

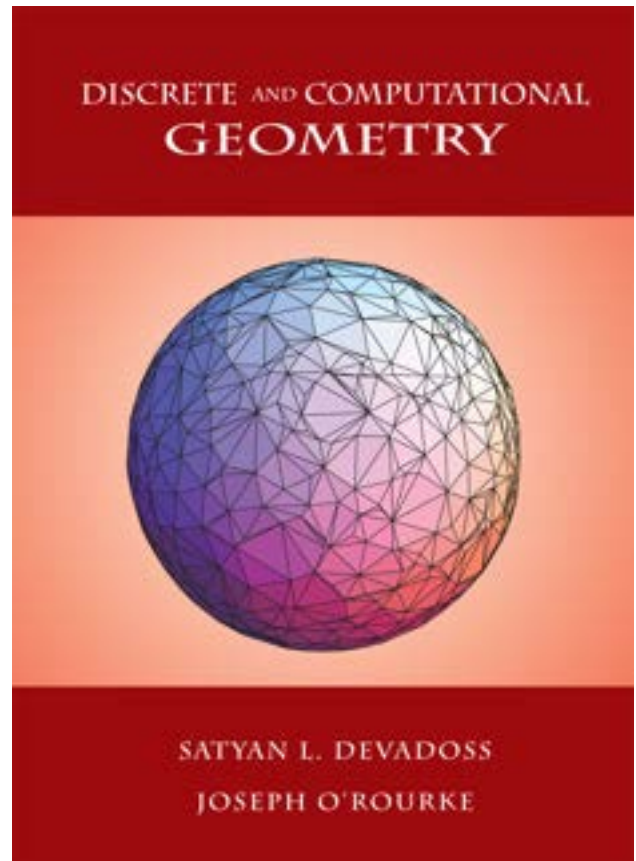
Computational engineering

Computational Engineering is a relatively new discipline that deals with the development and application of computational models for engineering. As an emerging field, there is still some ambiguity as to what constitutes Computational Engineering. Some see it as a mostly simulation-driven approach to engineering challenges. Others see it as a way to use computer algorithms to mimic the way engineers work, sometimes coupled with some aspect of AI.



Computational geometry

Computational geometry is a branch of computer science devoted to the study of algorithms which can be stated in terms of geometry. Some purely geometrical problems arise out of the study of computational geometric algorithms, and such problems are also considered to be part of computational geometry. While modern computational geometry is a recent development, it is one of the oldest fields of computing with a history stretching back to antiquity.



Computational mathematics

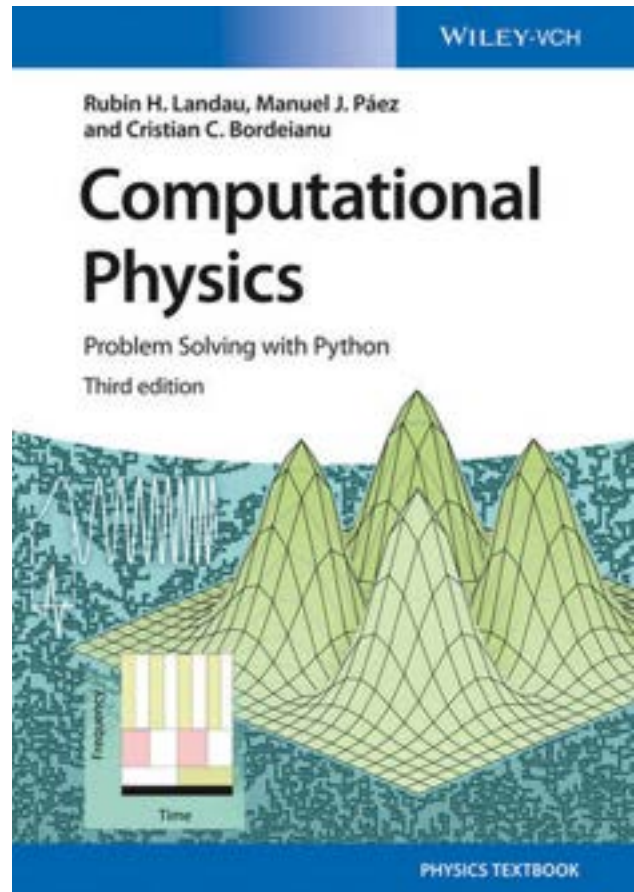
Computational mathematics is an area of mathematics devoted to the interaction between mathematics and computer computation. A large part of computational mathematics consists roughly of using mathematics for allowing and improving computer computation in areas of science and engineering where mathematics are useful. This involves in particular algorithm design, computational complexity, numerical methods and computer algebra.



Computational physics

Computational physics is the study and implementation of numerical analysis to solve problems in physics for which a quantitative theory already exists.

Historically, computational physics was the first application of modern computers in science, and is now a subset of computational science. It is sometimes regarded as a subdiscipline (or offshoot) of theoretical physics, but others consider it an intermediate branch between theoretical and experimental physics - an area of study which supplements both theory and experiment.



Computational social science

Computational social science is the academic sub-discipline concerned with computational approaches to the social sciences. This means that computers are used to model, simulate, and analyze social phenomena. Fields include computational economics, computational sociology, cliodynamics, culturomics, and the automated analysis of contents, in social and traditional media. It focuses on investigating social and behavioral relationships and interactions through social simulation, modeling, network analysis, and media analysis.



Computer accessibility

Computer accessibility (also known as accessible computing) refers to the accessibility of a computer system to all people, regardless of disability type or severity of impairment. The term accessibility is most often used in reference to specialized hardware or software, or a combination of both, designed to enable the use of a computer by a person with a disability or impairment. Computer accessibility often has direct positive effects on people with disabilities.



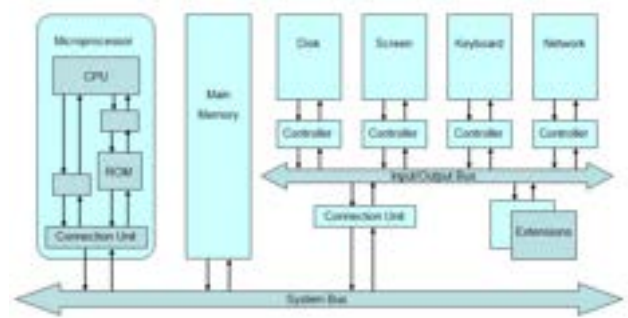
Computer animation

Computer animation is the process used for digitally generating animations. The more general term computer-generated imagery (CGI) encompasses both static scenes (still images) and dynamic images (moving images), while computer animation only refers to moving images. Modern computer animation usually uses 3D computer graphics to generate a three-dimensional picture. The target of the animation is sometimes the computer itself, while other times it is film.



Computer architecture

In computer engineering, computer architecture is a description of the structure of a computer system made from component parts. It can sometimes be a high-level description that ignores details of the implementation. At a more detailed level, the description may include the instruction set architecture design, microarchitecture design, logic design, and implementation.



Computer data storage

Computer data storage is a technology consisting of computer components and recording media that are used to retain digital data. It is a core function and fundamental component of computers. The central processing unit (CPU) of a computer is what manipulates data by performing computations. In practice, almost all computers use a storage hierarchy, which puts fast but expensive and small storage options close to the CPU and slower but less expensive and larger options further away. Generally, the fast technologies are referred to as "memory", while slower persistent technologies are referred to as "storage".



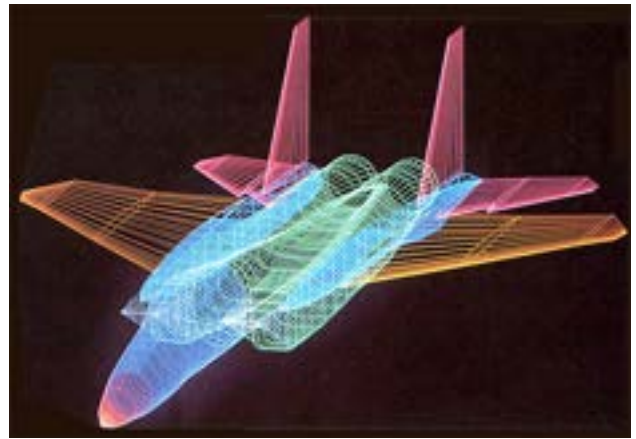
Computer file

A computer file is a computer resource for recording data in a computer storage device, primarily identified by its file name. Just as words can be written to paper, so can data be written to a computer file. Files can be shared with and transferred between computers and mobile devices via removable media, networks, or the Internet.



Computer graphics

Computer graphics deals with generating images and art with the aid of computers. Today, computer graphics is a core technology in digital photography, film, video games, digital art, cell phone and computer displays, and many specialized applications. A great deal of specialized hardware and software has been developed, with the displays of most devices being driven by computer graphics hardware. It is a vast and recently developed area of computer science. The phrase was coined in 1960 by computer graphics researchers Verne Hudson and William Fetter of Boeing. It is often abbreviated as CG, or typically in the context of film as computer generated imagery (CGI). The non-artistic aspects of computer graphics are the subject of computer science research. Some topics in computer graphics include user interface design, sprite graphics, rendering, ray tracing, geometry processing, computer animation, vector graphics, 3D modeling, shaders, GPU design, implicit surfaces, visualization, scientific computing, image processing, computational photography, scientific visualization, computational geometry and computer vision, among others. The overall methodology depends heavily on the underlying sciences of geometry, optics, physics, and perception.



Computer hardware

Computer hardware includes the physical parts of a computer, such as the case, central processing unit (CPU), random access memory (RAM), monitor, mouse, keyboard, computer data storage, graphics card, sound card, speakers and motherboard. By contrast, software is the set of instructions that can be stored and run by hardware. Hardware is so-termed because it is "hard" or rigid with respect to changes, whereas software is "soft" because it is easy to change.



Computer monitor

A computer monitor is an output device that displays information in pictorial or textual form. A discrete monitor comprises a visual display, support electronics, power supply, housing, electrical connectors, and external user controls.



Computer mouse

A computer mouse (plural mice, also mice) is a hand-held pointing device that detects two-dimensional motion relative to a surface. This motion is typically translated into the motion of a pointer on a display, which allows a smooth control of the graphical user interface of a computer.



Computer multitasking

In computing, multitasking is the concurrent execution of multiple tasks (also known as processes) over a certain period of time. New tasks can interrupt already started ones before they finish, instead of waiting for them to end. As a result, a computer executes segments of multiple tasks in an interleaved manner, while the tasks share common processing resources such as central processing units (CPUs) and main memory. Multitasking automatically interrupts the running program, saving its state (partial results, memory contents and computer register contents) and loading the saved state of another program and transferring control to it. This "context switch" may be initiated at fixed time intervals (pre-emptive multitasking), or the running program may be coded to signal to the supervisory software when it can be interrupted (cooperative multitasking).



Computer network

A computer network is a set of computers sharing resources located on or provided by network nodes. The computers use common communication protocols over digital interconnections to communicate with each other. These interconnections are made up of telecommunication network technologies, based on physically wired, optical, and wireless radio-frequency methods that may be arranged in a variety of network topologies.



Computer program

A computer program is a sequence or set of instructions in a programming language for a computer to execute. Computer programs are one component of software, which also includes documentation and other intangible components. A computer program in its human-readable form is called source code. Source code needs another computer program to execute because computers can only execute their native machine instructions. Therefore, source code may be translated to machine instructions using the language's compiler. (Assembly language programs are translated using an assembler.) The resulting file is called an executable. Alternatively, source code may execute within the language's interpreter. If the executable is requested for execution, then the operating system loads it into memory and starts a process. The central processing unit will soon switch to this process so it can fetch, decode, and then execute each machine instruction. If the source code is requested for execution, then the operating system loads the corresponding interpreter into memory and starts a process. The interpreter then loads the source code into memory to translate and execute each statement. Running the source code is slower than running an executable. Moreover, the interpreter must be installed on the computer.



Computer science

Computer science is the study of computation, automation, and information. Computer science spans theoretical disciplines (such as algorithms, theory of computation, information theory, and automation) to practical disciplines (including the design and implementation of hardware and software). Computer science is generally considered an academic discipline and distinct from computer programming. Algorithms and data structures are central to computer science.



Computer security

Computer security, cybersecurity (cyber security), or information technology security (IT security) is the protection of computer systems and networks from attack by malicious actors that may result in unauthorized information disclosure, theft of, or damage to hardware, software, or data, as well as from the disruption or misdirection of the services they provide. The field has become of significance due to the expanded reliance on computer systems, the Internet, and wireless network standards such as Bluetooth and Wi-Fi, and due to the growth of smart devices, including smartphones, televisions, and the various devices that constitute the Internet of things (IoT). Cybersecurity is one of the most significant challenges of the contemporary world, due to both the complexity of information systems and the societies they support. Security is of especially high importance for systems that govern large-scale systems with far-reaching physical effects, such as power distribution, elections, and finance.



Computer security compromised by hardware failure

Computer security compromised by hardware failure is a branch of computer security applied to hardware.



Computer vision

Computer vision tasks include methods for acquiring, processing, analyzing and understanding digital images, and extraction of high-dimensional data from the real world in order to produce numerical or symbolic information, e.g. in the forms of decisions. Understanding in this context means the transformation of visual images (the input of the retina) into descriptions of the world that make sense to thought processes and can elicit appropriate action. This image understanding can be seen as the disentangling of symbolic information from image data using models constructed with the aid of geometry, physics, statistics, and learning theory.



Computing platform

A computing platform or digital platform is an environment in which a piece of software is executed. It may be the hardware or the operating system (OS), even a web browser and associated application programming interfaces, or other underlying software, as long as the program code is executed with it. Computing platforms have different abstraction levels, including a computer architecture, an OS, or runtime libraries. A computing platform is the stage on which computer programs can run.



Conceptual system

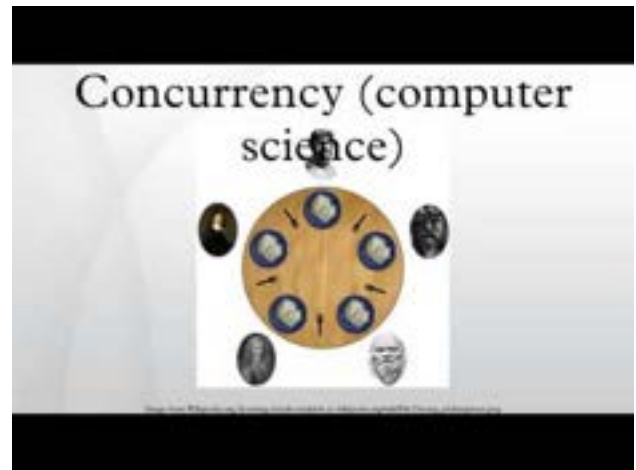
A conceptual system is a system that is composed of non-physical objects, i.e. ideas or concepts. In this context a system is taken to mean "an interrelated, interworking set of objects".

IPO Model Conceptual Framework of Procurement Management System



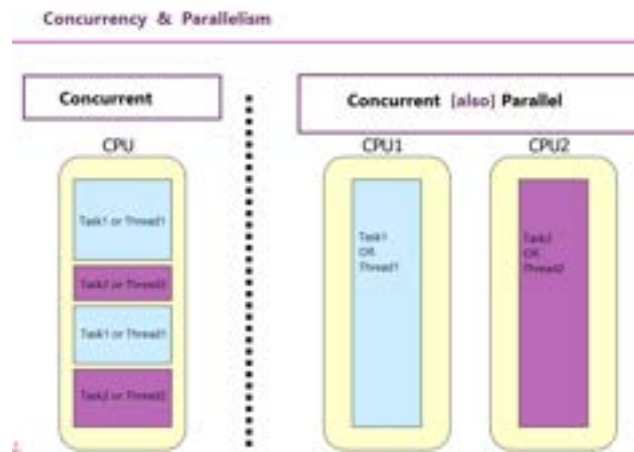
Concurrency (computer science)

In computer science, concurrency is the ability of different parts or units of a program, algorithm, or problem to be executed out-of-order or in partial order, without affecting the outcome. This allows for parallel execution of the concurrent units, which can significantly improve overall speed of the execution in multi-processor and multi-core systems. In more technical terms, concurrency refers to the decomposability of a program, algorithm, or problem into order-independent or partially-ordered components or units of computation. According to Rob Pike, concurrency is the composition of independently executing computations, and concurrency is not parallelism: concurrency is about dealing with lots of things at once but parallelism is about doing lots of things at once. Concurrency is about structure, parallelism is about execution, concurrency provides a way to structure a solution to solve a problem that may (but not necessarily) be parallelizable. A number of mathematical models have been developed for general concurrent computation including Petri nets, process calculi, the parallel random-access machine model, the actor model and the Reo Coordination Language.



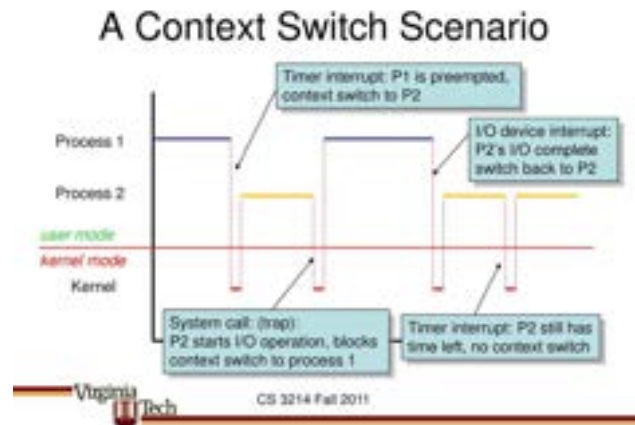
Concurrent computing

Concurrent computing is a form of computing in which several computations are executed concurrently during overlapping time periods instead of sequentially with one completing before the next starts.



Context switch

In computing, a context switch is the process of storing the state of a process or thread, so that it can be restored and resume execution at a later point, and then restoring a different, previously saved, state. This allows multiple processes to share a single central processing unit (CPU), and is an essential feature of a multitasking operating system. In a traditional CPU, each process - a program in execution - utilizes the various CPU registers to store data and hold the current state of the running process. However, in a multitasking operating system, the operating system switches between processes or threads to allow the execution of multiple processes simultaneously. For every switch, the operating system must save the state of the currently running process, followed by loading the next process state, which will run on the CPU. This sequence of operations that stores the state of the running process and the loading of the following running process is called a context switch.



Control Data Corporation

Control Data Corporation (CDC) was a mainframe and supercomputer firm. CDC was one of the nine major United States computer companies through most of the 1960s; the others were IBM, Burroughs Corporation, DEC, NCR, General Electric, Honeywell, RCA, and UNIVAC. CDC was well-known and highly regarded throughout the industry at the time. For most of the 1960s, Seymour Cray worked at CDC and developed a series of machines that were the fastest computers in the world by far, until Cray left the company to found Cray Research (CRI) in the 1970s. After several years of losses in the early 1980s, in 1988 CDC started to leave the computer manufacturing business and sell the related parts of the company, a process that was completed in 1992 with the creation of Control Data Systems, Inc. The remaining businesses of CDC currently operate as Ceridian.



Control flow

In computer science, control flow (or flow of control) is the order in which individual statements, instructions or function calls of an imperative program are executed or evaluated. The emphasis on explicit control flow distinguishes an imperative programming language from a declarative programming language.



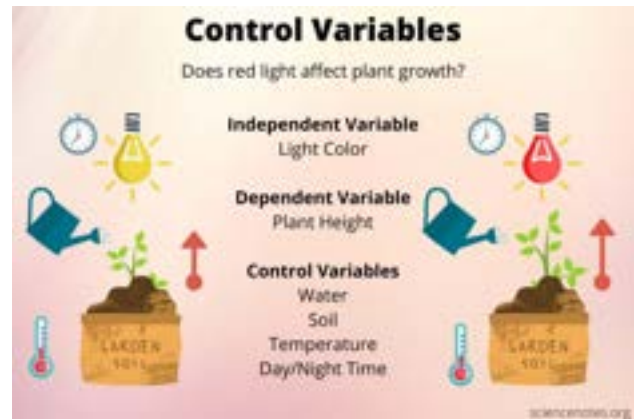
Control theory

Control theory is a field of control engineering and applied mathematics that deals with the control of dynamical systems in engineered processes and machines. The objective is to develop a model or algorithm governing the application of system inputs to drive the system to a desired state, while minimizing any delay, overshoot, or steady-state error and ensuring a level of control stability; often with the aim to achieve a degree of optimality.



Control variable (programming)

In computer science, control flow (or flow of control) is the order in which individual statements, instructions or function calls of an imperative program are executed or evaluated. The emphasis on explicit control flow distinguishes an imperative programming language from a declarative programming language.



Control-C

Control+C is a common computer command. It is generated by pressing the C key while holding down the Ctrl key on most computer keyboards.



Cooperative multitasking

Cooperative multitasking, also known as non-preemptive multitasking, is a style of computer multitasking in which the operating system never initiates a context switch from a running process to another process. Instead, in order to run multiple applications concurrently, processes voluntarily yield control periodically or when idle or logically blocked. This type of multitasking is called cooperative because all programs must cooperate for the scheduling scheme to work.

| PREEMPTIVE MULTITASKING VERSUS COOPERATIVE MULTITASKING | |
|--|--|
| PREEMPTIVE MULTITASKING | COOPERATIVE MULTITASKING |
| Task in which a computer operating system uses to decide for how long to execute a task before giving another task to use the operating system | Type of computer multitasking in which the operating system never initiates a context switch from a running process to another process |
| Interrupts applications and gives control to other processes outside the application's control | Process scheduler never interrupts a process unexpectedly |
| UNIX, Windows 95, Windows NT are some examples for operating systems with preemptive multitasking | Macintosh OS version 8.0-9.2.2 and Windows 3.x operating systems are based on cooperative multitasking |
| | Visit www.PEDIAA.com |

Coupled human?environment system

A coupled human?environment system (known also as a coupled human and natural system, or CHANS) characterizes the dynamical two-way interactions between human systems (e.g., economic, social) and natural (e.g., hydrologic, atmospheric, biological, geological) systems. This coupling expresses the idea that the evolution of humans and environmental systems may no longer be treated as individual isolated systems. Some examples of coupled systems can be read here in the section "Socioeconomic Drivers":Environmental factor#Socioeconomic Drivers



Crash (computing)

In computing, a crash, or system crash, occurs when a computer program such as a software application or an operating system stops functioning properly and exits. On some operating systems or individual applications, a crash reporting service will report the crash and any details relating to it (or give the user the option to do so), usually to the developer(s) of the application. If the program is a critical part of the operating system, the entire system may crash or hang, often resulting in a kernel panic or fatal system error.



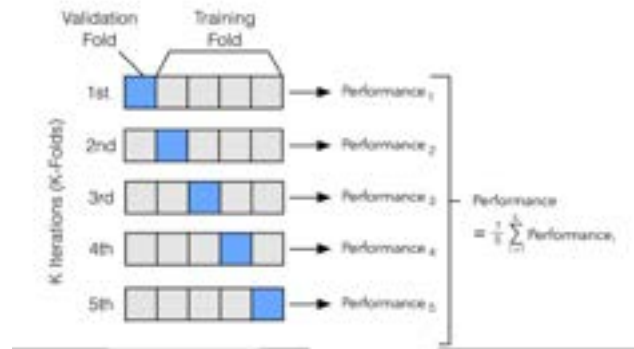
Credit card

A credit card is a payment card issued to users (cardholders) to enable the cardholder to pay a merchant for goods and services based on the cardholder's accrued debt (i.e., promise to the card issuer to pay them for the amounts plus the other agreed charges). The card issuer (usually a bank or credit union) creates a revolving account and grants a line of credit to the cardholder, from which the cardholder can borrow money for payment to a merchant or as a cash advance. There are two credit card groups: consumer credit cards and business credit cards. Most cards are plastic, but some are metal cards (stainless steel, gold, palladium, titanium), and a few gemstone-encrusted metal cards. A regular credit card is different from a charge card, which requires the balance to be repaid in full each month or at the end of each statement cycle. In contrast, credit cards allow the consumers to build a continuing balance of debt, subject to interest being charged. A credit card differs from a charge card also in that a credit card typically involves a third-party entity that pays the seller and is reimbursed by the buyer, whereas a charge card simply defers payment by the buyer until a later date.



Cross-validation (statistics)

Cross-validation, sometimes called rotation estimation or out-of-sample testing, is any of various similar model validation techniques for assessing how the results of a statistical analysis will generalize to an independent data set.



Cryptography

Cryptography, or cryptology (from Ancient Greek: κρυπτός, romanized: kryptós "hidden, secret"; and γραφειν, "to write", or -λογία -logia, "study", respectively), is the practice and study of techniques for secure communication in the presence of adversarial behavior. More generally, cryptography is about constructing and analyzing protocols that prevent third parties or the public from reading private messages. Modern cryptography exists at the intersection of the disciplines of mathematics, computer science, information security, electrical engineering, digital signal processing, physics, and others. Core concepts related to information security (data confidentiality, data integrity, authentication, and non-repudiation) are also central to cryptography. Practical applications of cryptography include electronic commerce, chip-based payment cards, digital currencies, computer passwords, and military communications.



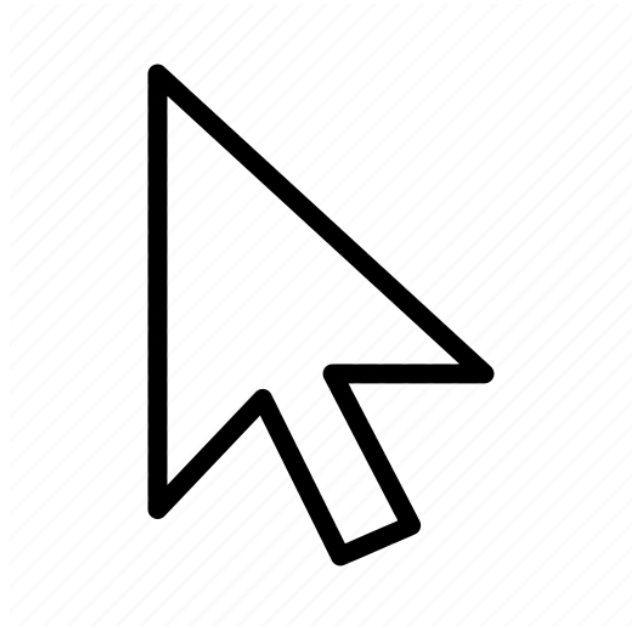
Curlie

DMOZ (from directory.mozilla.org, an earlier domain name, stylized in lowercase in its logo) was a multilingual open-content directory of World Wide Web links. The site and community who maintained it were also known as the Open Directory Project (ODP). It was owned by AOL (now a part of Verizon Media) but constructed and maintained by a community of volunteer editors.



Cursor (user interface)

In human-computer interaction, a cursor is an indicator used to show the current position on a computer monitor or other display device that will respond to text input.



Cybernetics

Cybernetics is a wide-ranging field concerned with circular causal processes such as feedback. Norbert Wiener named the field after an example of circular causal feedback - that of steering a ship where the helmsman adjusts their steering in response to the effect it is observed as having, enabling a steady course to be maintained amongst disturbances such as cross-winds or the tide. Cybernetics is concerned with circular causal processes however they are embodied, including in ecological, technological, biological, cognitive and social systems and also in the context of practical activities such as designing, learning, managing, etc. Its transdisciplinary character has meant that cybernetics intersects with a number of other fields, leading to it having both wide influence and diverse interpretations.



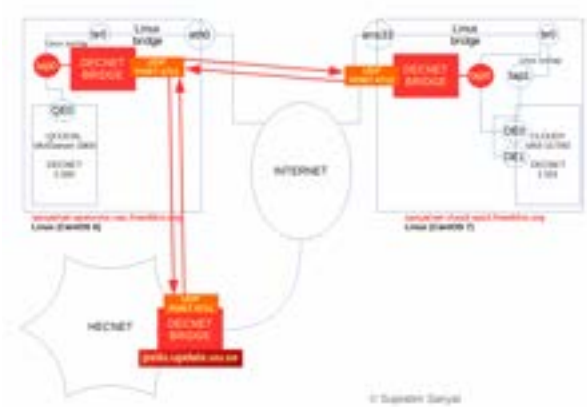
Cyberwarfare

Cyberwarfare is the use of cyber attacks against an enemy state, causing comparable harm to actual warfare and/or disrupting vital computer systems. Some intended outcomes could be espionage, sabotage, propaganda, manipulation or economic warfare.



DECnet

DECnet is a suite of network protocols created by Digital Equipment Corporation. Originally released in 1975 in order to connect two PDP-11 minicomputers, it evolved into one of the first peer-to-peer network architectures, thus transforming DEC into a networking powerhouse in the 1980s. Initially built with three layers, it later (1982) evolved into a seven-layer OSI-compliant networking protocol.



DOS/360

Disk Operating System/360, also DOS/360, or simply DOS, is the discontinued first member of a sequence of operating systems for IBM System/360, System/370 and later mainframes. It was announced by IBM on the last day of 1964, and it was first delivered in June 1966. In its time, DOS/360 was the most widely used operating system in the world.



DVD

The DVD (common abbreviation for Digital Video Disc or Digital Versatile Disc) is a digital optical disc data storage format. It was invented and developed in 1995 and first released on November 1, 1996, in Japan. The medium can store any kind of digital data and has been widely used for video programs (watched using DVD players) or formerly for storing software and other computer files as well. DVDs offer significantly higher storage capacity than compact discs (CD) while having the same dimensions. A standard DVD can store up to 4.7 GB of storage, while variants can store up to a maximum of 17.08 GB. Prerecorded DVDs are mass-produced using molding machines that physically stamp data onto the DVD. Such discs are a form of DVD-ROM because data can only be read and not written or erased. Blank recordable DVD discs (DVD-R and DVD+R) can be recorded once using a DVD recorder and then function as a DVD-ROM. Rewritable DVDs (DVD-RW, DVD+RW, and DVD-RAM) can be recorded and erased many times.



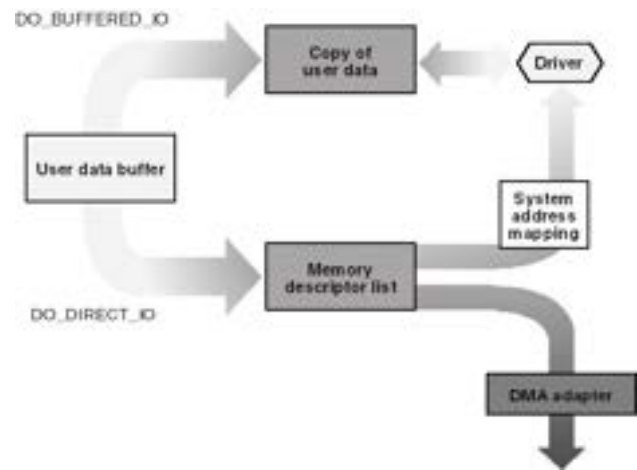
Daemon (computing)

In multitasking computer operating systems, a daemon (or) is a computer program that runs as a background process, rather than being under the direct control of an interactive user. Traditionally, the process names of a daemon end with the letter d, for clarification that the process is in fact a daemon, and for differentiation between a daemon and a normal computer program. For example, syslogd is a daemon that implements system logging facility, and sshd is a daemon that serves incoming SSH connections.



Data buffer

In computer science, a data buffer (or just buffer) is a region of a memory used to temporarily store data while it is being moved from one place to another. Typically, the data is stored in a buffer as it is retrieved from an input device (such as a microphone) or just before it is sent to an output device (such as speakers). However, a buffer may be used when moving data between processes within a computer. This is comparable to buffers in telecommunication. Buffers can be implemented in a fixed memory location in hardware or by using a virtual data buffer in software, pointing at a location in the physical memory. In all cases, the data stored in a data buffer are stored on a physical storage medium. A majority of buffers are implemented in software, which typically use the faster RAM to store temporary data, due to the much faster access time compared with hard disk drives. Buffers are typically used when there is a difference between the rate at which data is received and the rate at which it can be processed, or in the case that these rates are variable, for example in a printer spooler or in online video streaming. In the distributed computing environment, data buffer is often implemented in the form of burst buffer that provides distributed buffering service.



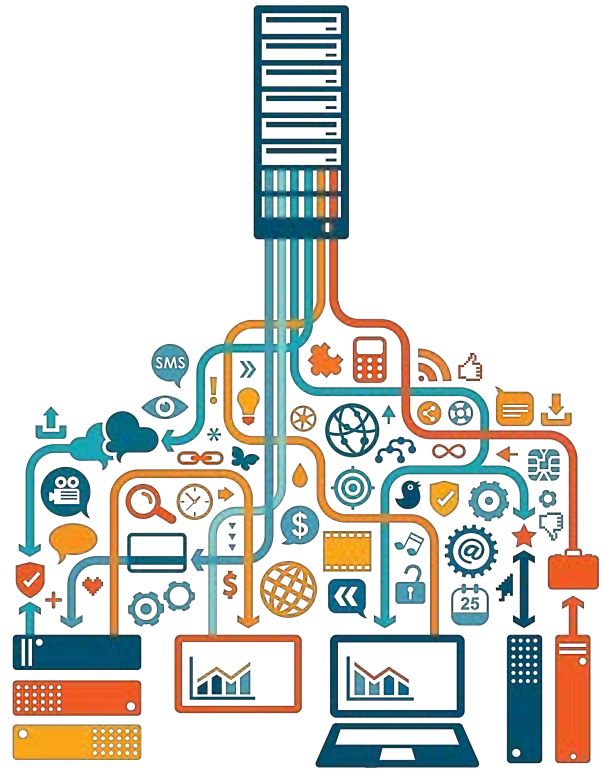
Data mining

Data mining is the process of extracting and discovering patterns in large data sets involving methods at the intersection of machine learning, statistics, and database systems. Data mining is an interdisciplinary subfield of computer science and statistics with an overall goal of extracting information (with intelligent methods) from a data set and transforming the information into a comprehensible structure for further use. Data mining is the analysis step of the "knowledge discovery in databases" process, or KDD. Aside from the raw analysis step, it also involves database and data management aspects, data pre-processing, model and inference considerations, interestingness metrics, complexity considerations, post-processing of discovered structures, visualization, and online updating. The term "data mining" is a misnomer because the goal is the extraction of patterns and knowledge from large amounts of data, not the extraction (mining) of data itself. It also is a buzzword and is frequently applied to any form of large-scale data or information processing (collection, extraction, warehousing, analysis, and statistics) as well as any application of computer decision support system, including artificial intelligence (e.g., machine learning) and business intelligence. The book Data mining: Practical machine learning tools and techniques with Java (which covers mostly machine learning material) was originally to be named Practical machine learning, and the term data mining was only added for marketing reasons. Often the more general terms (large scale) data analysis and analytics?or, when referring to actual methods, artificial intelligence and machine learning?are more appropriate.



Data storage

Data storage is the recording (storing) of information (data) in a storage medium. Handwriting, phonographic recording, magnetic tape, and optical discs are all examples of storage media. Biological molecules such as RNA and DNA are considered by some as data storage. Recording may be accomplished with virtually any form of energy. Electronic data storage requires electrical power to store and retrieve data.



Database

In computing, a database is an organized collection of data stored and accessed electronically. Small databases can be stored on a file system, while large databases are hosted on computer clusters or cloud storage. The design of databases spans formal techniques and practical considerations, including data modeling, efficient data representation and storage, query languages, security and privacy of sensitive data, and distributed computing issues, including supporting concurrent access and fault tolerance.



Dave Cutler

David Neil Cutler Sr. (born March 13, 1942) is an American software engineer. He developed several computer operating systems, namely Microsoft's Windows NT, and Digital Equipment Corporation's RSX-11M, VAXELN, and VMS.



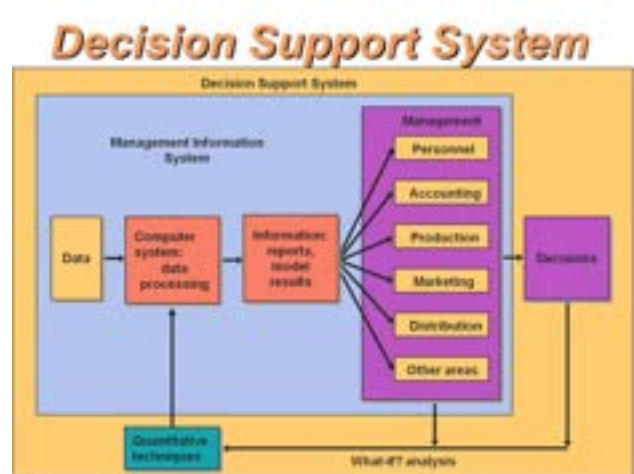
Debian

Debian (), also known as Debian GNU/Linux, is a Linux distribution composed of free and open-source software, developed by the community-supported Debian Project, which was established by Ian Murdock on August 16, 1993. The first version of Debian (0.01) was released on September 15, 1993, and its first stable version (1.1) was released on June 17, 1996. The Debian Stable branch is the most popular edition for personal computers and servers. Debian is also the basis for many other distributions, most notably Ubuntu.



Decision support system

A decision support system (DSS) is an information system that supports business or organizational decision-making activities. DSSs serve the management, operations and planning levels of an organization (usually mid and higher management) and help people make decisions about problems that may be rapidly changing and not easily specified in advance?i.e. unstructured and semi-structured decision problems. Decision support systems can be either fully computerized or human-powered, or a combination of both.



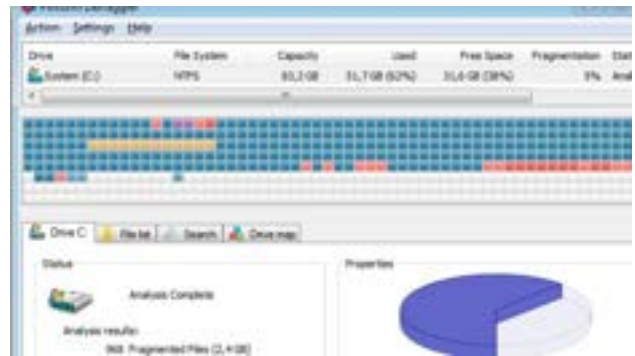
Defense Advanced Research Projects Agency

The Defense Advanced Research Projects Agency (DARPA) is a research and development agency of the United States Department of Defense responsible for the development of emerging technologies for use by the military. Originally known as the Advanced Research Projects Agency (ARPA), the agency was created on February 7, 1958, by President Dwight D. Eisenhower in response to the Soviet launching of Sputnik 1 in 1957. By collaborating with academia, industry, and government partners, DARPA formulates and executes research and development projects to expand the frontiers of technology and science, often beyond immediate U.S. military requirements. The Economist has called DARPA the agency "that shaped the modern world," and pointed out that "Moderna's COVID-19 vaccine sits alongside weather satellites, GPS, drones, stealth technology, voice interfaces, the personal computer and the internet on the list of innovations for which DARPA can claim at least partial credit." Its track record of success has inspired governments around the world to launch similar research and development agencies. DARPA is independent of other military research and development and reports directly to senior Department of Defense management. DARPA comprises approximately 220 government employees in six technical offices, including nearly 100 program managers, who together oversee about 250 research and development programs. The name of the organization first changed from its founding name, ARPA, to DARPA, in March 1972, changing back to ARPA in February 1993, then reverted to DARPA in March 1996. The agency's current director, appointed in March 2021, is Stefanie Tompkins.



Defragmentation

In the maintenance of file systems, defragmentation is a process that reduces the degree of fragmentation. It does this by physically organizing the contents of the mass storage device used to store files into the smallest number of contiguous regions (fragments, extents). It also attempts to create larger regions of free space using compaction to impede the return of fragmentation. Some defragmentation utilities try to keep smaller files within a single directory together, as they are often accessed in sequence.



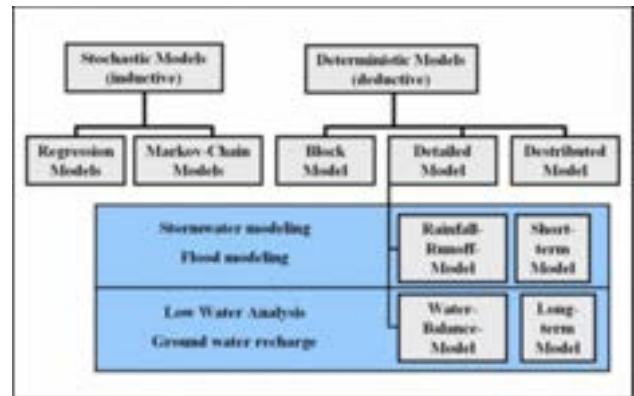
Dependability

In systems engineering, dependability is a measure of a system's availability, reliability, maintainability, and in some cases, other characteristics such as durability, safety and security. In real-time computing, dependability is the ability to provide services that can be trusted within a time-period. The service guarantees must hold even when the system is subject to attacks or natural failures.



Deterministic system

In mathematics, computer science and physics, a deterministic system is a system in which no randomness is involved in the development of future states of the system. A deterministic model will thus always produce the same output from a given starting condition or initial state.



Device driver

In computing, a device driver is a computer program that operates or controls a particular type of device that is attached to a computer or automaton. A driver provides a software interface to hardware devices, enabling operating systems and other computer programs to access hardware functions without needing to know precise details about the hardware being used.




Device file

In Unix-like operating systems, a device file or special file is an interface to a device driver that appears in a file system as if it were an ordinary file. There are also special files in DOS, OS/2, and Windows. These special files allow an application program to interact with a device by using its device driver via standard input/output system calls. Using standard system calls simplifies many programming tasks, and leads to consistent user-space I/O mechanisms regardless of device features and functions.



Device register

A Device Register is the view any device presents to a programmer.

 Microsoft

Device Support

[Home](#) [Get Support](#)

Country/Region *

Select country

Product Family Type *

Product Family Type

Surface

XBOX

Band

Phones

☐ I accept the terms of the Privacy Statement

By submitting this information, I acknowledge that it will be handled in accordance with the Privacy Statement.

Register

Digital Equipment Corporation

Digital Equipment Corporation (DEC), using the trademark Digital, was a major American company in the computer industry from the 1960s to the 1990s. The company was co-founded by Ken Olsen and Harlan Anderson in 1957. Olsen was president until forced to resign in 1992, after the company had gone into precipitous decline.



Digital art

Digital art refers to any artistic work or practice that uses digital technology as part of the creative or presentation process. It can also refer to computational art that uses and engages with digital media. Since the 1960s, various names have been used to describe digital art, including computer art, multimedia art and new media art.



Digital library

A digital library, also called an online library, an internet library, a digital repository, or a digital collection is an online database of digital objects that can include text, still images, audio, video, digital documents, or other digital media formats or a library accessible through the internet. Objects can consist of digitized content like print or photographs, as well as originally produced digital content like word processor files or social media posts. In addition to storing content, digital libraries provide means for organizing, searching, and retrieving the content contained in the collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals or organizations. The digital content may be stored locally, or accessed remotely via computer networks. These information retrieval systems are able to exchange information with each other through interoperability and sustainability.



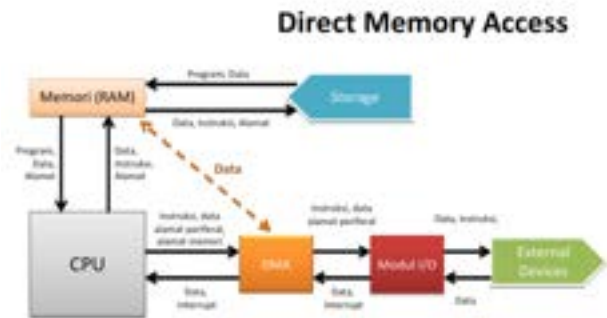
Digital marketing

Digital marketing is the component of marketing that uses the Internet and online based digital technologies such as desktop computers, mobile phones and other digital media and platforms to promote products and services. Its development during the 1990s and 2000s changed the way brands and businesses use technology for marketing. As digital platforms became increasingly incorporated into marketing plans and everyday life, and as people increasingly use digital devices instead of visiting physical shops, digital marketing campaigns have become prevalent, employing combinations of search engine optimization (SEO), search engine marketing (SEM), content marketing, influencer marketing, content automation, campaign marketing, data-driven marketing, e-commerce marketing, social media marketing, social media optimization, e-mail direct marketing, display advertising, e-books, and optical disks and games have become commonplace. Digital marketing extends to non-Internet channels that provide digital media, such as television, mobile phones (SMS and MMS), callback, and on-hold mobile ring tones. The extension to non-Internet channels differentiates digital marketing from online marketing.



Direct memory access

Direct memory access (DMA) is a feature of computer systems that allows certain hardware subsystems to access main system memory independently of the central processing unit (CPU).



Directory (computing)

In computing, a directory is a file system cataloging structure which contains references to other computer files, and possibly other directories. On many computers, directories are known as folders, or drawers, analogous to a workbench or the traditional office filing cabinet. The name derives from books like a telephone directory that lists the phone numbers of all the people living in a certain area.

```
C:\temp>dir
Volume in drive C is C:
Volume Serial Number is 7405-093C

Directory of C:\temp

2009-08-25 11:59 <DIR> .
2009-08-25 11:59 <DIR> ..
2007-03-01 11:17 2,371,680 AdobeUpdate12345.exe
2009-04-03 10:02 27,388 dd_depcheckinstall30.exe
2009-04-03 10:01 764 dd_depcheckinstall.exe
2009-04-03 10:02 32,672 dd_depcheckinstall.txt
2009-06-09 13:46 35,145 Gmirex33a.log
2009-08-05 22:11 255 Gmirex33a.log
2009-04-19 08:12 462 KSPatch6.exe
2009-08-09 16:14 38,895 office1011.log
2009-04-03 16:02 <DIR> OfficePatches
2009-07-14 14:30 <DIR> Gmirex33a
2009-08-25 10:52 16,384 KSPatch6_PerfData.c30.dat
2009-08-03 10:02 1,744 KSPatch6.log.txt
2009-08-25 11:02 50,745,632 M0V1F.tmp
2009-08-10 10:07 1,097 AC-700A00-7407-1011-7044-A013000000011.ini
2009-04-10 10:13 637 AC-700A00-7407-1011-7044-A013000000011.ini
1 file(s) 32,721,793 bytes
4 dir(s) 81,570,288,768 bytes free
```



Discrete mathematics

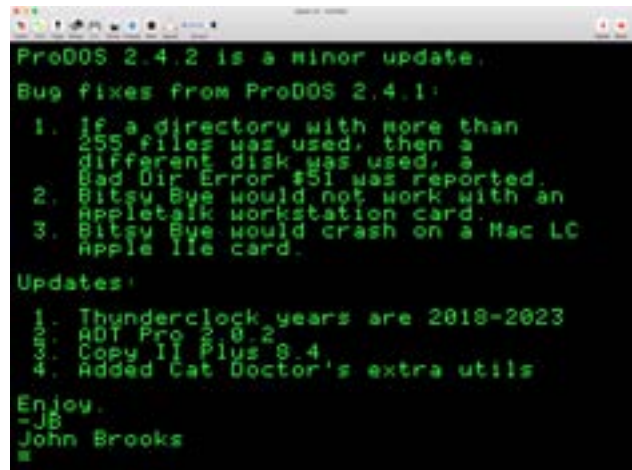
Discrete mathematics is the study of mathematical structures that can be considered "discrete" (in a way analogous to discrete variables, having a bijection with the set of natural numbers) rather than "continuous" (analogously to continuous functions). Objects studied in discrete mathematics include integers, graphs, and statements in logic. By contrast, discrete mathematics excludes topics in "continuous mathematics" such as real numbers, calculus or Euclidean geometry. Discrete objects can often be enumerated by integers; more formally, discrete mathematics has been characterized as the branch of mathematics dealing with countable sets (finite sets or sets with the same cardinality as the natural numbers). However, there is no exact definition of the term "discrete mathematics". The set of objects studied in discrete mathematics can be finite or infinite. The term finite mathematics is sometimes applied to parts of the field of discrete mathematics that deals with finite sets, particularly those areas relevant to business.

- Valid Conditions:
- 1) $\forall x A(x) \rightarrow \exists x A(x)$
 - 2) $\exists x (A(x) \wedge B(x)) \rightarrow (\exists x A(x) \wedge \exists x B(x))$
 - 3) $(\forall x A(x) \vee \forall x B(x)) \rightarrow \forall x (A(x) \vee B(x))$
 - 4) $\forall x (A(x) \rightarrow B(x)) \rightarrow (\forall x A(x) \rightarrow \forall x B(x))$
 - 5) $\exists y \forall x P(x, y) \rightarrow \forall x \exists y P(x, y)$
 - 6) $\exists x \forall y P(x, y) \rightarrow \forall y \exists x P(x, y)$

- Equivalences:
1. $\sim [\forall x W(x)] \Leftrightarrow \exists x \sim W(x)$
 2. $\sim [\exists x W(x)] \Leftrightarrow \forall x \sim W(x)$
 3. $\forall x \forall y W(x, y) \Leftrightarrow \forall y \forall x W(x, y)$
 4. $\exists x \exists y W(x, y) \Leftrightarrow \exists y \exists x W(x, y)$
 5. $\exists x (A(x) \rightarrow B(x)) \Leftrightarrow [\forall x A(x) \rightarrow \exists x B(x)]$
 6. $\exists x (A(x) \vee B(x)) \Leftrightarrow [\exists x A(x) \vee \exists x B(x)]$
 7. $\forall x (A(x) \wedge B(x)) \Leftrightarrow \forall x [A(x) \wedge B(x)]$
- Implication:
- $$\forall x (A(x) \rightarrow C) \Leftrightarrow \exists x A(x) \rightarrow C$$
- $$\exists x (A(x) \rightarrow C) \Leftrightarrow \forall x A(x) \rightarrow C$$

Disk operating system

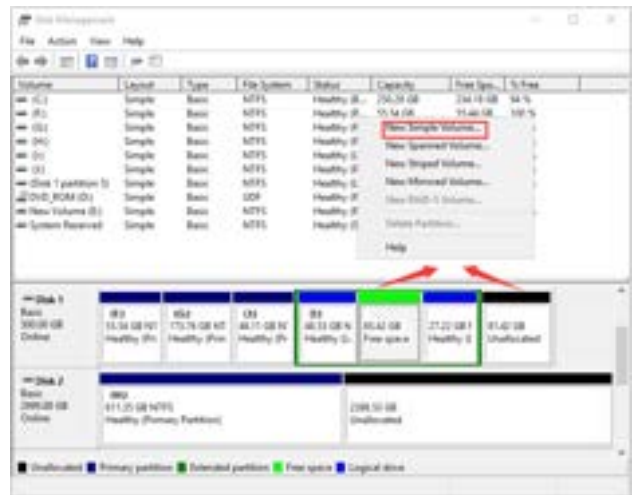
A disk operating system (DOS) is a computer operating system that resides on and can use a disk storage device, such as a floppy disk, hard disk drive, or optical disc. A disk operating system provides a file system for organizing, reading, and writing files on the storage disk. Strictly, this definition does not include any other functionality, so it does not apply to more complex OSes, such as Microsoft Windows, and is more appropriately used only for older generations of operating systems.

A screenshot of a ProDOS 2.4.2 update screen. The text is displayed in green on a black background. It lists bug fixes from ProDOS 2.4.1 and updates for the system. The updates include Thunderclock years (2018-2023), ADT Pro 2.0.2, Copy II Plus 8.4, and Cat Doctor's extra utils. The screen ends with "Enjoy.", "-JB", and "John Brooks".

```
ProDOS 2.4.2 is a minor update.  
Bug fixes from ProDOS 2.4.1:  
1. If a directory with more than  
   255 files was used, then a  
   different disk was used, a  
   Bad Dir Error #51 was reported.  
2. Bitsy Bye would not work with an  
   Appletalk workstation card.  
3. Bitsy Bye would crash on a Mac LC  
   Apple IIe card.  
Updates:  
1. Thunderclock years are 2018-2023  
2. ADT Pro 2.0.2  
3. Copy II Plus 8.4  
4. Added Cat Doctor's extra utils  
Enjoy.  
-JB  
John Brooks
```

Disk partitioning

Disk partitioning or disk slicing is the creation of one or more regions on secondary storage, so that each region can be managed separately. These regions are called partitions. It is typically the first step of preparing a newly installed disk, before any file system is created. The disk stores the information about the partitions' locations and sizes in an area known as the partition table that the operating system reads before any other part of the disk. Each partition then appears to the operating system as a distinct "logical" disk that uses part of the actual disk. System administrators use a program called a partition editor to create, resize, delete, and manipulate the partitions. Partitioning allows the use of different filesystems to be installed for different kinds of files. Separating user data from system data can prevent the system partition from becoming full and rendering the system unusable. Partitioning can also make backing up easier. A disadvantage is that it can be difficult to properly size partitions, resulting in having one partition with too much free space and another nearly totally allocated.



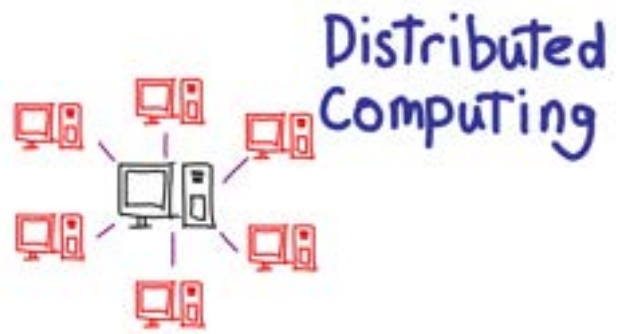
Distributed artificial intelligence

Distributed Artificial Intelligence (DAI) also called Decentralized Artificial Intelligence is a subfield of artificial intelligence research dedicated to the development of distributed solutions for problems. DAI is closely related to and a predecessor of the field of multi-agent systems.



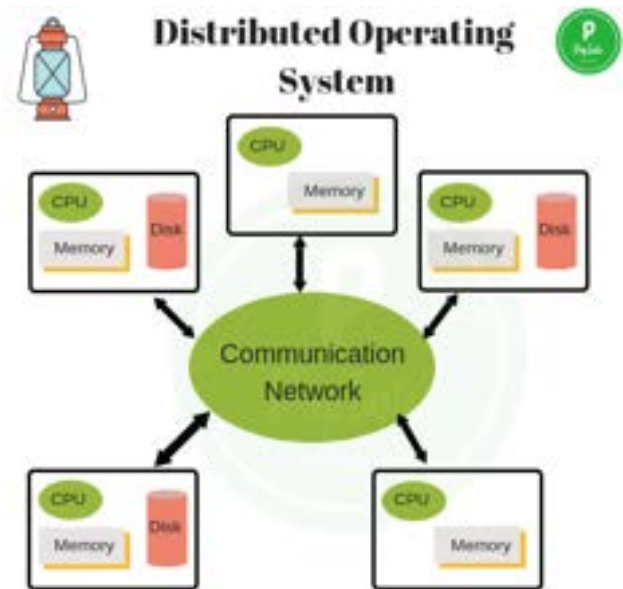
Distributed computing

A distributed system is a system whose components are located on different networked computers, which communicate and coordinate their actions by passing messages to one another. Distributed computing is a field of computer science that studies distributed systems.



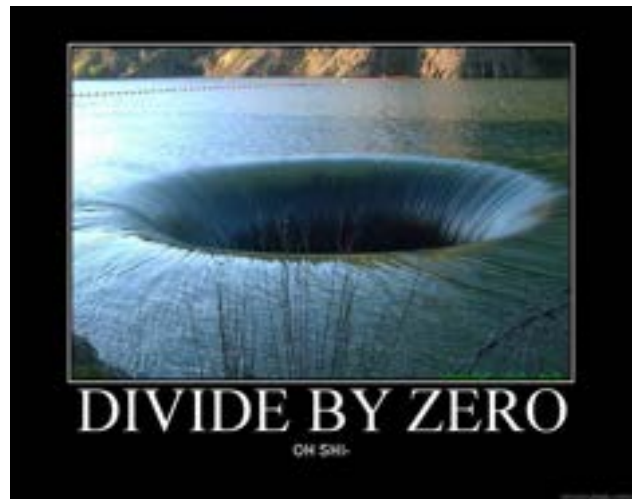
Distributed operating system

A distributed operating system is system software over a collection of independent software, networked, communicating, and physically separate computational nodes. They handle jobs which are serviced by multiple CPUs. Each individual node holds a specific software subset of the global aggregate operating system. Each subset is a composite of two distinct service provisioners. The first is a ubiquitous minimal kernel, or microkernel, that directly controls that node's hardware. Second is a higher-level collection of system management components that coordinate the node's individual and collaborative activities. These components abstract microkernel functions and support user applications. The microkernel and the management components collection work together. They support the system's goal of integrating multiple resources and processing functionality into an efficient and stable system. This seamless integration of individual nodes into a global system is referred to as transparency, or single system image; describing the illusion provided to users of the global system's appearance as a single computational entity.



Division by zero

In mathematics, division by zero is division where the divisor (denominator) is zero. Such a division can be formally expressed as



Document management system

A document management system (DMS) is usually a computerized system used to store, share, track and manage files or documents. Some systems include history tracking where a log of the various versions created and modified by different users is recorded. The term has some overlap with the concepts of content management systems. It is often viewed as a component of enterprise content management (ECM) systems and related to digital asset management, document imaging, workflow systems and records management systems.



Doi (identifier)

A digital object identifier (DOI) is a persistent identifier or handle used to uniquely identify various objects, standardized by the International Organization for Standardization (ISO). DOIs are an implementation of the Handle System; they also fit within the URI system (Uniform Resource Identifier). They are widely used to identify academic, professional, and government information, such as journal articles, research reports, data sets, and official publications. DOIs have also been used to identify other types of information resources, such as commercial videos.



Domain Name System

The Domain Name System (DNS) is a hierarchical and distributed naming system for computers, services, and other resources in the Internet or other Internet Protocol (IP) networks. It associates various information with domain names assigned to each of the associated entities. Most prominently, it translates readily memorized domain names to the numerical IP addresses needed for locating and identifying computer services and devices with the underlying network protocols. The Domain Name System has been an essential component of the functionality of the Internet since 1985.



Domain-specific language

A domain-specific language (DSL) is a computer language specialized to a particular application domain. This is in contrast to a general-purpose language (GPL), which is broadly applicable across domains. There are a wide variety of DSLs, ranging from widely used languages for common domains, such as HTML for web pages, down to languages used by only one or a few pieces of software, such as MUSH soft code. DSLs can be further subdivided by the kind of language, and include domain-specific markup languages, domain-specific modeling languages (more generally, specification languages), and domain-specific programming languages. Special-purpose computer languages have always existed in the computer age, but the term "domain-specific language" has become more popular due to the rise of domain-specific modeling. Simpler DSLs, particularly ones used by a single application, are sometimes informally called mini-languages.

DOMAIN-SPECIFIC VOCABULARY

Domain-specific vocabulary refers to the words that are related to a specific field of study.

Read each list of words. Identify the domain (topic) for each list, and write it at the top of the list.

| | | |
|--|--|---|
| Body Organs | Animal Preservation | Economics |
| liver kidneys lungs | wildlife conservation endangered | consumer goods & services supply & demand |
| Water Cycle | Outer Space | Author's Purposes for Writing |
| evaporation condensation precipitation | galaxy planets asteroids | persuade inform entertain |
| States of Matter | Landforms | Branches of Government |
| solid liquid gas | plateau mountain peninsula | executive judicial legislative |

Donella Meadows

Donella Hager "Dana" Meadows (March 13, 1941 ? February 20, 2001) was an American environmental scientist, educator, and writer. She is best known as lead author of the books *The Limits to Growth* and *Thinking In Systems: A Primer*.



Doubling time

The doubling time is the time it takes for a population to double in size/value. It is applied to population growth, inflation, resource extraction, consumption of goods, compound interest, the volume of malignant tumours, and many other things that tend to grow over time. When the relative growth rate (not the absolute growth rate) is constant, the quantity undergoes exponential growth and has a constant doubling time or period, which can be calculated directly from the growth rate.

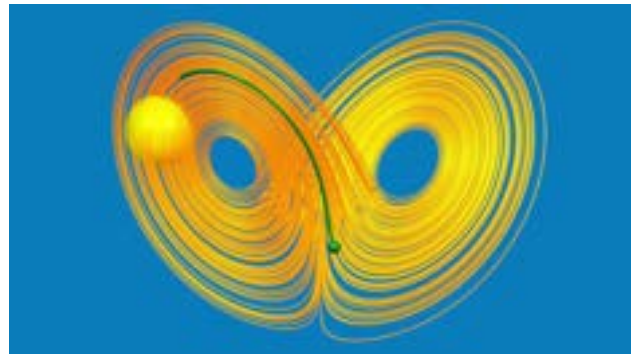
Doubling Time Formula

$$\text{Doubling Time} = \frac{\ln(2)}{\ln(1+r)}$$

$$\text{Doubling Time} = \frac{70}{r}$$

Dynamical system

In mathematics, a dynamical system is a system in which a function describes the time dependence of a point in an ambient space. Examples include the mathematical models that describe the swinging of a clock pendulum, the flow of water in a pipe, the random motion of particles in the air, and the number of fish each springtime in a lake. The most general definition unifies several concepts in mathematics such as ordinary differential equations and ergodic theory by allowing different choices of the space and how time is measured. Time can be measured by integers, by real or complex numbers or can be a more general algebraic object, losing the memory of its physical origin, and the space may be a manifold or simply a set, without the need of a smooth space-time structure defined on it.



E-commerce

E-commerce (electronic commerce) is the activity of electronically buying or selling of products on online services or over the Internet. E-commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. E-commerce is in turn driven by the technological advances of the semiconductor industry, and is the largest sector of the electronics industry.



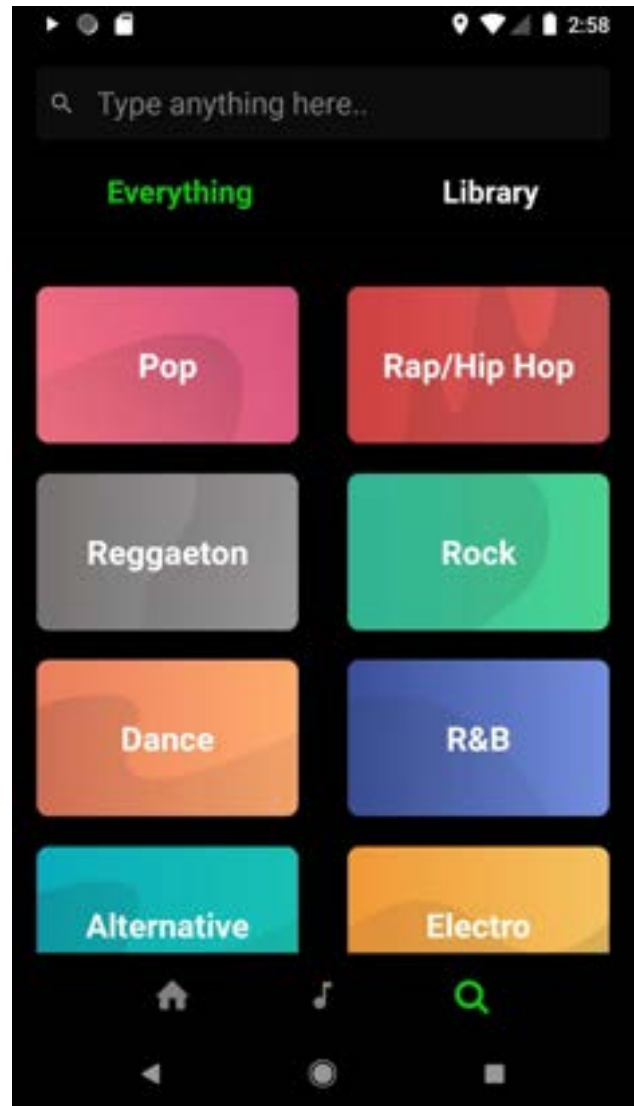
ECos

The Embedded Configurable Operating System (eCos) is a free and open-source real-time operating system intended for embedded systems and applications which need only one process with multiple threads. It is designed to be customizable to precise application requirements of run-time performance and hardware needs. It is implemented in the programming languages C and C++ and has compatibility layers and application programming interfaces for Portable Operating System Interface (POSIX) and The Real-time Operating system Nucleus (TRON) variant \diamond ITRON. eCos is supported by popular SSL/TLS libraries such as wolfSSL, thus meeting all standards for embedded security.



ESound

In computing, the Enlightened Sound Daemon (ESD or Esound) was the sound server for Enlightenment and GNOME. Esound is a small sound daemon for both Linux and UNIX. ESD was created to provide a consistent and simple interface to the audio device, so applications do not need to have different driver support written per architecture. It was also designed to enhance capabilities of audio devices such as allowing more than one application to share an open device. ESD accomplishes these things while remaining transparent to the application, meaning that the application developer can simply provide ESD support and let it do the rest. On top of this, the API is designed to be very similar to the current audio device API, making it easy to port to ESD.



ETH Z^hrich

ETH Zurich (English: ETH; Swiss Federal Institute of Technology in Z^hrich; German: Eidgen^ossische Technische Hochschule Z^hrich) is a public research university in Z^hrich, Switzerland. Founded by the Swiss federal government in 1854, it was modeled on the ^ocole polytechnique in Paris, with the stated mission to educate engineers and scientists; the school focuses primarily on science, technology, engineering, and mathematics, although its 16 departments span a variety of disciplines and subjects. Like its sister institution, the Swiss Federal Institute of Technology in Lausanne (EPFL), ETH Zurich is part of the Swiss Federal Institutes of Technology Domain, a consortium of government universities and research institutes under the Swiss Federal Department of Economic Affairs, Education and Research. As a public institution, it grants admission to every Swiss resident who has matriculated. As of 2021, ETH Zurich enrolled 24,500 students from over 120 countries, of which 4,460 were pursuing doctoral degrees. ETH Zurich has a world-class reputation in academia and industry, particular in science and technology. It regularly ranks among the top three to five universities in Europe and one of the top 15 to 20 globally. In the 2022 QS World University Rankings, the university ranked eighth in the world and fourth in Europe in academic excellence, with 2021 edition placing it fourth in the world for engineering and technology (second in Europe) and first for earth and marine science. The Times Higher Education World University Rankings of 2022-23 ranked ETH Zurich 11th worldwide.



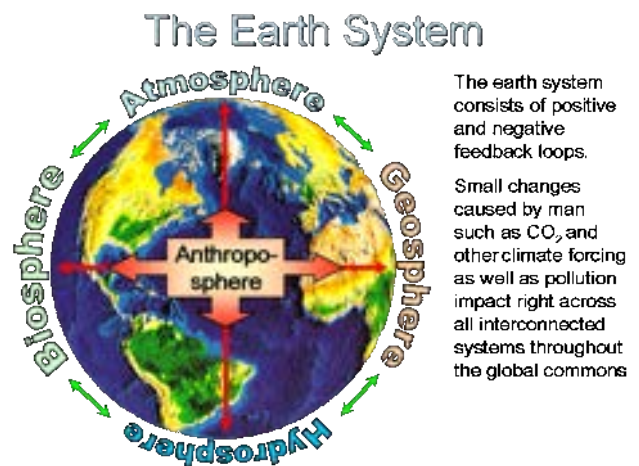
EXEC 8

OS 2200 is the operating system for the Unisys ClearPath Dorado family of mainframe systems. The operating system kernel of OS 2200 is a lineal descendant of Exec 8 for the UNIVAC 1108.



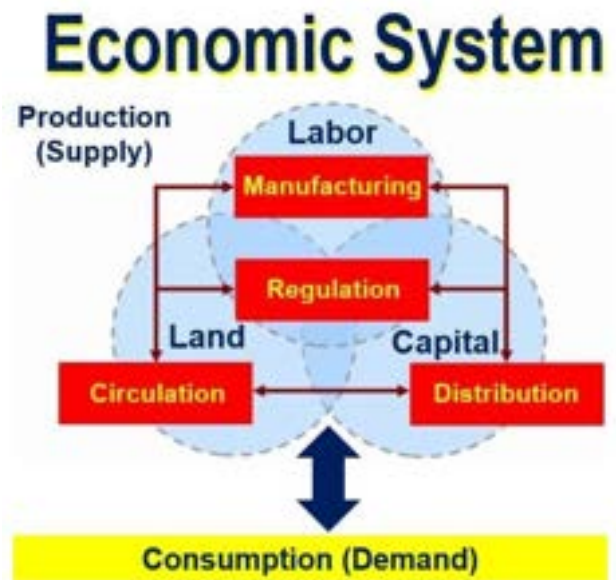
Earth system science

Earth system science (ESS) is the application of systems science to the Earth. In particular, it considers interactions and 'feedbacks', through material and energy fluxes, between the Earth's sub-systems' cycles, processes and "spheres"? atmosphere, hydrosphere, cryosphere, geosphere, pedosphere, lithosphere, biosphere, and even the magnetosphere? as well as the impact of human societies on these components. At its broadest scale, Earth system science brings together researchers across both the natural and social sciences, from fields including ecology, economics, geography, geology, glaciology, meteorology, oceanography, climatology, paleontology, sociology, and space science. Like the broader subject of systems science, Earth system science assumes a holistic view of the dynamic interaction between the Earth's spheres and their many constituent subsystems fluxes and processes, the resulting spatial organization and time evolution of these systems, and their variability, stability and instability. Subsets of Earth System science include systems geology and systems ecology, and many aspects of Earth System science are fundamental to the subjects of physical geography and climate science.



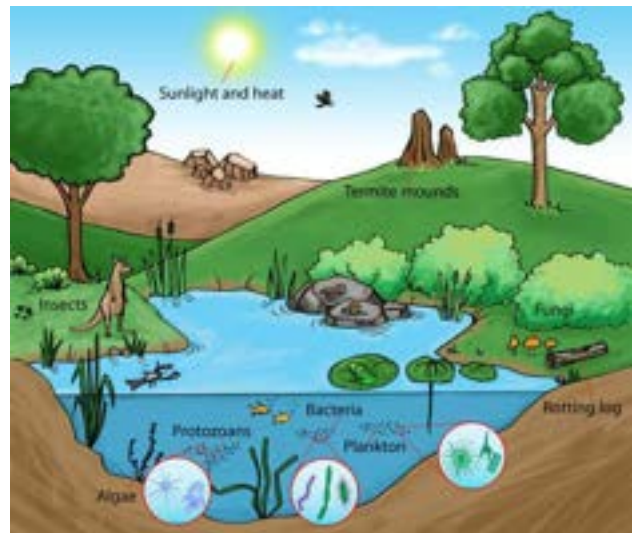
Economic system

An economic system, or economic order, is a system of production, resource allocation and distribution of goods and services within a society or a given geographic area. It includes the combination of the various institutions, agencies, entities, decision-making processes, and patterns of consumption that comprise the economic structure of a given community.



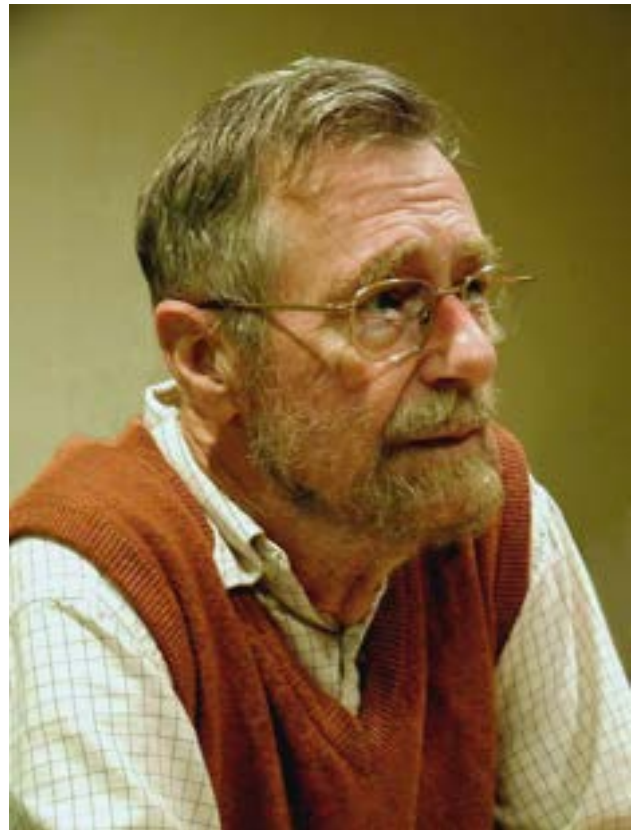
Ecosystem

An ecosystem (or ecological system) consists of all the organisms and the physical environment with which they interact. These biotic and abiotic components are linked together through nutrient cycles and energy flows. Energy enters the system through photosynthesis and is incorporated into plant tissue. By feeding on plants and on one another, animals play an important role in the movement of matter and energy through the system. They also influence the quantity of plant and microbial biomass present. By breaking down dead organic matter, decomposers release carbon back to the atmosphere and facilitate nutrient cycling by converting nutrients stored in dead biomass back to a form that can be readily used by plants and microbes.



Edsger W. Dijkstra

Edsger Wybe Dijkstra (DYKE-str?; Dutch: [ʔʔtsxʔr ʔʔibʔ ʔdʔikstra] (listen); 11 May 1930 ? 6 August 2002) was a Dutch computer scientist, programmer, software engineer, systems scientist, and science essayist. He received the 1972 Turing Award for fundamental contributions to developing structured programming languages, and was the Schlumberger Centennial Chair of Computer Sciences at The University of Texas at Austin from 1984 until 2000.



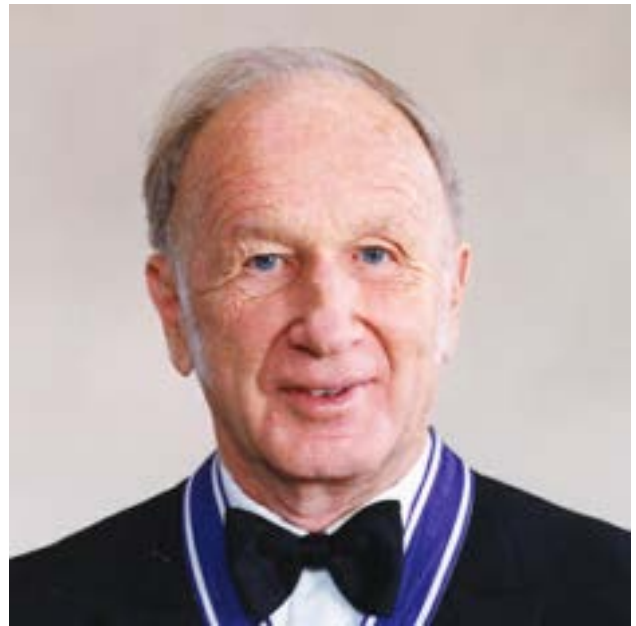
Educational technology

Educational technology (commonly abbreviated as edutech, or edtech) is the combined use of computer hardware, software, and educational theory and practice to facilitate learning. When referred to with its abbreviation, edtech, it often refers to the industry of companies that create educational technology. In addition to the practical educational experience, educational technology is based on theoretical knowledge from various disciplines such as communication, education, psychology, sociology, artificial intelligence, and computer science. It encompasses several domains including learning theory, computer-based training, online learning, and m-learning where mobile technologies are used.



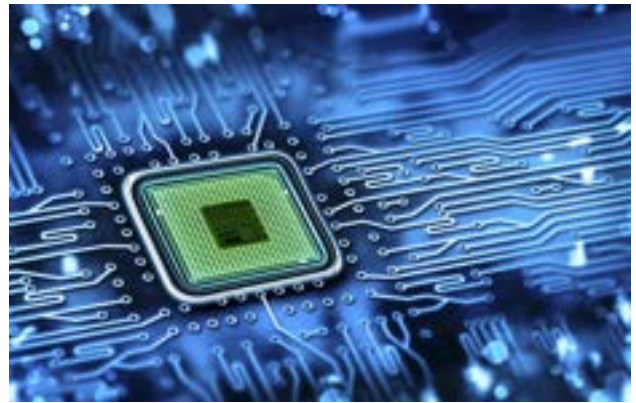
Edward Norton Lorenz

Edward Norton Lorenz (May 23, 1917 – April 16, 2008) was an American mathematician and meteorologist who established the theoretical basis of weather and climate predictability, as well as the basis for computer-aided atmospheric physics and meteorology. He is best known as the founder of modern chaos theory, a branch of mathematics focusing on the behavior of dynamical systems that are highly sensitive to initial conditions. His discovery of deterministic chaos "profoundly influenced a wide range of basic sciences and brought about one of the most dramatic changes in mankind's view of nature since Sir Isaac Newton," according to the committee that awarded him the 1991 Kyoto Prize for basic sciences in the field of earth and planetary sciences.



Electronic design automation

Electronic design automation (EDA), also referred to as electronic computer-aided design (ECAD), is a category of software tools for designing electronic systems such as integrated circuits and printed circuit boards. The tools work together in a design flow that chip designers use to design and analyze entire semiconductor chips. Since a modern semiconductor chip can have billions of components, EDA tools are essential for their design; this article in particular describes EDA specifically with respect to integrated circuits (ICs).



Electronic publishing

Electronic publishing (also referred to as publishing, digital publishing, or online publishing) includes the digital publication of e-books, digital magazines, and the development of digital libraries and catalogues. It also includes the editing of books, journals, and magazines to be posted on a screen (computer, e-reader, tablet, or smartphone).

Electronic publishing



https://en.wikipedia.org/wiki/File:E_Book_read.jpg

Electronic voting

Electronic voting (also known as e-voting) is voting that uses electronic means to either aid or take care of casting and counting ballots.



Embedded operating system

An embedded operating system is an operating system for embedded computer systems. Embedded operating systems are computer systems designed to increase functionality and reliability for achieving a specific task. Resource efficiency comes at the cost of losing some functionality or granularity that larger computer operating systems provide, including functions that may not be used by the specialized applications run. Depending on the method used for multitasking, this type of OS is frequently considered a real-time operating system or RTOS. Embedded systems are mostly used as Real-time operating systems.



Embedded system

An embedded system is a computer system?a combination of a computer processor, computer memory, and input/output peripheral devices?that has a dedicated function within a larger mechanical or electronic system. It is embedded as part of a complete device often including electrical or electronic hardware and mechanical parts.



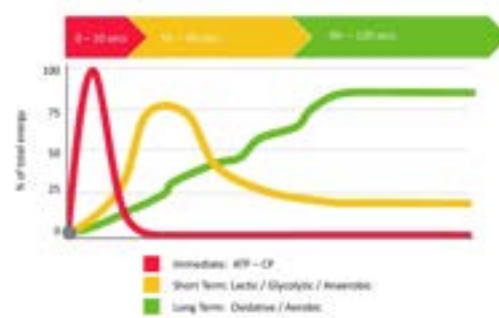
Emulator

In computing, an emulator is hardware or software that enables one computer system (called the host) to behave like another computer system (called the guest). An emulator typically enables the host system to run software or use peripheral devices designed for the guest system.



Energy system

An energy system is a system primarily designed to supply energy-services to end-users. The intent behind energy systems is to minimise energy losses to a negligible level, as well as to ensure the efficient use of energy. The IPCC Fifth Assessment Report defines an energy system as "all components related to the production, conversion, delivery, and use of energy". The first two definitions allow for demand-side measures, including daylighting, retrofitted building insulation, and passive solar building design, as well as socio-economic factors, such as aspects of energy demand management and remote work, while the third does not. Neither does the third account for the informal economy in traditional biomass that is significant in many developing countries. The analysis of energy systems thus spans the disciplines of engineering and economics. Merging ideas from both areas to form a coherent description, particularly where macroeconomic dynamics are involved, is challenging. The concept of an energy system is evolving as new regulations, technologies, and practices enter into service ? for example, emissions trading, the development of smart grids, and the greater use of energy demand management, respectively.



Enterprise information system

An Enterprise Information System (EIS) is any kind of information system which improves the functions of enterprise business processes by integration. This means typically offering high quality of service, dealing with large volumes of data and capable of supporting some large and possibly complex organization or enterprise. An EIS must be able to be used by all parts and all levels of an enterprise. The word enterprise can have various connotations. Frequently the term is used only to refer to very large organizations such as multi-national companies or public-sector organizations. However, the term may be used to mean virtually anything, by virtue of it having become a corporate-speak buzzword.



Enterprise software

Enterprise software, also known as enterprise application software (EAS), is computer software used to satisfy the needs of an organization rather than individual users. Such organizations include businesses, schools, interest-based user groups, clubs, charities, and governments. Enterprise software is an integral part of a (computer-based) information system; a collection of such software is called an enterprise system. These systems handle a number of operations in an organization to enhance the business and management reporting tasks. The systems must process the information at a relatively high speed and can be deployed across a variety of networks. Services provided by enterprise software are typically business-oriented tools. As enterprises have similar departments and systems in common, enterprise software is often available as a suite of customizable programs. Generally, the complexity of these tools requires specialist capabilities and specific knowledge. Enterprise computing is the information technology (IT) tool that businesses use for efficient production operations and back-office support. These IT tools cover database management, customer relationship management, supply chain management, business process management and so on.

