, Canada, and the United Kingdom over a period of 33 years (1967 to 1999).

